



REGULAR MEETING – PLANNING AND ZONING COMMISSION AGENDA

**APRIL 2, 2025, 6:00 PM
BY ZOOM VIRTUAL MEETING**

To allow public access, anyone may access a meeting by telephone and/or Zoom, or a recording in the City of Norwalk YouTube channel. Specific instructions and links can be found at norwalkct.gov/meetings.



Members of the public may call in to participate. Callers will not be able to see the meeting participants. All participants will be muted upon entering the meeting. To speak, dial *9 on the phone and you will be called on by the host of the meeting during the public comment section. All speakers must state their name and address. Comments must be on a topic on the agenda, and are limited to three minutes. Anyone disrupting the orderly conduct of the meeting, including by using threatening, hateful, or sexually-explicit language, will be removed. Please find the information using the link above.



Members of the public who wish to provide "live comments" may also use the Zoom meeting platform. All participants will be muted upon entering the meeting. To speak, click the "raise your hand indicator" and you will be called by the host of the meeting during the public comment section. All speakers must state their name and address. Comments must be on a topic on the agenda, and are limited to three minutes. Anyone disrupting the orderly conduct of the meeting, including by using threatening, hateful, or sexually-explicit language, will be removed. Please find the information using the link above.



Members of the public who wish to provide public comment are encouraged to submit those via email in advance of the meeting. For these comments to be included into the record, they must be submitted by 12:00 p.m. the day of the meeting. Please email Steve Kleppin, Director of Planning & Zoning, at skleppin@norwalkct.gov with the subject line "Public Comment" to provide written public comment prior to the meeting.

I. CALL TO ORDER

II. ROLL CALL

III. TRAINING

A. Planning & Zoning Commission Training from 6:00pm to 7:30pm

IV. APPLICATIONS PRELIMINARY REVIEW BEGINNING AT 7:30PM

A. #2025-15 R/SP – Norwalk Center, LLC & The Auto Collective – 10 Norden Place (District 3, Block 17, Lot 40) – Zoning regulation text amendment application to amend Article 4 and Article 9 to create a "Car Club" use within the SD-LI zoning district and special permit application for a +/- 137,000sf Car Club within an existing building

- B. **#2025-18 SP - Indian Hill RE, LLC - 284 New Canaan Avenue (District 5, Block 46, Lot 76) - After-the-fact clearing of 15,000 square feet which is to be restored with plantings**
- C. **#2025-08 R - Planning & Zoning Commission - Zoning Regulation Text Amendment to Articles 4, 6, 8 and 9 regarding changes to the flood hazard zone regulations for buffer areas and construction methodology for residential flood compliance; maximum building heights for the SD-LI and SD-HI zones; rear setbacks for the SD-MC zone; Frontage requirements for Watercourse Lots; requiring a site plan review application for changes in use that exceed a certain size; how Trade or Vocational Schools are permitted; changes to Indoor & outdoor storage of passenger motor vehicles, Motor Vehicle Storage, Warehouse, and Warehousing uses; Workforce Housing incentives and income buffers; clarification on mailings required for public notice; amending the definitions of Story, Lowest Floor and Motor Vehicle Body Shop and adding definitions of Unfinished Area and Finished (Habitable) Area**

V. **DISCUSSION**

VI. **ACCEPTANCE OF MINUTES**

- A. **Regular Meeting: March 19, 2025**

VII. **COMMENTS OF DIRECTOR**

VIII. **COMMENTS OF COMMISSIONERS**

IX. **ADJOURNMENT**

March 20, 2025

Memorandum

To: Elizabeth A.B. Suchy, Carmody, Torrance, Sandak, and Hennessey
From: Bryan Baker, AICP, Principal Planner
Re: #2025-15 R/SP – Norwalk Center, LLC & The Auto Collective – 10 Norden Place (District 3, Block 17, Lot 40) – Zoning regulation text amendment application to amend Article 4 and Article 9 to create a “Car Club” use within the SD-LI zoning district and special permit application for a +/- 137,000sf Car Club within an existing building

Dear Attorney Suchy,

Please accept this letter as a preliminary review of the application listed above.

- A. As noted within the text amendment narrative, it is the intention of the applicant to host occasional events within the +/- 20,800sf of event space for parties, movies and other screenings, and member and member-sponsored gatherings. It could therefore be presumed that there is the potential for such gatherings to also have Live Music, as defined within the Zoning Regulations. If that is the case, Staff recommends that the text amendment application be modified to include a revision to Section 4.3.9.G.4.bc to include Car Club as a use that Live Music can be accessory to. See below for suggested text:

Bc. Live Music shall be permitted in accordance with the applicable Use Table, subject to the following:

- (1) Live Music is permitted as an Accessory Use to Restaurant, Brew Pub/Distillery, Retail (except in Residential zones), **Car Club** and Waterfront Club Uses, subject to documentation verifying that the Live Music will comply with the City of Norwalk Noise Ordinance Control Ordinance, as amended.
- B. Please provide additional information on an estimation on the number of private events that could be expected annually, including approximate number of guests/attendees, hours that the events would occur, and general concept of operations for such events (outdoor staging areas, food service, etc.).
- C. Please provide additional information on an approximate minimum square footage of land and/or building needed to facilitate such a use. The special permit process does provide additional considerations to be made by the Planning & Zoning Commission, but some sort of minimum land area or building size requirement may be reasonable to limit the total number of properties where such a use is feasible.
- D. Regarding traffic, please provide additional information on anticipated traffic impacts when events occur.
- E. Please provide additional details on potential accessory uses that may happen with the Car Club use, such as car washing/detailing services, school related training/learning, etc. It would be preferable to capture as many accessory uses as possible within the proposed text amendment to provide clarity for the applicant, residents, and staff for future permitting.

Additional comments and questions may arise as Staff continues to review the application. Please do not hesitate to contact me if you have any questions.

Sincerely,

Bryan Baker

Bryan Baker, AICP
Principal Planner
City of Norwalk
125 East Avenue
Norwalk, CT 06851
203-854-7705
bbaker@norwalkct.gov

February 25, 2025

Steven Kleppin
Director
City of Norwalk
Department of Planning & Zoning
125 East Avenue
Norwalk, CT 06851

***Re: Norwalk Center, LLC and The Auto Collective – 10 Norden Place, Norwalk, CT
Applications for Zone Text Amendment and Special Permit – proposed car club***

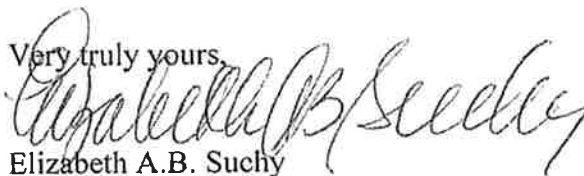
Dear Mr. Kleppin:

This firm represents Norwalk Center, LLC, owner of 33± acres of real property with the improvements thereon located at 10 Norden Place in Norwalk, CT (District 3, Block 17, Lot 40) and The Auto Collective. Our clients herewith submit Applications for Zone Text Amendment and Special Permit for the use and occupancy of 137,000± sq.ft. of space in the northeast section of the existing building as a car club for the storage of private vehicles with associated lounge, club, and event space.

Enclosed please find one (1) original and three (3) copies of the applications, three (3) copies of the civil and architectural plans, three (3) copies of the traffic and engineering reports, along with other documents. The filing fee has been paid. The applications, plans, and reports will be emailed to your attention.

Copies of the applications and supporting documentation will be delivered to the following for review and sign-off: Department of Public Works, Fire Department, Transportation/Mobility/Parking, Water Pollution Control Authority, Health Department and South Norwalk Electric & Water. This firm will follow up with these departments and commissions in upcoming weeks.

Should you have any questions or require additional information, please do not hesitate to contact me. Kindly advise when the enclosed applications will be scheduled for receipt and preliminary review by the City of Norwalk Planning & Zoning Commission.

Very truly yours,

Elizabeth A.B. Suchy

EABS
Enclosures

{S7617111}



Special Permit Application

City of Norwalk Planning & Zoning Commission

Phone: 203-854-7780

www.norwalkct.gov

Date Received:

Per Section 8.4.8 of the Norwalk Zoning Regulations, Special Permits are for Uses, Buildings, or Structures that are considered to be generally appropriate in the applicable District, but because of their potential for impacts with Adjacent Uses, Buildings, or Structures, require individual review for specific locations.

1. Address of Subject Property(s):

10 Norden Place, Norwalk, CT

2. District: 3 Block: 17 Lot(s): 40 3. Zone: SD-LI, Overlay/Village District: None

4. Historic Structure(s): ☒ No ☐ Yes 5. Flood Hazard Zone: ☒ No ☐ Yes, Flood Zone(s) No

6. Coastal Area Management Zone: ☒ No ☐ Yes If yes, include application for Coastal Site Plan Review or specify Section allowing exemption: _____

7. Existing Use of Property:

See Schedule A attached hereto and made a part hereof.

8. Proposed Use of Property as Identified per Table 4.3.9.A: Building, Lot & Building Site Principal Uses:

Car club for storage of privately-owned automobiles and accessory gatherings and events for car club.

See Schedule A attached hereto and made a part hereof.

Applicant Information

Applicant Name: Norwalk Center, LLC and The Auto Collective

Billing Address: 10 Norden Place, Norwalk, CT 06855

Phone Number: c/o Elizabeth Suchy, Esq. - 203-252-2656 Email: c/o Elizabeth Suchy, Esq. - esuchy@carmodylaw.com

Signature: Carmody Tenavance Sandak & Hennessey LLP Their attorneys

Property Owner Information and Authorization

Owner of Record: Norwalk Center, LLC

Billing Address: 45 Main Street, Suite 800, Brooklyn, NY 11201

Phone Number: c/o Elizabeth Suchy, Esq. - 203-252-2656 Email: c/o Elizabeth Suchy, Esq. - esuchy@carmodylaw.com

Signature: Carmody Tenavance Sandak & Hennessey LLP Its attorneys

*By signing, the property owner confirms that the Applicant has been authorized to apply for Planning & Zoning approval, and attests that all information provided is true and accurate.

**NORWALK CENTER, LLC AND THE AUTO COLLECTIVE
10 NORDEN PLACE, NORWALK, CT
APPLICATION FOR SPECIAL PERMIT
NARRATIVE
SCHEDULE A**

BACKGROUND

Norwalk Center, LLC (hereinafter “Norwalk Center”) is the owner of real property with the improvements thereon located at 10 Norden Place in Norwalk, CT (the “Property”) totaling 33± acres. Generally bounded by other developed property to the east, Courville Nurseries and Metro-North Railroad to the south, Norden Place to the west, and an accessway to a rear lot to the north, the Property is designated as Tax Lot 40 Unit A in Block 17 of the Third Taxing District and is zoned SD-LI. I-95 is located to the north of the drive aisle that leads to the data center on the Property and the Halstead multi-family development on an adjoining property to the east. (Refer to “Aerial Plan (Drawing Title C0.02)” dated February 19, 2025 prepared by Tighe & Bond, “Property Survey, ALTA/NSPS Land Title Survey 10 Norden Place – Unit A Norwalk, Connecticut Prepared for Norwalk Center, LLC Scale: 1”=80 Ft.” [“Survey”] dated August 28, 2023 and “Resubdivision Map of Revised Lot 2, Maps 12681A & 12681B Depicting Proposed Parcels 1A, 1B & Lot 2 10 Norden Place Norwalk, Connecticut Prepared for Courville Nursery Property Scale: 1”=80Ft.” [“Resubdivision Map”] dated January 16, 2024, both prepared by Seymour Surveying, all attached hereto and made a part hereof).

Initially, the Property was approximately 80 acres. Around 2006,¹ the prior owners sold half of the Property (40 acres) to Norwalk Center, which in 2013, received approvals for and constructed a 167,691± sq.ft. data recovery center on the easternmost five (5) ± acres of the site (Unit B). In 2024, a site plan application for the use and occupancy of interior and exterior space by Metro North for a transportation maintenance facility approved by the Planning & Zoning Commission (“Commission”).² In addition, the Commission approved a subdivision application in 2024 which created a three (3) acre lot which was purchased and currently used by Courville Nurseries.

The Property (Unit A) is improved with a 635,430± sq.ft. building, formerly the headquarters of and a manufacturing site for Northrup Grumman-Norden Systems, a national defense contractor, which operated three (3), round-the-clock shifts at the height of operation and production, employing nearly 3,000 people daily across three (3) shifts. Today, the building is largely vacant, but had been the site of Tauck Worldwide Tours, Pepperidge Farms, and Katharine Gibbs secretarial school, among other tenants.

There is also an existing 9,000± sq.ft. test building in the southeast section of the Property. Further, the Property is improved with more than 1,000 parking spaces, interior driveways, sidewalks, landscaped areas, etc. Adjacent to the Metro-North Railroad tracks, there is a 0.99±

¹The prior owners received approvals in 2009 to construct a 200+ unit multi-family development which is owned and operated today by Avalon.

²The 2024 site plan approval is under appeal by both Norwalk Center, the successful applicant, and the adjoining multi-family property owner.

acre parcel that is occupied via a temporary easement by the State of Connecticut Department of Transportation, which uses that area for staging purposes in connection with the Walk Bridge project.

REQUEST

Norwalk Center, as owner, and The Auto Collective, as prospective tenant, (hereinafter, the “Applicants”), jointly file this application for special permit³ in connection with the proposed use and occupancy of 137,000± sq.ft. of interior space in the existing northeastern section of existing building on the Property for a car club. Specifically, the Applicants seek approval for the use and occupancy of 84,600± sq.ft. within the building for the storage of approximately 420 privately-owned, luxury motor vehicles.⁴ Vehicles will be driven to the site individually by owners and not on flatbeds or tractor trailer transport, and then stored on dual-level stacks. Approximately 15-20 vehicles will be checked out on a monthly basis by owners. (Refer to “Overall Site Plan (Drawing Number C1.00),” “Conceptual Layout (Drawing Number C1.01),” and “Conceptual Layout (Drawing Number C2.01)” all dated February 19, 2025 prepared by Tighe & Bond, attached hereto and made a part hereof).

In addition, the Applicants propose approximately 20,800 sq.ft. of event space for members and their guests, such as Formula One watch parties and other private gatherings. There is also 26,450± sq.ft. earmarked for a members’ club area, along with 5,300 sq.ft. set aside as a more intimate members’ lounge which could be reserved by members for board meetings and smaller gatherings. The Applicants will also seek to obtain a café liquor permit from the State of Connecticut Department of Consumer Protection – Liquor Division. No additions to the existing structure are proposed and all existing parking spaces will generally remain unchanged. Minor renovations to the northern building elevation are proposed to accommodate a vehicular ramp to two (2) new overhead doors so that members can drive their vehicles into the building. (Refer to “Overall Site Plan (Drawing Number C1.00),” “Site Plan (Drawing Number C1.01),” and “Drainage, Grading and Soil Erosion and Sediment Control Plan (Drawings Number C2.01 and C2.02)” all dated February 19, 2025 prepared by Tighe & Bond and “Proposed Main Level Floor Plan & Exterior Elevation (Drawing A2.01),” “Details – 1 (Drawing Number C3.01),” “Details – 2 (Drawing Number C3.02),” and “Perspective Views (Drawing A2.02)” all dated 2.19.25 prepared by Kenneth Boroson Architects, attached hereto and made a part hereof).

This application is submitted pursuant to the Sections 4.3.9.A, 4.3.9.G and 8.4.8G of the City of Norwalk Zoning Regulations (“zoning regulations”). In connection therewith, the Applicants submit that the application meets or exceeds the general conditions and standards for this use as set forth in Sec. 8.4.8G.2 (a-o) as follows:

- (a) Density of use and bulk of buildings. The existing structure complies with the density of use and bulk of buildings requirements for the SD-LI zone (Refer to Overall Site Plan, Survey, and Resubdivision map, all attached hereto and made a part hereof). No additions to the structure are proposed.

³An application for zone text amendment is simultaneously submitted herewith.

⁴A similar facility is North American Motor Car, located on Miry Brook Road in Danbury (<https://northamericanmotorcar.com>).

- (b) All proposed uses for which a site plan is required shall provide for ingress and egress to the site which does not adversely impact the normal flow of traffic or normal safe conditions of the roadways. Site plans shall be referred to the Department of Public Works (DPW) and the Transportation, Mobility and Parking Department (TMP) for review and recommendations. The Property is served by two (2) existing driveways, the configurations of which will not change. The use of the building and Property along with the traffic analyses and parking requirements generated by and parking resources provided for the storage of motor vehicles and accessory club uses have been forwarded to TMP and DPW for review and comment. (Refer to Overall Site Plan, Site Plan, Conceptual Layouts, Survey, Resubdivision Map, and "Traffic Evaluation Letter" February 13, 2025 dated prepared by TPD, Inc. ("Traffic Report"), attached hereto and made a part hereof).
- (c) The Commission may require such reasonable improvements as may be necessary to accommodate traffic increases caused by the proposed development to maintain existing levels of service to improve traffic safety. A traffic impact analysis, as specified, below may be required from the applicant to determine the extent of necessary improvements. The Applicants conducted a traffic analysis for the proposed use. The result of the analysis revealed that "... the proposed auto storage facility is expected to generate less traffic volume than previously approved use for the site. As such, the proposed project will not have a significant negative impact on the site circulation or traffic flows on the adjacent public roads." (Traffic Report p. 5).
- (d) Availability of mass transit facilities and provision of sidewalks, with a minimum clearance of five (5') feet without obstructions. A five-foot-wide concrete sidewalk exists along both sides of Norden Place. (Refer to Survey and Resubdivision Map). Wheels Bus Route 7 has stops on Norden Place and at the Halstead multi-family development. The East Norwalk Train Station is located about one mile away to the west
- (e) Availability and compatibility of utilities. The Property is and will continue to be served by city water and sewer. Stormwater runoff from where a small, landscaped area is being converted to pavement, will be collected by an inlet water quality structure, and routed to a lined detention system with filter. This will utilize a treatment train approach and incorporate low impact development systems to treat the water quality flow, remove total suspended solids, and reduce peak flow. (Refer to Survey, Resubdivision Map, Overall Site Plan, Conceptual Layout, and Engineering Report, all attached hereto and made a part hereof).
- (f) Adverse impact from noise, odor, fumes, dust and artificial lighting. With the exception of infrequent displays of some of the luxury vehicles outdoors, all activity and events will occur within the building, so there will not be any impact from noise, odor, fumes, dust, or artificial lighting. Further, no building additions or other site improvements are proposed as part of this application.

- (g) Signs of size and design that are in harmony with the neighborhood. Limited wall and ground signage is proposed at this time, which comply with signage regulations set forth in the zoning regulations.
- (h) Adequacy of yards and open space, screening and buffering. Yards and open space, screening and buffering for the site comply with city zoning regulations for the SD-LI zone. Any irregularities or inconsistencies with the SD-LI are legally nonconforming conditions that will continue. (Refer to zoning data chart on Overall Site Plan, attached hereto and made a part hereof).
- (i) Impact on neighborhood properties, as compared to uses and structures permitted as a matter of right. The proposed interior use of the Property as a private, luxury motor vehicle storage facility with an accessory members' club is compatible and consistent with other uses in the vicinity including multi-family residential, commercial landscape business, office, and other uses. With the exception of events for members, most of which will occur indoors, use of the square footage dedicated to vehicle storage is not expected to have impacts on the neighborhood. Vehicles will be driven to the site by owners and no automotive repair will occur inside the building or on the grounds.
- (j) Existing land use in the area. The area surrounding the property is generally developed with single- and multi-family residential complexes, assisted living facility, data center, and nursery business.
- (k) Proximity of community facilities. Various retail, restaurant, and other public venues exist near the site. The East Norwalk Train Station, East Norwalk branch of the Norwalk Public Library, and various restaurants are within one (1) mile of the site. Calf Pasture Beach, Taylor Farm, and Shady Beach are within two (2) miles of the site.
- (l) Compliance with the Zoning Code and Plan of Development (POCD). The proposed automotive storage use is permitted by special permit with limitations per the new zoning regulations adopted in December 2023 and made effective February 19, 2024. The Applicants submit herewith a zone text amendment application to add car club as a use permitted by special permit, which reflects the goal of the Plan of Conservation and Development to allow Norwalk to evolve and meet the changing demands and needs. (POCD p. 223). The proposed use also addresses the POCD goal of repurposing and renovating old buildings and preventing stagnation. (POCD p. 223).
- (m) Utilization of green infrastructure and other sustainability measures. Low impact development measures have been proposed to handle stormwater runoff. (Refer to "Engineering Report" dated February 19, 2025 prepared by Tighe & Bond, attached hereto and made a part hereof).

- (n) Conservation of wetlands, watercourses and other ecologically viable lands. Inland wetlands and watercourses exist on the Property, but no regulated activity is planned anywhere within the wetlands, watercourses, or upland review areas, so there will be no impact to wetlands, watercourses, and other ecologically viable lands.
- (o) No zoning violation exists on the property. There are no known zoning violations on the property.



THE AUTO COLLECTIVE
WAREHOUSE AND STORAGE FACILITY
10 NORDEN PLACE NORWALK, CT 06855

FEBRUARY 19, 2025

ARCHITECT'S PROJECT NUMBER:
2024.021



ZONING SUBMISSION
FEBRUARY 19, 2025

PROJECT TEAM				DRAWING LIST	SITE LOCATION
<u>Architect:</u> Kenneth Boroson Architects, LLC 315 Peck Street New Haven, CT 06513 Contacts: Grant Wright, Project Manager gwright@kbarch.com Phone: (203) 624-0662 Fax: (203) 562-1732 Kenneth Boroson ARCHITECTS	<u>Civil Engineers:</u> Tighe & Bond 213 Court Street, Suite 1100 Middletown, CT 06457 Contacts: Erik Lindquist, Senior PM elindquist@tighebond.com Phone: (860) 852-5219 Tighe&Bond	<u>Owner:</u> Norden Place KB LLC 100 Challenger Road, Suite 401 Ridgefield Park, NJ 07660-1801 Contacts: Craig Benerofe cbenerofe@nordenplace.com Phone: (917) 495-7601 BENEROFE PROPERTIES KABR GROUP	<u>Zoning Attorney:</u> Carmody Torrance Sandak & Hennessey LLP 1055 Washington Blvd., 4th Floor Stamford, CT 06901-2218 Contacts: Elizabeth A.B. Suchy esuchy@ctmlaw.com Phone: (203) 252-2656 CARMODY TORRANCE SANDAK & HENNESSEY LLP	GENERAL A0.00 COVERSHEET A0.01 PROJECT INFORMATION SHEET CIVIL C0.01 GENERAL NOTES, LEGEND, AND ABBREVIATIONS C0.02 AERIAL PLAN C1.00 OVERALL SITE PLAN C1.01 SITE PLAN C2.01 DRAINAGE, GRADING, AND SOIL EROSION AND SEDIMENT CONTROL PLAN C2.02 SOIL EROSION AND SEDIMENT CONTROL NOTES, NARRATIVE, AND DETAILS C3.01 DETAILS - 1 C3.02 DETAILS - 2 ARCHITECTURAL A2.01 PROPOSED MAIN LEVEL FLOOR PLAN & EXTERIOR ELEVATION A2.02 PERSPECTIVE VIEWS	

ABBREVIATIONS		
Ø AT ± AND " INCH; DITTO (SAME AS ABOVE) # NUMBER OR FOUND	DS DOWN SPOUT DRAIN TILE DTL DETAIL DVTL DOWNTAIL DN DUMB WALTER DWS DRAWING DWE DOWEL DWR DRAWER	MACH MACHINE MAINT MAINTENANCE MAN MANUAL MAS MASONRY MATL MATERIAL MAX MAXIMUM MB-F MARKER BOARD MBR MEMBER MC MINERAL CORE MECH MECHANICAL MED MEDIUM MEZZ MEZZANINE MFD METAL FLOOR DECK MFG MANUFACTURING MFR MANUFACTURE(R) MH MANHOLE MIN MINIMUM MIR MIRROR MISC MISCELLANEOUS MK MARK MLF METAL LATH & PLASTER MLD MOLDING MMB MEMBRANE MO MASONRY OPENING MOV MOVABLE MR MOP RECEPTOR MT MOUNT MTP MOUNTED MTHR METAL THRESHOLD MTR MOTOR MTRF METAL ROOF DECK MUL MILLION MVK MILLWORK
AB ANCHOR BOLT ABV ABOVE A/C AIR CONDITIONING ACC ACCESS ACoust ACoustICAL ACPL ACoustICAL PLASTER ACR ACRYLIC ACST ACoustIC ACT ACoustICAL CEILINGS TILE A.D. AREA DRAIN AD ACCESS DOOR ADA AMERICANS WITH DISABILITIES ACT ADAAAS AMERICANS WITH DISABILITIES ACT EIFS EXTERIOR INSULATION & FINISH SYSTEM ADD ADDENDUM; ADDITION ADL ADDITIONAL ADH ADHESIVE ADJ ADJACENT ADJ ADJUSTABLE AFT ABOVE FINISH FLOOR AGG AGGREGATE AIA AMERICAN INSTITUTE OF ARCHITECTS AL ALUMINUM ALM ALARM ALS ACRYLIC LATEX SEALANT ALT ALTERNATE AMT AMOUNT ANN ANNUNCIATOR ANOD ANODIZED ANT ANTENNA AP ACCESS PANEL APPD APPROVED APPROX APPROXIMATE(LY) APT APARTMENT ARCH ARCHITECT(URAL) AS ACoustIC SEALANT ASB ASBESTOS ASPH ASPHALT ASR AUTOMATIC SPRINKLER RISER ASSEMB ASSEMBLY AT ASPHALT TILE ATTEN ATTENUATION AUTH AUTHORIZED AUTO AUTOMATIC AVG AVERAGE AX AXIS	E EAST E TO END TO END EIBW EYE & BODY WASH EA EACH EXP EXPANSION BOLT EC EXPOSED CONSTRUCTION EE EACH END EF EACH FACE EG EACH GRAIN EIFS EXTERIOR INSULATION & FINISH SYSTEM EJ EXPANSION JOINT EL ELEVATION ELB ELBOW ELEC ELECTRICAL ELEV ELEVATOR EMER EMERGENCY ENAM ENAMEL ENG ENGINE ENJP EXPANDED NEOPRENE JOINT FILLER ENTR ENTRANCE EP ELECTRICAL PANEL BOARD EPDM ETHYLENE PROPYLENE DIENE MONOMER EQ EQUAL EQT EQUIPMENT EST ESTIMATE EX EACH WAY ENC ELECTRIC WATER COOLER EWH ELECTRIC WATER HEATER EXC EXCAVATE(ION) EXEC EXECUTIVE EXH EXHAUST EXIST EXISTING EXP EXPOSED EXPN EXPANSION EXT EXTERIOR EXTR EXTRUDE	N NORTH NAT NATURAL NEUTR NEUTRAL NOT NOT IN CONTRACT NO NUMBER NOM NOMINAL NRG NOISE REDUCTION NRG NOISE REDUCTION COEFFICIENT NTS NOT TO SCALE O TO O OUT TO OUT OA OVERALL OBS OBSCURE OC ON CENTER OD OUTSIDE DIAMETER OF OUTSIDE FACE OFF OFFICE OH OVERHEAD OHD OVERHEAD DOOR OI ORNAMENTAL IRON OP ORANGE OPG OPENING OPH OPPOSITE HAND OPP OPPOSITE OR OUTSIDE RADIUS ORD OVERFLOW ROOF DRAIN ORN ORNAMENTAL OVL OVERFLOW
B TO B BACK TO BACK BAL BALANCE BBB BULLETIN BOARD BC BROOM GLOSET BD BOARD BDRM BEDROOM BDY BOUNDARY BEL BELON BET BETWEEN BEV BEVEL BHD BULKHEAD BIT BITUMINOUS BUF BITUMINOUS JOINT FILLER BJT BED JOINT BKR BREAKER BL BASE LINE BLDG BUILDING BLK BLOCK BLKS BLOCKING BLR BOILER BLT BUILT-IN BM BEAM, BENCH MARK BN BULLNOSE B.O. BOTTOM OF BOT BOTTOM BP BASE PLATE BRP BEARING PLATE BRG BRIDGING(S) BRG BEARING BRK BRICK BRKT BRACKET BRG BRASS BRZ BRONZE BS BOTH SIDES BSMT BASEMENT BT BATH TUB BTU BRITISH THERMAL UNITS BUR BUILT-UP ROOF BV BOTH WAYS	F DEGREES FAHRENHEIT F TO FFACE TO FACE FA FIRE ALARM FAB FABRICATE FACP FIRE ALARM CONTROL PANEL FB FIRE BLANKET FC FILE CABINET FD FLOOR DRAIN FDC FIRE DEPARTMENT CONNECTION FE FIRE EXTINGUISHER FEG FIRE EXTINGUISHER CABINET FF FACTORY FINISH FFE FINISH FLOOR ELEVATION FFE FIXTURES, FURNISHINGS & EQUIPMENT FGL FIBERGLASS FH FIRE HYDRANT FHG FIRE HOSE CABINET FINISHED FINISHED FNT FURNITURE FRT FIRE RETARDANT FS FULL SIZE FT FOOT, FEET FTG FOOTING FUR FURRED FURN FURNISH, FURNITURE FUT FUTURE GA GAUGE GAL GALLON GALV GALVANIZED GC GENERAL CONTRACTOR GCMU GLAZED CMU GRD GRADE GEN GENERAL GF GROUND FACE GFI GROUND FAULT INTERRUPTED GL GLASS GLB GLASS BLOCK GLM GLAZED MASONRY UNIT GND GROUND GOVT GOVERNMENT GPL GYPSUM LATH GPP GYPSUM PLASTER GRAN GRANULAR GST GLAZED STRUCTURAL TILE GT GROUT GV.B GATE VALVE & BOX GVL GRAVEL GYF GYPSUM GMB GYPSUM WALL BOARD H HARDENER HB HOSE BIB HC HOLLOW CORE HD HEAVY DUTY HDCP HANDICAPPED HDP HEADERS HDN HARDWARE HWD HARDWOOD HGT HEIGHT HM HOLLOW METAL HOR HORIZONTAL HOSP HOSPITAL HP HIGH POINT HR HOUR HSG HOUSING HT HEIGHT HTG HEATING HTR HEATER HV HIGH VOLTAGE HVC HEATING/ VENTILATING/ AIR CONDITIONING HN HOT WATER	N NORTH NAT NATURAL NEUTR NEUTRAL NOT NOT IN CONTRACT NO NUMBER NOM NOMINAL NRG NOISE REDUCTION NRG NOISE REDUCTION COEFFICIENT NTS NOT TO SCALE O TO O OUT TO OUT OA OVERALL OBS OBSCURE OC ON CENTER OD OUTSIDE DIAMETER OF OUTSIDE FACE OFF OFFICE OH OVERHEAD OHD OVERHEAD DOOR OI ORNAMENTAL IRON OP ORANGE OPG OPENING OPH OPPOSITE HAND OPP OPPOSITE OR OUTSIDE RADIUS ORD OVERFLOW ROOF DRAIN ORN ORNAMENTAL OVL OVERFLOW OZ OUNCE PA PUBLIC ADDRESS PAR PARALLEL PASS PASSAGE PB PANIC BAR PBD PARTICLE BOARD PCG PRECAST CONCRETE PCSB PRECAST SPLASH BLOCK PE PROFESSIONAL ENGINEER PED PEDESTAL PERF PERFORATE PERIM PERIMETER PERP PERPENDICULAR PERF PERFORATED PFN PRE-FINISHED PH PHASE PJF PREFORMED JOINT FILLER PKG PARKING PKWY PARKWAY PL PROPERTY LINE PLM PLASTIC LAMINATE PLAS PLASTER PLF POUNDS PER LINEAR FOOT PLMBG PLUMBING PNL PANEL POL POLISH PORC PORCELAIN PRI PRIMARY PROP PROPERTY PROT PROTECTION PRSC PROJECTION SCREEN PSF POUNDS PER SQUARE FOOT PSI POUNDS PER SQUARE INCH PTD PAINTED PTN PARTITION PVC POLY VINYL CHLORIDE PAV PAVING PVMT PAVEMENT PVT PRIVATE PYD PLYWOOD PYR PYRER QUAL QUALITY QT QUARRY TILE QTY QUANTITY R RISER RA RETURN AIR RAD RADIUS RCMU REINFORCED CONCRETE MASONRY UNIT RCF REFLECTED CEILING PLAN RD ROOF DRAIN REBAR REINFORCING BAR REC RECESSED REF REFERENCE REFR REFRIGERATOR REG REGISTER REN REINFORCE REM REMOVE REQD REQUIRED RES RESILIENT RET RETURN RETN RETAINING REV REVISION RF ROOF RFH ROOF HATCH RFL REFLECT RGH ROUGH RH RIGHT HAND RM ROOM RO ROUGH OPENING RON RIGHT OF WAY RPM REVOLUTIONS PER MINUTE RPT REPEAT RR RAILROAD RVC RAIN WATER CONDUCTOR RWL RAINWATER LEADER
D DRAIN DBL DOUBLE DEG DEGREE DEMO DEMOLISH(ION) DEP DEPRESSSED DEPT DEPARTMENT DET DETAIL DF DRINKING FOUNTAIN DFD DEDICATED FLOOR DRAIN DSM DIAGRAM DH DOUBLE HUNG DIA DIAMETER DIA DIAGONAL DIFF DIFFUSER DIM DIMENSION DIST DISTANCE DIV DIVISION DL DEAD LOAD DNT DEMOUNTABLE DN DOWN DO DOOR OPENING DP DAMPROOFING DPR DAMPER DR DOOR	J JOIST JAN JANITOR JB JUNCTION BOX JC JANITOR'S CLOSET JT JOINT KIT KITCHEN K NO KNOCK OUT KPL KICK PLATE LAB LABORATORY LAM LAMINATE LAV LAVATORY LB FOUND (HEIGHT) LBL LABEL LD LEADER DRAIN LGMF LEAD GAUGE METAL FRAME LH LEFT HAND LIB LIBRARY LIN LEADER LL LIVE LOAD LP LOW POINT LS LOUD SPEAKER LT LIGHTING LV LOW VOLTAGE LVR LOUVER	S SOUTH SALV SALVAGE SAN SANITARY SB FLASH BLOCK SB-F SMART BOARD WITH PROJECTION SCREEN SC SOLID CORE SCH SCHEDULE SCR SCREEN SCF STRUCTURAL CLAY TILE SCUP SCUPPER SD STORM DRAIN SEAL SEALANT SECT SECTION SERV SERVICE SF SQUARE FOOT SFLG SHEET GLASS SG SHEET GLASS SHR SHOWER SHT SHEET SIG SIGNAL SIM SIMILAR SL SLEEVE SM SMALL SNR SANITARY NAPKIN RECEPTACLE

GENERAL NOTES	
1. ALL WORK SHALL BE PERFORMED IN A CODE COMPLIANT MANNER. CONTRACTORS SHALL BE RESPONSIBLE FOR PERFORMING THEIR WORK IN STRICT ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, & LOCAL CODES, REGULATIONS, LAWS, & ORDINANCES.	
2. ALL POTENTIAL CODE VIOLATIONS OR DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT IN WRITING PRIOR TO COMMENCEMENT OF WORK.	
3. CONTRACTORS SHALL FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS & THE PROPOSED SCOPE OF WORK PRIOR TO COMMENCEMENT OF WORK. COMMENCEMENT OF WORK SHALL BE CONSIDERED AN ACCEPTANCE OF THESE TERMS.	
4. ALL INCORRECT OR SUBSTANDARD WORK SHALL BE CORRECTED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.	
5. ALL WORK EITHER IMPLIED OR REASONABLY INFERRABLE FROM THE CONTRACT DOCUMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ALL DRAWINGS & SPECIFICATIONS ARE DIRECTED TO THE ATTENTION OF THE CONTRACTOR & THE INCLUSION OF ANY WORK BY MENTION, NOTE, DETAIL, ITEMIZATION, OR IMPLICATION, HOWEVER BRIEF, MEANS THAT THE SUBCONTRACTORS SHALL PROVIDE & INSTALL SAME. ALL WORK PERFORMED SHALL INCLUDE ALL APPURTENANCES & APPARATUS NORMALLY DEEMED TO BE A PART OF A COMPLETED PACKAGE WITHIN THE DEFINITIONS OF NORMAL INDUSTRY STANDARDS.	
6. ALL DIMENSIONS ARE ACTUAL UNLESS NOTED AS NOMINAL. DO NOT SCALE THE DRAWINGS.	
7. EACH TRADE CONTRACTOR, IN COORDINATION WITH OWNER IS RESPONSIBLE TO SECURE & PAY FOR ALL PERMITS & GOVERNMENT FEES, LICENSES, & INSPECTIONS NECESSARY TO COMPLETE THEIR WORK.	
8. CONTRACTOR SHALL PROVIDE A CONSTRUCTION SCHEDULE TO THE OWNER AT THE TIME OF CONTRACT SIGNING. CONTRACTOR SHALL BE RESPONSIBLE FOR THE TIMELY & PROPER COMPLETION OF ALL WORK SHOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR REVISING THE SCHEDULE THROUGHOUT THE ENTIRE DURATION OF CONSTRUCTION TO REFLECT THE CURRENT JOB CONDITIONS.	
9. ALL CONSTRUCTION DEBRIS SHALL BE DISPOSED OF IN A LEGAL FASHION & SHALL BE DONE IN SUCH A WAY AS TO NOT OVERLY DISRUPT THE DAILY OPERATION OF THE BUILDING. COORDINATE DUMPSTER LOCATIONS WITH THE OWNER PRIOR TO COMMENCEMENT OF WORK.	
10. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING & PATCHING OF EXISTING WALLS, FLOORS, & CEILING\$ REQUIRED FOR THE SUCCESSFUL & PROPER COMPLETION OF THE WORK SHOWN & IMPLIED IN THESE DRAWINGS. ALL NEW FINISHES SHALL MATCH THE EXISTING ADJACENT FINISHES TO REMAIN. ALL PATCHING SHALL BE SEAMLESS IN NATURE.	
11. INSURANCE & BONDING SHALL BE PROVIDED ACCORDING TO THE BID DOCUMENTS. CONTRACTOR SHALL VERIFY THESE REQUIREMENTS PRIOR TO CONTRACT SIGNING AS NO EXTRAS WILL BE PERMITTED FOR UNFORESEEN LOGISTICAL REQUIREMENTS. VERIFY ALL SCHEDULING & PROCEDURAL REQUIREMENTS RELATED PAYMENT PRIOR TO CONTRACT SIGNING AS WELL.	
12. THESE DRAWINGS ARE NOT INTENDED TO ADDRESS ANY HAZARDOUS MATERIALS WHICH MAY OR MAY NOT BE PRESENT ON THE SITE. ALL WORK RELATED TO HAZARDOUS MATERIALS SHALL BE PERFORMED UNDER A SEPARATE CONTRACT. ARCHITECTS' SERVICES DO NOT INCLUDE ANY SERVICES RELATED TO DETECTION, REPORTING, PERMITTING, ANALYSIS, OR ABATEMENT OF ASBESTOS, RADON, OR OTHER HAZARDOUS OR TOXIC MATERIALS INCLUDING MOLDS OR FUNGUS (COLLECTIVELY, "HAZARDOUS MATERIALS") AT THE PROJECT SITE.	

GRAPHIC SYMBOLS	
	ROOM NAME
	DOOR NUMBER
	WINDOW TYPE
	INTERIOR ELEVATION IDENTIFICATION
	ELEVATION POINT
	STRUCTURAL GRID
	DETAIL
	CALLOUT
	BUILDING SECTION
	WALL SECTION
	HANDICAP ACCESSIBLE ROUTE
	WALL TYPE
	ALIGN SURFACE
	SPOT GRADE ELEVATION
	REVISION MARK
	ROOM OCCUPANCY LOAD: AREA IN SQUARE FEET OCCUPANCY LOAD FACTOR: MORE PEOPLE THAN ACTUAL SQUARE FOOTAGE PROVIDES (1000.1)
	EXIT CAPACITY ACTUAL EGRESS OCCUPANCY OF DOOR OR STAIR MAXIMUM ALLOWABLE EGRESS OCCUPANCY OF DOOR OR STAIR
	MILLWORK
	EXTERIOR ELEVATION MARKERS

MOUNTING HEIGHTS	

MATERIALS LEGEND	
	ACOUSTICAL CEILING TILE
	CONCRETE
	BRICK
	STONE
	METALS
	CONCRETE MASONRY UNITS
	COMPACTED GRAVEL
	WOOD FRAMING
	WOOD FRAMING - THROUGH MEMBER
	WOOD FRAMING - INTERRUPTED MEMBER
	PLYWOOD
	FINISHED WOOD
	BATT INSULATION
	ACOUSTICAL INSULATION
	RIGID INSULATION
	GYPSUM WALL BOARD
	GYPSUM SHEATHING
	NEW STUD PARTITION
	EXISTING PARTITION

DEMOLITION LEGEND	
	EXISTING WALL CONSTRUCTION TO REMAIN
	EXISTING WALL CONSTRUCTION TO BE REMOVED
	EXISTING WINDOW TO BE REMOVED
	EXISTING DOOR AND FRAME TO BE REMOVED
	EXISTING TOILET TO BE REMOVED
	EXISTING URINAL TO BE REMOVED
	EXISTING SINK TO BE REMOVED
	EXISTING DRINKING FOUNTAIN TO BE REMOVED
	EXISTING TOILET PARTITIONS TO BE REMOVED
	AREAS OF EXISTING CONCRETE SLAB TO BE REMOVED FOR INSTALLATION OF NEW DUCTWORK. EXACT LOCATIONS TO BE COORDINATED WITH ENLARGED ARCHITECTURAL PLANS AND MEP DRAWINGS
	PATCH EXISTING FLOOR SLAB OPENINGS FROM EXISTING DUCTWORK TO BE ABANDONED. REFER TO STRUCTURAL DETAILS FOR PATCH WORK. COORDINATE W/ MEP DWGS. VERIFY EXACT LOCATIONS IN THE FIELD.
	EXISTING OPENING IN FLOOR SLAB TO REMAIN FOR USE W/ NEW DUCTWORK. REFER TO MEP DWGS FOR ADDITIONAL INFORMATION. VERIFY EXACT LOCATIONS IN THE FIELD.

DEMOLITION NOTES	
1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD & SHALL BE RESPONSIBLE FOR COORDINATION AMONG ALL DISCIPLINES.	
2. CONTRACTOR SHALL TAKE GREAT CARE TO NOT DAMAGE EXISTING CONSTRUCTION TO REMAIN WHILE PERFORMING & COORDINATING DEMOLITION OPERATIONS. ALL OPERATIONS SHALL BE CONDUCTED IN MINIMALLY INVASIVE FASHION IN ORDER TO CREATE AS LITTLE DISRUPTION AS POSSIBLE TO THE OPERATION OF THE FACILITY.	
3. CONTRACTOR & THEIR SUBCONTRACTORS SHALL FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS & THE PROPOSED SCOPE OF WORK PRIOR TO BEGINNING ANY CONSTRUCTION OR DEMOLITION OPERATIONS. ALL DISCREPANCIES SHALL BE REPORTED IN WRITING TO THE ARCHITECT.	
4. CONTRACTOR SHALL VERIFY WITH THE OWNER IF ANY ITEMS FROM THE EXISTING CONSTRUCTION SHALL BE RETAINED. ALL ITEMS THAT ARE PART OF THE EXISTING CONSTRUCTION SHALL BE CONSIDERED THE OWNER'S PROPERTY UNLESS THE OWNER INDICATES DIFFERENT.	
5. ALL ITEMS REMOVED DURING DEMOLITION SHALL BE DISPOSED OF ACCORDING TO ALL APPLICABLE LAWS, CODES & SPECIFICATIONS.	
6. ALL AREAS AFFECTED BY THE DEMOLITION OPERATIONS SHALL BE PATCHED TO MATCH EITHER THE EXISTING ADJACENT FINISHES OR THE NEW FINISHES TO BE INSTALLED WHERE APPLICABLE.	
7. THE OWNER SHALL BE RESPONSIBLE FOR ALL HAZARDOUS MATERIALS TESTING.	
8. CONTRACTOR TO REVIEW AND COORDINATE DEMO SCOPE WITH HAZMAT ABATEMENT BEING COMPLETED UNDER SEPARATE CONTRACT. SEE HAZMAT ABATEMENT DRAWINGS, SPECIFICATIONS, & REPORT.	
9. REMOVE ALL A.C.T. CEILING\$, BOTH ADHERED AND SPLINE SYSTEMS WITHIN PROJECT SCOPE AREAS.	

Kenneth Boroson ARCHITECTS

315 Peck Street
New Haven, CT 06513
p: 203.624.0662 • f: 203.562.1732
www.kbarch.com

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NO.	DATE	REVISION
DATE/REVISION		
PROJECT NAME: THE AUTO COLLECTIVE		
ZONING SUBMISSION		
BUILDING NAME & ADDRESS: THE AUTO COLLECTIVE 10 NORWALK PLACE NORWALK, CT 06059		
PROJECT NUMBER: 2024.021	SEE NUMBER: N/A	

DRAWING TITLE: PROJECT INFORMATION SHEET	
SCALE: As Indicated	DRAWN BY: AM/GM
FILENAME: FILE	DATE: FEBRUARY 19, 2025
DRAWING NUMBER: A0.01	

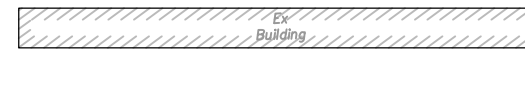
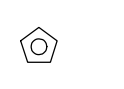
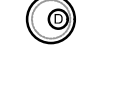
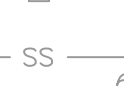
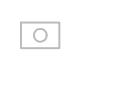
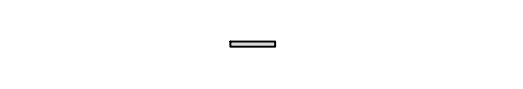
GENERAL NOTES

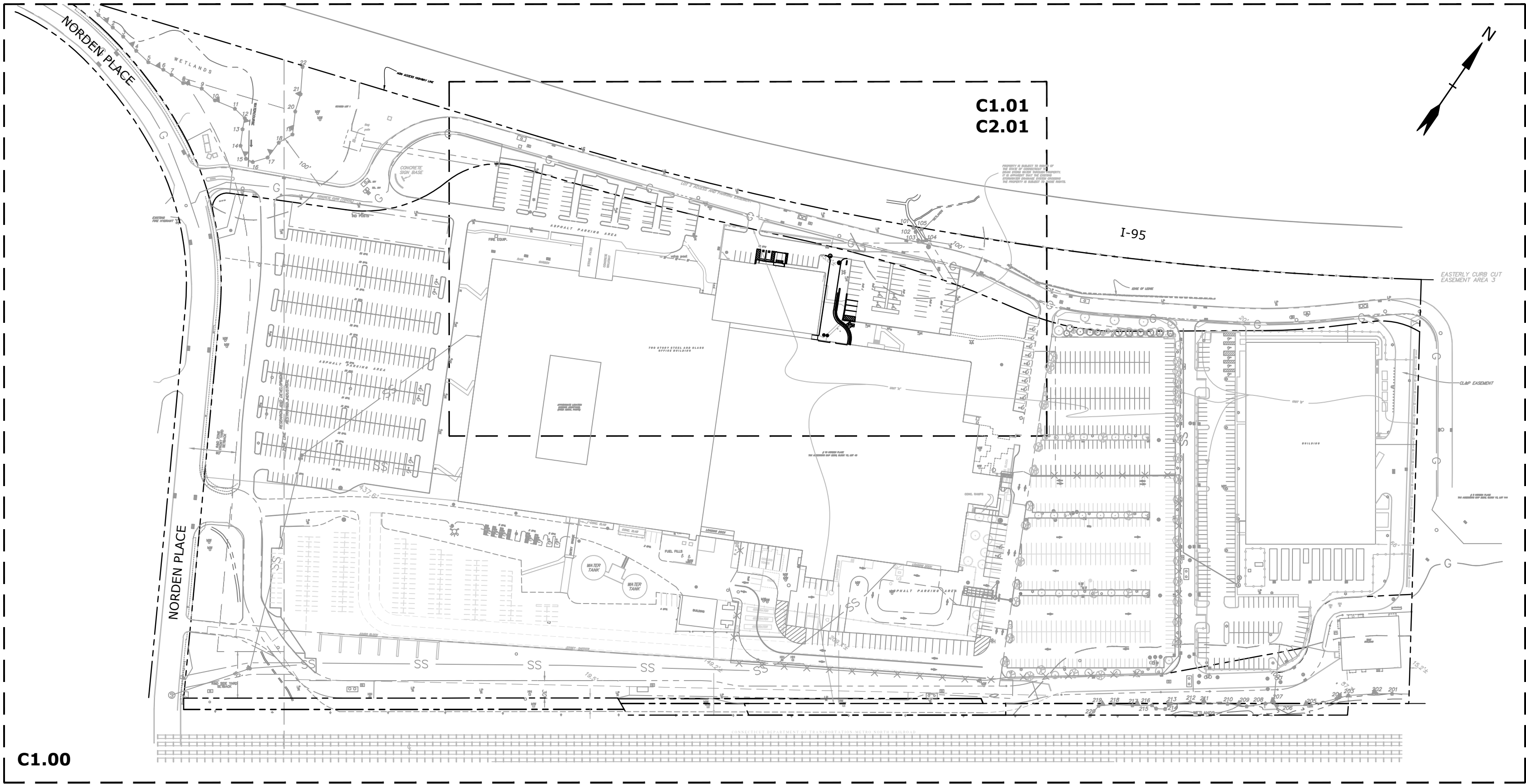
- UTILITY LOCATIONS SHOWN HEREON WERE PLOTTED FROM INFORMATION SUPPLIED BY RESPECTIVE UTILITY COMPANIES AND DATA OBTAINED FROM FIELD SURVEYS AND AS-BUILT DRAWINGS. THE ACCURACY AND COMPLETENESS OF SUBSURFACE INFORMATION SHOWN ON THESE DRAWINGS IS NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE FOR HIMSELF, THE LOCATIONS AND ELEVATIONS OF ALL UTILITIES WHICH MAY AFFECT HIS CONSTRUCTION OPERATIONS. THE CONTRACTOR MUST ADEQUATELY PROTECT AND SUPPORT UTILITIES AND HE SHALL BE RESPONSIBLE FOR ALL DAMAGE INCURRED AT NO EXPENSE TO THE OWNER. ANYONE USING UTILITY INFORMATION AND DATA PROVIDED HEREIN SHALL CONTACT "CALL BEFORE YOU DIG", 1-800-922-4455 OR WWW.CBYD.COM, 72 HOURS IN ADVANCE TO VERIFY THE LOCATION OF UTILITIES PRIOR TO STARTING CONSTRUCTION.
- REFERENCE IS MADE TO THE SURVEY ENTITLED "PROPERTY & TOPOGRAPHIC SURVEY 10 NORDEN PLACE" PREPARED FOR NORWALK CENTER LLC, PREPARED BY WILLIAM W. SEYMOUR & ASSOCIATES, P.C., DATED MARCH 19, 2019 AND SUPPLEMENTED DECEMBER 12, 2023.
- IT IS THE RESPONSIBILITY OF EACH BIDDER IN EVALUATING THESE PLANS TO MAKE EXAMINATIONS IN THE FIELD BY VARIOUS METHODS AND OBTAIN NECESSARY INFORMATION FROM AVAILABLE RECORDS, UTILITY COMPANIES, AND INDIVIDUALS AS TO THE LOCATION OF SUBSURFACE STRUCTURES.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE DRAWINGS, SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER'S REPRESENTATIVE IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE OWNER'S REPRESENTATIVE SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.
- AT ALL LOCATIONS WHERE THE CONTRACTOR IS REQUIRED TO REMOVE EXISTING PAVEMENT AREAS (WHICH ARE NOT TO BE RECONSTRUCTED) FOR THE INSTALLATION OF THE PROPOSED UTILITIES, THE PAVEMENT SHALL BE REPAIRED AS SHOWN ON THE CONTRACT DRAWINGS.
- AS CONSTRUCTION IS COMPLETED, THE CONTRACTOR SHALL REMOVE ALL EXCESS MATERIAL, DEBRIS, ETC. AND RESTORE OR REPLACE ANY DAMAGE TO LANDSCAPING.
- AREAS OUTSIDE THE PROJECT AREA DISTURBED BY CONSTRUCTION SHALL BE RETURNED TO THEIR ORIGINAL CONDITION OR BETTER AND SHALL BE GRADED TO MEET PROPOSED CONSTRUCTION AS DIRECTED BY THE OWNER'S REPRESENTATIVE. COST FOR THIS WORK SHALL BE BORNE BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL PROCURE ALL THE NECESSARY PERMITS AND LICENSES, AT THE TIME REQUIRED, PAY ALL THE CHARGES AND FEES, AND GIVE NOTICES AS NECESSARY AND DUE IN CONNECTION WITH THE LAWFUL EXECUTION OF THE WORK AT NO ADDITIONAL COST TO THE OWNER.
- ALL UTILITY BOXES, FRAMES, AND GRATES, ETC. AFFECTED BY THE CONSTRUCTION ACTIVITIES SHALL BE RESET/RECONSTRUCTED TO THE PROPER GRADE. ALL COST RELATED TO SUCH WORK SHALL BE CONSIDERED INCLUDED IN THE BID PRICE.
- EXCAVATION OF ANY TYPE SHALL BE ACCOMPLISHED IN SUCH A MANNER THAT UNDERGROUND UTILITIES OR STRUCTURES ARE NOT DAMAGED. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY FOR ANY DAMAGE INCURRED DURING EXCAVATION OPERATIONS. ALL EXCAVATION SHALL BE IN CONFORMANCE WITH THE LATEST OSHA REQUIREMENTS.
- ALL DRIVEWAYS, ROADS, STAIRS, AND SIDEWALKS DISTURBED BY THE CONSTRUCTION TO REMAIN SHALL BE RETURNED TO THEIR ORIGINAL CONDITION OR BETTER AND SHALL BE GRADED TO MEET THE PROPOSED CONSTRUCTION AS DIRECTED BY THE OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL SUFFICIENTLY COVER ALL DISTURBED AREAS AT THE END OF EACH WORK DAY TO AVOID ANY RISK OF INJURY TO PEDESTRIAN OR VEHICULAR TRAFFIC. THE CONTRACTOR SHALL INSTALL TEMPORARY SUPPORT SYSTEMS OVER TRENCH EXCAVATIONS THAT ARE TAMPER RESISTANT AND SAFE FOR VEHICULAR AND PEDESTRIAN TRAFFIC. THE CONTRACTOR SHALL INSTALL BARRICADES TO PROTECT AGAINST PEDESTRIAN ACCESS. THE CONTRACTOR SHALL OBTAIN APPROVAL OF THE TEMPORARY SAFETY MEASURES BY THE OWNER'S REPRESENTATIVE. ALL MAINTENANCE AND PROTECTION OF BOTH PEDESTRIAN AND VEHICULAR TRAFFIC ARE INCLUDED IN THE LUMP SUM BID PRICE FOR THIS PROJECT.
- ALL CONSTRUCTION MATERIALS AND METHODS SHALL CONFIRM TO THE CITY OF NORWALK DPW REQUIREMENTS AND TO THE APPLICABLE SECTIONS OF THE STATE OF CONNECTICUT, DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, AND INCIDENTAL CONSTRUCTION, FORM 819, 2024, AND ADDENDA AND AS SUPPLEMENTED IN THE SPECIAL PROVISIONS. FORM 819 IS AVAILABLE FOR VIEWING ON THE CTDOT WEBSITE WWW.CT.GOV.DOT/SITE UNDER THE "PUBLICATIONS" TAB.
- ALL DISTURBED AREAS NOT PROVIDED WITH SPECIFIC SITE IMPROVEMENTS (PAVING, CONCRETE SIDEWALK, LANDSCAPING, ETC.) SHALL HAVE TOPSOIL INSTALLED AND TURF ESTABLISHED.
- THE LOCATIONS OF ALL UNDERGROUND UTILITIES INSTALLED OR FOUND DURING CONSTRUCTION SHALL BE MEASURED FROM PERMANENT SURFACE FEATURES AND INDICATED BY THE CONTRACTOR ON RECORD DRAWINGS.
- THE CONTRACTOR SHALL COMPLETE ALL WORK SO THAT ANY MATERIALS WHICH ARE TO REMAIN IN PLACE OR WHICH ARE TO REMAIN THE PROPERTY OF THE OWNER, WILL NOT BE DAMAGED. IF THE CONTRACTOR DAMAGES ANY MATERIALS WHICH ARE TO REMAIN, OR WHICH ARE TO REMAIN THE PROPERTY OF THE OWNER, THE DAMAGED MATERIALS SHALL BE REPLACED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AT THE EXPENSE OF THE CONTRACTOR.
- AFTER CONSTRUCTION IS COMPLETED, THE CONTRACTOR SHALL REMOVE ALL EXCESS MATERIAL, DEBRIS, EQUIPMENT, ETC. AND RESTORE OR REPAIR ANY DAMAGE TO LANDSCAPING AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
- THE CONTRACTOR SHALL EXCAVATE AND LEGALLY DISPOSE OF OFF-SITE ANY EXCESS PAVEMENT, BASE AND COLD RECLAIMED BASE. THE COST FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID FOR THE PROJECT AND AT NO ADDITIONAL COST TO THE OWNER.
- ALL PROPOSED WORK MAY BE VARIED IN THE FIELD BY THE OWNER'S REPRESENTATIVE TO MEET EXISTING CONDITIONS.

STANDARD ABBREVIATIONS

@	AT
ABDN(D)	ABANDON(ED)
AC	ACRE/AIR CONDITIONING
AOBE	AS ORDERED BY THE ENGINEER
BSMT	BASEMENT
BCLC	BITUMINOUS CONCRETE LIP CURBING
BOW	BACK OF WALK
BL	BASELINE
BW	BOTTOM OF WALL
BIT	BITUMINOUS
BC	BOTTOM OF CURB
BLDG	BUILDING
BOT	BOTTOM
CATV	CABLE TELEVISION
CIP	CAST IRON PIPE
CB	CATCH BASIN
CL	CENTERLINE
CLF	CHAIN LINK FENCE
CL&P	CONNECTICUT LIGHT & POWER
CTDEEP	CONNECTICUT DEPT. OF ENERGY & ENV. PROTECTION
CTDOT	CONNECTICUT DEPT. OF TRANSPORTATION
CONC	CONCRETE
CO	CLEAN-OUT
CPP	CORRUGATED POLYETHYLENE PIPE
CY	CUBIC YARDS
DIP	DUCTILE IRON PIPE
DWG	DRAWING
E	EAST/ELECTRIC
EOP	EDGE OF PAVEMENT
ELEC	ELECTRIC
EL/ELEV	ELEVATION
EMH	ELECTRIC MANHOLE
EX/EXIST	EXISTING
EG	EXISTING GRADE
FF	FIRST FLOOR
G	GAS
GEN	GENERATOR
GG	GAS GATE
GRC	GALVANIZED RIGID CONDUIT
HC	HANDICAP
HYD	HYDRANT
IN	INCHES
INC	INCORPORATED
INV	INVERT
L	LENGTH OF CURVE
LT	LEFT
LOC	LOCATION
LP	LIGHT POLE
MAX	MAXIMUM
MIN	MINIMUM
MH	MANHOLE
MISC	MISCELLANEOUS
MON	MONUMENT
NIC	NOT IN CONTRACT
N	NORTH
NTS	NOT TO SCALE
N/A	NOT APPLICABLE
N/F	NOW OR FORMERLY
OH	OVERHEAD
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PCPP	PERFORATED CORRUGATED POLYETHYLENE
PED	PEDESTRIAN
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
PRC	POINT OF REVERSE CURVATURE
PS	PARKING SPACES
PVC	POLYVINYL CHLORIDE
R	RADIUS
REV	REVISION
ROW	RIGHT OF WAY

LEGEND

DESCRIPTION	EXISTING	PROPOSED
PROPERTY LINE	---	---
PROPERTY SETBACK LINE	---	---
UTILITY EASEMENT	---	---
SAWCUT	---	---
MONITORING WELL		
BORING LOCATION		
MINOR CONTOUR	115	115
MAJOR CONTOUR	120	120
SPOT ELEVATION	106.8	99.5
TREES		
TREE LINE	---	
EDGE OF PAVEMENT	---	
CURB LINE	---	
RETAINING WALL	---	---
CONCRETE WALK	---	---
EXTERIOR STAIRS	---	
BUILDING		
FENCE	---	---
SIGN & SIGN POST	+	
BOLLARD		
HANDICAP PARKING		
PARKING PAINT LINE	---	
WETLAND BOUNDARY	---	
WETLAND FLAG		
WETLAND SETBACK	---	
HEAD WALL	---	
STORM SEWER	12" RCP	
STORM MANHOLE		
CATCH BASIN		
SANITARY SEWER	SS	
SANITARY LATERAL	6" PVC	
SANITARY MANHOLE		
WATER MAIN	PW	
WATER VALVE		
WATER METER		
HYDRANT		
GAS MAIN	G	
GAS GATE		
GAS METER		
TEL-DATA - BURIED	T	
ELECTRICAL - BURIED	E	
OVERHEAD WIRES	---	
ELECTRIC MANHOLE		
TEL-DATA/CATV MANHOLE		
UTILITY POLE		
LIGHT		
SILT SACK		S.S. 
BITUMINOUS CONCRETE PAVEMENT		
EXTERIOR STORAGE AREA		
WHEEL STOP		---



SHEET INDEX
1" = 150'

0 150' 300'
SCALE: 1" = 150'

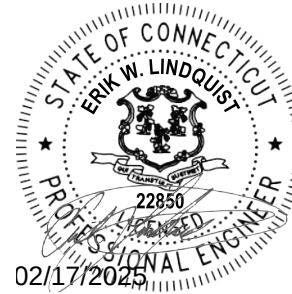
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Borson
ARCHITECTS

315 Peck Street
New Haven, CT 06513
p: 203.624.0662 • f: 203.562.1732
www.kbarch.com

Tighe&Bond

1000 Bridgeport Avenue
Suite 320
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(203) 712-1100

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NO.	DATE	REVISION
ISSUE/REVISION		

PROJECT NAME
THE AUTO COLLECTIVE

CONCEPTUAL LAYOUT

BUILDING NAME & ADDRESS
THE AUTO COLLECTIVE
10 NORDEN PLACE
NORWALK, CT 06855

PROJECT NUMBER
2024.021

SDE NUMBER
N/A

DRAWING TITLE
GENERAL NOTES, LEGEND,
AND ABBREVIATIONS

SCALE	DRAWN BY
AS SHOWN	ZNH

FILENAME	DATE
AS128-01-C-001-GENR.dwg	FEBRUARY 19, 2025

DRAWING NUMBER

C0.01

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ARCHITECTS

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NO.	DATE	REVISION

PROJECT NAME
THE AUTO COLLECTIVE

CONCEPTUAL LAYOUT

BUILDING NAME & ADDRESS
THE AUTO COLLECTIVE
10 NORDEN PLACE
NORWALK, CT 06855

PROJECT NUMBER
2024.021

SHEET NUMBER
N/A

DRAWING TITLE
AERIAL PLAN

SCALE	DRAWN BY
AS SHOWN	ZNH

FILENAME	DATE
AS128-01-C-002-AERL.dwg	FEBRUARY 19, 2025

DRAWING NUMBER

C0.02



10 NORDEN PLACE
3-17-40-A

Aerial photographs taken April, 2016

0 50 100 200
Feet

0 100' 200'
SCALE: 1" = 100'

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New Haven, CT 06513
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NO.	DATE	REVISION
ISSUE/REVISION		

PROJECT NAME
THE AUTO COLLECTIVE

CONCEPTUAL LAYOUT

BUILDING NAME & ADDRESS
THE AUTO COLLECTIVE
10 NORDEN PLACE
NORWALK, CT 06855

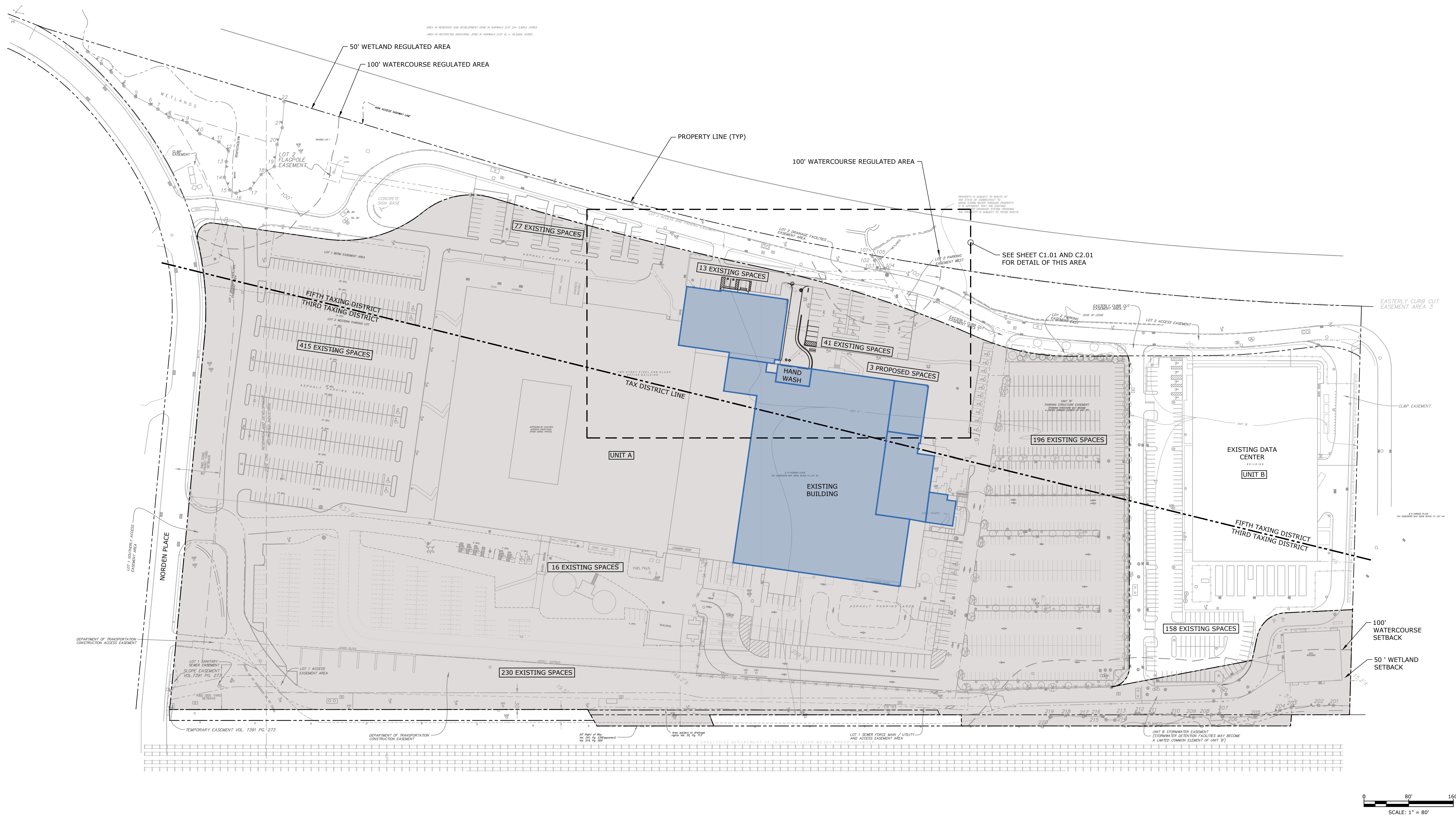
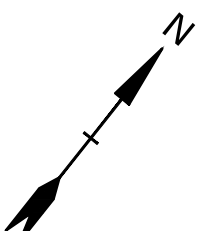
PROJECT NUMBER	SDE NUMBER
2024.021	N / A

DRAWING TITLE
OVERALL SITE PLAN

SCALE	DR
AS SHOWN	

DRAWING NUMBER

1. REFERENCE IS MADE TO THE SURVEY ENTITLED "PROPERTY & TOPOGRAPHIC SURVEY OF 10 NORDEN PLACE" PREPARED FOR NORWALK CENTER LLC, PREPARED BY WILLIAM W. SEYMOUR & ASSOCIATES, P.C., DATED MARCH 19, 2019 AND SUPPLEMENTED DECEMBER 12, 2023.
2. WETLAND LINES DEPICTED WERE STAKED IN THE FIELD BY CHRISTOPHER P. ALLAN, PROFESSIONAL REGISTERED SOIL SCIENTIST, PROFESSIONAL WETLAND SCIENTIST.



ZONE: INDUSTRIAL NO. 2
MAP: DISTRICTS 5 & 3
LOT AREA: 1,620.868 SF (37.21 ACRES)

	REQUIRED	EXISTING	PROPOSED
MAXIMUM HEIGHT	4 STORIES & 65 FEET	4 STORIES / 53'-11"	4 STORIES / 53'-11"
MINIMUM HEIGHT	N/A	-	-
MINIMUM SIZE OF PLOT (AREA)	5,000 SF	1,620,868 SF (37.21 AC)	1,620,868 SF
MINIMUM SIZE OF PLOT (WIDTH)	50 FEET	1102.5 FT	1102.5 FT
FRONT YARD SETBACK	35'-0" FROM CENTERLINE	437.6 FT	437.6 FT
SIDE YARD SETBACK	NONE (10'-0" MIN WHEN PROVIDED)	20 FT	20 FT
AGGREGATE SIDE YARD SETBACK	N/A	229.8 FT	229.8 FT
REAR YARD SETBACK	10'-0"	66 FT	66 FT
MAX. BUILDING AREA (COVERAGE):	50%	27%	27%
MAX BUILDINGS AND PARKING (COVERAGE)	90%	68.6%	69.2%
LOADING SPACES	2 SP. PLUS 1 SP. PER 100,000 SF	8	8
OFFICE		241,128 SF	149,190 SF
VACANT SCHOOL		64,545 SF	64,545 SF
INDUSTRIAL / MANUFACTURING USE*		216,255 SF	170,973 SF
CAR CLUB			52,620 SF
CAR CLUB STORAGE			84,600 SF
TRANSPORTATION MAINTENANCE TERMINAL		113,500 SF	113,500 SF
EXISTING DATA CENTER		167,691 SF	167,691 SF
EXISTING TEST CENTER		9,046 SF	9,046 SF
TOTAL BUILDING AREA		803,119 SF	803,119 SF
PERCENT OF OFFICE USE		30%	30%

	PARKING ANALYSIS				
USE		HISTORIC ALLOCATION	REQUIRED	EXISTING	PROPOSED
VACANT: OFFICE (1 SPACE / 370 SF)	149,190 GFA	403	-		
VACANT: SCHOOL (PREVIOUSLY APPROVED, SEE NOTE 2)	64,545 GFA	261	-		
VACANT: INDUSTRIAL / MANUFACTURING (1 SPACE / 1,600 SF + 3 SPACES / 1,000 SF ANS.)	170,973 SF	107	-		
CAR CLUB (1 SPACE / 500 SF)	52,620 GFA		105		
CAR CLUB STORAGE (1 SPACE / 5,000 SF)	84,600 GFA		17		
TRANSPORTATION MAINTENANCE TERMINAL	113,500 GFA		184		
DATA CENTER (1 SPACE / 1,200 SF)	167,691 GFA		140		
TOTAL	803,119 GFA		446	1,150	1,149

NOTES:

- NOTES:**
1. EXISTING PARKING COUNT IS BASED ON "TOPOGRAPHIC & ZONING LOCATION SURVEY 10 NORDEN PLACE" PREPARED BY WILLIAM W. SEYMOUR & ASSOCIATES P.C. ON MARCH 19,2019.
 2. PREVIOUSLY APPROVED VALUES ARE TAKEN FROM "ARCHITECTURAL SITE PLAN" PREPARED BY PERKINS EASTMAN ON DECEMBER 17, 2013.

OVERALL SITE PLAN LEGEND

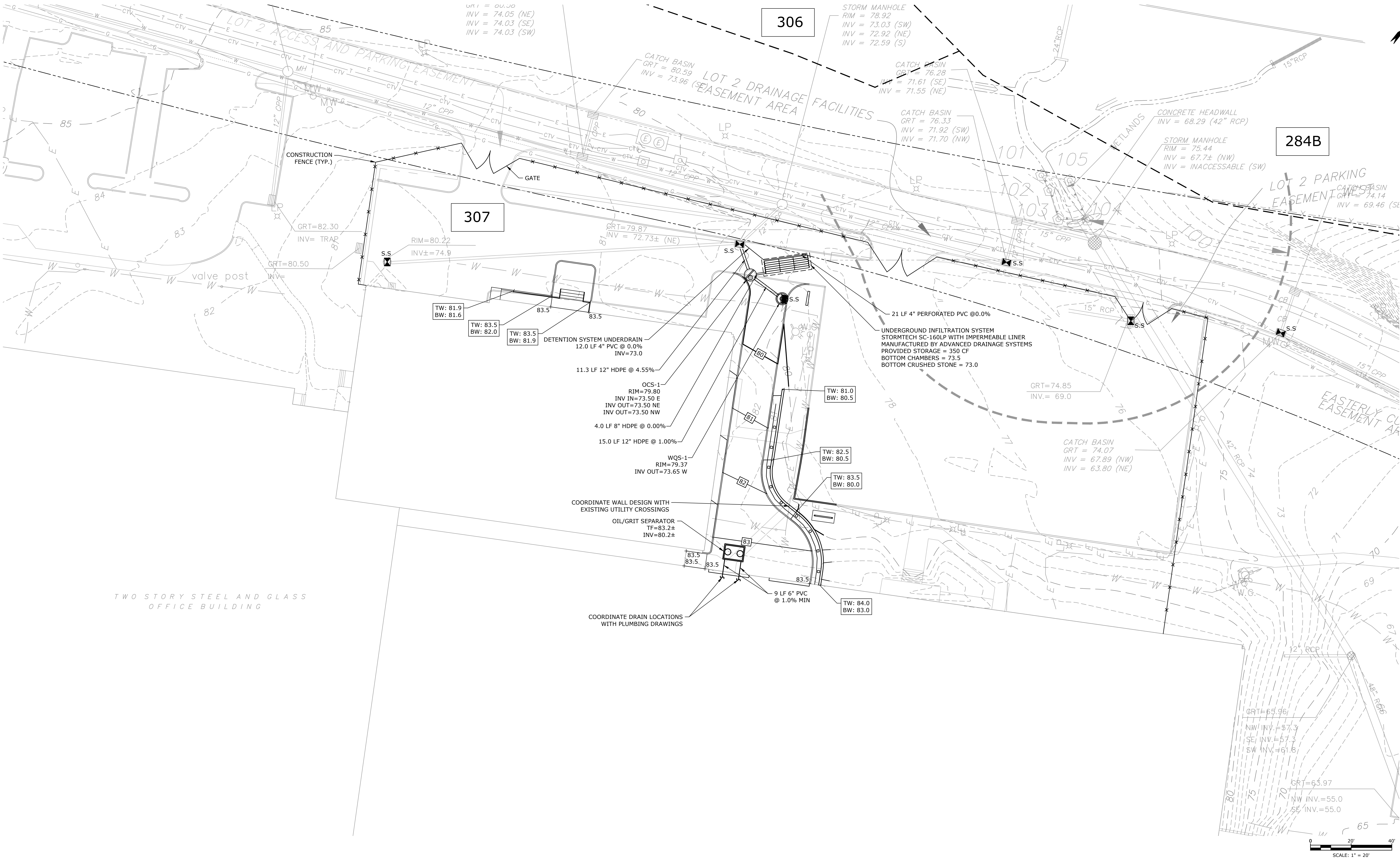
PROPERTY LINE

WETLAND BOUNDARY

WATERCOURSE

WETLAND FLAG

10 NORDEN PLACE - UNIT A



STORMWATER MANAGEMENT PLAN NOTES

1. THE MANHOLE FRAME AND COVER SHALL BE CENTERED ON THE PRECAST OPENING. UNDER NO CIRCUMSTANCES WILL AN OFFSET FRAME AND COVER BE ACCEPTABLE. PRIOR TO FINAL PAVING, THE CONTRACTOR SHALL CHECK ALL MANHOLE STRUCTURES TO ASSURE THE FRAME AND COVER IS CENTERED ON THE PRECAST OPENING. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL WORK REQUIRED TO CENTER FRAME AND COVER.
2. ALL PIPES AND FITTINGS SPECIFIED AS HDPE SHALL BE ADS N-12 WT (WATERTIGHT) PIPE AS MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS, HILLIARD, OHIO.
3. THE CONTRACTOR SHALL MAINTAIN EXISTING STORM SEWER FLOWS BY PUMPING OR OTHER MEANS APPROVED BY THE OWNER'S REPRESENTATIVE DURING CONSTRUCTION OF THE PROPOSED STORM SEWER IN LOCATIONS WHERE STORM SEWER ARE BEING INSTALLED, REPLACED OR RELOCATED.

DRAINAGE, GRADING, SOIL EROSION AND SEDIMENTATION CONTROL LEGEND

MINOR CONTOUR	
MAJOR CONTOUR	
SPOT ELEVATION	
SILT SACK	
SOIL TYPE BOUNDARY	
100' FT WATERCOURSE SETBACK	
MANHOLE	
DRAINAGE PIPE	
HYDRODYNAMIC SEPARATOR	
CONSTRUCTION FENCE	

SOIL IDENTIFICATION LEGEND

URBAN LAND	
UDORTHERNTS-URBAN LAND	
PAXTON-URBAN LAND	

Last Saved: 2/17/2025
Printed On: Feb 17, 2025 9:38am By: Zilretan
Tighe & Bond 23-A5128 The Auto Collective (001) Drawings\AutoCAD\Sheet\A5128-01-C-201-STRM.dwg

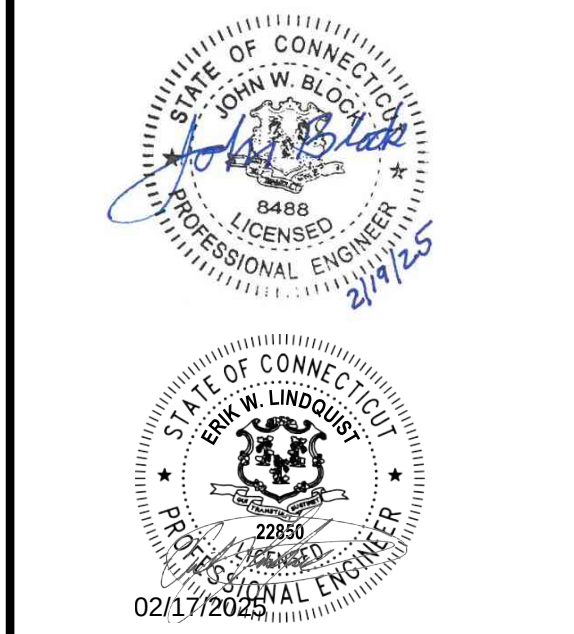
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315 Peck Street
New Haven, CT 06513
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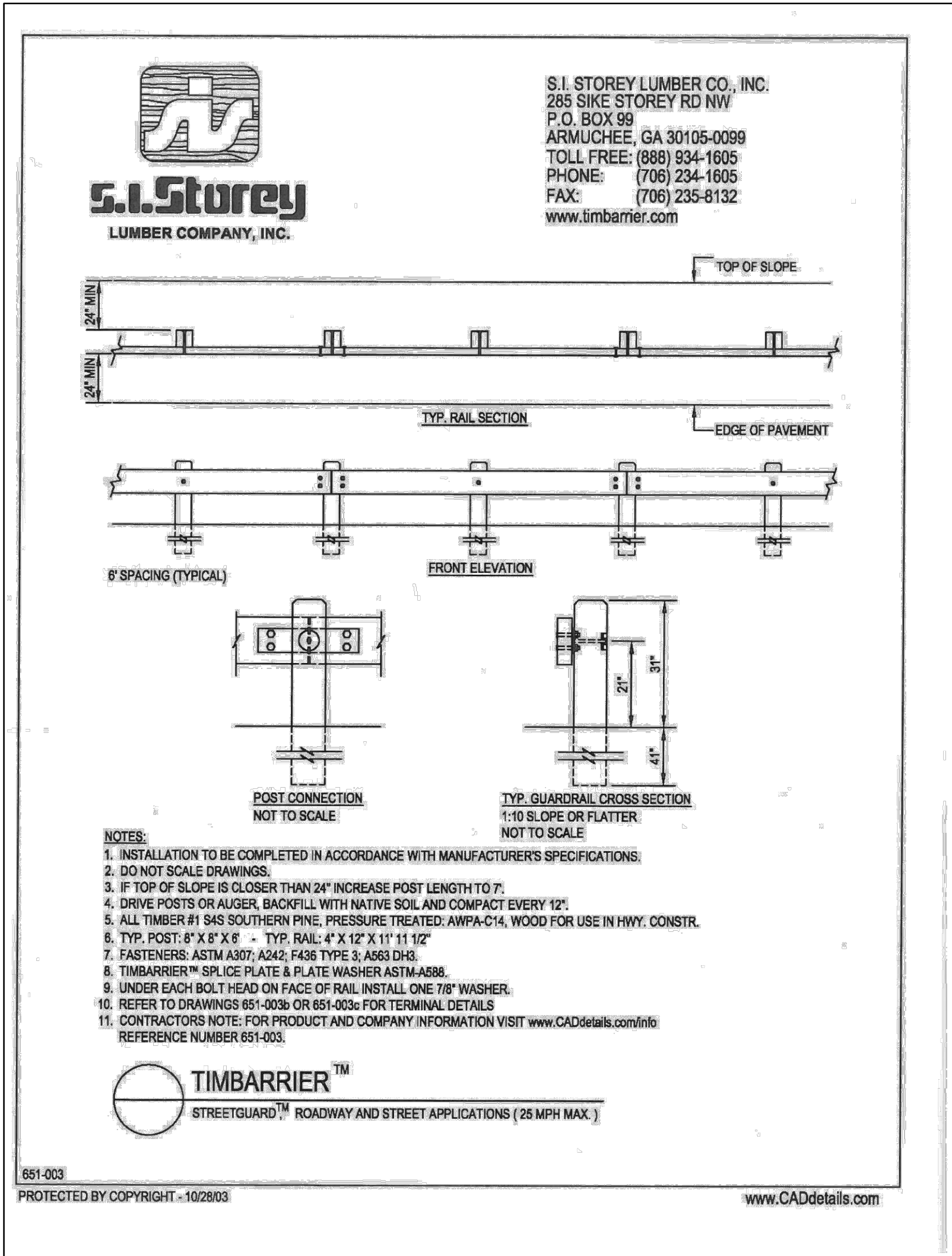
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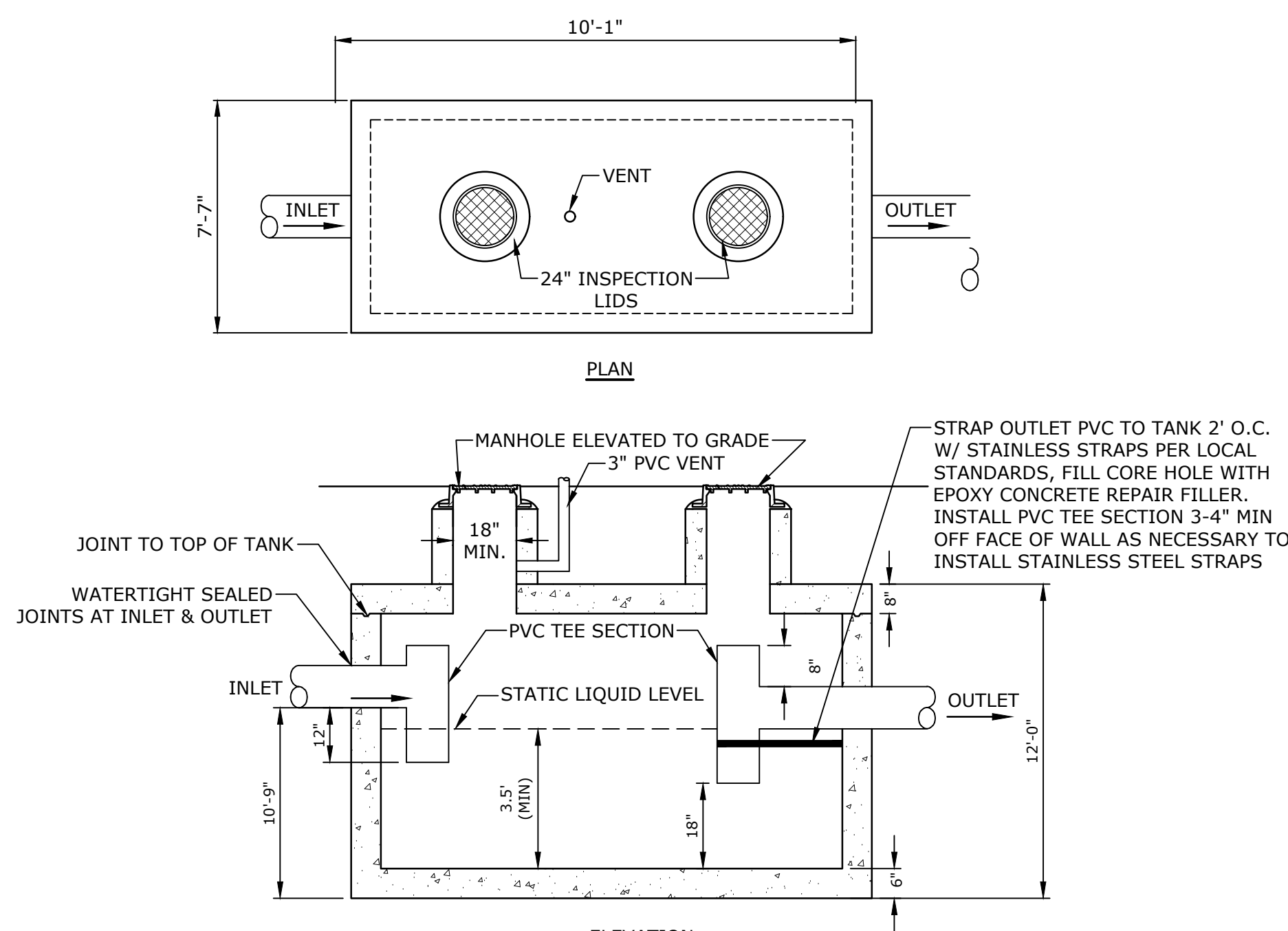
NO.	DATE	REVISION
ISSUE/REVISION		

PROJECT NAME	THE AUTO COLLECTIVE
CONCEPTUAL LAYOUT	
BUILDING NAME & ADDRESS	THE AUTO COLLECTIVE 10 NORDEN PLACE NORWALK, CT 06855
PROJECT NUMBER	2024.021
SSE NUMBER	N/A

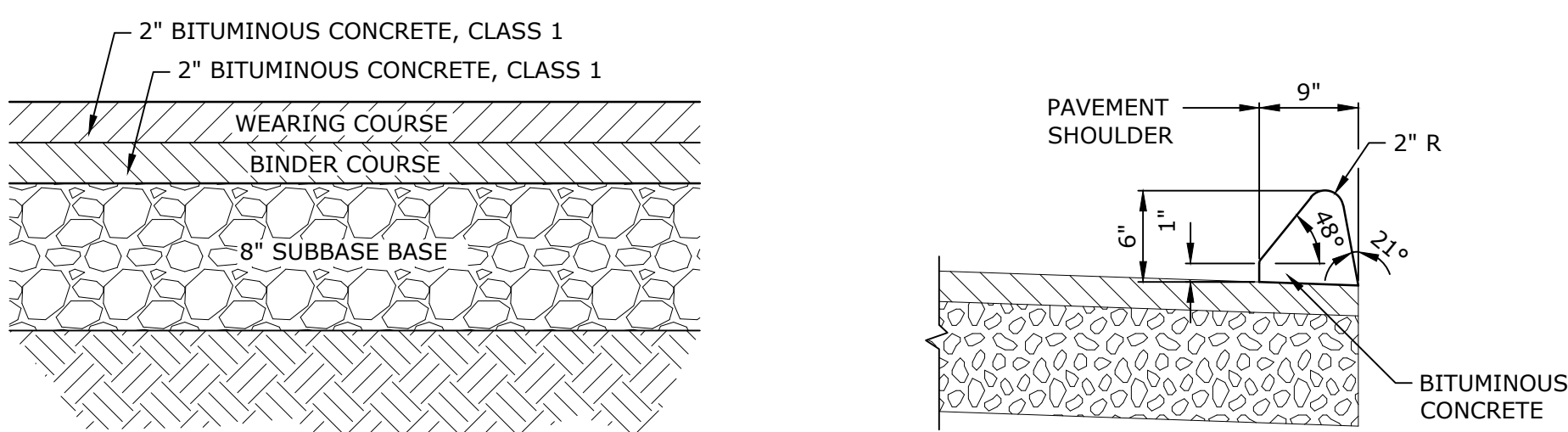
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SCALE	AS SHOWN
FILENAME	A5128-01-C-201-STRM.dwg
DRAWING NUMBER	C2.01



OR APPROVED EQUAL
TIMBER GUIDE RAIL
NO SCALE

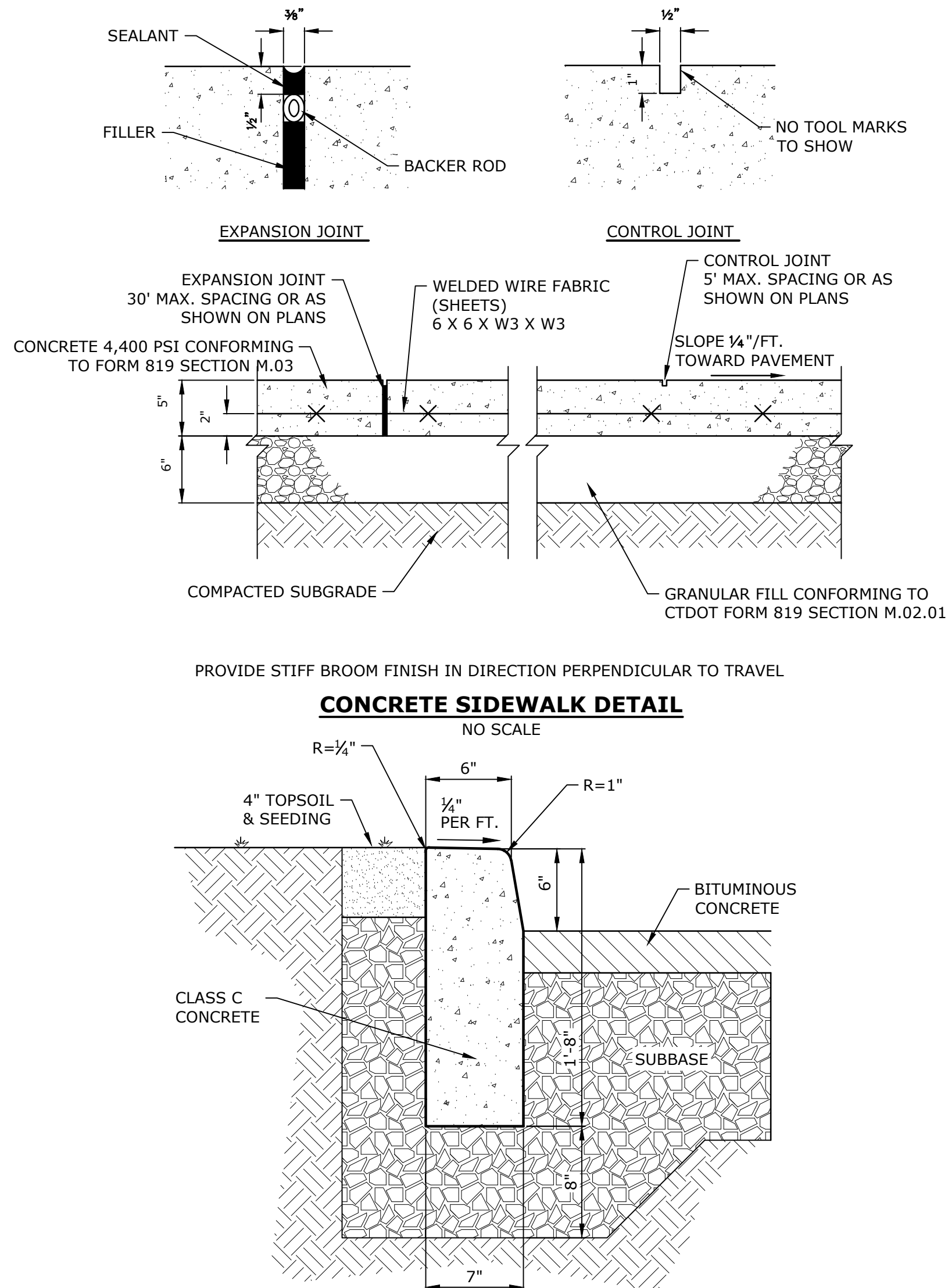


OIL/GRIT SEPARATOR
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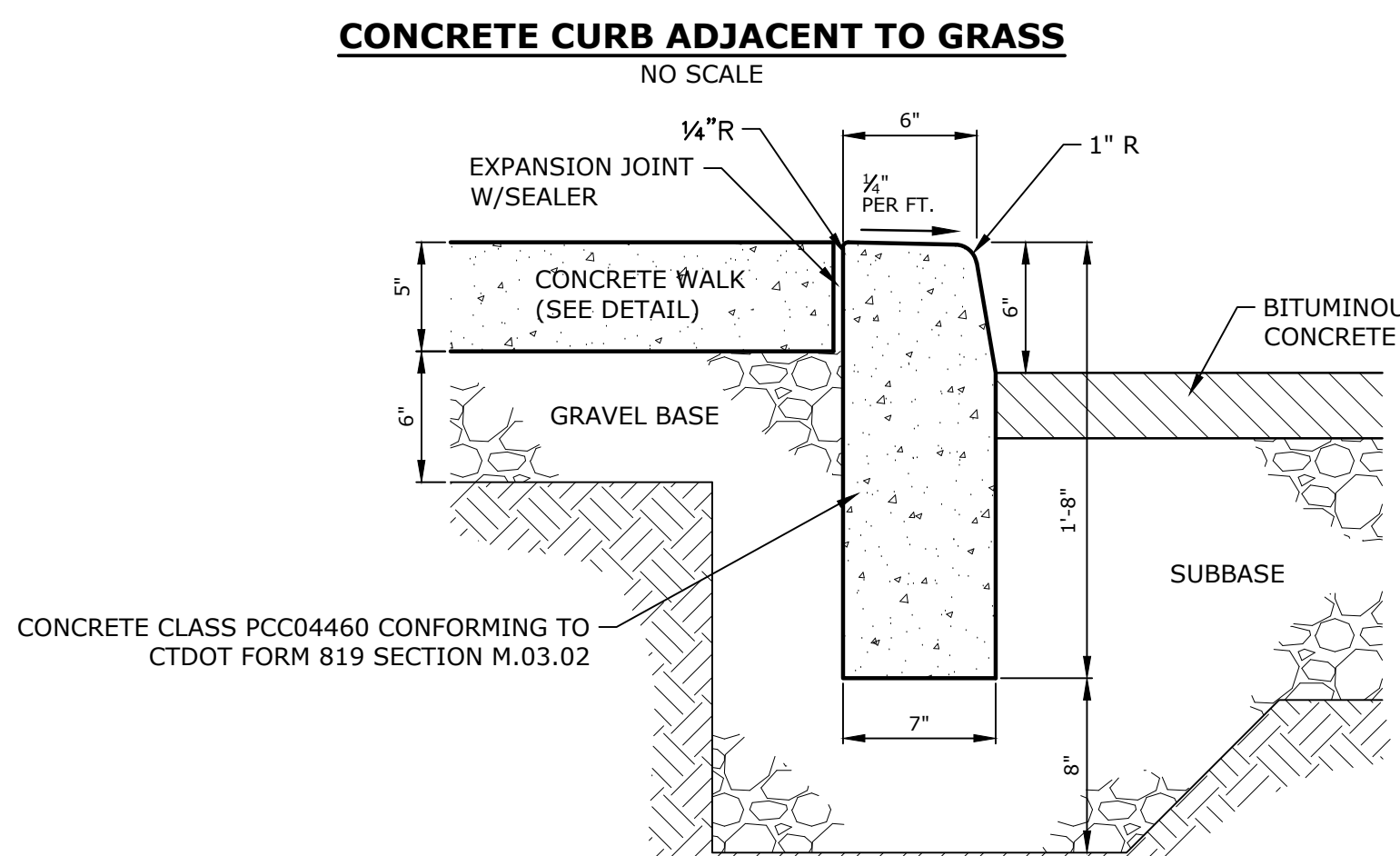


PARKING LOT PAVEMENT
NO SCALE

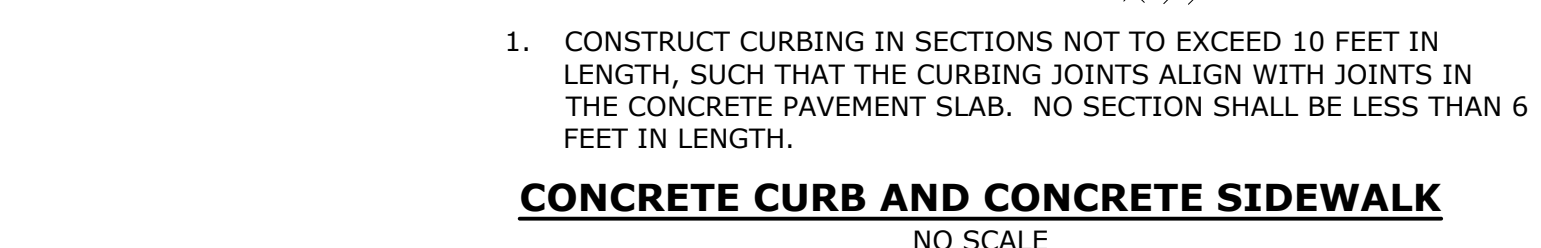
BITUMINOUS CONCRETE LIP CURBING
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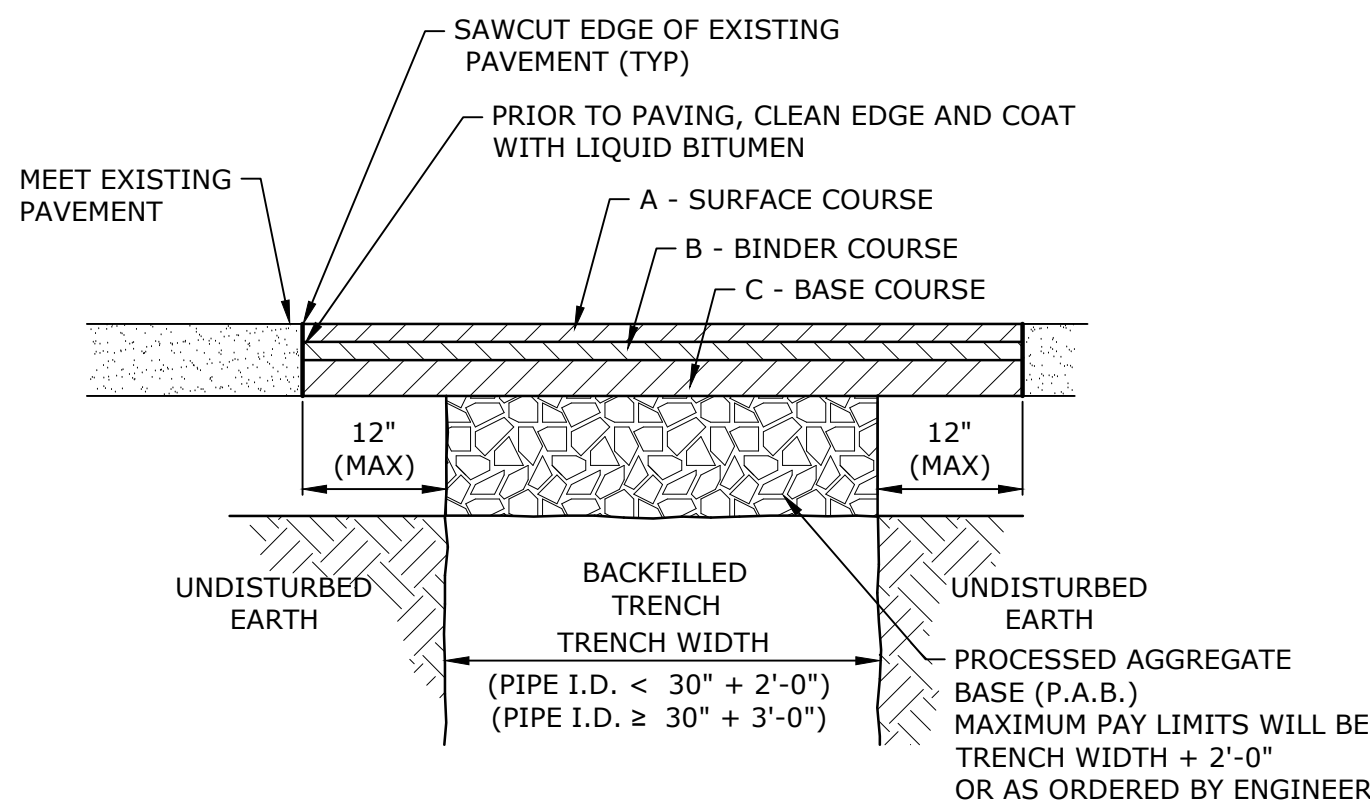
CONCRETE SIDEWALK DETAIL
NO SCALE



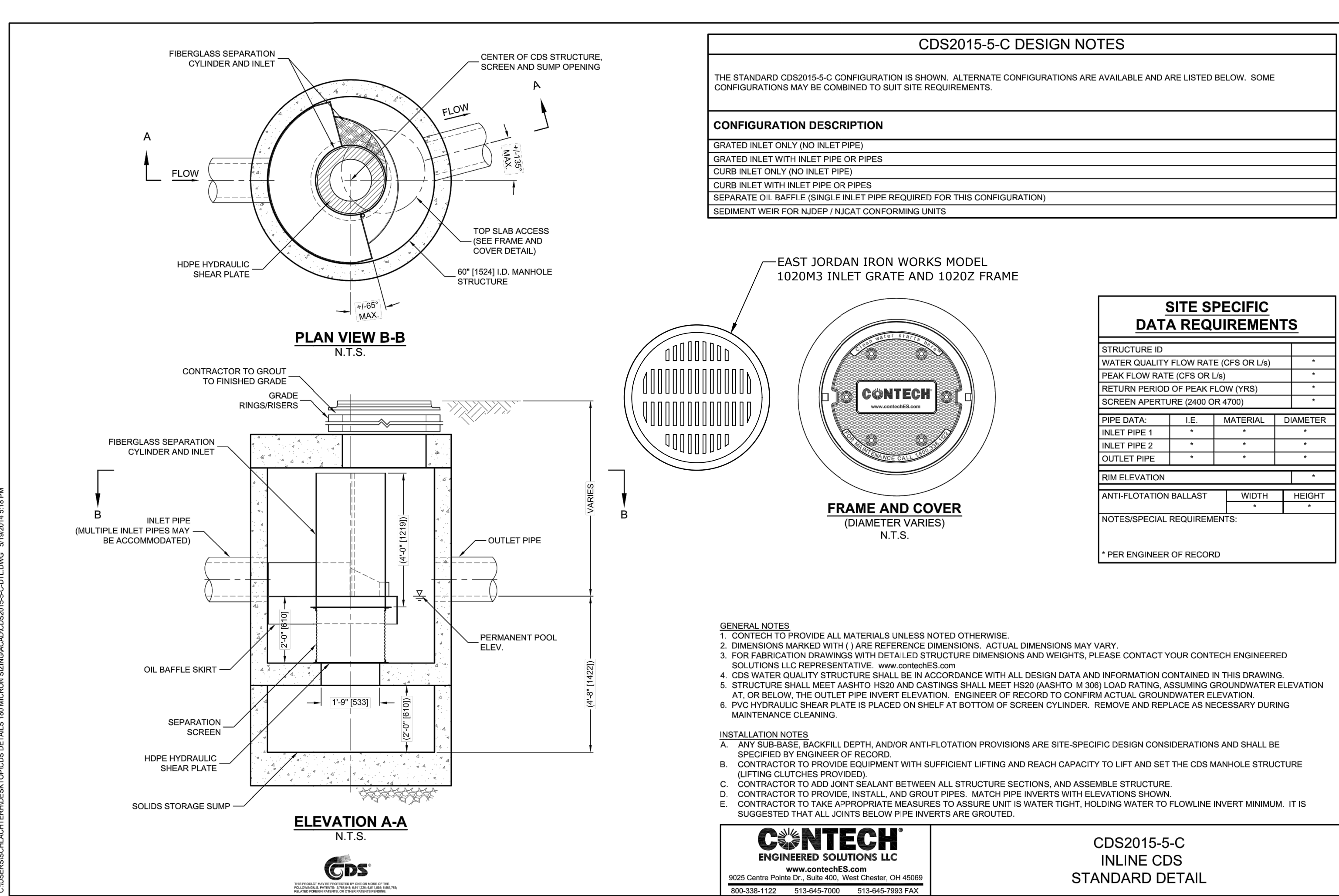
CONCRETE CURB ADJACENT TO GRASS
NO SCALE



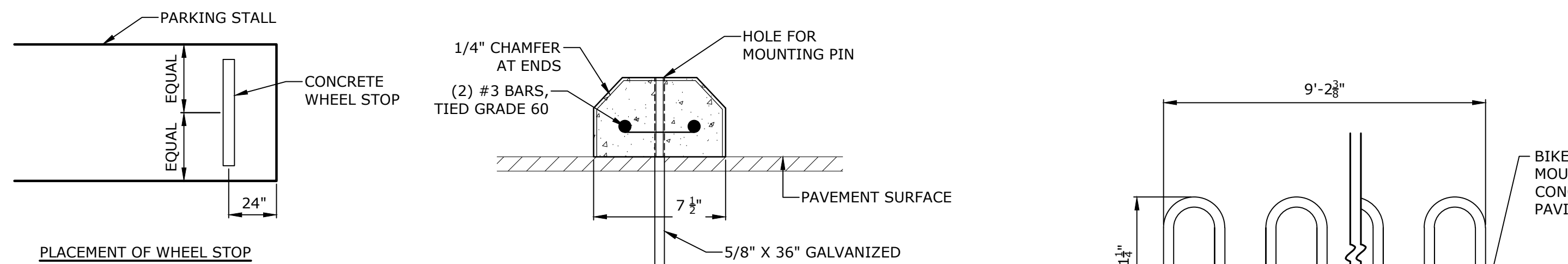
CONCRETE CURB AND CONCRETE SIDEWALK
NO SCALE



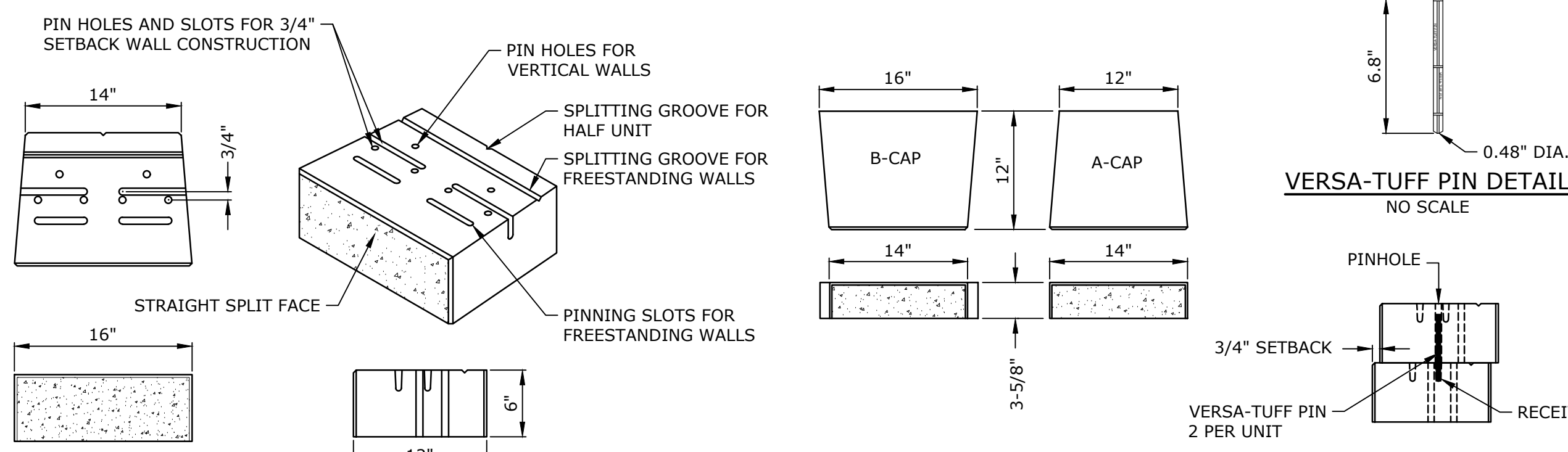
**PAVEMENT REPAIR
(CITY OF NORWALK)**
NO SCALE



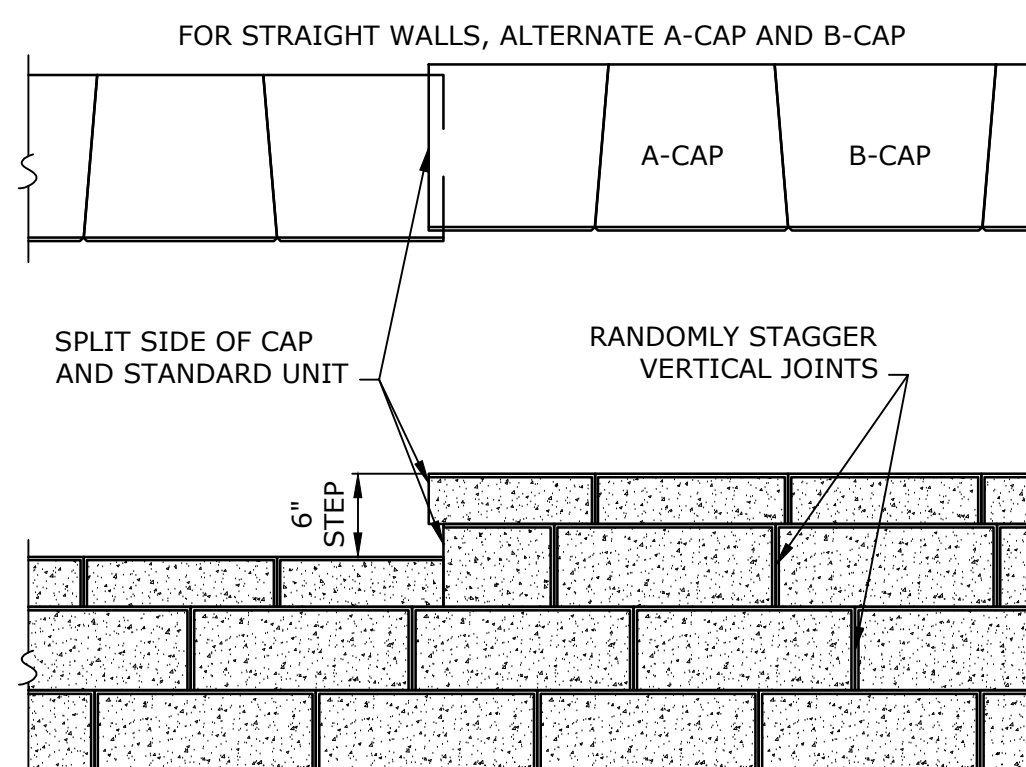
HYDRODYNAMIC SEPARATOR
NO SCALE



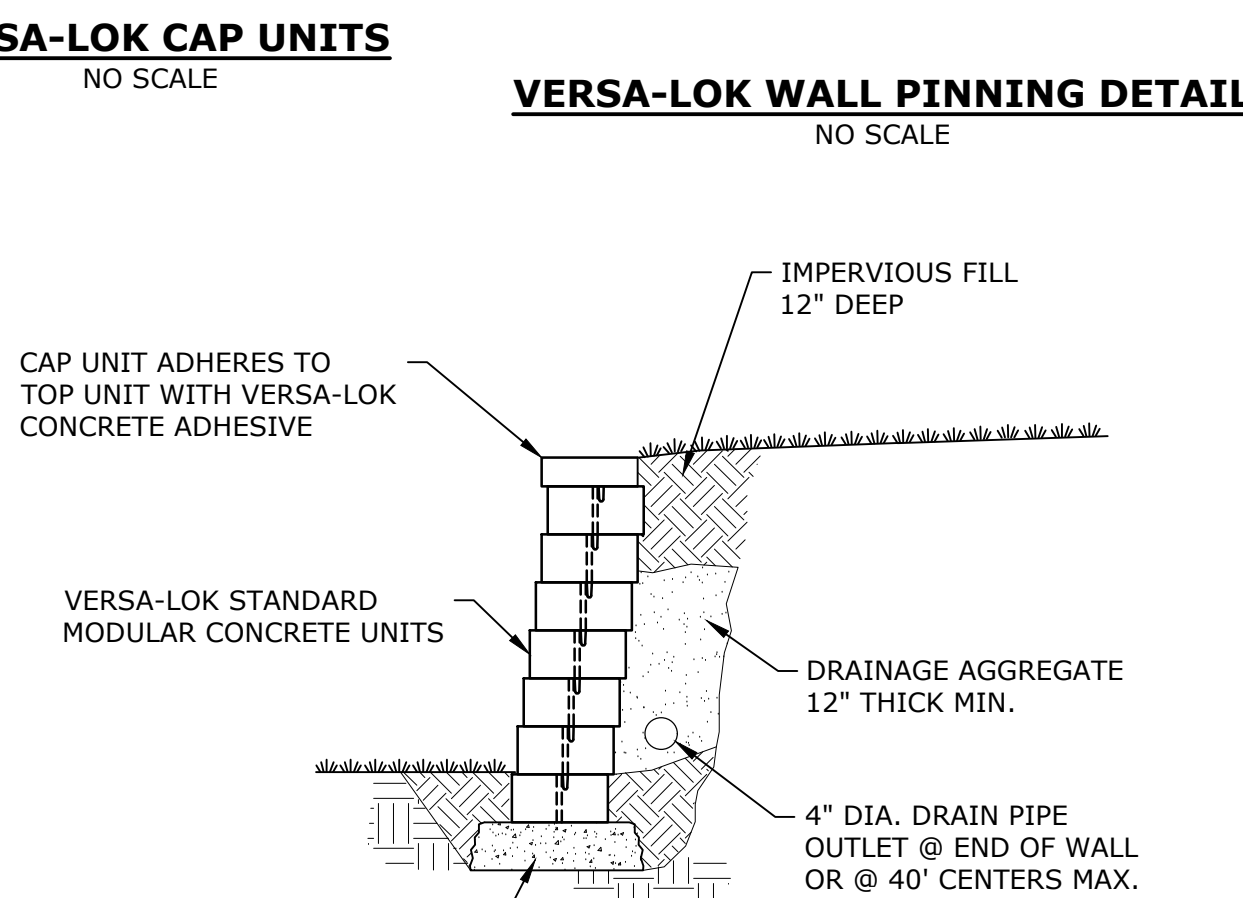
CONCRETE WHEEL STOP DETAIL
NO SCALE



STANDARD BLOCK UNIT DETAIL
NO SCALE



CAPPING DETAIL - PROFILE
NO SCALE



TYPICAL SECTION-UNREINFORCED RETAINING WALL
NO SCALE

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315 Peck Street
New Haven, CT 06513
p: 203.624.0662 • f: 203.562.1732
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NO.	DATE	REVISION
-----	------	----------

PROJECT NAME
THE AUTO COLLECTIVE

CONCEPTUAL LAYOUT

BUILDING NAME & ADDRESS
THE AUTO COLLECTIVE
10 NORDEN PLACE
NORWALK, CT 06855

PROJECT NUMBER
2024.021

SHEET NUMBER
N/A

DRAWING TITLE
DETAILS - 1

SCALE
AS SHOWN

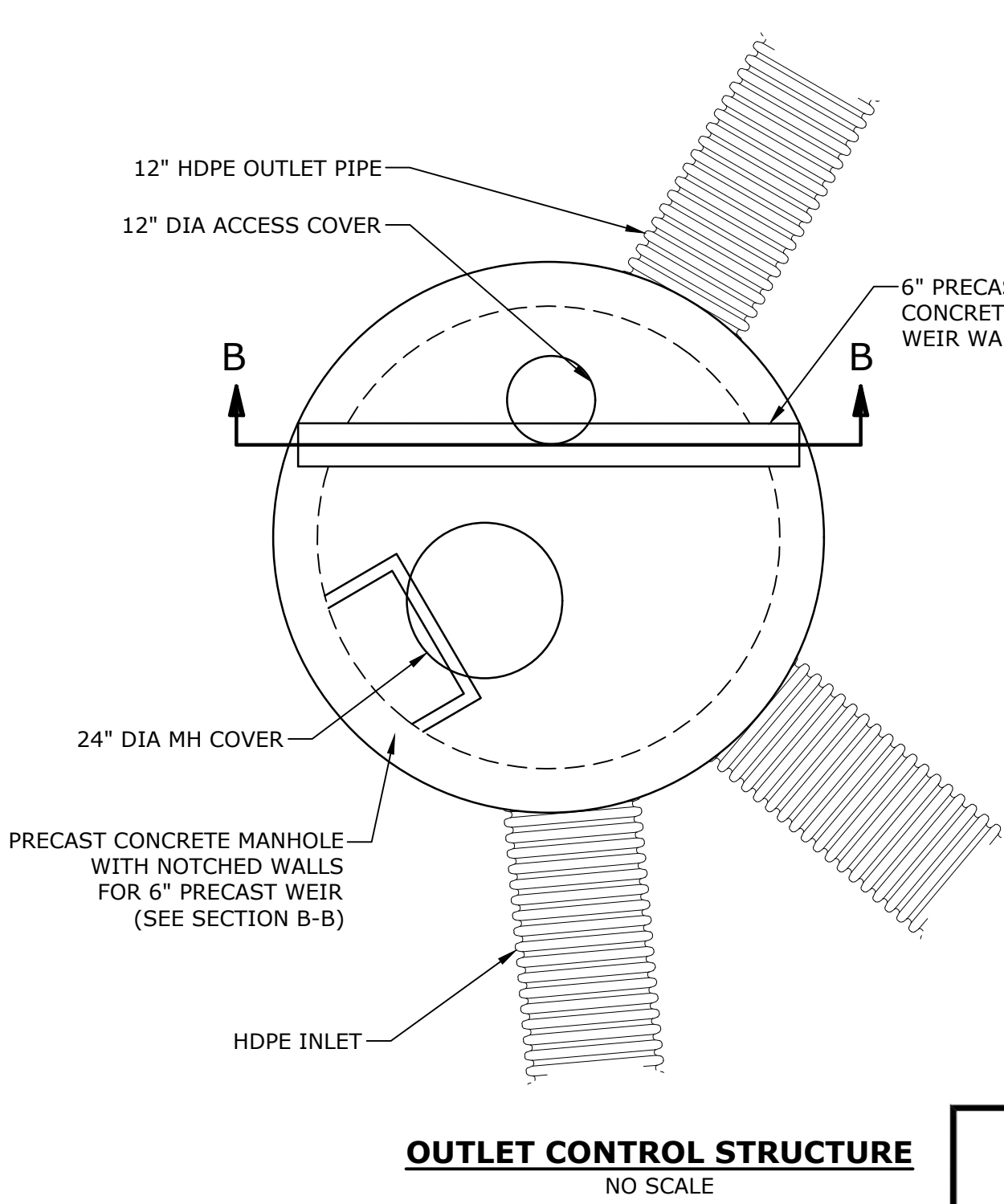
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FILENAME
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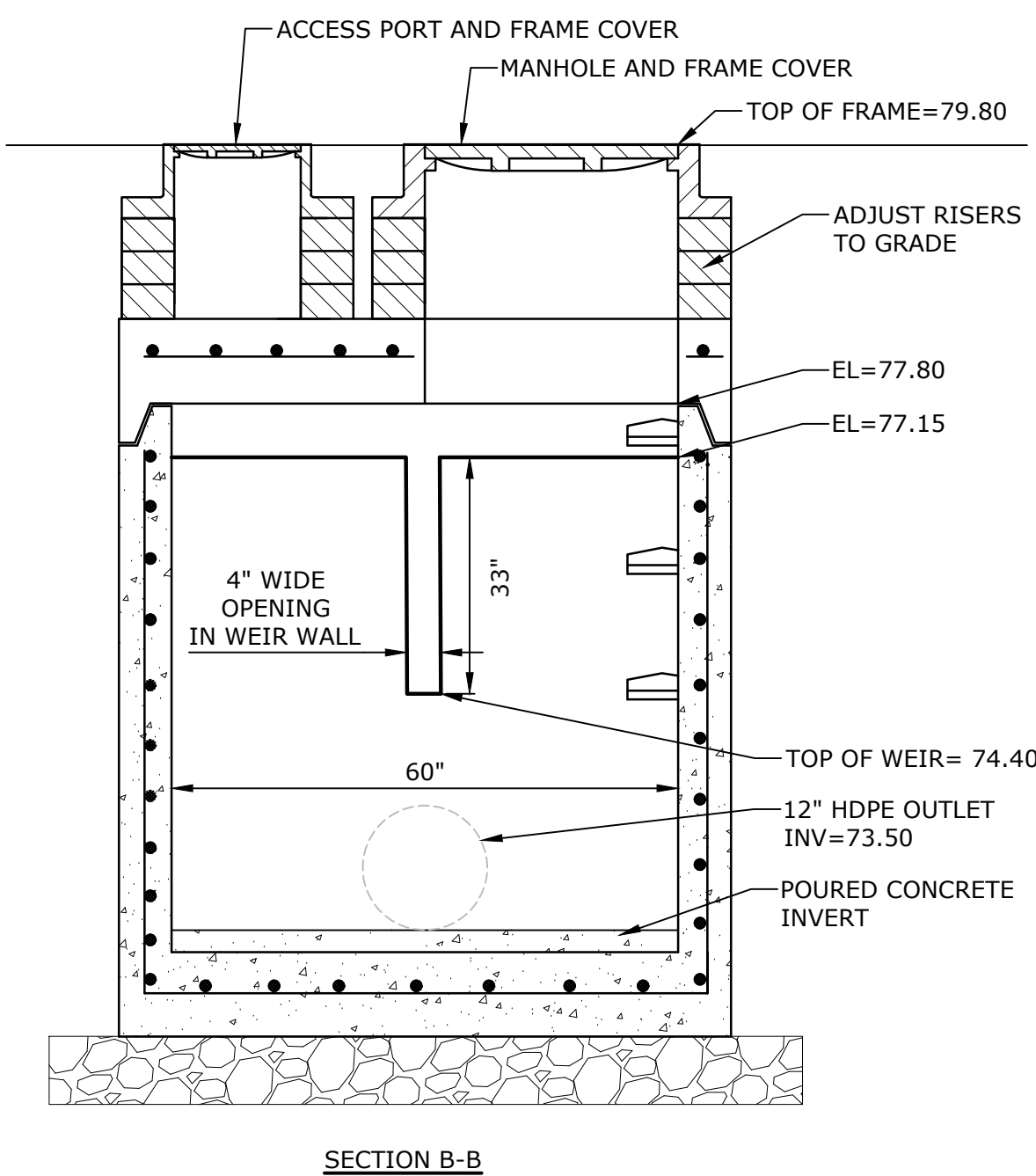
DATE
FEBRUARY 19, 2025

DRAWING NUMBER

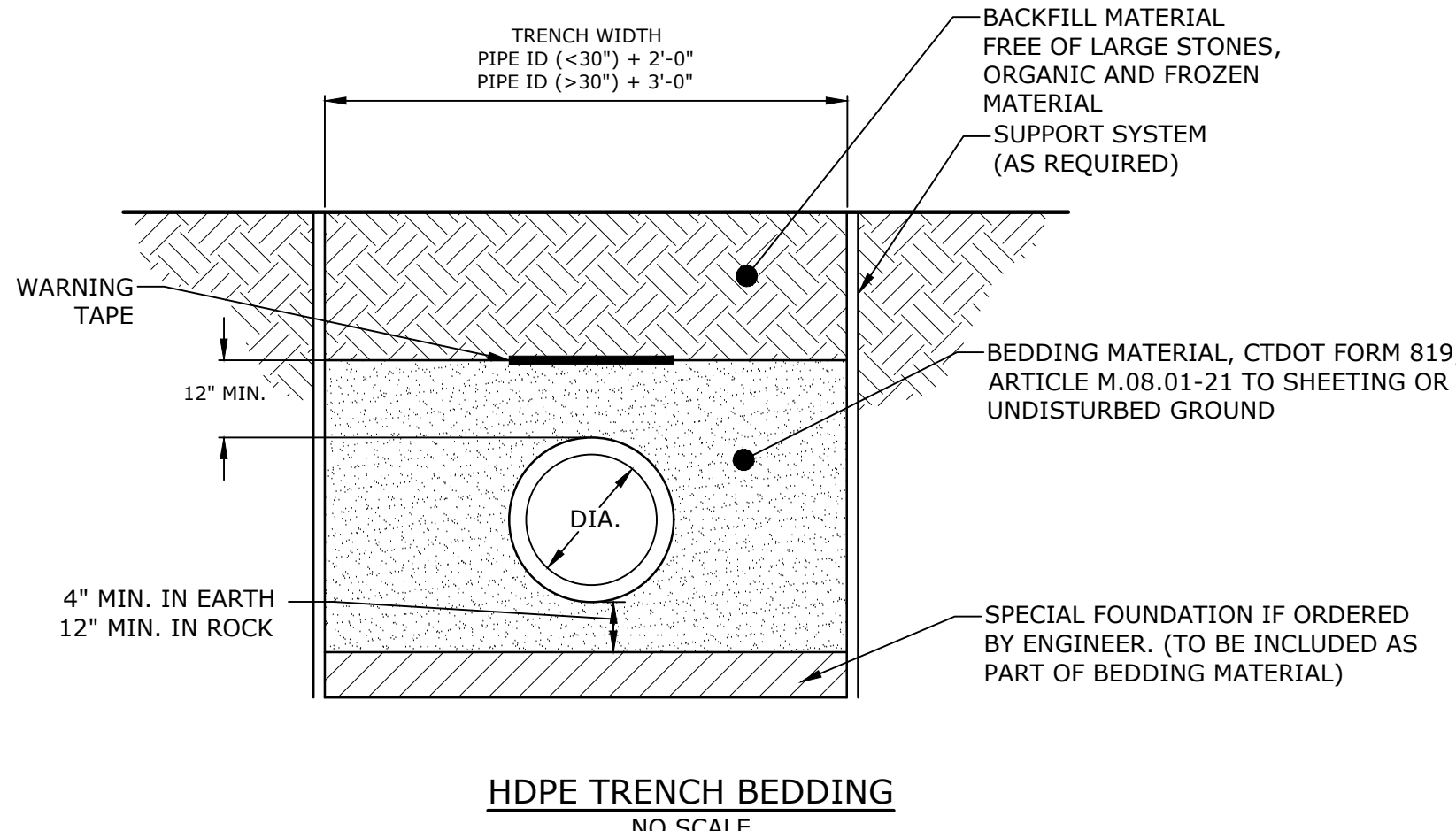
C3.01



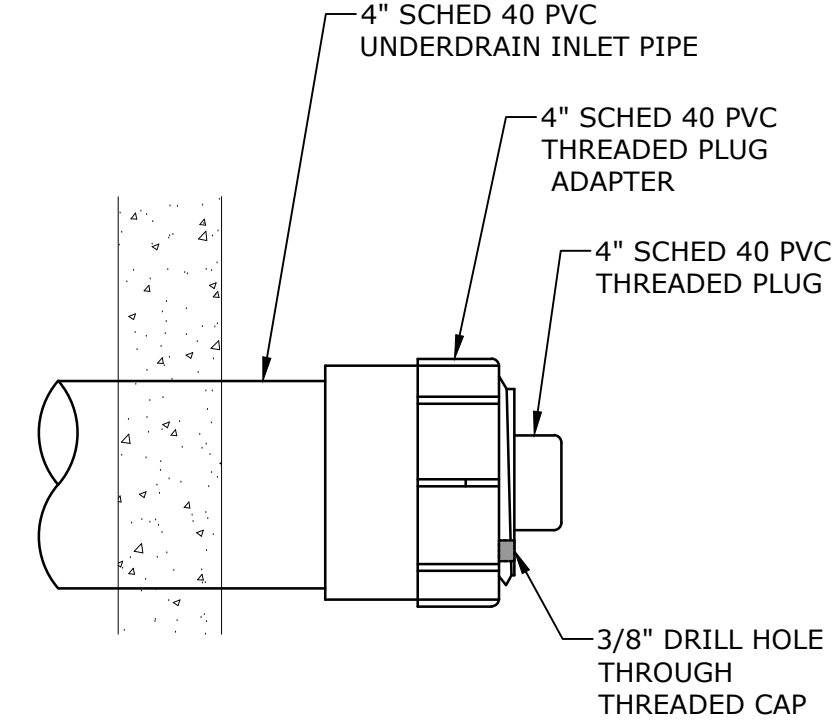
OUTLET CONTROL STRUCTURE
 NO SCALE



SECTION B-B



HDPE TRENCH BEDDING
 NO SCALE



UNDERDRAIN CAP ENLARGEMENT
 NO SCALE

SC-160LP STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH SC-160LP.
- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL BE DESIGNED, TESTED, AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (4 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER; 2) MAXIMUM PERMANENT (75-YR) COVER LOAD; AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 1/2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, A) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 400 LB/FT²; THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 8.2.3 OF ASTM F2418; AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73°F / 23°C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
 - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
 - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.85 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
 - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YR MODULUS USED FOR DESIGN.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

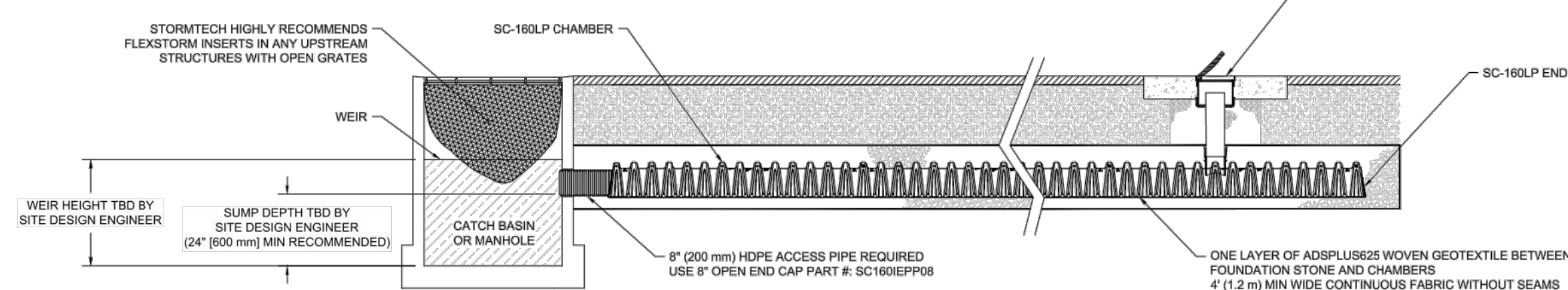
IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-160LP SYSTEM

- STORMTECH SC-160LP CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH SC-160LP CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-160LP CONSTRUCTION GUIDE".
- FOUNDATION STONE AND EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE; AASHTO M43 #3, 3/4", 4, 407, 5, 56, OR 57.
- THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- THE DEPTH OF FOUNDATION STONE SHALL BE DETERMINED BASED ON THE SUBGRADE BEARING CAPACITY PROVIDED BY THE SITE DESIGN ENGINEER.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES CONCERNING CHAMBER FOUNDATION DESIGN AND SUBGRADE BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- CHAMBERS SHALL BE INSTALLED "TOE TO TOE"; NO ADDITIONAL SPACING BETWEEN ROWS IS REQUIRED.
- STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONES/ROCKS LOCATED OFF THE CHAMBER BED.
 - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG-BOOM HOE OR EXCAVATOR.
- AOS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

- THE USE OF CONSTRUCTION EQUIPMENT OVER SC-160LP CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER-TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-160LP CONSTRUCTION GUIDE".
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-160LP CONSTRUCTION GUIDE".
- FULL 30" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

CONTACT STORMTECH AT 1-888-882-2684 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



3 SC-160LP ISOLATOR ROW PLUS DETAIL

INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- INSPECTION PORTS (IF PRESENT).
 - REMOVE OPEN LID ON NYLOPLAST INLINE DRAIN.
 - REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED.
 - USING A FLASHLIGHT AND STAIN ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG.
 - LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL).
 - IF SEDIMENT IS AT OR ABOVE 3" (90 mm) PROCEED TO STEP 2; IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
- REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS.
 - USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE.
 - IMPROVE ON FLOWS OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY.
 - FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE.
 - IF SEDIMENT IS AT OR ABOVE 3" (90 mm) PROCEED TO STEP 2; IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED.
 - APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKLASH WATER IS CLEAN.
 - VACUUM STRUCTURE SLUMP AS REQUIRED.
- STEP 3) REPLACE ALL COVERS, GRATINGS, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

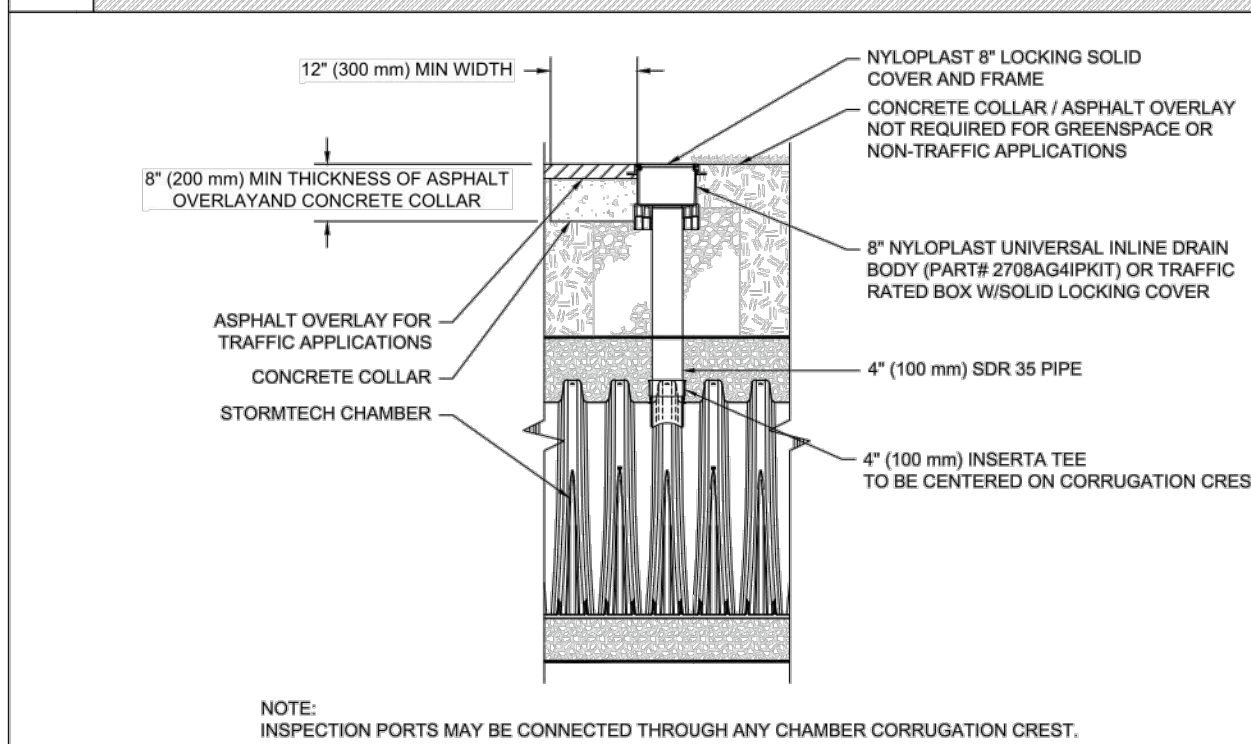
NOTES

- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- CONDUCT JETTING AND VACUUMING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

UNDERGROUND DETENTION SYSTEM

NO SCALE

5 UNDERDRAIN DETAIL



NOTE: INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.

4 4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)

2 SC-160LP TECHNICAL SPECIFICATIONS

ACCEPTABLE FILL MATERIALS: STORMTECH SC-160LP CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 12' STARTS FROM THE TOP OF THE 12' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBGRADE MAY BE PART OF THE 12' LAYER.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 12' STARTS FROM THE TOP OF THE EMBEDMENT STONE TO LAYER 12' TO 12' (900 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBGRADE MAY BE A PART OF THE C LAYER.	AASHTO M145 ¹ A-1, A-2.4, A-3 OR AASHTO M247 ² 3, 387, 4, 487, 5, 56, 57, 6, 67, 68, 7, 78, 8, 88, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 98% PROCTOR DENSITY FOR WELL-GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCES NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE (A LAYER) TO THE C LAYER ABOVE.	CDOT FORM 819, ARTICLE 11.08.02 No. 6	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT/BOTTOM OF THE CHAMBER.	CDOT FORM 819, ARTICLE 11.08.02 No. 6	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{1,3}

- PLEASE NOTE:
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
 - CHAMBERS SHALL BE DESIGNED, TESTED, AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (4 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER; 2) MAXIMUM PERMANENT (75-YR) COVER LOAD; AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
 - THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
 - PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
 - REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 1/2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, A) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 8.2.3 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 400 LB/FT²; AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73°F / 23°C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

NOTES:

- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBERS SHALL BE DESIGNED, TESTED, AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (4 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER; 2) MAXIMUM PERMANENT (75-YR) COVER LOAD; AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
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1 SC-160LP CROSS SECTION DETAIL

SC-160LP STANDARD DETAILS

StormTech®
 Chamber System
 888.888.8841 | WWW.STORMTECH.COM

4640 TRUEMAN BLVD
 HILLIARD, OH 43026

SHEET
 1

SHEET
 1

Kenneth Boroson ARCHITECTS

315 Peck Street
 New Haven, CT 06513
 p: 203.624.0662 • f: 203.562.1732
 www.kbarch.com

Tighe&Bond

1000 Bridgeport Avenue
 Suite 320
 Shelton, CT 06484
 (203) 712-1100

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NO.	DATE	REVISION
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PROJECT NAME
 THE AUTO COLLECTIVE

CONCEPTUAL LAYOUT

BUILDING NAME & ADDRESS
 THE AUTO COLLECTIVE
 10 NORDEN PLACE
 NORWALK, CT 06855

PROJECT NUMBER
 2024.021

SEE NUMBER
 N/A

DRAWING TITLE
 DETAILS - 2

SCALE
 AS SHOWN

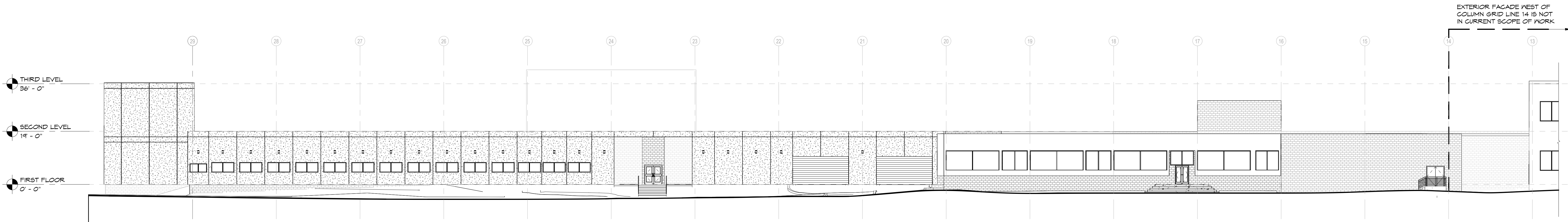
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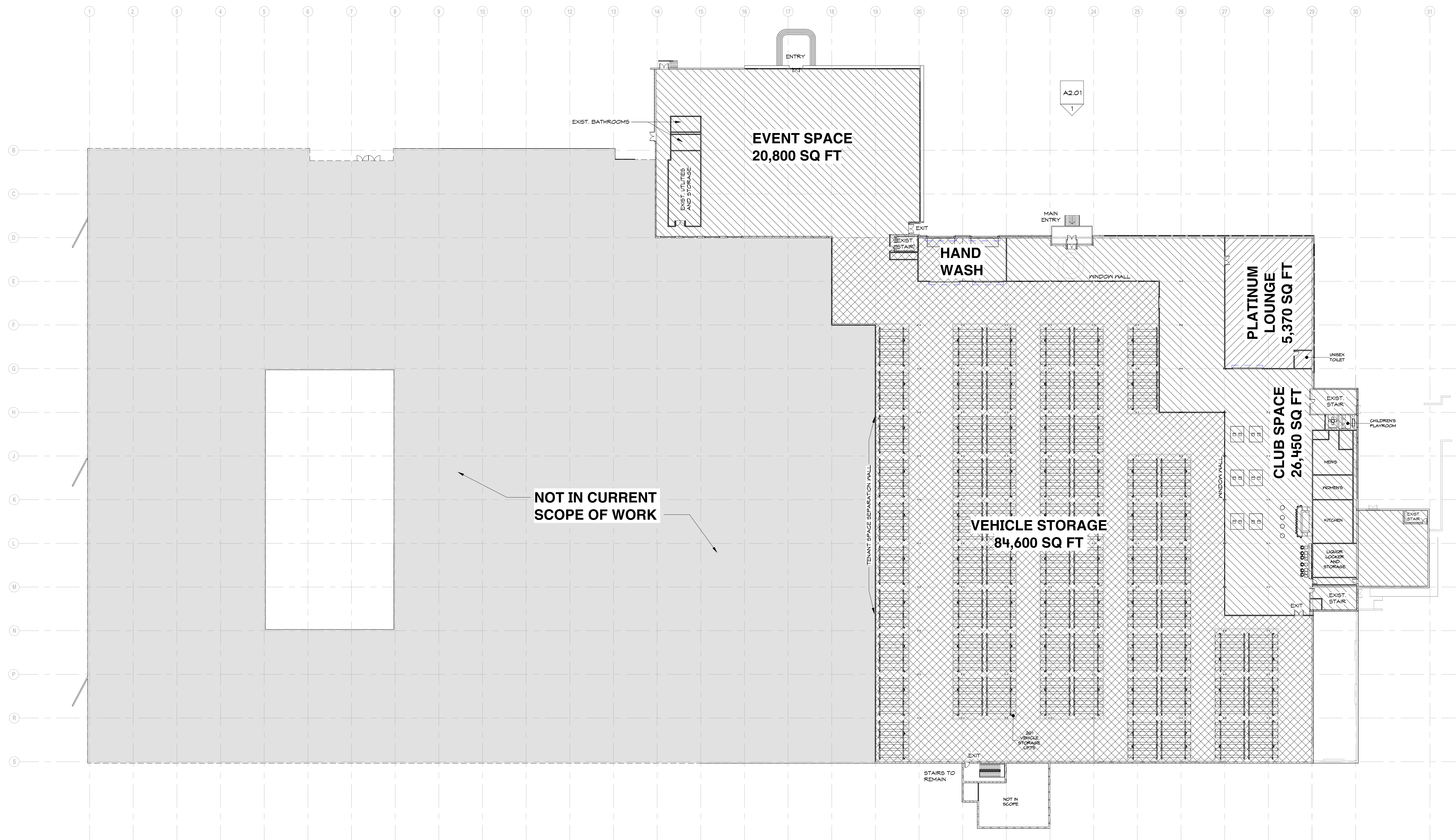
DATE
 FEBRUARY 19, 2025

DRAWING NUMBER

C3.02



1 MAIN ENTRANCE - NORTH ELEVATION
A2.01 SCALE: 1/16" = 1'-0"



2 PROPOSED MAIN LEVEL FLOOR PLAN
A2.01 SCALE: 1/32" = 1'-0"

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Borson**
ARCHITECTS
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New Haven, CT 06513
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NO.	DATE	REVISION

PROJECT NAME
THE AUTO COLLECTIVE

ZONING SUBMISSION

BUILDING NAME & ADDRESS
THE AUTO COLLECTIVE
10 NORDEN PLACE
NORWALK, CT 06855

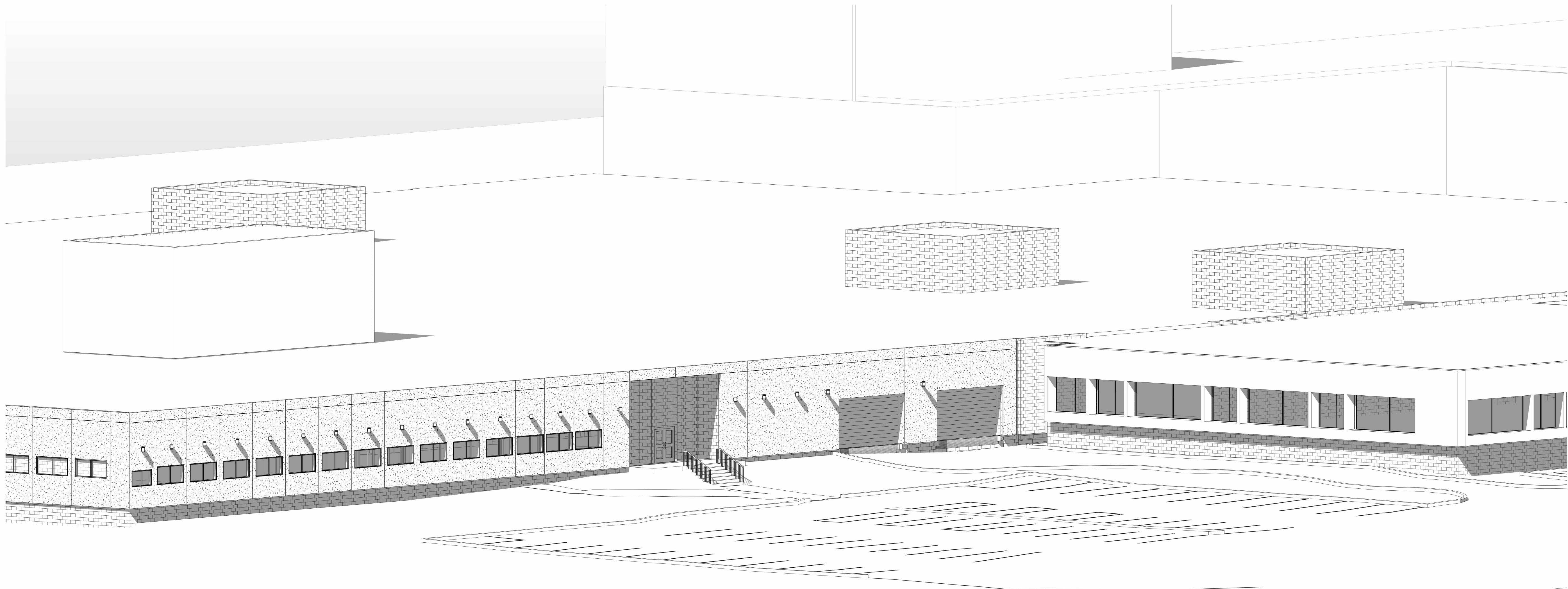
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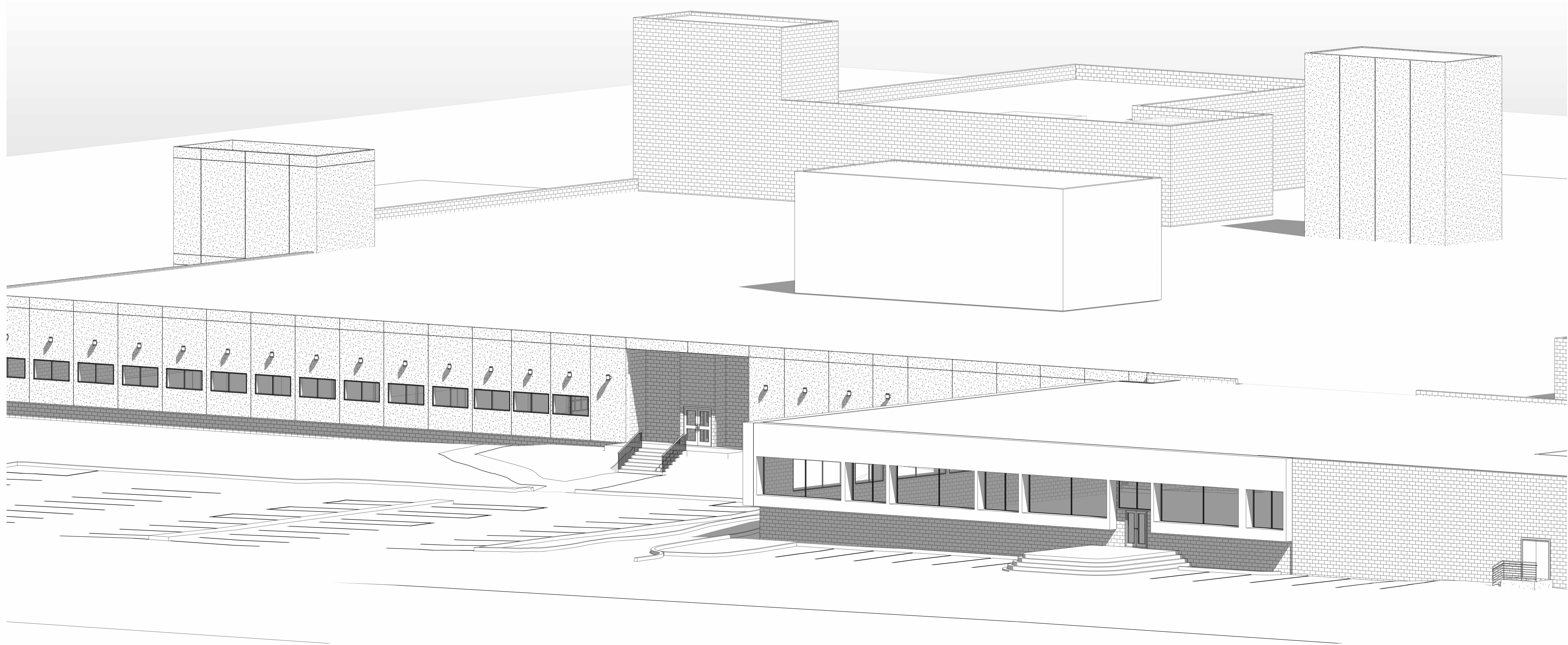
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**PROPOSED MAIN LEVEL
FLOOR PLAN & EXTERIOR
ELEVATION**

SCALE As Indicated	DRAWN BY AKV/GK
FILENAME	DATE
FILE	FEBRUARY 19, 2025
DRAWING NUMBER	

A2.01



1 MAIN ENTRANCE - PERSPECTIVE VIEW
A2.02 / SCALE:



2 EVENT SPACE ENTRANCE - PERSPECTIVE VIEW
A2.02 / SCALE:

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NO.	DATE	REVISION

PROJECT NAME
THE AUTO COLLECTIVE

ZONING SUBMISSION

BUILDING NAME & ADDRESS
THE AUTO COLLECTIVE
10 NORWICH PLACE
NORWALK, CT 06855

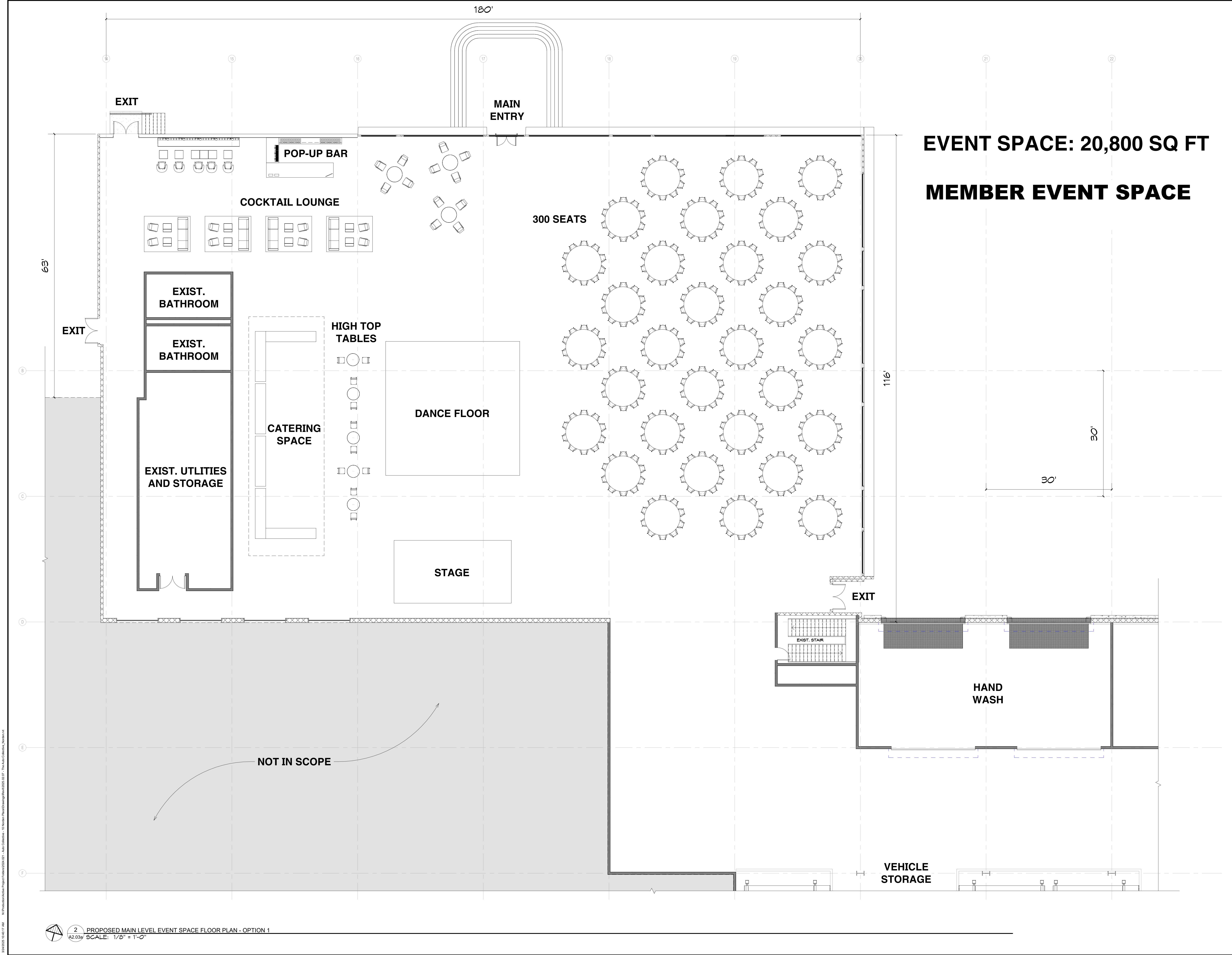
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2024.021

SIDE NUMBER
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DRAWING TITLE
PERSPECTIVE VIEWS

SCALE	DRAWN BY: AKV/GX
FILENAME	DATE
FILE	FEBRUARY 19, 2025
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A2.02



EVENT SPACE: 20,800 SQ FT
MEMBER EVENT SPACE

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THE AUTO COLLECTIVE

ZONING SUBMISSION

BUILDING NAME & ADDRESS
THE AUTO COLLECTIVE
10 NORDEN PLACE
NORWALK, CT 06855

PROJECT NUMBER
2024.021

SIDE NUMBER
N / A

DRAWING TITLE
**PROPOSED MAIN LEVEL
EVENT SPACE FLOOR
PLAN - OPTION 1**

SCALE
1/8" = 1'-0"

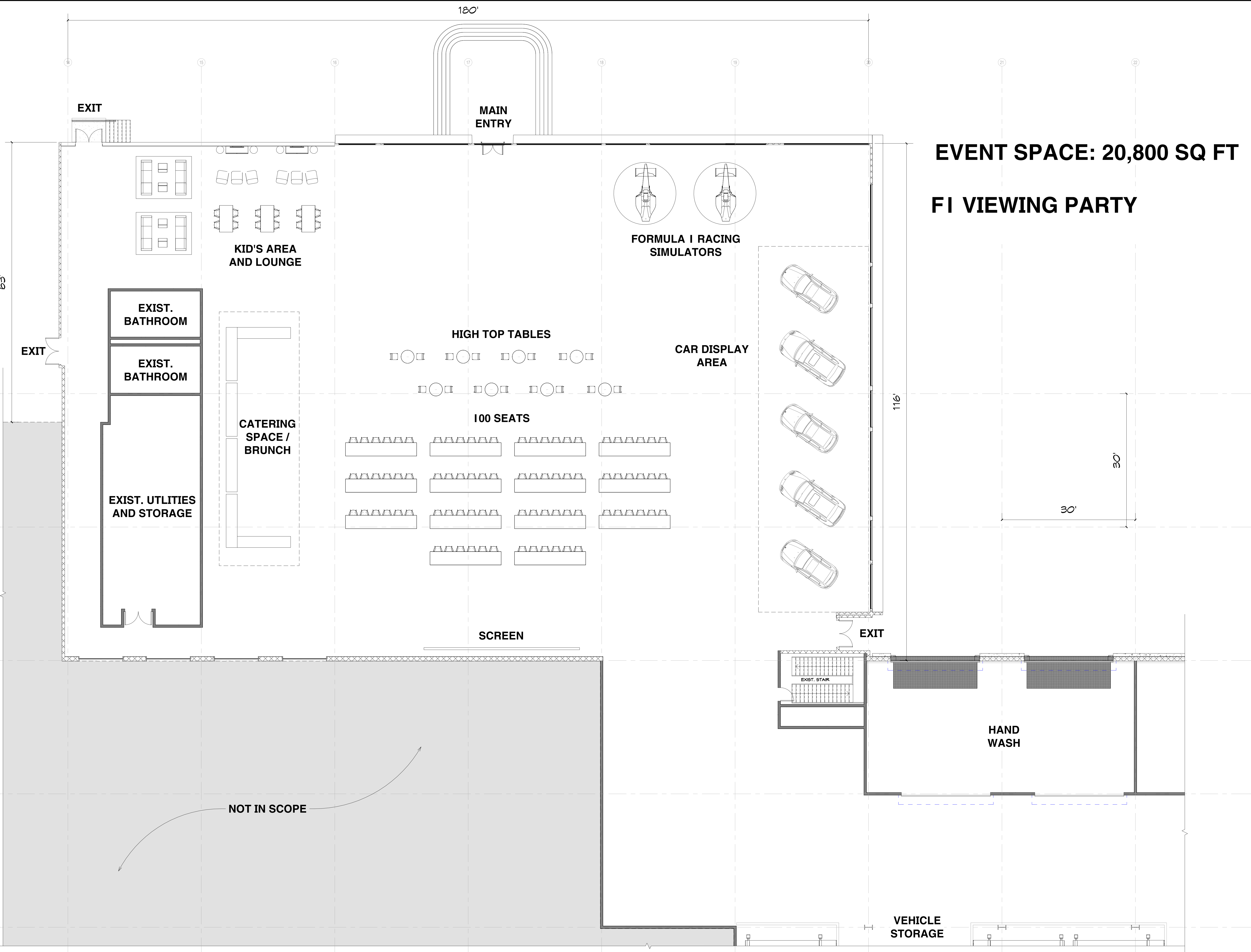
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FILE

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AKV/GJR

DATE
MARCH 24, 2025

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2 PROPOSED MAIN LEVEL EVENT SPACE FLOOR PLAN - OPTION 2
A2.03b SCALE: 1/8" = 1'-0"

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NO.	DATE	REVISION

PROJECT NAME THE AUTO COLLECTIVE	
ZONING SUBMISSION	
BUILDING NAME & ADDRESS THE AUTO COLLECTIVE 10 NORDEN PLACE NORWALK, CT 06855	
PROJECT NUMBER 2024.021	SHEET NUMBER N / A

DRAWING TITLE PROPOSED MAIN LEVEL EVENT SPACE FLOOR PLAN - OPTION 2	
SCALE 1/8" = 1'-0"	DRAWN BY AKV/GK
FILENAME	DATE
FILE	MARCH 24, 2025
DRAWING NUMBER	

A2.03b

AUTO COLLECTIVE

FAIRFIELD COUNTY

Proposed schedule of events at the Auto Collective for July 2025.

Tuesday, July 1, 2025

Wednesday, July 2, 2025

Thursday, July 3, 2025

Friday, July 4, 2025

- July 4th BBQ Lunch and kids movie day with RC car races
 - 150 members & guests
 - 12noon to 3pm
- Dinner and viewing of F1 British Grand Prix Practice
 - 20 members & guests
 - 7pm to 10pm

Saturday, July 5, 2025

- Lunch and viewing of F1 British Grand Prix Qualifying
 - 40 members & guests
 - 12pm to 2pm

Sunday, July 6, 2025

- Brunch and viewing of F1 British Grand Prix Race
 - 60 members & guests
 - 12pm to 4pm

Monday, July 7, 2025

Tuesday, July 8, 2025

Wednesday, July 9, 2025

- Dinner and movie night for members, Top Gun. Load up an F-14 on our simulator
 - 30 members and guests
 - 6pm to 9pm

Thursday, July 10, 2025

Friday, July 11, 2025

- Dinner and member event viewing of new F1 Movie
 - 75 members and guests
 - 7pm to 10pm

Saturday, July 12, 2025

- Member's kids' event, slot car races and lunch
 - 50 members and 50 kids
 - 12pm to 5pm

Sunday, July 13, 2025

- Member sponsored event – wedding anniversary party
 - 300 guests of member
 - 2pm to 6pm

Monday, July 14, 2025

Tuesday, July 15, 2025

- STEM Racing practice training event for local student teams
 - 20 students and guests
 - 1pm to 4pm

Wednesday, July 16, 2025

Thursday, July 17, 2025

AUTO COLLECTIVE

FAIRFIELD COUNTY

- Member's 60th birthday party dinner
 - 50 guests of member
 - 6pm to 10pm

Friday, July 18, 2025

- Breakfast meetup before driving up to Berkshires for weekend trip
 - 20 members and guests
 - 8am to 10am

Saturday, July 19, 2025

- British car enthusiasts showcase and fish and chips truck indoors
 - 50 members and guests
 - 12 to 4pm

Sunday, July 20, 2025

- BBQ lunch for members and viewing of Czech MotoGP Race
 - 80 members and guests
 - 12pm to 3pm

Monday, July 21, 2025

Tuesday, July 22, 2025

- Members' kid movie night and pizza party, Cars
 - 20 kids
 - 5pm to 8pm

Wednesday, July 23, 2025

Thursday, July 24, 2025

- Members' F1 simulator competition of Spa Belgium Grand Prix and dinner
 - 40 members and guests
 - 7pm to 10pm

Friday, July 25, 2025

- Dinner and viewing of F1 Spa Belgian Grand Prix Practice
 - 20 members & guests
 - 7pm to 10pm

Saturday, July 26, 2025

- Lunch and viewing of F1 Spa Belgian Grand Prix Practice
 - 40 members & guests
 - 12pm to 2pm

Sunday, July 27, 2025

- Brunch and viewing of F1 Spa Belgium Grand Prix Race
 - 60 members & guests
 - 12pm to 4pm

Monday, July 28, 2025

Tuesday, July 29, 2025

Wednesday, July 30, 2025

Thursday, July 31, 2025

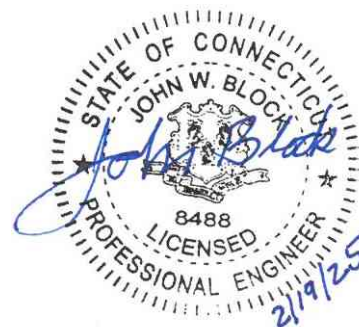


10 Norden Place
Norwalk, CT

Engineering Report

The Auto Collective
2269 Post Road
Fairfield, CT 06824

February 19 2025



Tighe&Bond

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Appendix A

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A.2	Figure 2 – FIRM Map
A.3	Checklists and Guidelines

Appendix B

B.1	Site Soils Information
B.2	NOAA Precipitation Frequency Data

Appendix C

C.1	Existing Watershed Map
C.2	Existing Hydrologic Calculations

Appendix D

D.1	Proposed Watershed Map
D.2	Proposed Hydrologic Calculations

Appendix E

- E.1 Water Quality Area Figure
- E.2 Water Quality Flow Calculations
- E.3 Water Quality Structure Standard Details
- E.4 Stormwater Quality Maintenance and Inspection Information

Appendix F

- F.1 Maintenance and Inspection Plan

Section 1

Introduction and Site Conditions

The Auto Collective is proposing to redevelop and reuse a portion of the existing building on the Unit A portion of Lot 2 of 10 Norden Place. The project proposes conversion of approximately 137,200 square feet of the existing Norden Building to a Car Club. The Auto Collective will occupy the upper level of the eastern end of the building and access the space from the north through the existing building entries. Two new overhead doors will be added with a ramp to allow for vehicular access to the storage space. The site access will remain the same as under existing conditions, with no changes to the existing parking. Please refer to **Figure 1**, Site Location Map in **Appendix A**.

The proposed project includes the renovation of the building, construction of a car ramp and site retaining wall and rough grading of ramp, sidewalk and curbing. Stormwater management improvements are proposed to provide stormwater quality and attenuate peak flow associated with the minor increase in impervious cover associated with site improvements.

The drainage calculations have been prepared in accordance with the City of Norwalk Drainage Manual June 1, 2017 requirements, the Connecticut Department of Transportation Drainage Manual, and the Connecticut Department of Energy and Environmental Protection 2024 Stormwater Quality Manual. **Appendix A**, "Checklist and Guidelines" from the City of Norwalk Drainage Manual has been completed and included in this report.

The drainage calculations include a hydrologic analysis of the existing conditions and the proposed development. More specifically, the calculations include an analysis of the on-site drainage design and stormwater management measures and their performance in handling peak flow attenuation and improving water quality. Lastly, the report includes the proposed soil erosion and sedimentation control measures incorporated during construction and operation and maintenance of the drainage and stormwater management systems.

1.1 Existing Conditions

The project site is 37.2 acres and is located on the east side of Norden Place south of I-95 and north of the Metro North railroad. The site is currently occupied by a 635,428 square foot office/manufacturing building, a 9,046 square foot test building at the east side of the site and a 167,691 square foot Data Center. Access to the site is from Norden Place.

Most of the existing site is impervious, consisting of buildings, parking lots, sidewalks and driveways, with some wooded and landscaped areas around the perimeter of the site.

10 Norden Place lies within a watershed that extends north of I-95 to Strawberry Hill Avenue and King Street. The area north of I-95 drains southerly and the flow is conveyed under the expressway through culverts that discharge to the north side of the Norden park site. These stormwater discharges convey runoff across the site through a number of culverts and channels that ultimately collect in a large wetland channel area

along the north side of the railroad embankment. The wetland is drained through three existing culverts running under the Metro North railroad embankment.

The site generally slopes from north to south. Runoff from the existing site is collected by a series of catch basins and is conveyed through storm drainage pipe that discharges to the wetland area along the north side of the Metro North railroad embankment. These outfalls are shown and labelled on the Existing Watershed Map WM-01 in **Appendix C**.

1.2 Proposed Conditions

The proposed development will renovate portions of the existing building to support the Car Club. In addition to the building renovations, portions of the site's driveway and parking will be reconfigured to accommodate a vehicular ramp to two new overhead doors on the north side of the building.

Stormwater runoff patterns will be largely unchanged. Currently, runoff sheet flows directly to catch basins or into vegetated water quality swales with underground lined detention systems and filter media. Each system discharges into the sites stormwater network where they are conveyed south towards the railroad culverts and downstream wetlands.

Runoff immediately north of the building where a small landscaped area is being converted to pavement will be collected by an inlet water quality structure and routed to a lined detention system with filter media similar to the existing water quality swales. The stormwater collection system will utilize a "treatment train" approach and include low impact development systems to treat the Water Quality Flow, remove total suspended solids and reduce peak flow.

There are no proposed changes to the sanitary sewer, water, electric, tel-com, or gas services.

1.3 Soils Identification

The majority of existing soil on the site is designated as **Map Unit 307, "Urban Land"** as described in the USDA Natural Resource Conservation Service, Web Soil Survey. Urban Land soil type is classified as Hydrologic Group D. Group D soils have a 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 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. Other **"Urban Land"** soils on site (**Map Unit 306**) fall into Group B soils, which have a higher infiltration rate. These soils mainly make up the northern and southern boundaries of the site along I-95 and the Metro North Railroad tracks.

Another additional soil on site consists of **Map Unit 284B, "Paxton-Urban Land."** This soil is classified as Group C. **Map Unit 284B** lies in the northern boundaries of the site along I-95.

Section 2 Stormwater Management

2.1 Existing Conditions Analysis

The watershed was modeled and analyzed using HydroCAD stormwater modeling system. The program was used to develop runoff hydrographs for individual drainage areas, routing the hydrographs within the watershed and combining them to calculate peak flows, volume of runoff and peak flood elevations.

Impervious and pervious areas, weighted curve numbers, and times of concentration were calculated for each watershed and input into a hydraulic model to determine the project's peak flow as part of the comparative hydrology analysis.

Precipitation depths were computed from NOAA's Atlas 14 Point Precipitation Frequency Estimates online utility. Precipitation depths are indicated in **Table 2-1** below, while the NOAA Atlas 14 output appears in **Appendix B**.

Table 2-1
24-hour Duration Precipitation Depths

	Frequency					
	2 year	5 year	10 year	25 year	50 year	100 year
Depth (in.)	3.48	4.49	5.33	6.48	7.34	8.26

The purpose of this analysis was to determine peak flows and the extent of ponding within the existing wetland channel area adjacent to the railroad and to determine if the proposed development would cause increased flows downstream.

We utilized the project survey, available as-built facility and City mapping, and field observations to prepare an existing conditions drainage plan showing the existing drainage facilities on-site.

The pre-development and post-development hydrologic analysis was carried out by generating HydroCAD computer models using the following data:

1. Soil Cover.
2. Ground Cover.
3. Ground Slopes.
4. Degree, Density and Type of Development
5. Location and extent of wetlands, including swamps and ponds.
6. Time of concentration, travel time, lag time.

7. Controlled discharge structures, pipes and channel.

2.2 Existing Conditions Hydrology

To properly analyze the existing watershed with the HydroCAD program, the project site was divided into various watershed areas. Please refer to the "Existing Watershed Map" showing the delineated watershed labelled WM-01 located in **Appendix C**

The soil types were identified and classified using the USDA Natural Resource Conservation Service, Online Web Soil Survey. Using this data, CN values were determined by evaluating land uses within the watershed and then taking a weighted average. The calculated CN values are shown in **Appendix C**.

The time of concentration was determined for each watershed area using the method outlined in the Connecticut Department of Transportation Drainage Manual, Section 6.C. When determining the time of concentration three hundred feet was the maximum length used for overland flow, beyond that it is assumed that the flow becomes channelized. The calculated time of concentrations are included in **Appendix C**.

An explanation of the watershed model is as follows: Subbasins 5, 6, 7, 8, 9 and 10 flow to the westerly railroad Culvert 1. When the capacity of Culvert 1 is exceeded, the excess runoff overflows through a channel that parallels the railroad tracks to the central railroad Culvert 2. This flow is joined by runoff from 8 Norden Place and flows through Culvert 2. When the capacity of Culvert 2 is exceeded the runoff overflows to the large wetland area to the southeast and outlets through Culvert 3.

Storm runoff flows for each subarea were established and the resulting hydrographs generated by the computer model were progressively routed and combined to establish a peak flow at the design discharge points. The design points were located at each of the watershed's unique outfalls affected by the proposed improvements, including the Railroad Culvert 1 (Design Point #1), Railroad Culvert 2 (Design Point #2), AND Railroad Culvert 3 (Design Point #3).

To determine the watershed flow characteristics for a wide range of rainfalls, flows resulting from the 2-year, 10-year, 25-year, 50-year, and 100-year, 24-hour rainfalls were analyzed. The results of this analysis are shown in Table 2-2 for Existing conditions.

Table 2-2
Existing Conditions Stormwater Discharges (CFS)

Design Location	Description	Storm Frequency (Years)				
		2	10	25	50	100
RR Culvert 1	Culvert Flow	40.49	47.57	52.77	57.17	61.92
	Weir Overflow	40.91	78.60	100.68	117.09	133.65
	Total	81.52	126.25	153.54	174.33	195.77
RR Culvert 2	Culvert Flow	28.26	31.55	33.81	35.32	37.06
	Weir Overflow	48.69	149.31	206.25	250.27	306.73
	Total	77.19	181.04	240.12	285.78	343.99
RR Culvert 3	Culvert Flow (Total)	26.06	44.37	51.44	58.61	64.79

An abridged version of the HydroCAD output for the existing conditions analysis is included in the printed version of the report in **Appendix C**. For the full version of the computer output, see the digital version of the Engineering Report.

2.2.1 Floodplain Management

The Federal Emergency Management Agency's Flood Insurance Rate Map (FIRM) 09001C0532G for Fairfield County, effective July 8, 2013, shows the project site is not inside the 100-year floodplain, as shown in **Figure 2** in **Appendix A**.

2.3 Proposed Site Hydrologic and Hydraulic Analysis

The proposed drainage and stormwater management system will utilize an inlet water quality structure to capture and convey runoff to an underground lined detention system. Infiltration is not being practiced on this portion of the site due to contaminated soils. Infiltration practices could promote the migration of these contaminants if runoff were to be introduced. These areas are currently maintained beneath impervious pavement and will remain so as part of the proposed development plan. The drainage patterns of the remainder of the site will remain unchanged.

Underground detention is proposed to collect and treat runoff. The system is sized to attenuate peak flows and treat the water quality volume associated with the conversion of a small landscaped area into a paved exterior storage area. Runoff from this area is collected in a hydrodynamic separator with a grate top and then routed to underground chambers encased in a filter media and wrapped with an impermeable liner. An underdrain and outlet structure will control flows and slowly release them back to the existing piped system on site. The hydrodynamic separator is sized to treat the area's Water Quality Flow (WQF). See Figure WM-02 and the WQF calculations in **Appendix D** for more information.

Overall, peak flows are reduced for the site's design points RR Culvert 1 and RR Culvert 2. The drainage structures and pipes have been sized to convey the 25-year storm. The hydrodynamic separator has been sized to treat the Water Quality Flow (WQF) as calculated using the Connecticut Department of Energy and Environmental Protection 2023 Stormwater Quality Manual and the City of Norwalk, CT Drainage Manual.

Table 2-3a shows the proposed peak discharges at design locations. Table 2-3b below shows the peak discharge from existing to proposed for the 2, 10, 25, 50 and 100-year storm events.

Table 2-3a
Proposed Stormwater Discharges (CFS)

Design Location	Description	Storm Frequency (Years)				
		2	10	25	50	100
RR Culvert 1	Culvert Flow	40.48	47.53	52.73	57.15	61.91
	Weir Overflow	40.86	78.41	100.53	117.03	133.63
	Total	81.46	126.02	153.33	174.22	195.77
RR Culvert 2	Culvert Flow	28.26	31.55	33.80	35.31	37.05
	Weir Overflow	48.68	149.11	205.98	249.96	306.36
	Total	77.18	180.82	239.84	285.46	343.61
RR Culvert 3	Culvert Flow (Total)	26.06	44.37	51.45	58.61	64.79

Table 2-3b
Comparative Stormwater Discharges (CFS)

Design Location	Condition	Runoff Discharge (CFS)				
		2	10	25	50	100
RR Culvert 1	Existing	81.52	126.25	153.54	174.33	195.77
	Proposed	81.46	126.02	153.33	174.22	195.77
	Change	-0.07%	-0.18%	-0.14%	-0.06%	0.0%
RR Culvert 2	Existing	77.19	181.04	240.12	285.78	343.99
	Proposed	77.18	180.82	239.84	285.46	343.61
	Change	-0.01%	-0.12%	-0.12%	-0.11%	-0.11%
RR Culvert 3	Existing	26.06	44.37	51.45	58.61	64.79
	Proposed	26.06	44.37	51.45	58.61	64.79
	Change	0.0%	0.0%	0.00%	0.0%	0.0%

Table 2-3c below shows the comparison in volumetric runoff from existing to proposed for the 2, 10, 25, 50 and 100-year storm events.

Table 2-3c
Existing and Proposed Conditions Stormwater Volumetric Runoff (cu.ft)

Design Location	Condition	Volumetric Runoff (ac Ft)				
		2	10	25	50	100
RR Culvert 1	Existing	633,451	1,110,863	1,419,122	1,653,470	1,902,933
	Proposed	633,951	1,111,450	1,419,742	1,654,109	1,903,589
	Change	+0.08%	+0.05%	+0.04%	+0.04%	+0.03%
RR Culvert 2	Existing	816,612	1,776,893	2,419,547	2,939,592	3,495,923
	Proposed	816,760	1,777,066	2,419,731	2,939,779	3,496,111
	Change	+0.02%	+0.01%	+0.01%	+0.01%	+0.01%
RR Culvert 3	Existing	281,059	915,423	1,392,990	1,800,384	2,255,405
	Proposed	281,128	915,549	1,393,192	1,800,528	2,255,626
	Change	+0.02%	+0.01%	+0.01%	+0.01%	+0.01%

The proposed site improvements will slightly increase volumetric runoff to RR Culvert 1 due to the increase in impervious coverage on-site (Net increase of 3,560 square feet) and an inability to infiltrate stormwater. The proposed project will not increase peak flow or exacerbate flooding conditions downstream.

A shortened version of the HydroCAD output for the proposed conditions analysis is included in the printed version of the report in **Appendix C**. For the full version of the computer output, see the digital version of the Engineering Report

2.4 Method of Hydrology and Hydraulic Analysis

The following storm drainage design criteria were used for all pipe systems:

1. Design storm rainfall data was based on the National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) precipitation frequency estimates for the Northeastern States including Connecticut. NOAA Atlas 14 Volume 10 as outlined in the CTDOT Engineering Bulletin "Precipitation Frequency Estimates" dated November 3, 2015.

2. Comparative hydrology for existing and proposed conditions was analyzed for the 2, 10, 25 and 100-year storm events.
3. Piped storm drainage system and the outlets are designed for a 25-year storm event.
4. Minimum time of concentration = 5 minutes.
5. For rational peak flow calculations, runoff coefficients were as follows:
 - a. Impervious (Pavement/Roof) areas = 0.90
 - b. Gravel Areas/Porous Pavers = 0.50
 - c. Landscaped areas = 0.30
6. For hydrograph calculations, SCS Curve Numbers were as follows:
 - a. Impervious (Pavement/Roof) areas = 98
 - b. Gravel Areas/Porous Pavers = 75
 - c. Pervious Soils = 68
7. Minimum diameter pipes, excluding roof leaders, underdrains and foundation drains = 10 inches
8. Minimum pipe slope = 1.0%
9. The storm water management Plan for the site is designed to treat the Water Quality Volume, remove Total Suspended Solids and promote groundwater recharge while reducing peak flow
10. Watershed areas delineated using polylines in AutoCAD Civil 3D 2021.
11. Comparative hydrology analyzed using HydroCAD 10.00-20 software.
12. Storm drainage system analyzed using AutoCAD Civil 3D 2021 Hydraflow Storm Sewers Extension Version 10.40 by Autodesk software.

Runoff computations, storm sewer calculations and existing and proposed conditions are included in the **Appendix C and D**

2.5 Low Impact Development and Best Management Practices

The stormwater management plan for the proposed site has been designed to remove a high percentage of sediments in accordance with the 2024 Connecticut Stormwater Quality Manual by the Connecticut Department of Energy and Environmental Protection.

The stormwater management plan for this site uses "Best Management Practices ("BMPs")" to meet or exceed the Connecticut DEEP's goal of 80% removal of total suspended solids and other pollutants.

The BMPs include:

Underground Detention: Underground detention serves to reduce peak flow rates. The proposed stormwater management system consists of open bottom chambers encased in a filter media and wrapped in an impermeable liner.

Hydrodynamic Separators: Hydrodynamic separators serve as pretreatment and help prevent transport of oils and sediment from the proposed drainage system. The proposed storm sewers utilize Contech CDS stormwater quality structures in an inline configuration prior to discharge through site outfalls. The Contech CDS units have been sized in accordance with the 2024 CTDEEP Stormwater Quality Manual. Sizing is based on the calculated 25-year design proposed flow and Standard Details provided in **Appendix E** and the project drawings.

2.6 Stormwater Maintenance and Inspection Schedule

The initial inspection will be made during an intense rainfall to check the adequacy of the piping, hydrodynamic separator, and system outlets.

The following is a checklist of items that will be checked and maintained during scheduled maintenance operations.

Drainage Structures: The Owner will be responsible for cleaning the catch basins, yard drains, manholes, piping, and outlet protection on their property. A Connecticut licensed hauler shall clean the sumps, and legally dispose of removed sand at an off-site location. The road sand may not be reused or stored on-site. As part of the hauling contract, the hauler shall notify the Owner in writing where the material is being disposed.

Each catch basin and yard drain shall be inspected every four months, with one inspection occurring during the month of April. Any debris occurring within one foot from the bottom of each sump shall be removed by Vacuum "Vactor" type of maintenance equipment. Maintain a log of inspections. Remove organic matter, sand and debris from catch basins as necessary and dispose of legally.

Hydrodynamic Separator: The Contech CDS unit (hydrodynamic separator) will be skimmed and oil and scum removed. In a separate operation, silt, sand and sediment will be removed. Once the structure is cleaned of debris, the chamber will be refilled with clean water to prevent wash through of debris and oil during next storm event.

Pavement: Paved areas shall be swept periodically by the Owner to clean trash and other debris. The Owner will sweep paved areas on its property in the spring to remove winter accumulations of road sand.

Perform a visual inspection of paved areas four times per year with one inspection after the last snowfall, but no later than April 1. Sweep accumulated sediment and debris from the paved areas. Clean paved areas as necessary during the remainder of the year.

Underground Detention: The underground detention system will be cleaned of all silt, debris and sediment from the inlet structure, outlet structure and the chamber lengths. The outlet control manhole will be inspected and cleaned to make sure nothing is clogging the discharge pipe.

A Maintenance and Inspection Plan, including forms and checklists, for the proposed project can be found in **Appendix F**.

Section 3 Site Utility Services

3.1 Water and Fire Protection Services

The site is located within the franchise area of the City of Norwalk First District Water Department. Water is supplied to the existing office building and Data Center by the First District Water Department from a main in Norden Place. No modifications to the sites water service are proposed as part of the proposed development plan.

3.2 Electric Service

The site is bisected by a Tax District Line, with the Fifth Taxing District to the north and the Third Taxing District to the south. Electric service to the site is currently provided by Eversource Electric and the Third Taxing District Electric Company. Underground electric lines are located in Norden Place and provide service to the existing office building, Data Center and Test building. No modifications to the sites electric service are proposed as part of the proposed development plan.

3.3 Tel-Data/CATV Services

Underground telephone vaults and conduit are located on the driveways to the site and transition to overhead telephone lines which are located on Norden Place. Existing tel-data and CATV services are provided to the existing facility by Altice off Norden Place. No modifications to the sites tel-data service are proposed as part of the proposed development plan.

3.3 Gas Service

Eversource Energy provides gas to the site and maintains an existing intermediate pressure gas main in Norden Place. No modifications to the sites gas service is proposed as part of the proposed development plan.

3.4 Sanitary Sewer Service

The existing 635,428 square foot building discharges sanitary flows to a manhole located in the southwest corner of the site that outlets into a sanitary manhole in Norden Place. Flow from this manhole is conveyed approximately 840 lineal feet westerly by an existing 12-inch sewer to the intersection of Woodside Avenue and North Bridge Street.

The 115,098 square foot Data Center discharges into a shared sanitary sewer force main with Avalon that discharges along the northern site driveway to Norden Place. At this point the force main flows in a northwest direction and discharges into the sanitary sewer in Strawberry Hill Avenue.

An oil grit separator will be provided outside the building in front of the overhead doors intended to treat discharge from the vehicular hand wash area. The oil grit separator will collect flow from this area and discharge it back into the existing sanitary piping network within the building. The oil/grit separator will need a permit from CTDEEP, which will be coordinated after local approval.

The existing 635,428 square foot office building currently discharges an average daily flow of 81,200 gallons per day. See following Table:

Table 3-1 – Projected Wastewater Flow from Existing Building

Building Use	Flow Estimate Factor	Quantity	Unit Flow Factor (gpd/1,000 SF)	Total Flow (gpd)
Office Building	Square Foot	241,128	200	48,225
Manufacturing	Square Foot	216,255	100	21,625
Vacant School	Square Foot	64,545	0	0
Transportation Maintenance	Square Foot	113,500	100	11,350
Total		Total Average Daily Flow		81,200
		Peaking Factor = 2		
		Total Maximum Daily Flow		162,400

The proposed sanitary sewer discharge from the proposed office, manufacturing, transportation maintenance building and car club was based on the following:

Table 3-2 – Projected Wastewater Flow from Proposed Office Building

Building Use	Flow Estimate Factor	Quantity	Unit Flow Factor (gpd/1,000 SF)	Total Flow (gpd)
Office Building	Square Foot	149,190	200	29,838
Manufacturing	Square Foot	170,973	100	19,097
Vacant School	Square Foot	64,545	0	0
Transportation Maintenance	Square Foot	113,500	100	11,350
Car Club	Square Foot	52,620	100	5,262
Car Club Storage	Square Foot	84,600	100	8,460
Total		Total Average Daily Flow		74,007
		Peaking Factor = 2 (Office)		
		Total Maximum Daily Flow		148,014

¹ Unit flow factor selected based on published guidelines.

The proposed redevelopment is not expected to increase sanitary sewer flows.

Section 4

Soil Erosion and Sedimentation Control

4.1 Soil Erosion and Sedimentation Control Narrative

The stormwater management measures will address the stormwater quality once the site has been constructed and stabilized. Sedimentation and erosion control measures will be installed during construction which will minimize adverse impacts from construction activities.

All sedimentation and erosion control measures proposed for this development have been designed in accordance with the "2024 Connecticut Guidelines for Soil Erosion and Sedimentation Control" as published by the Connecticut council on soil erosion and water conservation. Additional guidelines have also been followed that are available from the Connecticut Department of Energy and Environmental Protection as recommended for sedimentation control during construction activities.

Listed below are the erosion control narrative and the erosion control notes.

General:

The proposed development is entitled "The Auto Collective" in Norwalk, Connecticut.

Estimated Construction Schedule:

Project start: Spring 2025

Project completion: Fall 2025

Erosion control narrative refers to drawings C2.01 to C2.02.

The proposed site development will consist of excavation, construction of a car ramp and site retaining wall and rough grading of ramp, sidewalk and curbing. Stormwater management improvements are proposed with an underground detention system. Soil disturbance on site shall be kept to the minimum extent practical. Sediment in exposed areas will be managed with inlet protection (silt sacks) and periodic sweeping to protect downstream drainage systems.

The development is located at 10 Norden Place in Norwalk, Connecticut.

4.2 Soil Erosion and Sedimentation Control Notes

1. All Sedimentation and Erosion Control measures shall be constructed in accordance with the Standards and Specifications of the "2023 Connecticut Guidelines for Soil Erosion and Sediment Control", and all amendments and addenda thereto as published by the Connecticut Department of Energy and Environmental Protection.
2. Land disturbance shall be kept to the minimum necessary for construction operations.

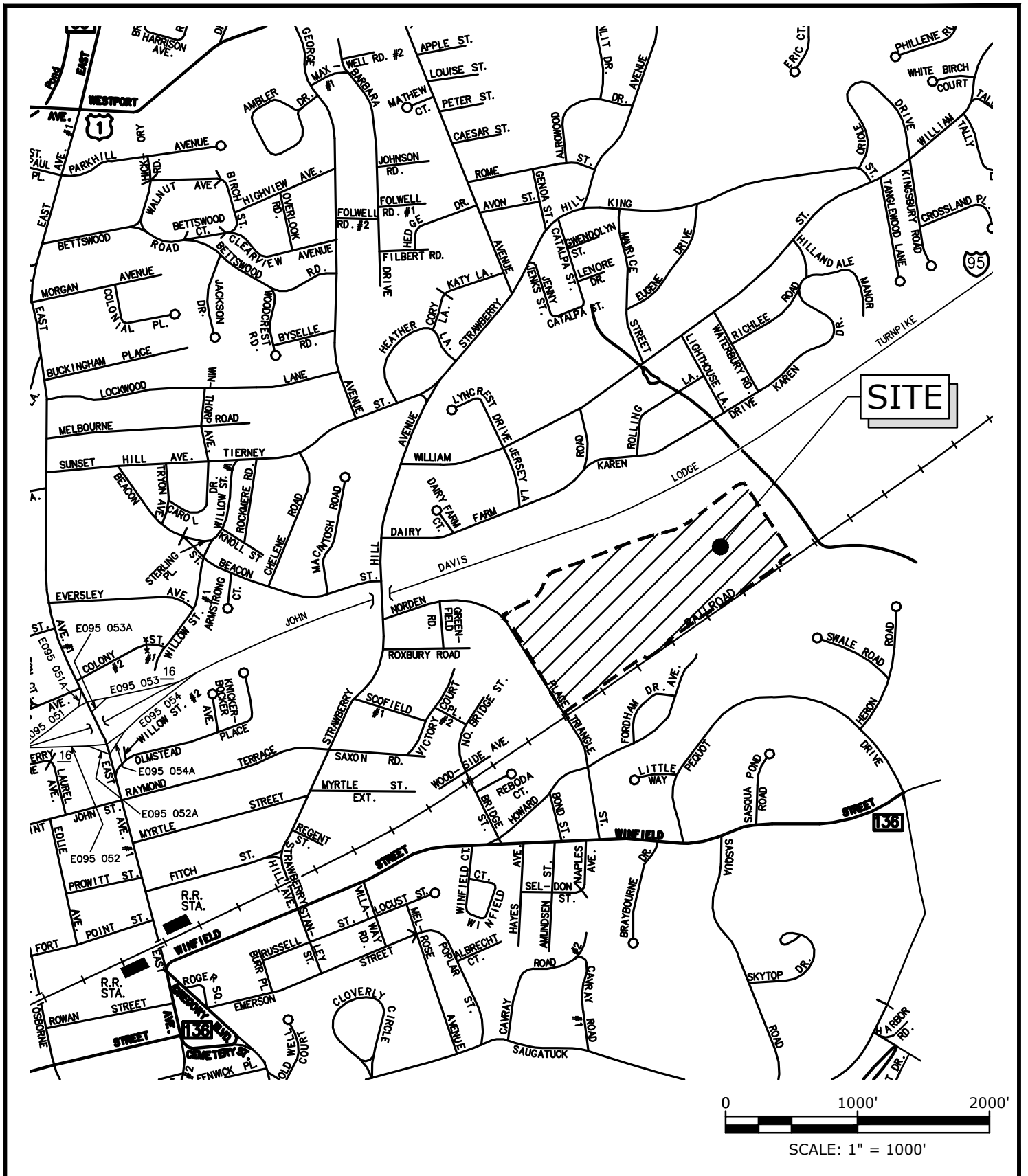
3. All erosion control measures shall be installed as shown on the plan and elsewhere as ordered by the Engineer or the City.
4. All catch basins shall be protected with a silt sacks, haybale ring, silt fence or block and stone inlet protection throughout the construction period and until all disturbed areas are thoroughly stabilized.
5. Whenever possible, erosion and sediment control measures shall be installed prior to construction. See "Erosion Control Narrative".
6. Additional control measures shall be installed during the construction period as ordered by the Engineer.
7. All sedimentation and erosion control measures shall be maintained in effective condition throughout the construction period.
8. Sediment removed shall be disposed of off-site or in a manner as required by the Engineer.
9. The Contractor shall be responsible for construction and maintenance of all control measures throughout the construction period.
10. The Contractor shall utilize approved methods/materials for preventing the blowing and movement of dust from exposed soil surfaces onto adjacent properties and site areas.
11. The Contractor shall maintain a supply of silt fence/haybales and anti-tracking crushed stone on site for emergency repairs.
12. All drainage structures shall be periodically inspected weekly by the construction Contractor and cleaned to prevent the build-up of silt.
13. The Contractor shall carefully coordinate the placement of erosion control measures with the phasing of construction.
14. Keep all paved roadways clean. Sweep before forecasted storms.
15. Treat all unpaved surface with 4" minimum of topsoil prior to final stabilization.
16. Haybale barriers and silt fencing shall be installed along the toe of critical cut and fill slopes.
17. The Contractor shall notify the City of Norwalk's environmental official prior to the installation of erosion controls, cutting of trees, or any excavation.
18. All trucks leaving the site must be covered.
19. Some control measures are permanent. These structures shall be cleaned and replenished at the end of construction. Locations of the permanent control structures are shown on the drainage plans.
20. All sedimentation and erosion controls shall be checked weekly and/or after each rain fall event. Necessary repairs shall be made without delay.

21. Prior to any forecasted rainfall, erosion and sediment controls shall be inspected and repaired as necessary.
22. After all disturbed areas have been stabilized, erosion controls may be removed once authorization to do so has been secured from the town. Disturbed areas shall be seeded and mulched.

4.3 Construction Sequence

1. Flag the limits of construction.
2. Hold preconstruction meeting. Remember to Call Before You Dig 1-800-922-4455.
3. Install perimeter erosion and sediment controls and inlet protection in accordance with the Sedimentation and Erosion Control Plan.
4. Sawcut and reclaim all pavement and remove curbing as shown on the plans.
5. Construct site retaining walls and build up site grades.
6. Install oil/grit separator and piping.
7. Install water quality systems and associated drainage network. Grade the area around the storm drainage as necessary.
8. Install all curbing in all pavement areas and sidewalk.
9. Upon substantial completion of the site improvements complete the balance of the site work and stabilization of all other disturbed areas.
10. Install first course of paving.
11. When all other work has been completed, repair and sweep all paved areas for the final course of pavement. Inspect the erosion controls and clean as needed.
12. Install surface course of pavement.
13. After site is stabilized, remove temporary erosion and sediment controls (e.g. geotextile silt fences and haybales).

APPENDIX A



NORDEN DEVELOPMENT
NORWALK, CT
SITE LOCATION MAP

NORTH

1" = 1000'

FIGURE 1

Tighe & Bond
Engineers | Environmental Specialists

National Flood Hazard Layer FIRMette



Legend

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

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped

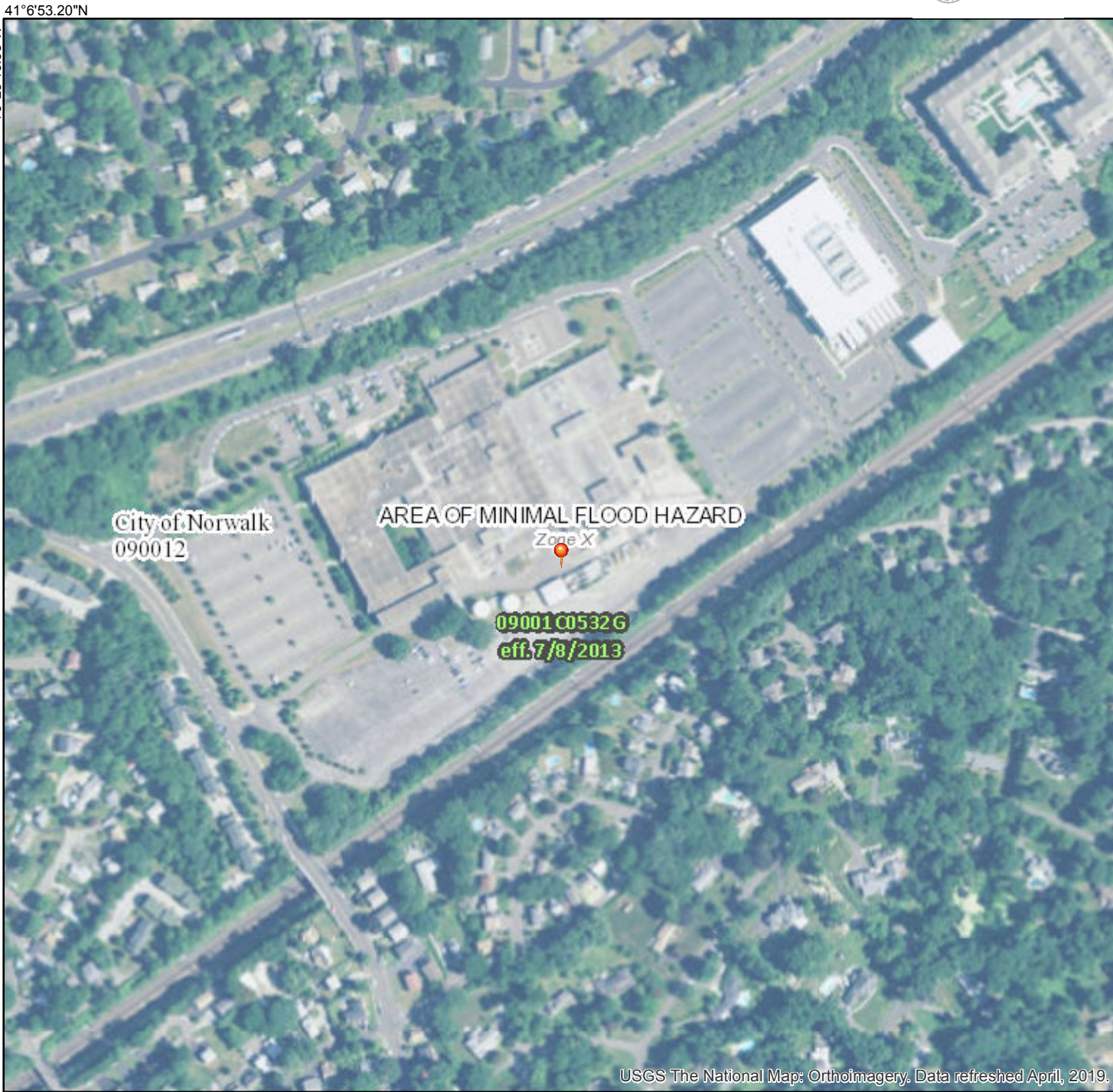


The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/9/2019 at 9:59:12 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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



Stormwater System Design Plan and Report Checklist for Submission

Project narrative including:

[Provide page number where located]

<u>1-1</u>	Common address of site
<u>1-1</u>	Project name
<u>1-1</u>	Legal description of site
<u>APPENDIX A</u>	Vicinity map
<u>1-1</u>	Description of past, present, and proposed uses of the site
<u>2-3</u>	Description of the proposed drainage system, including: - o LID elements incorporated in the design - o water quality treatments - o how impervious surfaces have been minimized to the extent practical - o outfall or discharge location (open watercourse versus existing downstream drainage system)
<u>2-5</u>	Description of how zero increase in rate of runoff is met through the design, including a table documenting existing and proposed peak flows from the site for the 50, 10, 4, 2, and 1 percent annual chance events

Cover sheet with drawing index: (only required if not submitted with the Site Plan review)

<u>ALL SHEETS</u>	Title block - Title shall include type of submittal from Site Development Review Request.
<u>C0.01</u>	Legend
<u>ALL SHEETS</u>	North arrow
<u>C1.00</u>	Property boundary of subject property (including parcels or portions thereof, of abutting land in roadways within 100 feet of the property boundary)
<u>APPENDIX A</u>	Site location map (recommended scale 1" = 1,000') with north arrow

Existing conditions map(s) detailing:

[Provide page number where located]

<u>SURVEY</u>	Base mapping for the Storm Drainage Plan shall consist of an existing conditions survey prepared in accordance with the Minimum Standards for Surveys and Maps in the State of Connecticut. The class of survey shall be A-2 and T-2 and shall be represented as such on the map. The base map shall be sealed and signed by a Professional Land Surveyor licensed in the State of Connecticut.
<u>SURVEY</u>	The plan shall indicate the scale of the drawing and if possible be at a scale of 1" = 20' or 1" = 40'.
<u>SURVEY</u>	The plan shall depict the existing topography at contour intervals of 2 feet for the site and at a minimum of 100 feet beyond the property limits of the subject property.
<u>SURVEY</u>	Topography that is flatter than 2 percent requires additional spot elevations, and the contour interval shall be a 1-foot contour interval instead of a 2-foot contour interval.
<u>SURVEY</u>	The plan shall show all required spot elevations.
<u>SURVEY</u>	The plan shall indicate the referenced or assumed elevation datum (the FEMA datum shall be used for sites located within a Flood Hazard Zone).
<u>SURVEY</u>	The plan shall have one permanent benchmark on the site within 100 feet of the proposed construction work area on the site.
<u>SURVEY</u>	The plan shall include roads, buildings, driveways, parking areas, patios, walks, walls, other structures on the property, storm drainage, sanitary sewers, subsurface sewage disposal systems (septic systems), curbs, sidewalks, trees, retaining walls, utilities such as water, gas, and electric etc.
<u>SURVEY</u>	The plan shall show the locations of stormwater discharges.
<u>SURVEY</u>	The plan shall show wetlands, perennial, intermittent streams.
<u>SURVEY</u>	The plan shall show vegetation and the proposed limits of clearing and disturbance.
<u>N/A</u>	The plan shall show the locations of deep test and infiltration tests.

- SURVEY The plan shall show resource protection areas such as wetlands, lakes, ponds, and other setbacks (stream buffer zones, drinking water well setbacks, septic system setbacks, etc.).
- SURVEY The plan shall show utilities and easements.
- SURVEY The plan shall show the location of FEMA floodplain and floodway limits and the relationship of the site to upstream and downstream properties and drainage systems.
- N/A The plan shall show existing channel modifications (e.g., bridge or culvert installations).
- SURVEY The plan shall show existing peak-flow attenuation facilities.

Proposed conditions map(s) detailing:

[Provide page number where located]

- ALL SHEETS The plan shall indicate the scale of the drawing and if possible be at a scale of 1" = 20' or 1" = 40'.
- C2.01 The plan shall depict the proposed topography at contour intervals of 2 feet for the site and at a minimum of 100 feet beyond the property limits of the subject property.
- C2.01 Topography that is flatter than 2 percent requires additional spot elevations, and the contour interval shall be a 1-foot contour interval instead of a 2-foot contour interval.
- C2.01 The plan shall show all required spot elevations.
- C1.01 - C1.02 The plan shall show proposed roads, buildings, driveways, parking areas, and other impervious surfaces.
- C2.01 The plan shall show proposed utilities (e.g., water, sewer, gas, electric) and utility easements.
- C2.01 The plan shall show proposed storm drain infrastructure (e.g., inlets, manholes, storm drains).
- N/A The plan shall show proposed channel modifications (e.g., bridge or culvert installations).
- C2.01 The plan shall show temporary and permanent conveyance systems (grass channels, swales, ditches, storm drains, etc.) building grades, dimensions, and directions of flow.
- C2.01 The plan shall show the location, size, maintenance access, and limits of disturbance of proposed structural stormwater management practices and low impact development (treatment practices, flood control facilities, stormwater diversion structures, etc.).
- C1.01 The plan shall show final landscaping plans for structural stormwater management practices and site revegetation (if no structural items are proposed, this portion of the plan may be signed by a licensed landscape architect or other environmental professional).
- C2.01 The plan shall show locations of nonstructural stormwater management practices (i.e., source controls).
- N/A The plan shall show the excavation and fill quantities in a table if required by the Director.
- ALL SHEETS The plan shall be sealed and signed by a Professional Engineer licensed in the State of Connecticut.

Existing conditions hydrologic analysis including:

[Provide page number where located]

- APPENDIX C Existing conditions map
- APPENDIX C Delineation of each of the existing drainage areas and subwatersheds found on the development site (e.g., size, soil types, land cover characteristics)
- APPENDIX C Delineation of any off-site drainage areas that contribute stormwater runoff to the development site (e.g., size, soil types, land cover characteristics)
- APPENDIX C Calculation of the stormwater runoff rates (cfs) and volumes (ft³) generated, under existing conditions, in each of the drainage areas found on the development site
- APPENDIX C Calculation of the stormwater runoff rates (cfs) and volumes (ft³) generated, under existing conditions, in each of the off-site drainage areas that contribute stormwater runoff to the development site
- APPENDIX C Documentation (e.g., model diagram) and calculations showing how the existing conditions hydrologic analysis was completed

Proposed conditions hydrologic analysis, which includes:

[Provide page number where located]

- APPENDIX D Proposed conditions map
- APPENDIX D Delineation of each of the proposed drainage areas found on the development site (e.g., size, soil types, land cover characteristics)
- APPENDIX D Delineation of the proposed conditions of any off-site drainage areas that contribute stormwater runoff to the development site (e.g., size, soil types, land cover characteristics)
- APPENDIX D Calculation of the stormwater runoff rates (cfs) and volumes (ft³) generated, under proposed conditions, in each of the drainage areas found on the development site
- APPENDIX D Calculation of the stormwater runoff rates (cfs) and volumes (ft³) generated, under proposed conditions, in each of the off-site drainage areas that contribute stormwater runoff to the development site
- APPENDIX D Design computations of any detention or retention systems proposed as part of the project
- APPENDIX D Documentation (e.g., model diagram) and calculations showing how the proposed conditions hydrologic analysis was completed

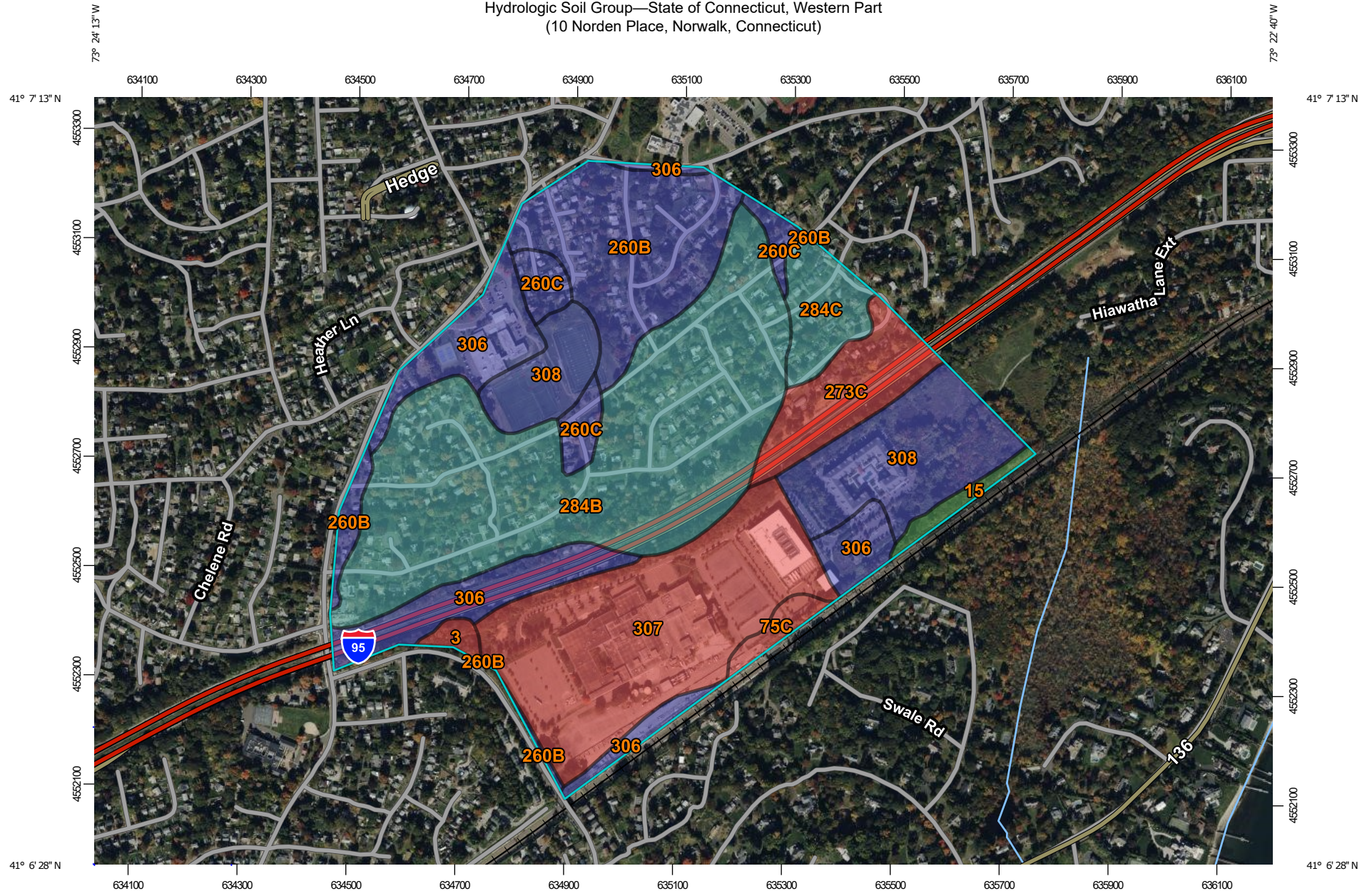
Postconstruction drainage system design computations including:

[Provide page number where located]

- APPENDIX D Drainage diagrams indicating design/analysis points and all stormwater features
- APPENDIX D Subwatershed mapping to each inlet structure
- APPENDIX D Tailwater used in the drainage system analysis
- APPENDIX D Analysis of the receiving drainage system if discharge is to an existing system
- APPENDIX D Computations supporting design of the drainage system including pipe capacity and hydraulic grade line determinations
- APPENDIX D Table of watershed areas, times of concentration, and runoff coefficients for each subwatershed area
- APPENDIX D Profiles of drainage conveyance systems showing proposed structures, proposed grade, flow depth, hydraulic grade line, pipe and channel slopes, soil profiles in swales, bedding details, subdrain details, and types of construction materials
- NA Indicate the discharge location of all building roof leaders. If a building will discharge to more than one discharge location, these locations need to be indicated along with the pertinent area of contributing rooftop.
- N/A Gutter flow analysis for applications that propose new roads or improvements to existing public roads

APPENDIX B

Hydrologic Soil Group—State of Connecticut, Western Part (10 Norden Place, Norwalk, Connecticut)



Map Scale: 1:9,890 if printed on A landscape (11" x 8.5") sheet.

0 100 200 400 600 Meters

0 450 900 1800 2700 Feet

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



**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

1/18/2024
Page 1 of 4
Page 53 of 1610

Hydrologic Soil Group—State of Connecticut, Western Part
(10 Norden Place, Norwalk, Connecticut)

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.

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	1.2	0.6%
15	Scarboro muck, 0 to 3 percent slopes	A/D	2.0	0.9%
75C	Hollis-Chatfield-Rock outcrop complex, 3 to 15 percent slopes	D	2.2	1.0%
260B	Charlton-Urban land complex, 3 to 8 percent slopes	B	26.0	12.2%
260C	Charlton-Urban land complex, 8 to 15 percent slopes	B	6.3	3.0%
273C	Urban land-Charlton-Chatfield complex, rocky, 3 to 15 percent slopes	D	11.1	5.2%
284B	Paxton-Urban land complex, 3 to 8 percent slopes	C	66.5	31.2%
284C	Paxton-Urban land complex, 8 to 15 percent slopes	C	7.3	3.4%
306	Udorthents-Urban land complex	B	24.3	11.4%
307	Urban land	D	40.4	19.0%
308	Udorthents, smoothed	B	25.7	12.1%
Totals for Area of Interest			212.9	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.

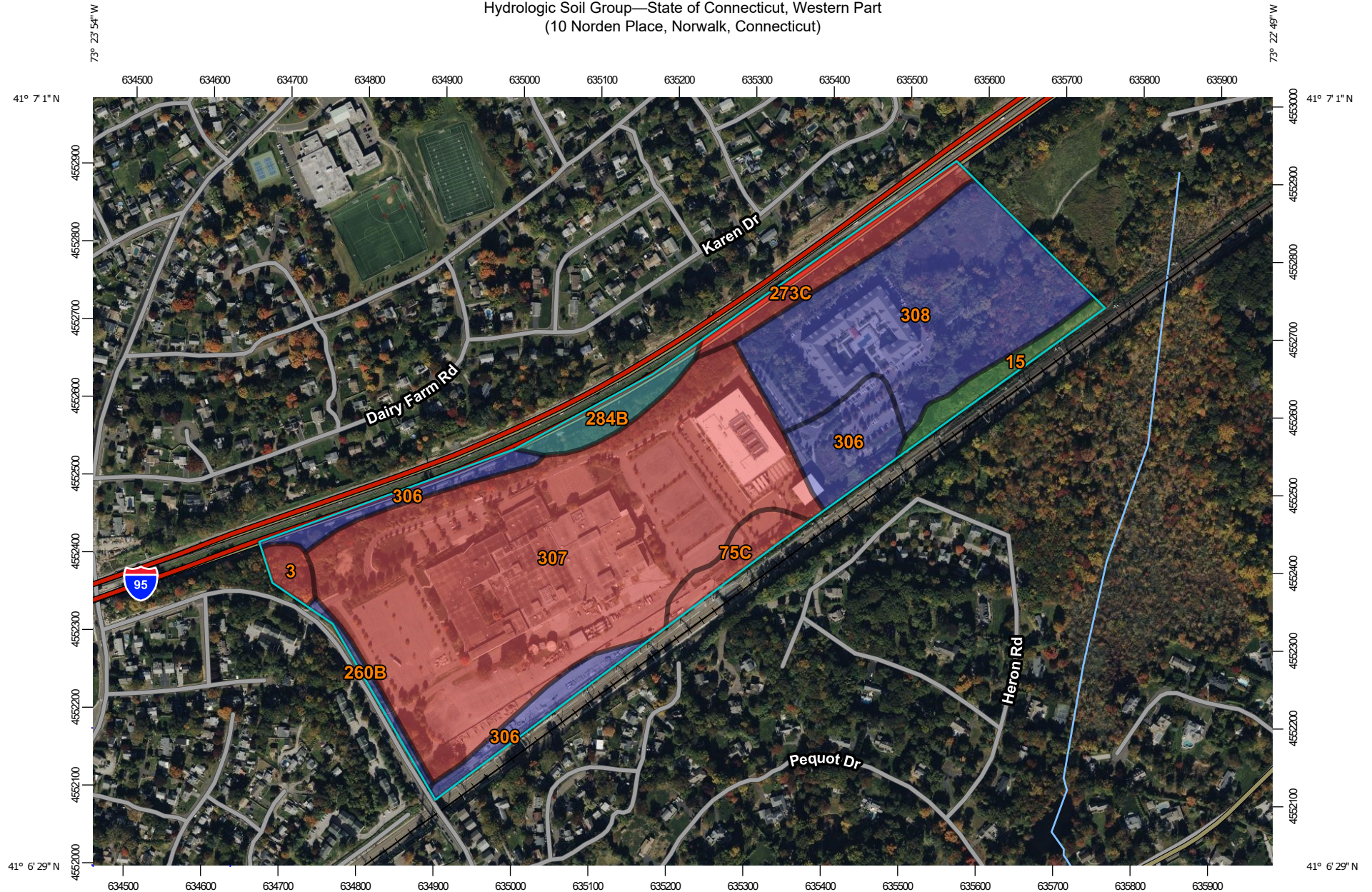
Rating Options

Aggregation Method: Dominant Condition

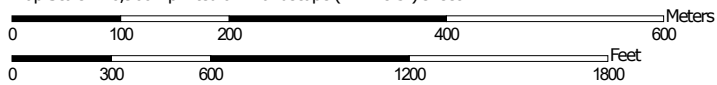
Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Hydrologic Soil Group—State of Connecticut, Western Part (10 Norden Place, Norwalk, Connecticut)



Map Scale: 1:6,960 if printed on A landscape (11" x 8.5") sheet.



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



**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

Hydrologic Soil Group—State of Connecticut, Western Part (10 Norden Place, Norwalk, Connecticut)

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

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Soil Rating Polygons

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 A/D
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 C/D
 D
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Soil Rating Points

 A
 A/D
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 B/D

 C
 C/D
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 Streams and Canals

Transportation

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 Interstate Highways
 US Routes
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Background

 Aerial Photography

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Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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Soil Survey Area: State of Connecticut, Western Part

Survey Area Data: Version 1, Sep 15, 2023

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75C	Hollis-Chatfield-Rock outcrop complex, 3 to 15 percent slopes	D	1.9	2.5%
260B	Charlton-Urban land complex, 3 to 8 percent slopes	B	0.7	0.9%
273C	Urban land-Charlton-Chatfield complex, rocky, 3 to 15 percent slopes	D	3.3	4.3%
284B	Paxton-Urban land complex, 3 to 8 percent slopes	C	2.1	2.7%
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307	Urban land	D	40.4	52.5%
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Totals for Area of Interest			76.9	100.0%

Description

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Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



NOAA Atlas 14, Volume 10, Version 3
Location name: Norwalk, Connecticut, USA*
Latitude: 41.1115°, Longitude: -73.3913°
Elevation: 70 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 & aeriels](#)

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	0.365 (0.294-0.453)	0.426 (0.342-0.529)	0.525 (0.421-0.655)	0.607 (0.482-0.762)	0.719 (0.550-0.941)	0.805 (0.601-1.08)	0.893 (0.641-1.24)	0.987 (0.672-1.41)	1.12 (0.728-1.66)	1.22 (0.772-1.85)
10-min	0.517 (0.416-0.642)	0.603 (0.484-0.749)	0.743 (0.594-0.926)	0.859 (0.683-1.08)	1.02 (0.779-1.33)	1.14 (0.850-1.53)	1.26 (0.909-1.75)	1.40 (0.952-2.00)	1.58 (1.03-2.35)	1.73 (1.09-2.62)
15-min	0.609 (0.490-0.756)	0.709 (0.570-0.881)	0.873 (0.698-1.09)	1.01 (0.803-1.27)	1.20 (0.916-1.57)	1.34 (1.00-1.80)	1.49 (1.07-2.06)	1.64 (1.12-2.35)	1.86 (1.21-2.76)	2.03 (1.29-3.09)
30-min	0.846 (0.681-1.05)	0.986 (0.793-1.23)	1.22 (0.972-1.52)	1.41 (1.12-1.76)	1.67 (1.27-2.18)	1.87 (1.39-2.50)	2.07 (1.48-2.86)	2.28 (1.55-3.26)	2.56 (1.67-3.81)	2.78 (1.76-4.22)
60-min	1.08 (0.872-1.34)	1.26 (1.02-1.57)	1.56 (1.25-1.94)	1.80 (1.43-2.26)	2.14 (1.63-2.79)	2.40 (1.78-3.20)	2.66 (1.90-3.66)	2.92 (1.99-4.17)	3.27 (2.13-4.85)	3.53 (2.23-5.36)
2-hr	1.38 (1.12-1.70)	1.64 (1.32-2.02)	2.06 (1.66-2.55)	2.41 (1.93-3.00)	2.89 (2.22-3.76)	3.25 (2.44-4.33)	3.63 (2.62-5.02)	4.04 (2.76-5.75)	4.62 (3.02-6.82)	5.08 (3.23-7.67)
3-hr	1.58 (1.29-1.94)	1.89 (1.54-2.32)	2.40 (1.94-2.96)	2.82 (2.26-3.50)	3.40 (2.62-4.41)	3.83 (2.89-5.09)	4.28 (3.12-5.93)	4.80 (3.28-6.80)	5.53 (3.62-8.14)	6.14 (3.90-9.22)
6-hr	1.99 (1.63-2.43)	2.40 (1.96-2.92)	3.06 (2.49-3.74)	3.60 (2.91-4.44)	4.36 (3.39-5.64)	4.92 (3.74-6.52)	5.52 (4.05-7.61)	6.21 (4.26-8.75)	7.22 (4.74-10.6)	8.06 (5.14-12.0)
12-hr	2.46 (2.03-2.98)	2.97 (2.44-3.60)	3.79 (3.10-4.61)	4.47 (3.64-5.47)	5.41 (4.23-6.95)	6.11 (4.66-8.04)	6.85 (5.06-9.40)	7.72 (5.32-10.8)	9.00 (5.92-13.1)	10.1 (6.44-14.9)
24-hr	2.86 (2.37-3.44)	3.48 (2.88-4.19)	4.49 (3.70-5.43)	5.33 (4.36-6.48)	6.48 (5.11-8.29)	7.34 (5.64-9.61)	8.26 (6.14-11.3)	9.35 (6.46-13.0)	11.0 (7.24-15.8)	12.3 (7.92-18.2)
2-day	3.12 (2.60-3.72)	3.87 (3.23-4.63)	5.10 (4.24-6.12)	6.13 (5.05-7.40)	7.54 (5.98-9.59)	8.58 (6.64-11.2)	9.71 (7.27-13.2)	11.1 (7.69-15.3)	13.2 (8.72-18.9)	15.0 (9.63-21.9)
3-day	3.32 (2.78-3.94)	4.14 (3.47-4.93)	5.50 (4.58-6.57)	6.62 (5.48-7.96)	8.16 (6.50-10.4)	9.31 (7.23-12.1)	10.5 (7.93-14.3)	12.1 (8.38-16.6)	14.4 (9.53-20.5)	16.3 (10.5-23.8)
4-day	3.52 (2.96-4.18)	4.39 (3.69-5.22)	5.82 (4.86-6.94)	7.00 (5.81-8.40)	8.63 (6.88-10.9)	9.84 (7.66-12.7)	11.1 (8.39-15.1)	12.7 (8.86-17.5)	15.1 (10.1-21.5)	17.2 (11.1-25.0)
7-day	4.15 (3.51-4.90)	5.10 (4.30-6.02)	6.64 (5.58-7.86)	7.91 (6.60-9.44)	9.67 (7.75-12.1)	11.0 (8.58-14.1)	12.4 (9.33-16.6)	14.0 (9.82-19.1)	16.5 (11.0-23.4)	18.6 (12.1-26.9)
10-day	4.79 (4.06-5.63)	5.78 (4.89-6.79)	7.39 (6.23-8.72)	8.73 (7.31-10.4)	10.6 (8.48-13.2)	11.9 (9.34-15.2)	13.4 (10.1-17.8)	15.1 (10.6-20.5)	17.6 (11.7-24.7)	19.6 (12.7-28.2)
20-day	6.73 (5.75-7.85)	7.83 (6.68-9.14)	9.63 (8.18-11.3)	11.1 (9.38-13.1)	13.2 (10.6-16.2)	14.7 (11.6-18.5)	16.3 (12.3-21.3)	18.1 (12.8-24.3)	20.4 (13.7-28.6)	22.3 (14.5-31.9)
30-day	8.36 (7.17-9.71)	9.55 (8.18-11.1)	11.5 (9.79-13.4)	13.1 (11.1-15.4)	15.3 (12.4-18.7)	17.0 (13.3-21.2)	18.7 (14.0-24.2)	20.5 (14.5-27.4)	22.8 (15.4-31.7)	24.6 (16.0-35.0)
45-day	10.4 (8.96-12.0)	11.7 (10.1-13.5)	13.8 (11.8-16.0)	15.5 (13.2-18.2)	17.9 (14.5-21.8)	19.8 (15.6-24.5)	21.6 (16.2-27.7)	23.4 (16.6-31.2)	25.7 (17.4-35.6)	27.4 (17.9-38.8)
60-day	12.1 (10.5-14.0)	13.5 (11.6-15.6)	15.7 (13.5-18.2)	17.6 (15.0-20.5)	20.1 (16.3-24.3)	22.1 (17.4-27.3)	24.0 (18.0-30.6)	25.8 (18.4-34.3)	28.1 (19.1-38.8)	29.8 (19.4-42.0)

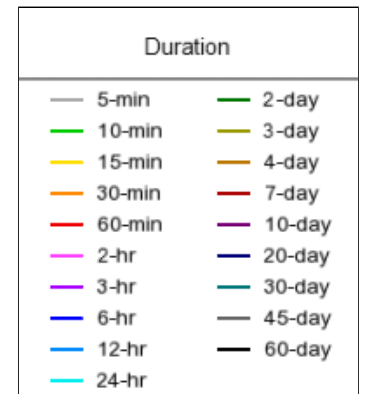
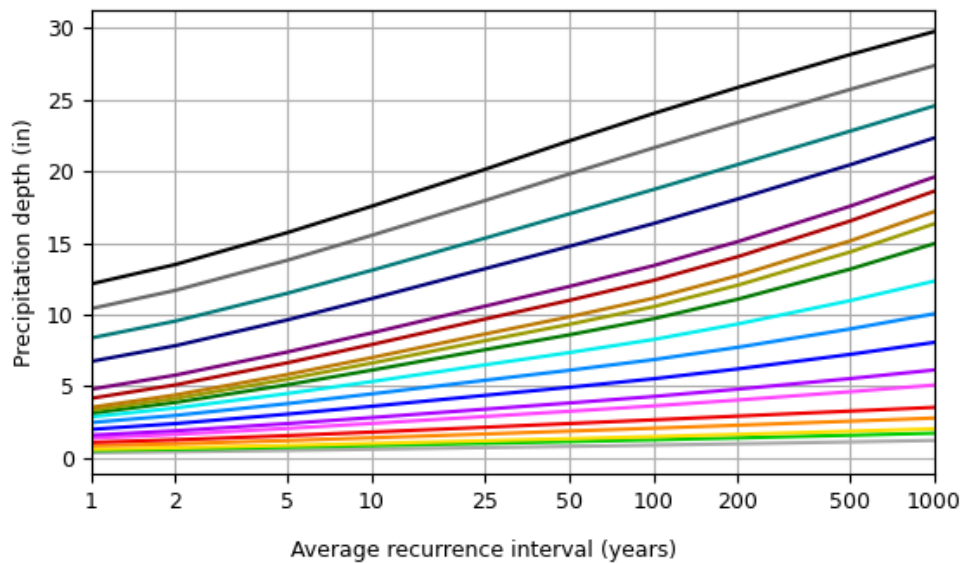
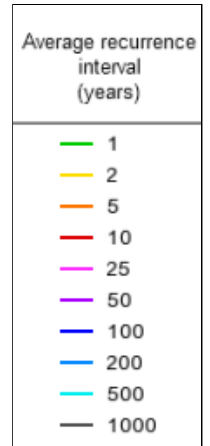
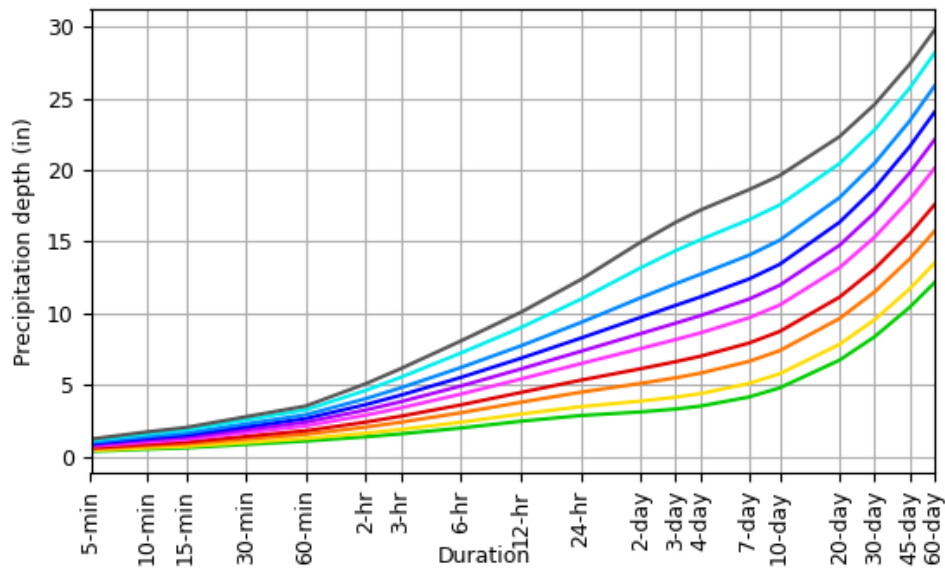
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average 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.

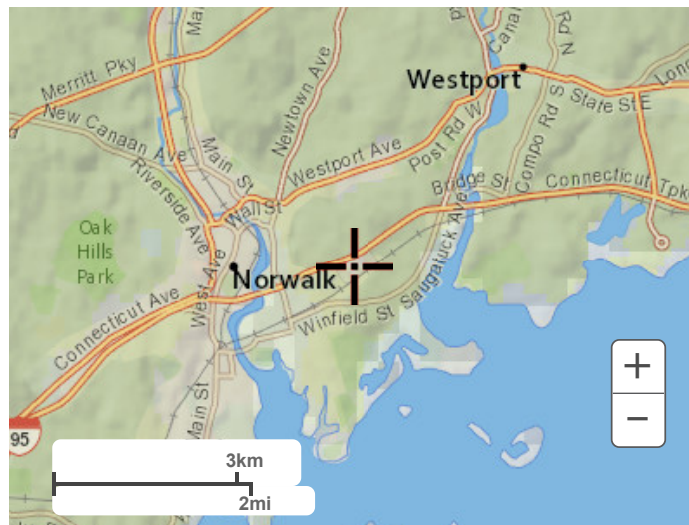
[Back to Top](#)

PF graphical

PDS-based depth-duration-frequency (DDF) curves

Latitude: 41.1115°, Longitude: -73.3913°

[Back to Top](#)**Maps & aeriels****Small scale terrain**



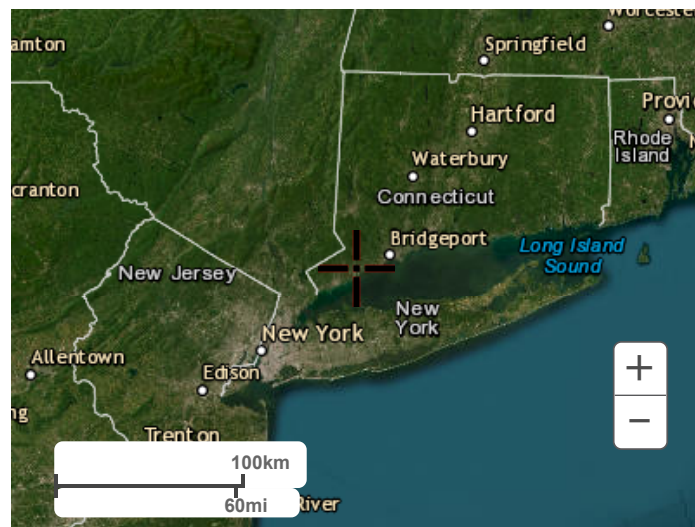
Large scale terrain



Large scale map



Large scale aerial



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1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

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APPENDIX C

LEGEND

WATERSHED BOUNDARY



EXISTING PIPE SYSTEM



WATERSHED CATCHMENT AREA
IMPACTED BY PROJECT



Tighe&Bond

1000 Bridgeport Avenue
Suite 320
Shelton, CT 06484
(203) 712-1100

THE AUTO
COLLECTIVE

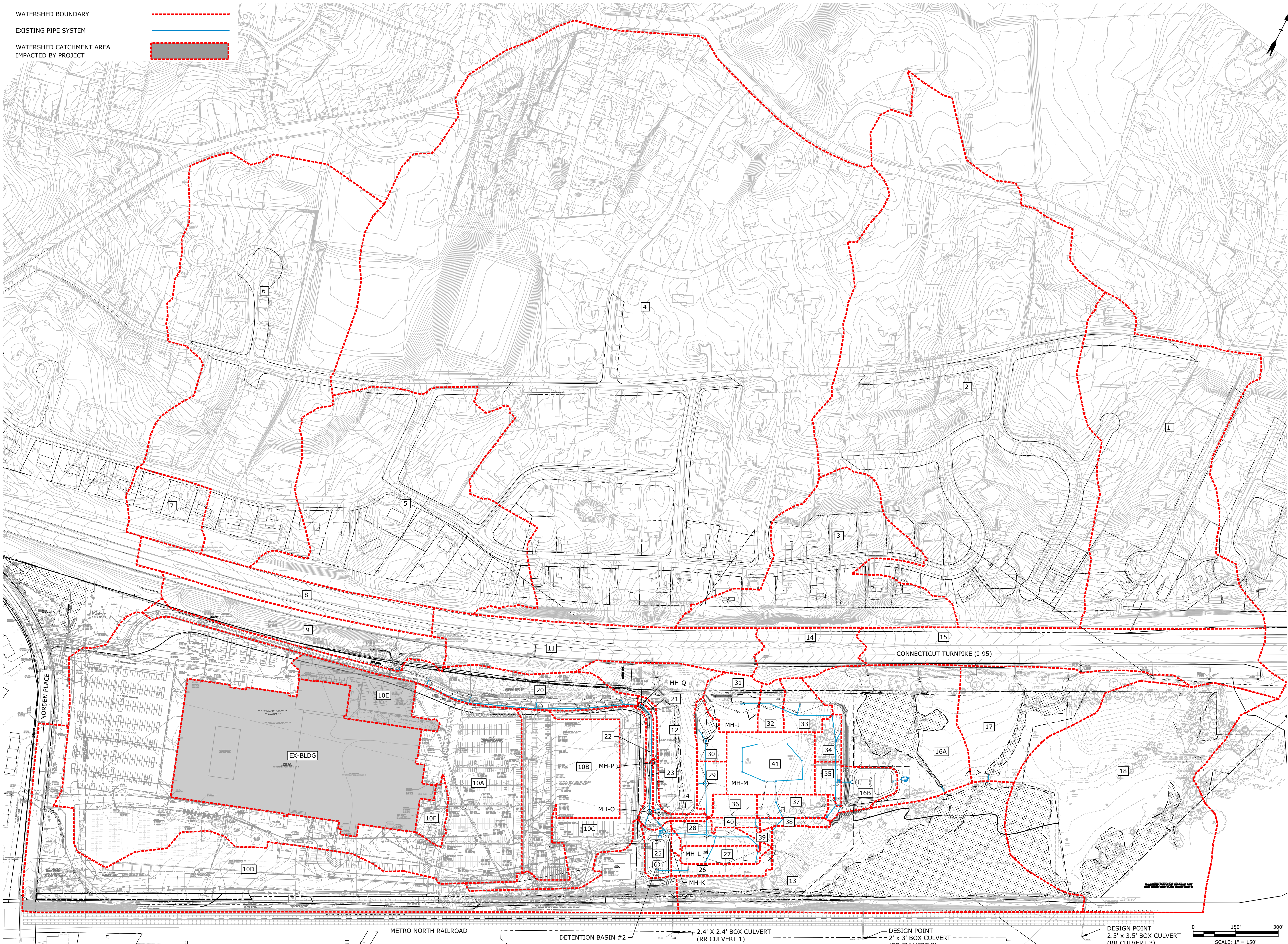
Norwalk, CT

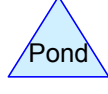
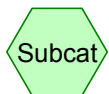
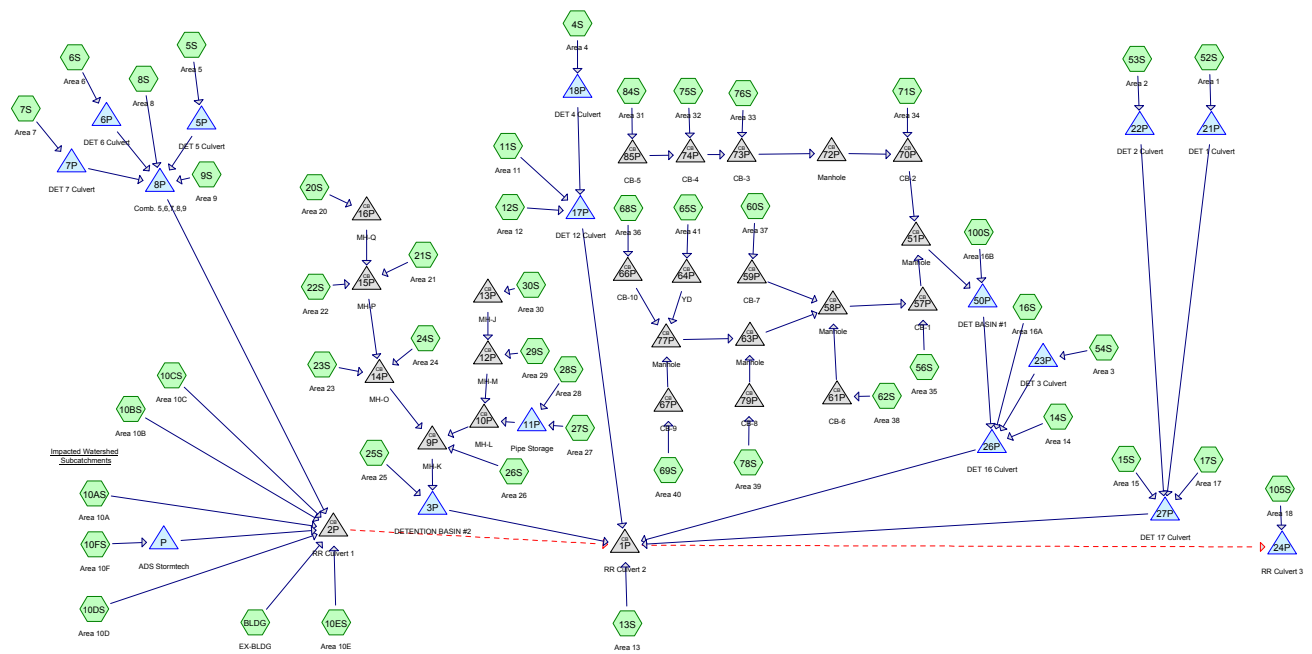
MARK	DATE	DESCRIPTION
PROJECT NO:	AS128-001	
DATE:	01/13/2025	
FILE:	AS128-01-EX-WM.dwg	
DRAWN BY:	JCB	
CHECKED:	EWL	
APPROVED:	JWB	

EXISTING
WATERSHED MAP

SCALE: AS SHOWN

WM-01





Routing Diagram for Existing Conditions
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Existing Conditions

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
1,994,177	70	1/2 acre lots, 25% imp, HSG B (4S, 52S, 53S, 54S)
2,083,910	80	1/2 acre lots, 25% imp, HSG C (4S, 52S, 53S, 54S)
293,159	85	1/2 acre lots, 25% imp, HSG D (4S, 53S)
451,151	79	50-75% Grass cover, Fair, HSG C (7S, 10AS, 10DS, 10ES)
25,265	84	50-75% Grass cover, Fair, HSG D (7S)
596,598	61	>75% Grass cover, Good, HSG B (4S, 5S, 10BS, 10CS)
524,593	74	>75% Grass cover, Good, HSG C (4S, 5S, 9S, 11S, 14S, 15S, 16S, 21S, 22S, 23S, 25S, 26S, 27S, 28S, 30S, 60S, 62S, 65S, 68S, 69S, 100S)
135,297	80	>75% Grass cover, Good, HSG D (4S, 5S, 9S, 24S)
6,534	89	Gravel roads, HSG C (16S)
404,672	71	Meadow, non-grazed, HSG C (6S)
1,293,688	98	Paved parking & roofs (5S, 6S, 8S, 10BS, 10CS, 11S, 14S, 15S, 17S, 20S, 21S, 22S, 23S, 24S, 26S, 27S, 28S, 29S, 30S, 56S, 60S, 62S, 65S, 68S, 69S, 71S, 75S, 76S, 78S, 84S)
304,179	98	Paved parking, HSG C (10DS, 10ES, 105S)
537,922	98	Paved roads w/curbs & sewers, HSG C (10AS, 10FS)
360,328	98	Roofs, HSG B (BLDG)
485,171	70	Woods, Good, HSG C (12S, 13S, 16S, 17S, 20S, 75S, 76S, 84S, 105S)
991,295	77	Woods, Good, HSG D (6S, 12S, 13S, 16S, 17S, 105S)
10,487,941	80	TOTAL AREA

Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 4S: Area 4

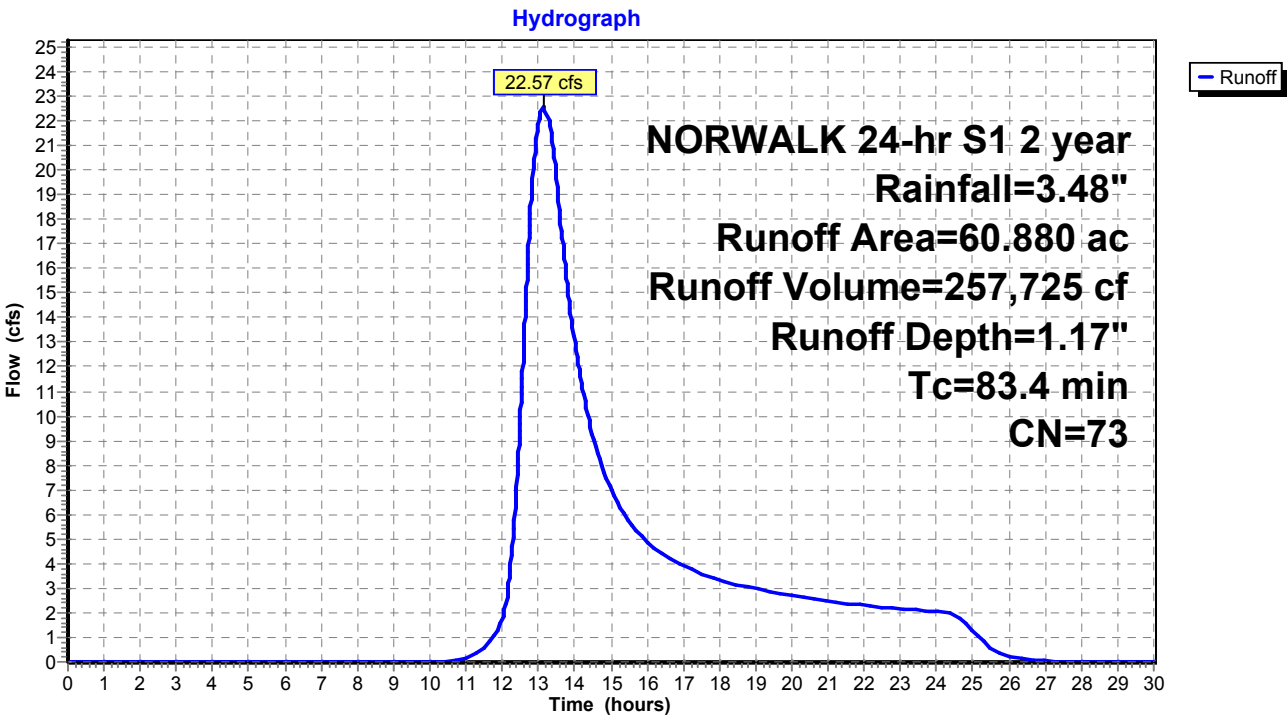
Runoff = 22.57 cfs @ 13.15 hrs, Volume= 257,725 cf, Depth= 1.17"
Routed to Pond 18P : DET 4 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
8.210	61	>75% Grass cover, Good, HSG B
0.140	74	>75% Grass cover, Good, HSG C
0.380	80	>75% Grass cover, Good, HSG D
25.920	70	1/2 acre lots, 25% imp, HSG B
22.630	80	1/2 acre lots, 25% imp, HSG C
3.600	85	1/2 acre lots, 25% imp, HSG D
60.880	73	Weighted Average
47.842		78.58% Pervious Area
13.037		21.42% Impervious Area

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

Subcatchment 4S: Area 4



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 5S: Area 5

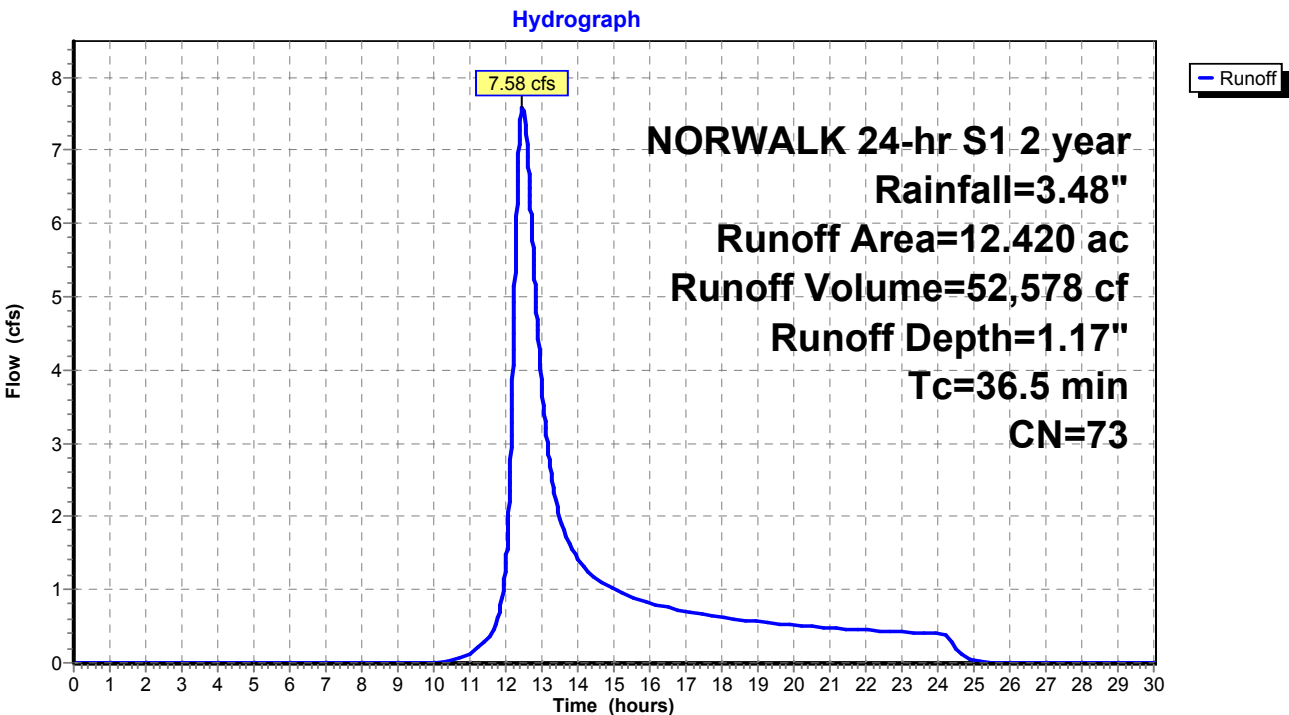
Runoff = 7.58 cfs @ 12.46 hrs, Volume= 52,578 cf, Depth= 1.17"
Routed to Pond 5P : DET 5 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
4.770	61	>75% Grass cover, Good, HSG B
5.210	74	>75% Grass cover, Good, HSG C
0.390	80	>75% Grass cover, Good, HSG D
2.050	98	Paved parking & roofs
12.420	73	Weighted Average
10.370		83.49% Pervious Area
2.050		16.51% Impervious Area

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

Subcatchment 5S: Area 5



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 6S: Area 6

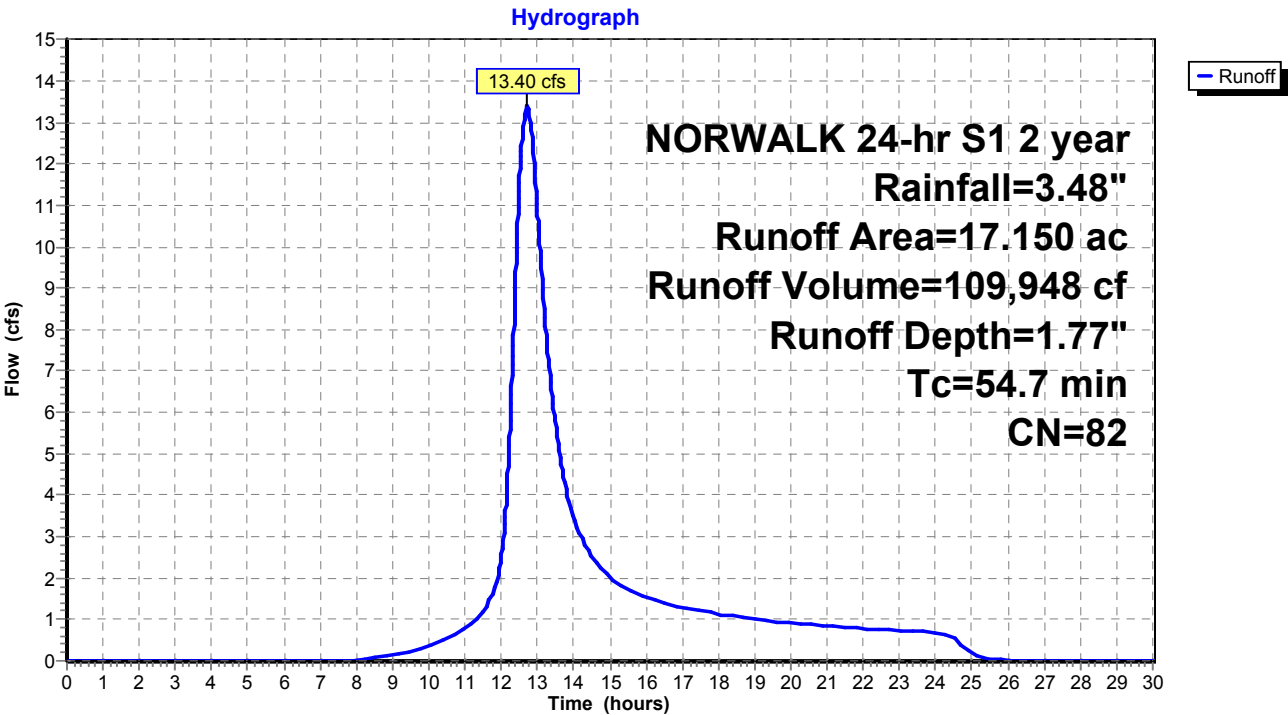
Runoff = 13.40 cfs @ 12.70 hrs, Volume= 109,948 cf, Depth= 1.77"
Routed to Pond 6P : DET 6 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
9.290	71	Meadow, non-grazed, HSG C
5.410	98	Paved parking & roofs
1.480	77	Woods, Good, HSG D
0.970	98	Paved parking & roofs
17.150	82	Weighted Average
10.770		62.80% Pervious Area
6.380		37.20% Impervious Area

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

Subcatchment 6S: Area 6



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 7S: Area 7

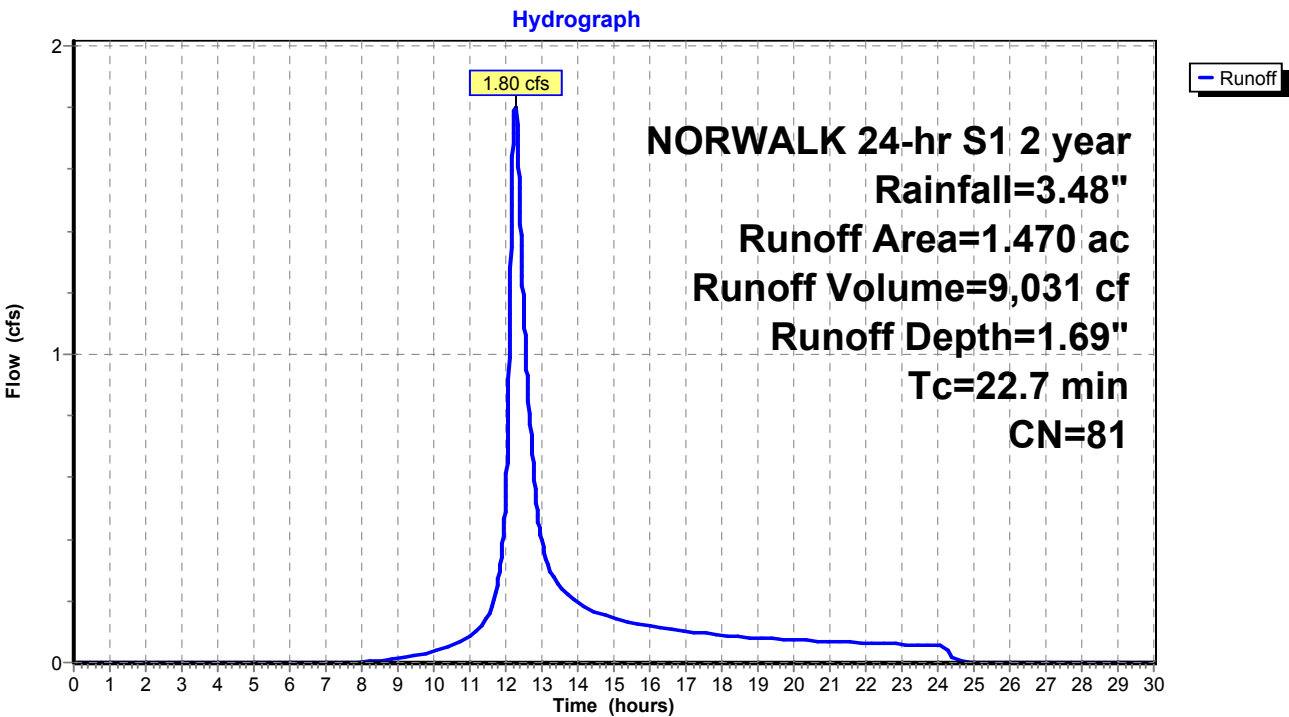
Runoff = 1.80 cfs @ 12.27 hrs, Volume= 9,031 cf, Depth= 1.69"
Routed to Pond 7P : DET 7 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.890	79	50-75% Grass cover, Fair, HSG C
0.580	84	50-75% Grass cover, Fair, HSG D
1.470	81	Weighted Average
1.470		100.00% Pervious Area

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

Subcatchment 7S: Area 7



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 8S: Area 8

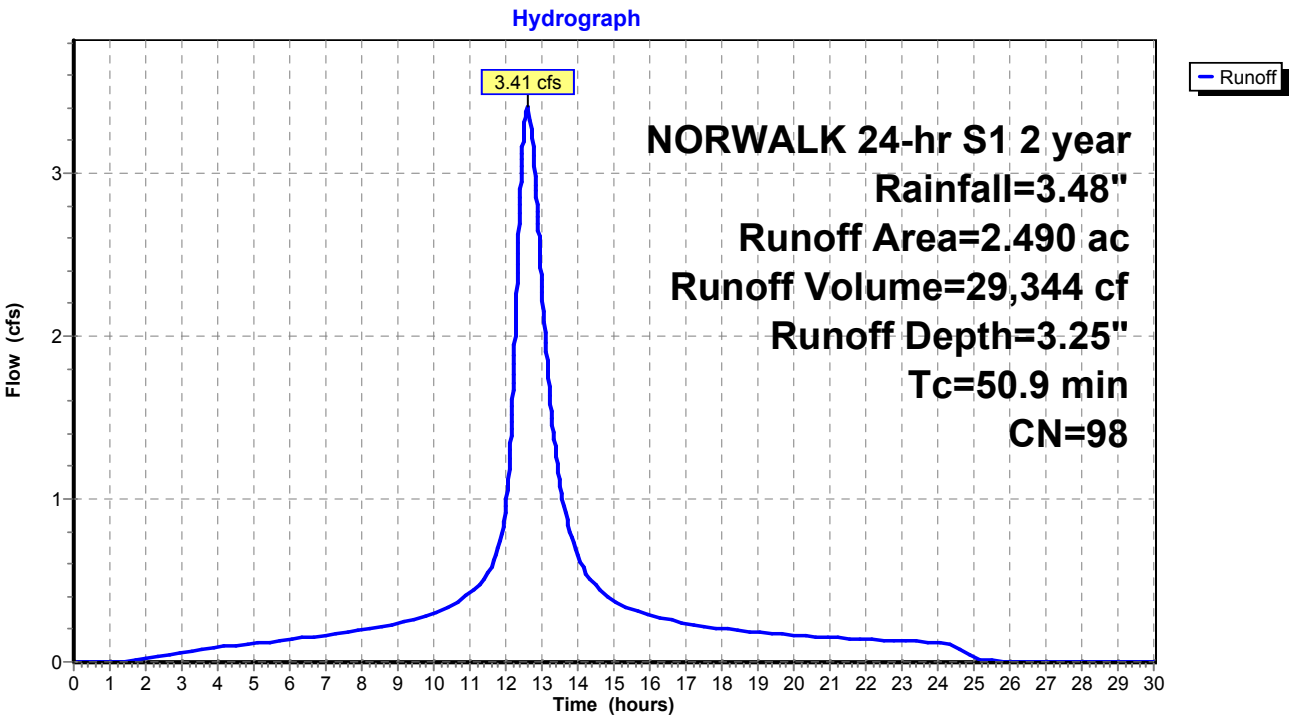
Runoff = 3.41 cfs @ 12.61 hrs, Volume= 29,344 cf, Depth= 3.25"
Routed to Pond 8P : Comb. 5,6,7,8,9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
2.490	98	Paved parking & roofs
2.490		100.00% Impervious Area

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

Subcatchment 8S: Area 8



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 9S: Area 9

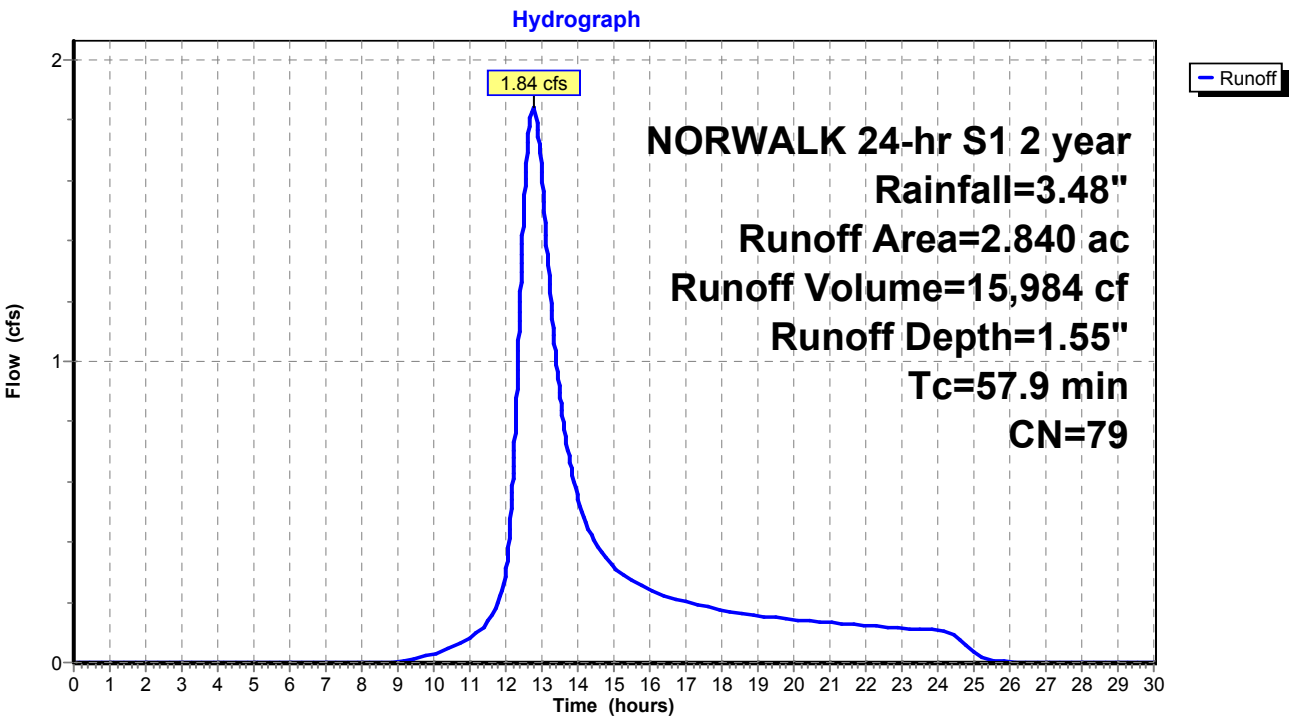
Runoff = 1.84 cfs @ 12.75 hrs, Volume= 15,984 cf, Depth= 1.55"
Routed to Pond 8P : Comb. 5,6,7,8,9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.530	74	>75% Grass cover, Good, HSG C
2.310	80	>75% Grass cover, Good, HSG D
2.840	79	Weighted Average
2.840		100.00% Pervious Area

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

Subcatchment 9S: Area 9



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 10AS: Area 10A

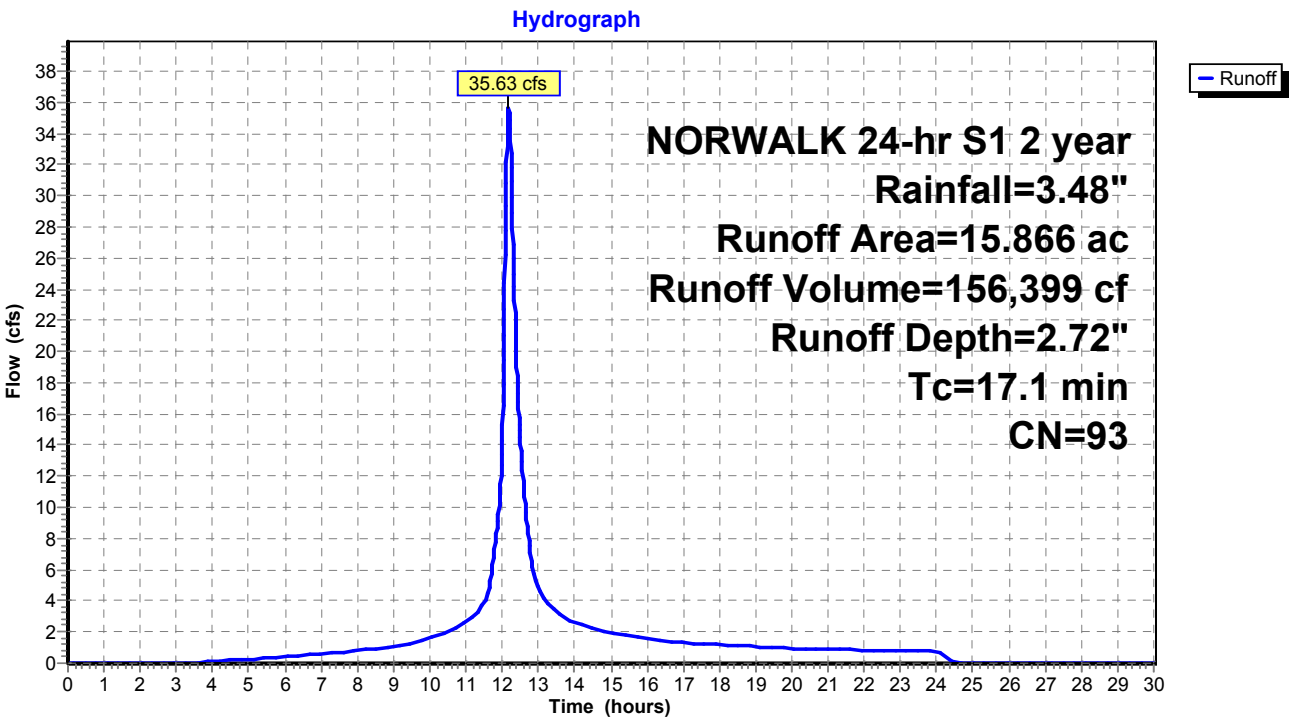
Runoff = 35.63 cfs @ 12.18 hrs, Volume= 156,399 cf, Depth= 2.72"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
3.905	79	50-75% Grass cover, Fair, HSG C
11.961	98	Paved roads w/curbs & sewers, HSG C
15.866	93	Weighted Average
3.905		24.61% Pervious Area
11.961		75.39% Impervious Area

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

Subcatchment 10AS: Area 10A



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 10BS: Area 10B

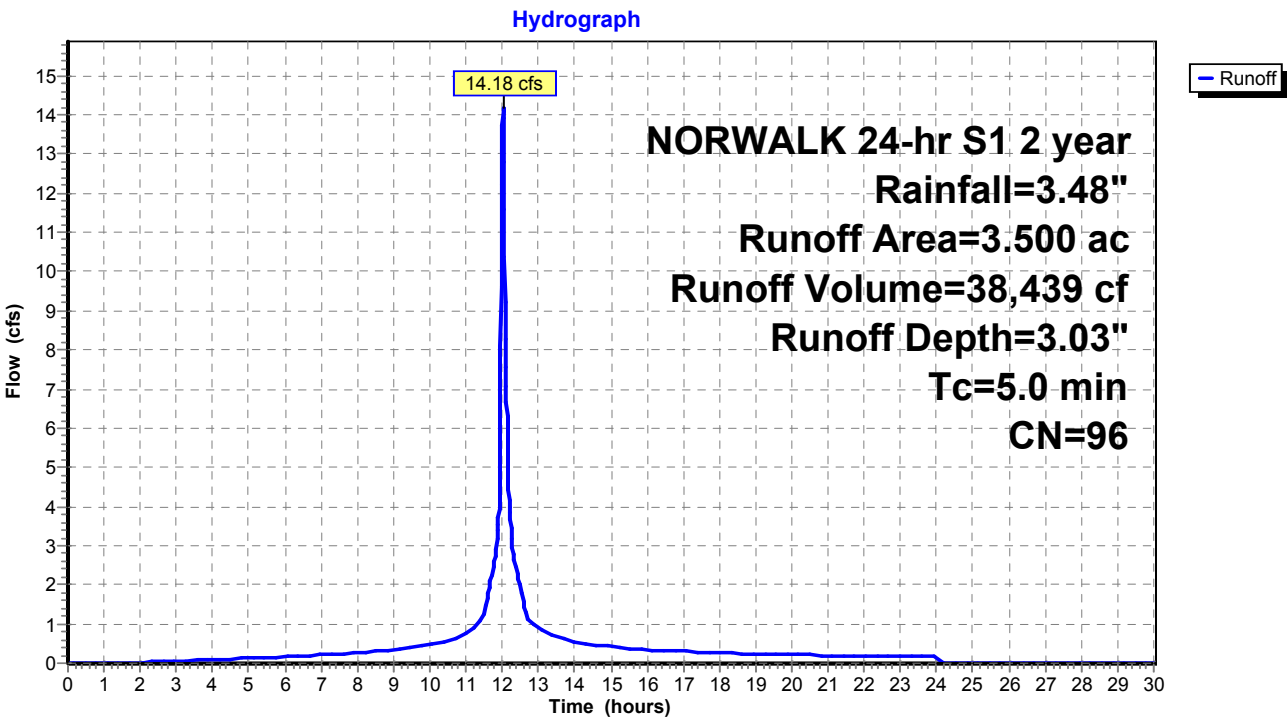
Runoff = 14.18 cfs @ 12.03 hrs, Volume= 38,439 cf, Depth= 3.03"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
3.308	98	Paved parking & roofs
0.192	61	>75% Grass cover, Good, HSG B
3.500	96	Weighted Average
0.192		5.49% Pervious Area
3.308		94.51% Impervious Area

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

Subcatchment 10BS: Area 10B



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 10CS: Area 10C

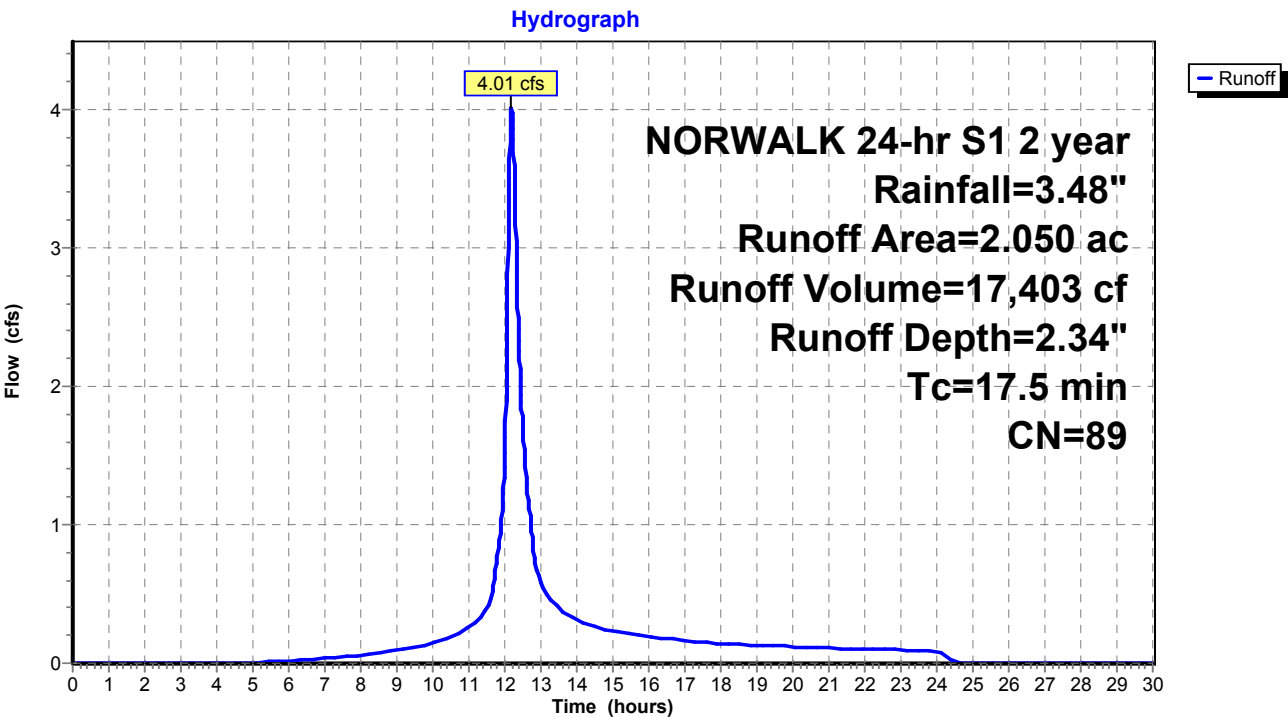
Runoff = 4.01 cfs @ 12.19 hrs, Volume= 17,403 cf, Depth= 2.34"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
1.526	98	Paved parking & roofs
0.524	61	>75% Grass cover, Good, HSG B
2.050	89	Weighted Average
0.524		25.56% Pervious Area
1.526		74.44% Impervious Area

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

Subcatchment 10CS: Area 10C



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 10DS: Area 10D

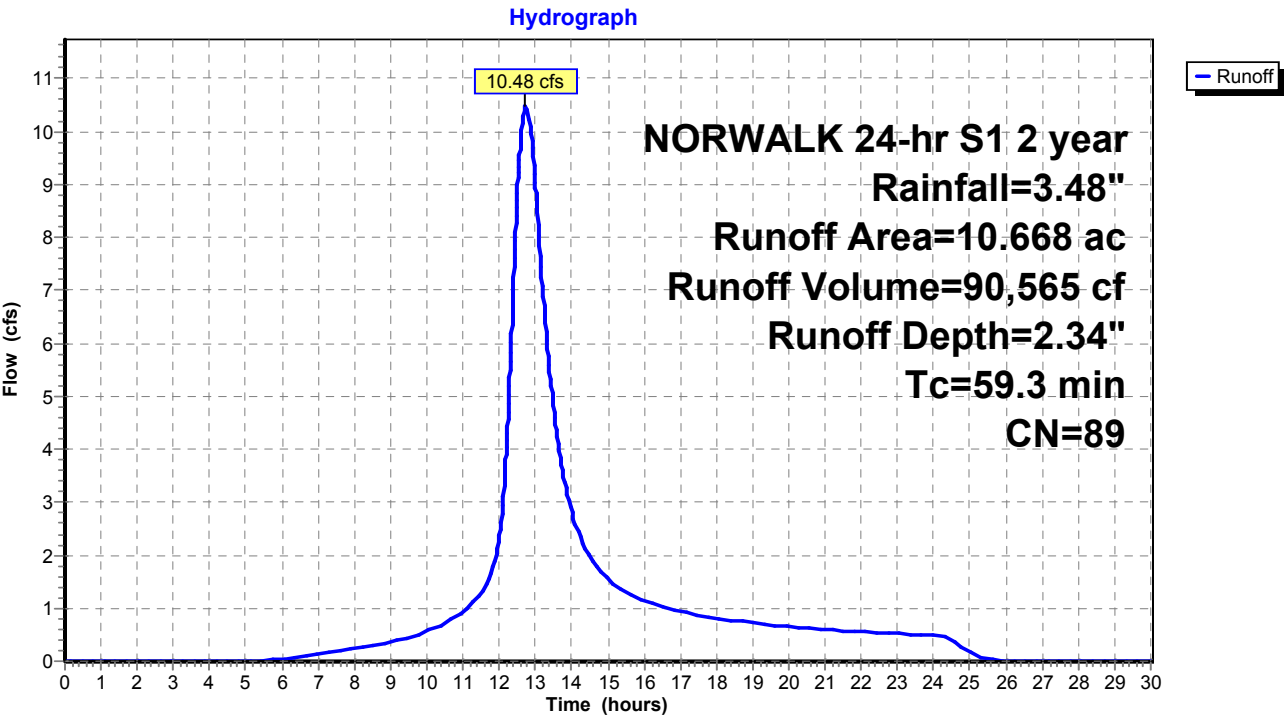
Runoff = 10.48 cfs @ 12.72 hrs, Volume= 90,565 cf, Depth= 2.34"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
5.033	79	50-75% Grass cover, Fair, HSG C
5.635	98	Paved parking, HSG C
10.668	89	Weighted Average
5.033		47.18% Pervious Area
5.635		52.82% Impervious Area

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

Subcatchment 10DS: Area 10D



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 10ES: Area 10E

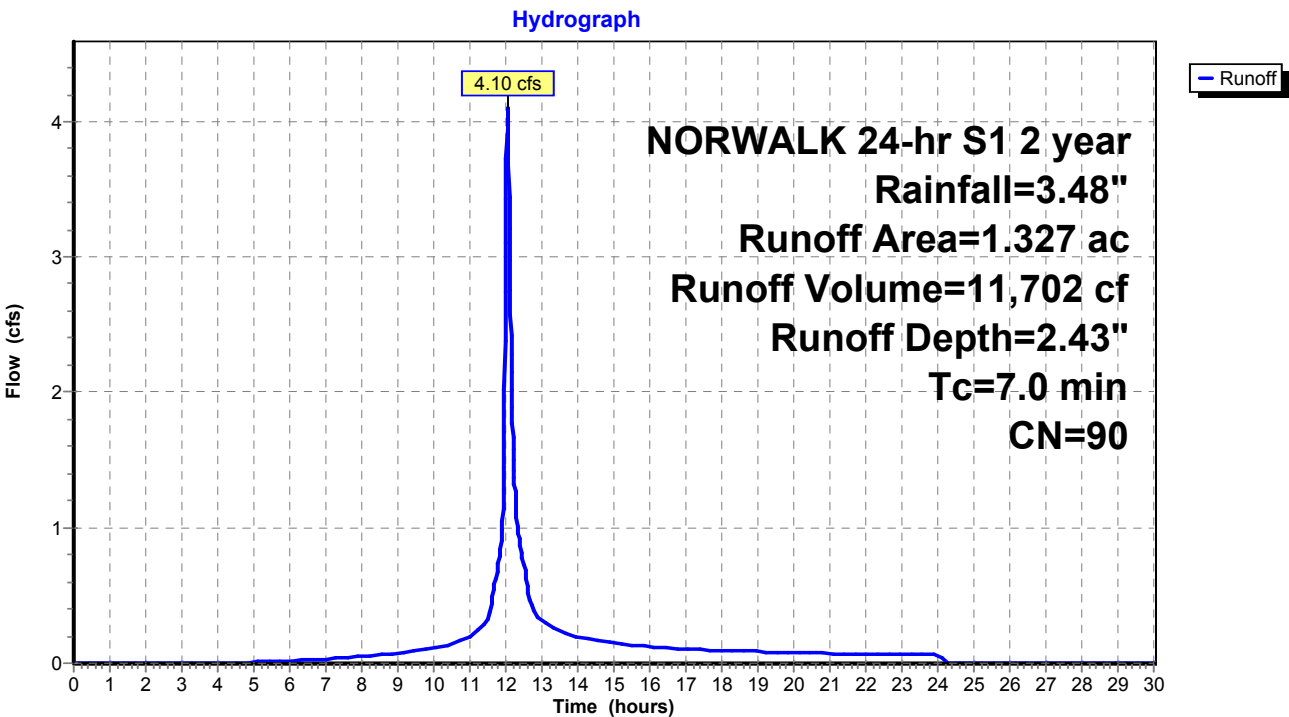
Runoff = 4.10 cfs @ 12.05 hrs, Volume= 11,702 cf, Depth= 2.43"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.798	98	Paved parking, HSG C
0.529	79	50-75% Grass cover, Fair, HSG C
1.327	90	Weighted Average
0.529		39.86% Pervious Area
0.798		60.14% Impervious Area

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

Subcatchment 10ES: Area 10E



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 10FS: Area 10F

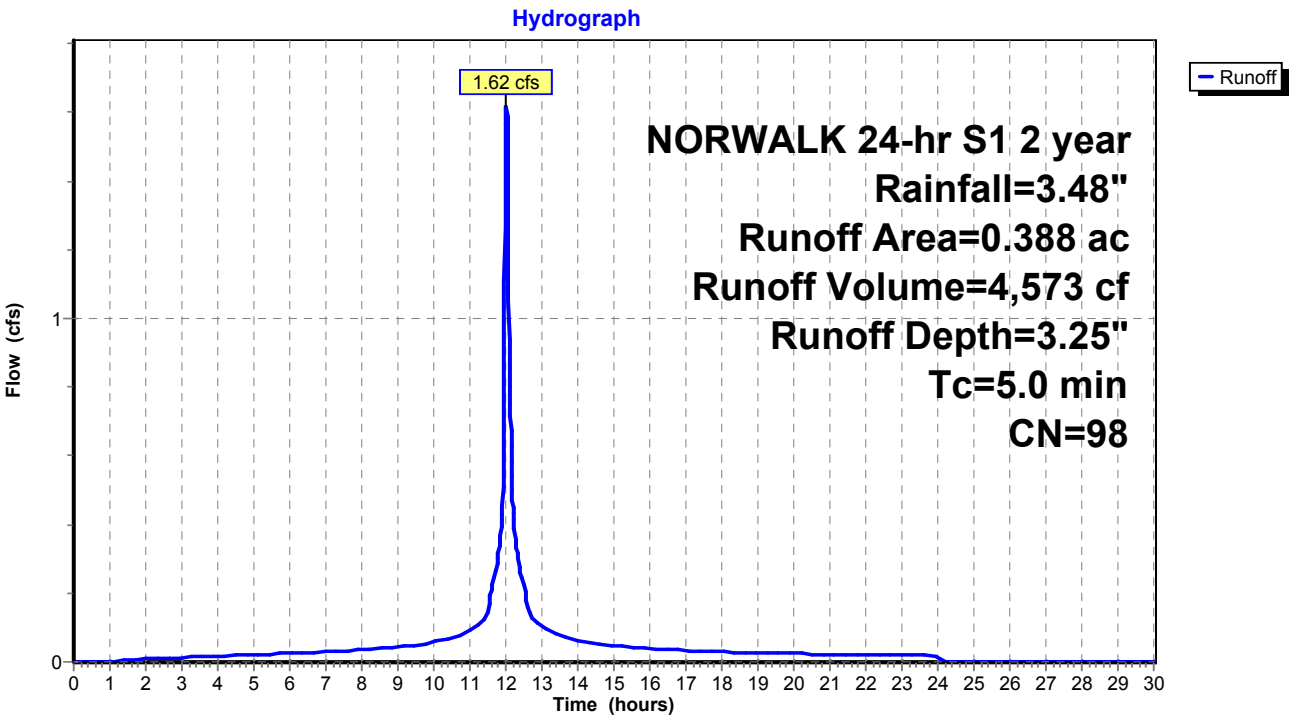
Runoff = 1.62 cfs @ 12.03 hrs, Volume= 4,573 cf, Depth= 3.25"
Routed to Pond P : ADS Stormtech

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.388	98	Paved roads w/curbs & sewers, HSG C
0.388		100.00% Impervious Area

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

Subcatchment 10FS: Area 10F



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 11S: Area 11

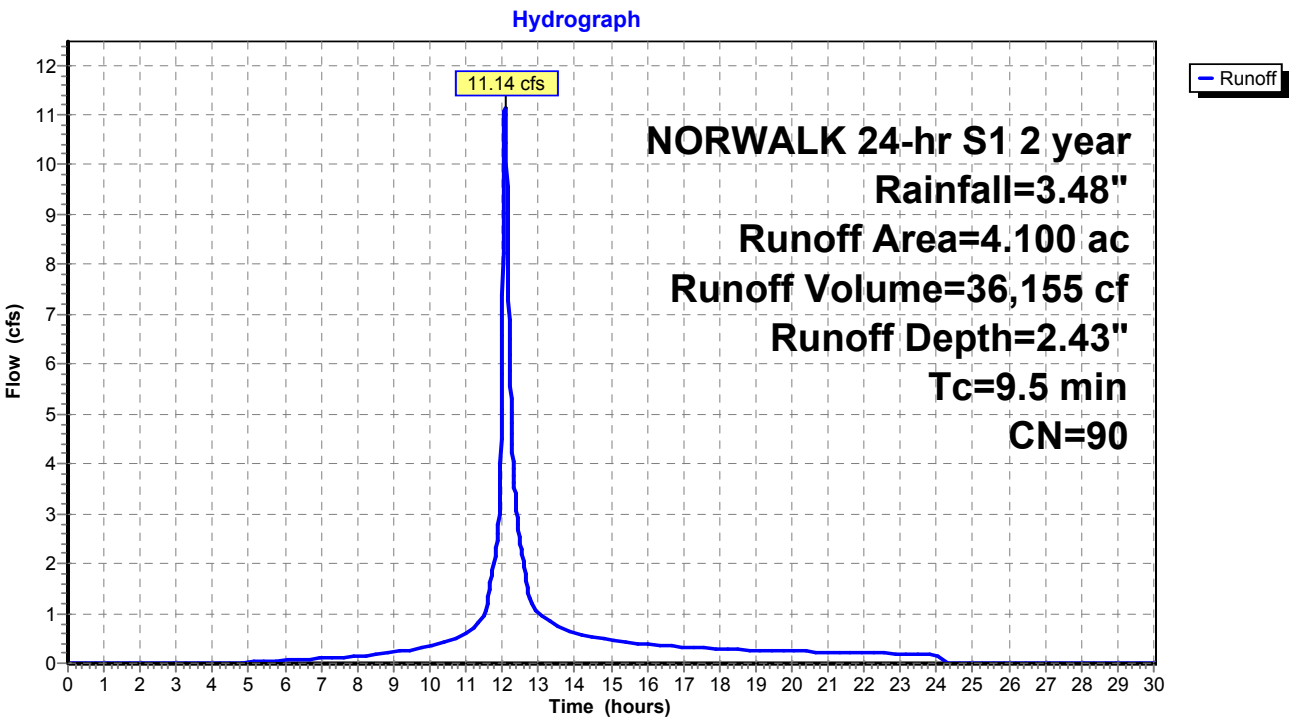
Runoff = 11.14 cfs @ 12.08 hrs, Volume= 36,155 cf, Depth= 2.43"
Routed to Pond 17P : DET 12 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
1.450	74	>75% Grass cover, Good, HSG C
2.650	98	Paved parking & roofs
4.100	90	Weighted Average
1.450		35.37% Pervious Area
2.650		64.63% Impervious Area

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

Subcatchment 11S: Area 11



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 12S: Area 12

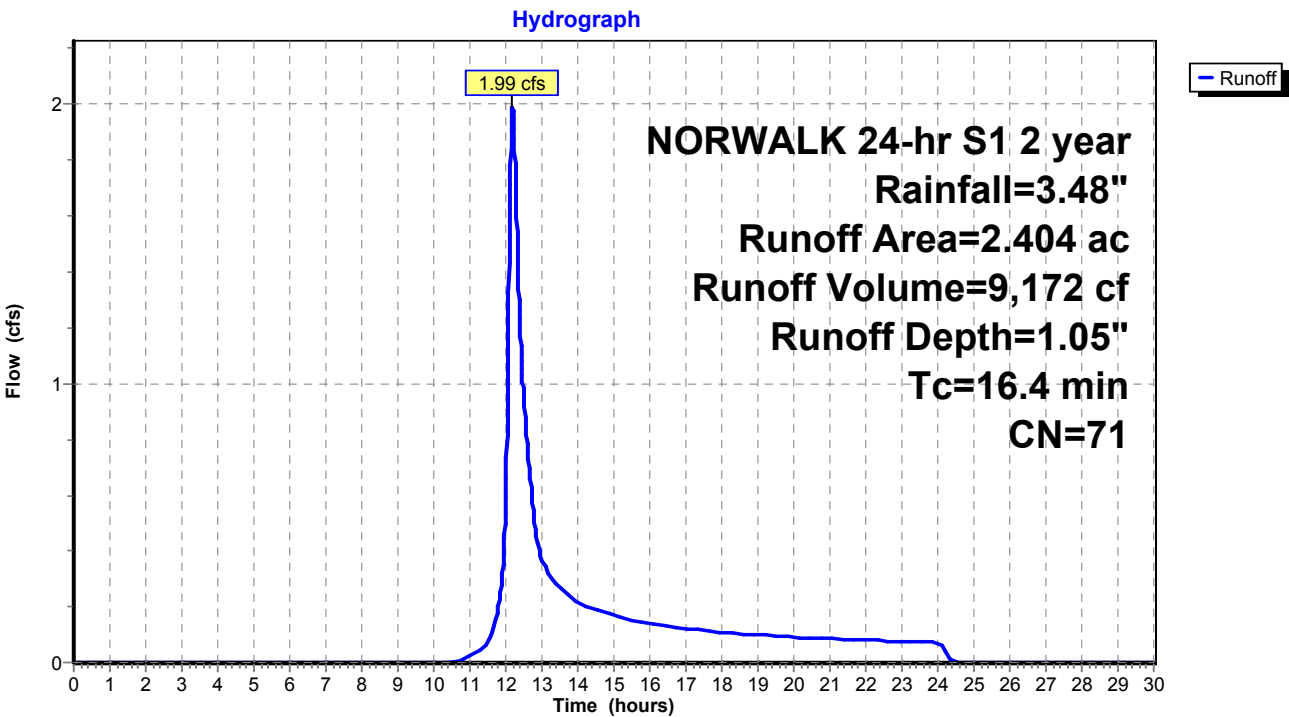
Runoff = 1.99 cfs @ 12.19 hrs, Volume= 9,172 cf, Depth= 1.05"
Routed to Pond 17P : DET 12 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
2.054	70	Woods, Good, HSG C
0.350	77	Woods, Good, HSG D
2.404	71	Weighted Average
2.404		100.00% Pervious Area

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

Subcatchment 12S: Area 12



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 13S: Area 13

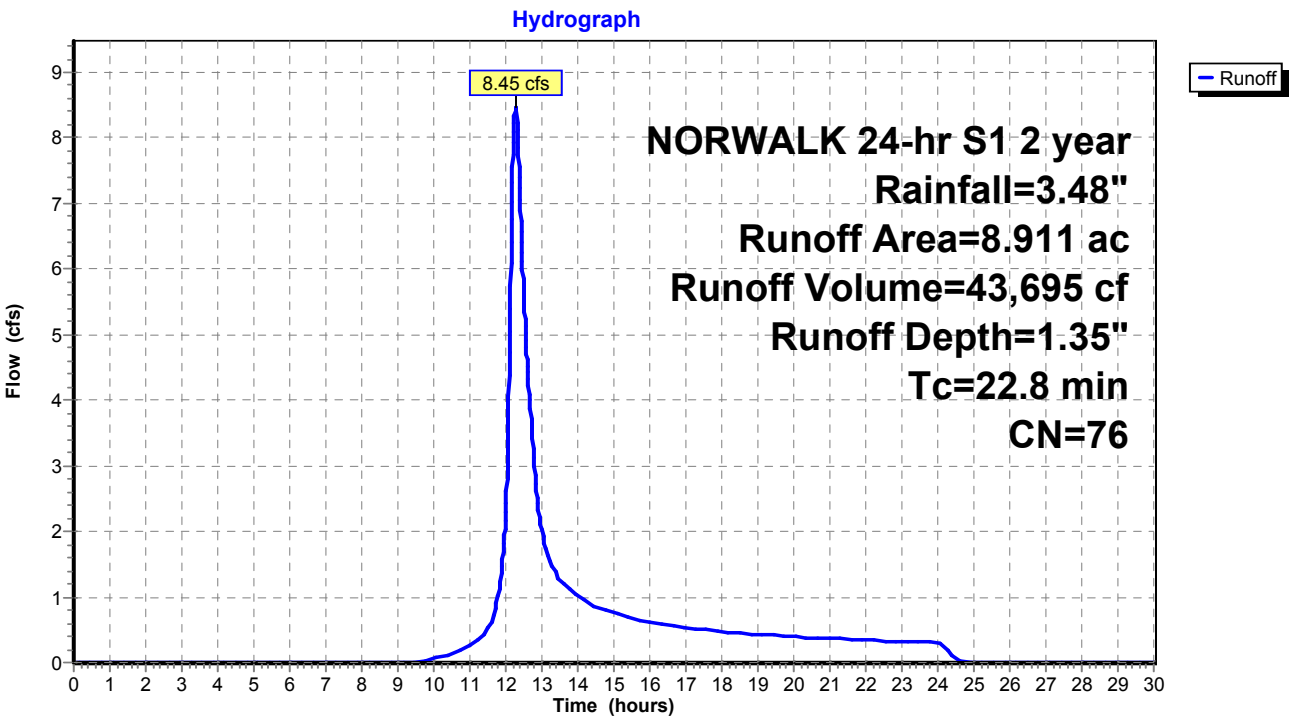
Runoff = 8.45 cfs @ 12.28 hrs, Volume= 43,695 cf, Depth= 1.35"
Routed to Pond 1P : RR Culvert 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
1.220	70	Woods, Good, HSG C
7.691	77	Woods, Good, HSG D
8.911	76	Weighted Average
8.911		100.00% Pervious Area

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

Subcatchment 13S: Area 13



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 14S: Area 14

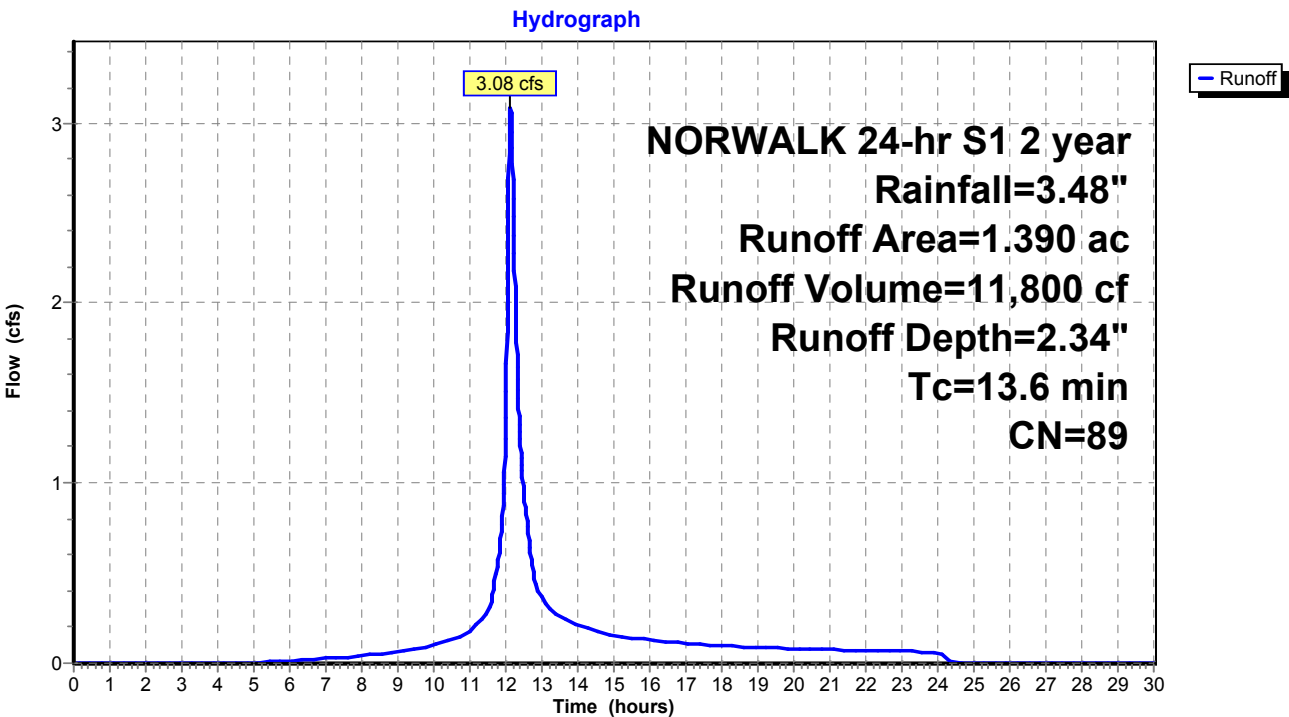
Runoff = 3.08 cfs @ 12.13 hrs, Volume= 11,800 cf, Depth= 2.34"
Routed to Pond 26P : DET 16 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.510	74	>75% Grass cover, Good, HSG C
0.880	98	Paved parking & roofs
1.390	89	Weighted Average
0.510		36.69% Pervious Area
0.880		63.31% Impervious Area

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

Subcatchment 14S: Area 14



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 15S: Area 15

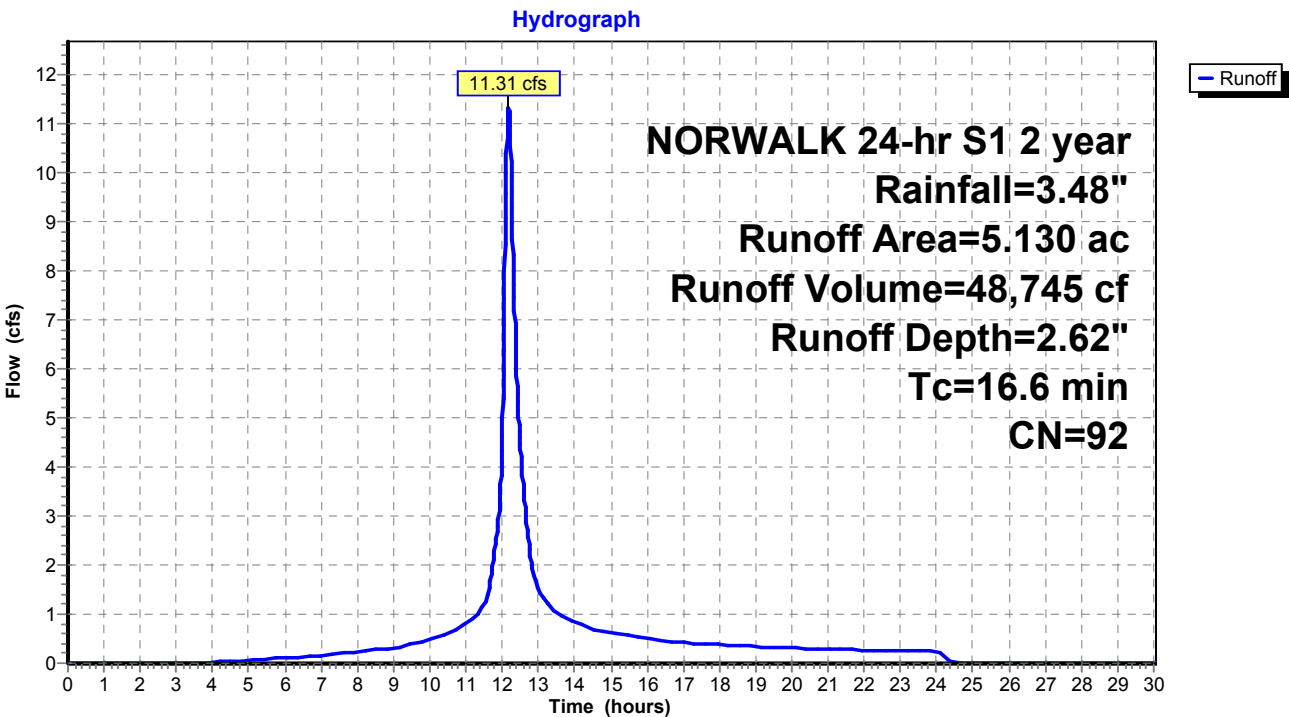
Runoff = 11.31 cfs @ 12.17 hrs, Volume= 48,745 cf, Depth= 2.62"
Routed to Pond 27P : DET 17 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
1.250	74	>75% Grass cover, Good, HSG C
3.880	98	Paved parking & roofs
5.130	92	Weighted Average
1.250		24.37% Pervious Area
3.880		75.63% Impervious Area

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

Subcatchment 15S: Area 15



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 16S: Area 16A

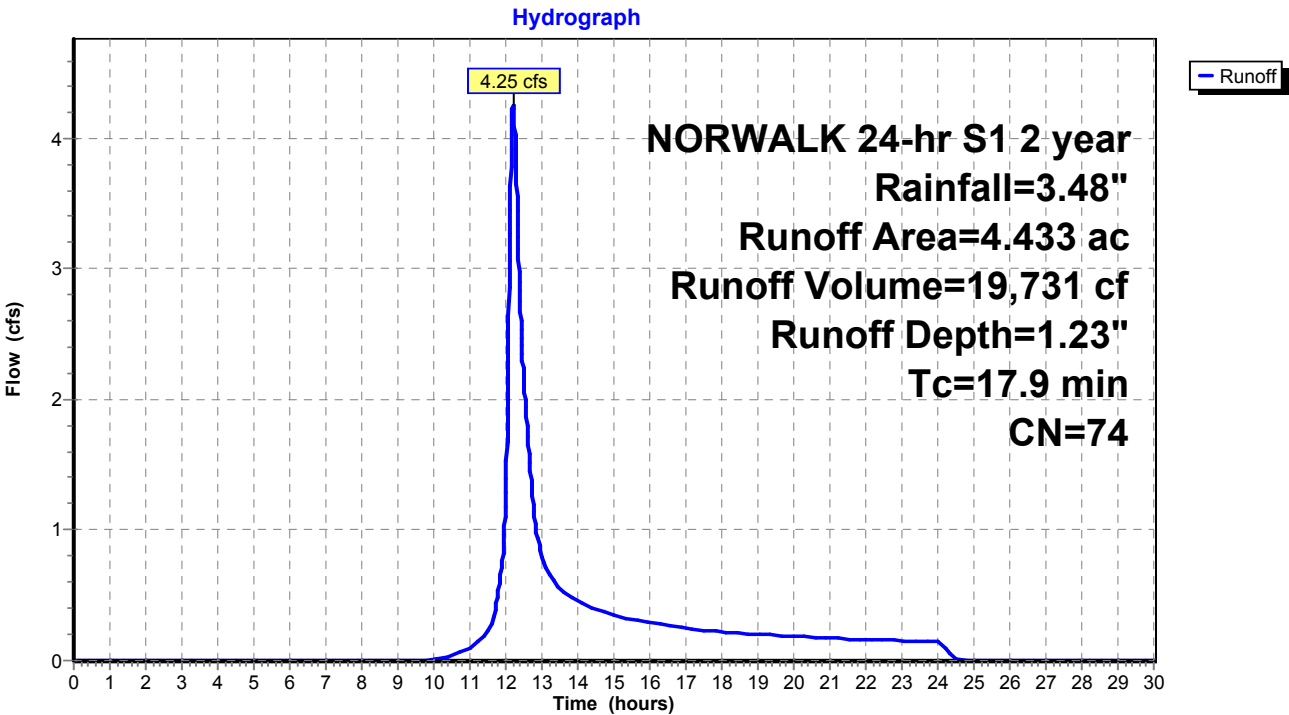
Runoff = 4.25 cfs @ 12.21 hrs, Volume= 19,731 cf, Depth= 1.23"
Routed to Pond 26P : DET 16 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
2.030	70	Woods, Good, HSG C
2.060	77	Woods, Good, HSG D
0.150	89	Gravel roads, HSG C
0.193	74	>75% Grass cover, Good, HSG C
4.433	74	Weighted Average
4.433		100.00% Pervious Area

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

Subcatchment 16S: Area 16A



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 17S: Area 17

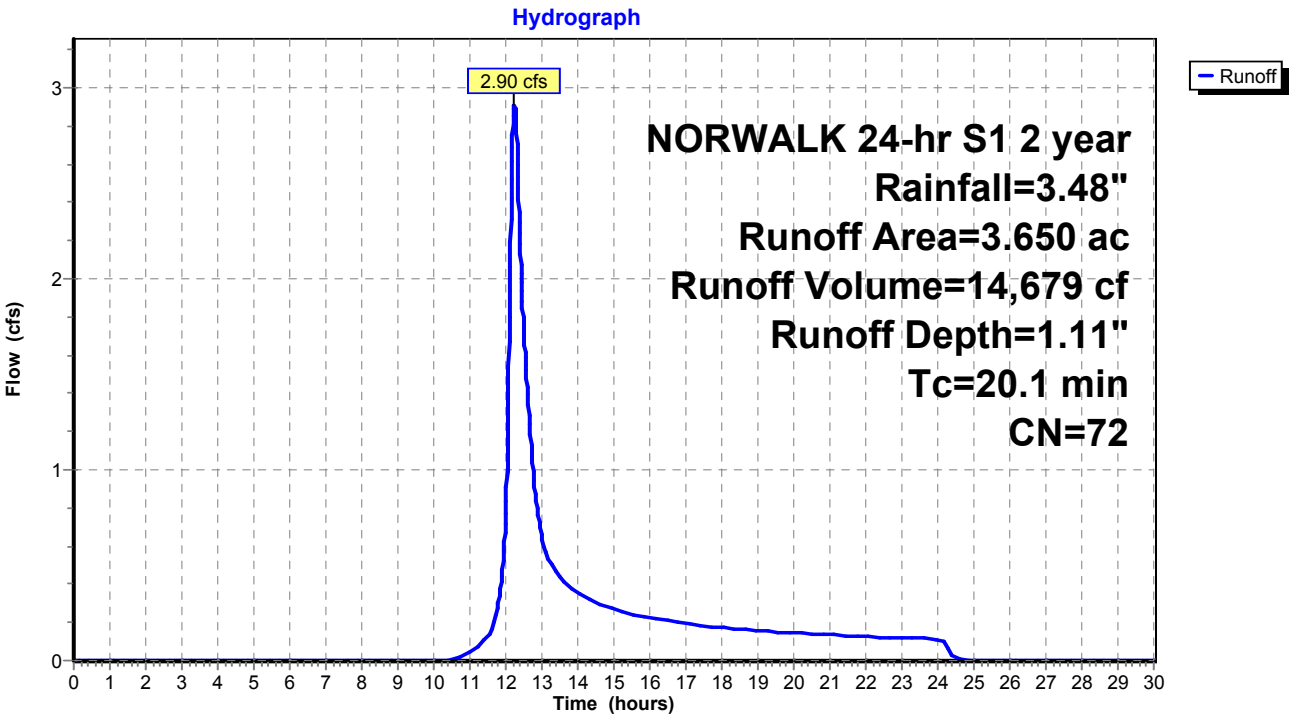
Runoff = 2.90 cfs @ 12.24 hrs, Volume= 14,679 cf, Depth= 1.11"
Routed to Pond 27P : DET 17 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
2.630	70	Woods, Good, HSG C
0.960	77	Woods, Good, HSG D
0.060	98	Paved parking & roofs
3.650	72	Weighted Average
3.590		98.36% Pervious Area
0.060		1.64% Impervious Area

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

Subcatchment 17S: Area 17



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 20S: Area 20

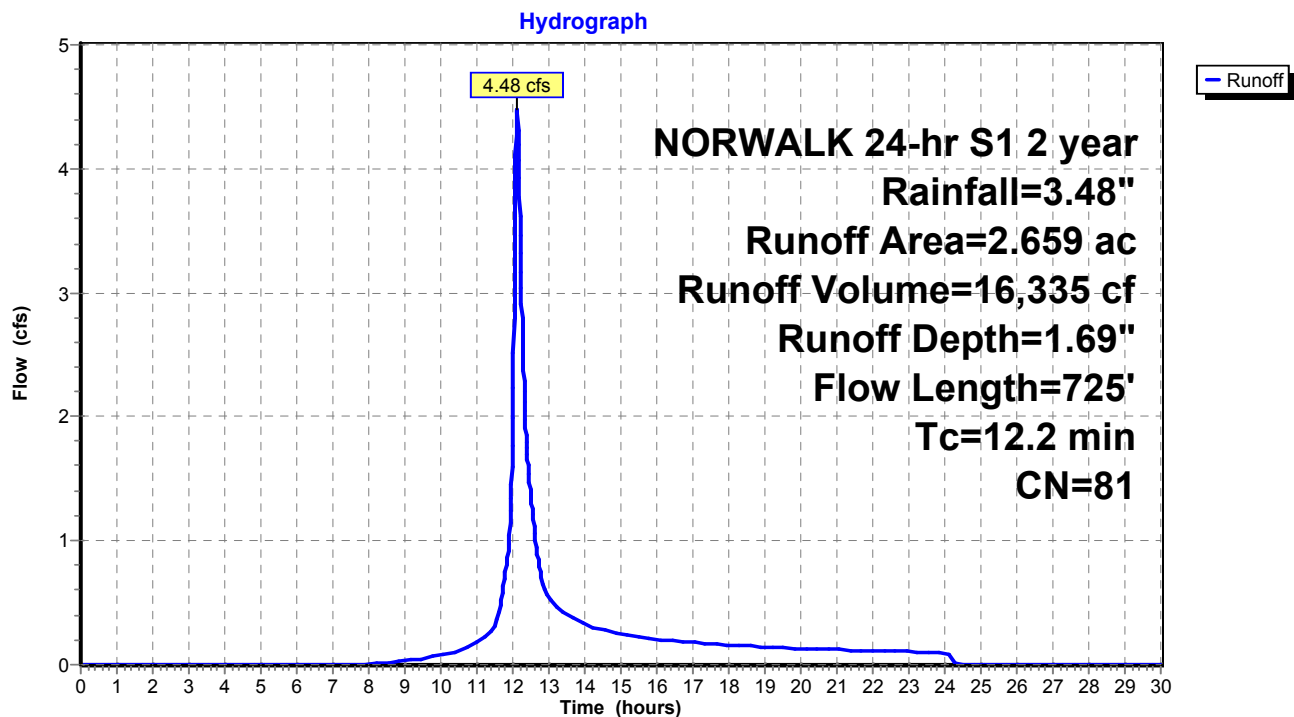
Runoff = 4.48 cfs @ 12.12 hrs, Volume= 16,335 cf, Depth= 1.69"
Routed to Pond 16P : MH-Q

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
1.030	98	Paved parking & roofs
1.629	70	Woods, Good, HSG C
2.659	81	Weighted Average
1.629		61.26% Pervious Area
1.030		38.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	125	0.2400	0.19		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.40"
1.2	600	0.0200	8.41	14.86	Pipe Channel, 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
12.2	725	Total			

Subcatchment 20S: Area 20



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 21S: Area 21

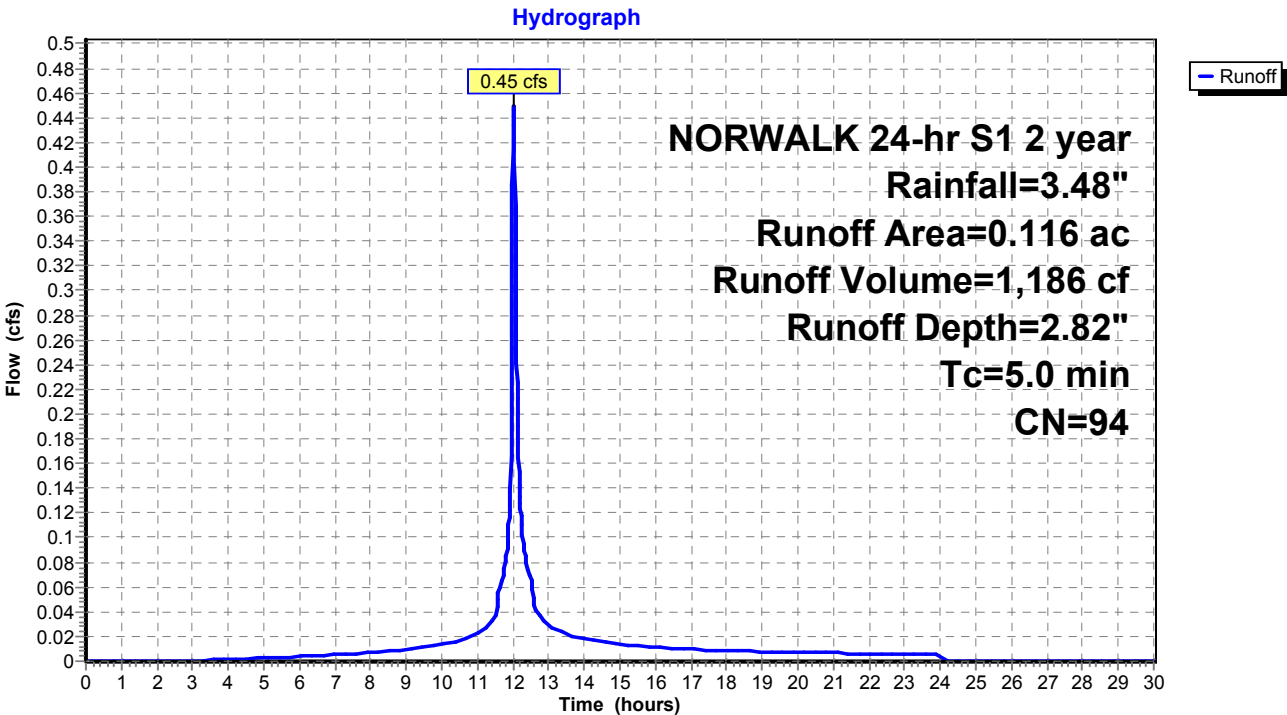
Runoff = 0.45 cfs @ 12.03 hrs, Volume= 1,186 cf, Depth= 2.82"
Routed to Pond 15P : MH-P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.020	74	>75% Grass cover, Good, HSG C
0.096	98	Paved parking & roofs
0.116	94	Weighted Average
0.020		17.24% Pervious Area
0.096		82.76% Impervious Area

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

Subcatchment 21S: Area 21



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 22S: Area 22

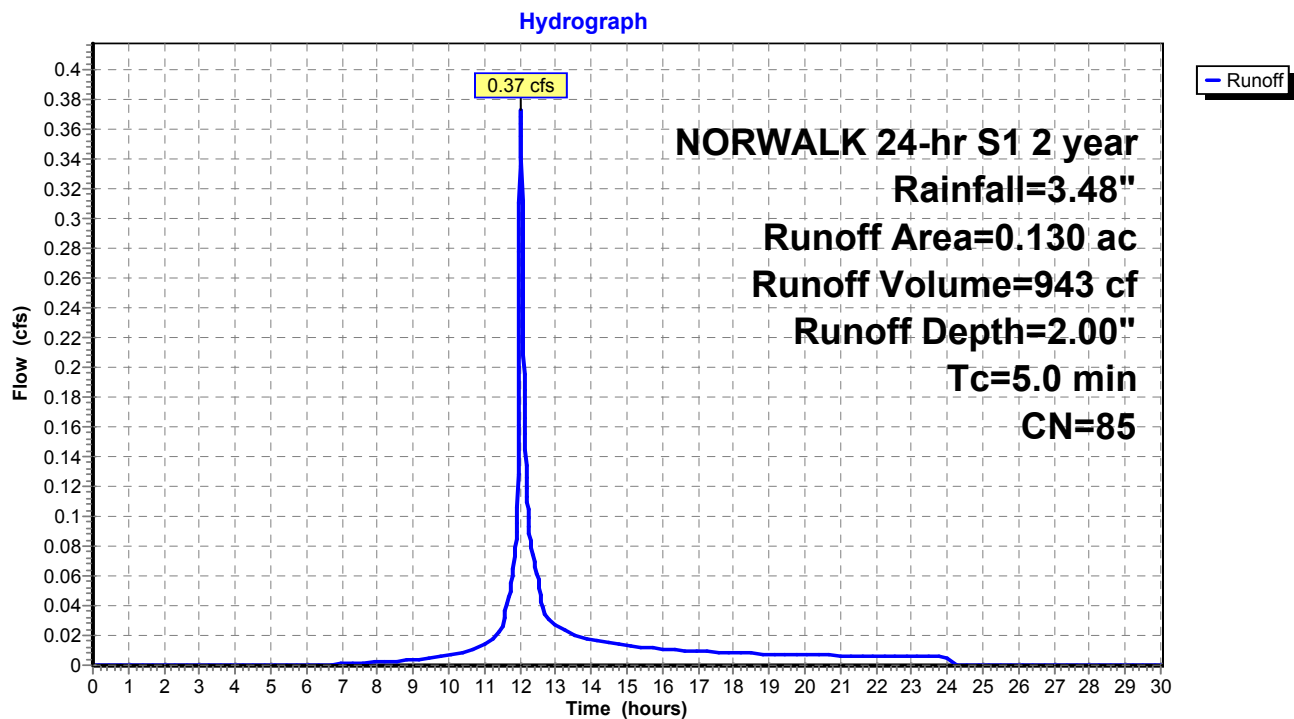
Runoff = 0.37 cfs @ 12.03 hrs, Volume= 943 cf, Depth= 2.00"
Routed to Pond 15P : MH-P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.068	74	>75% Grass cover, Good, HSG C
0.062	98	Paved parking & roofs
0.130	85	Weighted Average
0.068		52.31% Pervious Area
0.062		47.69% Impervious Area

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

Subcatchment 22S: Area 22



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 23S: Area 23

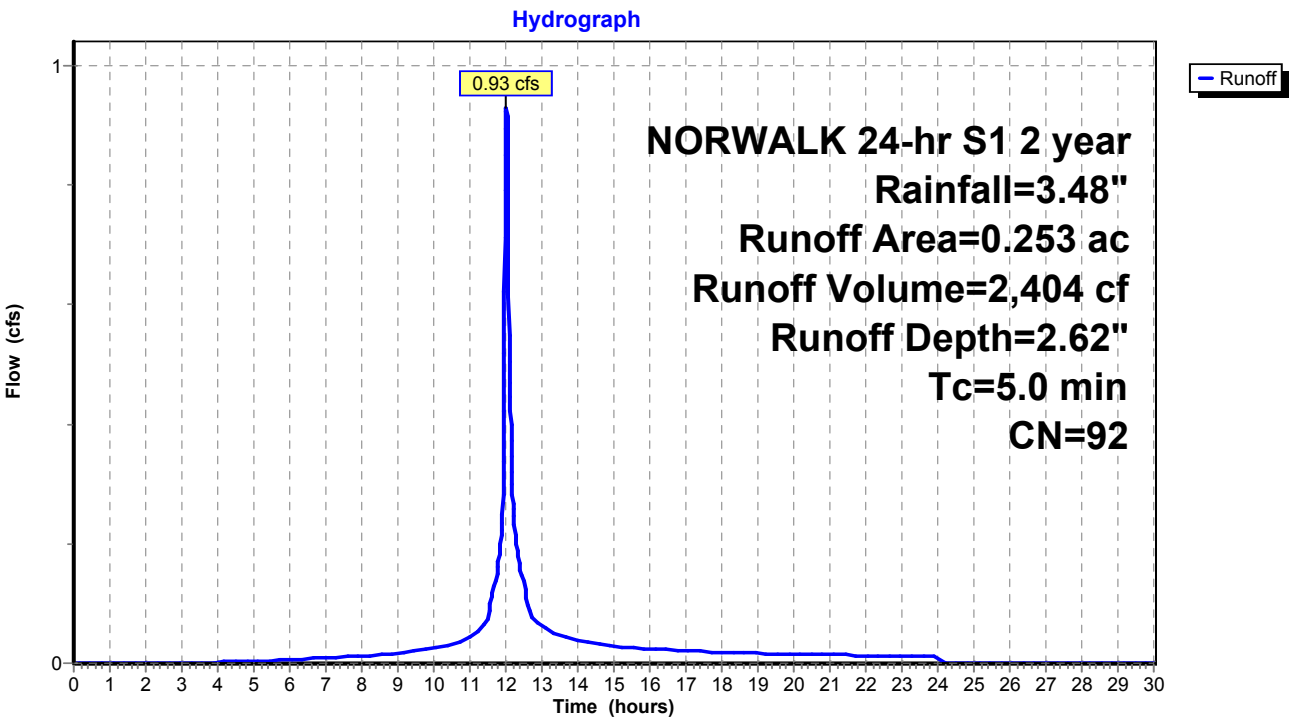
Runoff = 0.93 cfs @ 12.03 hrs, Volume= 2,404 cf, Depth= 2.62"
Routed to Pond 14P : MH-O

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.188	98	Paved parking & roofs
0.065	74	>75% Grass cover, Good, HSG C
0.253	92	Weighted Average
0.065		25.69% Pervious Area
0.188		74.31% Impervious Area

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

Subcatchment 23S: Area 23



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 24S: Area 24

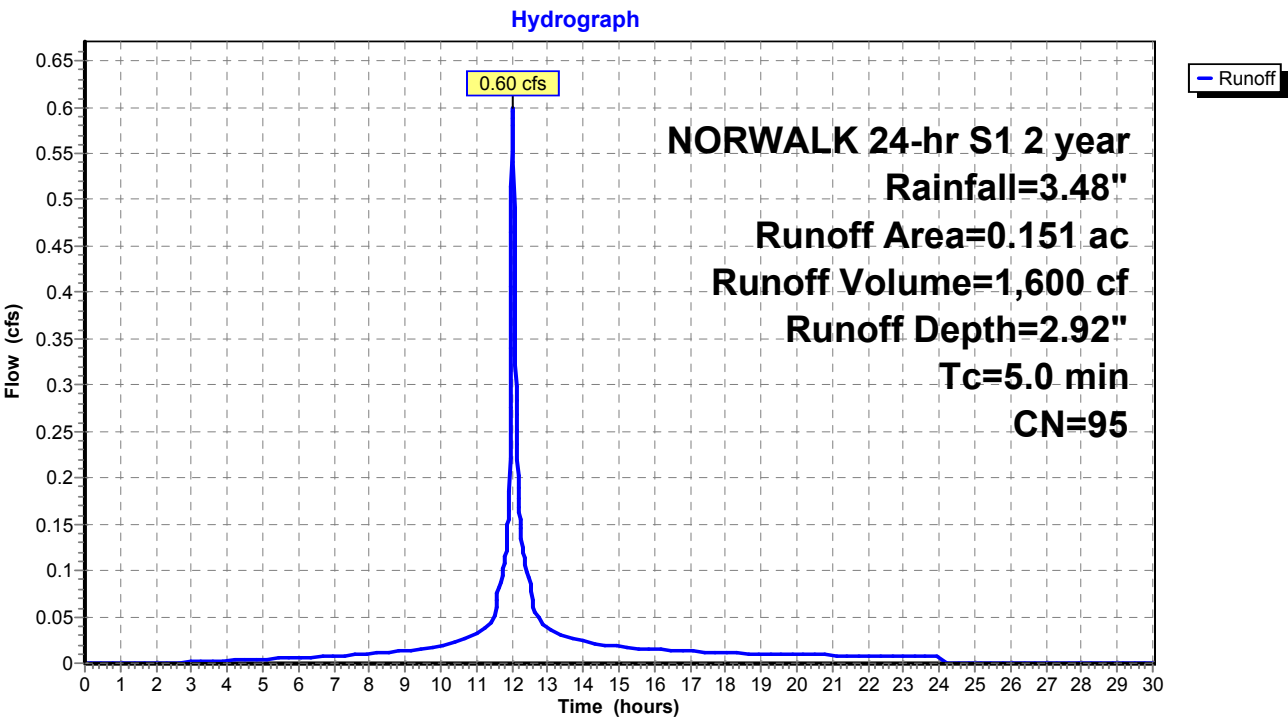
Runoff = 0.60 cfs @ 12.03 hrs, Volume= 1,600 cf, Depth= 2.92"
Routed to Pond 14P : MH-O

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.125	98	Paved parking & roofs
0.026	80	>75% Grass cover, Good, HSG D
0.151	95	Weighted Average
0.026		17.22% Pervious Area
0.125		82.78% Impervious Area

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

Subcatchment 24S: Area 24



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 25S: Area 25

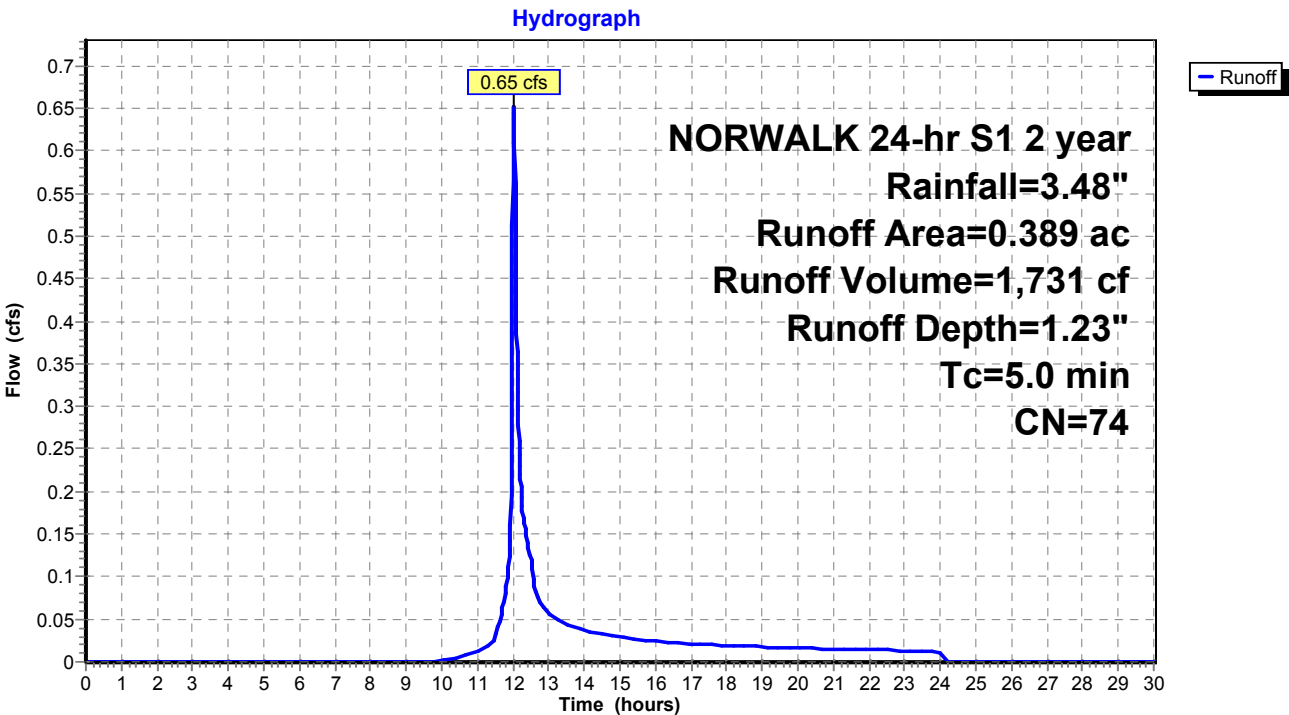
Runoff = 0.65 cfs @ 12.03 hrs, Volume= 1,731 cf, Depth= 1.23"
Routed to Pond 3P : DETENTION BASIN #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.389	74	>75% Grass cover, Good, HSG C
0.389		100.00% Pervious Area

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

Subcatchment 25S: Area 25



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 26S: Area 26

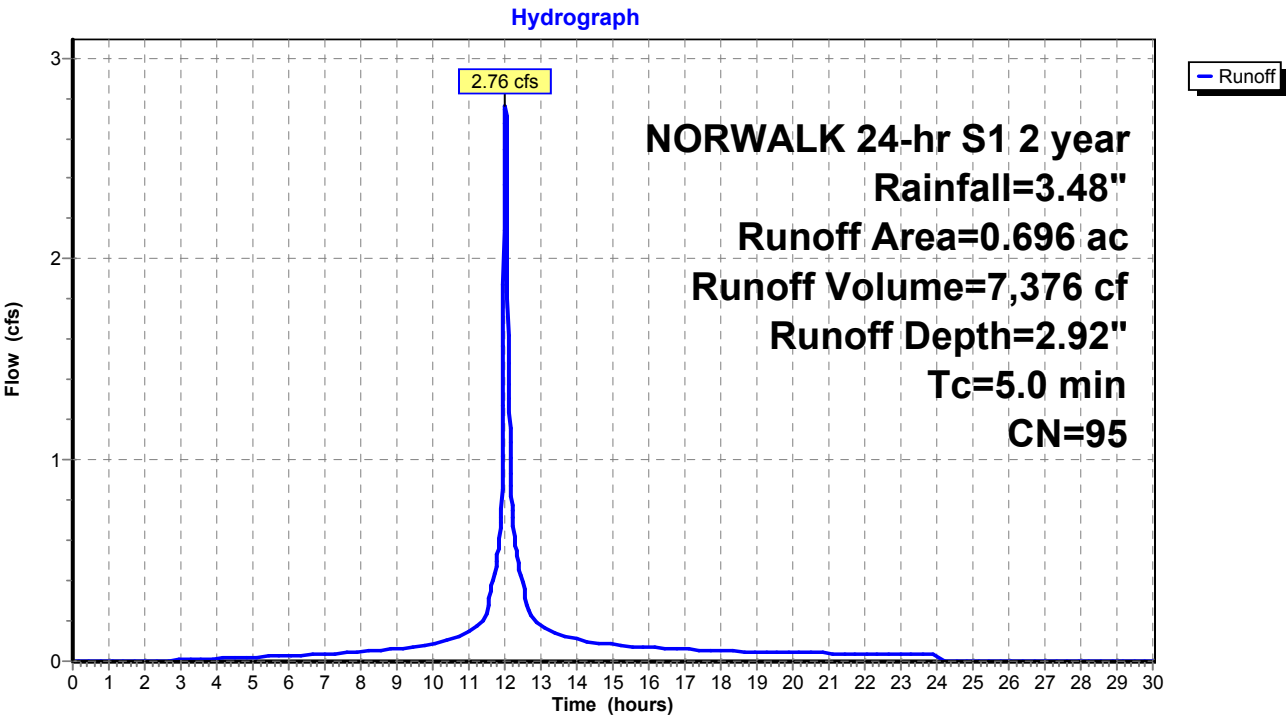
Runoff = 2.76 cfs @ 12.03 hrs, Volume= 7,376 cf, Depth= 2.92"
Routed to Pond 9P : MH-K

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.612	98	Paved parking & roofs
0.084	74	>75% Grass cover, Good, HSG C
0.696	95	Weighted Average
0.084		12.07% Pervious Area
0.612		87.93% Impervious Area

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

Subcatchment 26S: Area 26



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 27S: Area 27

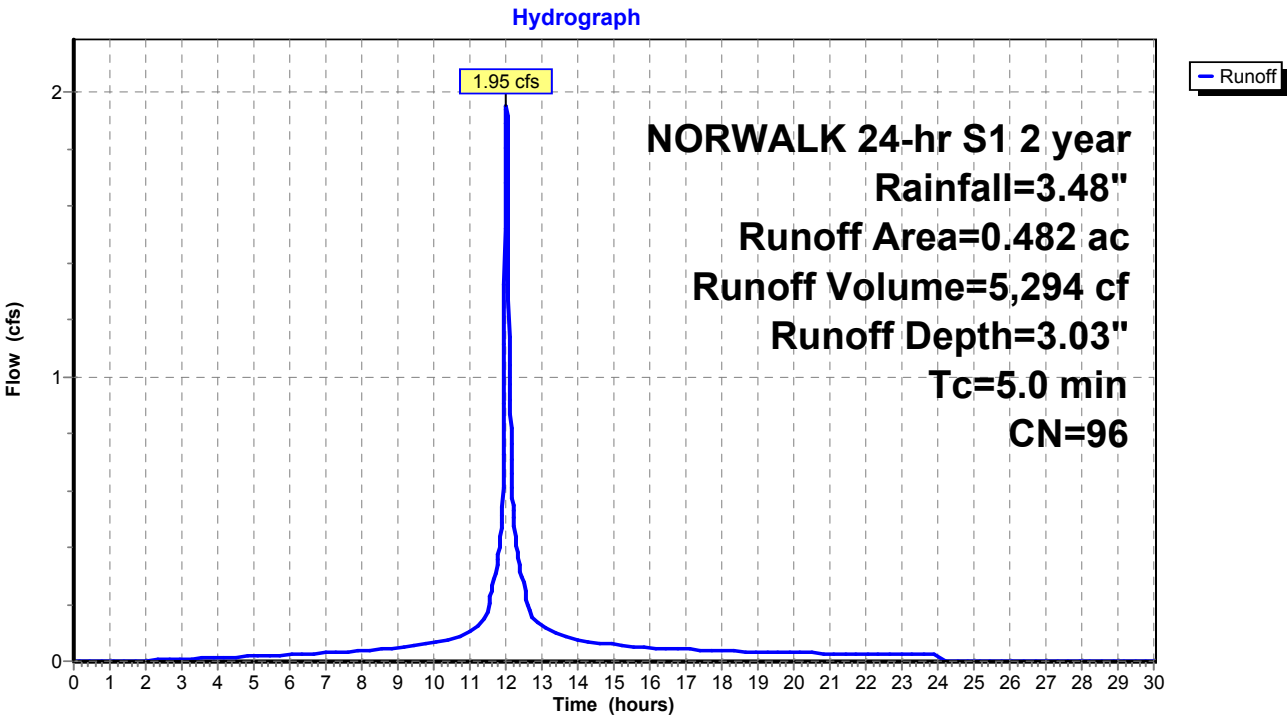
Runoff = 1.95 cfs @ 12.03 hrs, Volume= 5,294 cf, Depth= 3.03"
Routed to Pond 11P : Pipe Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.436	98	Paved parking & roofs
0.046	74	>75% Grass cover, Good, HSG C
0.482	96	Weighted Average
0.046		9.54% Pervious Area
0.436		90.46% Impervious Area

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

Subcatchment 27S: Area 27



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 28S: Area 28

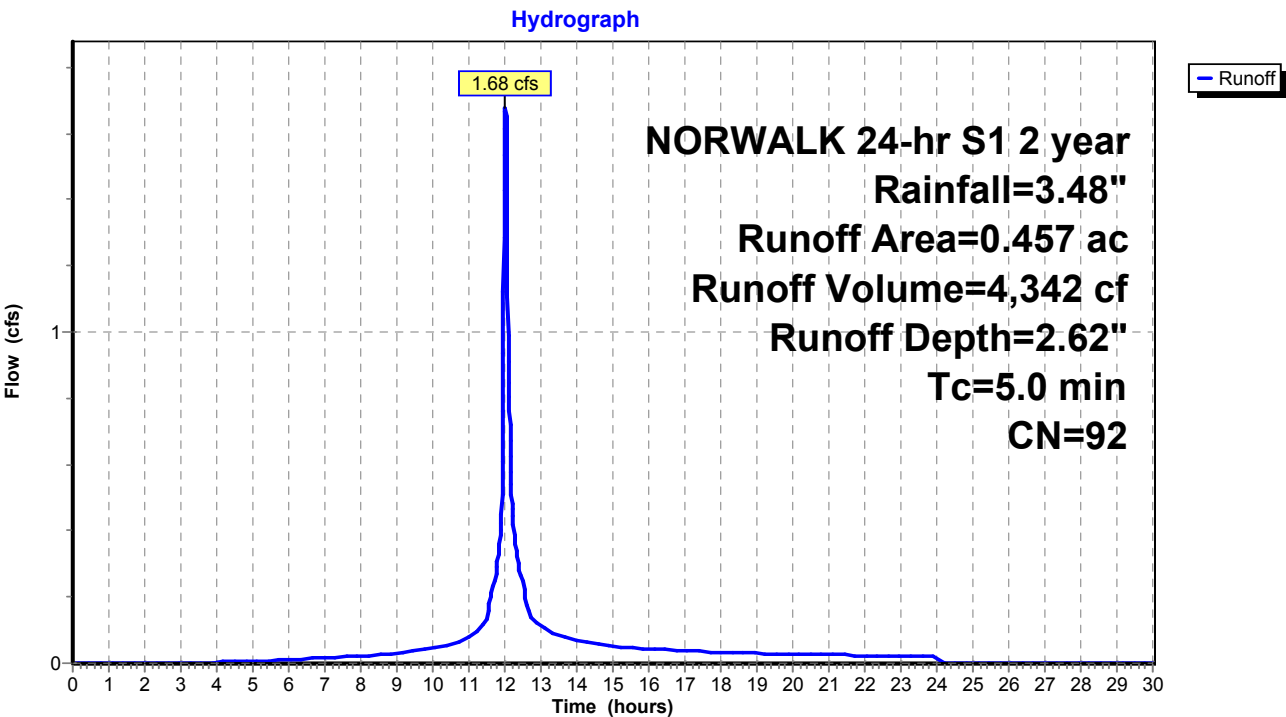
Runoff = 1.68 cfs @ 12.03 hrs, Volume= 4,342 cf, Depth= 2.62"
Routed to Pond 11P : Pipe Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.342	98	Paved parking & roofs
0.115	74	>75% Grass cover, Good, HSG C
0.457	92	Weighted Average
0.115		25.16% Pervious Area
0.342		74.84% Impervious Area

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

Subcatchment 28S: Area 28



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 29S: Area 29

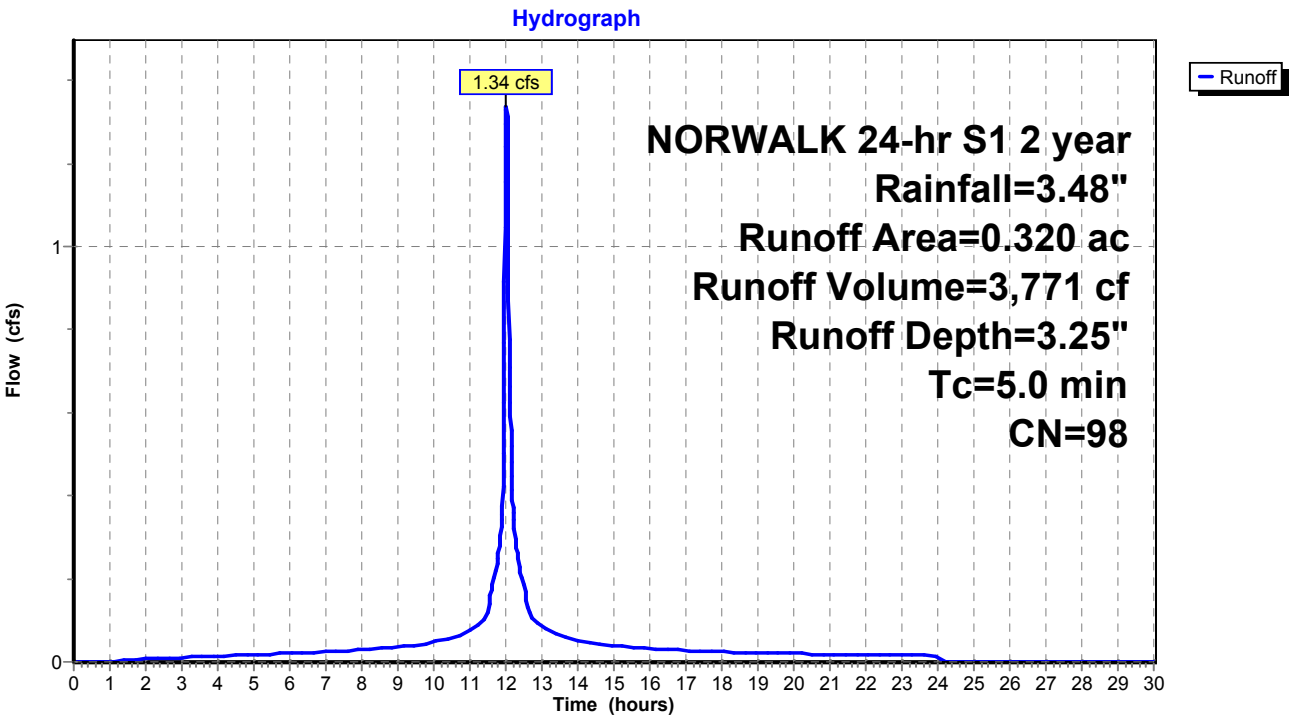
Runoff = 1.34 cfs @ 12.03 hrs, Volume= 3,771 cf, Depth= 3.25"
Routed to Pond 12P : MH-M

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.320	98	Paved parking & roofs
0.320		100.00% Impervious Area

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

Subcatchment 29S: Area 29



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 30S: Area 30

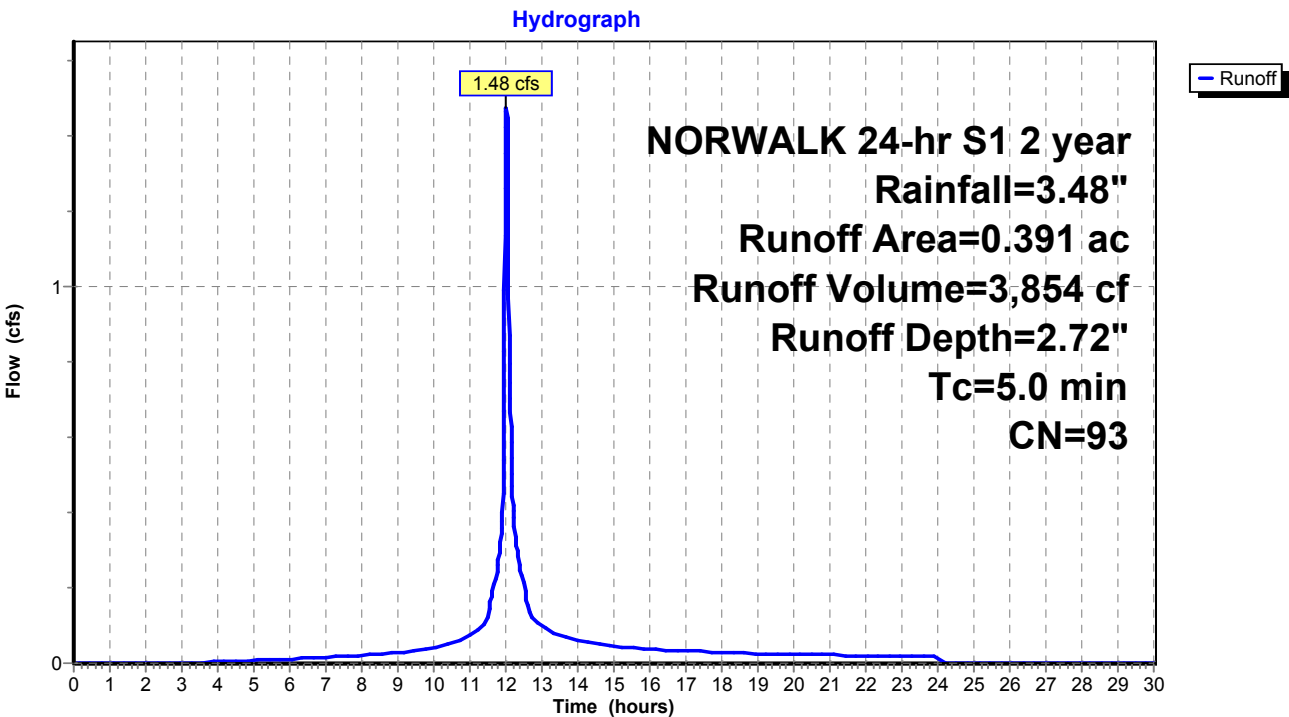
Runoff = 1.48 cfs @ 12.03 hrs, Volume= 3,854 cf, Depth= 2.72"
Routed to Pond 13P : MH-J

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.309	98	Paved parking & roofs
0.082	74	>75% Grass cover, Good, HSG C
0.391	93	Weighted Average
0.082		20.97% Pervious Area
0.309		79.03% Impervious Area

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

Subcatchment 30S: Area 30



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 52S: Area 1

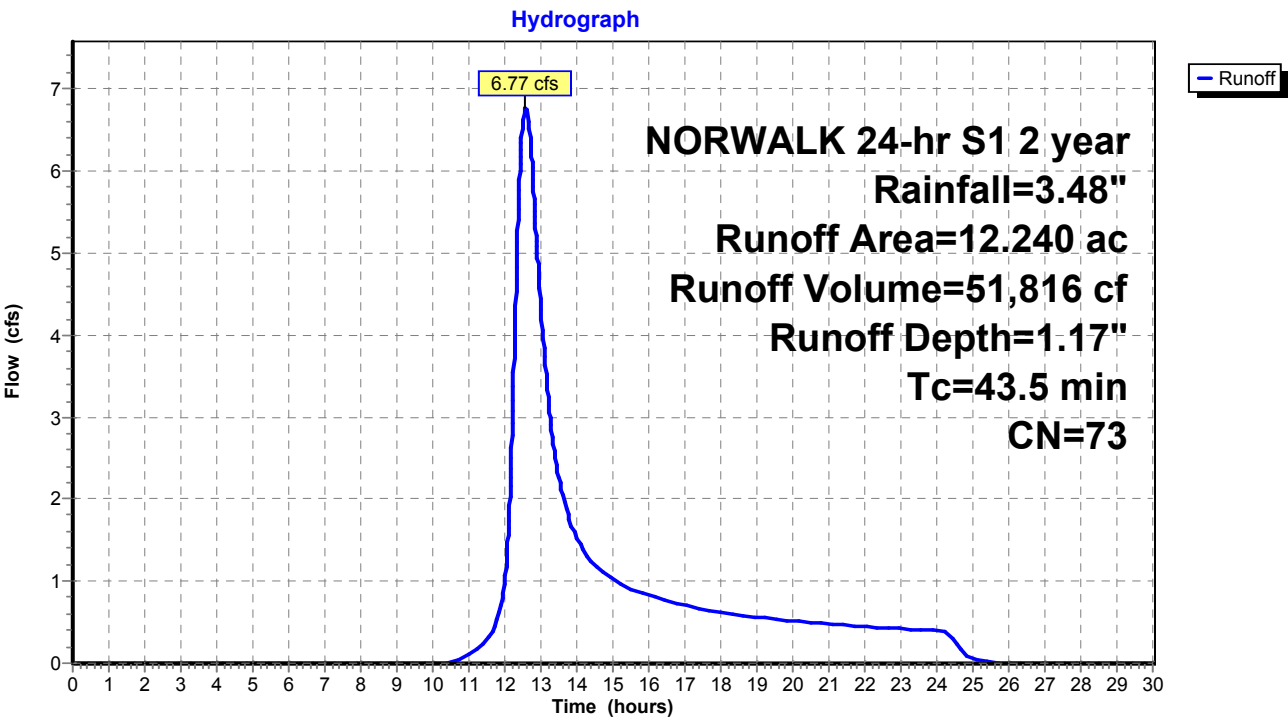
Runoff = 6.77 cfs @ 12.57 hrs, Volume= 51,816 cf, Depth= 1.17"
Routed to Pond 21P : DET 1 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
9.070	70	1/2 acre lots, 25% imp, HSG B
3.170	80	1/2 acre lots, 25% imp, HSG C
12.240	73	Weighted Average
9.180		75.00% Pervious Area
3.060		25.00% Impervious Area

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

Subcatchment 52S: Area 1



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 53S: Area 2

Runoff = 18.11 cfs @ 12.80 hrs, Volume= 159,366 cf, Depth= 1.48"
Routed to Pond 22P : DET 2 Culvert

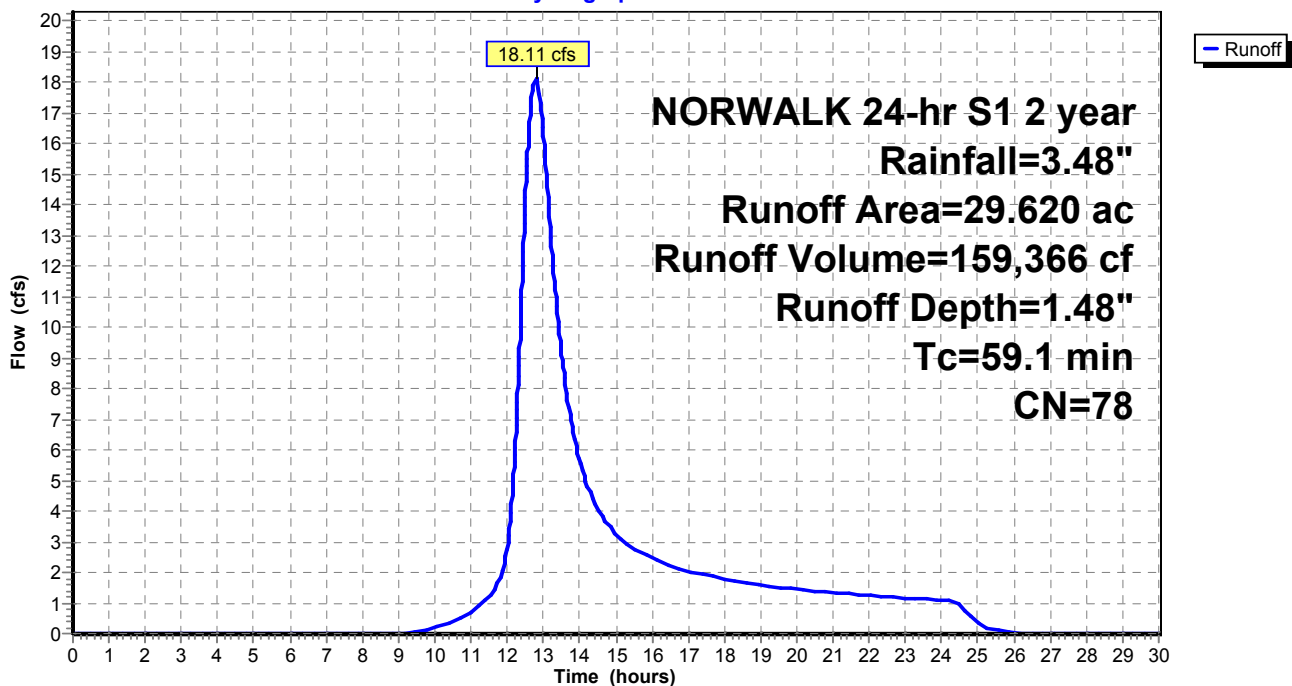
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
7.290	70	1/2 acre lots, 25% imp, HSG B
19.200	80	1/2 acre lots, 25% imp, HSG C
3.130	85	1/2 acre lots, 25% imp, HSG D
29.620	78	Weighted Average
22.215		75.00% Pervious Area
7.405		25.00% Impervious Area

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

Subcatchment 53S: Area 2

Hydrograph



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 54S: Area 3

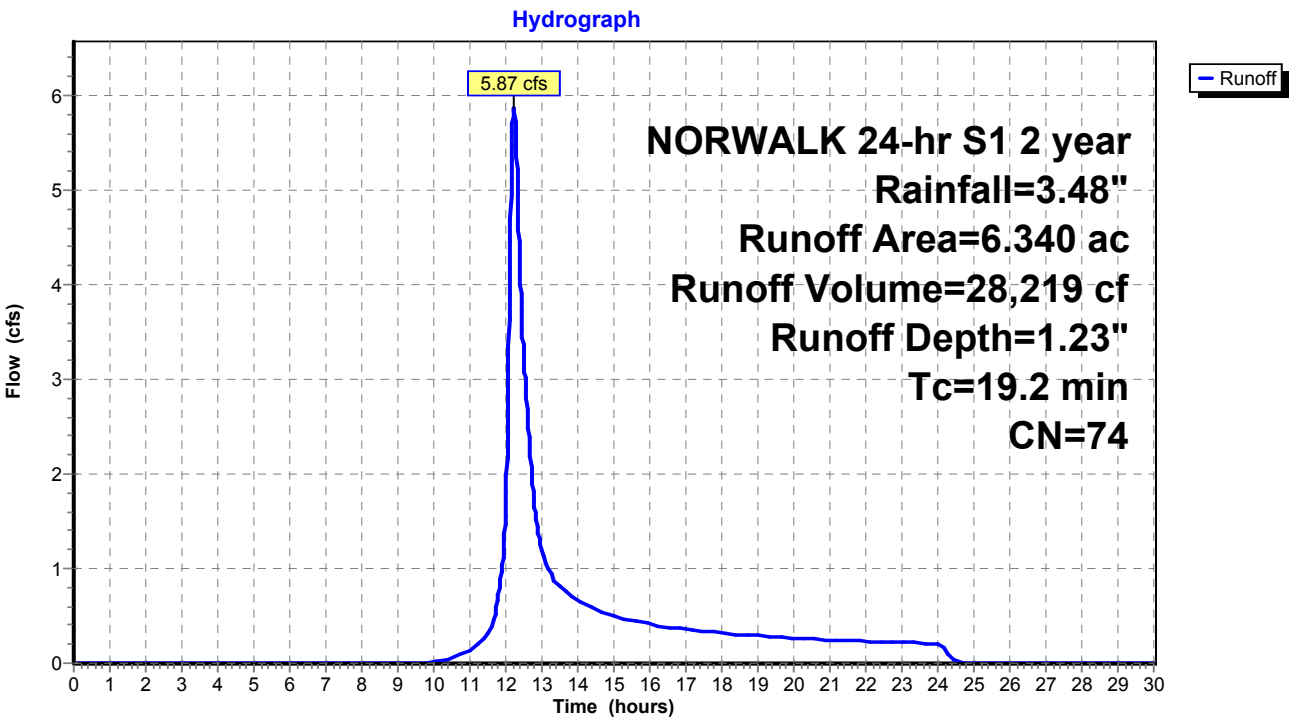
Runoff = 5.87 cfs @ 12.23 hrs, Volume= 28,219 cf, Depth= 1.23"
Routed to Pond 23P : DET 3 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
3.500	70	1/2 acre lots, 25% imp, HSG B
2.840	80	1/2 acre lots, 25% imp, HSG C
6.340	74	Weighted Average
4.755		75.00% Pervious Area
1.585		25.00% Impervious Area

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

Subcatchment 54S: Area 3



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"
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Summary for Subcatchment 56S: Area 35

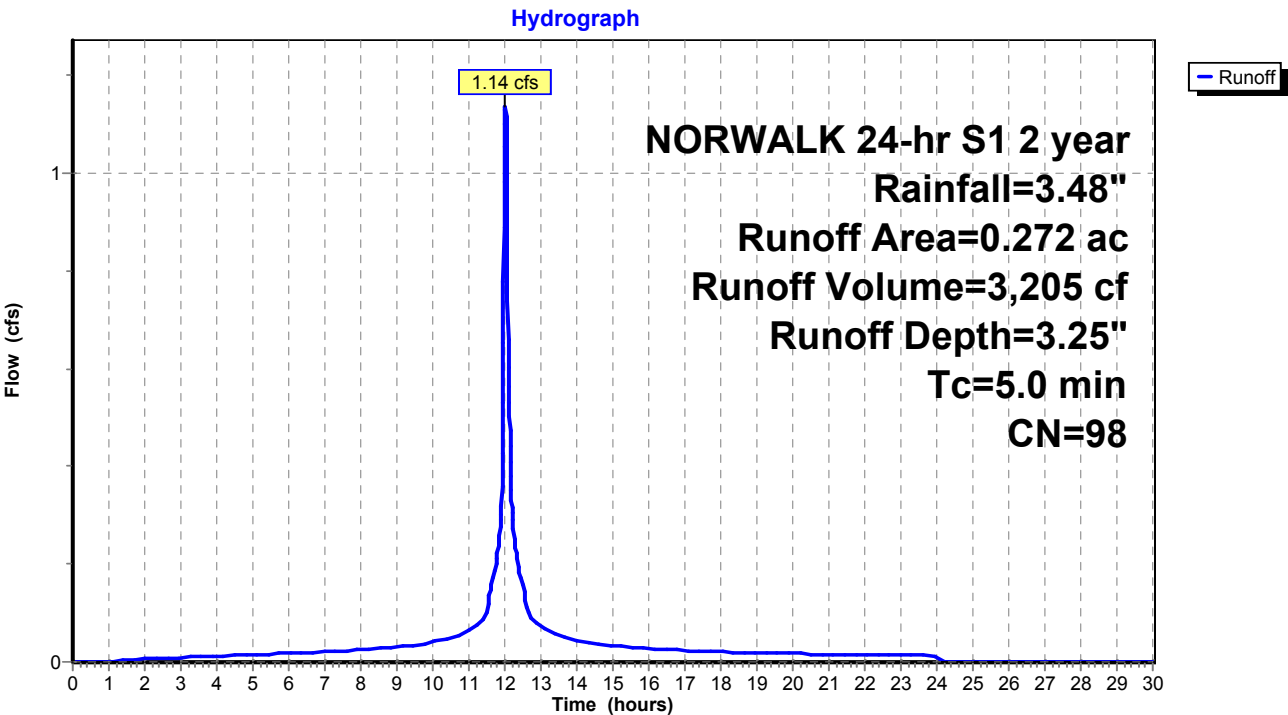
Runoff = 1.14 cfs @ 12.03 hrs, Volume= 3,205 cf, Depth= 3.25"
Routed to Pond 57P : CB-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.272	98	Paved parking & roofs
0.272		100.00% Impervious Area

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

Subcatchment 56S: Area 35



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 60S: Area 37

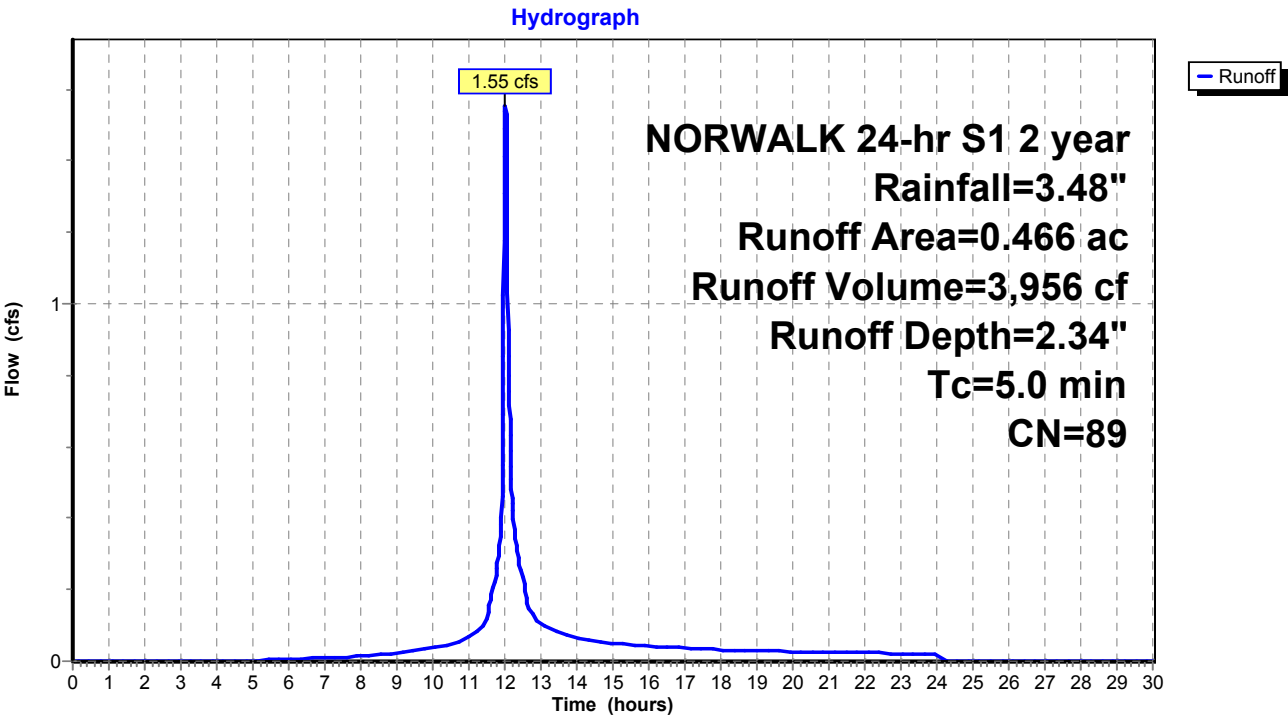
Runoff = 1.55 cfs @ 12.03 hrs, Volume= 3,956 cf, Depth= 2.34"
Routed to Pond 59P : CB-7

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.294	98	Paved parking & roofs
0.172	74	>75% Grass cover, Good, HSG C
0.466	89	Weighted Average
0.172		36.91% Pervious Area
0.294		63.09% Impervious Area

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

Subcatchment 60S: Area 37



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 62S: Area 38

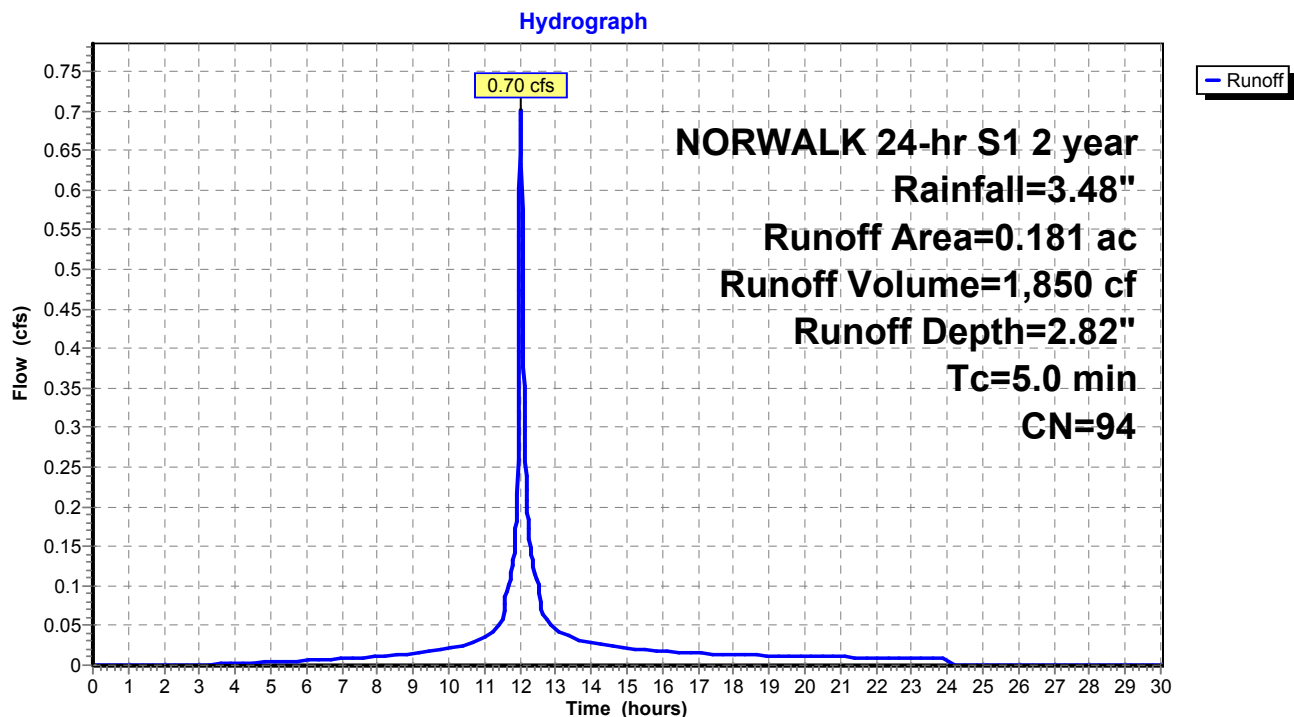
Runoff = 0.70 cfs @ 12.03 hrs, Volume= 1,850 cf, Depth= 2.82"
Routed to Pond 61P : CB-6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.149	98	Paved parking & roofs
0.032	74	>75% Grass cover, Good, HSG C
0.181	94	Weighted Average
0.032		17.68% Pervious Area
0.149		82.32% Impervious Area

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

Subcatchment 62S: Area 38



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 65S: Area 41

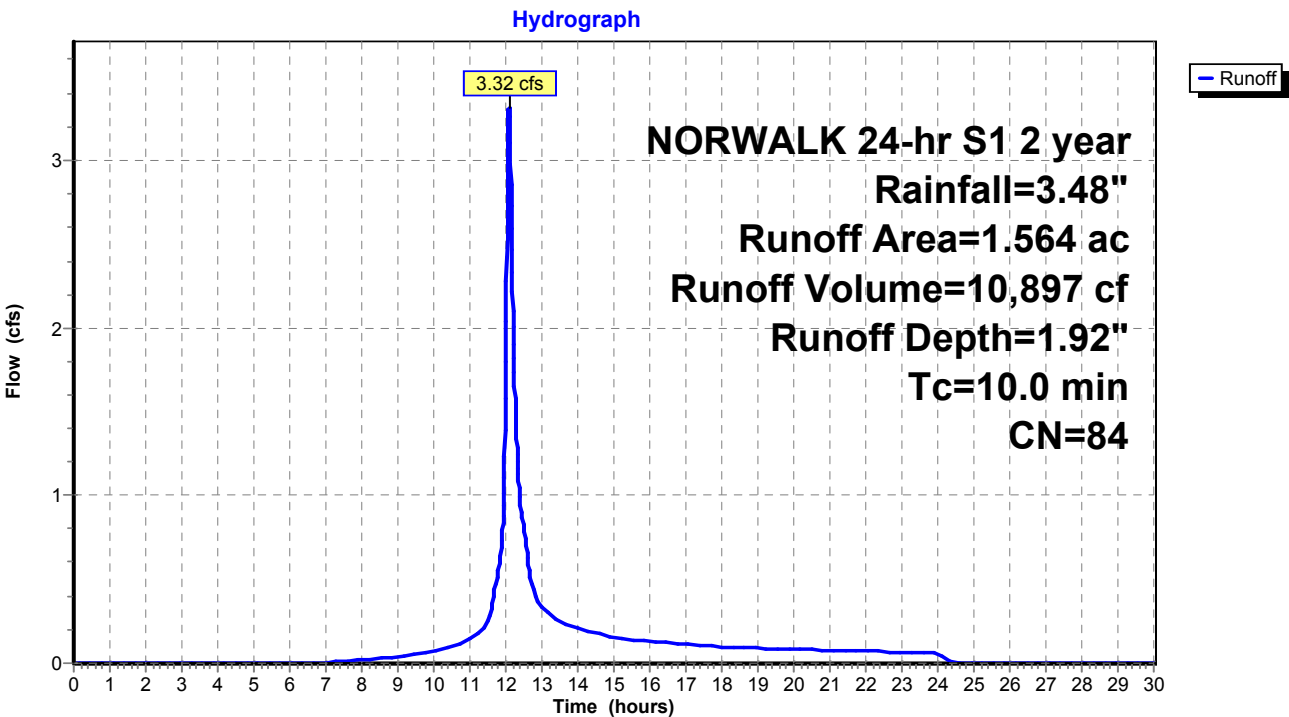
Runoff = 3.32 cfs @ 12.09 hrs, Volume= 10,897 cf, Depth= 1.92"
Routed to Pond 64P : YD

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.653	98	Paved parking & roofs
0.911	74	>75% Grass cover, Good, HSG C
1.564	84	Weighted Average
0.911		58.25% Pervious Area
0.653		41.75% Impervious Area

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

Subcatchment 65S: Area 41



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 68S: Area 36

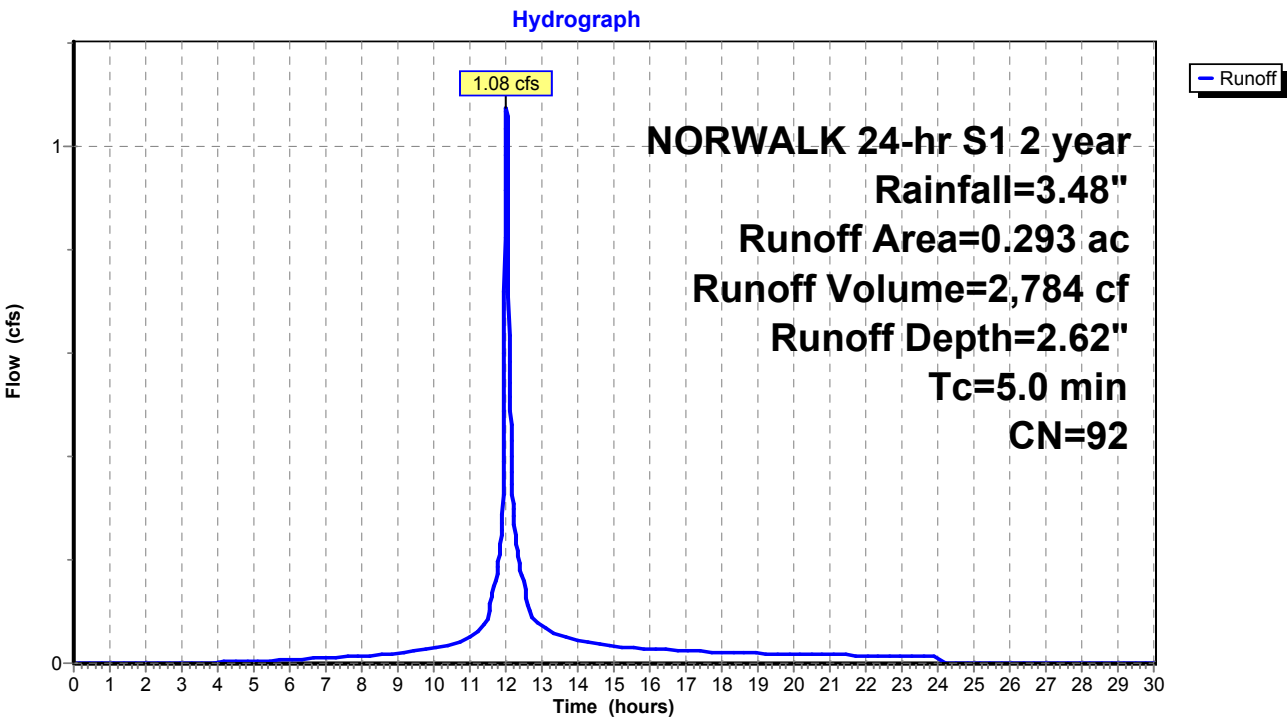
Runoff = 1.08 cfs @ 12.03 hrs, Volume= 2,784 cf, Depth= 2.62"
Routed to Pond 66P : CB-10

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.214	98	Paved parking & roofs
0.079	74	>75% Grass cover, Good, HSG C
0.293	92	Weighted Average
0.079		26.96% Pervious Area
0.214		73.04% Impervious Area

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

Subcatchment 68S: Area 36



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 69S: Area 40

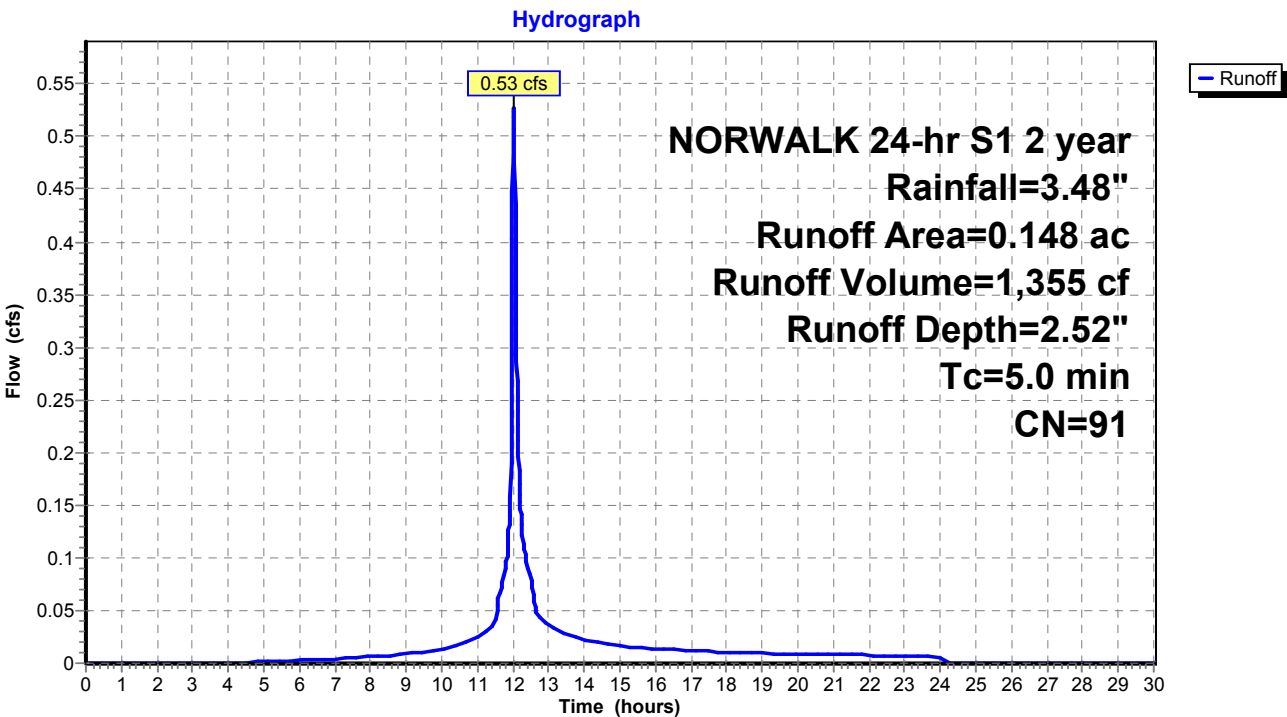
Runoff = 0.53 cfs @ 12.03 hrs, Volume= 1,355 cf, Depth= 2.52"
Routed to Pond 67P : CB-9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.103	98	Paved parking & roofs
0.045	74	>75% Grass cover, Good, HSG C
0.148	91	Weighted Average
0.045		30.41% Pervious Area
0.103		69.59% Impervious Area

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

Subcatchment 69S: Area 40



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"
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Summary for Subcatchment 71S: Area 34

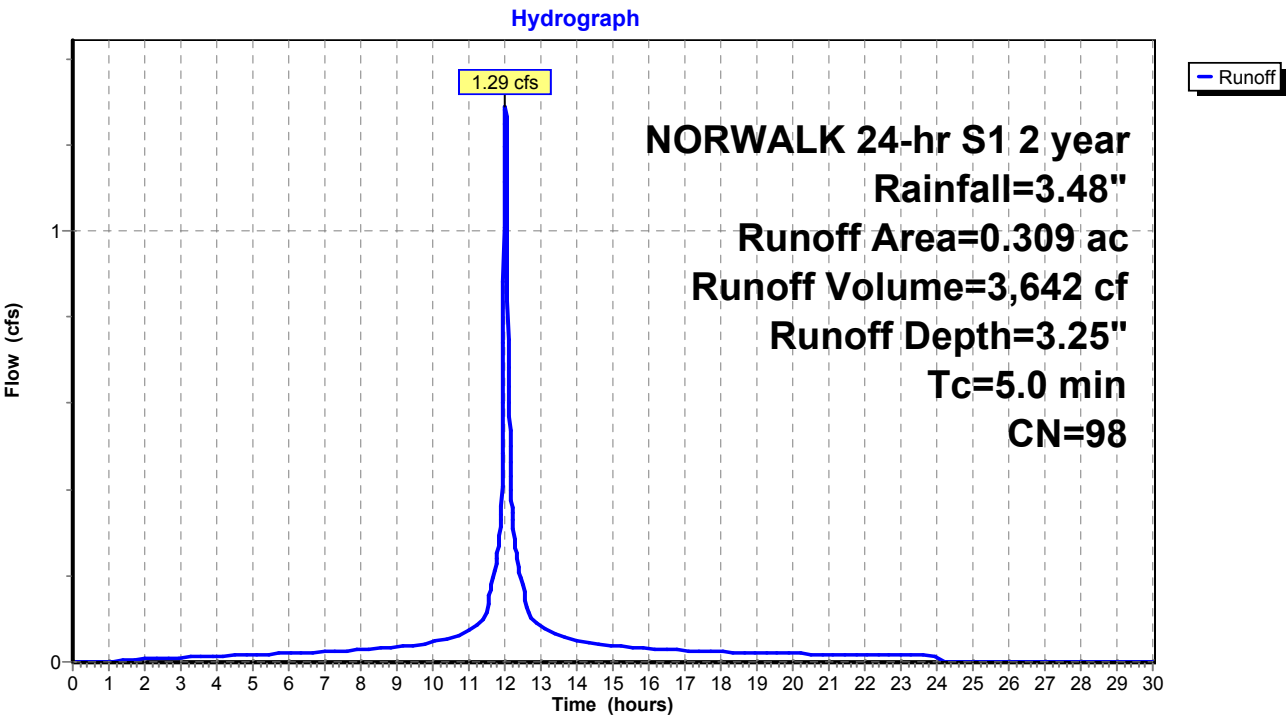
Runoff = 1.29 cfs @ 12.03 hrs, Volume= 3,642 cf, Depth= 3.25"
Routed to Pond 70P : CB-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.309	98	Paved parking & roofs
0.309		100.00% Impervious Area

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

Subcatchment 71S: Area 34



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 75S: Area 32

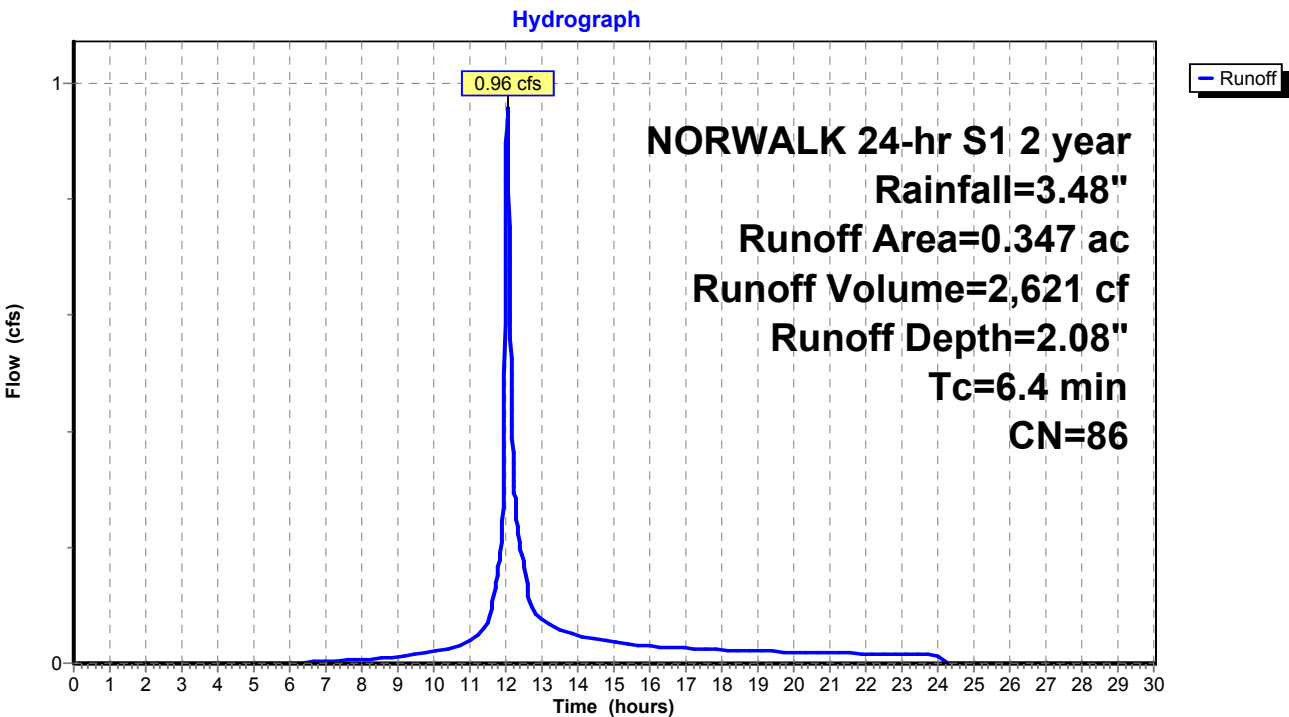
Runoff = 0.96 cfs @ 12.04 hrs, Volume= 2,621 cf, Depth= 2.08"
Routed to Pond 74P : CB-4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.196	98	Paved parking & roofs
0.151	70	Woods, Good, HSG C
0.347	86	Weighted Average
0.151		43.52% Pervious Area
0.196		56.48% Impervious Area

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

Subcatchment 75S: Area 32



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 76S: Area 33

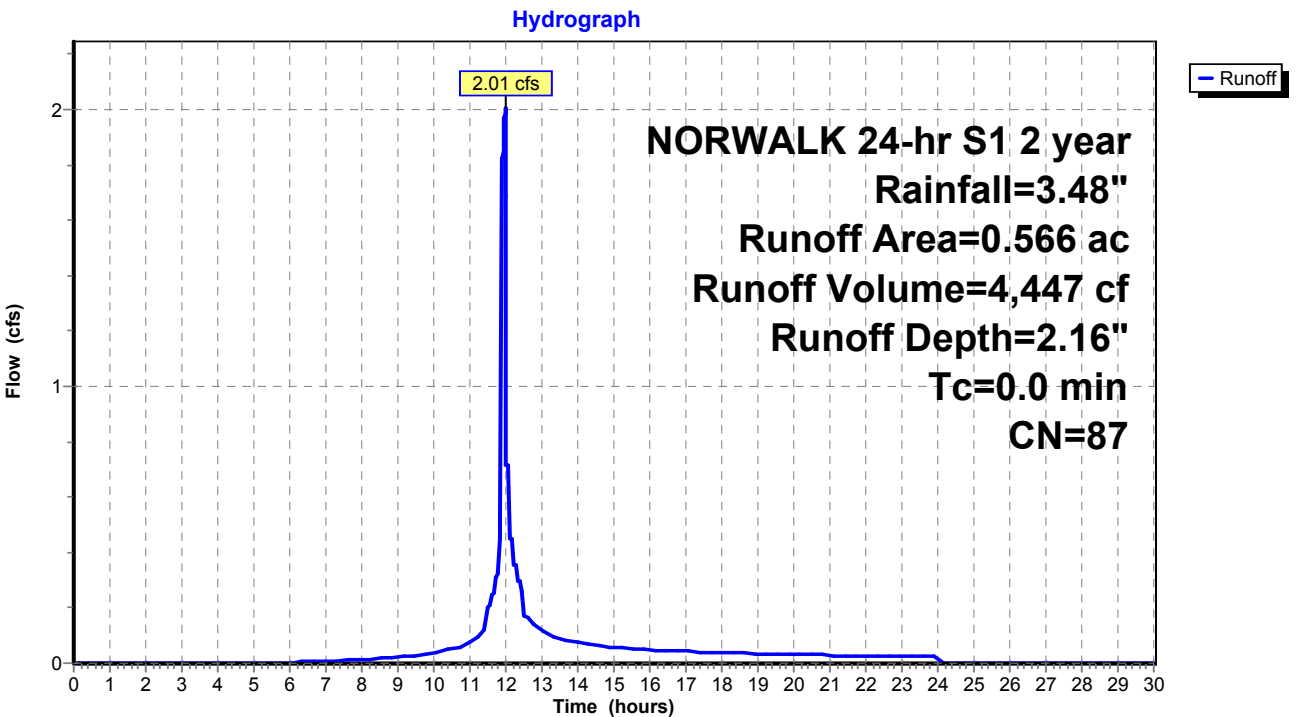
Runoff = 2.01 cfs @ 11.99 hrs, Volume= 4,447 cf, Depth= 2.16"
Routed to Pond 73P : CB-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.338	98	Paved parking & roofs
0.228	70	Woods, Good, HSG C
0.566	87	Weighted Average
0.228		40.28% Pervious Area
0.338		59.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.0					Direct Entry, 7

Subcatchment 76S: Area 33



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 78S: Area 39

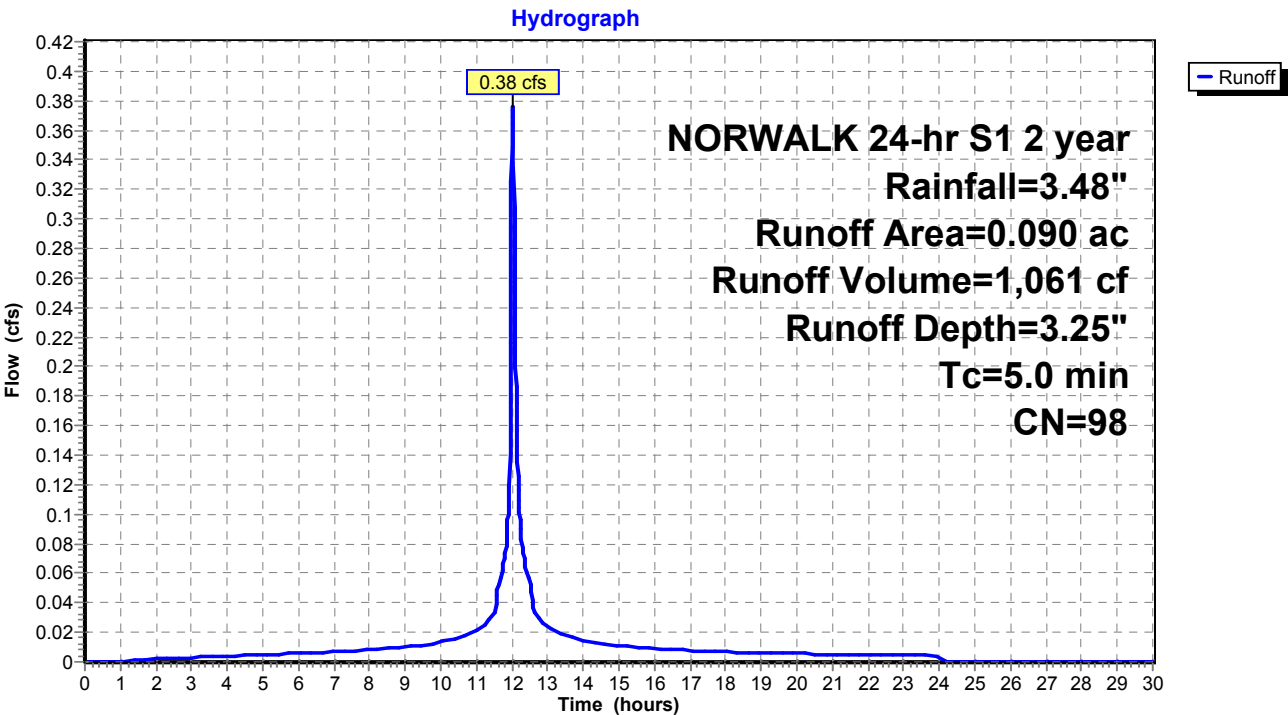
Runoff = 0.38 cfs @ 12.03 hrs, Volume= 1,061 cf, Depth= 3.25"
Routed to Pond 79P : CB-8

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.090	98	Paved parking & roofs
0.090		100.00% Impervious Area

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

Subcatchment 78S: Area 39



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 84S: Area 31

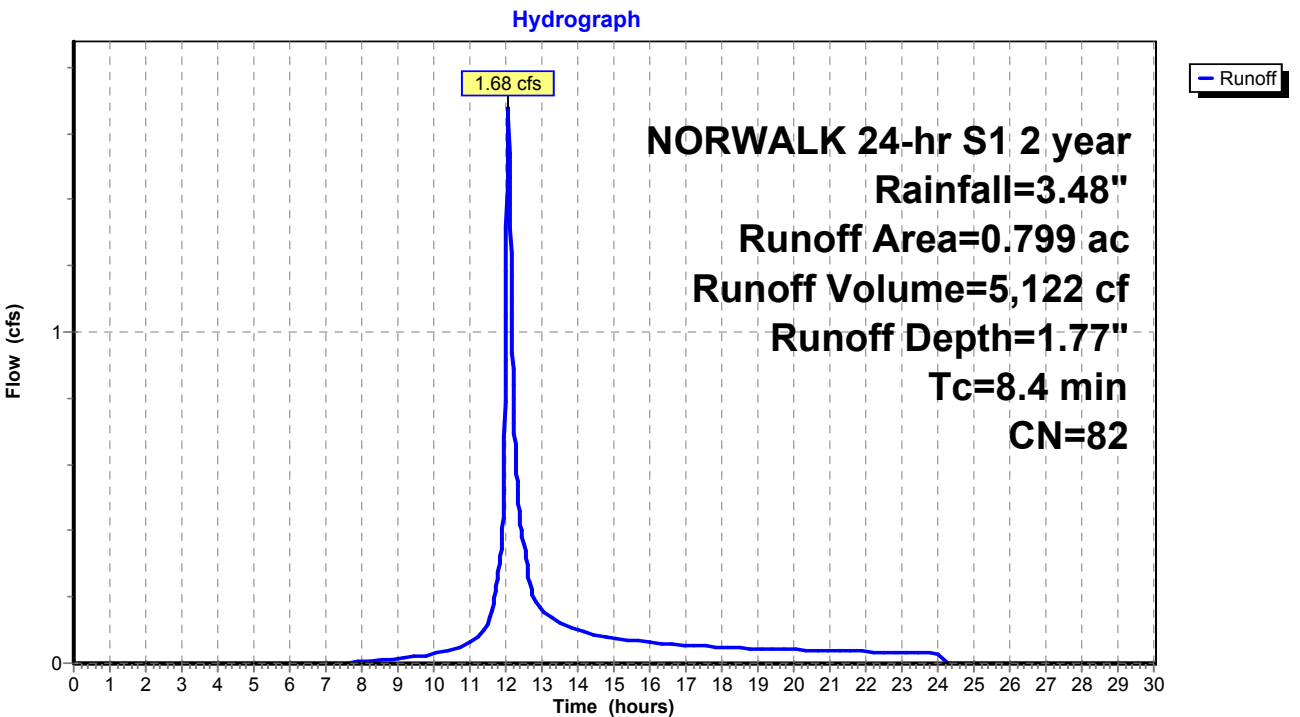
Runoff = 1.68 cfs @ 12.07 hrs, Volume= 5,122 cf, Depth= 1.77"
Routed to Pond 85P : CB-5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.337	98	Paved parking & roofs
0.462	70	Woods, Good, HSG C
0.799	82	Weighted Average
0.462		57.82% Pervious Area
0.337		42.18% Impervious Area

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

Subcatchment 84S: Area 31



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 100S: Area 16B

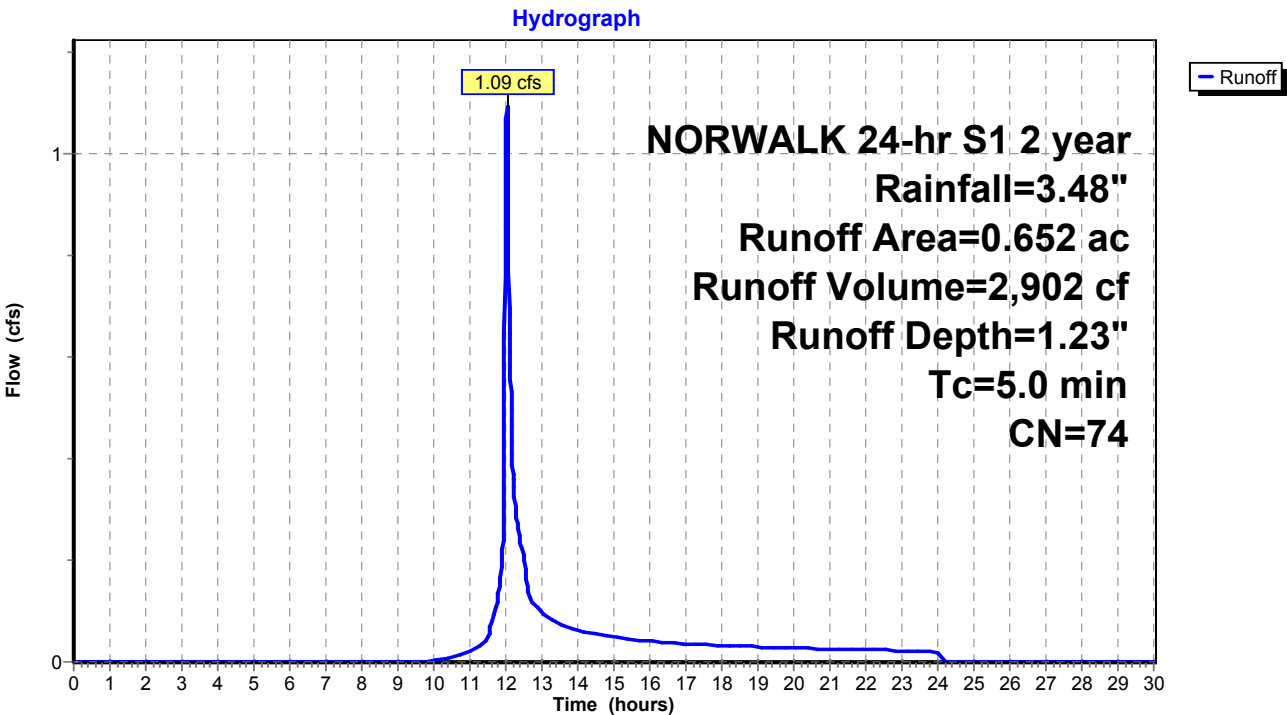
Runoff = 1.09 cfs @ 12.03 hrs, Volume= 2,902 cf, Depth= 1.23"
Routed to Pond 50P : DET BASIN #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.652	74	>75% Grass cover, Good, HSG C
0.652		100.00% Pervious Area

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

Subcatchment 100S: Area 16B



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 105S: Area 18

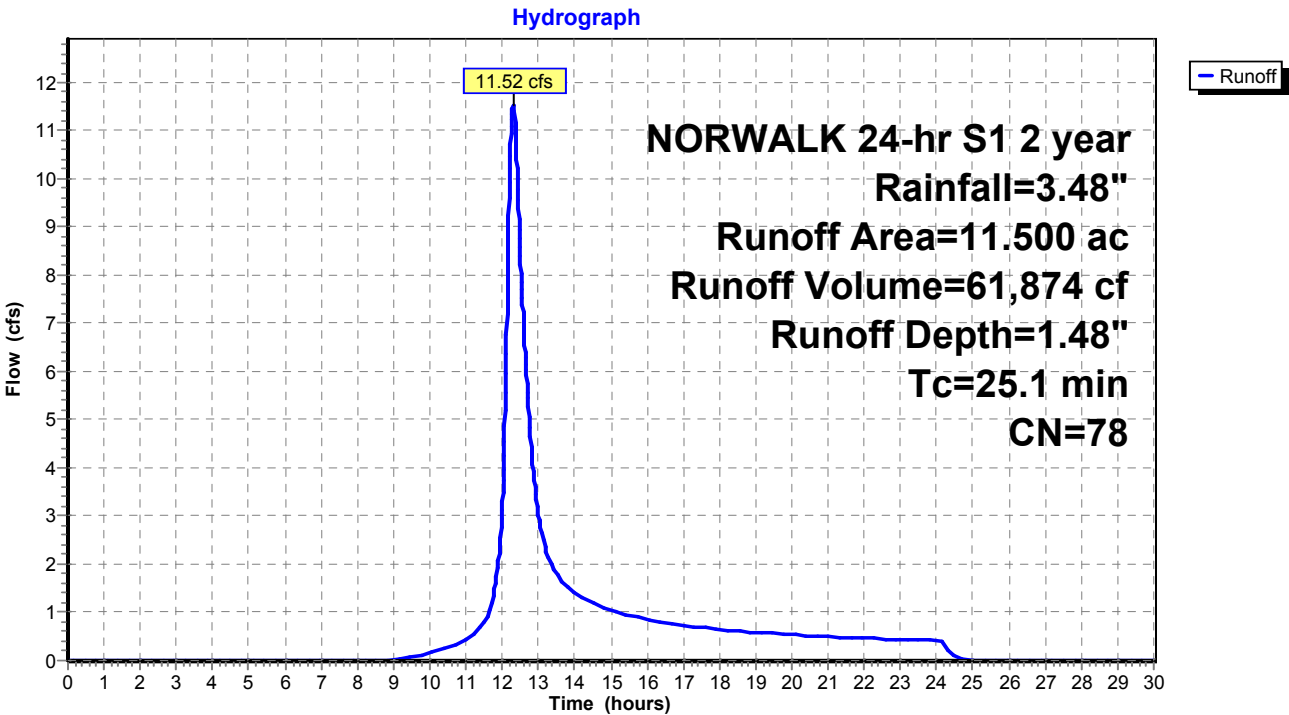
Runoff = 11.52 cfs @ 12.30 hrs, Volume= 61,874 cf, Depth= 1.48"
Routed to Pond 24P : RR Culvert 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.734	70	Woods, Good, HSG C
10.216	77	Woods, Good, HSG D
0.550	98	Paved parking, HSG C
11.500	78	Weighted Average
10.950		95.22% Pervious Area
0.550		4.78% Impervious Area

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

Subcatchment 105S: Area 18



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment BLDG: EX-BLDG

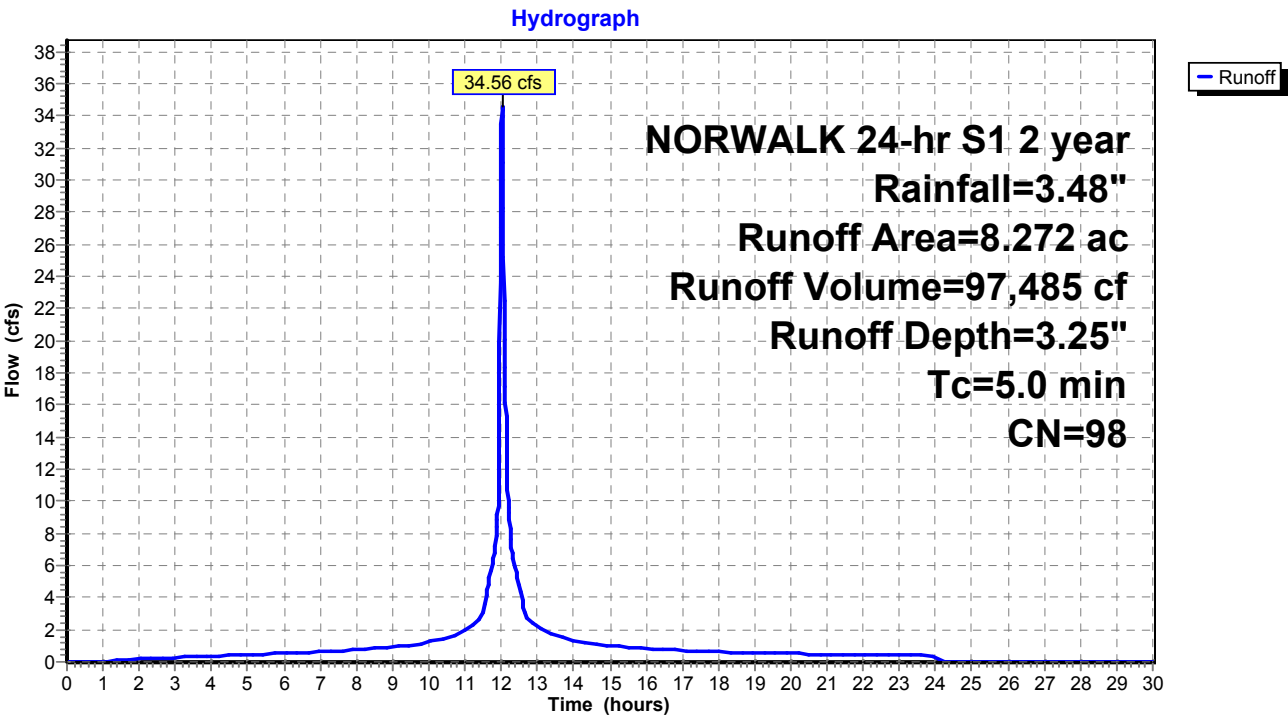
Runoff = 34.56 cfs @ 12.03 hrs, Volume= 97,485 cf, Depth= 3.25"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
8.272	98	Roofs, HSG B
8.272		100.00% Impervious Area

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

Subcatchment BLDG: EX-BLDG



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Pond 1P: RR Culvert 2

Inflow Area = 6,570,111 sf, 25.88% Impervious, Inflow Depth > 1.49" for 2 year event
Inflow = 77.19 cfs @ 12.35 hrs, Volume= 816,612 cf
Outflow = 77.19 cfs @ 12.35 hrs, Volume= 816,612 cf, Atten= 0%, Lag= 0.0 min
Primary = 28.26 cfs @ 12.35 hrs, Volume= 597,427 cf
Secondary = 48.92 cfs @ 12.35 hrs, Volume= 219,185 cf
Routed to Pond 24P : RR Culvert 3

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 13.38' @ 12.35 hrs

Device	Routing	Invert	Outlet Devices
#1	Secondary	13.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 3.00 4.00 5.00 Width (feet) 50.00 50.00 50.00 50.00 50.00 50.00
#2	Primary	9.50'	24.0" W x 36.0" H Box Culvert L= 135.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.50' / 9.50' S= 0.0000 ' / Cc= 0.900 n= 0.014, Flow Area= 6.00 sf

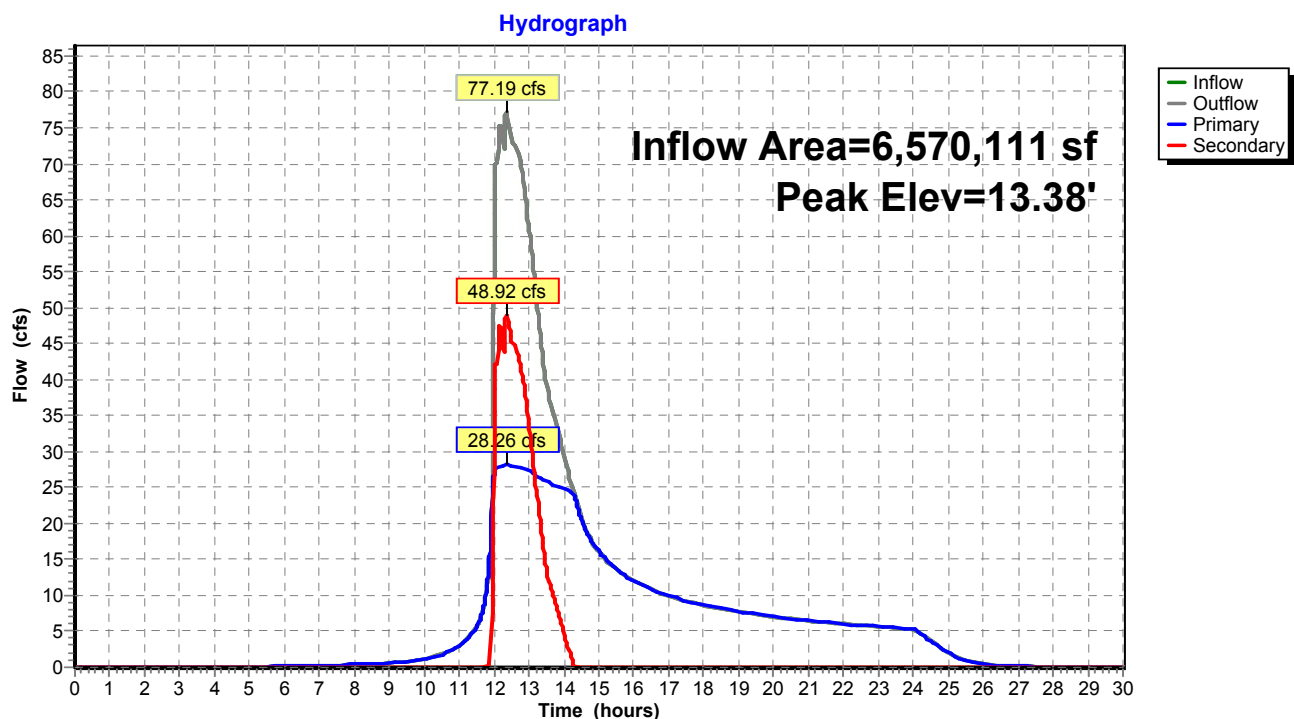
Primary OutFlow Max=28.26 cfs @ 12.35 hrs HW=13.38' (Free Discharge)

↑**2=Culvert** (Barrel Controls 28.26 cfs @ 4.86 fps)

Secondary OutFlow Max=48.69 cfs @ 12.35 hrs HW=13.38' (Free Discharge)

↑**1=Custom Weir/Orifice** (Weir Controls 48.69 cfs @ 2.56 fps)

Pond 1P: RR Culvert 2



Existing Conditions

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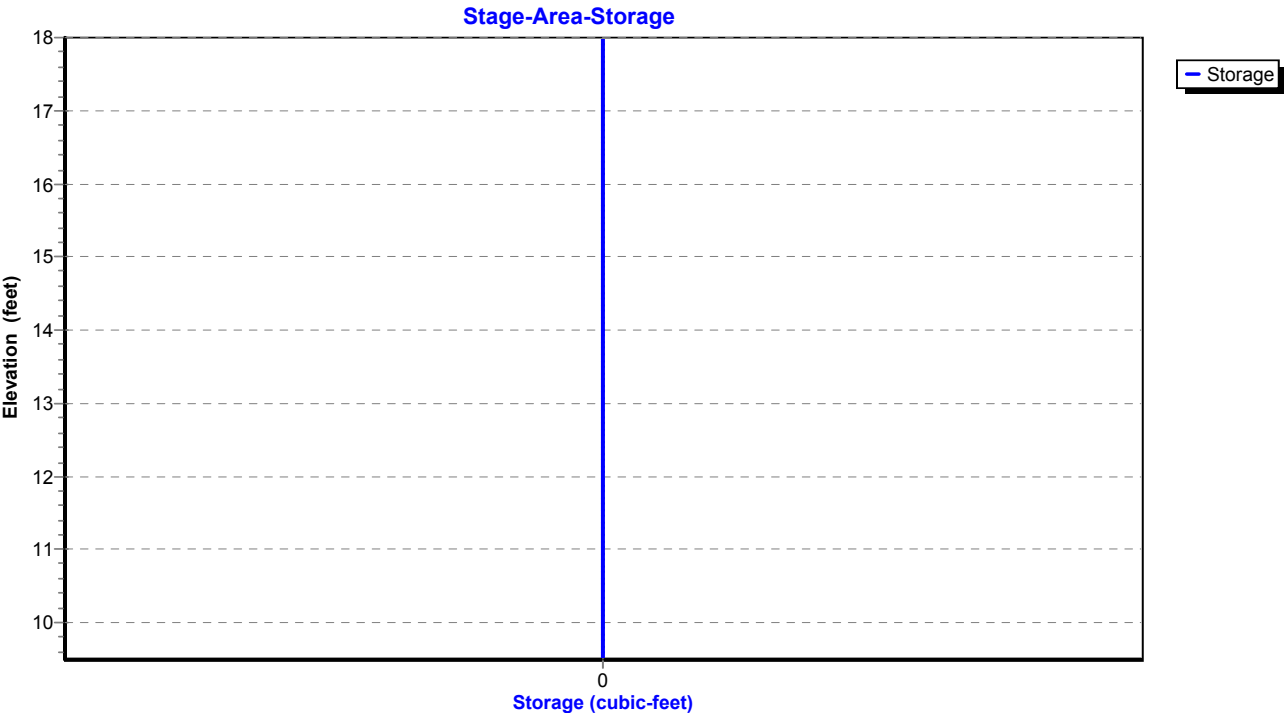
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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Pond 1P: RR Culvert 2



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Pond 2P: RR Culvert 1

Inflow Area = 3,416,890 sf, 54.57% Impervious, Inflow Depth = 2.22" for 2 year event
Inflow = 81.52 cfs @ 12.04 hrs, Volume= 633,451 cf
Outflow = 81.52 cfs @ 12.04 hrs, Volume= 633,451 cf, Atten= 0%, Lag= 0.0 min
Primary = 40.51 cfs @ 12.04 hrs, Volume= 541,336 cf
Secondary = 41.00 cfs @ 12.04 hrs, Volume= 92,115 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 28.39' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	25.00'	28.8" W x 28.8" H Box Culvert L= 123.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.00' / 23.60' S= 0.0114 '/' Cc= 0.900 n= 0.014, Flow Area= 5.76 sf
#2	Secondary	27.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 Width (feet) 6.00 6.00 6.00

Primary OutFlow Max=40.49 cfs @ 12.04 hrs HW=28.39' (Free Discharge)

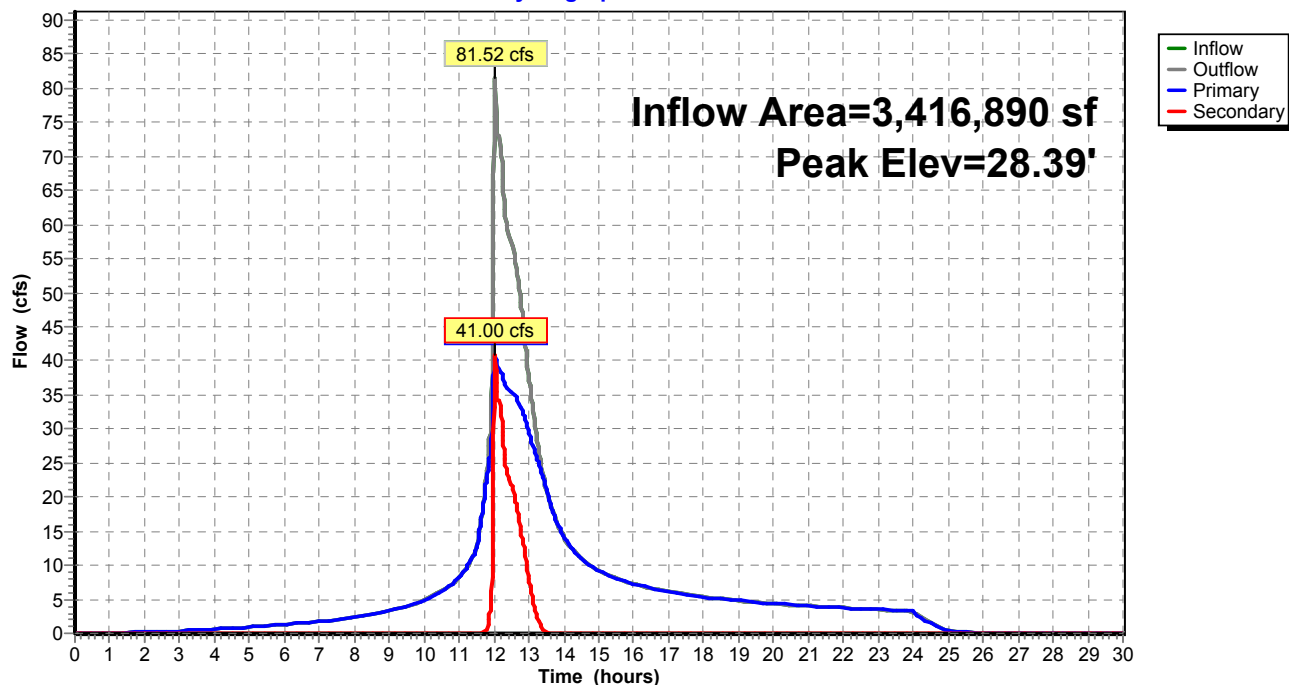
↑**1=Culvert** (Inlet Controls 40.49 cfs @ 7.03 fps)

Secondary OutFlow Max=40.91 cfs @ 12.04 hrs HW=28.39' (Free Discharge)

↑**2=Custom Weir/Orifice** (Weir Controls 40.91 cfs @ 4.91 fps)

Pond 2P: RR Culvert 1

Hydrograph



Existing Conditions

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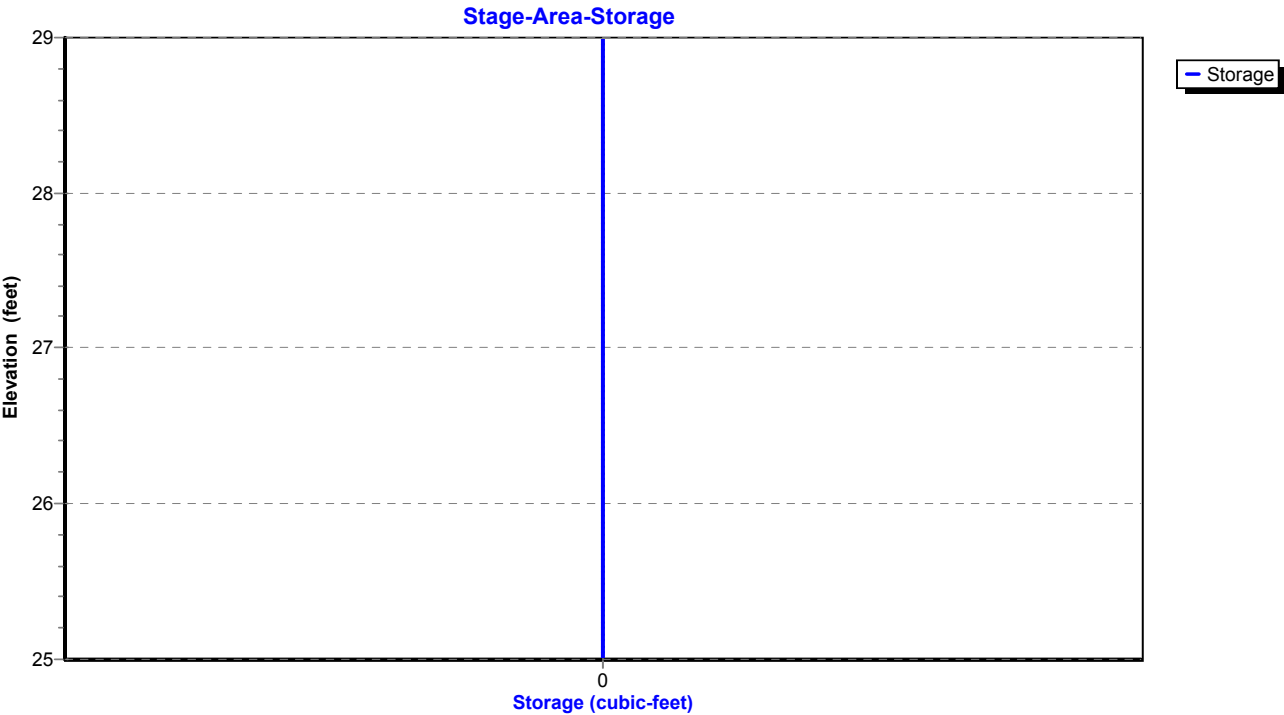
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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Pond 2P: RR Culvert 1



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Pond 3P: DETENTION BASIN #2

Inflow Area = 263,277 sf, 58.24% Impervious, Inflow Depth = 1.85" for 2 year event
Inflow = 14.48 cfs @ 12.03 hrs, Volume= 40,587 cf
Outflow = 1.64 cfs @ 12.68 hrs, Volume= 24,876 cf, Atten= 89%, Lag= 38.8 min
Primary = 1.64 cfs @ 12.68 hrs, Volume= 24,876 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 47.80' @ 12.68 hrs Surf.Area= 8,253 sf Storage= 21,479 cf

Plug-Flow detention time= 303.4 min calculated for 24,868 cf (61% of inflow)
Center-of-Mass det. time= 175.6 min (994.5 - 819.0)

Volume	Invert	Avail.Storage	Storage Description
#1	44.00'	56,637 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.00	2,637	0	0
46.00	6,000	8,637	8,637
48.00	8,500	14,500	23,137
50.00	12,000	20,500	43,637
51.00	14,000	13,000	56,637

Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	18.0" Round Culvert L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.00' / 30.00' S= 0.1750 ' / Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	47.00'	10.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	50.40'	16.2" x 55.4" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.64 cfs @ 12.68 hrs HW=47.80' (Free Discharge)

1=Culvert (Passes 1.64 cfs of 14.87 cfs potential flow)
2=Orifice/Grate (Orifice Controls 1.64 cfs @ 3.05 fps)
3=Orifice/Grate (Controls 0.00 cfs)

Existing Conditions

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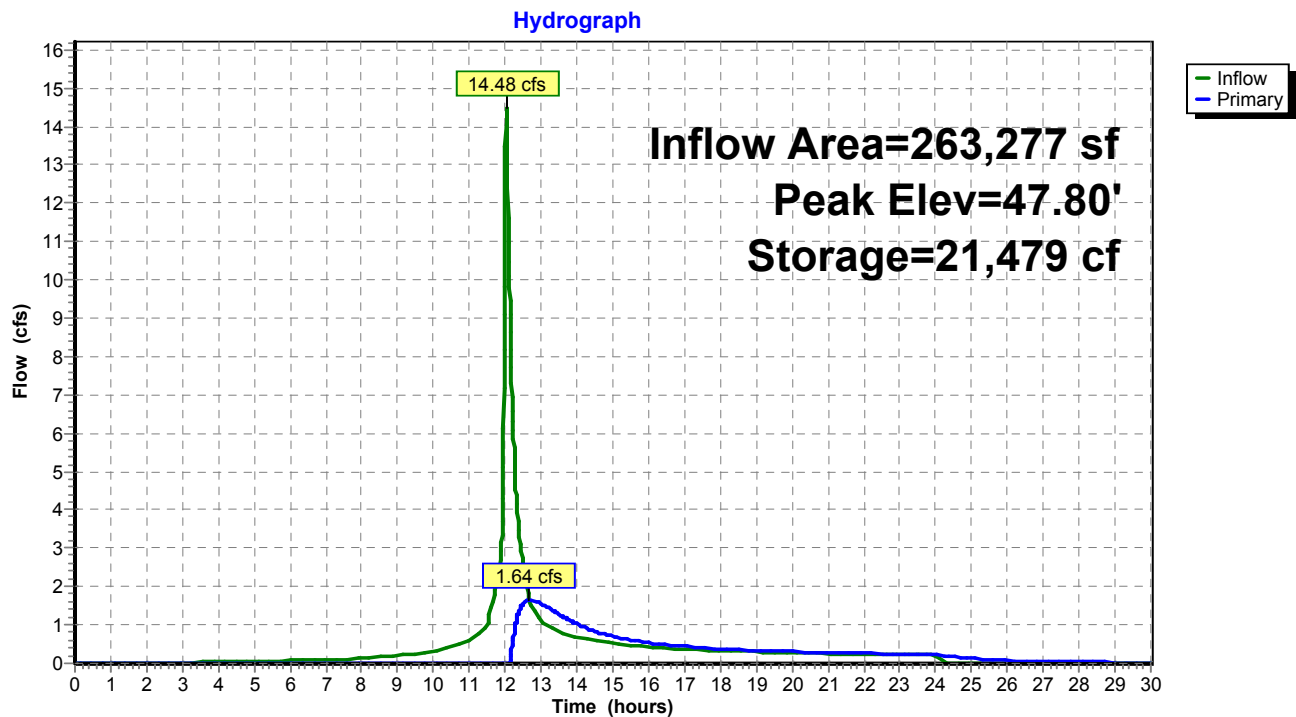
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NORWALK 24-hr S1 2 year Rainfall=3.48"

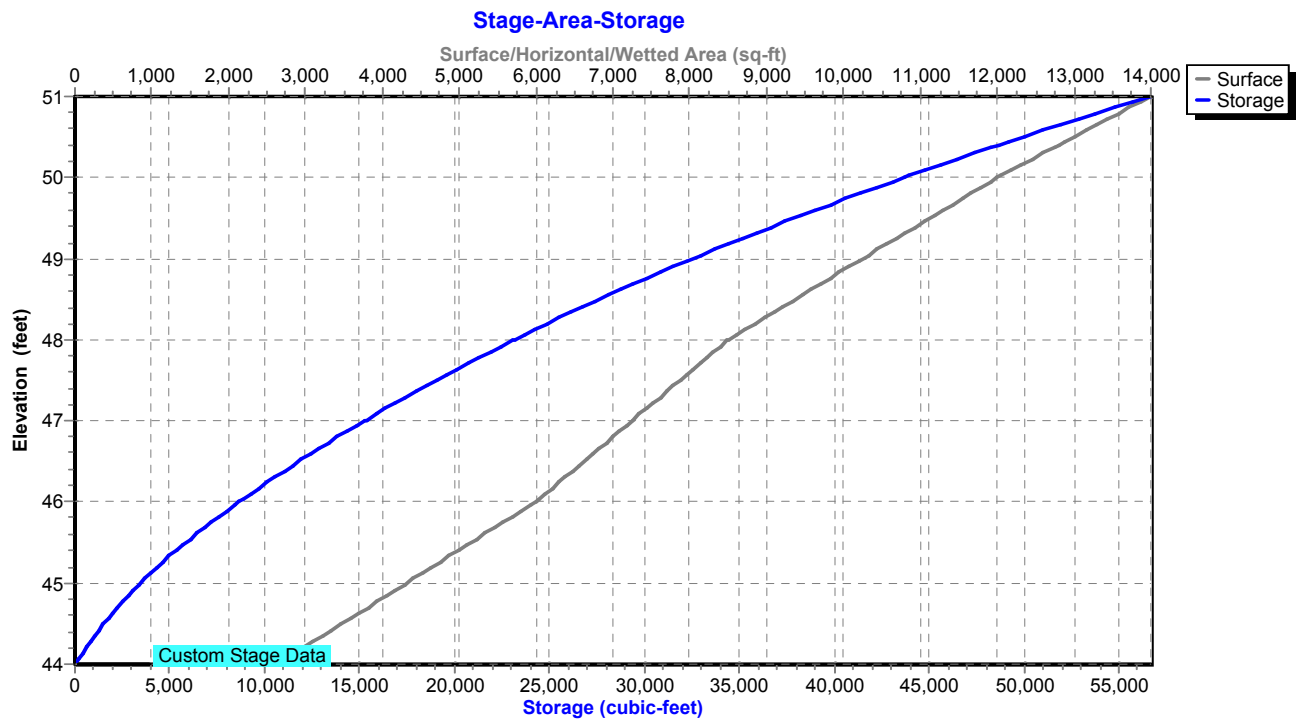
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Pond 3P: DETENTION BASIN #2



Pond 3P: DETENTION BASIN #2



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Pond 5P: DET 5 Culvert

Inflow Area = 541,015 sf, 16.51% Impervious, Inflow Depth = 1.17" for 2 year event
 Inflow = 7.58 cfs @ 12.46 hrs, Volume= 52,578 cf
 Outflow = 7.30 cfs @ 12.56 hrs, Volume= 52,577 cf, Atten= 4%, Lag= 6.1 min
 Primary = 7.30 cfs @ 12.56 hrs, Volume= 52,577 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 79.24' @ 12.56 hrs Storage= 1,910 cf

Plug-Flow detention time= 7.6 min calculated for 52,577 cf (100% of inflow)

Center-of-Mass det. time= 7.6 min (922.0 - 914.4)

Volume	Invert	Avail.Storage	Storage Description
#1	78.00'	62,584 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
78.00	0	0
79.00	1,179	1,179
80.00	3,009	4,188
81.00	5,795	9,983
82.00	9,335	19,318
83.00	16,518	35,836
84.00	26,748	62,584

Device	Routing	Invert	Outlet Devices
#1	Primary	78.00'	24.0" Round Culvert L= 224.0' Ke= 0.600 Inlet / Outlet Invert= 78.00' / 72.40' S= 0.0250 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=7.30 cfs @ 12.56 hrs HW=79.24' (Free Discharge)↑**1=Culvert** (Inlet Controls 7.30 cfs @ 3.56 fps)

Existing Conditions

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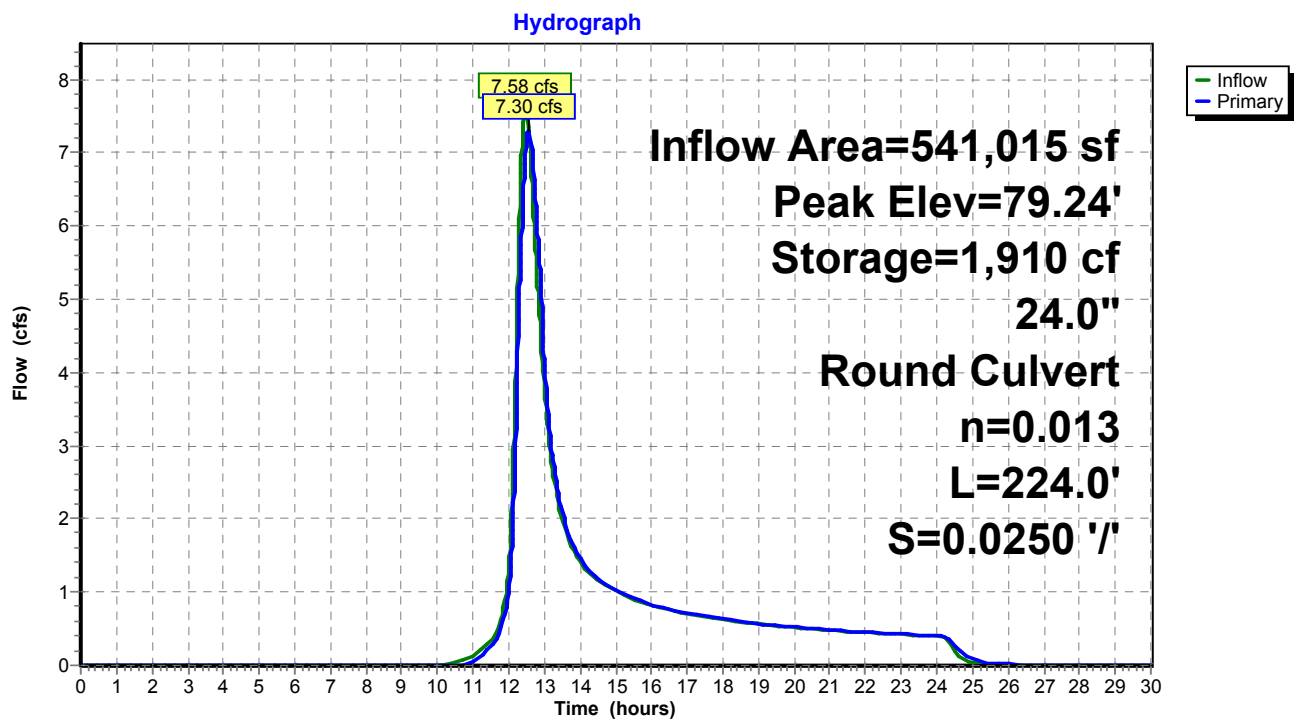
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NORWALK 24-hr S1 2 year Rainfall=3.48"

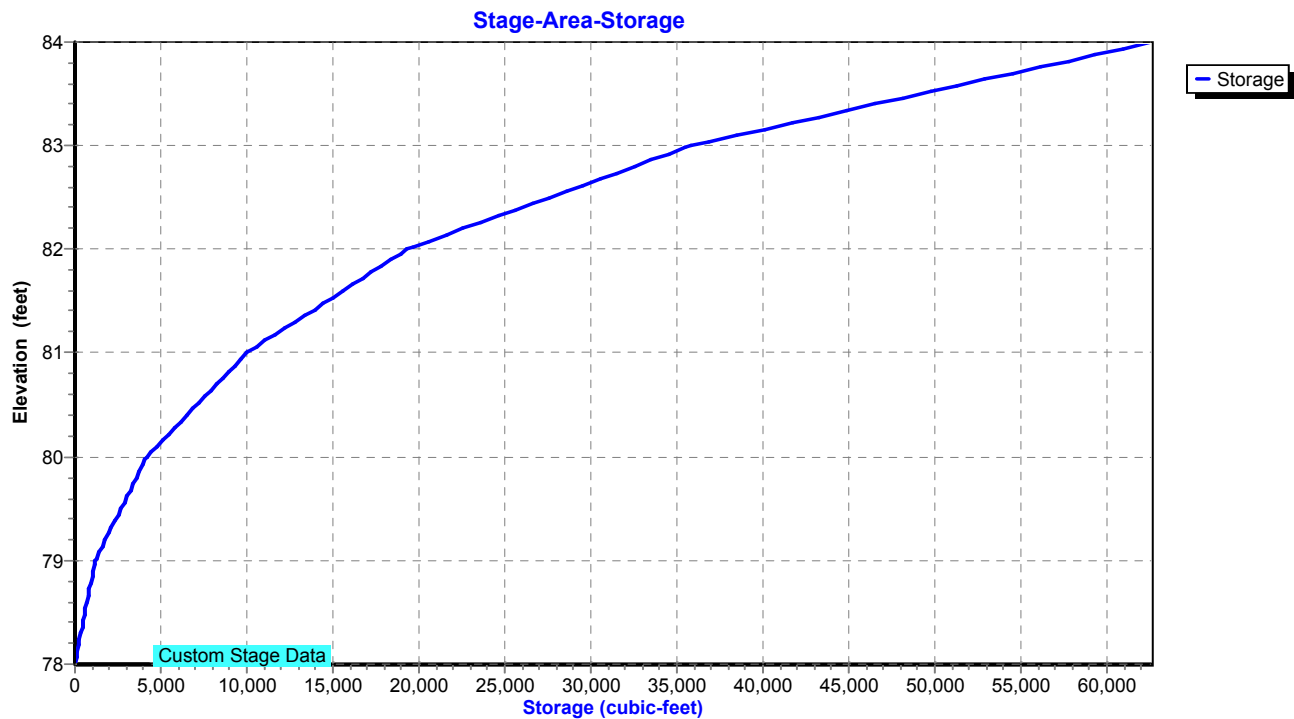
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Pond 5P: DET 5 Culvert



Pond 5P: DET 5 Culvert



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Pond 6P: DET 6 Culvert

Inflow Area = 747,054 sf, 37.20% Impervious, Inflow Depth = 1.77" for 2 year event
 Inflow = 13.40 cfs @ 12.70 hrs, Volume= 109,948 cf
 Outflow = 13.38 cfs @ 12.71 hrs, Volume= 109,948 cf, Atten= 0%, Lag= 0.7 min
 Primary = 13.38 cfs @ 12.71 hrs, Volume= 109,948 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 90.10' @ 12.71 hrs Storage= 212 cf

Plug-Flow detention time= 0.5 min calculated for 109,912 cf (100% of inflow)

Center-of-Mass det. time= 0.5 min (897.8 - 897.4)

Volume	Invert	Avail.Storage	Storage Description
#1	88.50'	5,954 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
88.50	0	0
90.00	154	154
92.00	1,175	1,329
93.00	4,625	5,954

Device	Routing	Invert	Outlet Devices
#1	Primary	88.50'	30.0" Round Culvert L= 180.0' Ke= 0.600 Inlet / Outlet Invert= 88.50' / 86.00' S= 0.0139 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=13.38 cfs @ 12.71 hrs HW=90.10' (Free Discharge)
 ↑ **1=Culvert** (Inlet Controls 13.38 cfs @ 4.04 fps)

Existing Conditions

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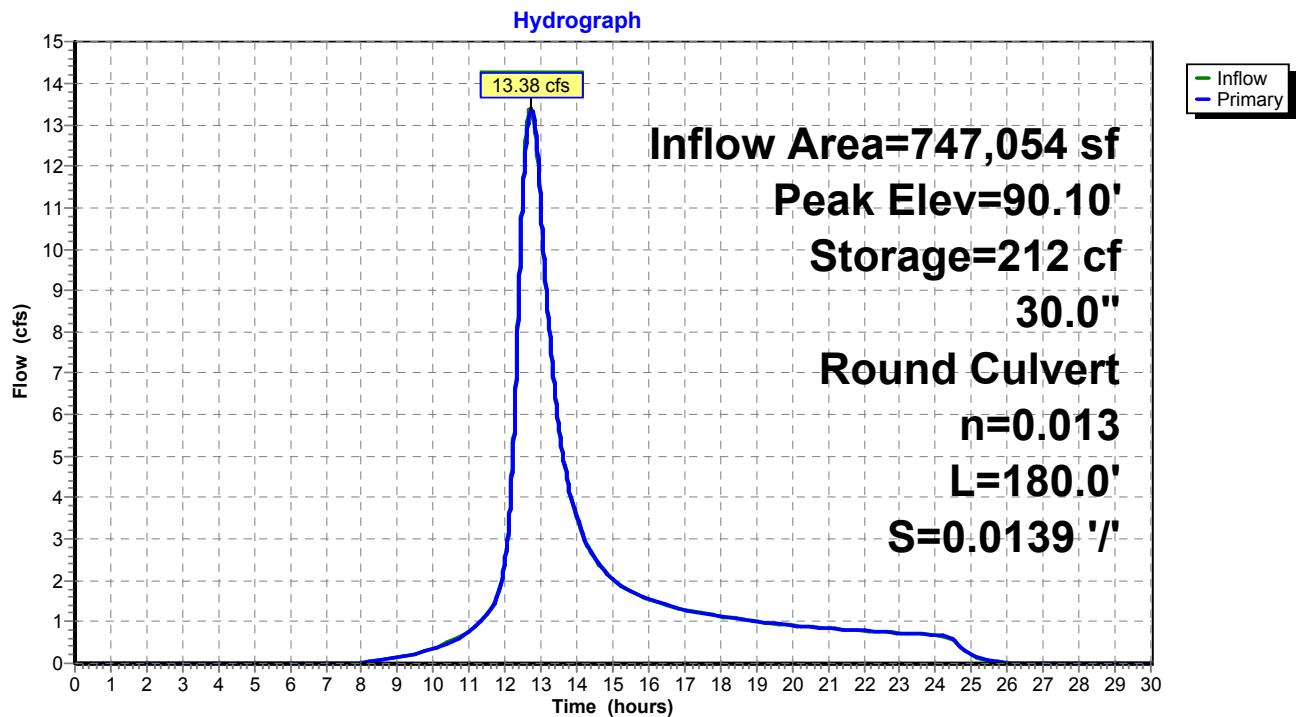
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NORWALK 24-hr S1 2 year Rainfall=3.48"

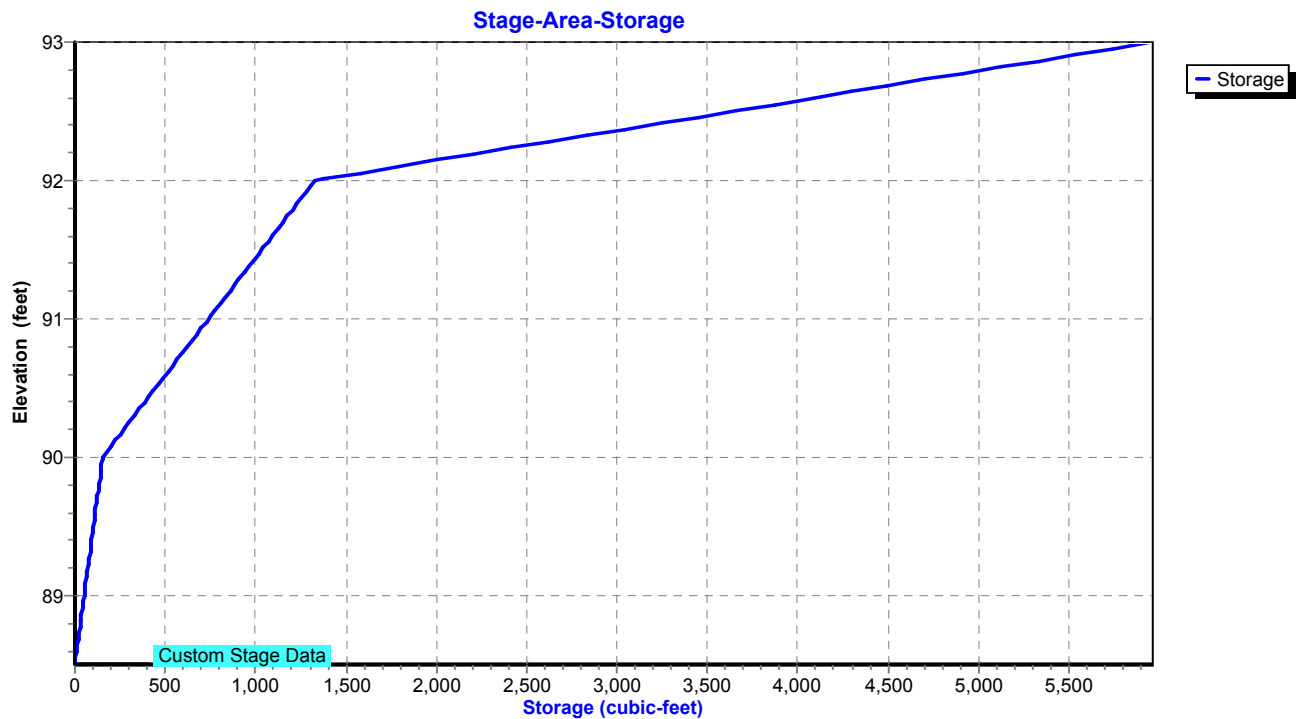
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Pond 6P: DET 6 Culvert



Pond 6P: DET 6 Culvert



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Pond 7P: DET 7 Culvert

Inflow Area = 64,033 sf, 0.00% Impervious, Inflow Depth = 1.69" for 2 year event
 Inflow = 1.80 cfs @ 12.27 hrs, Volume= 9,031 cf
 Outflow = 1.35 cfs @ 12.43 hrs, Volume= 9,031 cf, Atten= 25%, Lag= 9.9 min
 Primary = 1.35 cfs @ 12.43 hrs, Volume= 9,031 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 93.08' @ 12.43 hrs Storage= 557 cf

Plug-Flow detention time= 4.8 min calculated for 9,031 cf (100% of inflow)

Center-of-Mass det. time= 4.8 min (876.3 - 871.5)

Volume	Invert	Avail.Storage	Storage Description
#1	92.50'	5,874 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
92.50	0	0
93.00	103	103
94.00	5,771	5,874

Device	Routing	Invert	Outlet Devices
#1	Primary	92.50'	15.0" Round Culvert L= 202.0' Ke= 0.600 Inlet / Outlet Invert= 92.50' / 89.11' S= 0.0168 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=1.35 cfs @ 12.43 hrs HW=93.08' (Free Discharge)↑**1=Culvert** (Inlet Controls 1.35 cfs @ 2.43 fps)

Existing Conditions

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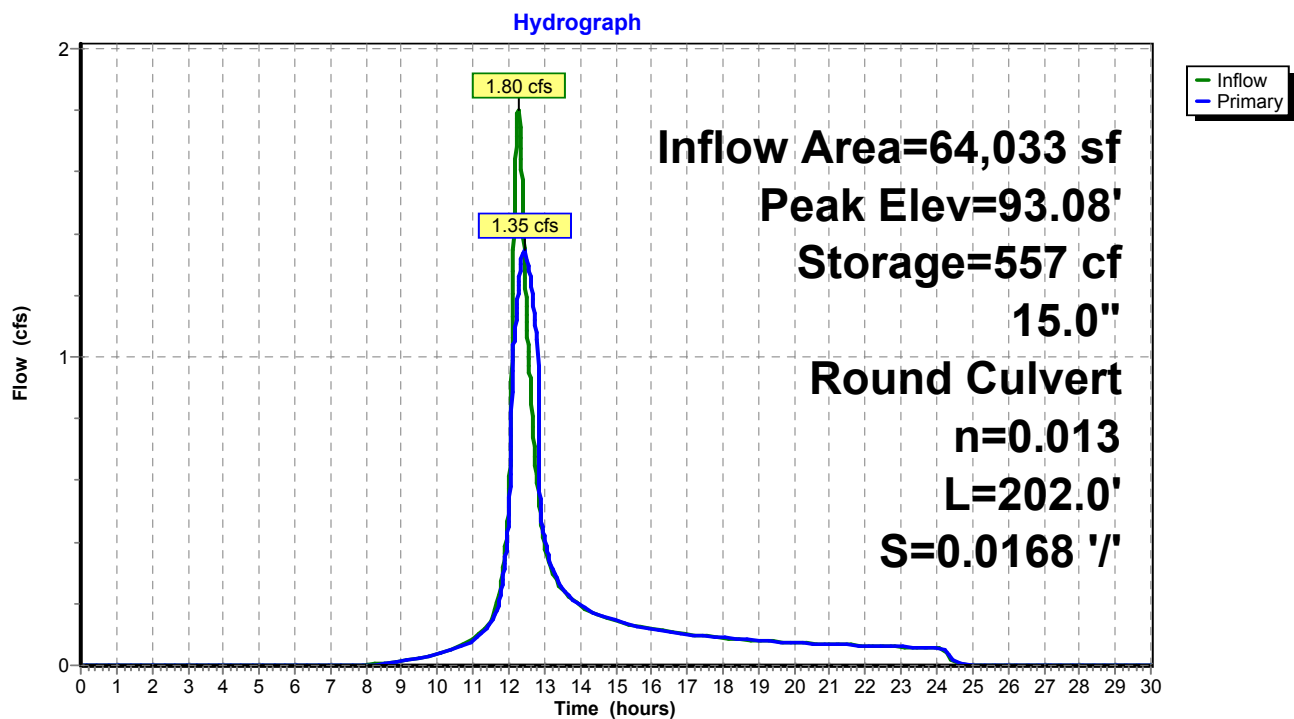
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NORWALK 24-hr S1 2 year Rainfall=3.48"

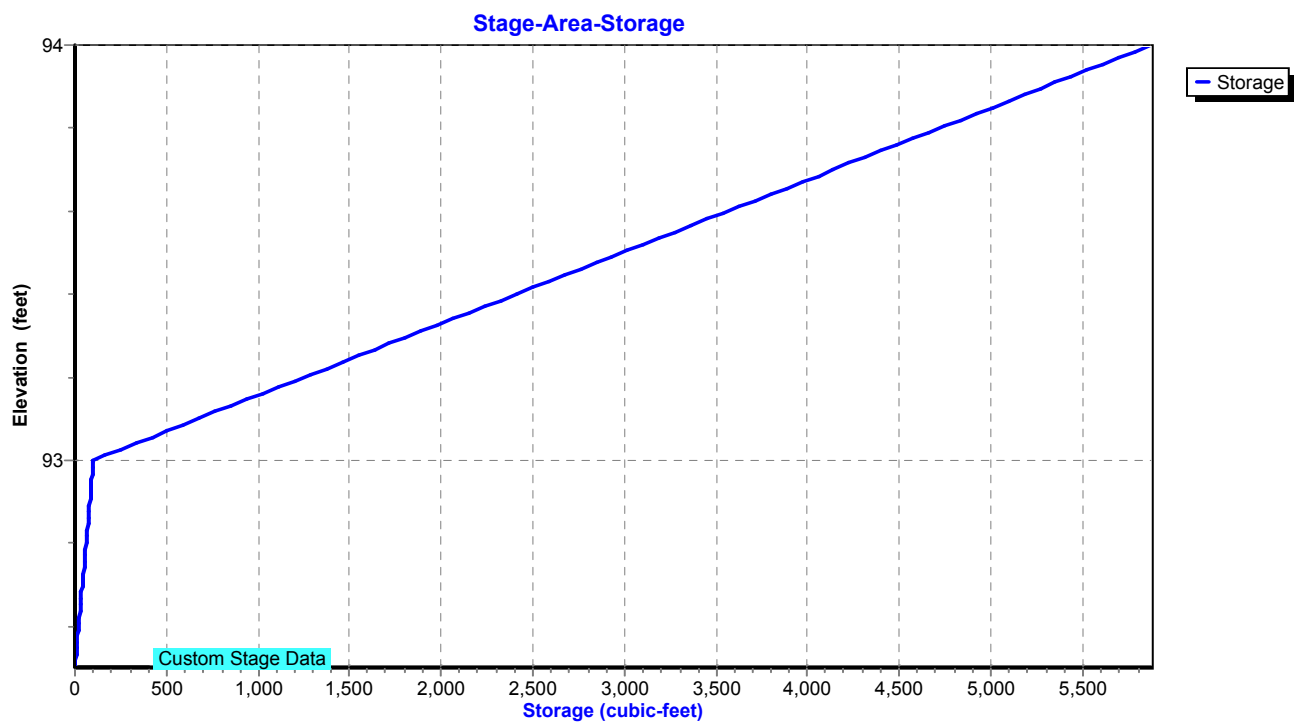
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Pond 7P: DET 7 Culvert



Pond 7P: DET 7 Culvert



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Pond 8P: Comb. 5,6,7,8,9

Inflow Area = 1,584,277 sf, 30.02% Impervious, Inflow Depth = 1.64" for 2 year event
 Inflow = 26.57 cfs @ 12.65 hrs, Volume= 216,885 cf
 Outflow = 26.57 cfs @ 12.65 hrs, Volume= 216,885 cf, Atten= 0%, Lag= 0.0 min
 Primary = 26.57 cfs @ 12.65 hrs, Volume= 216,885 cf
 Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 70.37' @ 12.65 hrs Storage= 39 cf

Plug-Flow detention time= 0.1 min calculated for 216,885 cf (100% of inflow)
 Center-of-Mass det. time= 0.1 min (890.4 - 890.3)

Volume	Invert	Avail.Storage	Storage Description
#1	68.40'	5,234 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.40	0	0
71.00	52	52
72.00	118	170
73.00	471	641
74.00	1,318	1,959
75.00	3,275	5,234

Device	Routing	Invert	Outlet Devices
#1	Primary	68.40'	42.0" Round Culvert L= 900.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 68.40' / 36.99' S= 0.0349 ' / Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=26.56 cfs @ 12.65 hrs HW=70.37' (Free Discharge)
 ↑1=Culvert (Inlet Controls 26.56 cfs @ 4.77 fps)

Existing Conditions

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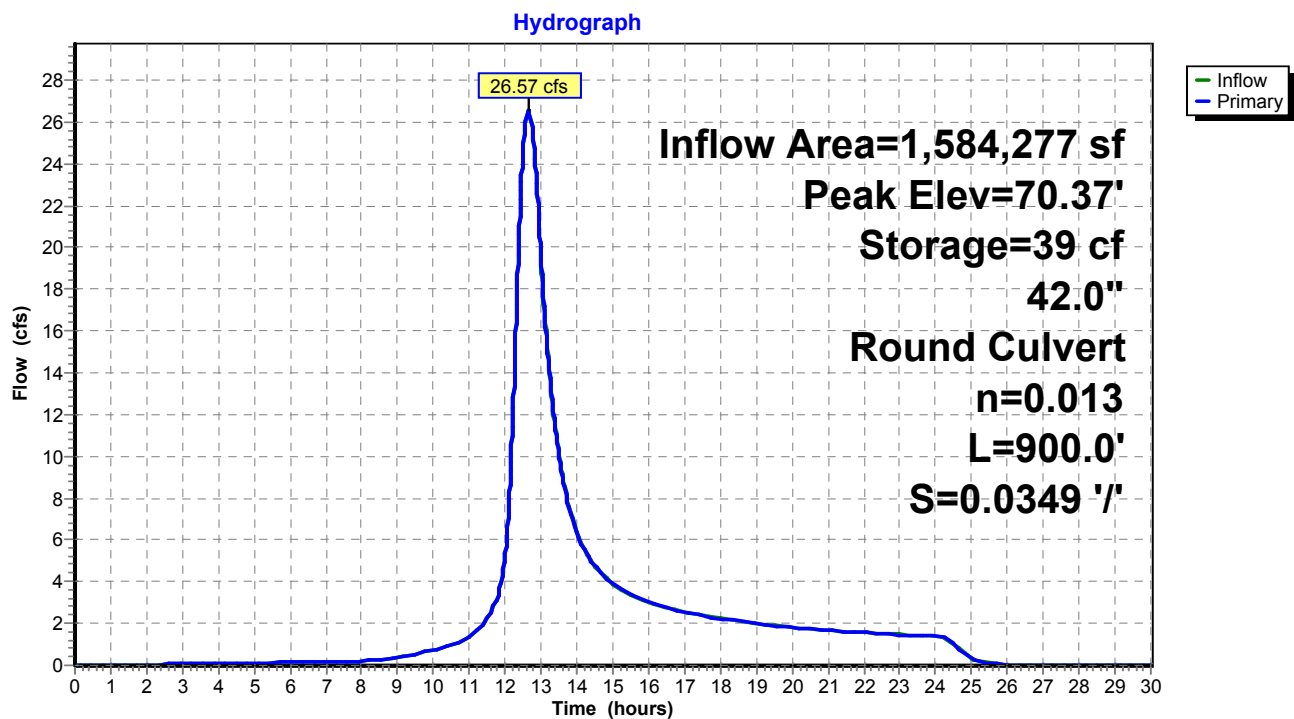
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NORWALK 24-hr S1 2 year Rainfall=3.48"

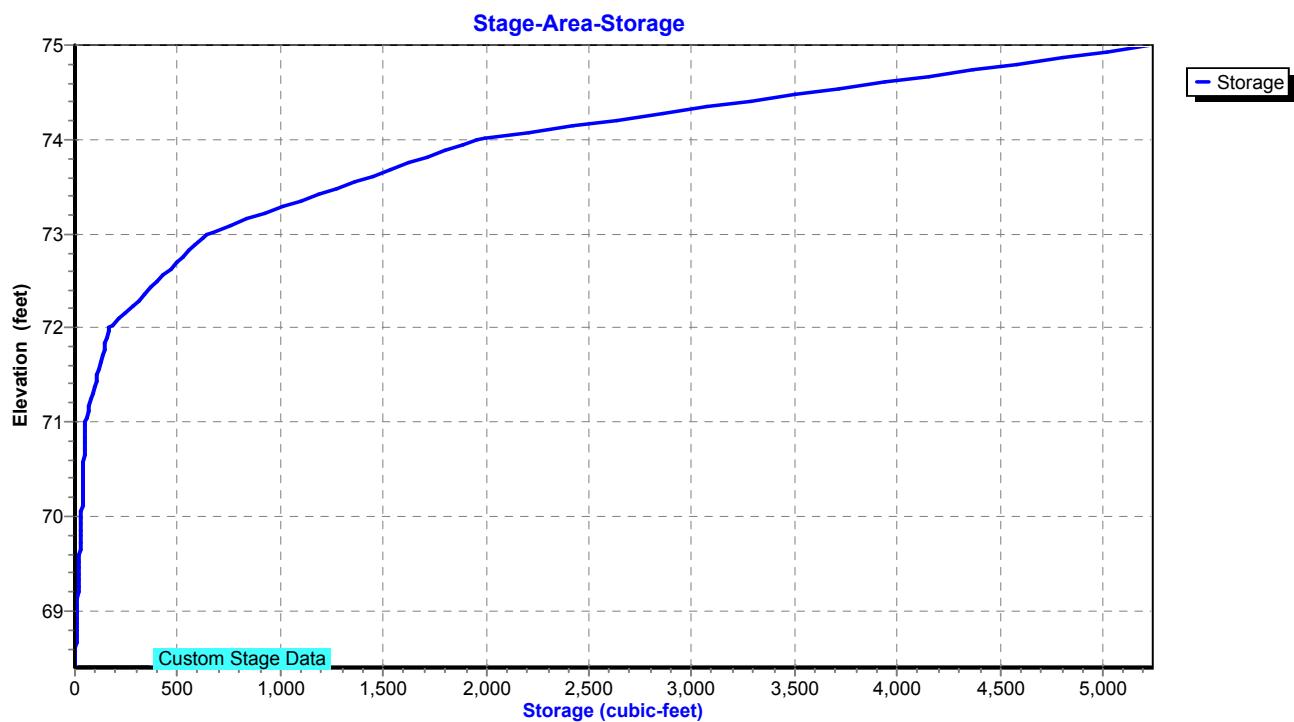
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Pond 8P: Comb. 5,6,7,8,9



Pond 8P: Comb. 5,6,7,8,9



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Pond 9P: MH-K

Inflow Area = 246,332 sf, 62.25% Impervious, Inflow Depth = 1.89" for 2 year event
Inflow = 13.83 cfs @ 12.03 hrs, Volume= 38,855 cf
Outflow = 13.83 cfs @ 12.03 hrs, Volume= 38,855 cf, Atten= 0%, Lag= 0.0 min
Primary = 13.83 cfs @ 12.03 hrs, Volume= 38,855 cf
Routed to Pond 3P : DETENTION BASIN #2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 49.28' @ 12.03 hrs

Flood Elev= 51.80'

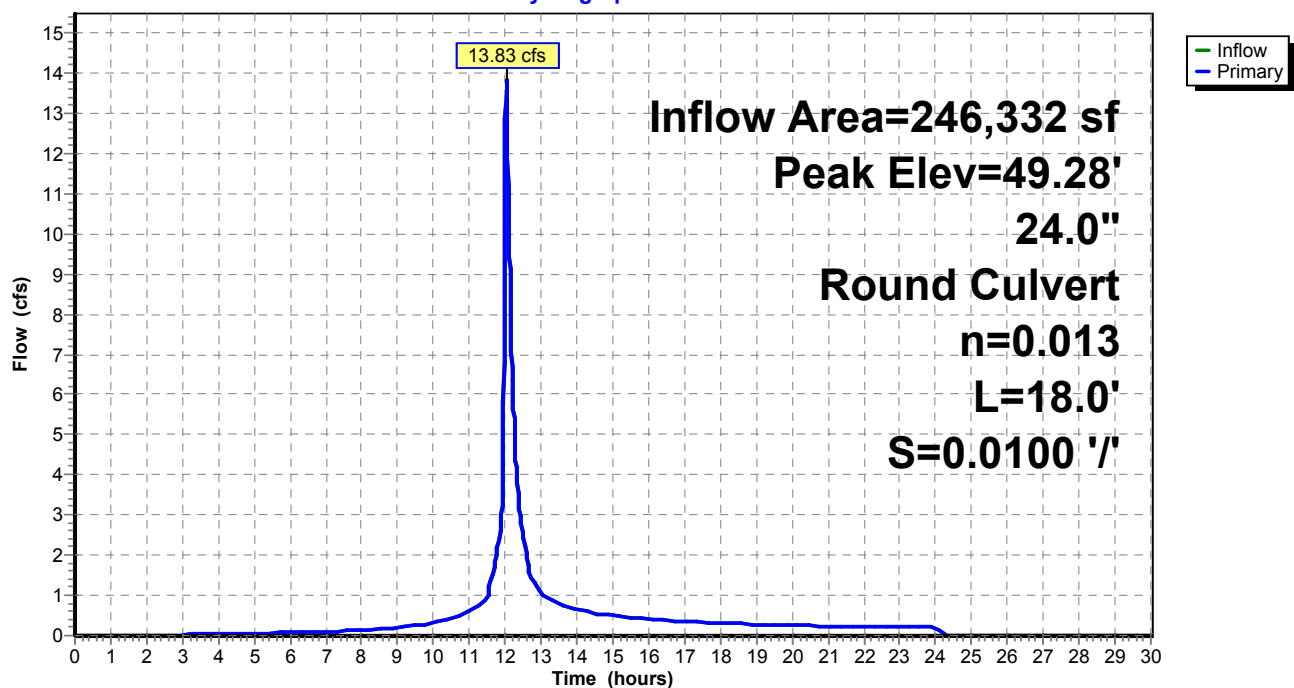
Device	Routing	Invert	Outlet Devices
#1	Primary	47.18'	24.0" Round Culvert L= 18.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.18' / 47.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=13.79 cfs @ 12.03 hrs HW=49.28' (Free Discharge)

↑1=Culvert (Barrel Controls 13.79 cfs @ 5.21 fps)

Pond 9P: MH-K

Hydrograph



Existing Conditions

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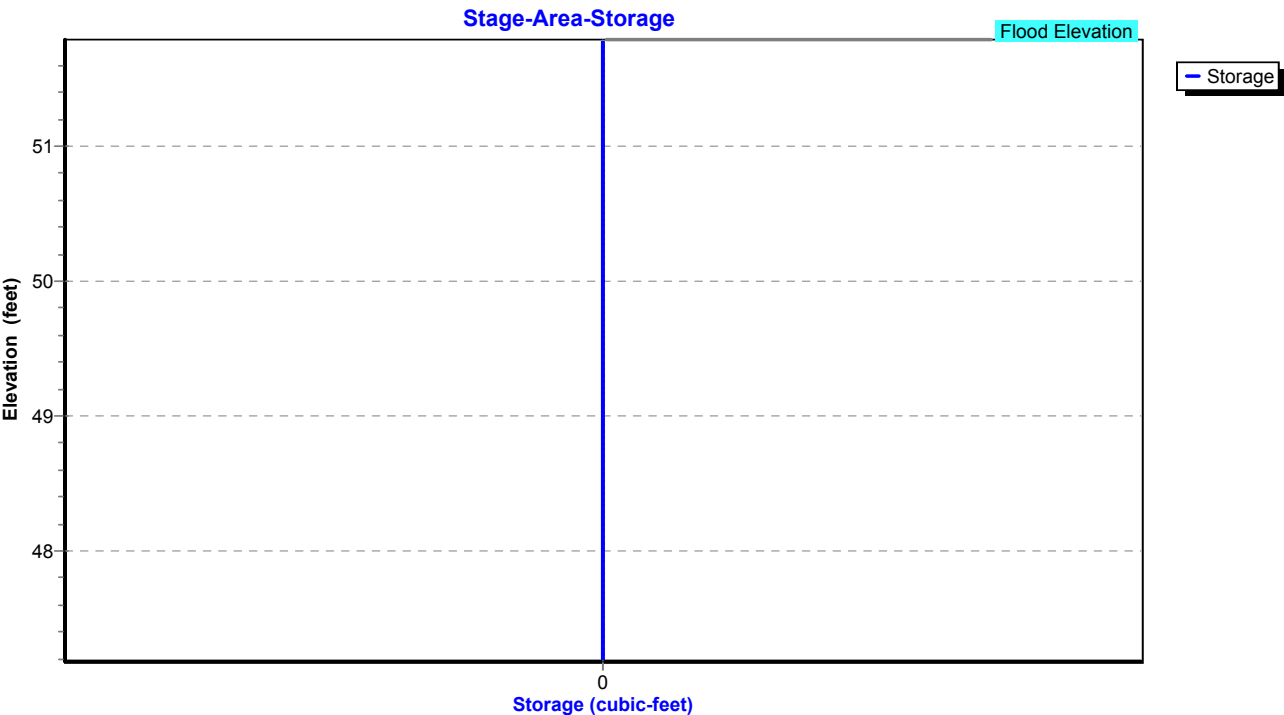
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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Pond 9P: MH-K



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Summary for Pond 10P: MH-L

Inflow Area = 71,874 sf, 85.27% Impervious, Inflow Depth = 1.50" for 2 year event
Inflow = 5.92 cfs @ 12.03 hrs, Volume= 9,011 cf
Outflow = 5.92 cfs @ 12.03 hrs, Volume= 9,011 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.92 cfs @ 12.03 hrs, Volume= 9,011 cf
Routed to Pond 9P : MH-K

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 49.34' @ 12.03 hrs

Flood Elev= 53.00'

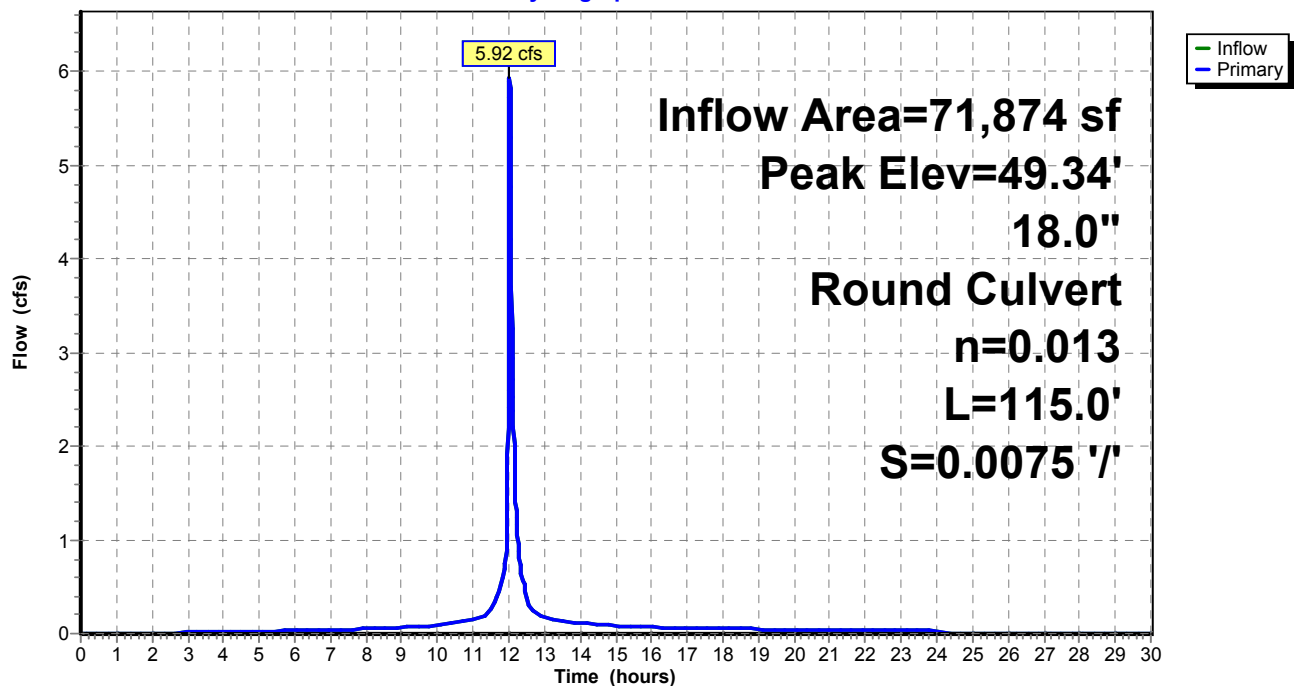
Device	Routing	Invert	Outlet Devices
#1	Primary	48.04'	18.0" Round Culvert L= 115.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.04' / 47.18' S= 0.0075 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=5.90 cfs @ 12.03 hrs HW=49.34' (Free Discharge)

↑1=Culvert (Barrel Controls 5.90 cfs @ 4.85 fps)

Pond 10P: MH-L

Hydrograph



Existing Conditions

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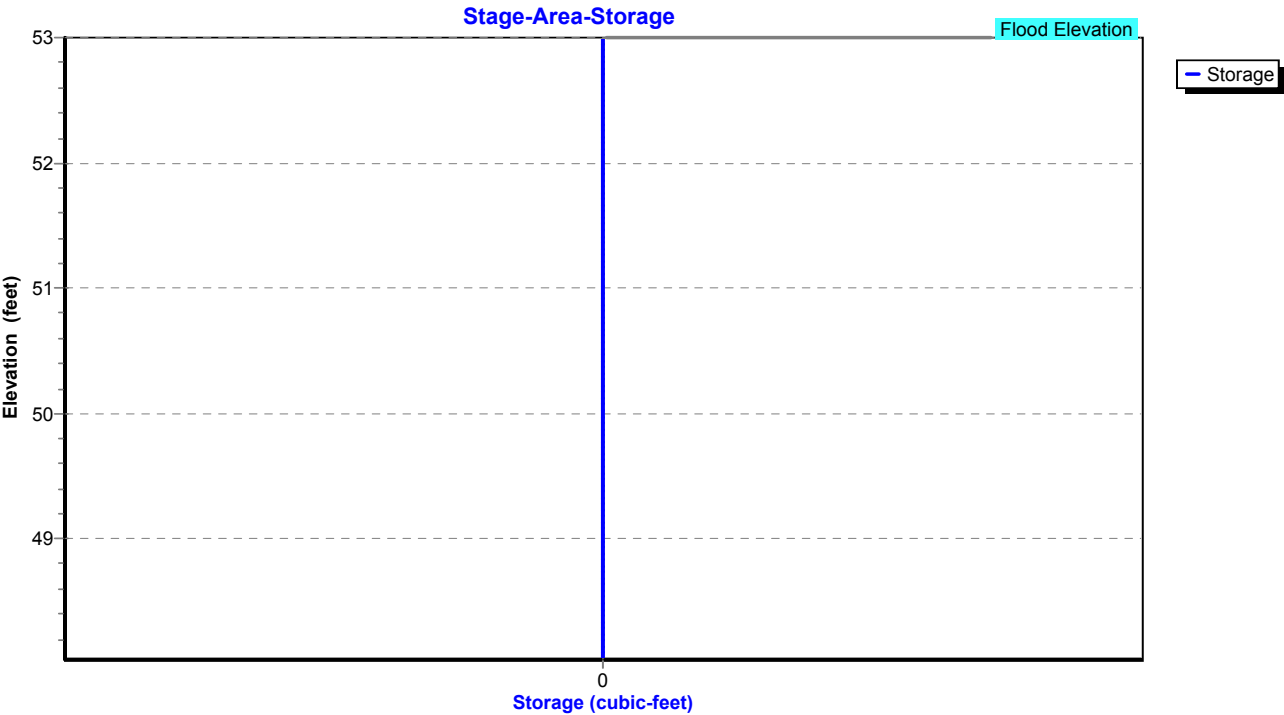
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Pond 10P: MH-L



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Summary for Pond 11P: Pipe Storage

Inflow Area = 40,903 sf, 82.85% Impervious, Inflow Depth = 2.83" for 2 year event
Inflow = 3.63 cfs @ 12.03 hrs, Volume= 9,636 cf
Outflow = 3.11 cfs @ 12.03 hrs, Volume= 1,386 cf, Atten= 14%, Lag= 0.0 min
Primary = 3.11 cfs @ 12.03 hrs, Volume= 1,386 cf
Routed to Pond 10P : MH-L

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 49.68' @ 12.03 hrs Storage= 0.081 af

Plug-Flow detention time= 233.3 min calculated for 1,385 cf (14% of inflow)

Center-of-Mass det. time= (not calculated: outflow precedes inflow)

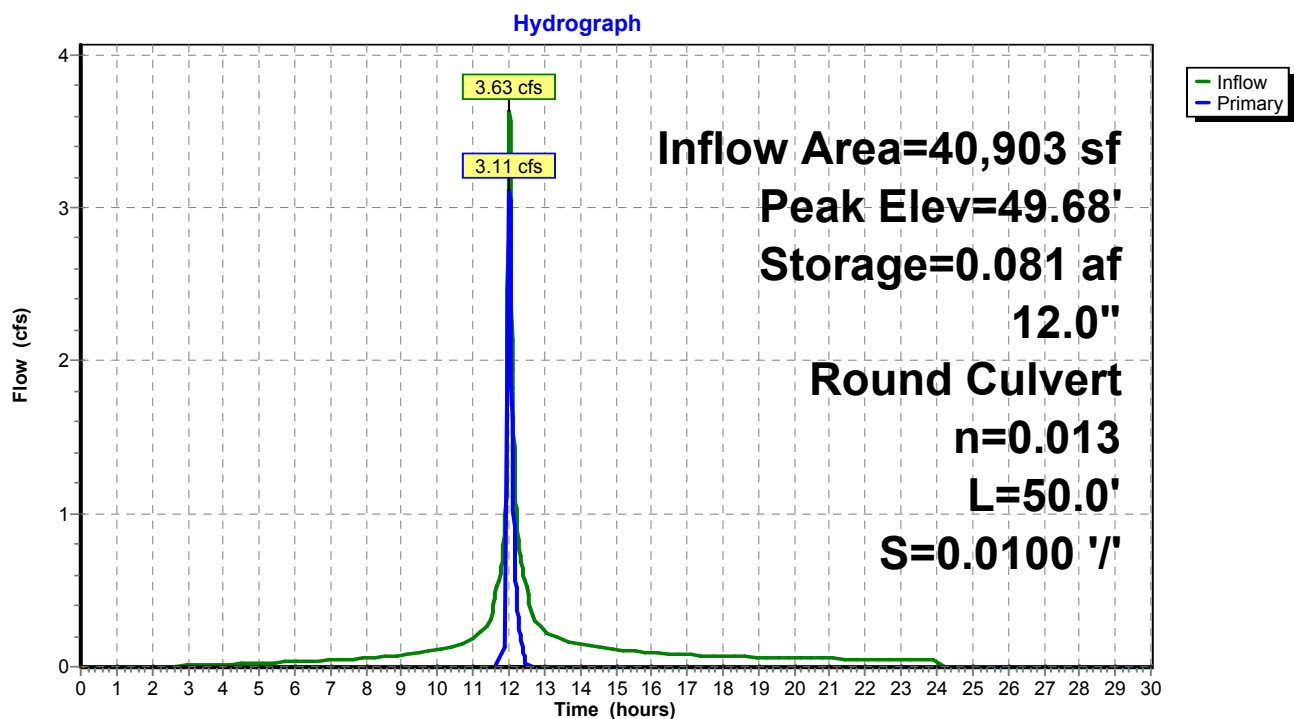
Volume	Invert	Avail.Storage	Storage Description
#1	45.50'	0.081 af	36.0" Round Pipe Storage x 2 L= 250.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.50'	12.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.50' / 48.00' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=3.10 cfs @ 12.03 hrs HW=49.67' (Free Discharge)

←1=Culvert (Inlet Controls 3.10 cfs @ 3.94 fps)

Pond 11P: Pipe Storage



Existing Conditions

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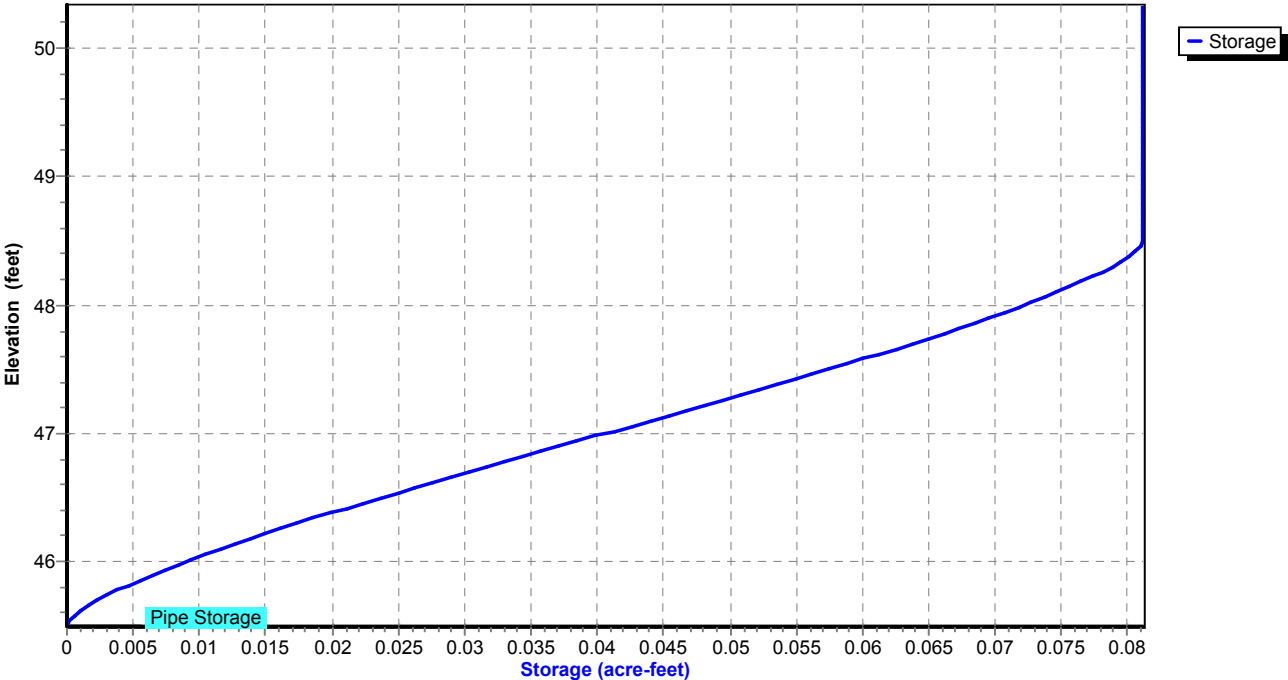
NORWALK 24-hr S1 2 year Rainfall=3.48"

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Pond 11P: Pipe Storage

Stage-Area-Storage



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Summary for Pond 12P: MH-M

Inflow Area = 30,971 sf, 88.47% Impervious, Inflow Depth = 2.95" for 2 year event
Inflow = 2.81 cfs @ 12.03 hrs, Volume= 7,625 cf
Outflow = 2.81 cfs @ 12.03 hrs, Volume= 7,625 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.81 cfs @ 12.03 hrs, Volume= 7,625 cf
Routed to Pond 10P : MH-L

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 49.82' @ 12.03 hrs

Flood Elev= 54.00'

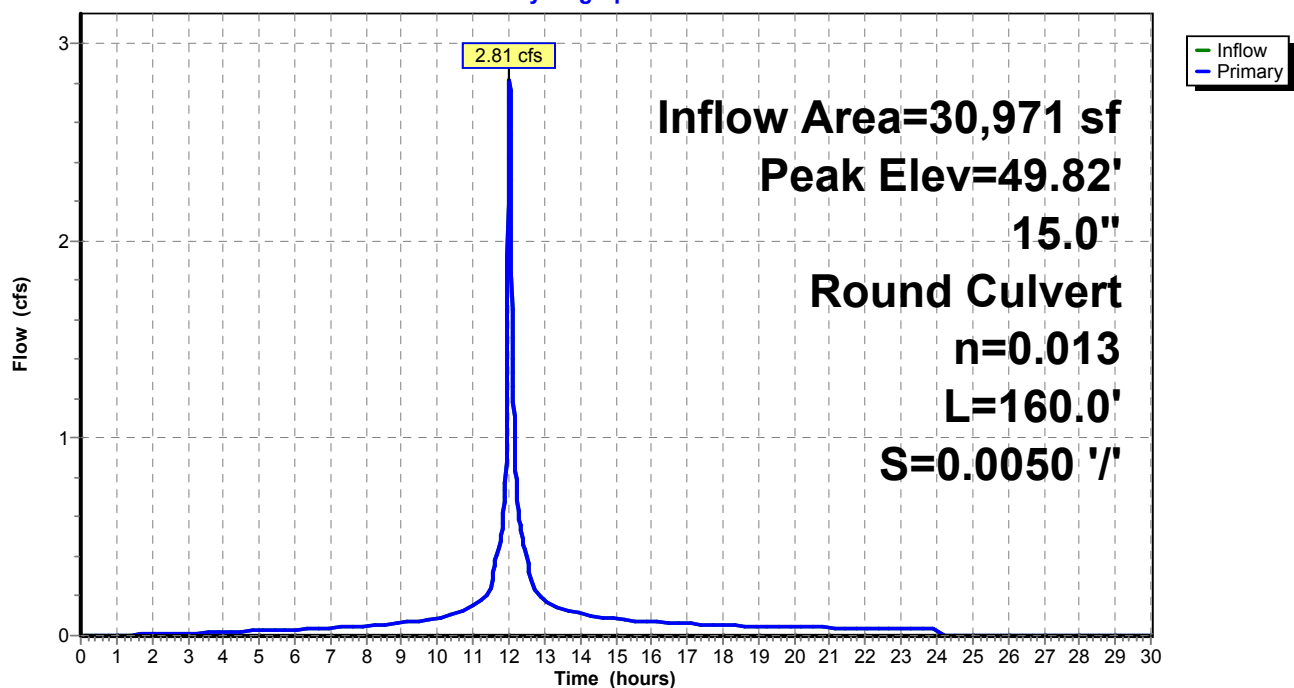
Device	Routing	Invert	Outlet Devices
#1	Primary	48.84'	15.0" Round Culvert L= 160.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.84' / 48.04' S= 0.0050 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=2.80 cfs @ 12.03 hrs HW=49.82' (Free Discharge)

↑1=Culvert (Barrel Controls 2.80 cfs @ 3.75 fps)

Pond 12P: MH-M

Hydrograph



Existing Conditions

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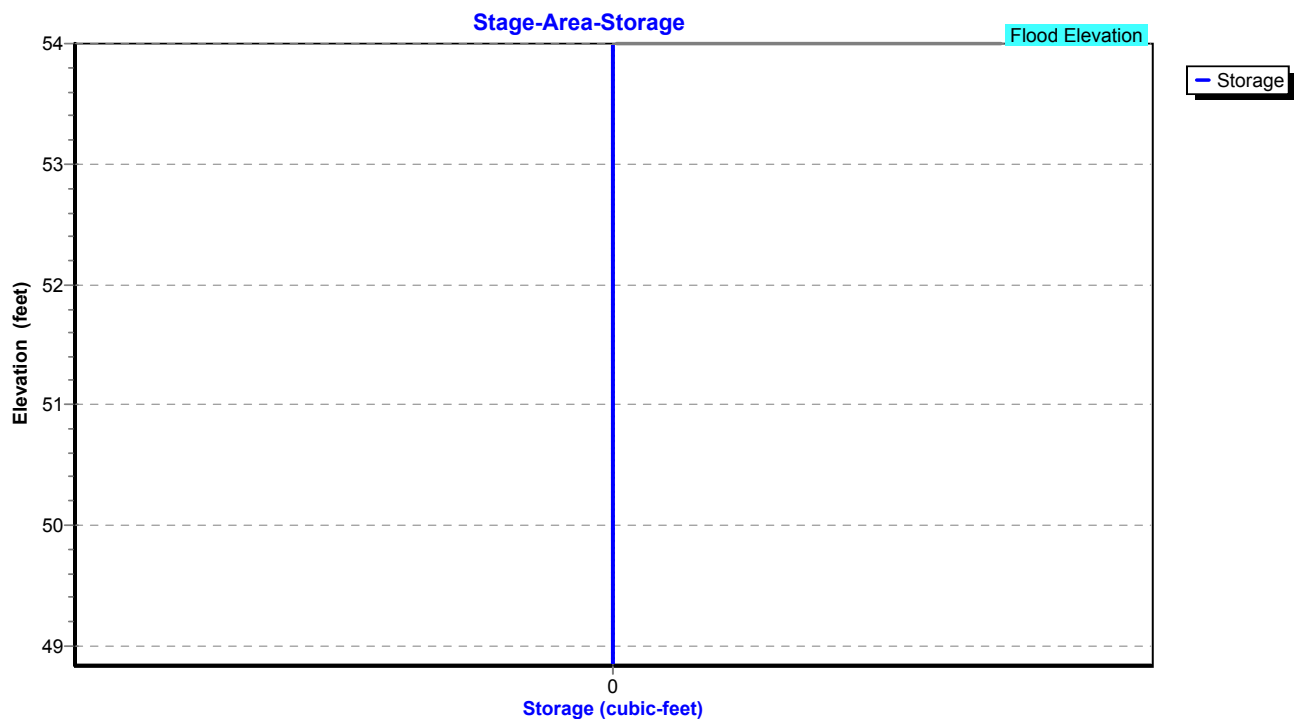
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Pond 12P: MH-M



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Summary for Pond 13P: MH-J

Inflow Area = 17,032 sf, 79.03% Impervious, Inflow Depth = 2.72" for 2 year event
Inflow = 1.48 cfs @ 12.03 hrs, Volume= 3,854 cf
Outflow = 1.48 cfs @ 12.03 hrs, Volume= 3,854 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.48 cfs @ 12.03 hrs, Volume= 3,854 cf
Routed to Pond 12P : MH-M

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.32' @ 12.03 hrs

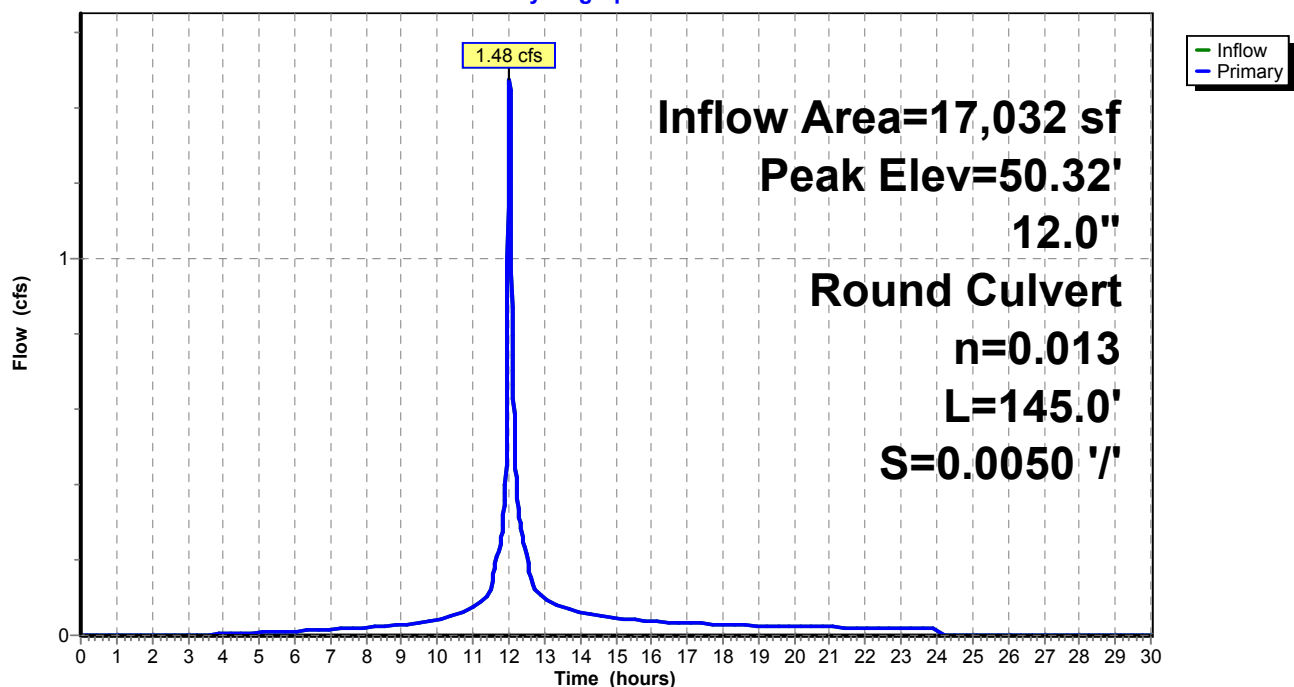
Device	Routing	Invert	Outlet Devices
#1	Primary	49.57'	12.0" Round Culvert L= 145.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.57' / 48.84' S= 0.0050 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.47 cfs @ 12.03 hrs HW=50.32' (Free Discharge)

↑1=Culvert (Barrel Controls 1.47 cfs @ 3.23 fps)

Pond 13P: MH-J

Hydrograph



Existing Conditions

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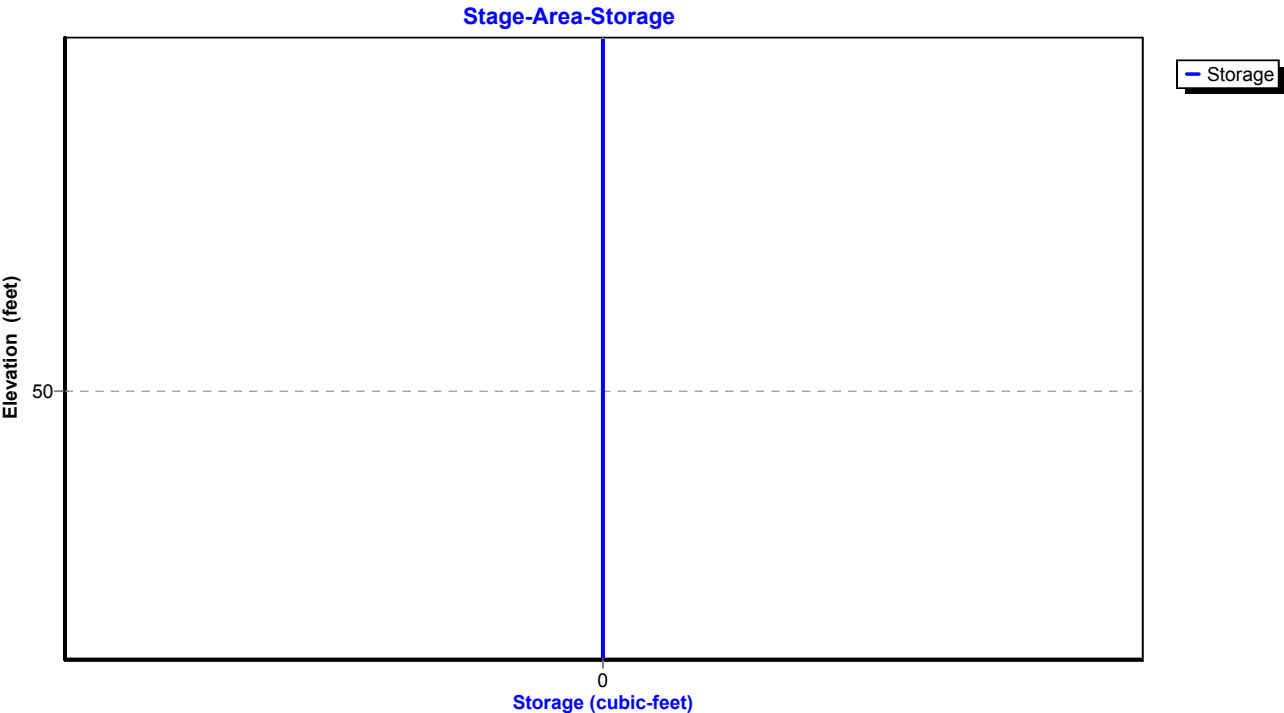
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Pond 13P: MH-J



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Summary for Pond 14P: MH-O

Inflow Area = 144,140 sf, 45.36% Impervious, Inflow Depth = 1.87" for 2 year event
Inflow = 5.66 cfs @ 12.10 hrs, Volume= 22,468 cf
Outflow = 5.66 cfs @ 12.10 hrs, Volume= 22,468 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.66 cfs @ 12.10 hrs, Volume= 22,468 cf
Routed to Pond 9P : MH-K

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 49.19' @ 12.10 hrs

Flood Elev= 51.80'

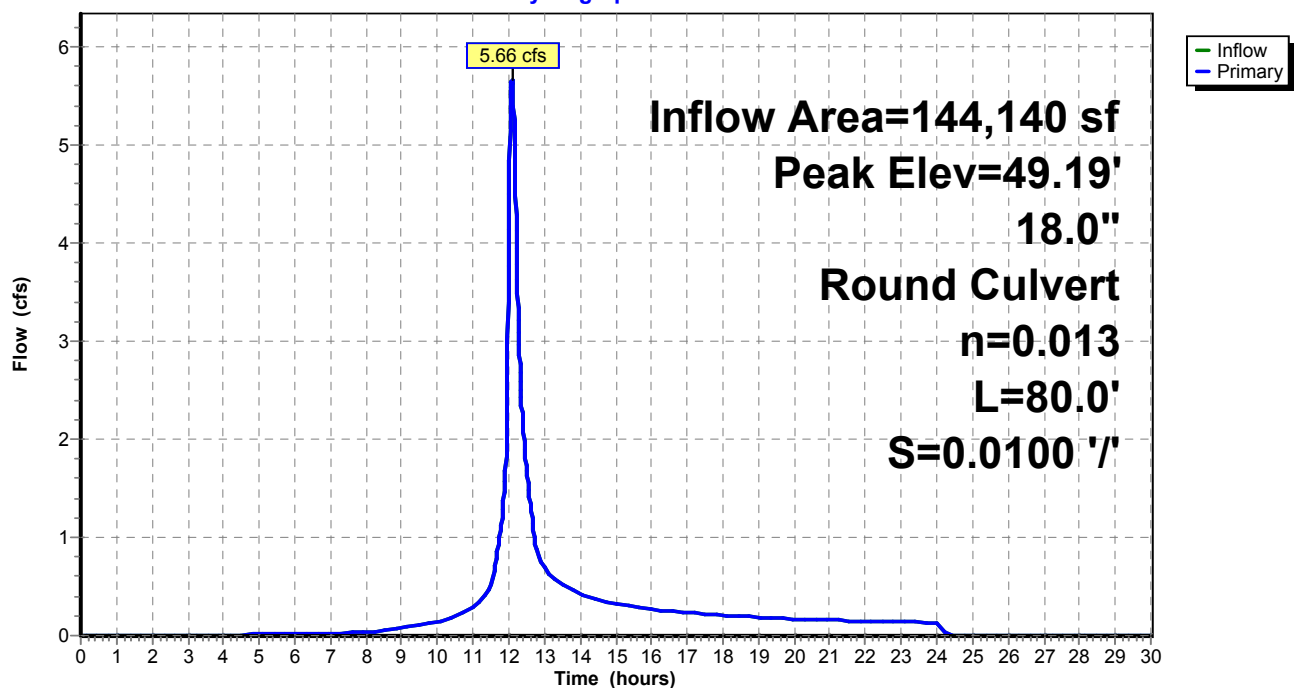
Device	Routing	Invert	Outlet Devices
#1	Primary	47.98'	18.0" Round Culvert L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.98' / 47.18' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=5.66 cfs @ 12.10 hrs HW=49.19' (Free Discharge)

↑1=Culvert (Barrel Controls 5.66 cfs @ 5.07 fps)

Pond 14P: MH-O

Hydrograph



Existing Conditions

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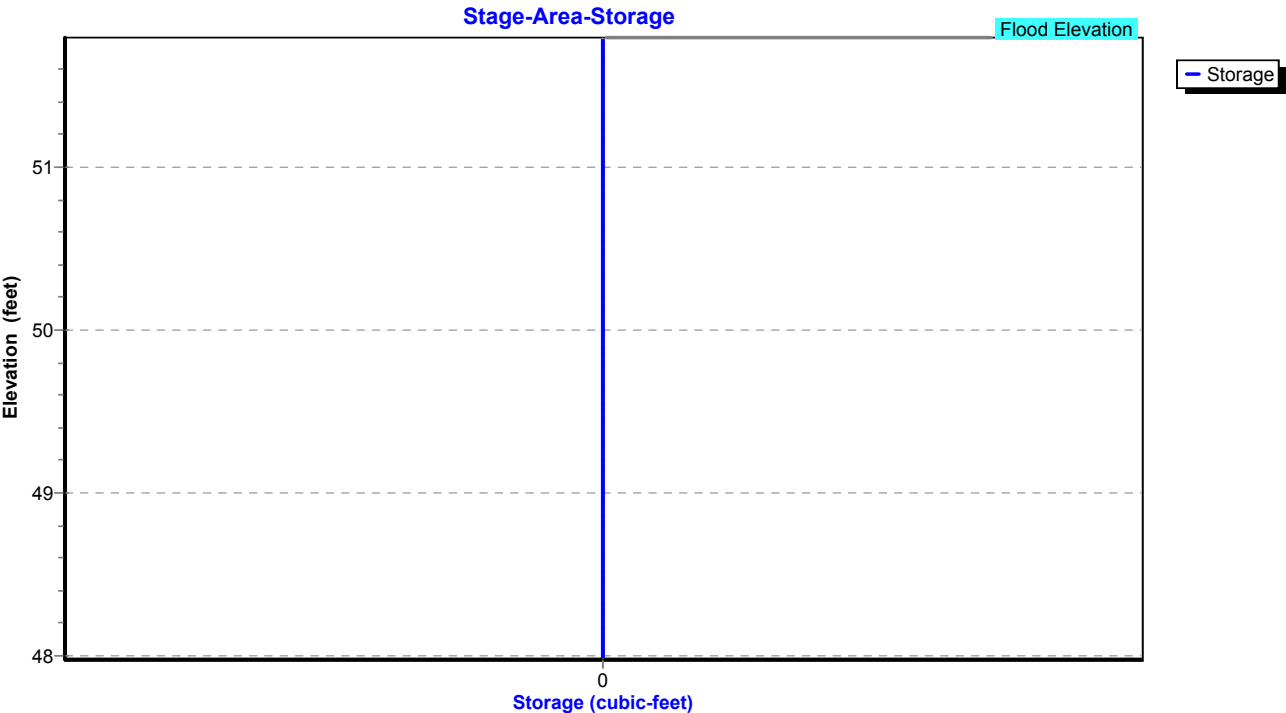
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Pond 14P: MH-O



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Pond 15P: MH-P

Inflow Area = 126,542 sf, 40.90% Impervious, Inflow Depth = 1.75" for 2 year event
Inflow = 4.88 cfs @ 12.11 hrs, Volume= 18,464 cf
Outflow = 4.88 cfs @ 12.11 hrs, Volume= 18,464 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.88 cfs @ 12.11 hrs, Volume= 18,464 cf
Routed to Pond 14P : MH-O

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.72' @ 12.11 hrs

Flood Elev= 53.90'

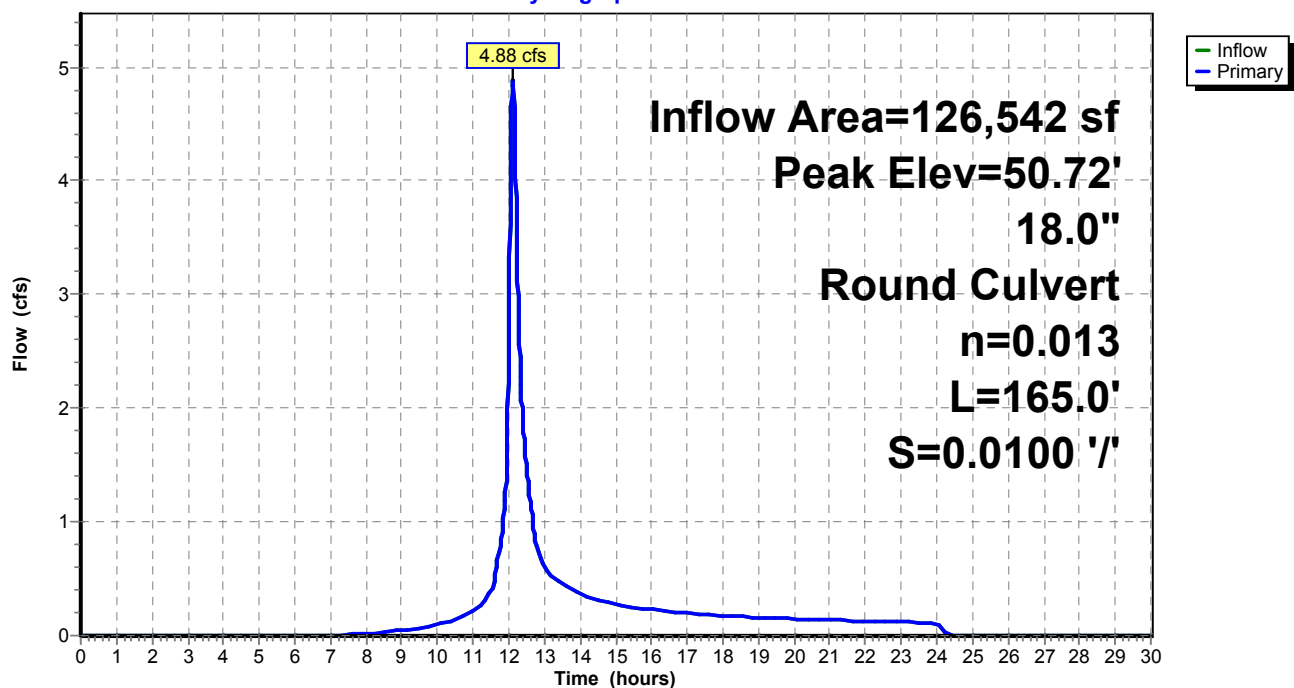
Device	Routing	Invert	Outlet Devices
#1	Primary	49.63'	18.0" Round Culvert L= 165.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.63' / 47.98' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=4.88 cfs @ 12.11 hrs HW=50.72' (Free Discharge)

↑1=Culvert (Inlet Controls 4.88 cfs @ 3.55 fps)

Pond 15P: MH-P

Hydrograph



Existing Conditions

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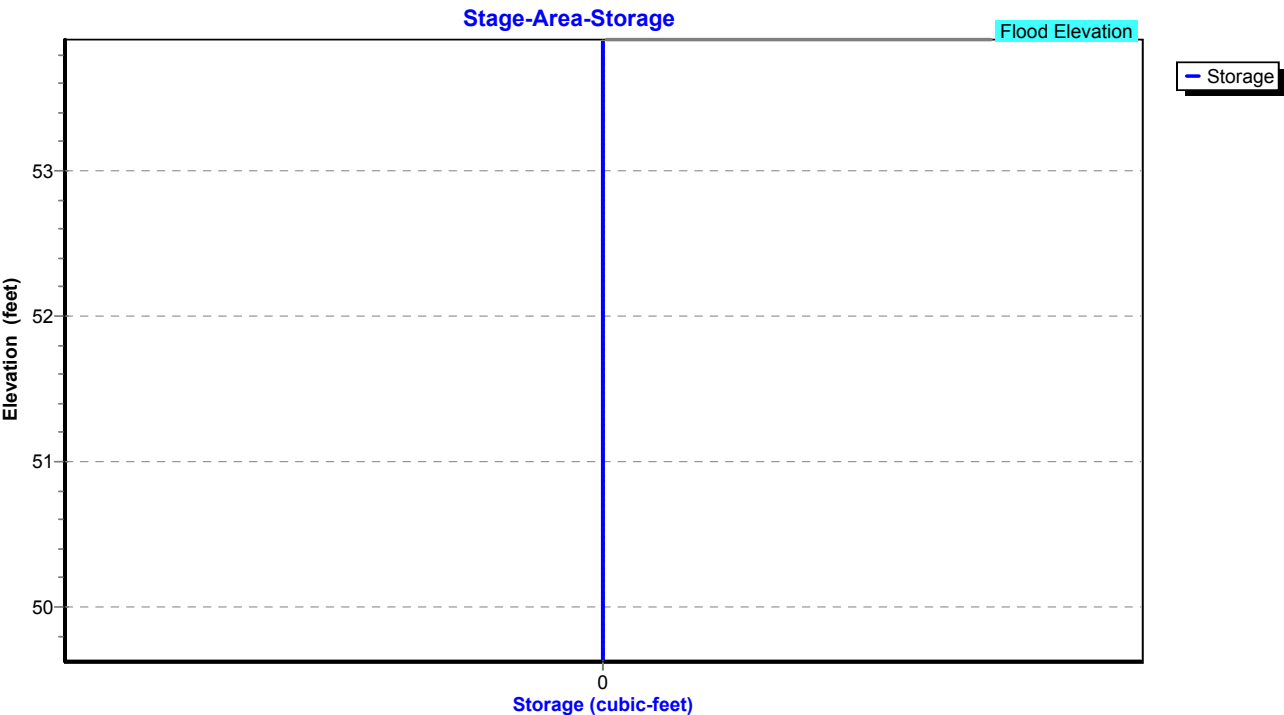
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Pond 15P: MH-P



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Pond 16P: MH-Q

Inflow Area = 115,826 sf, 38.74% Impervious, Inflow Depth = 1.69" for 2 year event
Inflow = 4.48 cfs @ 12.12 hrs, Volume= 16,335 cf
Outflow = 4.48 cfs @ 12.12 hrs, Volume= 16,335 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.48 cfs @ 12.12 hrs, Volume= 16,335 cf
Routed to Pond 15P : MH-P

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 52.47' @ 12.12 hrs

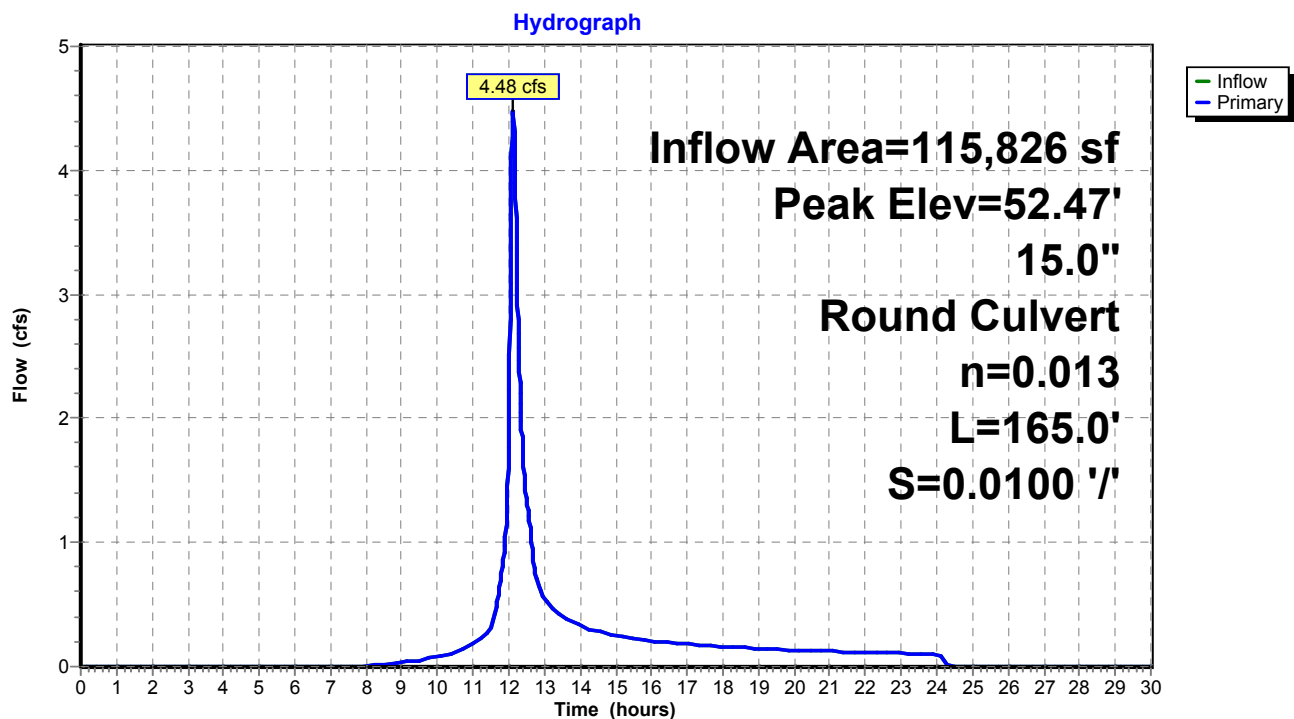
Flood Elev= 55.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.28'	15.0" Round Culvert L= 165.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 51.28' / 49.63' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=4.48 cfs @ 12.12 hrs HW=52.47' (Free Discharge)

↑1=Culvert (Inlet Controls 4.48 cfs @ 3.72 fps)

Pond 16P: MH-Q



Existing Conditions

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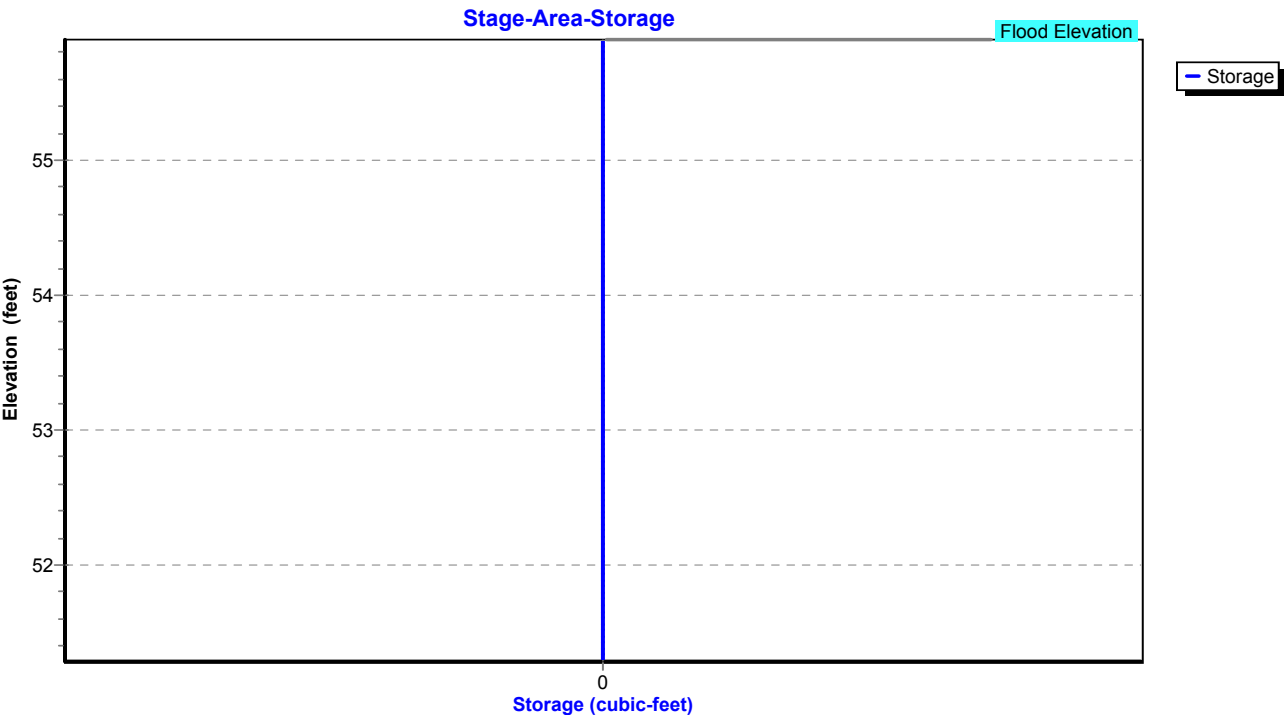
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Pond 16P: MH-Q



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Summary for Pond 17P: DET 12 Culvert

Inflow Area = 2,935,247 sf, 23.28% Impervious, Inflow Depth = 1.24" for 2 year event
 Inflow = 23.83 cfs @ 13.08 hrs, Volume= 303,052 cf
 Outflow = 23.81 cfs @ 13.14 hrs, Volume= 303,052 cf, Atten= 0%, Lag= 3.5 min
 Primary = 23.81 cfs @ 13.14 hrs, Volume= 303,052 cf
 Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 45.48' @ 13.14 hrs Surf.Area= 1,989 sf Storage= 1,956 cf

Plug-Flow detention time= 1.8 min calculated for 302,951 cf (100% of inflow)
 Center-of-Mass det. time= 1.8 min (941.7 - 939.9)

Volume	Invert	Avail.Storage	Storage Description
#1	43.80'	45,995 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
43.80	222	0	0
44.00	709	93	93
45.00	1,401	1,055	1,148
46.00	2,634	2,018	3,166
47.00	4,548	3,591	6,757
48.00	6,960	5,754	12,511
49.00	9,390	8,175	20,686
50.00	12,553	10,972	31,657
51.00	16,122	14,338	45,995

Device	Routing	Invert	Outlet Devices
#1	Primary	43.80'	54.0" Round Culvert L= 281.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 43.80' / 23.20' S= 0.0733 ' / Cc= 0.900 n= 0.013, Flow Area= 15.90 sf

Primary OutFlow Max=23.81 cfs @ 13.14 hrs HW=45.48' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 23.81 cfs @ 4.41 fps)

Existing Conditions

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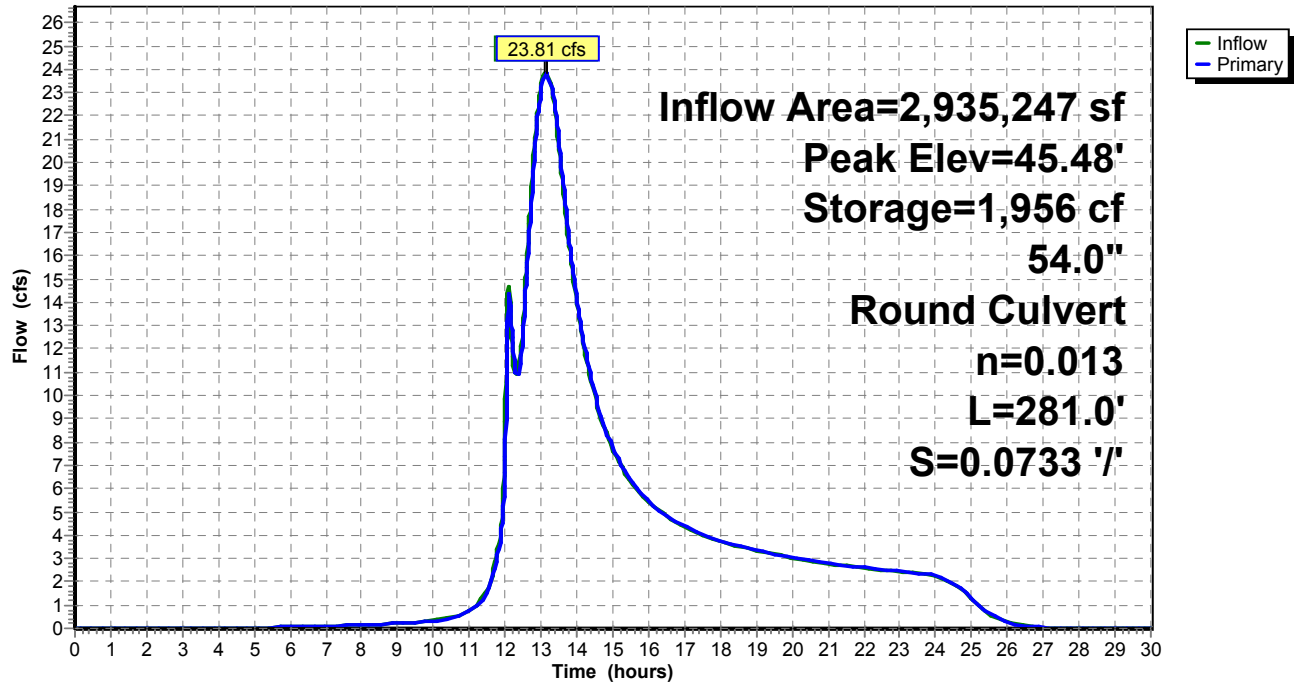
NORWALK 24-hr S1 2 year Rainfall=3.48"

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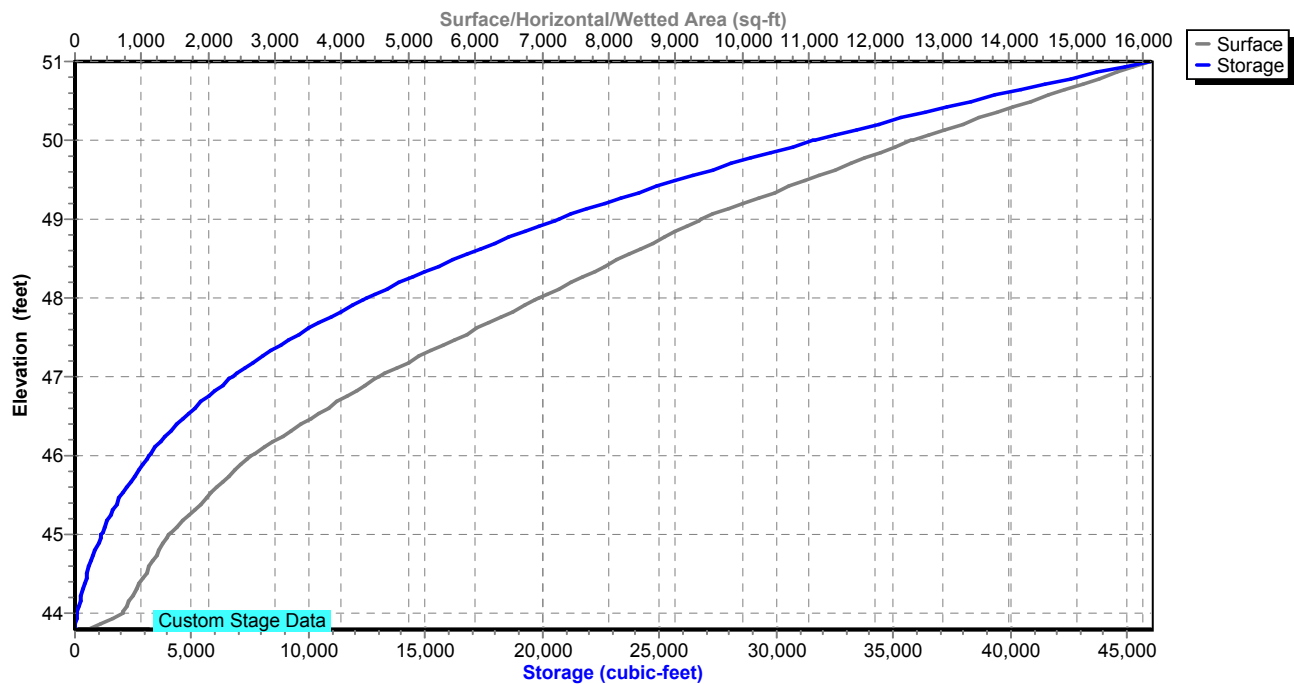
Pond 17P: DET 12 Culvert

Hydrograph



Pond 17P: DET 12 Culvert

Stage-Area-Storage



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Pond 18P: DET 4 Culvert

Inflow Area = 2,651,933 sf, 21.42% Impervious, Inflow Depth = 1.17" for 2 year event
 Inflow = 22.57 cfs @ 13.15 hrs, Volume= 257,725 cf
 Outflow = 22.57 cfs @ 13.16 hrs, Volume= 257,725 cf, Atten= 0%, Lag= 0.1 min
 Primary = 22.57 cfs @ 13.16 hrs, Volume= 257,725 cf
 Routed to Pond 17P : DET 12 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 63.92' @ 13.16 hrs Surf.Area= 191 sf Storage= 193 cf

Plug-Flow detention time= 0.1 min calculated for 257,640 cf (100% of inflow)
 Center-of-Mass det. time= 0.1 min (958.1 - 957.9)

Volume	Invert	Avail.Storage	Storage Description
#1	62.00'	13,716 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.00	10	0	0
65.00	292	453	453
66.00	695	494	947
67.00	1,049	872	1,819
68.00	1,488	1,269	3,087
69.00	2,004	1,746	4,833
70.00	2,550	2,277	7,110
71.00	3,178	2,864	9,974
72.00	4,305	3,742	13,716

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	36.0" Round Culvert L= 213.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 62.00' / 50.90' S= 0.0521 ' / Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=22.57 cfs @ 13.16 hrs HW=63.92' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 22.57 cfs @ 4.72 fps)

Existing Conditions

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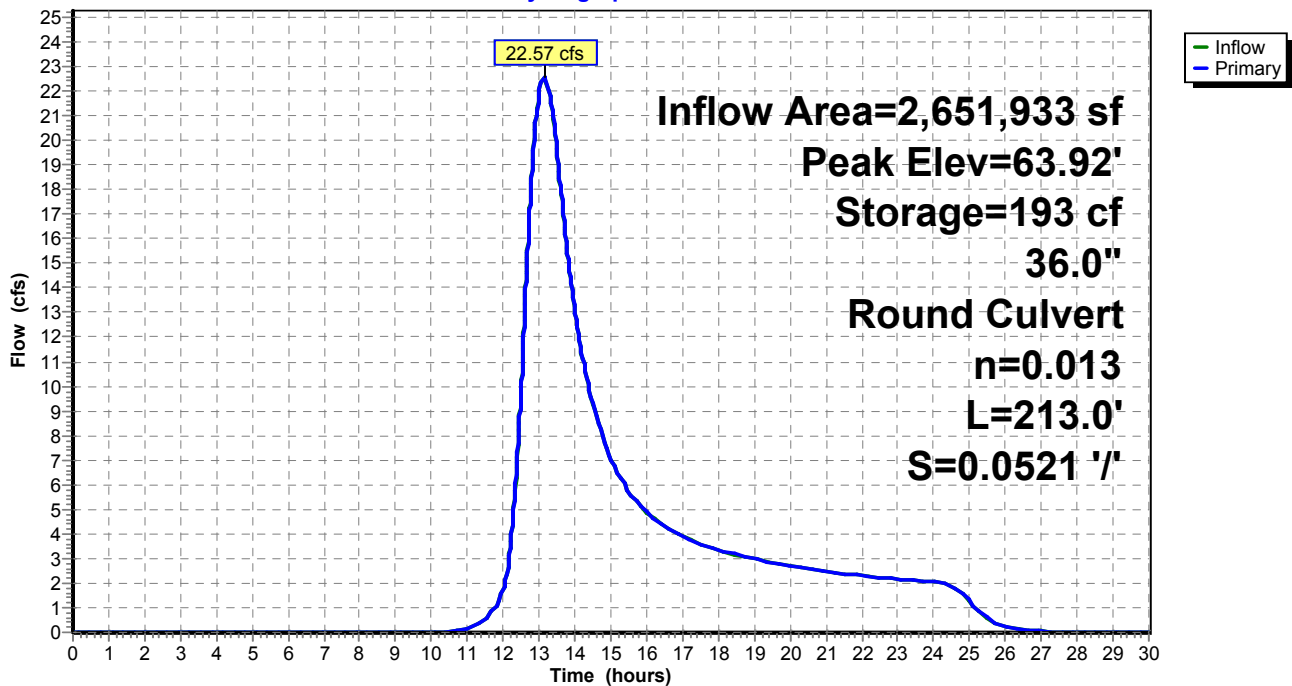
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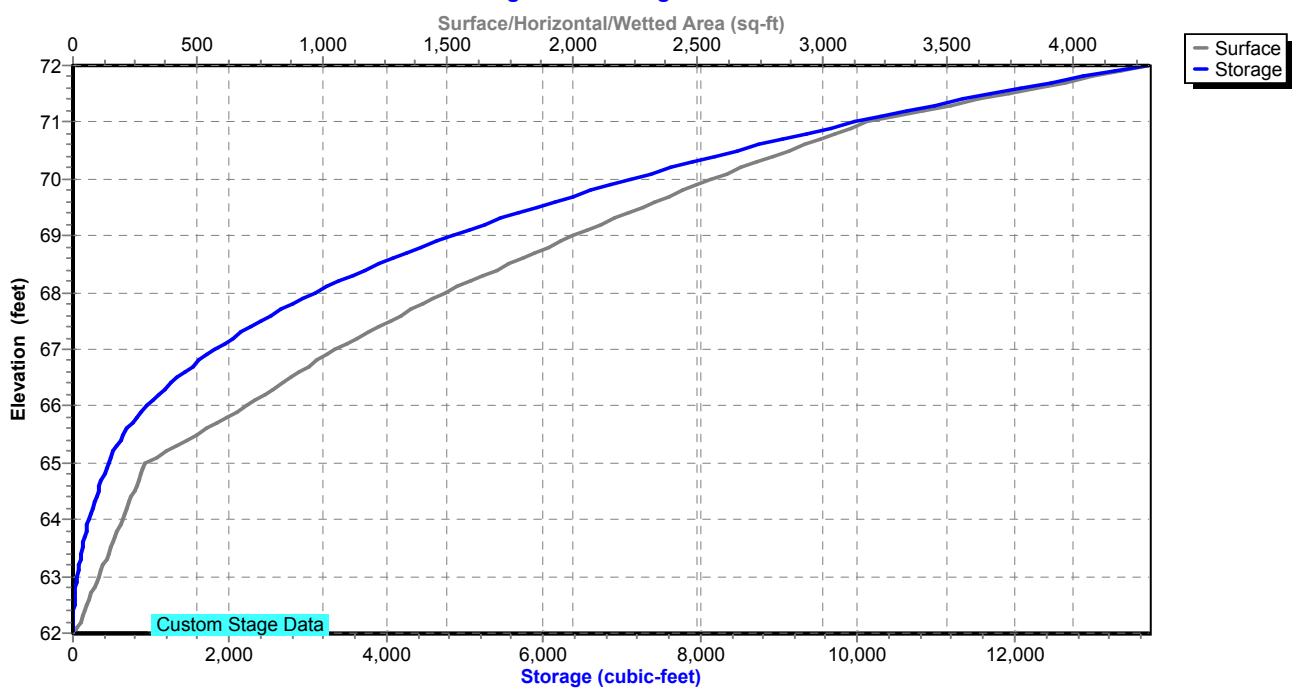
Pond 18P: DET 4 Culvert

Hydrograph



Pond 18P: DET 4 Culvert

Stage-Area-Storage



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Pond 21P: DET 1 Culvert

Inflow Area = 533,174 sf, 25.00% Impervious, Inflow Depth = 1.17" for 2 year event
 Inflow = 6.77 cfs @ 12.57 hrs, Volume= 51,816 cf
 Outflow = 6.77 cfs @ 12.58 hrs, Volume= 51,816 cf, Atten= 0%, Lag= 0.6 min
 Primary = 6.77 cfs @ 12.58 hrs, Volume= 51,816 cf
 Routed to Pond 27P : DET 17 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 38.14' @ 12.58 hrs Surf.Area= 250 sf Storage= 173 cf

Plug-Flow detention time= 0.6 min calculated for 51,799 cf (100% of inflow)
 Center-of-Mass det. time= 0.6 min (921.5 - 920.9)

Volume	Invert	Avail.Storage	Storage Description
#1	37.00'	1,591 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
37.00	66	0	0
38.00	213	140	140
39.00	470	342	481
40.00	1,750	1,110	1,591

Device	Routing	Invert	Outlet Devices
#1	Primary	37.00'	24.0" Round Culvert L= 206.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 37.00' / 27.01' S= 0.0485 ' S= 0.0485 ' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=6.77 cfs @ 12.58 hrs HW=38.14' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 6.77 cfs @ 3.64 fps)

Existing Conditions

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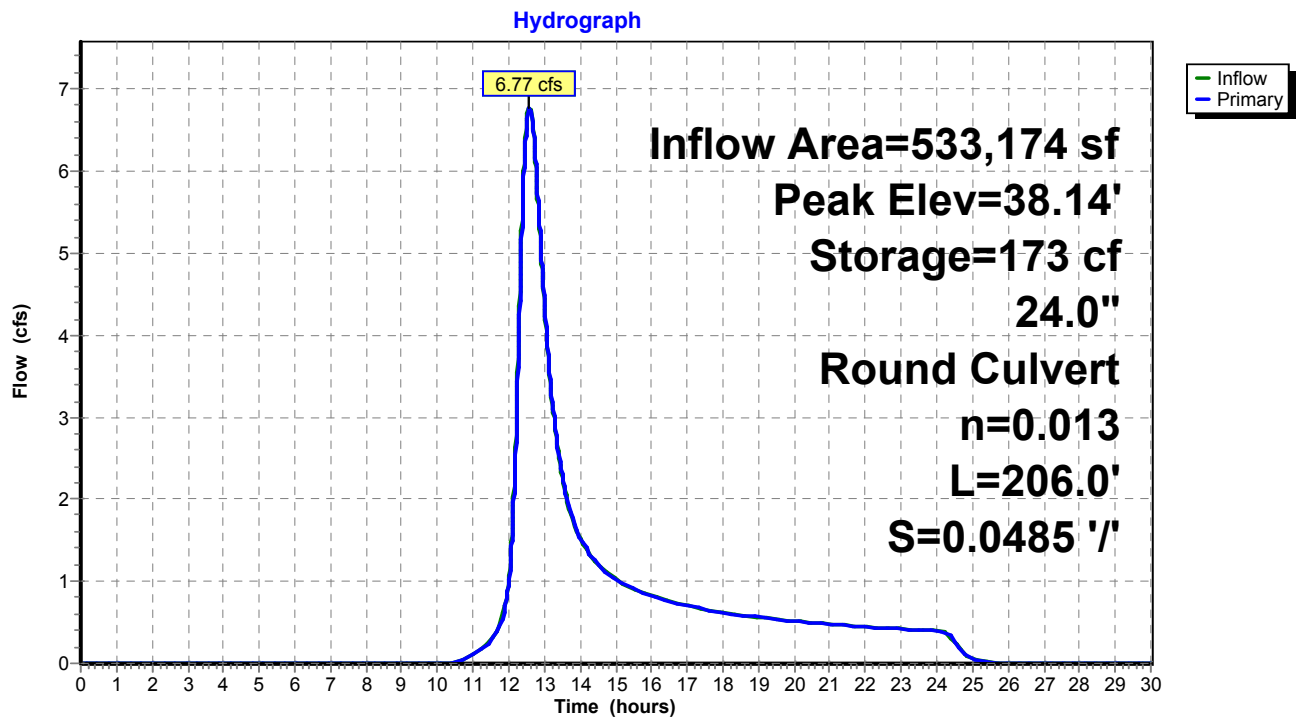
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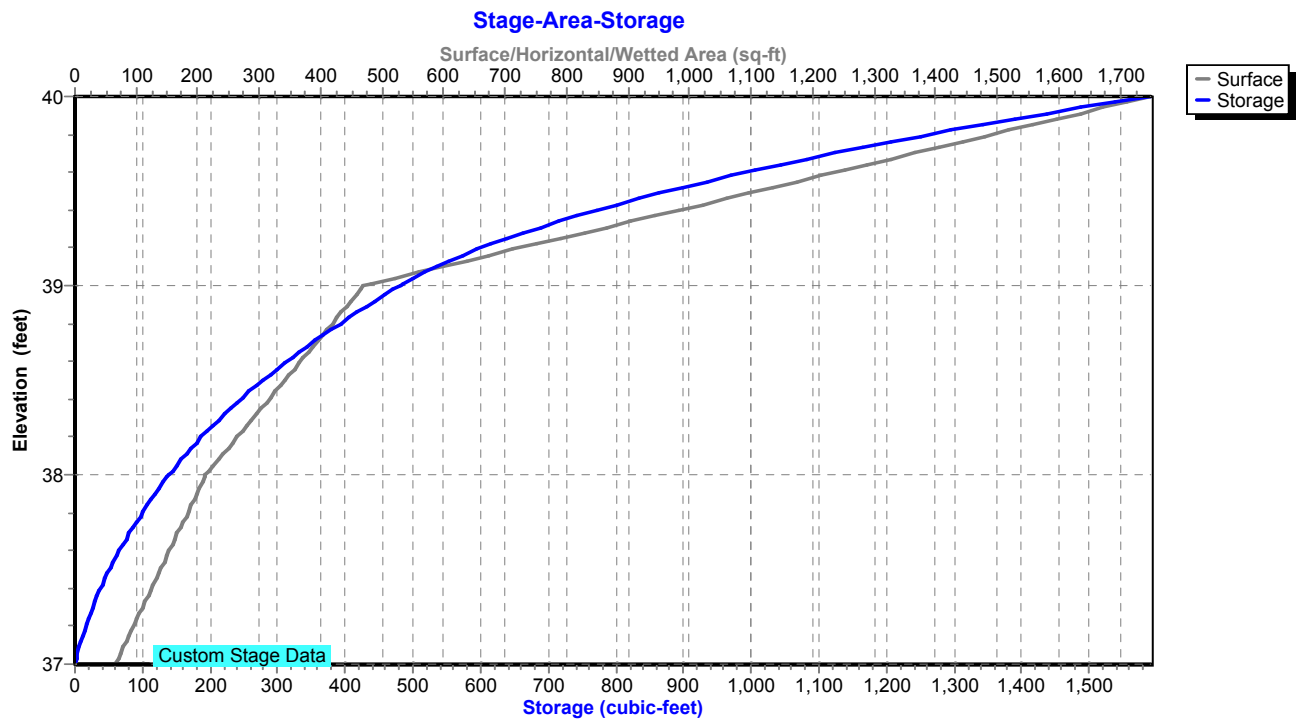
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Pond 21P: DET 1 Culvert



Pond 21P: DET 1 Culvert



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Summary for Pond 22P: DET 2 Culvert

Inflow Area = 1,290,247 sf, 25.00% Impervious, Inflow Depth = 1.48" for 2 year event
 Inflow = 18.11 cfs @ 12.80 hrs, Volume= 159,366 cf
 Outflow = 17.77 cfs @ 12.87 hrs, Volume= 159,366 cf, Atten= 2%, Lag= 4.1 min
 Primary = 17.77 cfs @ 12.87 hrs, Volume= 159,366 cf
 Routed to Pond 27P : DET 17 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 36.63' @ 12.87 hrs Surf.Area= 4,908 sf Storage= 3,972 cf

Plug-Flow detention time= 3.8 min calculated for 159,366 cf (100% of inflow)
 Center-of-Mass det. time= 3.7 min (920.4 - 916.7)

Volume	Invert	Avail.Storage	Storage Description
#1	34.80'	46,687 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.80	185	0	0
35.00	813	100	100
36.00	2,345	1,579	1,679
37.00	6,398	4,372	6,050
38.00	11,111	8,755	14,805
39.00	15,364	13,238	28,042
40.00	21,926	18,645	46,687

Device	Routing	Invert	Outlet Devices
#1	Primary	34.80'	30.0" Round Culvert L= 198.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.80' / 28.07' S= 0.0340 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=17.77 cfs @ 12.87 hrs HW=36.63' (Free Discharge)
 ↑**1=Culvert** (Inlet Controls 17.77 cfs @ 4.61 fps)

Existing Conditions

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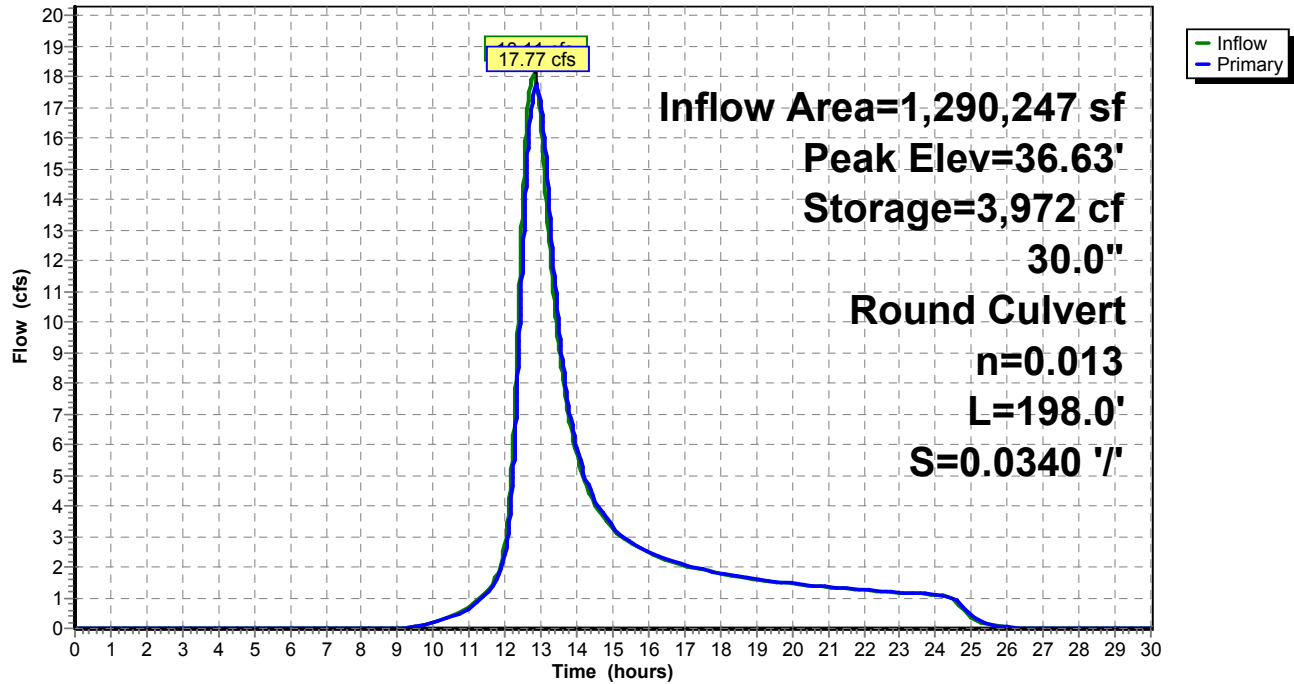
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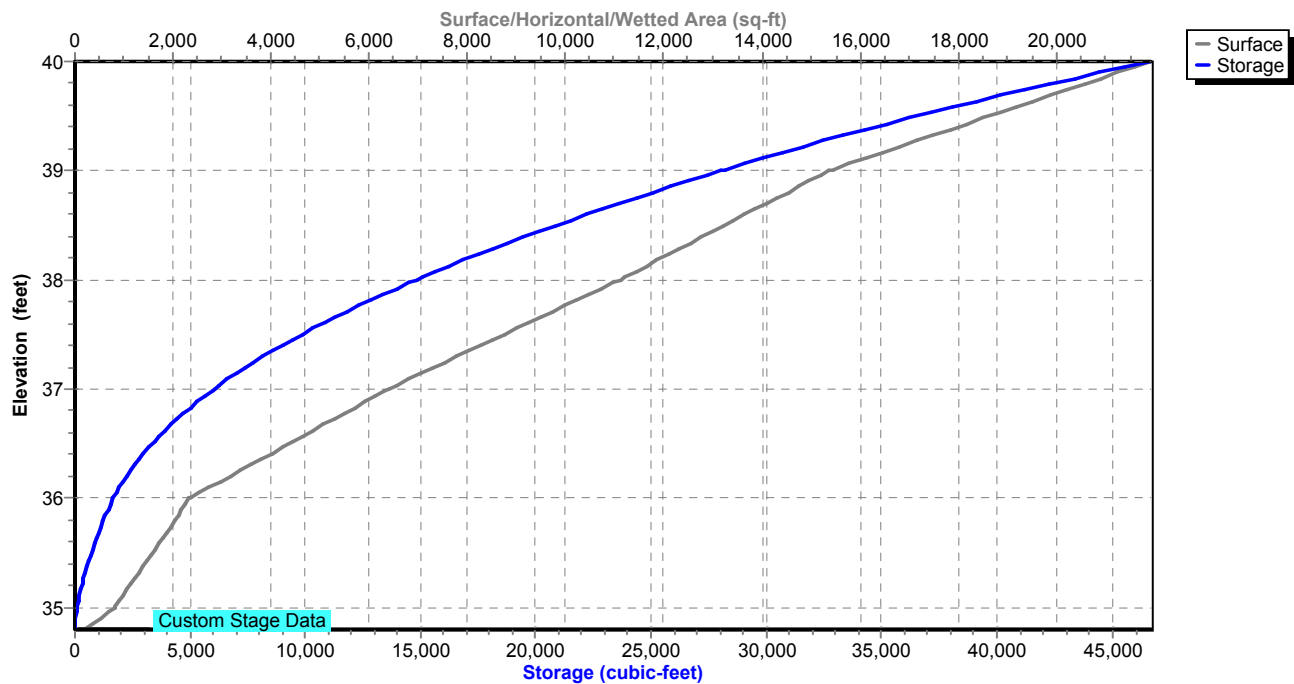
Pond 22P: DET 2 Culvert

Hydrograph



Pond 22P: DET 2 Culvert

Stage-Area-Storage



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Summary for Pond 23P: DET 3 Culvert

Inflow Area = 276,170 sf, 25.00% Impervious, Inflow Depth = 1.23" for 2 year event
Inflow = 5.87 cfs @ 12.23 hrs, Volume= 28,219 cf
Outflow = 5.85 cfs @ 12.24 hrs, Volume= 28,219 cf, Atten= 0%, Lag= 0.7 min
Primary = 5.85 cfs @ 12.24 hrs, Volume= 28,219 cf
Routed to Pond 26P : DET 16 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 43.55' @ 12.24 hrs Surf.Area= 404 sf Storage= 218 cf

Plug-Flow detention time= 0.6 min calculated for 28,209 cf (100% of inflow)
Center-of-Mass det. time= 0.6 min (895.2 - 894.6)

Volume	Invert	Avail.Storage	Storage Description
#1	42.50'	16,475 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
42.50	10	0	0
43.00	198	52	52
44.00	572	385	437
45.00	1,607	1,090	1,527
46.00	3,156	2,382	3,908
47.00	5,953	4,555	8,463
48.00	10,072	8,013	16,475

Device	Routing	Invert	Outlet Devices
#1	Primary	42.50'	24.0" Round Culvert L= 202.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 42.50' / 32.20' S= 0.0510 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=5.84 cfs @ 12.24 hrs HW=43.55' (Free Discharge)
↑**1=Culvert** (Inlet Controls 5.84 cfs @ 3.49 fps)

Existing Conditions

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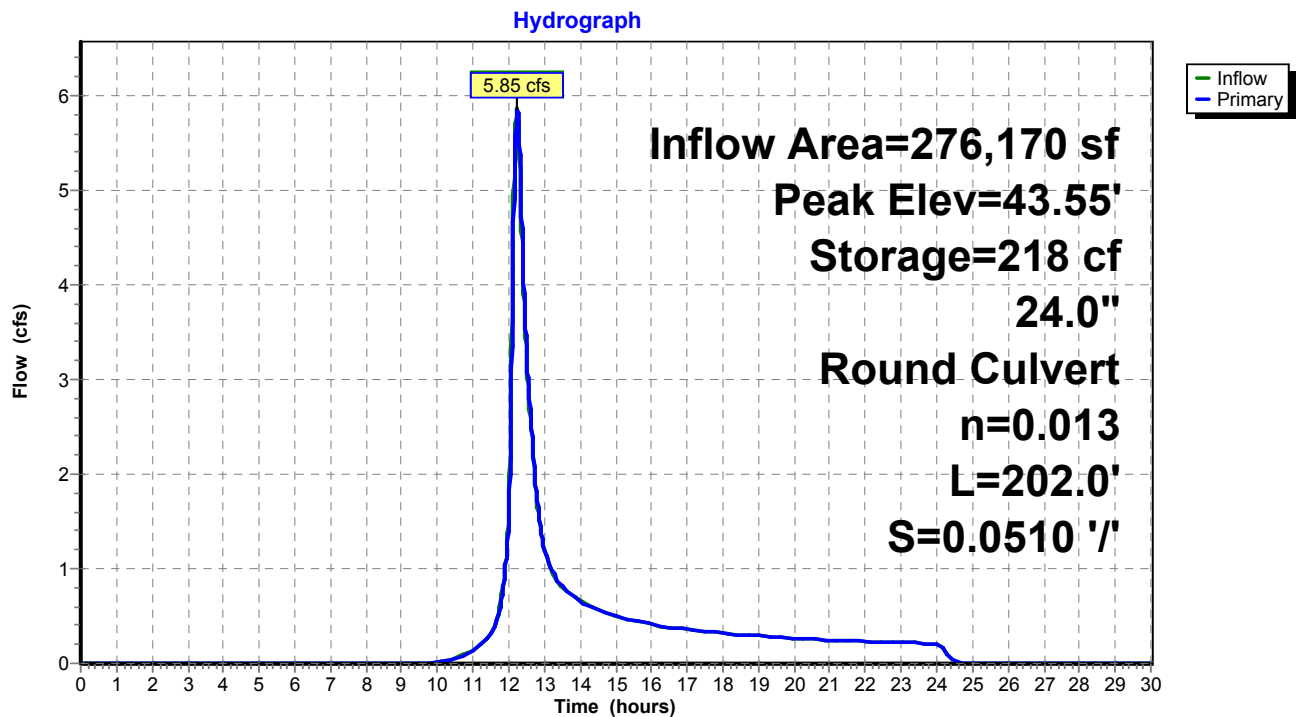
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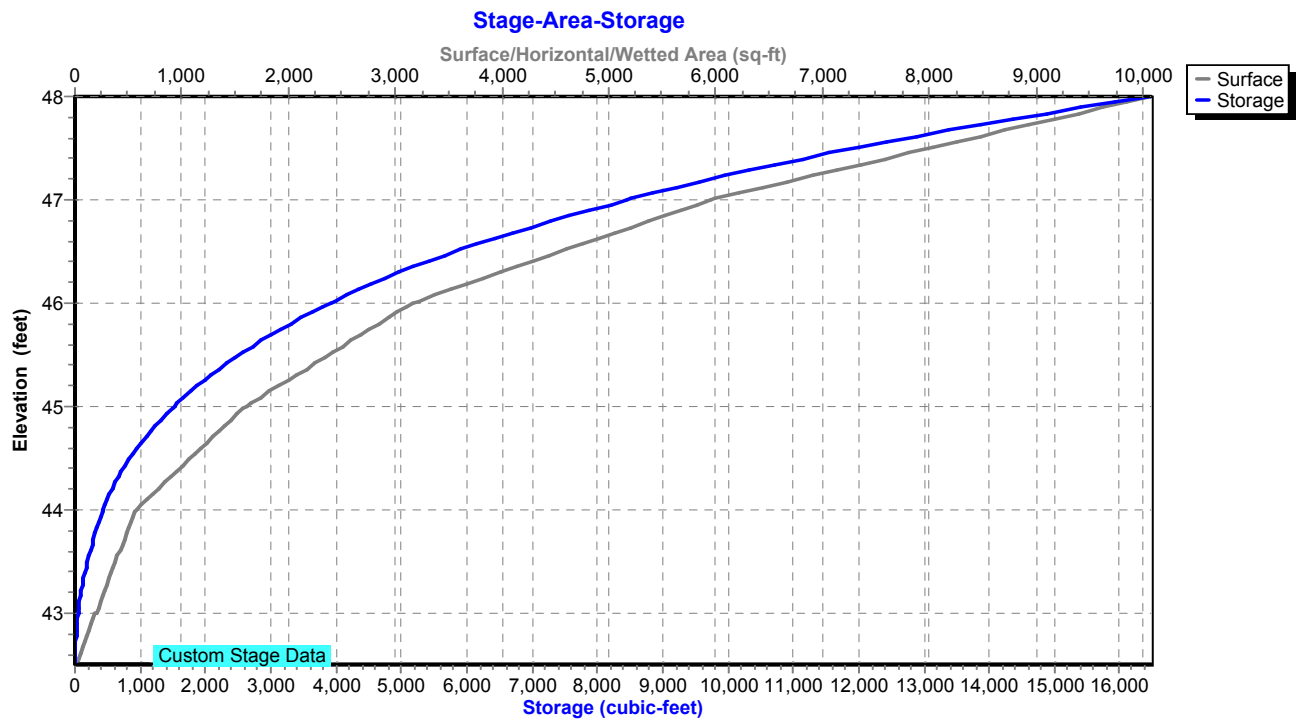
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Pond 23P: DET 3 Culvert



Pond 23P: DET 3 Culvert



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Summary for Pond 24P: RR Culvert 3

Inflow Area = 500,940 sf, 4.78% Impervious, Inflow Depth = 6.73" for 2 year event
 Inflow = 60.22 cfs @ 12.34 hrs, Volume= 281,059 cf
 Outflow = 26.06 cfs @ 13.23 hrs, Volume= 281,025 cf, Atten= 57%, Lag= 53.4 min
 Primary = 26.06 cfs @ 13.23 hrs, Volume= 281,025 cf

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 11.18' @ 13.23 hrs Storage= 109,080 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 43.8 min (834.3 - 790.4)

Volume	Invert	Avail.Storage	Storage Description
#1	8.10'	2,250,385 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
8.10	0	0
9.00	9	9
10.00	148	157
11.00	64,834	64,991
12.00	244,457	309,448
13.00	383,724	693,172
14.00	435,183	1,128,355
15.00	514,834	1,643,189
16.00	607,196	2,250,385

Device	Routing	Invert	Outlet Devices
#1	Primary	8.10'	30.0" W x 42.0" H Box Culvert L= 135.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 8.10' / 7.80' S= 0.0022 ' / Cc= 0.900 n= 0.019, Flow Area= 8.75 sf

Primary OutFlow Max=26.06 cfs @ 13.23 hrs HW=11.18' (Free Discharge)

↑ **1=Culvert** (Barrel Controls 26.06 cfs @ 4.51 fps)

Existing Conditions

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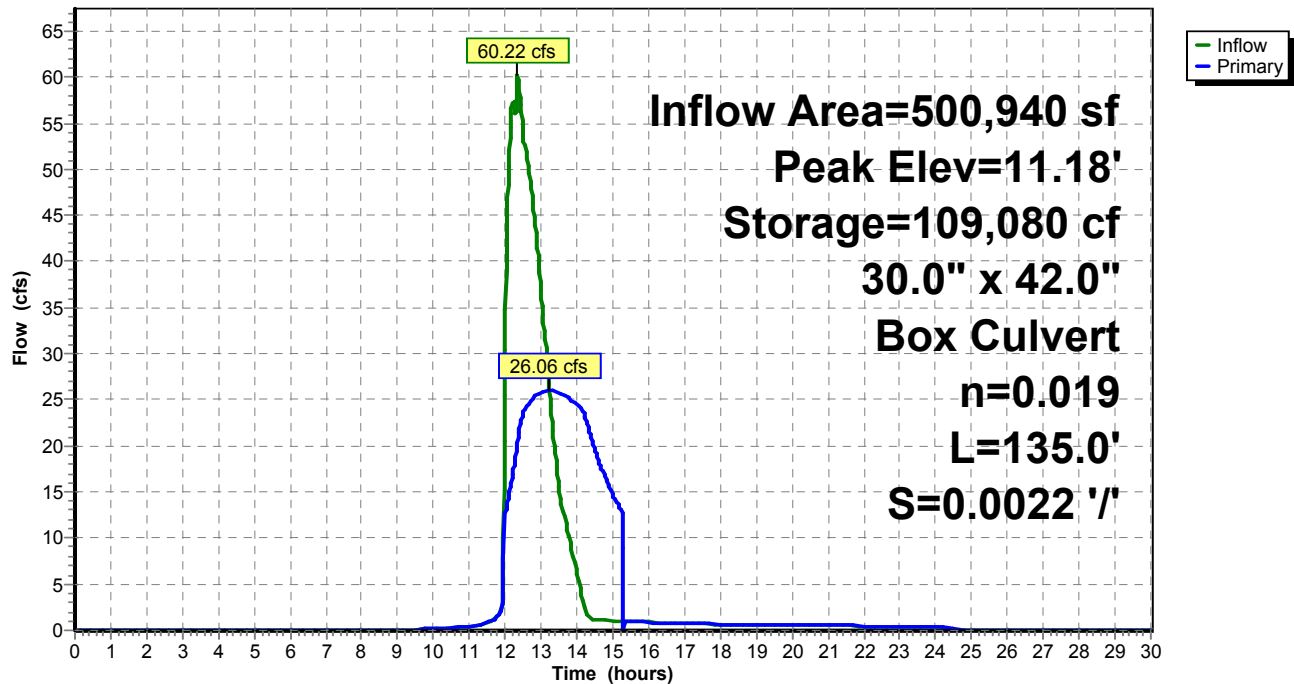
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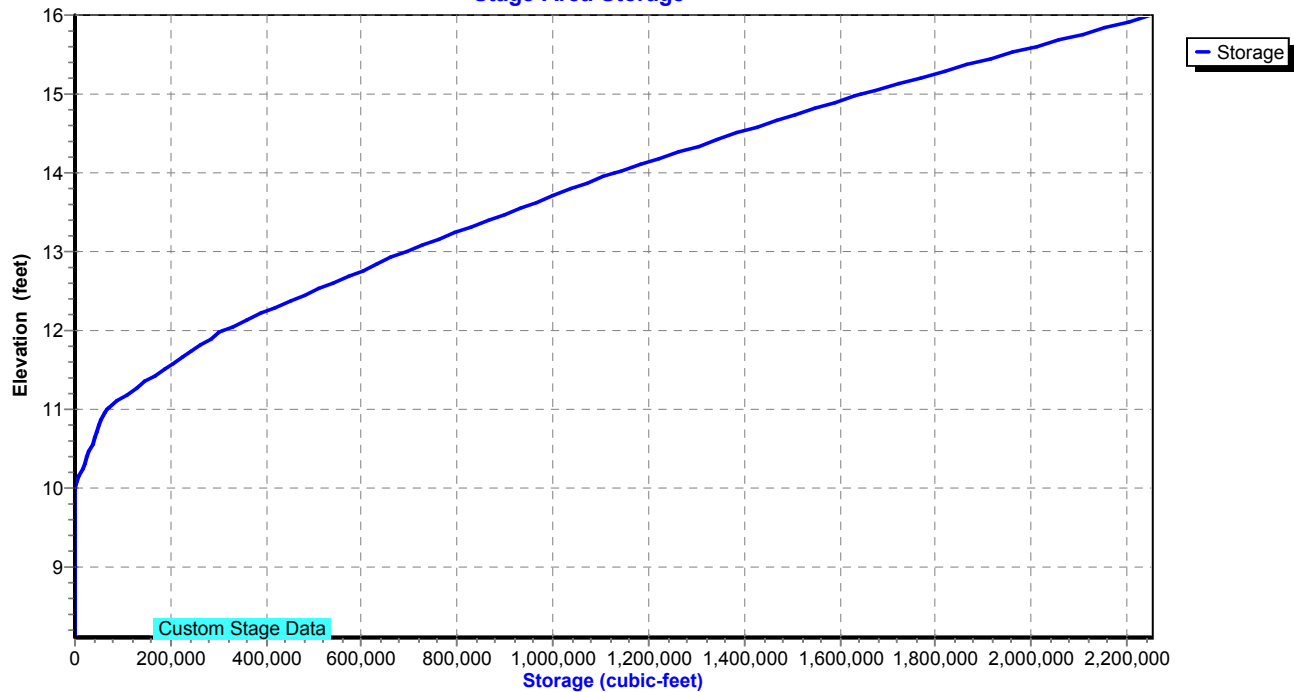
Pond 24P: RR Culvert 3

Hydrograph



Pond 24P: RR Culvert 3

Stage-Area-Storage



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Summary for Pond 26P: DET 16 Culvert

Inflow Area = 777,546 sf, 30.36% Impervious, Inflow Depth > 1.21" for 2 year event
Inflow = 12.60 cfs @ 12.20 hrs, Volume= 78,326 cf
Outflow = 11.13 cfs @ 12.29 hrs, Volume= 78,268 cf, Atten= 12%, Lag= 5.5 min
Primary = 11.13 cfs @ 12.29 hrs, Volume= 78,268 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 19.27' @ 12.29 hrs Surf.Area= 1,296 sf Storage= 1,177 cf

Plug-Flow detention time= 1.0 min calculated for 78,242 cf (100% of inflow)
Center-of-Mass det. time= 0.4 min (940.0 - 939.7)

Volume	Invert	Avail.Storage	Storage Description
#1	17.00'	11,069 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.00	76	0	0
18.00	323	200	200
19.00	1,002	663	862
20.00	2,073	1,538	2,400
21.00	3,912	2,993	5,392
22.00	7,442	5,677	11,069

Device	Routing	Invert	Outlet Devices
#1	Primary	15.10'	15.0" Round Culvert L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 15.10' / 11.30' S= 0.0691 ' S= 0.0691 ' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Primary	20.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 Width (feet) 200.00 200.00 200.00

Primary OutFlow Max=11.13 cfs @ 12.29 hrs HW=19.27' (Free Discharge)

1=Culvert (Inlet Controls 11.13 cfs @ 9.07 fps)

2=Custom Weir/Orifice (Controls 0.00 cfs)

Existing Conditions

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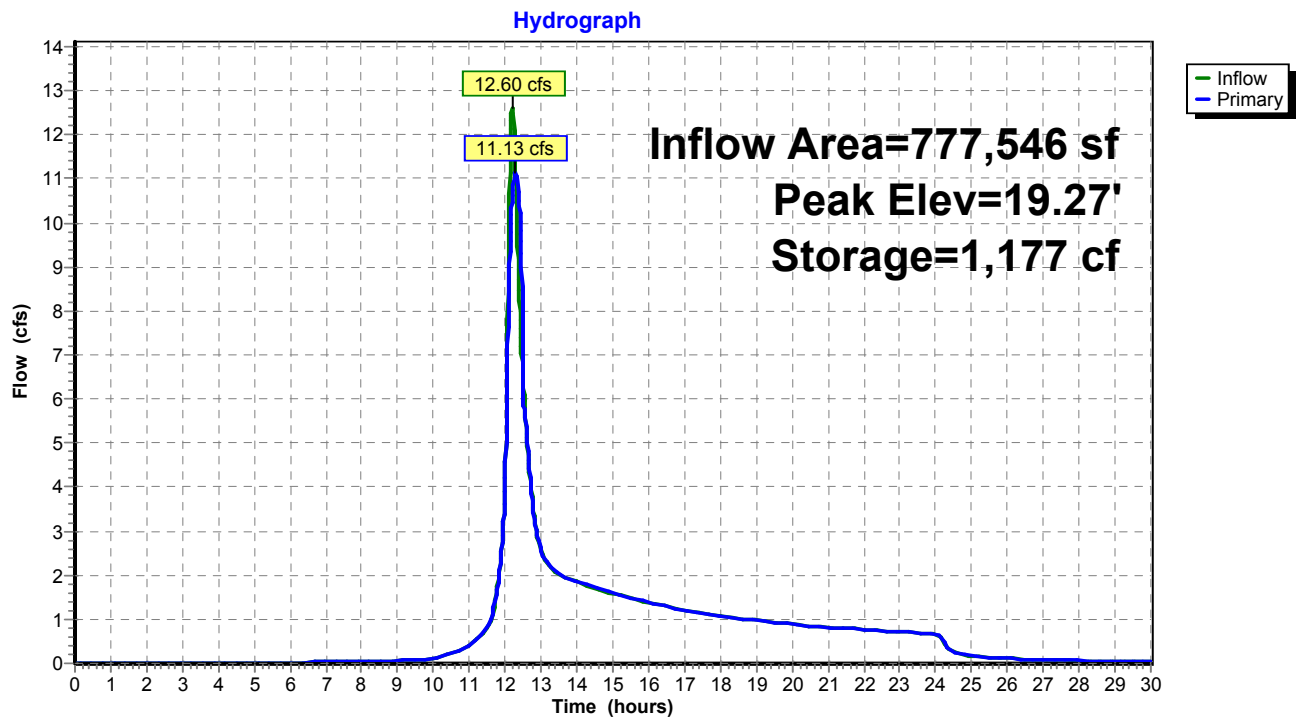
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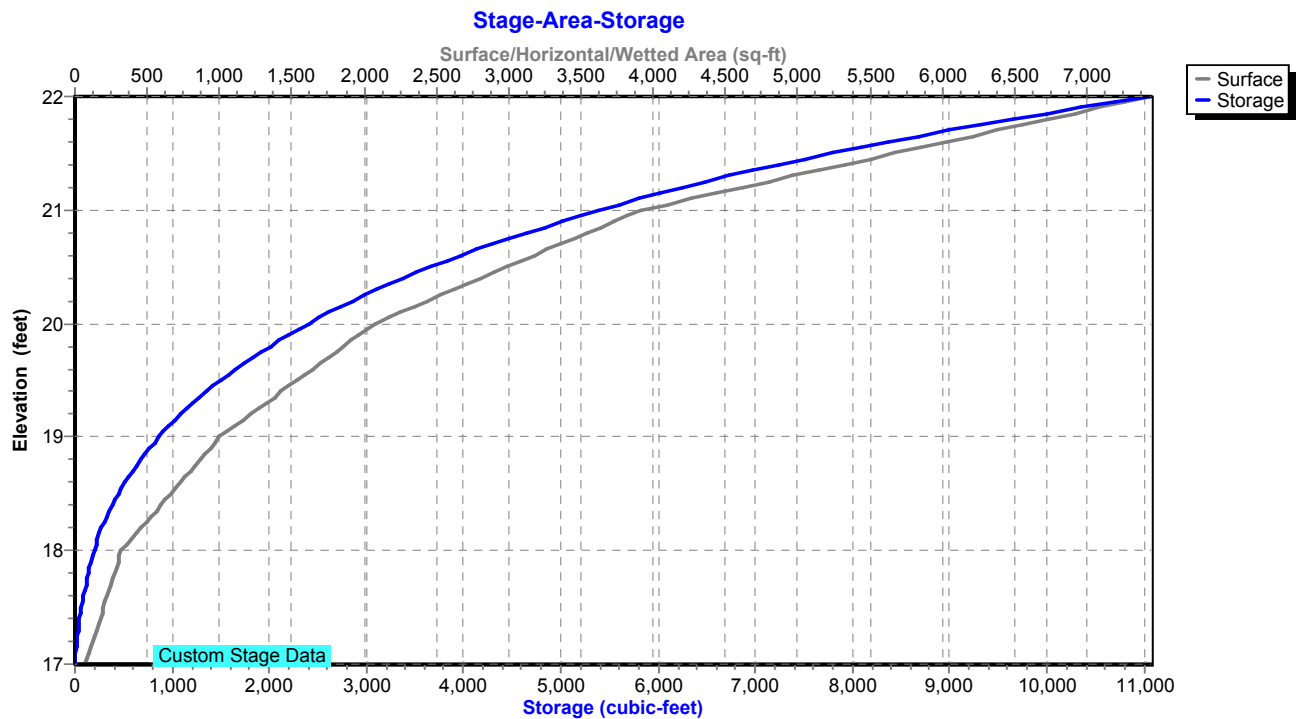
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Pond 26P: DET 16 Culvert



Pond 26P: DET 16 Culvert



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Pond 27P: DET 17 Culvert

Inflow Area = 2,205,878 sf, 28.45% Impervious, Inflow Depth = 1.49" for 2 year event
Inflow = 26.93 cfs @ 12.69 hrs, Volume= 274,605 cf
Outflow = 26.92 cfs @ 12.71 hrs, Volume= 274,605 cf, Atten= 0%, Lag= 1.0 min
Primary = 26.92 cfs @ 12.71 hrs, Volume= 274,605 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 18.65' @ 12.71 hrs Surf.Area= 9,465 sf Storage= 9,371 cf

Plug-Flow detention time= 4.0 min calculated for 274,514 cf (100% of inflow)
Center-of-Mass det. time= 4.0 min (905.0 - 901.0)

Volume	Invert	Avail.Storage	Storage Description
#1	16.00'	13,420 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
16.00	340	0	0
17.00	2,203	1,272	1,272
18.00	4,950	3,577	4,848
18.55	8,311	3,647	8,495
19.00	13,580	4,925	13,420

Device	Routing	Invert	Outlet Devices
#1	Primary	15.30'	18.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 15.30' / 14.90' S= 0.0100 ' / Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Primary	18.55'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 3.00 Width (feet) 100.00 100.00 100.00 100.00

Primary OutFlow Max=26.60 cfs @ 12.71 hrs HW=18.65' (Free Discharge)

1=Culvert (Inlet Controls 13.72 cfs @ 7.76 fps)

2=Custom Weir/Orifice (Weir Controls 12.88 cfs @ 1.31 fps)

Existing Conditions

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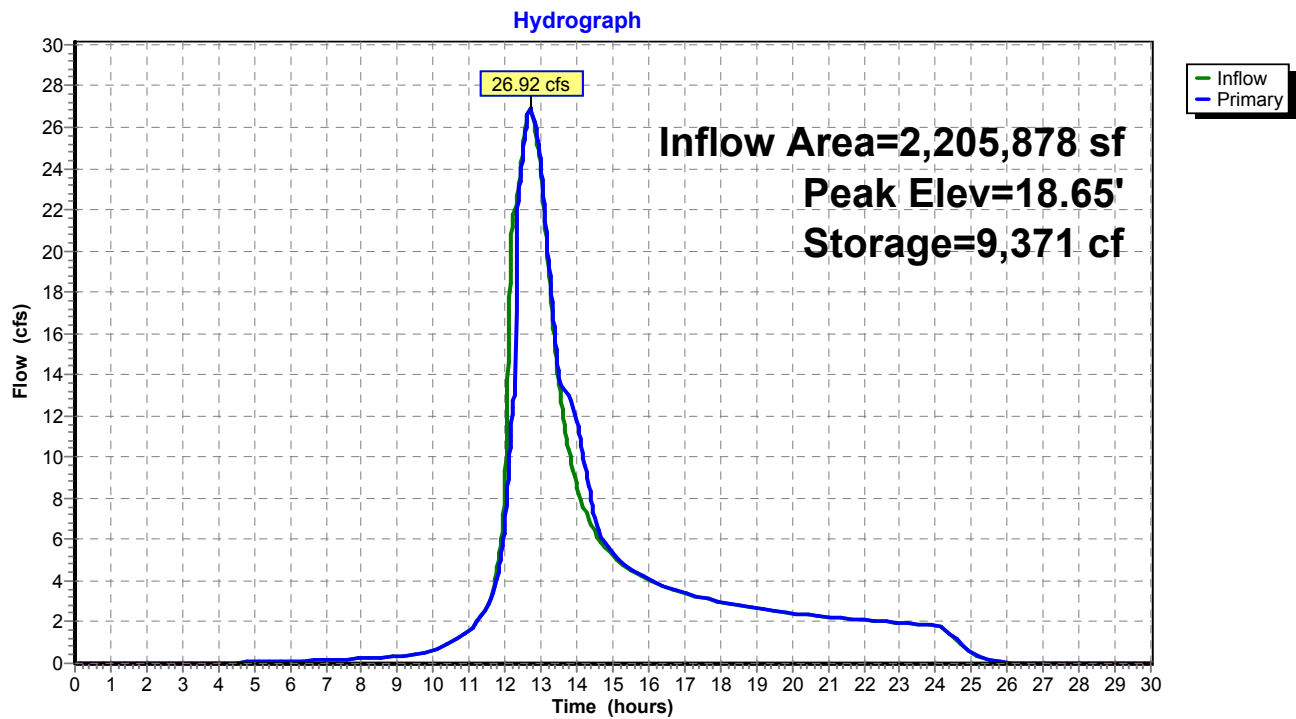
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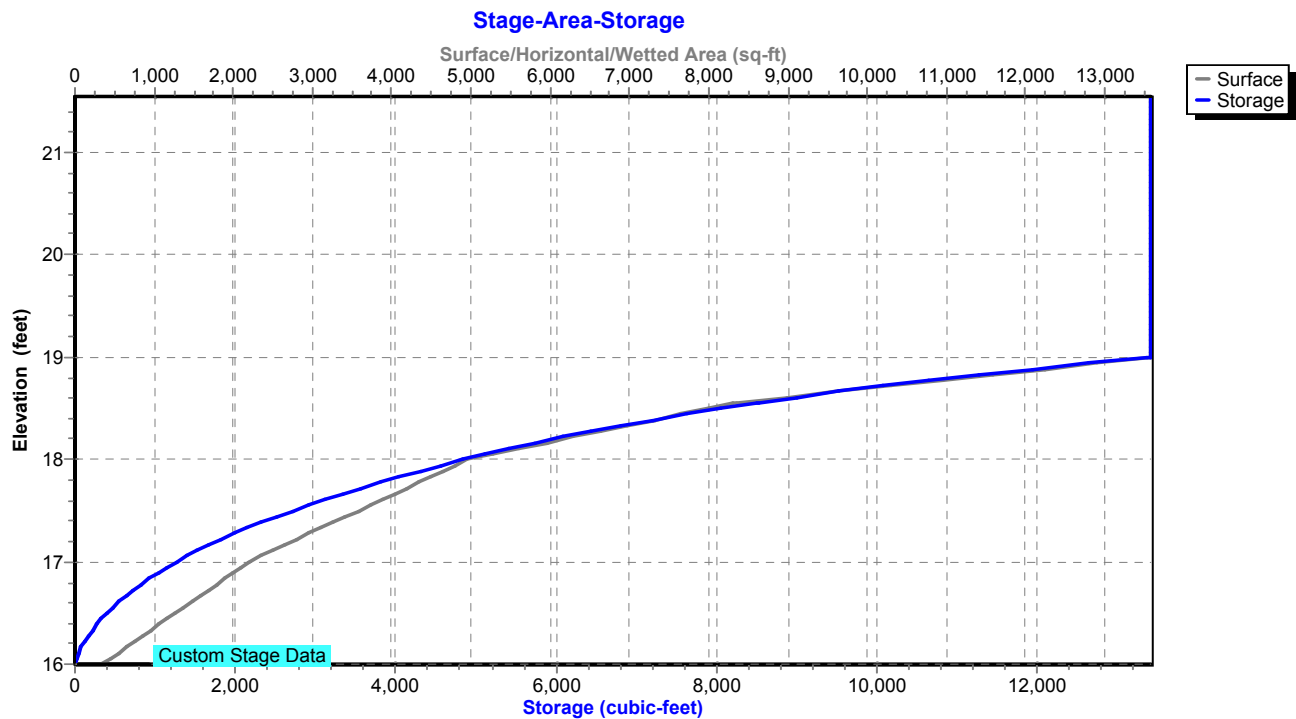
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Pond 27P: DET 17 Culvert



Pond 27P: DET 17 Culvert



Existing Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Pond 50P: DET BASIN #1

Inflow Area = 247,726 sf, 51.96% Impervious, Inflow Depth = 2.12" for 2 year event
Inflow = 13.50 cfs @ 12.04 hrs, Volume= 43,842 cf
Outflow = 0.59 cfs @ 14.92 hrs, Volume= 18,576 cf, Atten= 96%, Lag= 173.1 min
Primary = 0.59 cfs @ 14.92 hrs, Volume= 18,576 cf
Routed to Pond 26P : DET 16 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 26.88' @ 14.92 hrs Surf.Area= 13,327 sf Storage= 29,140 cf

Plug-Flow detention time= 460.0 min calculated for 18,576 cf (42% of inflow)
Center-of-Mass det. time= 304.5 min (1,126.9 - 822.5)

Volume	Invert	Avail.Storage	Storage Description
#1	24.00'	61,441 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
24.00	5,941	0	0
26.00	12,000	17,941	17,941
28.00	15,000	27,000	44,941
29.00	18,000	16,500	61,441

Device	Routing	Invert	Outlet Devices
#1	Primary	24.00'	18.0" Round Culvert L= 120.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 24.00' / 20.00' S= 0.0333 ' / S= 0.0333 ' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	26.50'	12.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	28.50'	16.2" x 55.4" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.59 cfs @ 14.92 hrs HW=26.88' (Free Discharge)

1=Culvert (Passes 0.59 cfs of 12.43 cfs potential flow)
2=Orifice/Grate (Orifice Controls 0.59 cfs @ 2.11 fps)
3=Orifice/Grate (Controls 0.00 cfs)

Existing Conditions

Prepared by Tighe & Bond

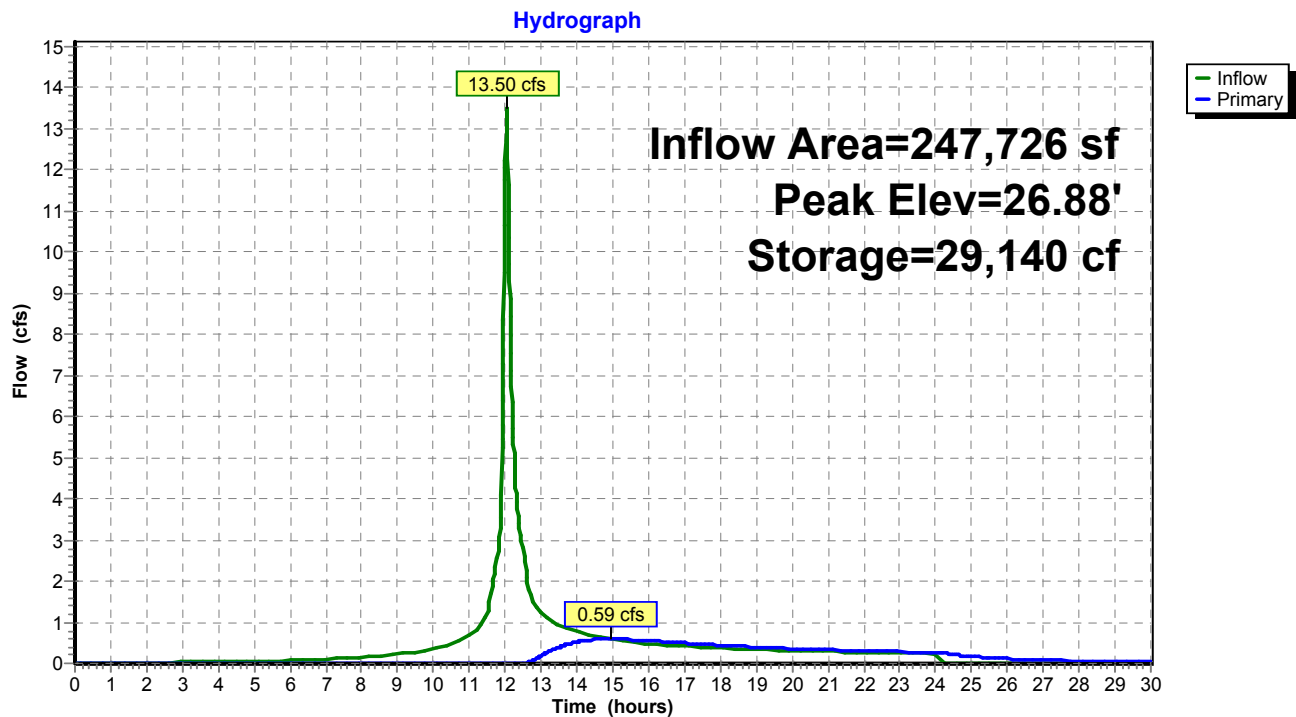
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NORWALK 24-hr S1 2 year Rainfall=3.48"

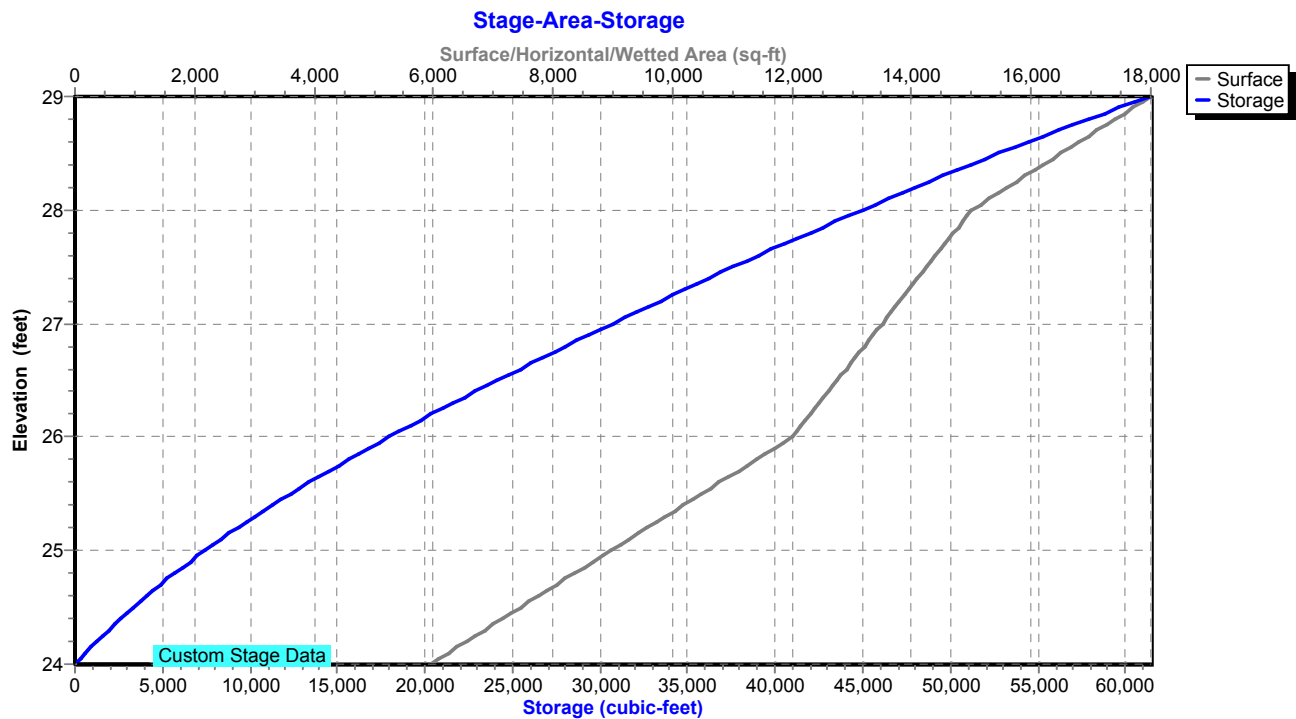
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Pond 50P: DET BASIN #1



Pond 50P: DET BASIN #1



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Summary for Pond 51P: Manhole

Inflow Area = 219,325 sf, 58.69% Impervious, Inflow Depth = 2.24" for 2 year event
Inflow = 12.42 cfs @ 12.04 hrs, Volume= 40,940 cf
Outflow = 12.42 cfs @ 12.04 hrs, Volume= 40,940 cf, Atten= 0%, Lag= 0.0 min
Primary = 12.42 cfs @ 12.04 hrs, Volume= 40,940 cf
Routed to Pond 50P : DET BASIN #1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 45.68' @ 12.04 hrs

Flood Elev= 51.00'

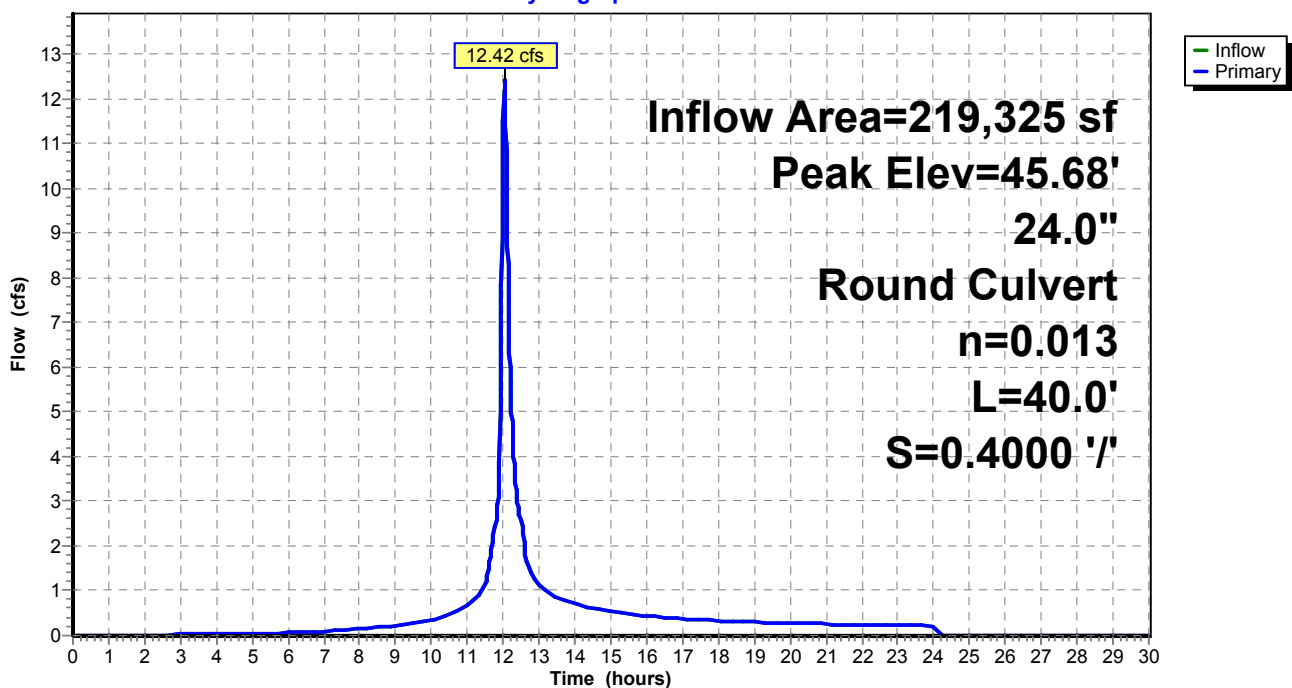
Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	24.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.00' / 28.00' S= 0.4000 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=12.42 cfs @ 12.04 hrs HW=45.68' (Free Discharge)

↑1=Culvert (Inlet Controls 12.42 cfs @ 4.41 fps)

Pond 51P: Manhole

Hydrograph



Existing Conditions

Prepared by Tighe & Bond

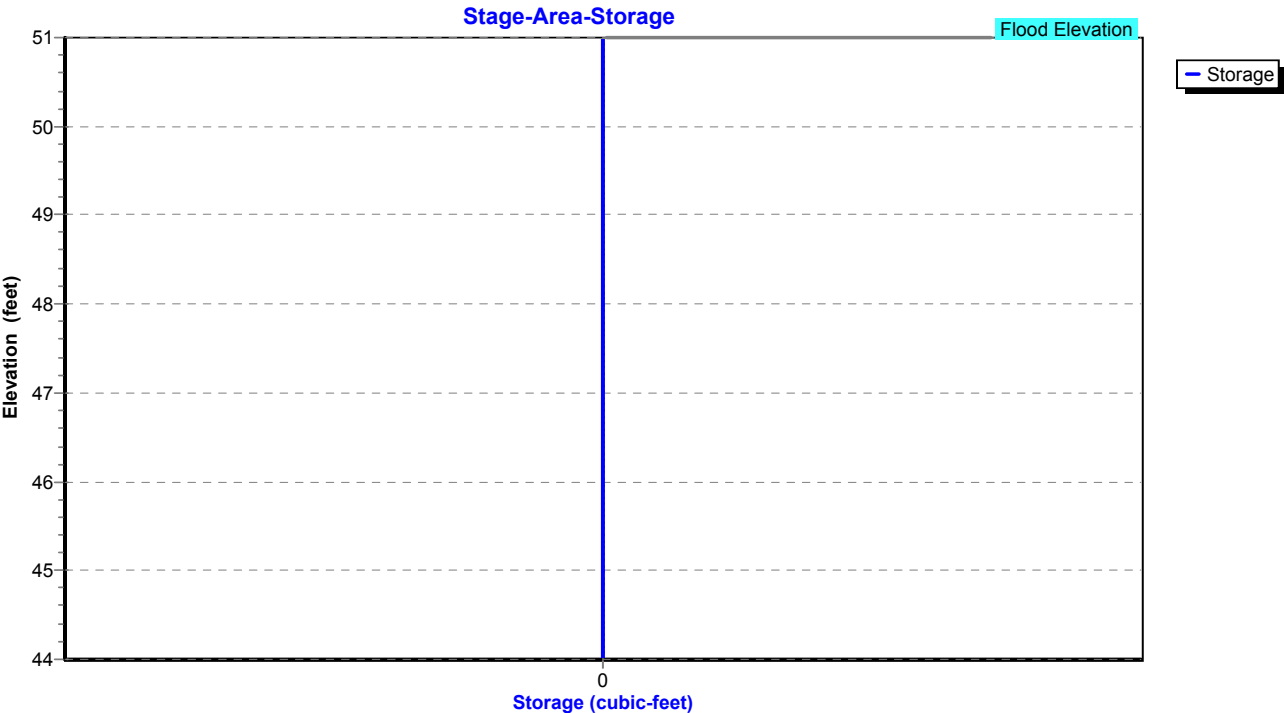
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Pond 51P: Manhole



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Summary for Pond 57P: CB-1

Inflow Area = 131,290 sf, 58.89% Impervious, Inflow Depth = 2.29" for 2 year event
Inflow = 7.96 cfs @ 12.04 hrs, Volume= 25,108 cf
Outflow = 7.96 cfs @ 12.04 hrs, Volume= 25,108 cf, Atten= 0%, Lag= 0.0 min
Primary = 7.96 cfs @ 12.04 hrs, Volume= 25,108 cf
Routed to Pond 51P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 45.77' @ 12.04 hrs

Flood Elev= 49.00'

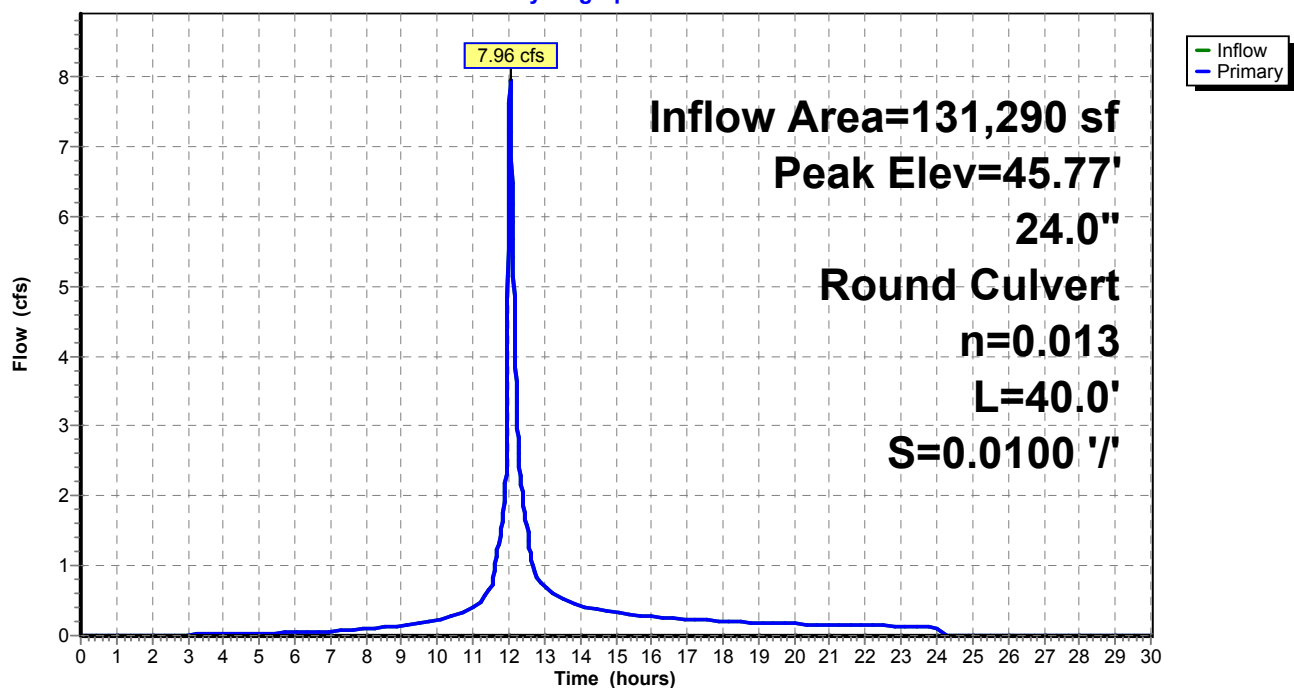
Device	Routing	Invert	Outlet Devices
#1	Primary	44.40'	24.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.40' / 44.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=7.94 cfs @ 12.04 hrs HW=45.77' (Free Discharge)

↑1=Culvert (Barrel Controls 7.94 cfs @ 4.90 fps)

Pond 57P: CB-1

Hydrograph



Existing Conditions

Prepared by Tighe & Bond

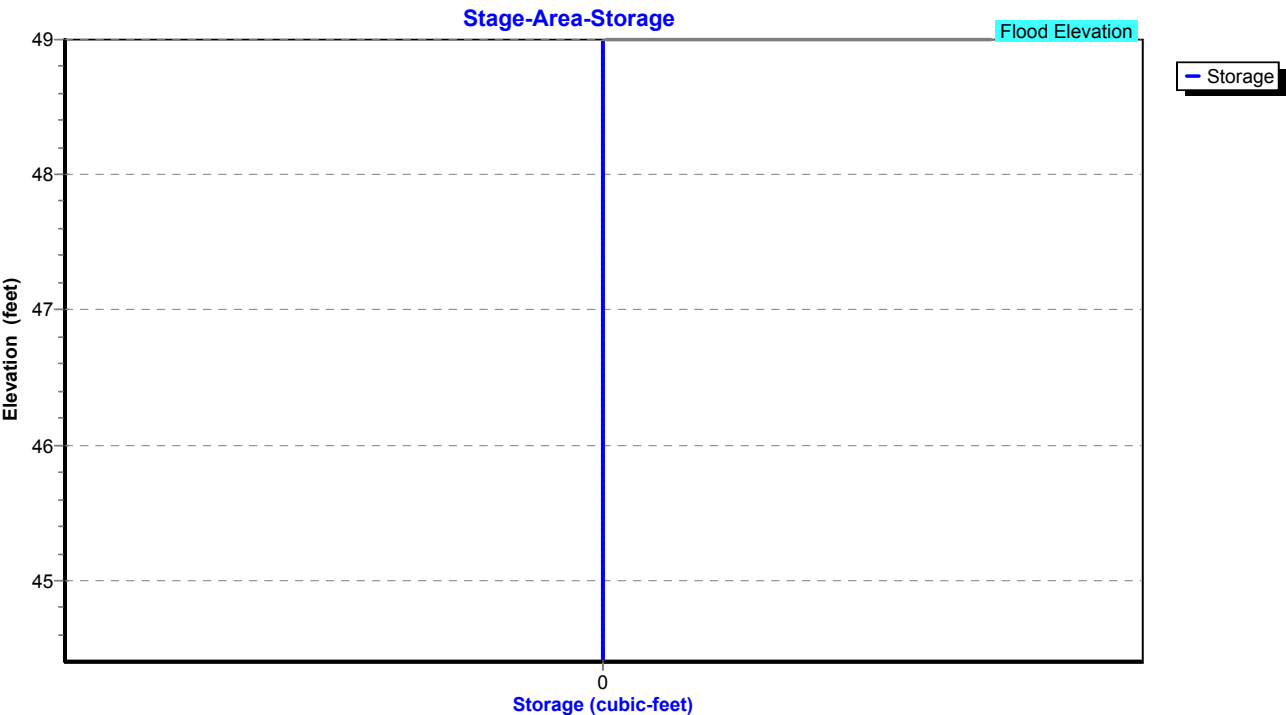
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Pond 57P: CB-1



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Summary for Pond 58P: Manhole

Inflow Area = 119,442 sf, 54.81% Impervious, Inflow Depth = 2.20" for 2 year event
Inflow = 6.86 cfs @ 12.04 hrs, Volume= 21,903 cf
Outflow = 6.86 cfs @ 12.04 hrs, Volume= 21,903 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.86 cfs @ 12.04 hrs, Volume= 21,903 cf
Routed to Pond 57P : CB-1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 46.35' @ 12.04 hrs

Flood Elev= 49.00'

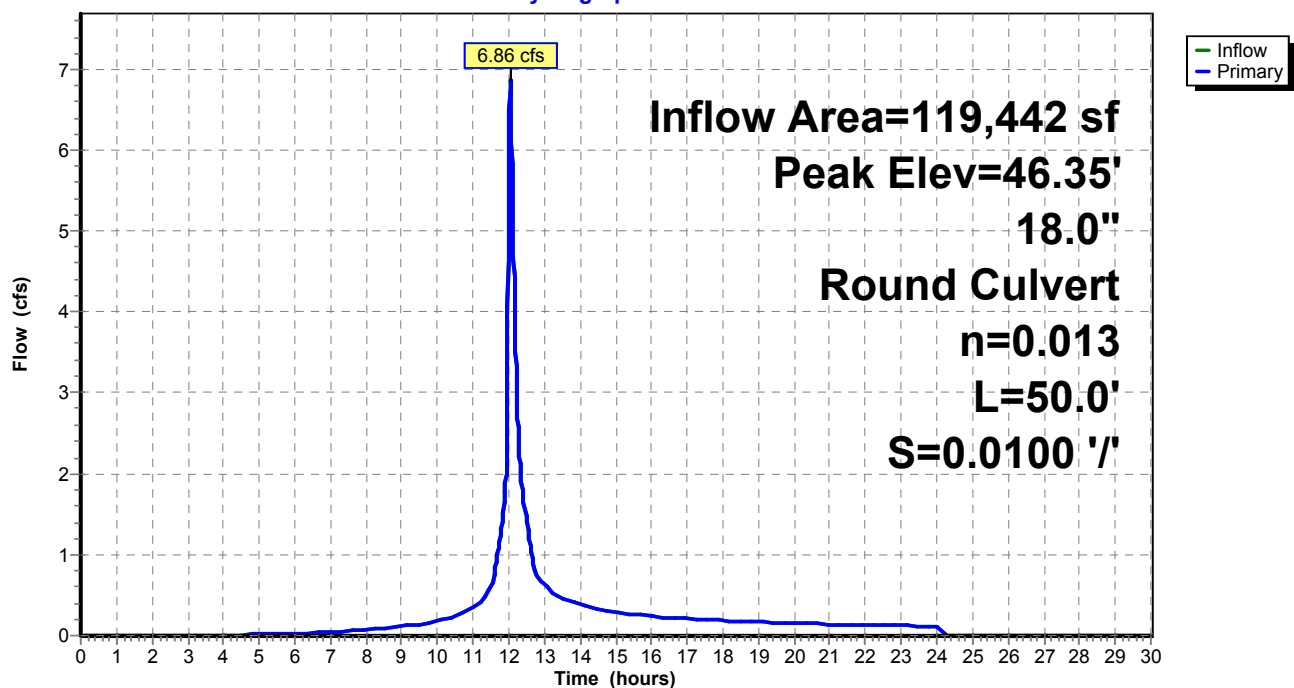
Device	Routing	Invert	Outlet Devices
#1	Primary	44.90'	18.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.90' / 44.40' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=6.85 cfs @ 12.04 hrs HW=46.35' (Free Discharge)

↑1=Culvert (Barrel Controls 6.85 cfs @ 5.00 fps)

Pond 58P: Manhole

Hydrograph



Existing Conditions

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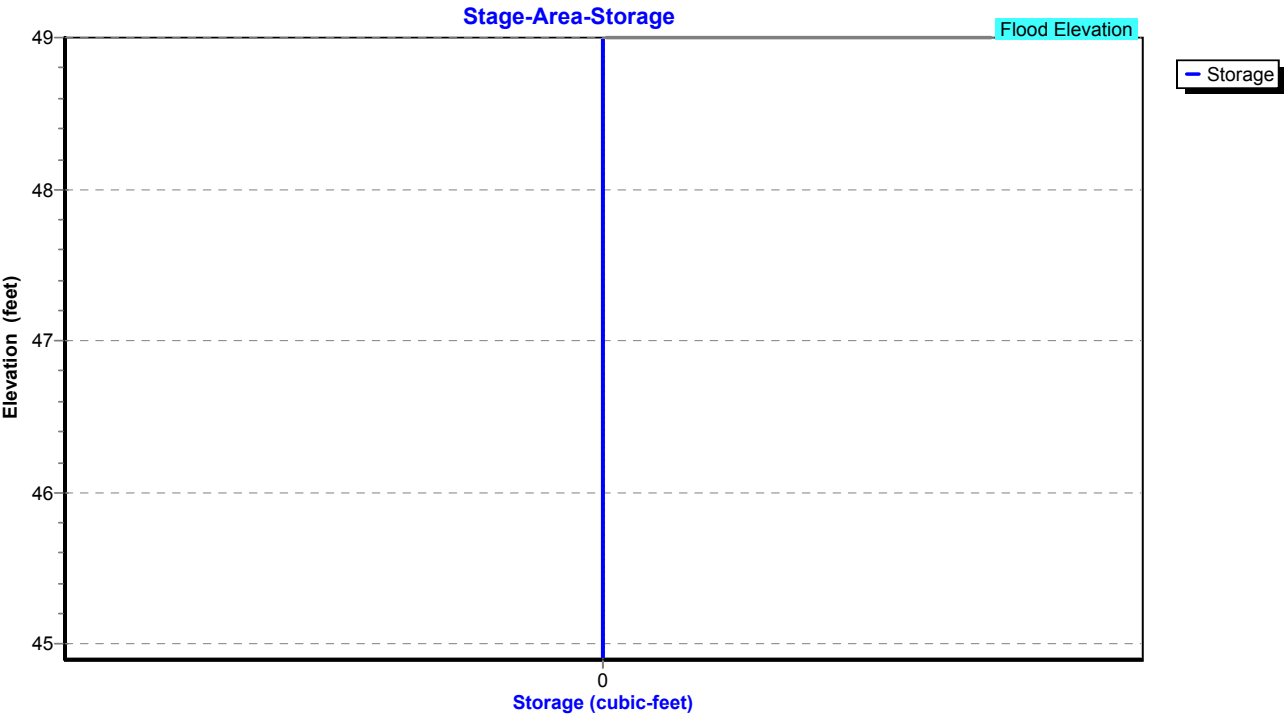
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Pond 58P: Manhole



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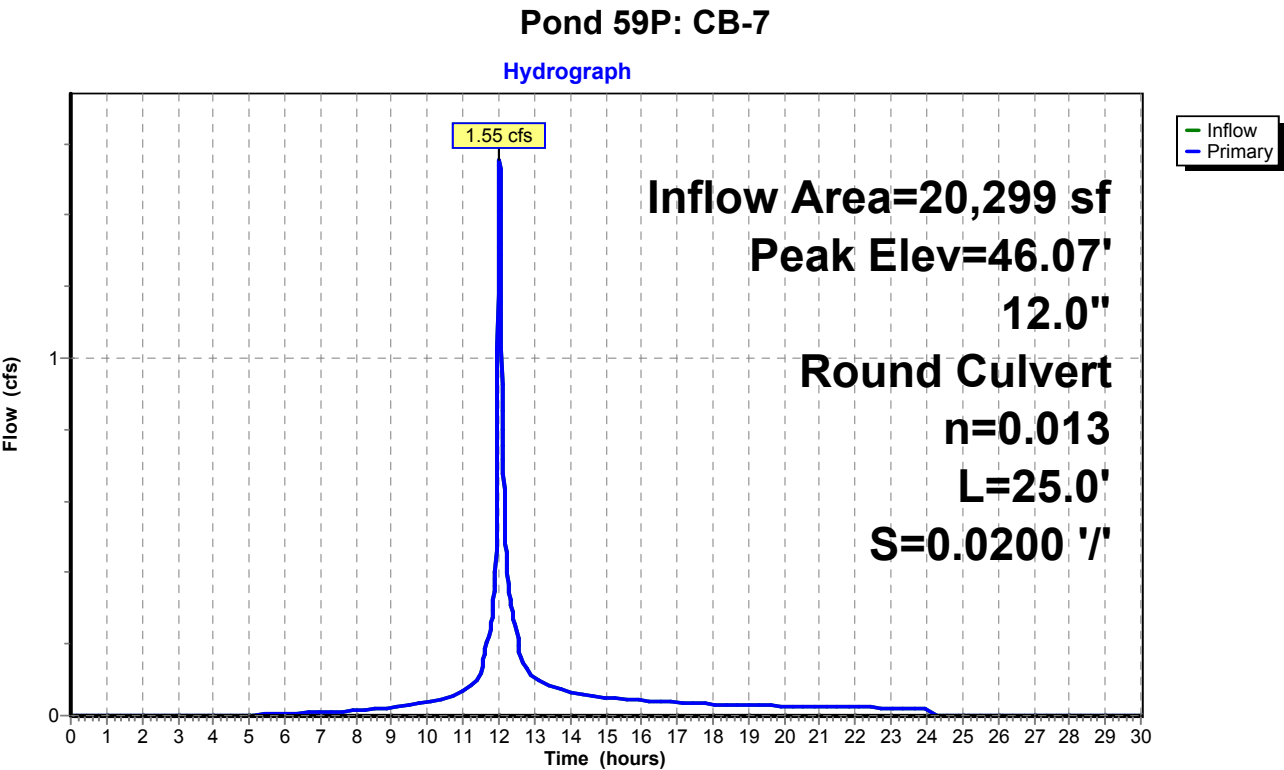
Summary for Pond 59P: CB-7

Inflow Area = 20,299 sf, 63.09% Impervious, Inflow Depth = 2.34" for 2 year event
Inflow = 1.55 cfs @ 12.03 hrs, Volume= 3,956 cf
Outflow = 1.55 cfs @ 12.03 hrs, Volume= 3,956 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.55 cfs @ 12.03 hrs, Volume= 3,956 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 46.07' @ 12.03 hrs
Flood Elev= 49.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	45.40'	12.0" Round Culvert L= 25.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.40' / 44.90' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.55 cfs @ 12.03 hrs HW=46.07' (Free Discharge)
1=Culvert (Inlet Controls 1.55 cfs @ 2.78 fps)



Existing Conditions

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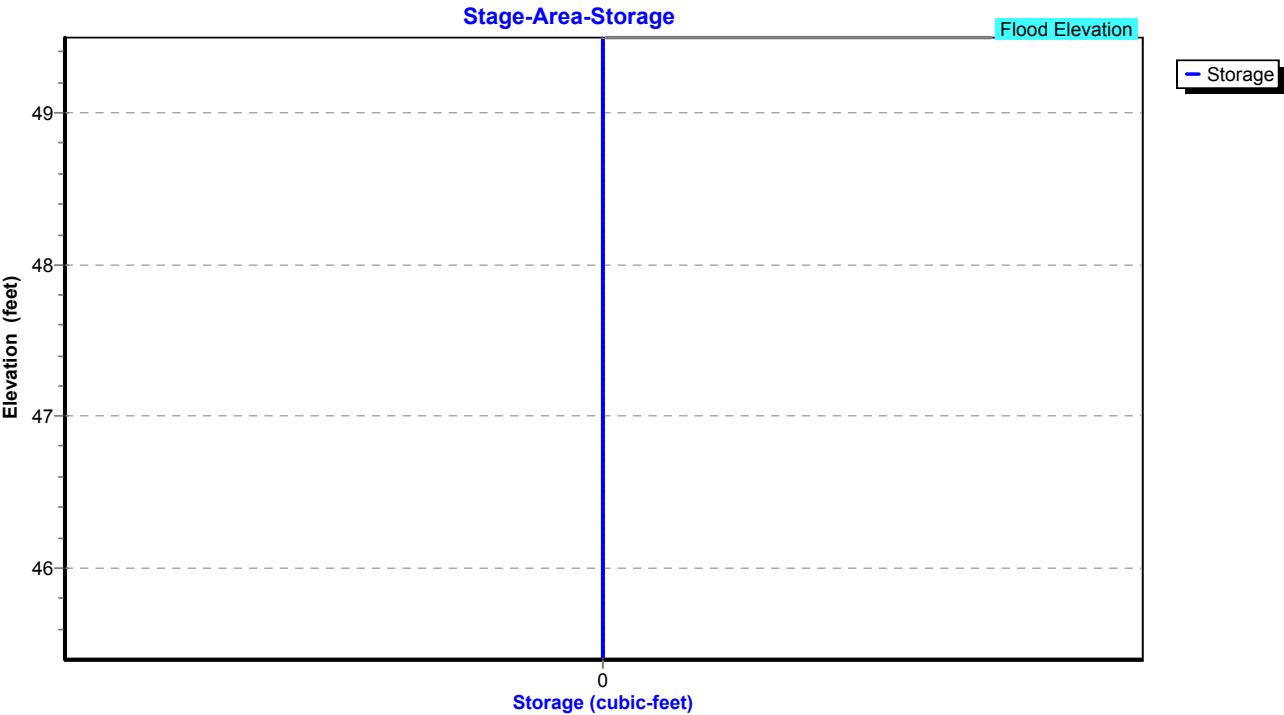
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Pond 59P: CB-7



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Summary for Pond 61P: CB-6

Inflow Area = 7,884 sf, 82.32% Impervious, Inflow Depth = 2.82" for 2 year event
Inflow = 0.70 cfs @ 12.03 hrs, Volume= 1,850 cf
Outflow = 0.70 cfs @ 12.03 hrs, Volume= 1,850 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.70 cfs @ 12.03 hrs, Volume= 1,850 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 45.53' @ 12.03 hrs

Flood Elev= 49.00'

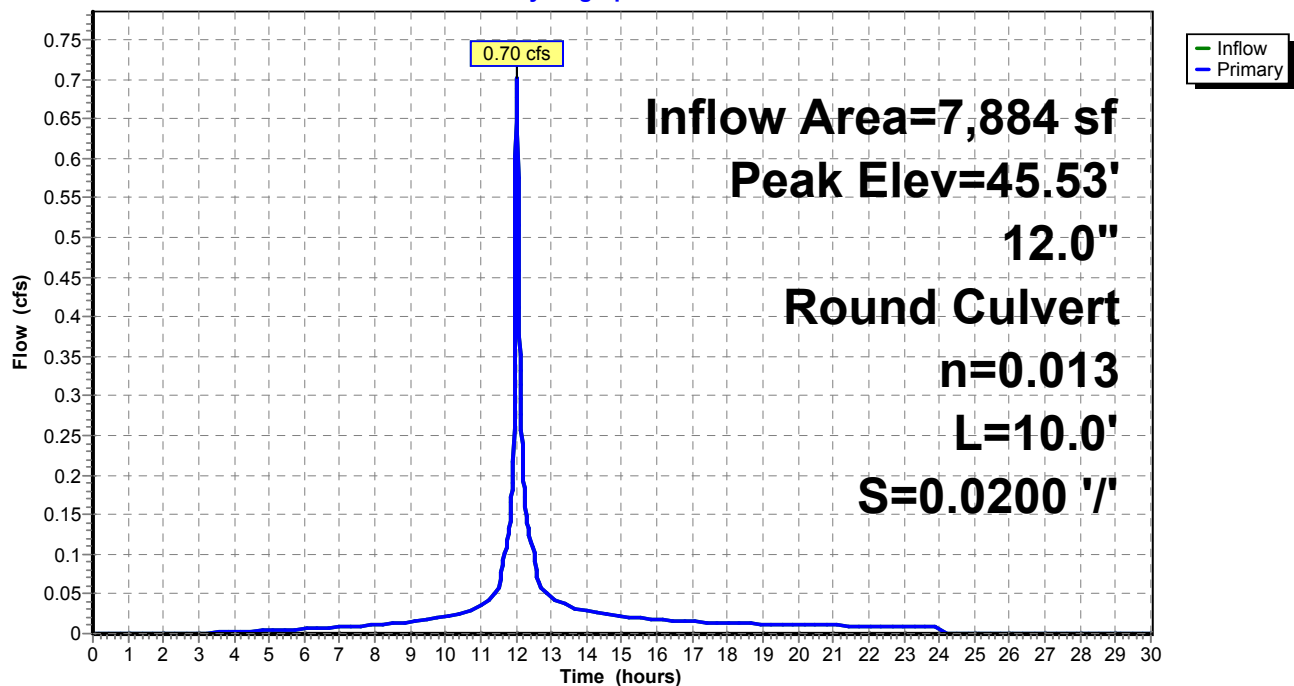
Device	Routing	Invert	Outlet Devices
#1	Primary	45.10'	12.0" Round Culvert L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.10' / 44.90' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.70 cfs @ 12.03 hrs HW=45.53' (Free Discharge)

↑1=Culvert (Barrel Controls 0.70 cfs @ 3.17 fps)

Pond 61P: CB-6

Hydrograph



Existing Conditions

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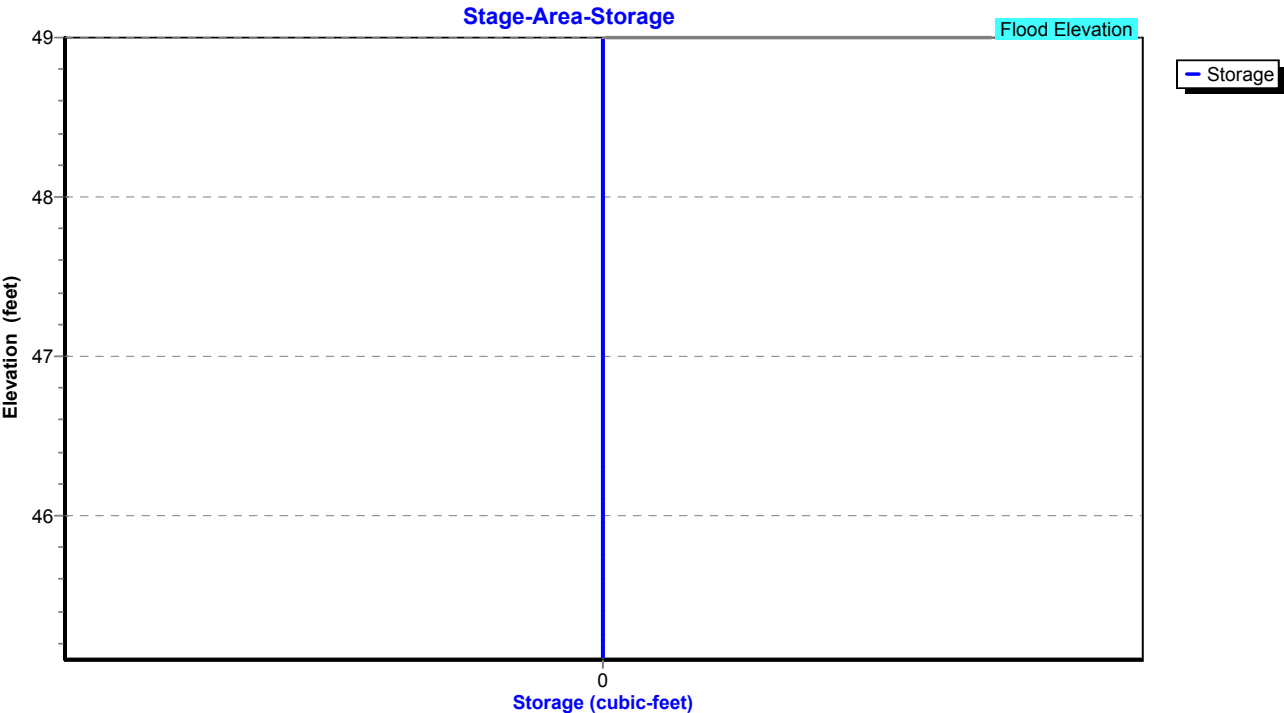
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Pond 61P: CB-6



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Summary for Pond 63P: Manhole

Inflow Area = 91,258 sf, 50.60% Impervious, Inflow Depth = 2.12" for 2 year event
Inflow = 4.76 cfs @ 12.06 hrs, Volume= 16,097 cf
Outflow = 4.76 cfs @ 12.06 hrs, Volume= 16,097 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.76 cfs @ 12.06 hrs, Volume= 16,097 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.47' @ 12.06 hrs

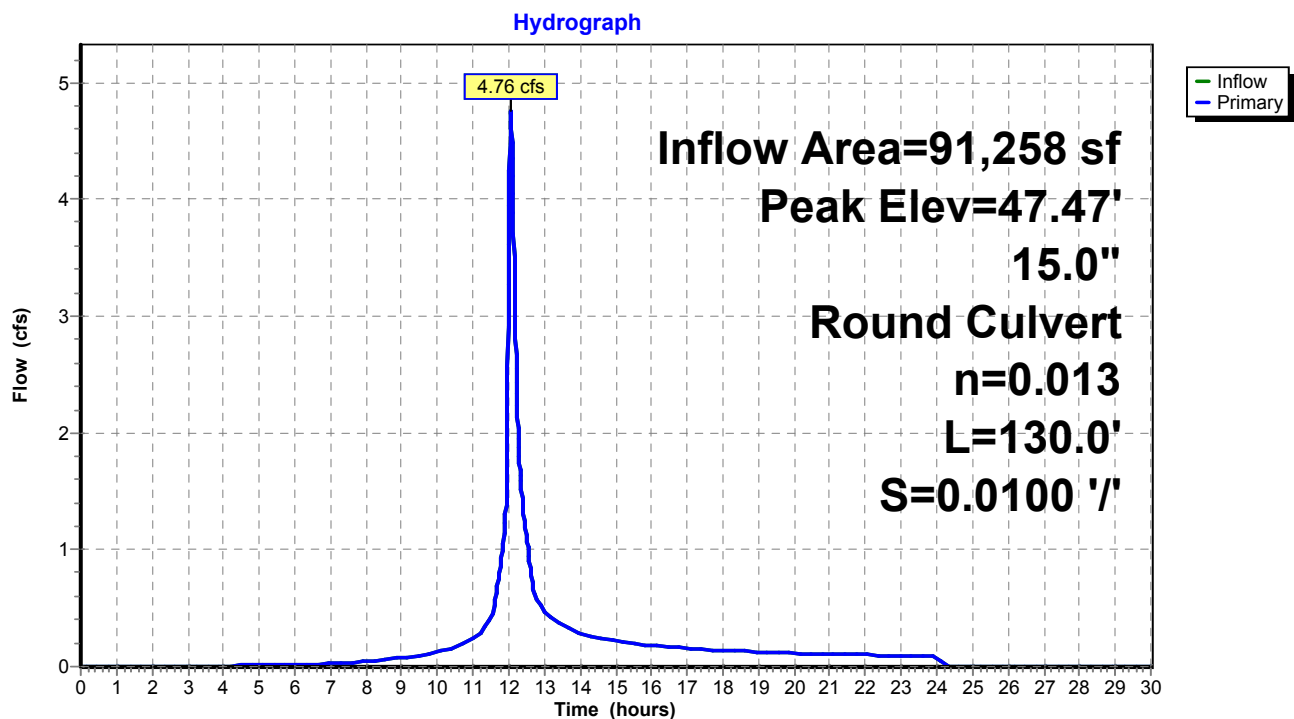
Flood Elev= 51.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.20'	15.0" Round Culvert L= 130.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.20' / 44.90' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=4.75 cfs @ 12.06 hrs HW=47.47' (Free Discharge)

↑1=Culvert (Inlet Controls 4.75 cfs @ 3.87 fps)

Pond 63P: Manhole



Existing Conditions

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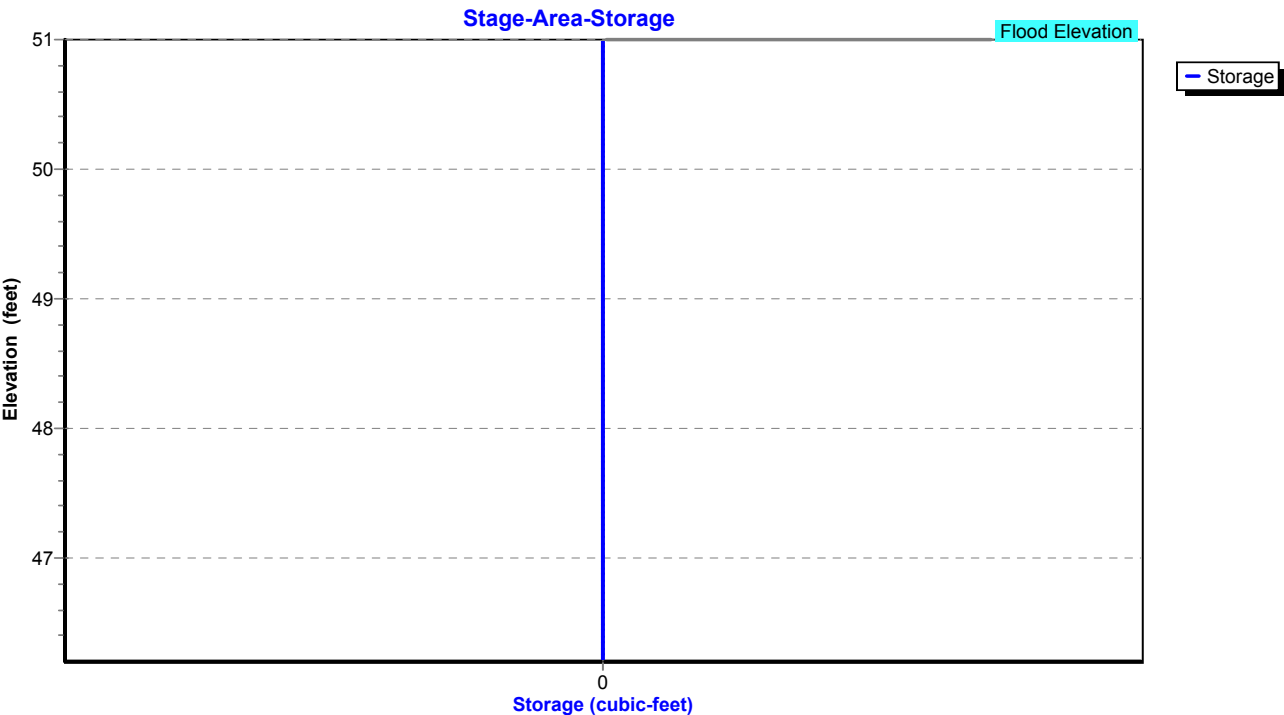
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Pond 63P: Manhole



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Summary for Pond 64P: YD

Inflow Area = 68,128 sf, 41.75% Impervious, Inflow Depth = 1.92" for 2 year event
Inflow = 3.32 cfs @ 12.09 hrs, Volume= 10,897 cf
Outflow = 3.32 cfs @ 12.09 hrs, Volume= 10,897 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.32 cfs @ 12.09 hrs, Volume= 10,897 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.22' @ 12.09 hrs

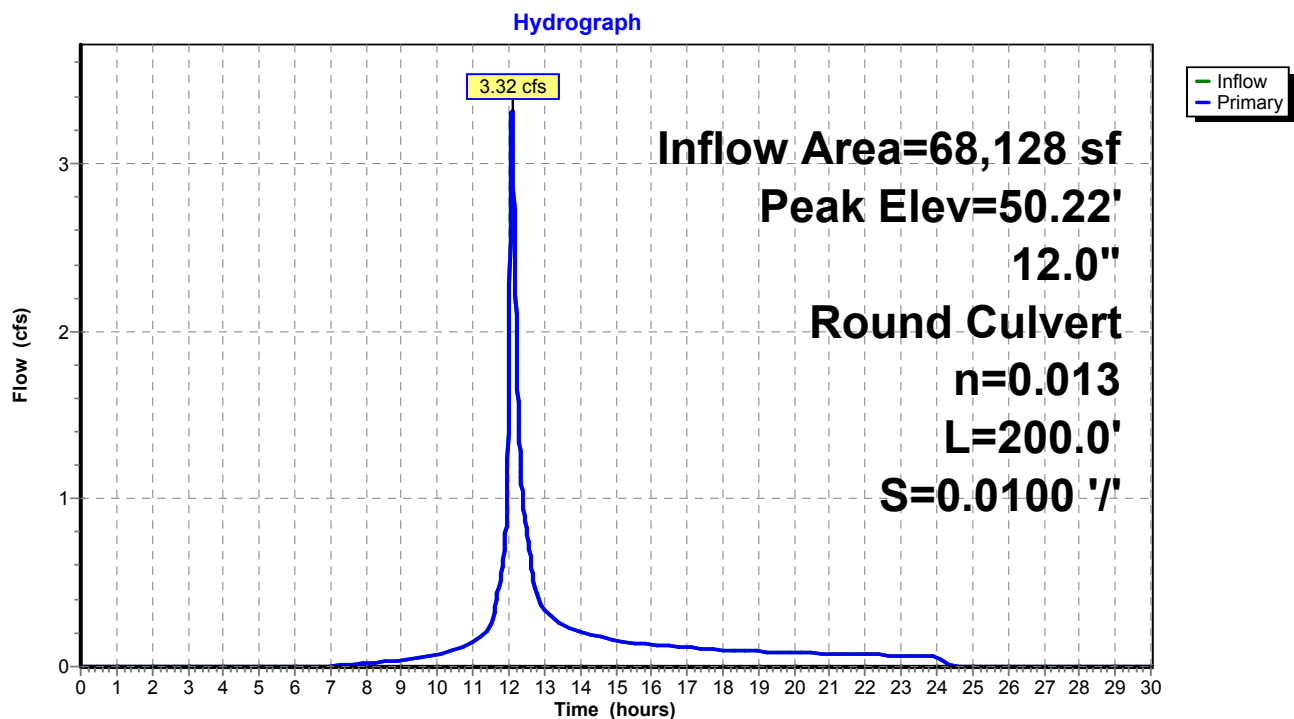
Flood Elev= 54.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.95'	12.0" Round Culvert L= 200.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.95' / 46.95' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=3.31 cfs @ 12.09 hrs HW=50.22' (Free Discharge)

↑1=Culvert (Inlet Controls 3.31 cfs @ 4.22 fps)

Pond 64P: YD



Existing Conditions

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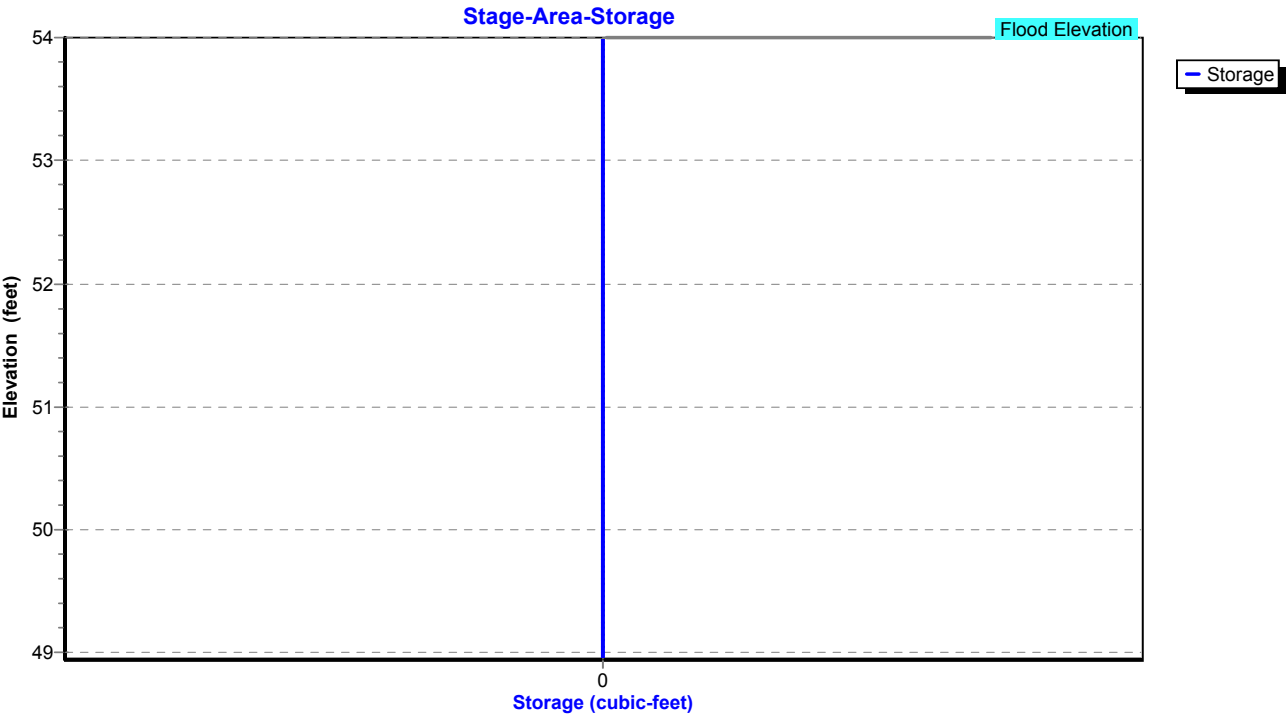
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Pond 64P: YD



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Summary for Pond 66P: CB-10

Inflow Area = 12,763 sf, 73.04% Impervious, Inflow Depth = 2.62" for 2 year event
Inflow = 1.08 cfs @ 12.03 hrs, Volume= 2,784 cf
Outflow = 1.08 cfs @ 12.03 hrs, Volume= 2,784 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.08 cfs @ 12.03 hrs, Volume= 2,784 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 48.09' @ 12.03 hrs

Flood Elev= 53.00'

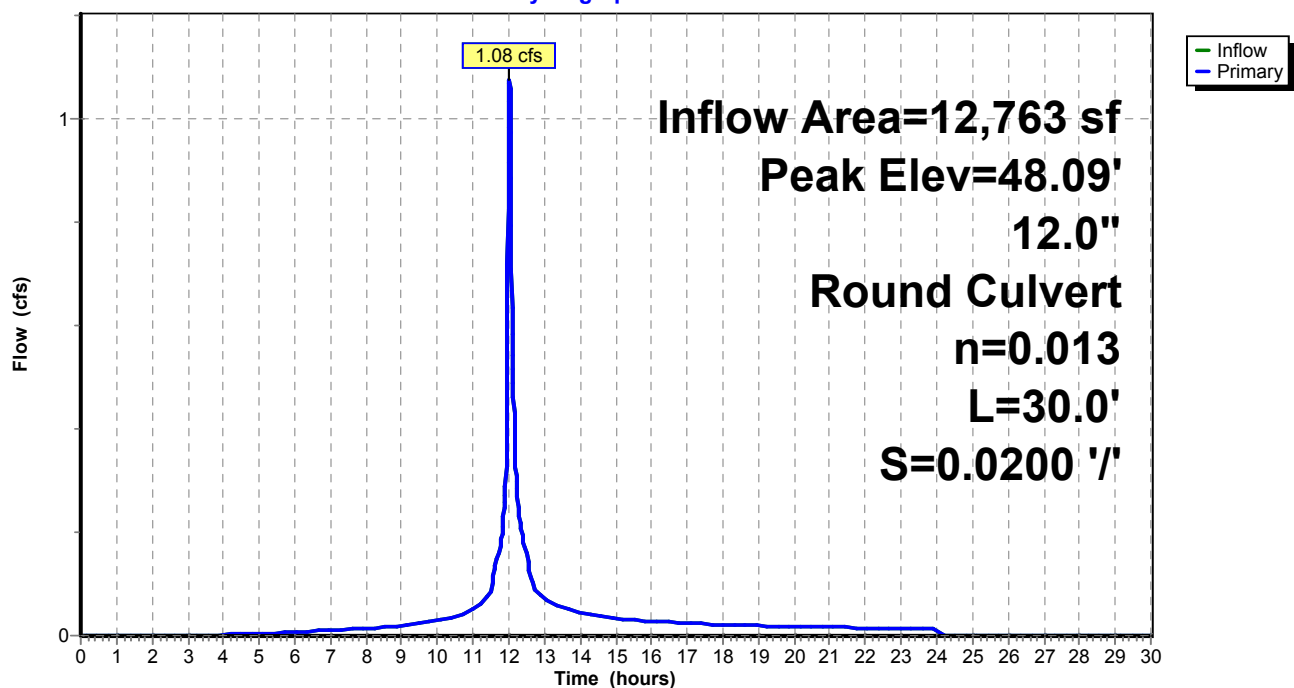
Device	Routing	Invert	Outlet Devices
#1	Primary	47.55'	12.0" Round Culvert L= 30.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.55' / 46.95' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.07 cfs @ 12.03 hrs HW=48.09' (Free Discharge)

↑1=Culvert (Inlet Controls 1.07 cfs @ 2.49 fps)

Pond 66P: CB-10

Hydrograph



Existing Conditions

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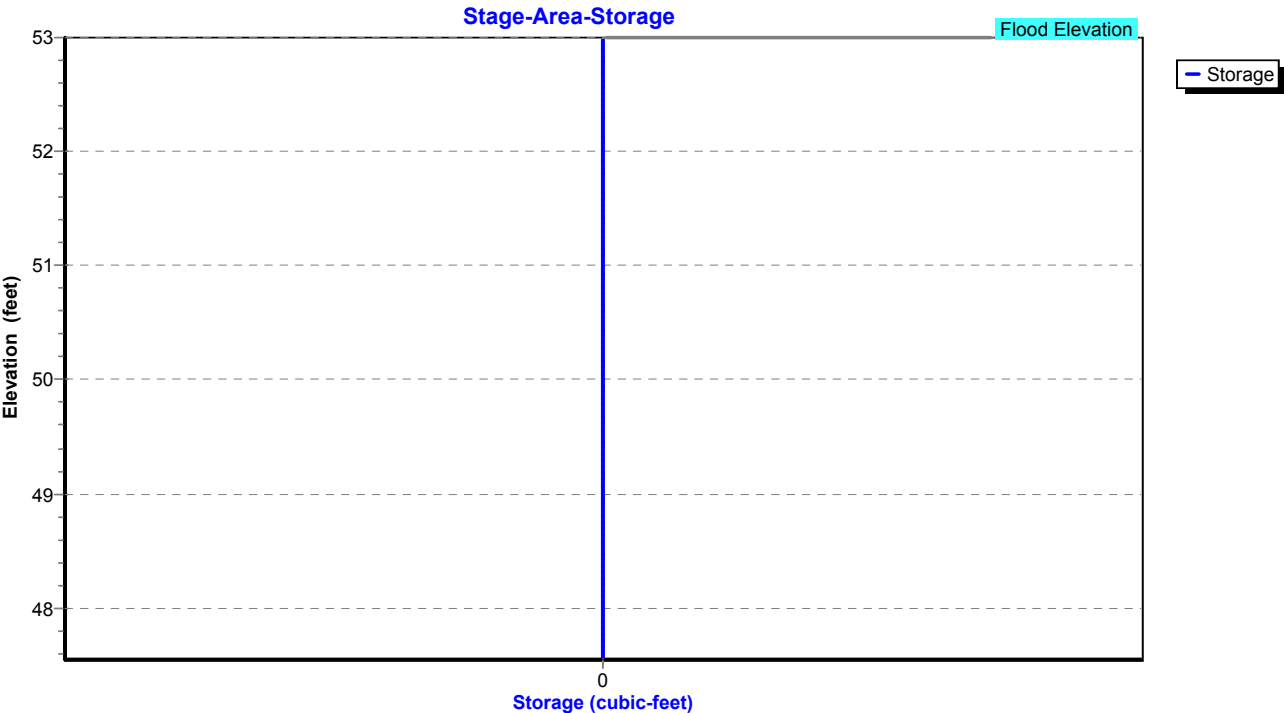
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Pond 66P: CB-10



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Summary for Pond 67P: CB-9

Inflow Area = 6,447 sf, 69.59% Impervious, Inflow Depth = 2.52" for 2 year event
Inflow = 0.53 cfs @ 12.03 hrs, Volume= 1,355 cf
Outflow = 0.53 cfs @ 12.03 hrs, Volume= 1,355 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.53 cfs @ 12.03 hrs, Volume= 1,355 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.52' @ 12.03 hrs

Flood Elev= 52.00'

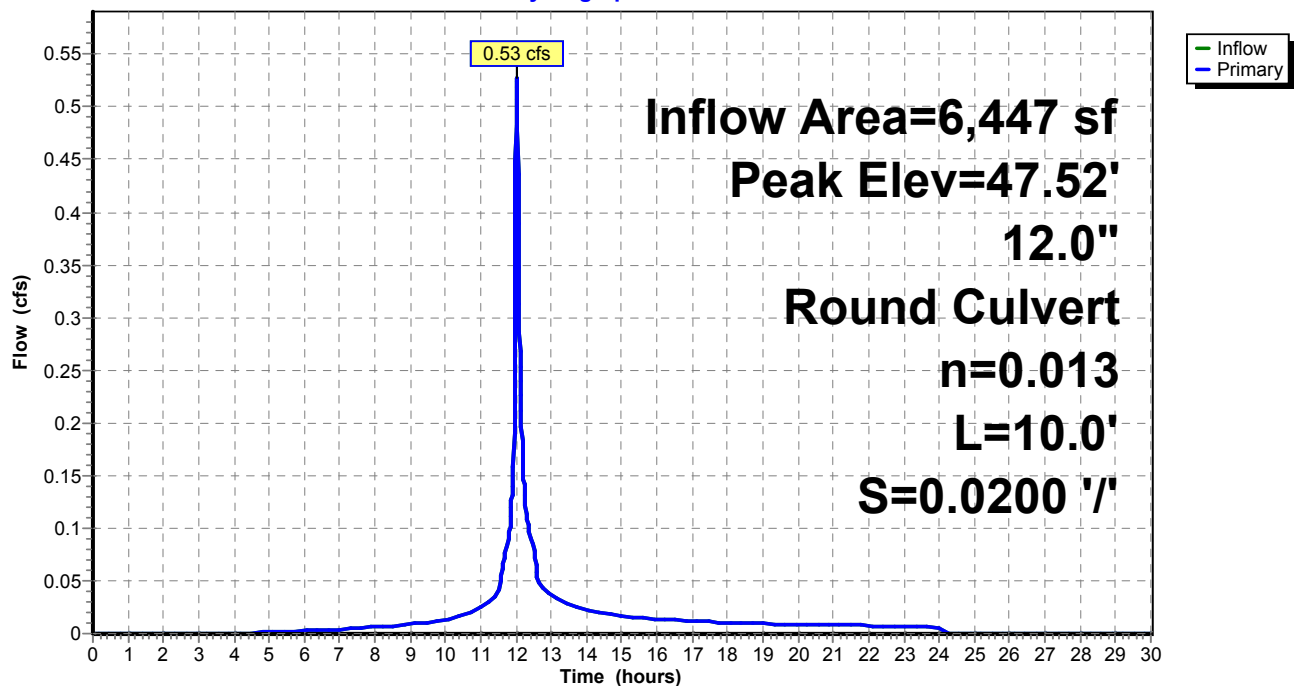
Device	Routing	Invert	Outlet Devices
#1	Primary	47.15'	12.0" Round Culvert L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.15' / 46.95' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.52 cfs @ 12.03 hrs HW=47.51' (Free Discharge)

↑1=Culvert (Barrel Controls 0.52 cfs @ 3.01 fps)

Pond 67P: CB-9

Hydrograph



Existing Conditions

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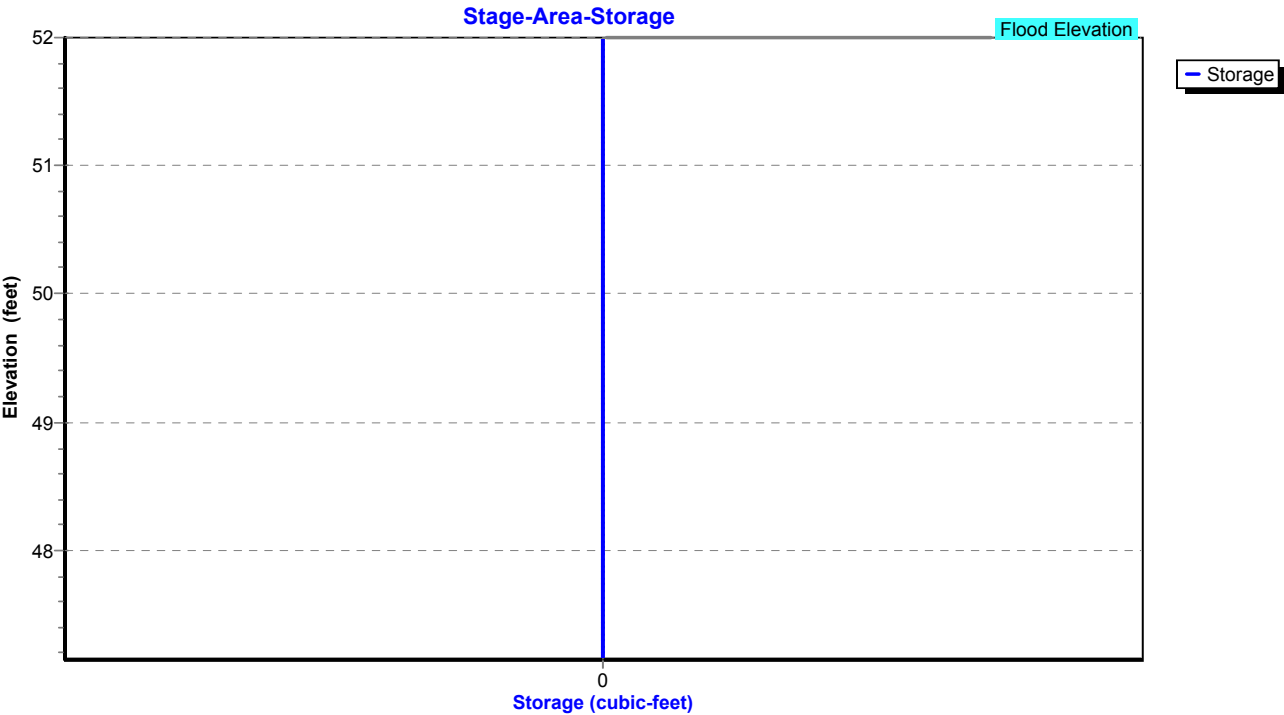
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Pond 67P: CB-9



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Summary for Pond 70P: CB-2

Inflow Area = 88,035 sf, 58.39% Impervious, Inflow Depth = 2.16" for 2 year event
Inflow = 4.71 cfs @ 11.99 hrs, Volume= 15,832 cf
Outflow = 4.71 cfs @ 11.99 hrs, Volume= 15,832 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.71 cfs @ 11.99 hrs, Volume= 15,832 cf
Routed to Pond 51P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.01' @ 11.99 hrs

Flood Elev= 53.30'

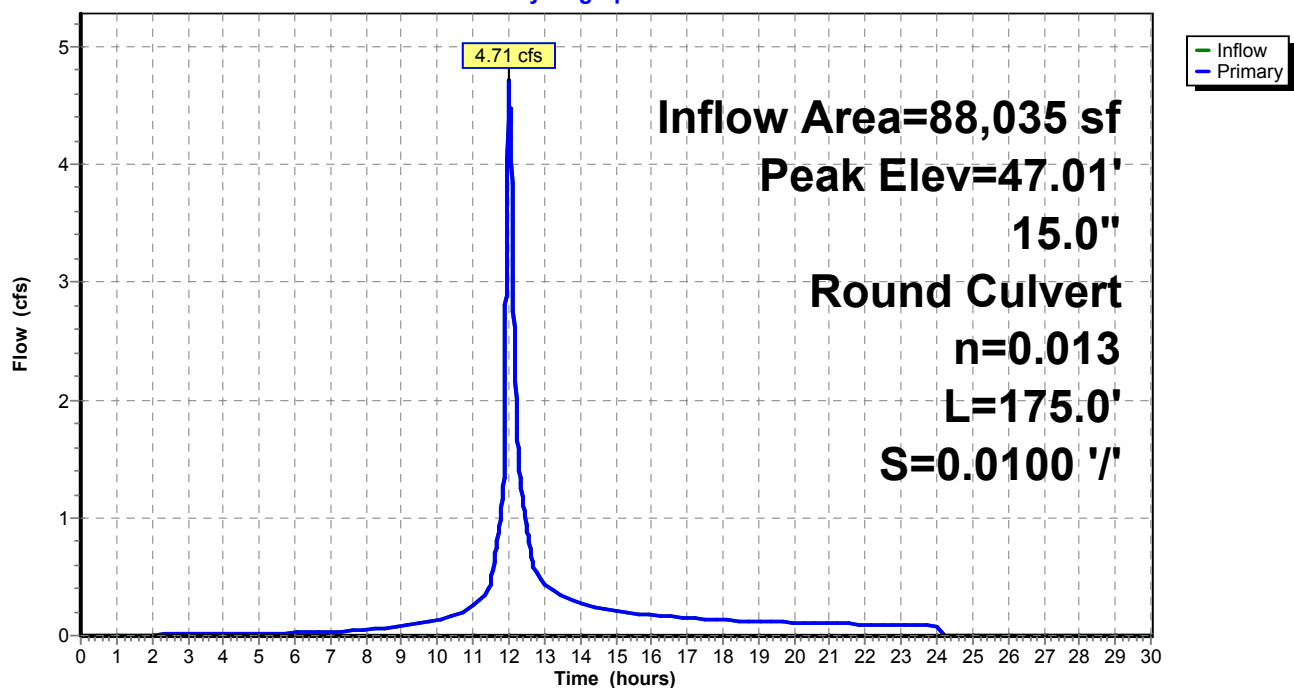
Device	Routing	Invert	Outlet Devices
#1	Primary	45.75'	15.0" Round Culvert L= 175.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.75' / 44.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=4.70 cfs @ 11.99 hrs HW=47.01' (Free Discharge)

↑1=Culvert (Inlet Controls 4.70 cfs @ 3.83 fps)

Pond 70P: CB-2

Hydrograph



Existing Conditions

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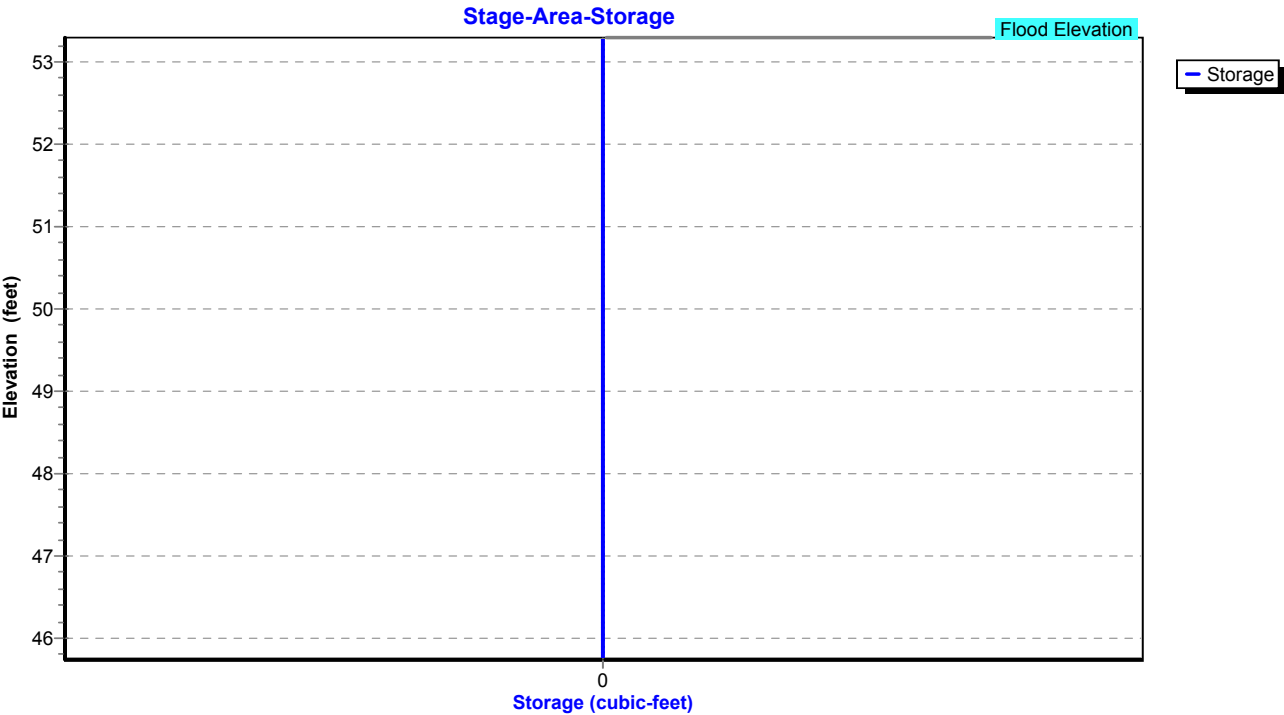
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Pond 70P: CB-2



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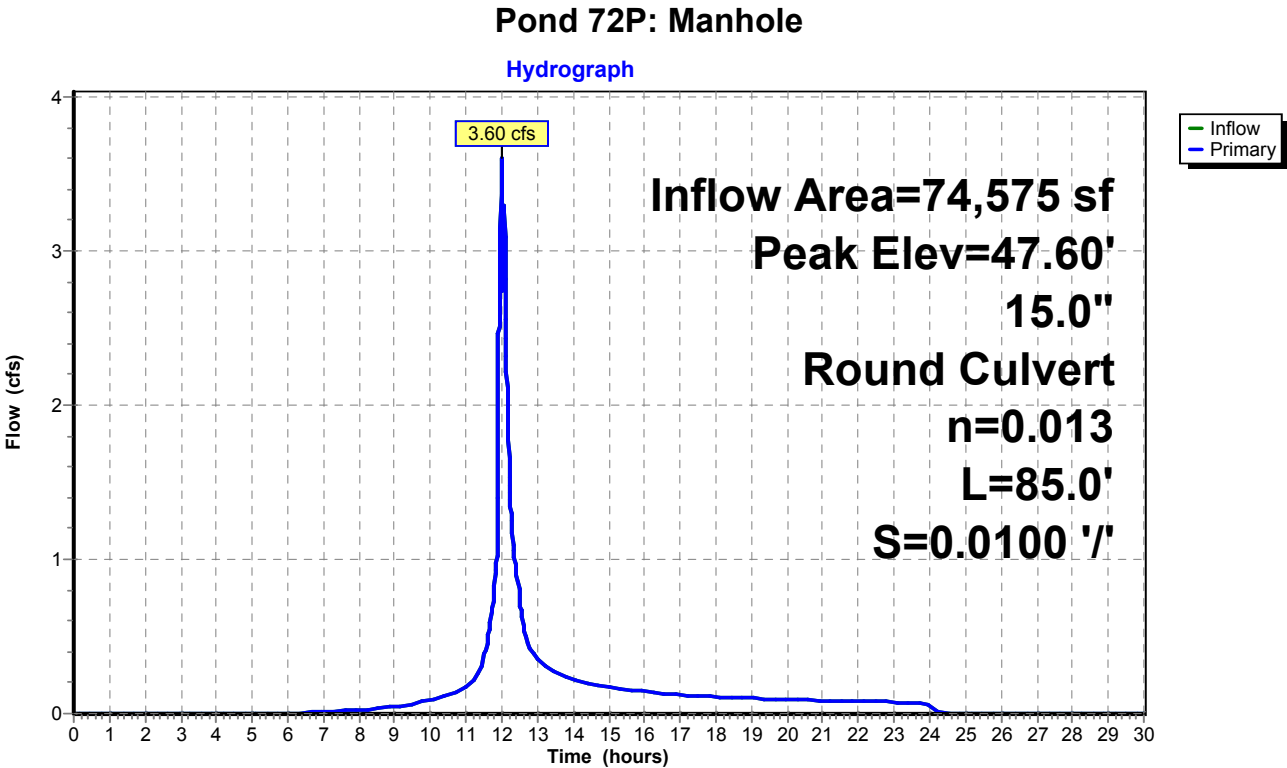
Summary for Pond 72P: Manhole

Inflow Area = 74,575 sf, 50.88% Impervious, Inflow Depth = 1.96" for 2 year event
Inflow = 3.60 cfs @ 11.99 hrs, Volume= 12,190 cf
Outflow = 3.60 cfs @ 11.99 hrs, Volume= 12,190 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.60 cfs @ 11.99 hrs, Volume= 12,190 cf
Routed to Pond 70P : CB-2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 47.60' @ 11.99 hrs
Flood Elev= 54.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.60'	15.0" Round Culvert L= 85.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.60' / 45.75' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=3.56 cfs @ 11.99 hrs HW=47.60' (Free Discharge)
↑1=Culvert (Inlet Controls 3.56 cfs @ 3.40 fps)



Existing Conditions

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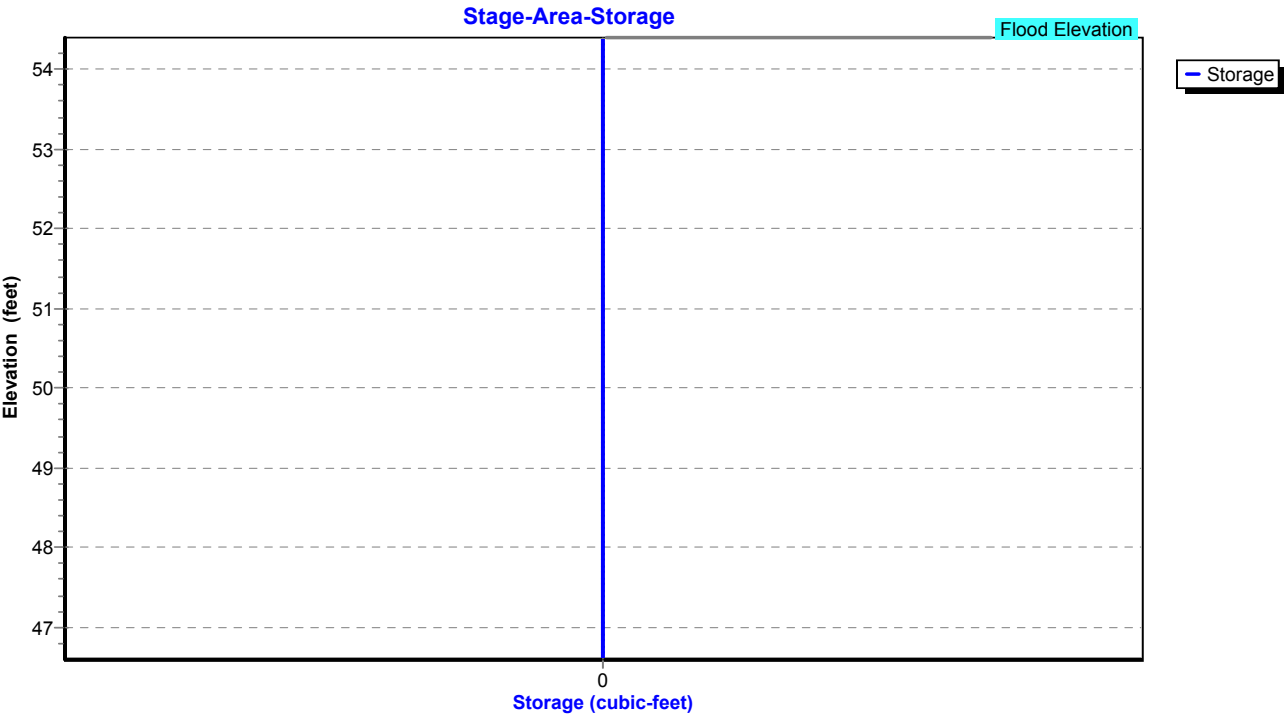
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Pond 72P: Manhole



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Pond 73P: CB-3

Inflow Area = 74,575 sf, 50.88% Impervious, Inflow Depth = 1.96" for 2 year event
Inflow = 3.60 cfs @ 11.99 hrs, Volume= 12,190 cf
Outflow = 3.60 cfs @ 11.99 hrs, Volume= 12,190 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.60 cfs @ 11.99 hrs, Volume= 12,190 cf
Routed to Pond 72P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 48.70' @ 11.99 hrs

Flood Elev= 53.30'

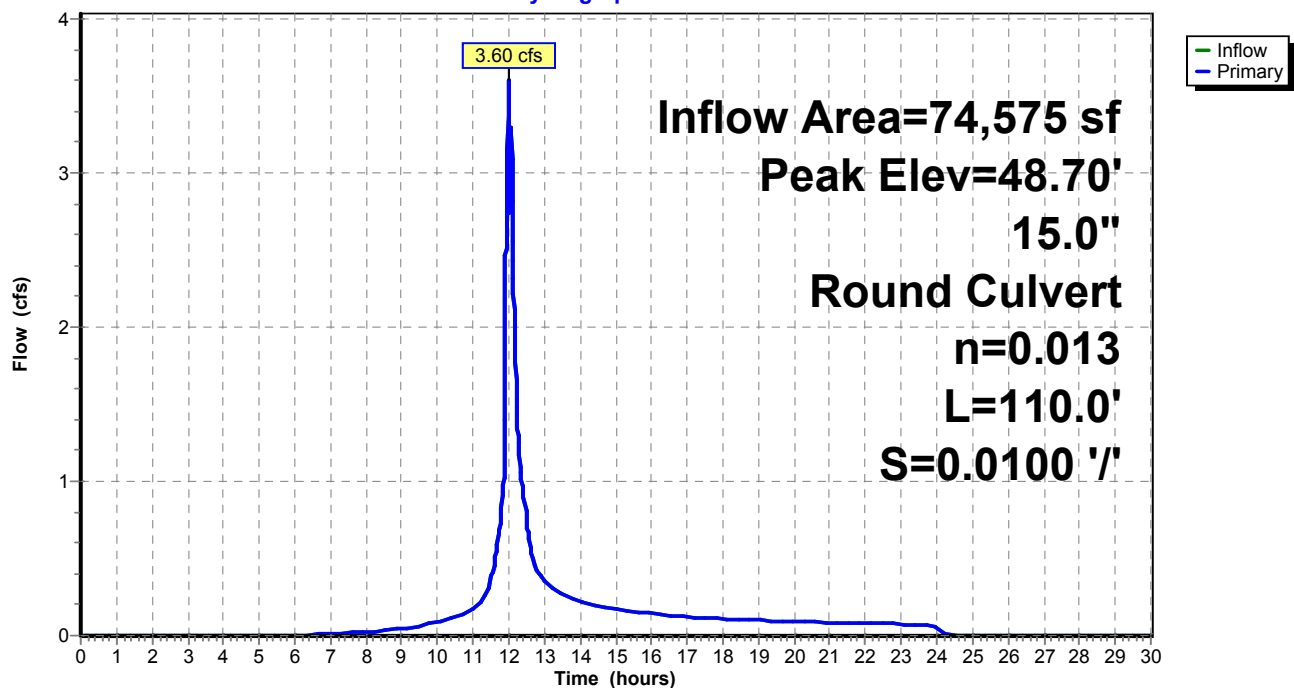
Device	Routing	Invert	Outlet Devices
#1	Primary	47.70'	15.0" Round Culvert L= 110.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.70' / 46.60' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=3.56 cfs @ 11.99 hrs HW=48.70' (Free Discharge)

↑1=Culvert (Inlet Controls 3.56 cfs @ 3.40 fps)

Pond 73P: CB-3

Hydrograph



Existing Conditions

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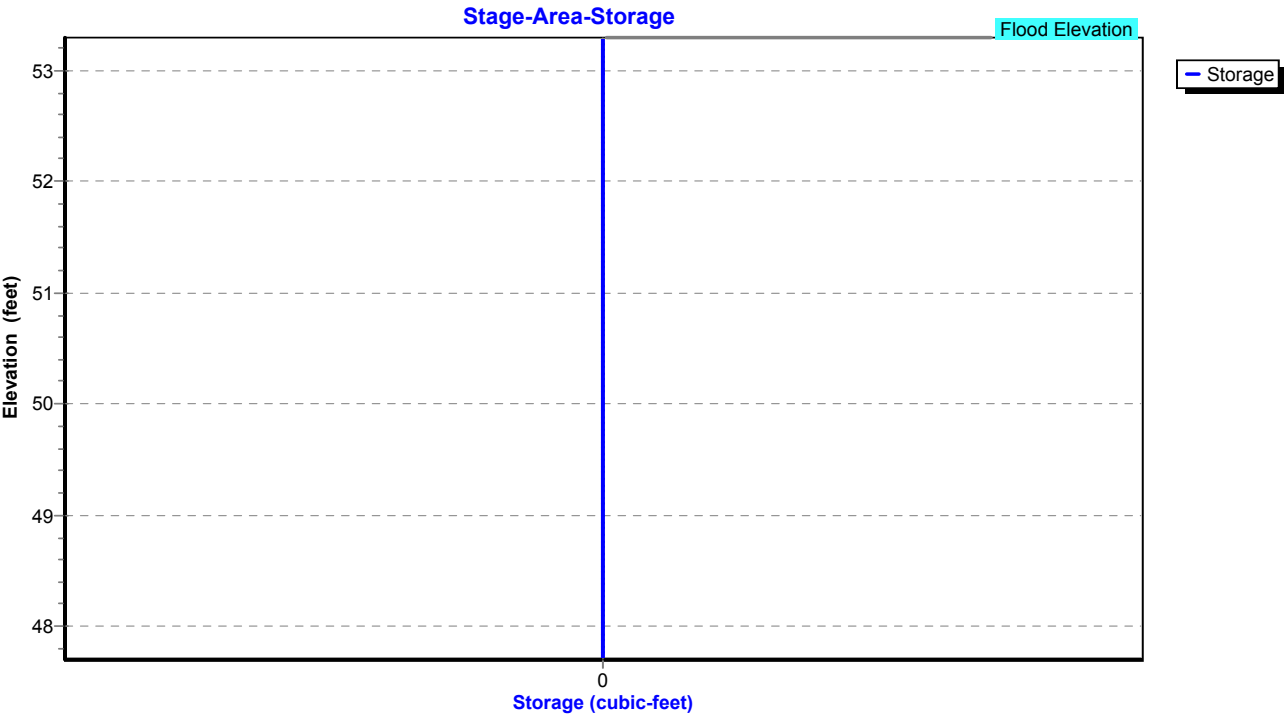
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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Pond 73P: CB-3



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Pond 74P: CB-4

Inflow Area = 49,920 sf, 46.51% Impervious, Inflow Depth = 1.86" for 2 year event
Inflow = 2.59 cfs @ 12.06 hrs, Volume= 7,743 cf
Outflow = 2.59 cfs @ 12.06 hrs, Volume= 7,743 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.59 cfs @ 12.06 hrs, Volume= 7,743 cf
Routed to Pond 73P : CB-3

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.01' @ 12.06 hrs

Flood Elev= 53.70'

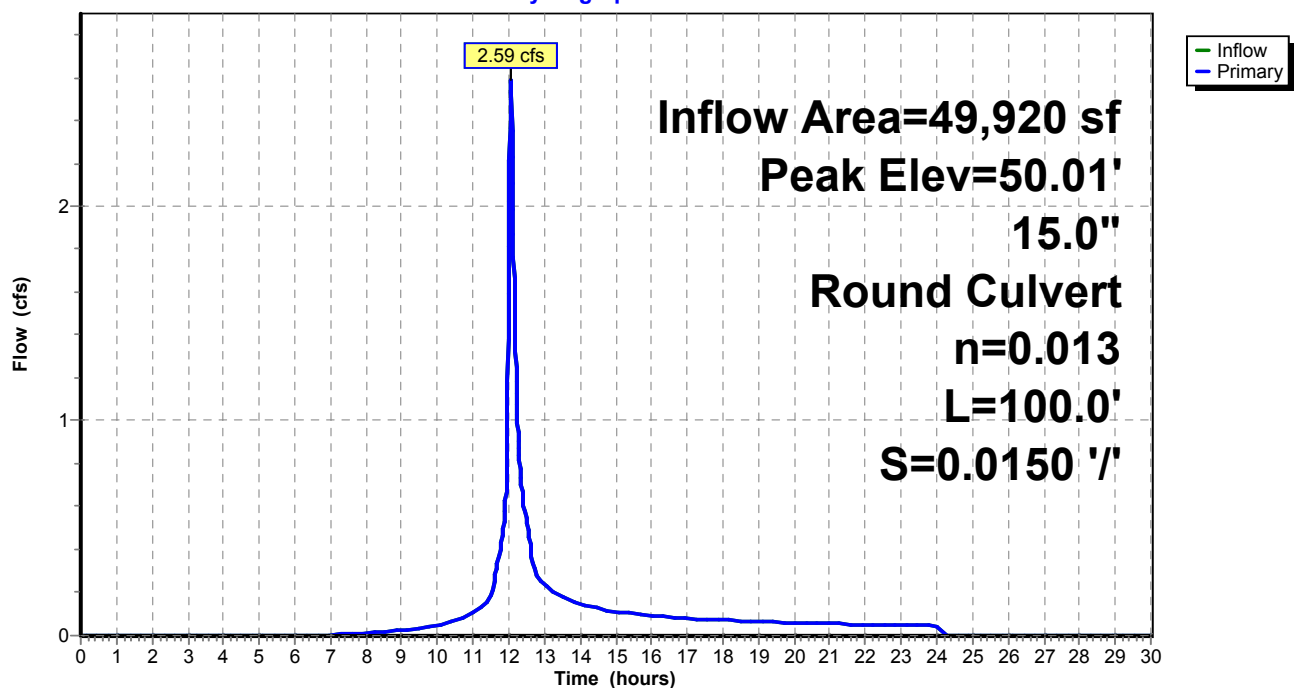
Device	Routing	Invert	Outlet Devices
#1	Primary	49.20'	15.0" Round Culvert L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.20' / 47.70' S= 0.0150 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=2.58 cfs @ 12.06 hrs HW=50.01' (Free Discharge)

↑1=Culvert (Inlet Controls 2.58 cfs @ 3.07 fps)

Pond 74P: CB-4

Hydrograph



Existing Conditions

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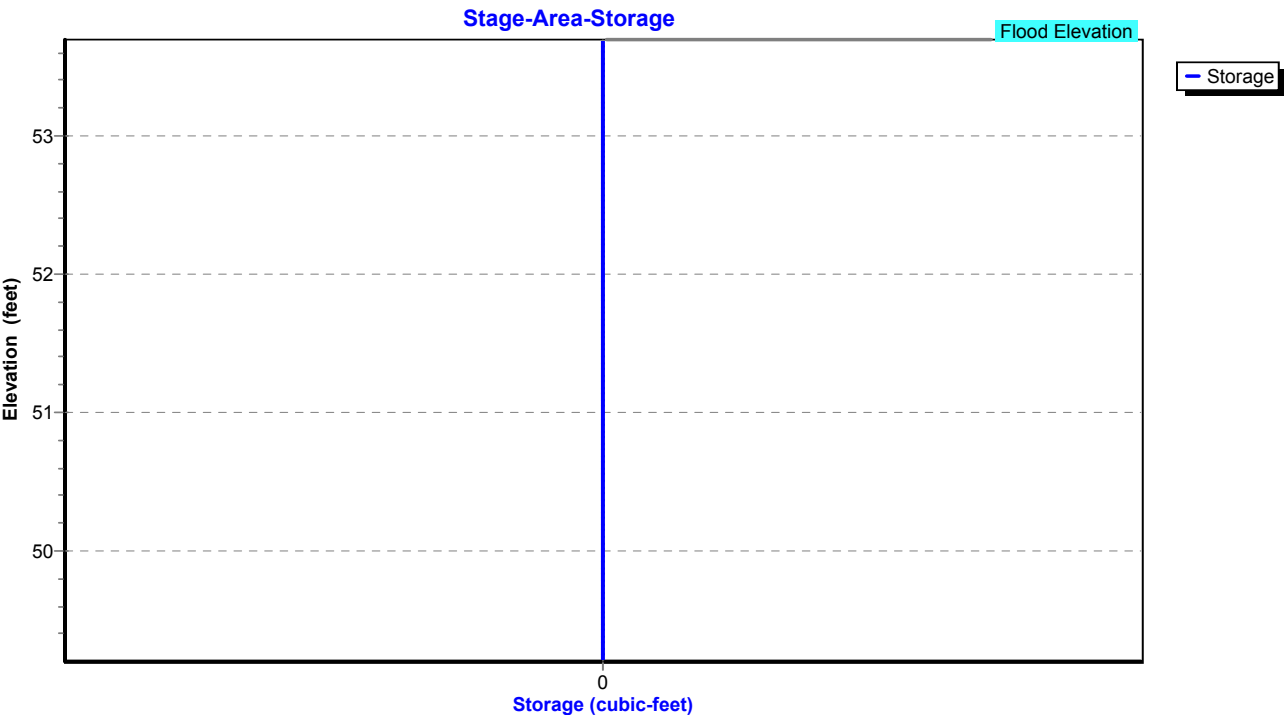
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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Pond 74P: CB-4



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Pond 77P: Manhole

Inflow Area = 87,338 sf, 48.38% Impervious, Inflow Depth = 2.07" for 2 year event
Inflow = 4.44 cfs @ 12.06 hrs, Volume= 15,036 cf
Outflow = 4.44 cfs @ 12.06 hrs, Volume= 15,036 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.44 cfs @ 12.06 hrs, Volume= 15,036 cf
Routed to Pond 63P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 48.13' @ 12.06 hrs

Flood Elev= 52.50'

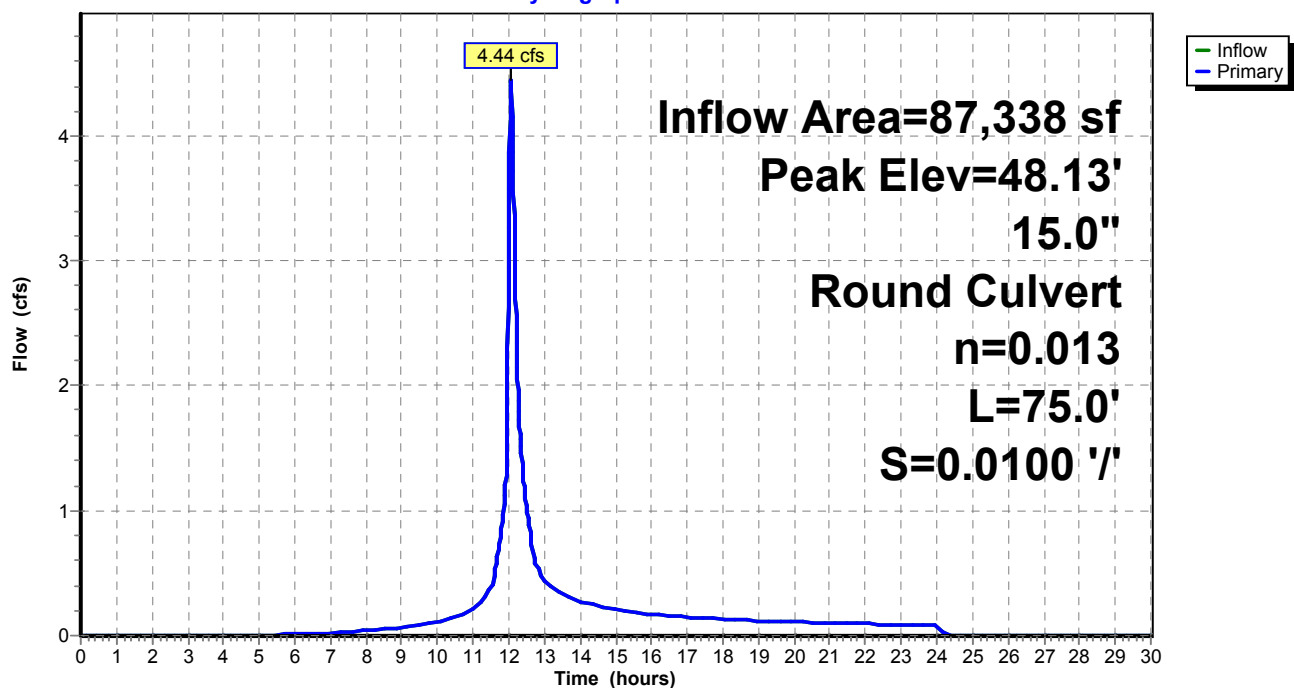
Device	Routing	Invert	Outlet Devices
#1	Primary	46.95'	15.0" Round Culvert L= 75.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.95' / 46.20' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=4.45 cfs @ 12.06 hrs HW=48.13' (Free Discharge)

↑1=Culvert (Inlet Controls 4.45 cfs @ 3.70 fps)

Pond 77P: Manhole

Hydrograph



Existing Conditions

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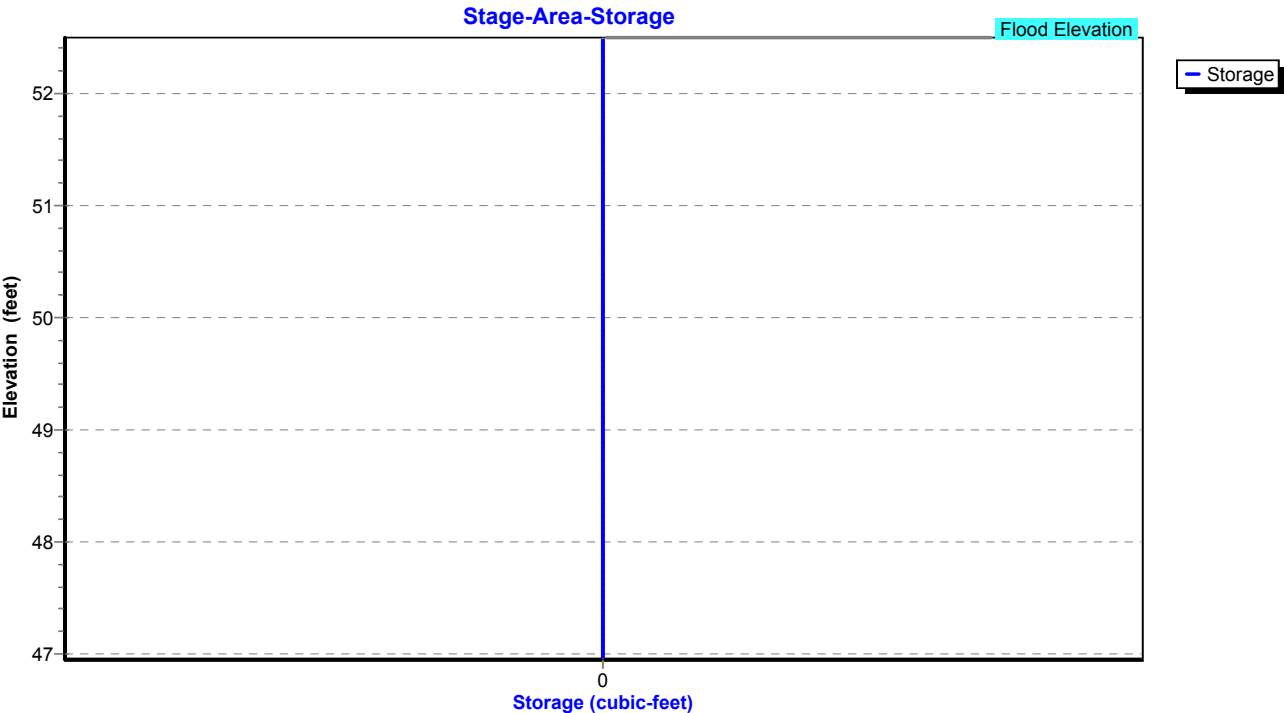
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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Pond 77P: Manhole



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Pond 79P: CB-8

Inflow Area = 3,920 sf, 100.00% Impervious, Inflow Depth = 3.25" for 2 year event
Inflow = 0.38 cfs @ 12.03 hrs, Volume= 1,061 cf
Outflow = 0.38 cfs @ 12.03 hrs, Volume= 1,061 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.38 cfs @ 12.03 hrs, Volume= 1,061 cf
Routed to Pond 63P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.50' @ 12.03 hrs

Flood Elev= 52.50'

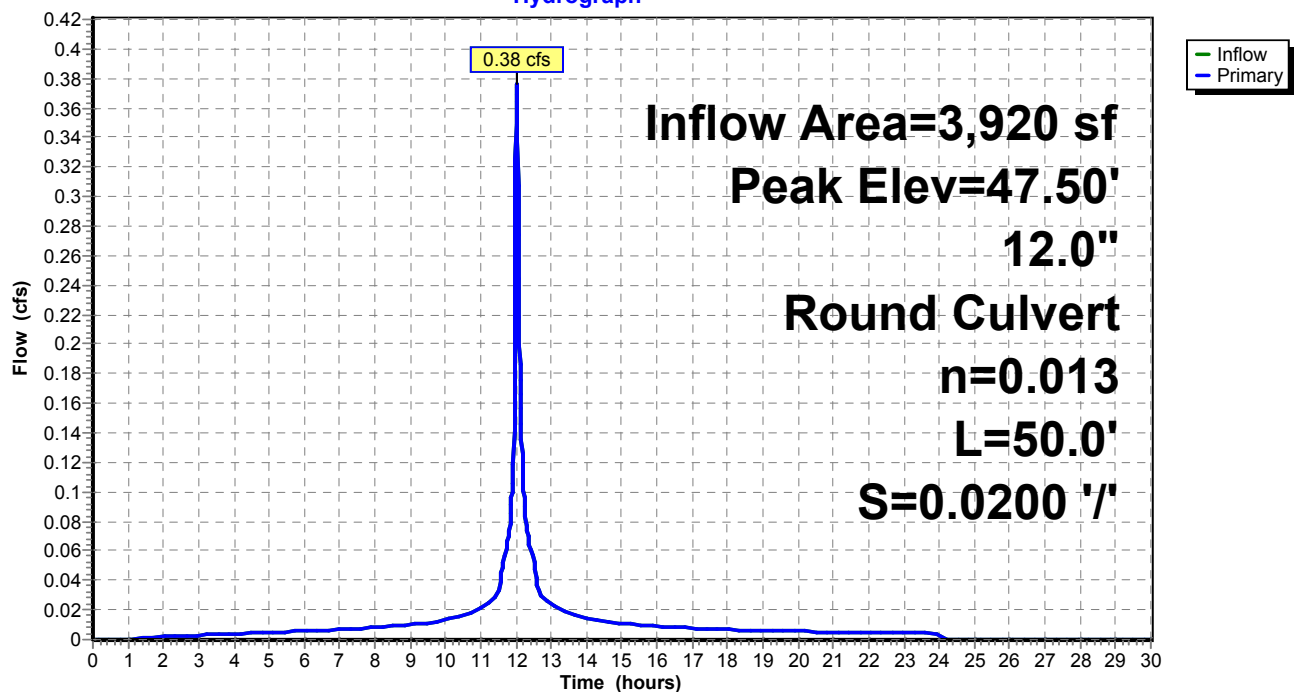
Device	Routing	Invert	Outlet Devices
#1	Primary	47.20'	12.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.20' / 46.20' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.37 cfs @ 12.03 hrs HW=47.50' (Free Discharge)

↑1=Culvert (Inlet Controls 0.37 cfs @ 1.87 fps)

Pond 79P: CB-8

Hydrograph



Existing Conditions

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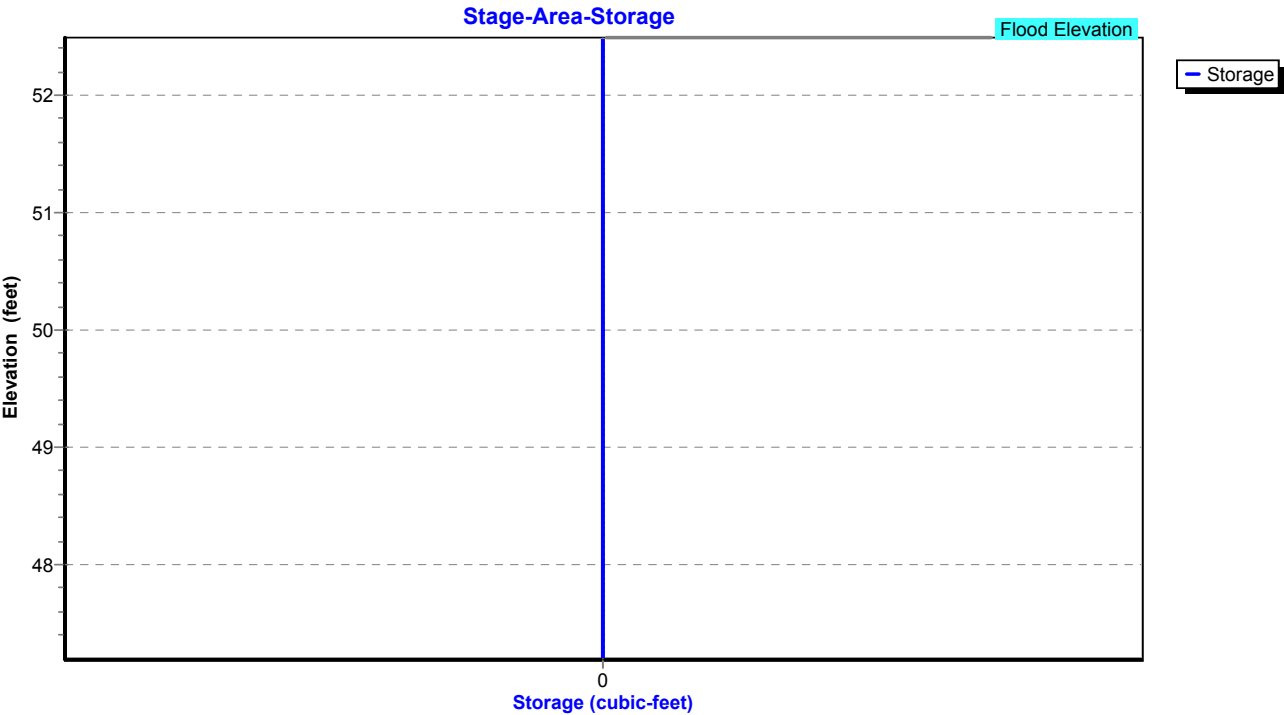
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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Pond 79P: CB-8



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Summary for Pond 85P: CB-5

Inflow Area = 34,804 sf, 42.18% Impervious, Inflow Depth = 1.77" for 2 year event
Inflow = 1.68 cfs @ 12.07 hrs, Volume= 5,122 cf
Outflow = 1.68 cfs @ 12.07 hrs, Volume= 5,122 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.68 cfs @ 12.07 hrs, Volume= 5,122 cf
Routed to Pond 74P : CB-4

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.90' @ 12.07 hrs

Flood Elev= 53.30'

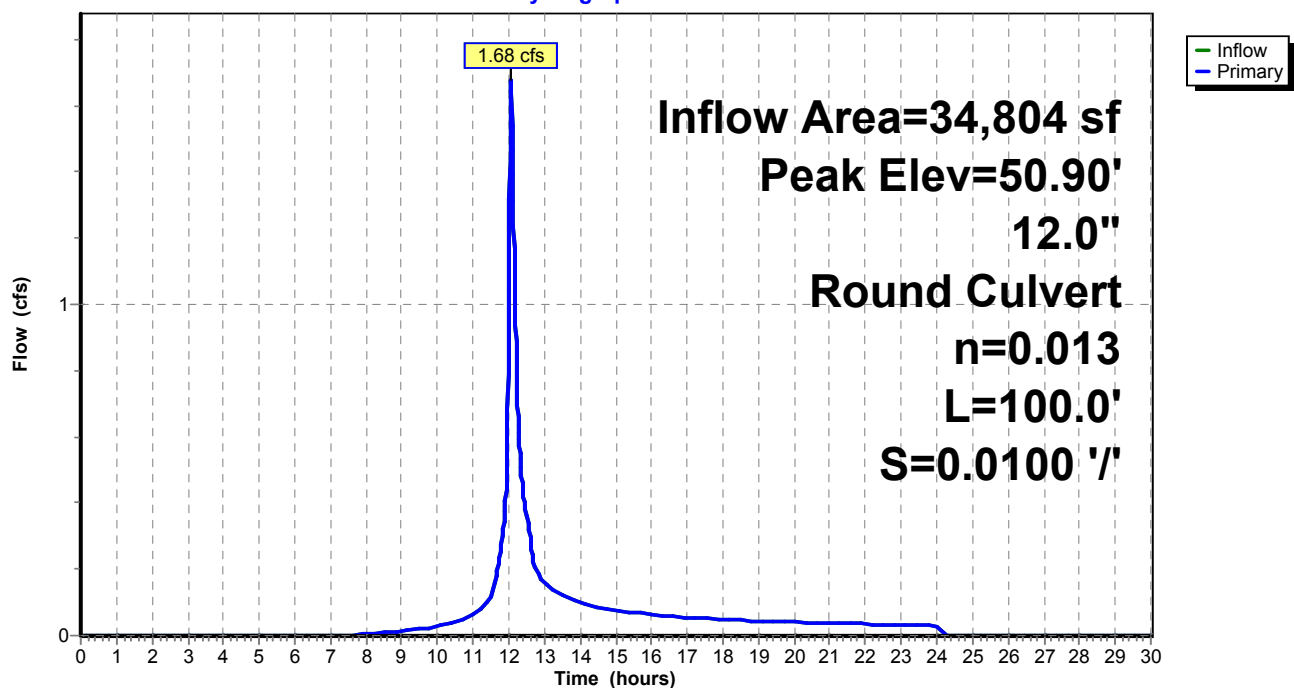
Device	Routing	Invert	Outlet Devices
#1	Primary	50.20'	12.0" Round Culvert L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 50.20' / 49.20' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.67 cfs @ 12.07 hrs HW=50.90' (Free Discharge)

↑1=Culvert (Inlet Controls 1.67 cfs @ 2.85 fps)

Pond 85P: CB-5

Hydrograph



Existing Conditions

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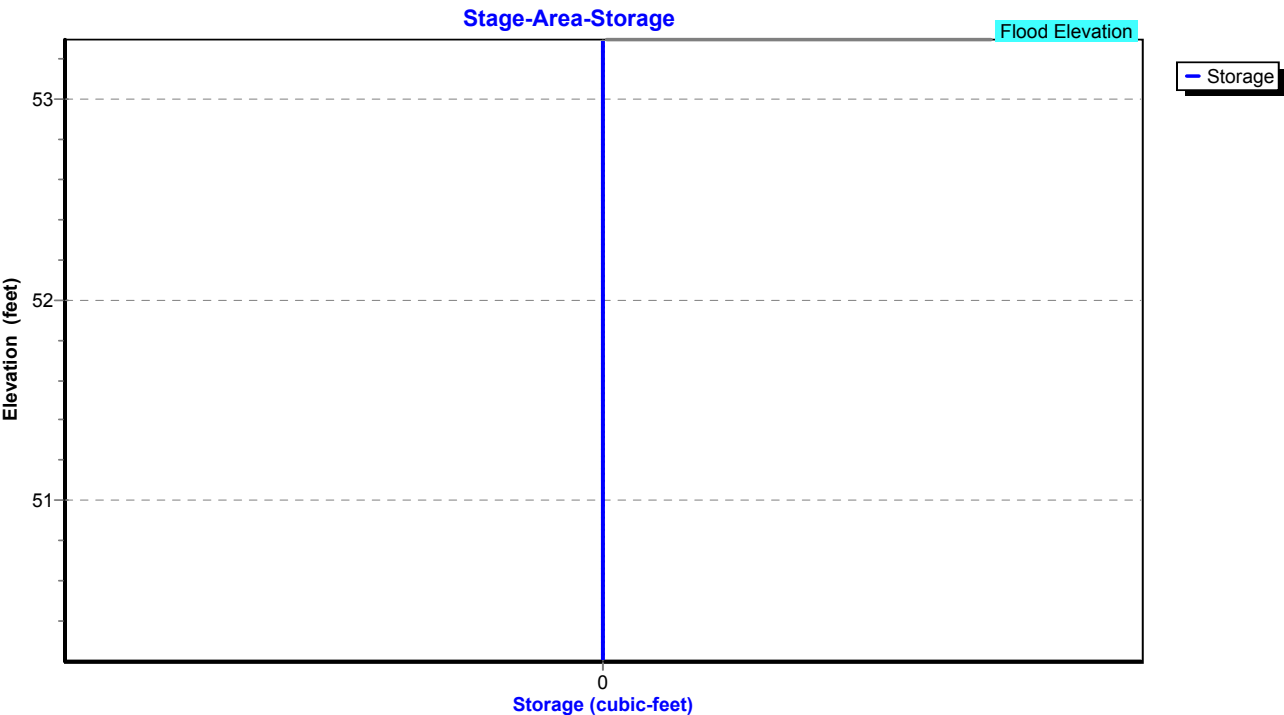
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Pond 85P: CB-5



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Summary for Pond P: ADS Stormtech

Inflow Area = 16,901 sf, 100.00% Impervious, Inflow Depth = 3.25" for 2 year event
Inflow = 1.62 cfs @ 12.03 hrs, Volume= 4,573 cf
Outflow = 0.50 cfs @ 12.18 hrs, Volume= 4,573 cf, Atten= 69%, Lag= 9.4 min
Primary = 0.50 cfs @ 12.18 hrs, Volume= 4,573 cf
Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 52.90' @ 12.18 hrs Surf.Area= 749 sf Storage= 770 cf

Plug-Flow detention time= 18.2 min calculated for 4,571 cf (100% of inflow)

Center-of-Mass det. time= 18.2 min (773.9 - 755.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	51.34'	764 cf	15.75'W x 46.34'L x 3.75'H Field A 2,737 cf Overall - 827 cf Embedded = 1,910 cf x 40.0% Voids
#2A	51.84'	827 cf	ADS_StormTech SC-740 +Cap x 18 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 18 Chambers in 3 Rows
#3	51.34'	114 cf	5.00'D x 5.80'H OCS
		1,705 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	51.34'	12.0" Round Culvert L= 4.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 51.34' / 51.30' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	51.34'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	54.30'	5.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.50 cfs @ 12.18 hrs HW=52.90' (Free Discharge)

- 1=Culvert (Passes 0.50 cfs of 3.83 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.50 cfs @ 5.69 fps)
- 3=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Existing Conditions

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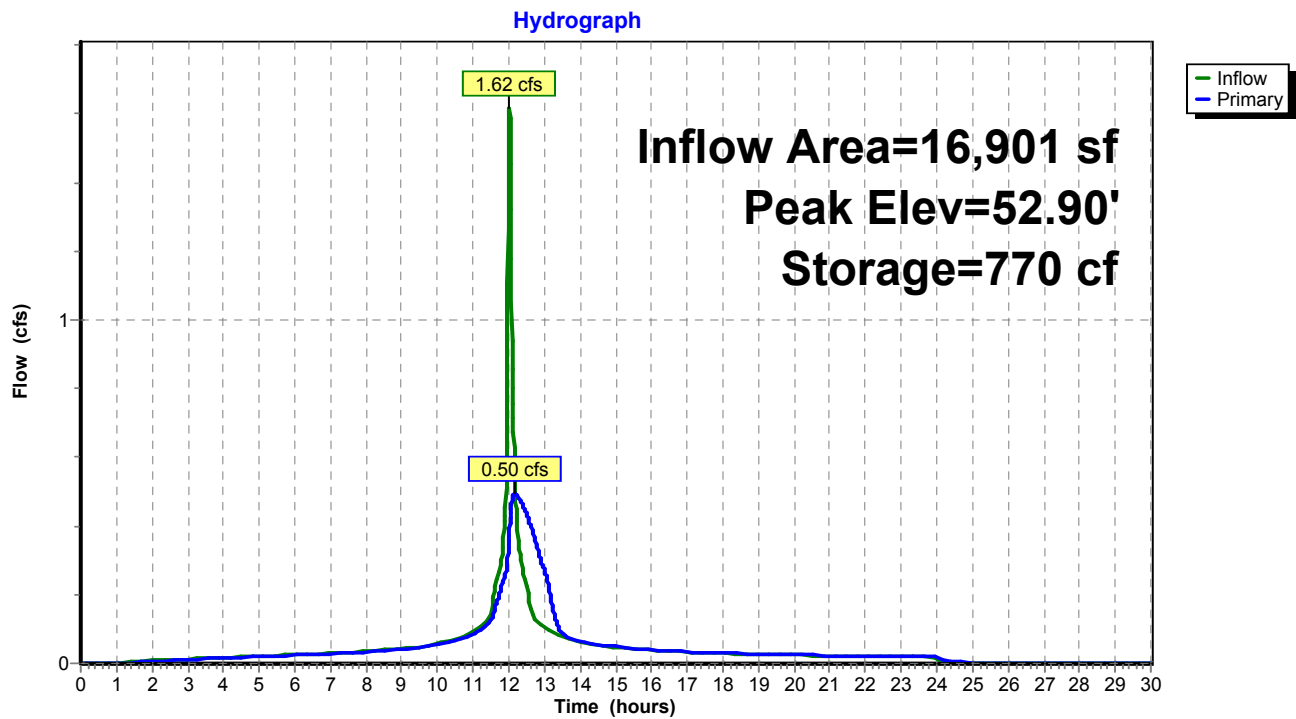
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NORWALK 24-hr S1 2 year Rainfall=3.48"

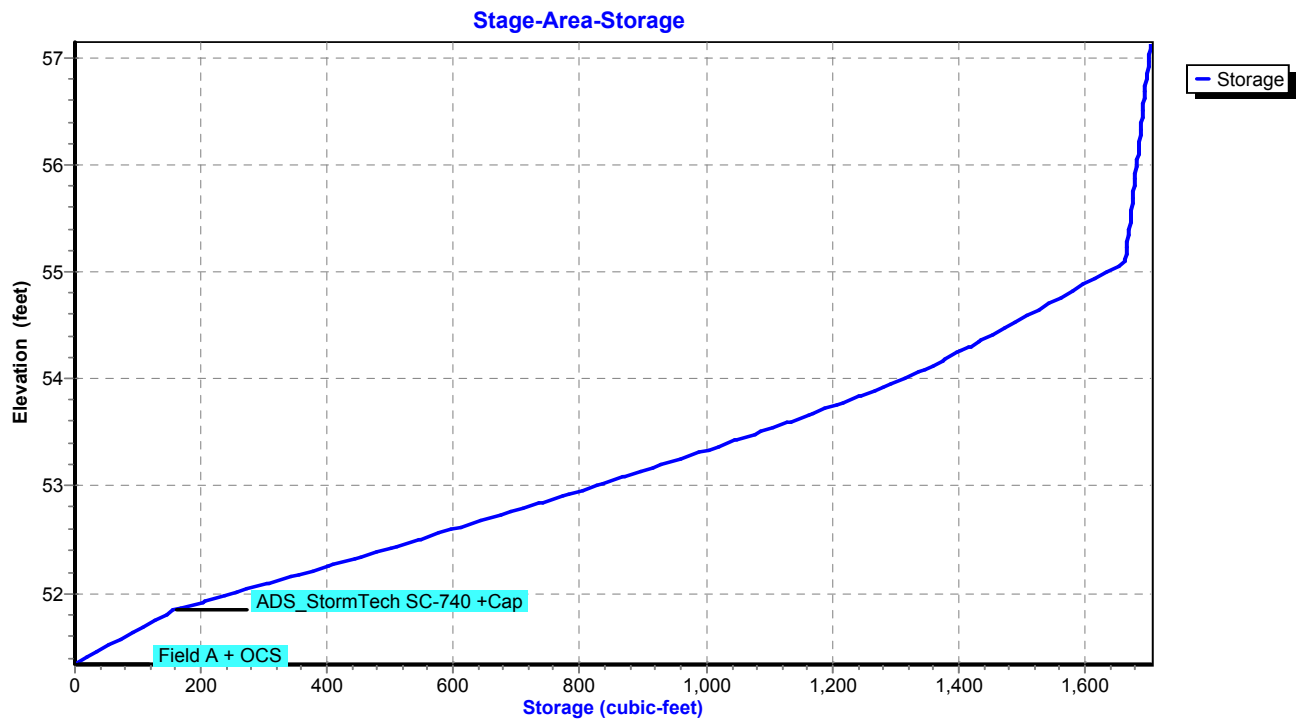
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Pond P: ADS Stormtech



Pond P: ADS Stormtech



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NORWALK 24-hr S1 10 year Rainfall=5.33"
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Summary for Subcatchment 4S: Area 4

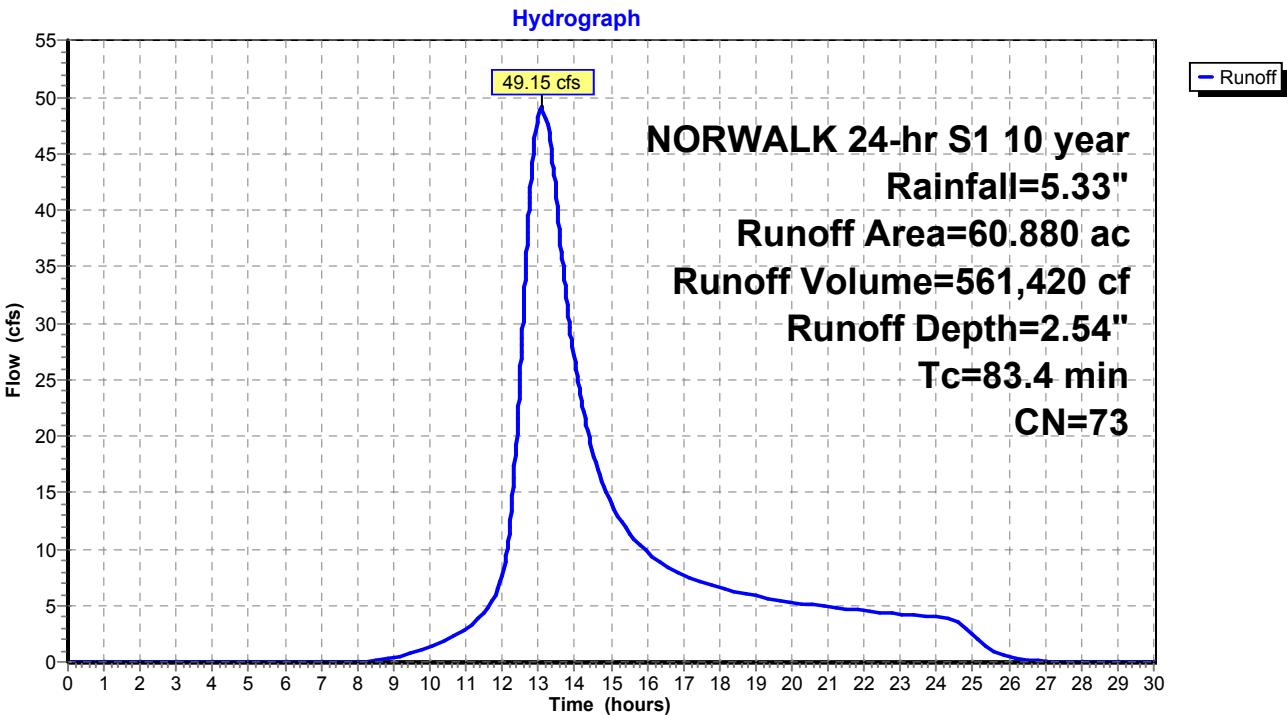
Runoff = 49.15 cfs @ 13.07 hrs, Volume= 561,420 cf, Depth= 2.54"
Routed to Pond 18P : DET 4 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
8.210	61	>75% Grass cover, Good, HSG B
0.140	74	>75% Grass cover, Good, HSG C
0.380	80	>75% Grass cover, Good, HSG D
25.920	70	1/2 acre lots, 25% imp, HSG B
22.630	80	1/2 acre lots, 25% imp, HSG C
3.600	85	1/2 acre lots, 25% imp, HSG D
60.880	73	Weighted Average
47.842		78.58% Pervious Area
13.037		21.42% Impervious Area

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

Subcatchment 4S: Area 4



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"
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Summary for Subcatchment 5S: Area 5

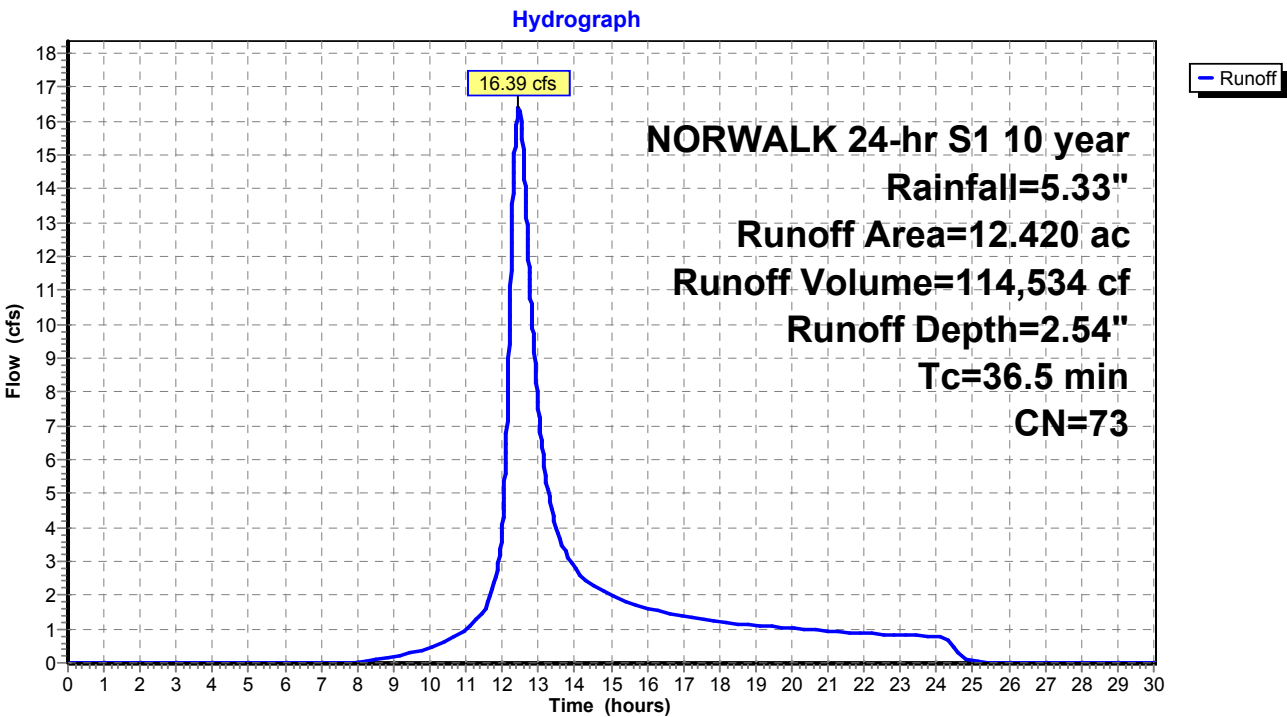
Runoff = 16.39 cfs @ 12.45 hrs, Volume= 114,534 cf, Depth= 2.54"
Routed to Pond 5P : DET 5 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
4.770	61	>75% Grass cover, Good, HSG B
5.210	74	>75% Grass cover, Good, HSG C
0.390	80	>75% Grass cover, Good, HSG D
2.050	98	Paved parking & roofs
12.420	73	Weighted Average
10.370		83.49% Pervious Area
2.050		16.51% Impervious Area

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

Subcatchment 5S: Area 5



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 6S: Area 6

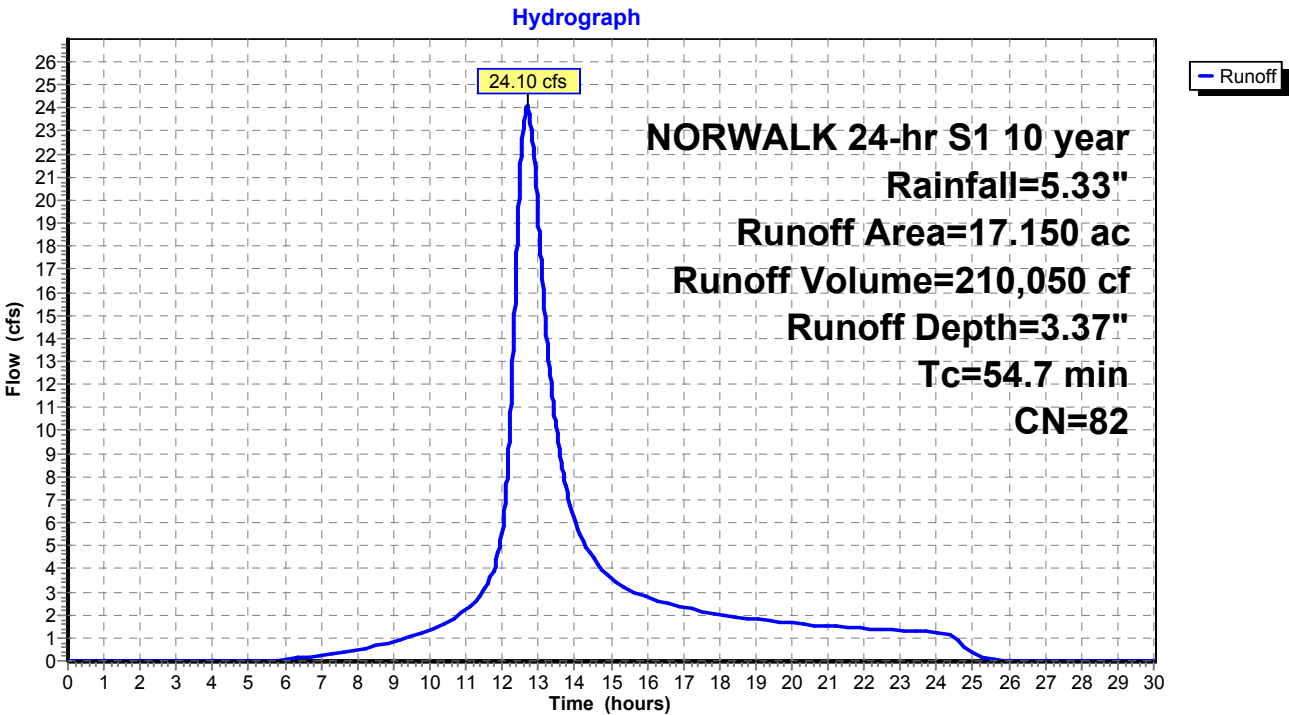
Runoff = 24.10 cfs @ 12.70 hrs, Volume= 210,050 cf, Depth= 3.37"
Routed to Pond 6P : DET 6 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
9.290	71	Meadow, non-grazed, HSG C
5.410	98	Paved parking & roofs
1.480	77	Woods, Good, HSG D
0.970	98	Paved parking & roofs
17.150	82	Weighted Average
10.770		62.80% Pervious Area
6.380		37.20% Impervious Area

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

Subcatchment 6S: Area 6



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 7S: Area 7

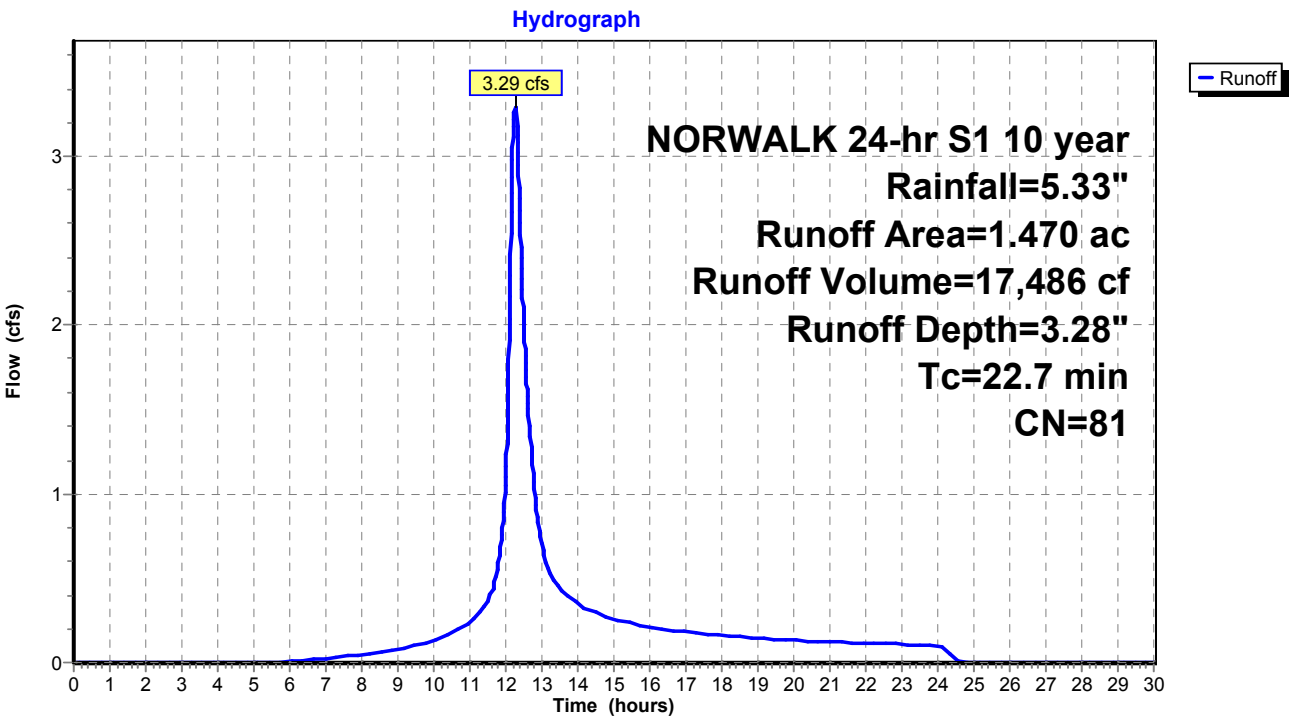
Runoff = 3.29 cfs @ 12.26 hrs, Volume= 17,486 cf, Depth= 3.28"
Routed to Pond 7P : DET 7 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.890	79	50-75% Grass cover, Fair, HSG C
0.580	84	50-75% Grass cover, Fair, HSG D
1.470	81	Weighted Average
1.470		100.00% Pervious Area

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

Subcatchment 7S: Area 7



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 8S: Area 8

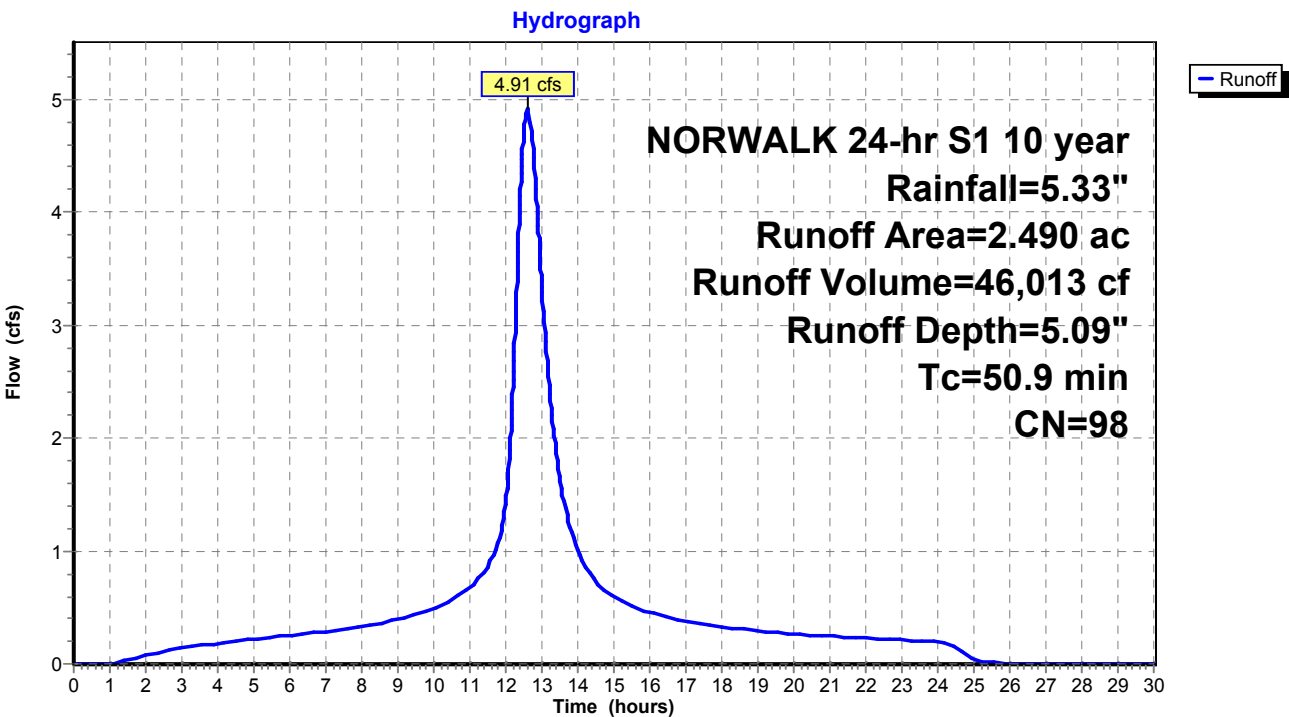
Runoff = 4.91 cfs @ 12.61 hrs, Volume= 46,013 cf, Depth= 5.09"
Routed to Pond 8P : Comb. 5,6,7,8,9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
2.490	98	Paved parking & roofs
2.490		100.00% Impervious Area

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

Subcatchment 8S: Area 8



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 9S: Area 9

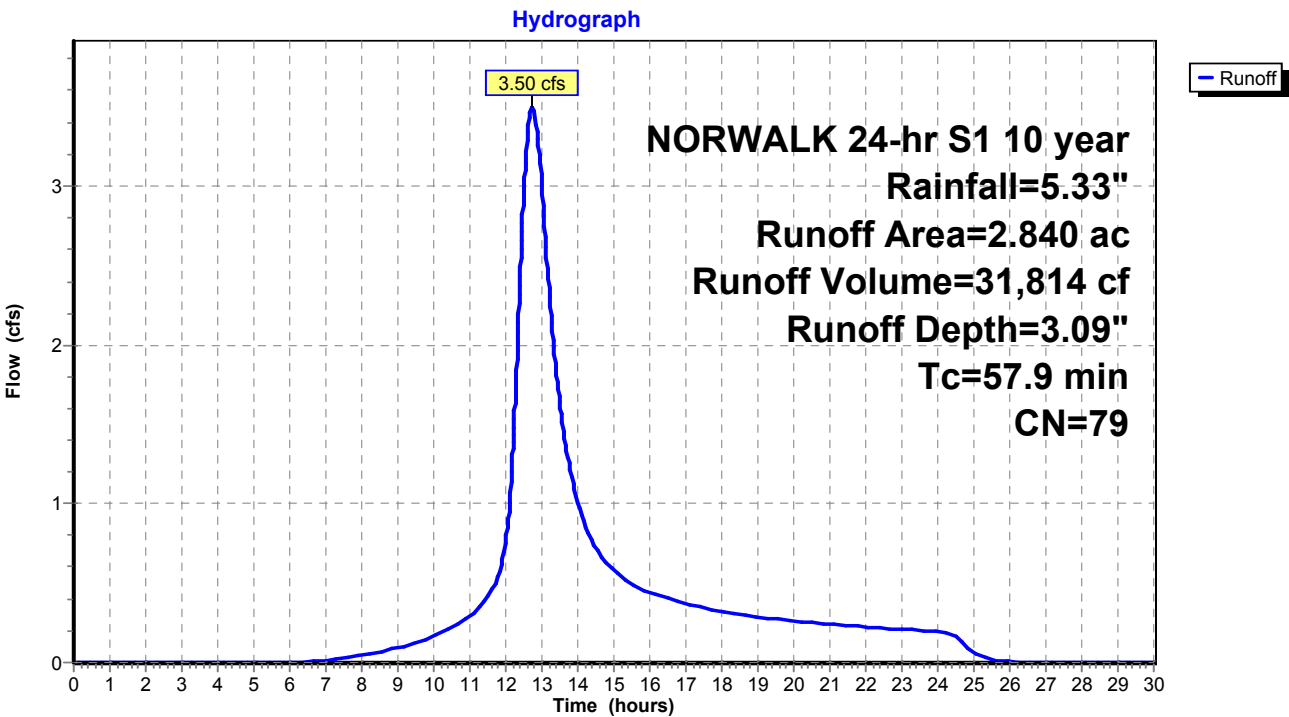
Runoff = 3.50 cfs @ 12.74 hrs, Volume= 31,814 cf, Depth= 3.09"
Routed to Pond 8P : Comb. 5,6,7,8,9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.530	74	>75% Grass cover, Good, HSG C
2.310	80	>75% Grass cover, Good, HSG D
2.840	79	Weighted Average
2.840		100.00% Pervious Area

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

Subcatchment 9S: Area 9



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 10AS: Area 10A

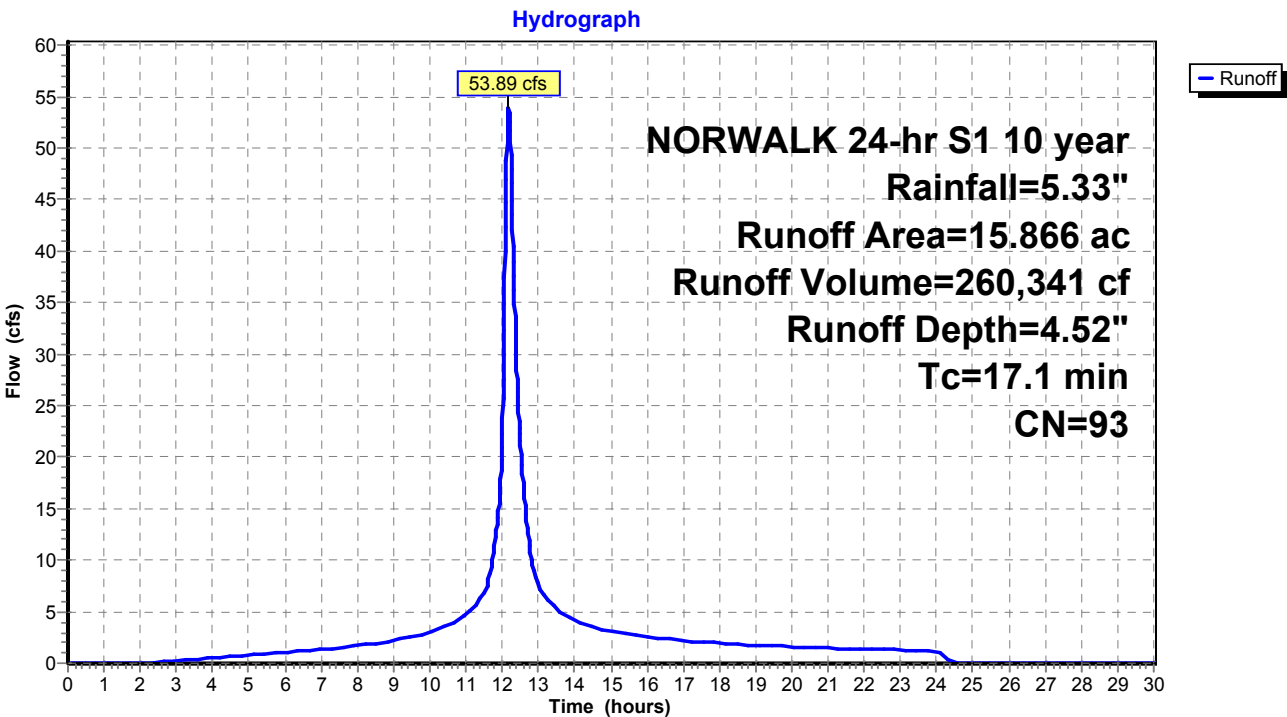
Runoff = 53.89 cfs @ 12.18 hrs, Volume= 260,341 cf, Depth= 4.52"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
3.905	79	50-75% Grass cover, Fair, HSG C
11.961	98	Paved roads w/curbs & sewers, HSG C
15.866	93	Weighted Average
3.905		24.61% Pervious Area
11.961		75.39% Impervious Area

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

Subcatchment 10AS: Area 10A



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 10BS: Area 10B

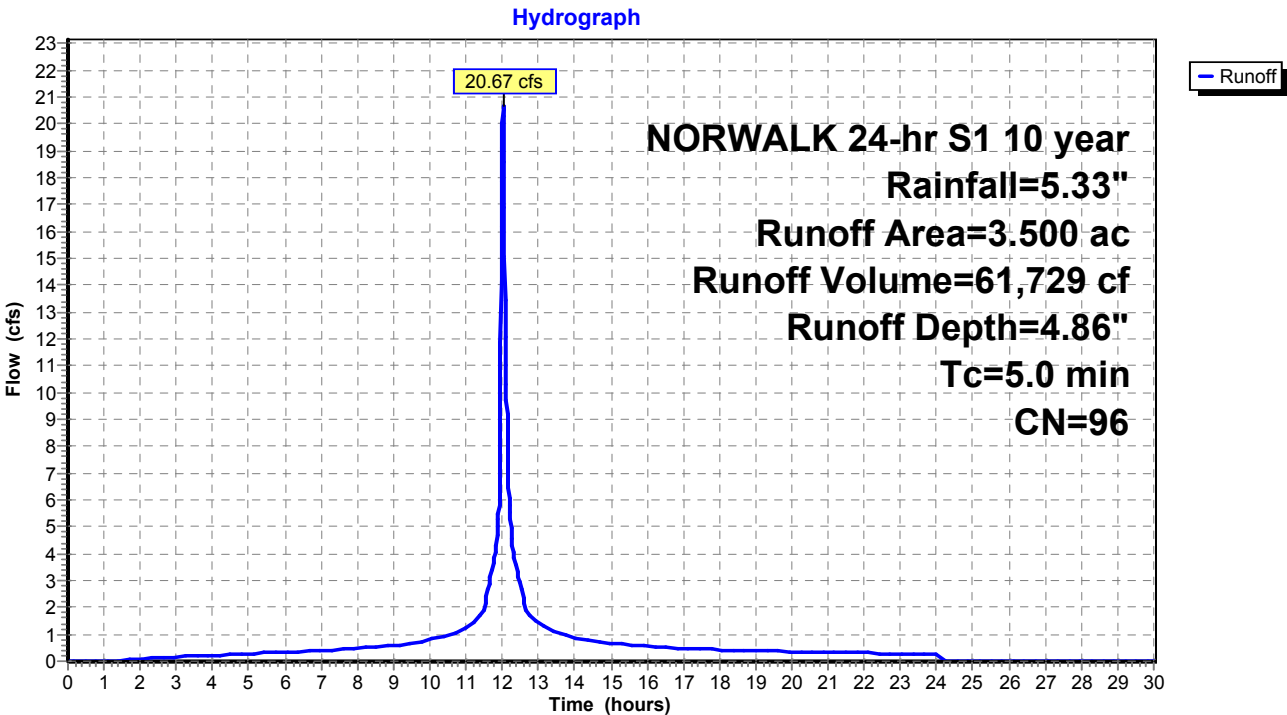
Runoff = 20.67 cfs @ 12.03 hrs, Volume= 61,729 cf, Depth= 4.86"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
3.308	98	Paved parking & roofs
0.192	61	>75% Grass cover, Good, HSG B
3.500	96	Weighted Average
0.192		5.49% Pervious Area
3.308		94.51% Impervious Area

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

Subcatchment 10BS: Area 10B



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 10CS: Area 10C

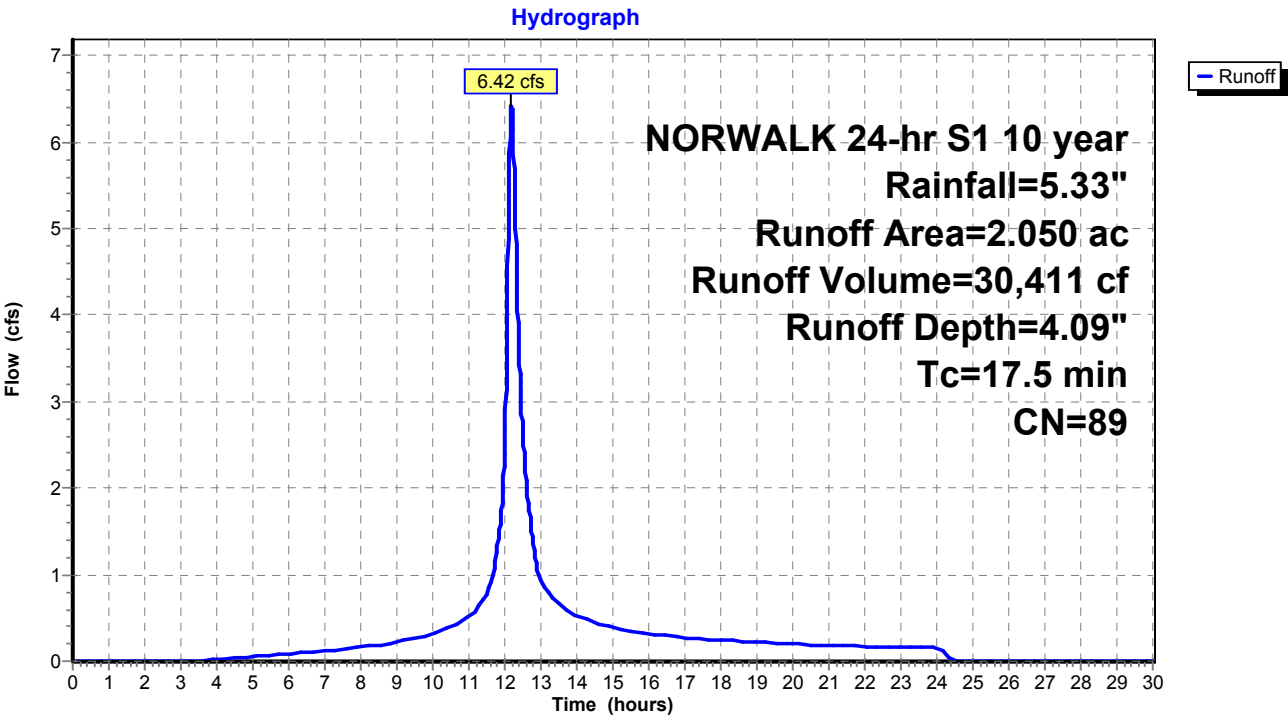
Runoff = 6.42 cfs @ 12.19 hrs, Volume= 30,411 cf, Depth= 4.09"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
1.526	98	Paved parking & roofs
0.524	61	>75% Grass cover, Good, HSG B
2.050	89	Weighted Average
0.524		25.56% Pervious Area
1.526		74.44% Impervious Area

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

Subcatchment 10CS: Area 10C



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 10DS: Area 10D

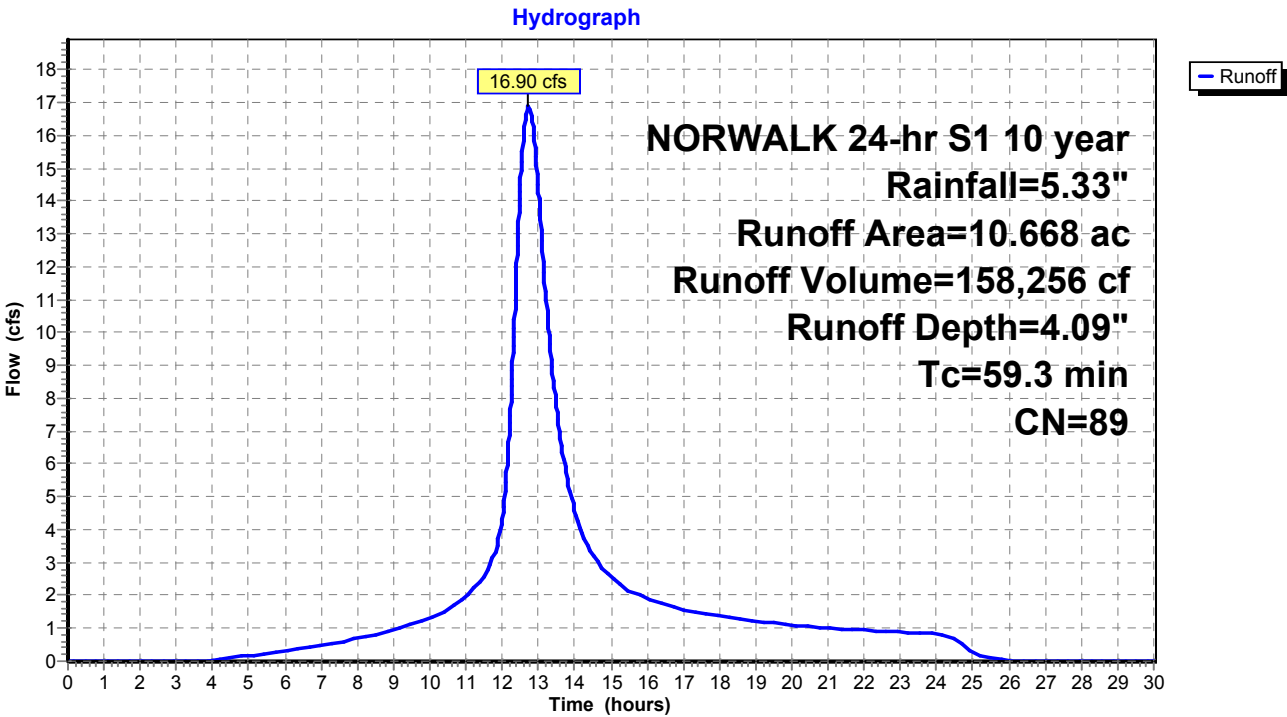
Runoff = 16.90 cfs @ 12.72 hrs, Volume= 158,256 cf, Depth= 4.09"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
5.033	79	50-75% Grass cover, Fair, HSG C
5.635	98	Paved parking, HSG C
10.668	89	Weighted Average
5.033		47.18% Pervious Area
5.635		52.82% Impervious Area

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

Subcatchment 10DS: Area 10D



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 10ES: Area 10E

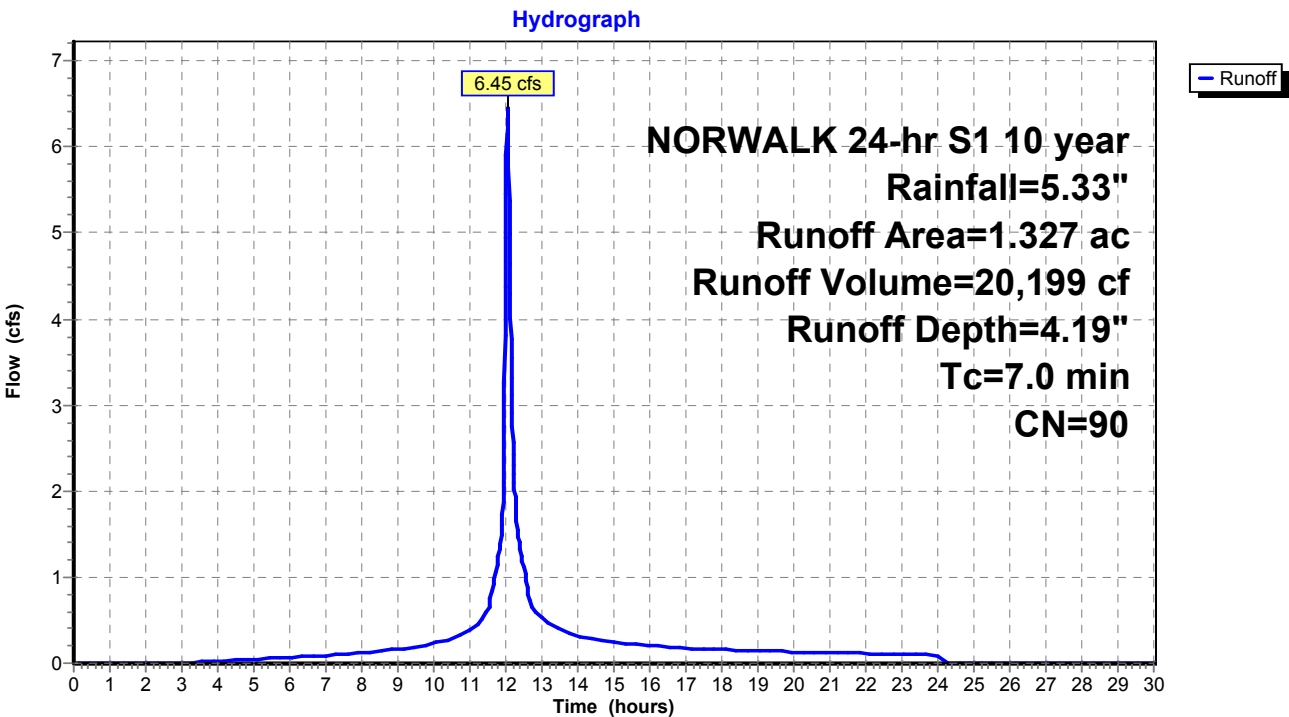
Runoff = 6.45 cfs @ 12.05 hrs, Volume= 20,199 cf, Depth= 4.19"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.798	98	Paved parking, HSG C
0.529	79	50-75% Grass cover, Fair, HSG C
1.327	90	Weighted Average
0.529		39.86% Pervious Area
0.798		60.14% Impervious Area

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

Subcatchment 10ES: Area 10E



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 10FS: Area 10F

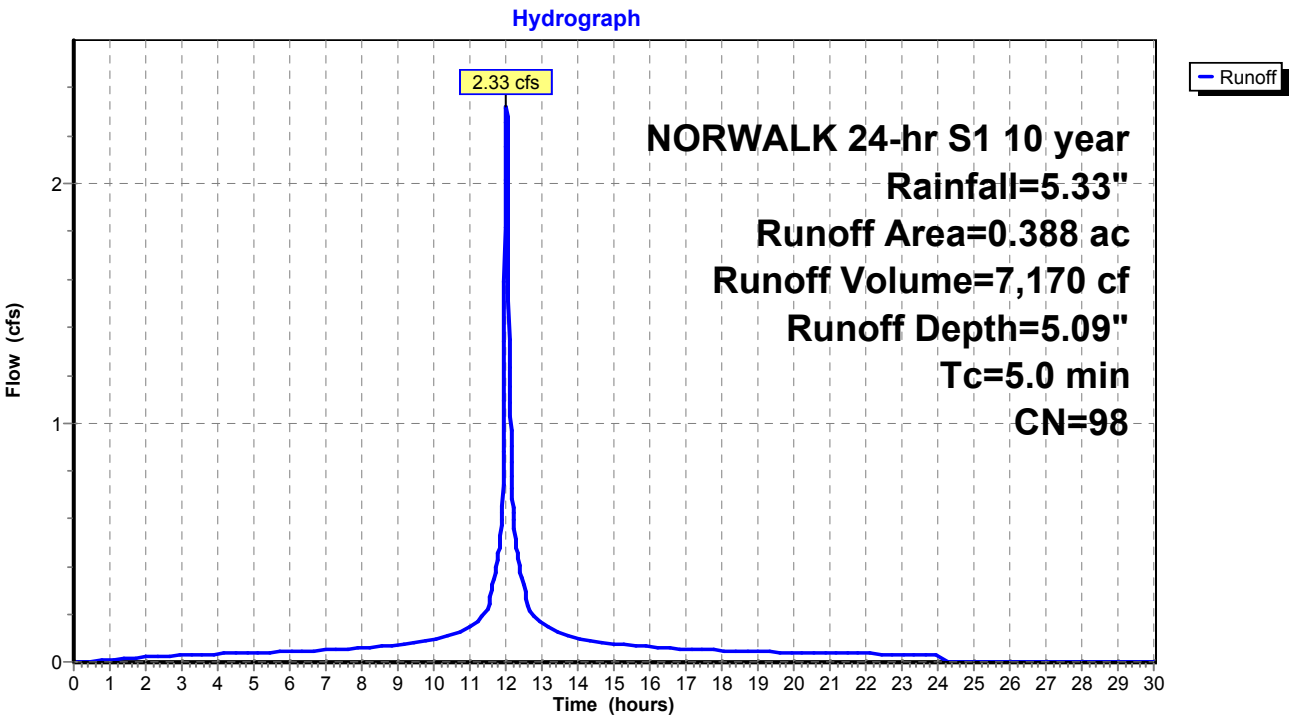
Runoff = 2.33 cfs @ 12.03 hrs, Volume= 7,170 cf, Depth= 5.09"
Routed to Pond P : ADS Stormtech

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.388	98	Paved roads w/curbs & sewers, HSG C
0.388		100.00% Impervious Area

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

Subcatchment 10FS: Area 10F



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 11S: Area 11

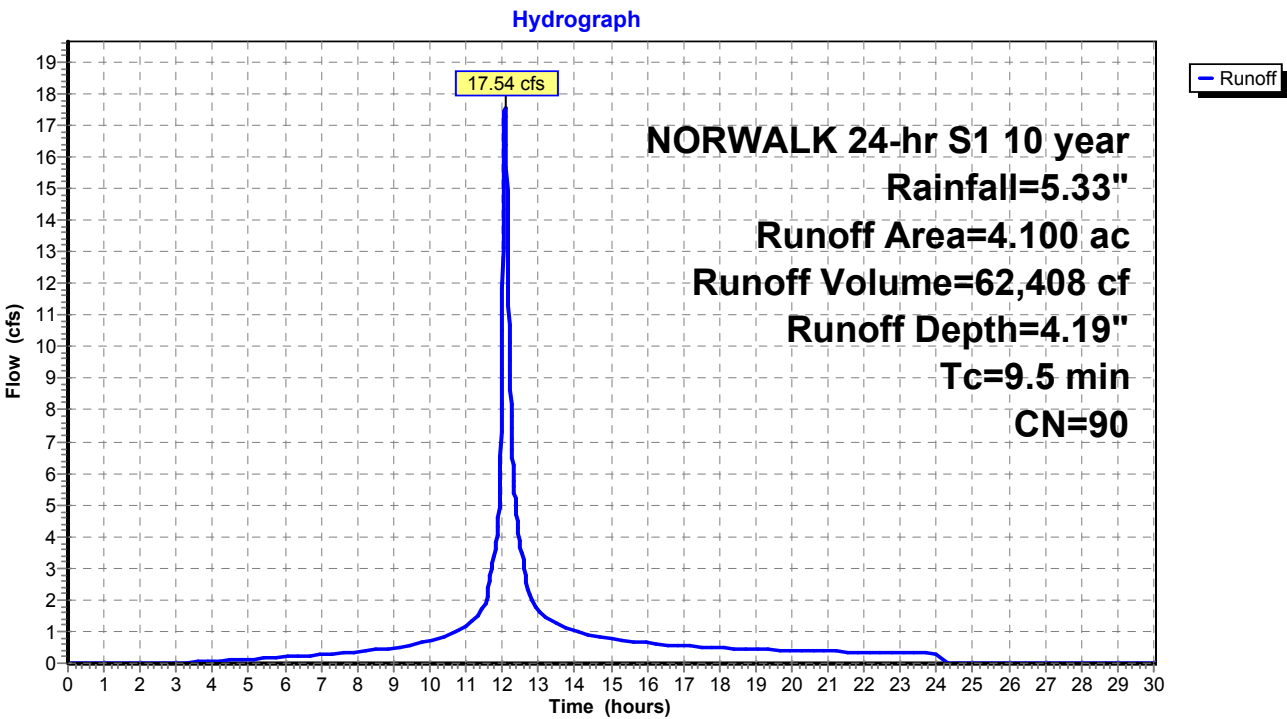
Runoff = 17.54 cfs @ 12.08 hrs, Volume= 62,408 cf, Depth= 4.19"
Routed to Pond 17P : DET 12 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
1.450	74	>75% Grass cover, Good, HSG C
2.650	98	Paved parking & roofs
4.100	90	Weighted Average
1.450		35.37% Pervious Area
2.650		64.63% Impervious Area

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

Subcatchment 11S: Area 11



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 12S: Area 12

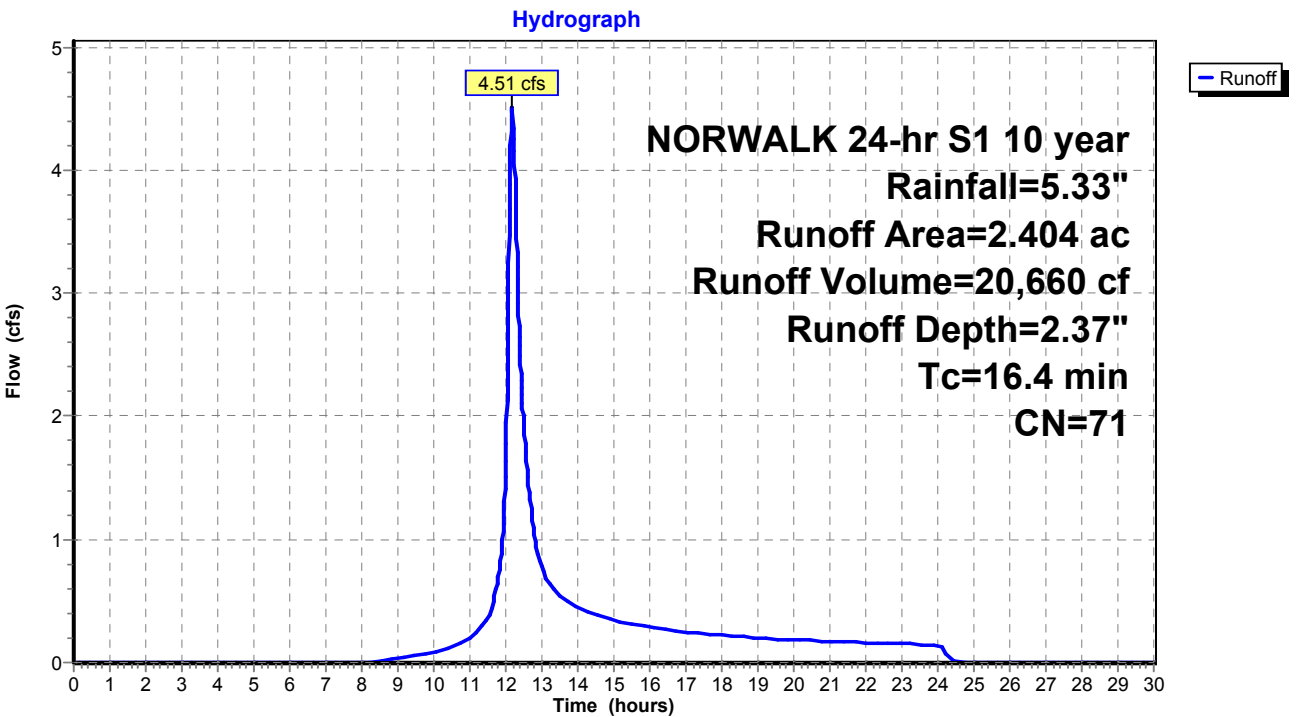
Runoff = 4.51 cfs @ 12.18 hrs, Volume= 20,660 cf, Depth= 2.37"
Routed to Pond 17P : DET 12 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
2.054	70	Woods, Good, HSG C
0.350	77	Woods, Good, HSG D
2.404	71	Weighted Average
2.404		100.00% Pervious Area

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

Subcatchment 12S: Area 12



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 13S: Area 13

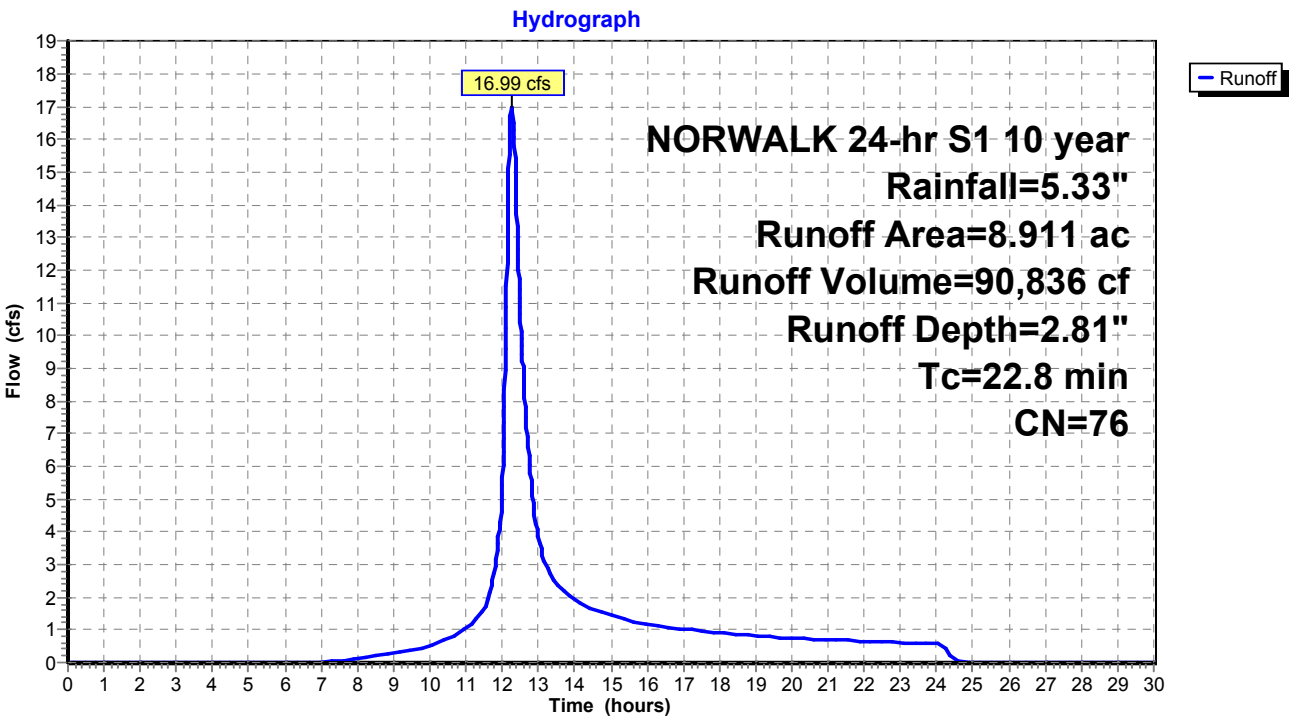
Runoff = 16.99 cfs @ 12.26 hrs, Volume= 90,836 cf, Depth= 2.81"
Routed to Pond 1P : RR Culvert 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
1.220	70	Woods, Good, HSG C
7.691	77	Woods, Good, HSG D
8.911	76	Weighted Average
8.911		100.00% Pervious Area

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

Subcatchment 13S: Area 13



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 14S: Area 14

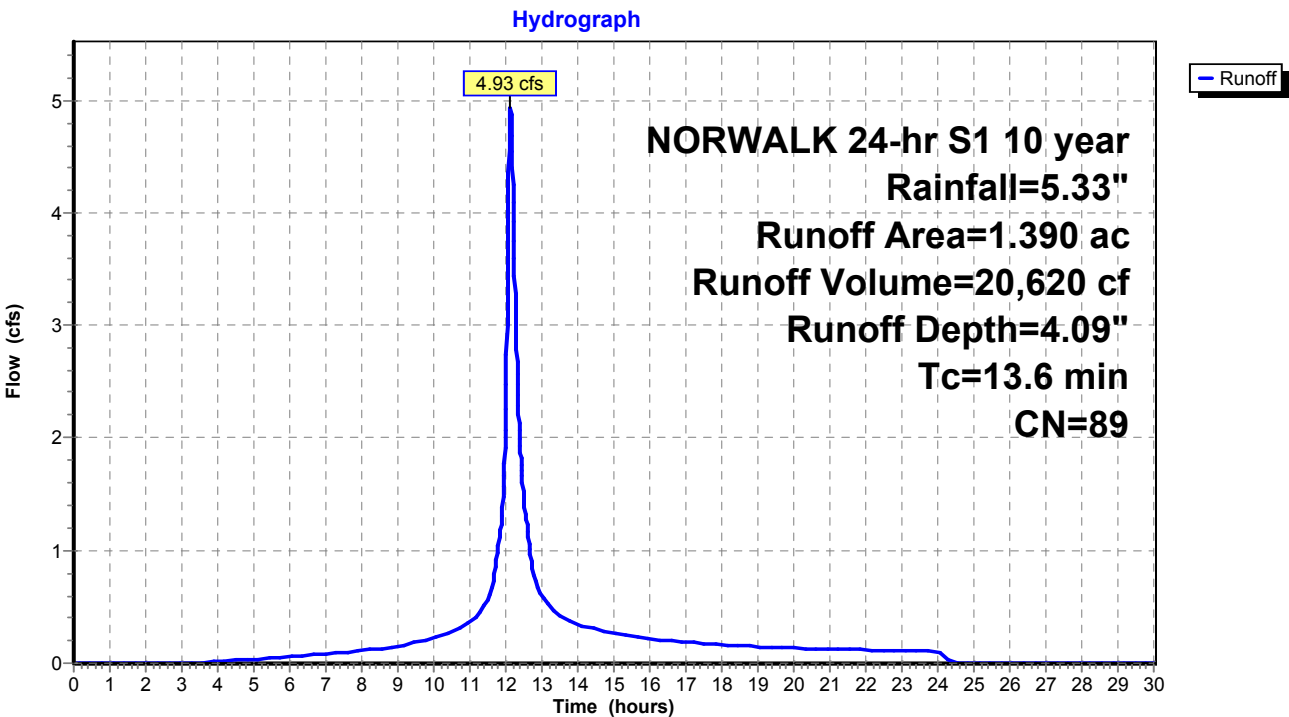
Runoff = 4.93 cfs @ 12.13 hrs, Volume= 20,620 cf, Depth= 4.09"
Routed to Pond 26P : DET 16 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.510	74	>75% Grass cover, Good, HSG C
0.880	98	Paved parking & roofs
1.390	89	Weighted Average
0.510		36.69% Pervious Area
0.880		63.31% Impervious Area

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

Subcatchment 14S: Area 14



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 15S: Area 15

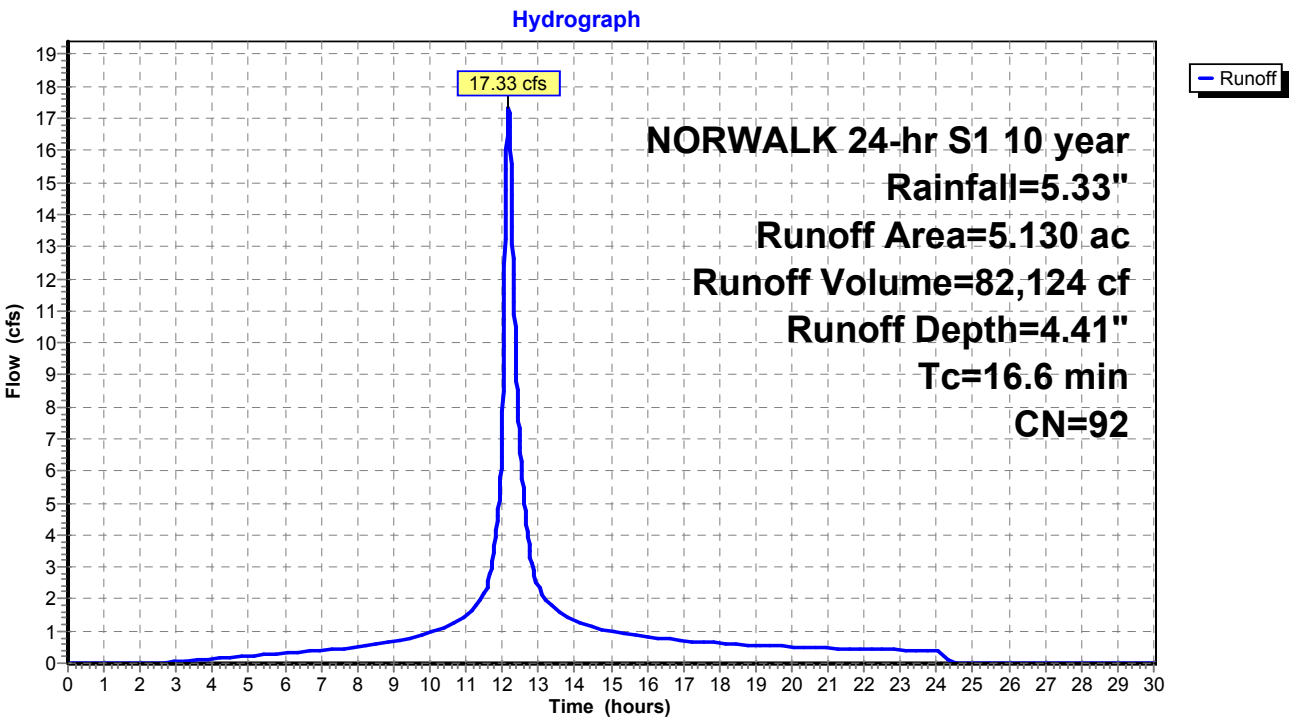
Runoff = 17.33 cfs @ 12.17 hrs, Volume= 82,124 cf, Depth= 4.41"
Routed to Pond 27P : DET 17 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
1.250	74	>75% Grass cover, Good, HSG C
3.880	98	Paved parking & roofs
5.130	92	Weighted Average
1.250		24.37% Pervious Area
3.880		75.63% Impervious Area

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

Subcatchment 15S: Area 15



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 16S: Area 16A

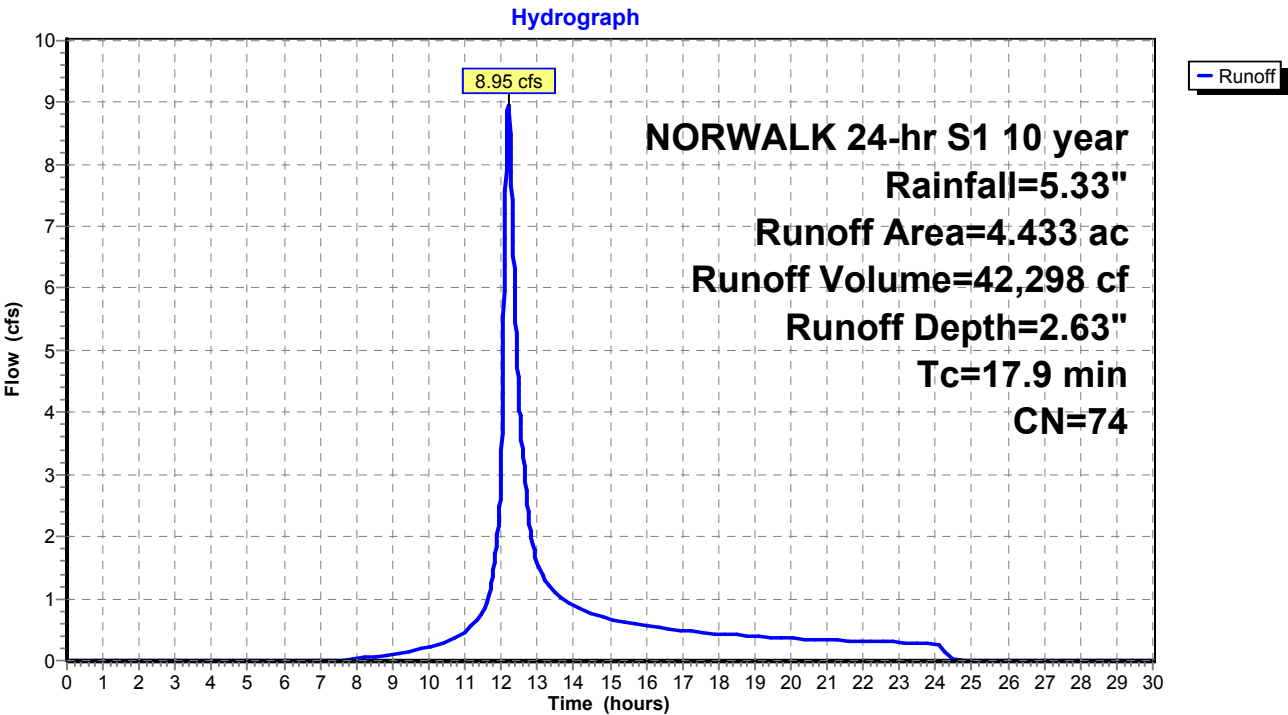
Runoff = 8.95 cfs @ 12.20 hrs, Volume= 42,298 cf, Depth= 2.63"
Routed to Pond 26P : DET 16 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
2.030	70	Woods, Good, HSG C
2.060	77	Woods, Good, HSG D
0.150	89	Gravel roads, HSG C
0.193	74	>75% Grass cover, Good, HSG C
4.433	74	Weighted Average
4.433		100.00% Pervious Area

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

Subcatchment 16S: Area 16A



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 17S: Area 17

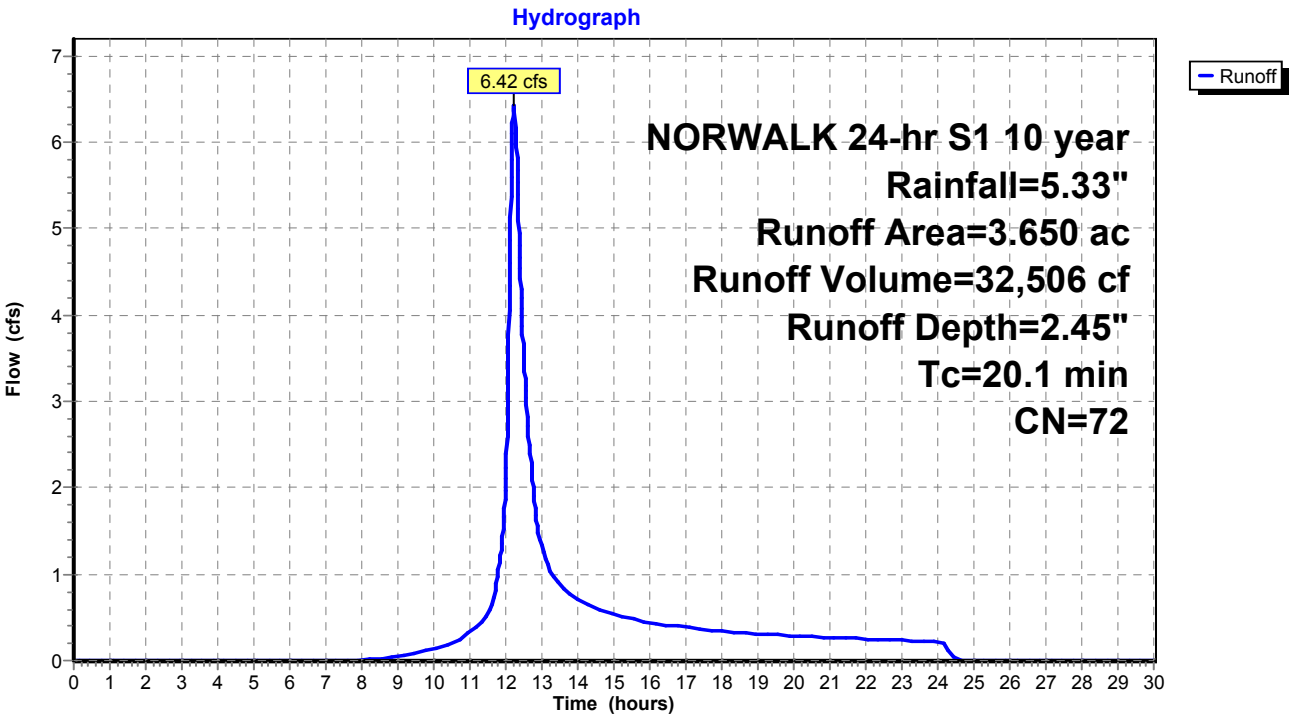
Runoff = 6.42 cfs @ 12.22 hrs, Volume= 32,506 cf, Depth= 2.45"
Routed to Pond 27P : DET 17 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
2.630	70	Woods, Good, HSG C
0.960	77	Woods, Good, HSG D
0.060	98	Paved parking & roofs
3.650	72	Weighted Average
3.590		98.36% Pervious Area
0.060		1.64% Impervious Area

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

Subcatchment 17S: Area 17



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 20S: Area 20

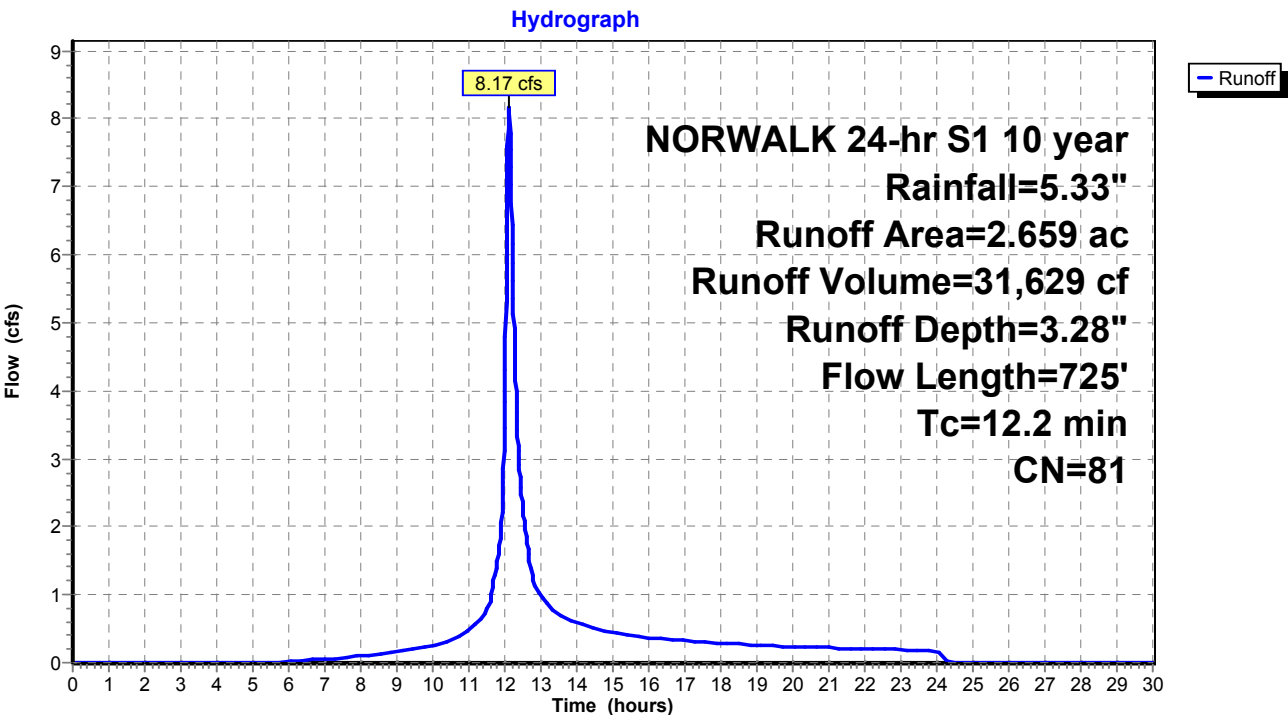
Runoff = 8.17 cfs @ 12.12 hrs, Volume= 31,629 cf, Depth= 3.28"
Routed to Pond 16P : MH-Q

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
1.030	98	Paved parking & roofs
1.629	70	Woods, Good, HSG C
2.659	81	Weighted Average
1.629		61.26% Pervious Area
1.030		38.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	125	0.2400	0.19		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.40"
1.2	600	0.0200	8.41	14.86	Pipe Channel, 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
12.2	725	Total			

Subcatchment 20S: Area 20



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 21S: Area 21

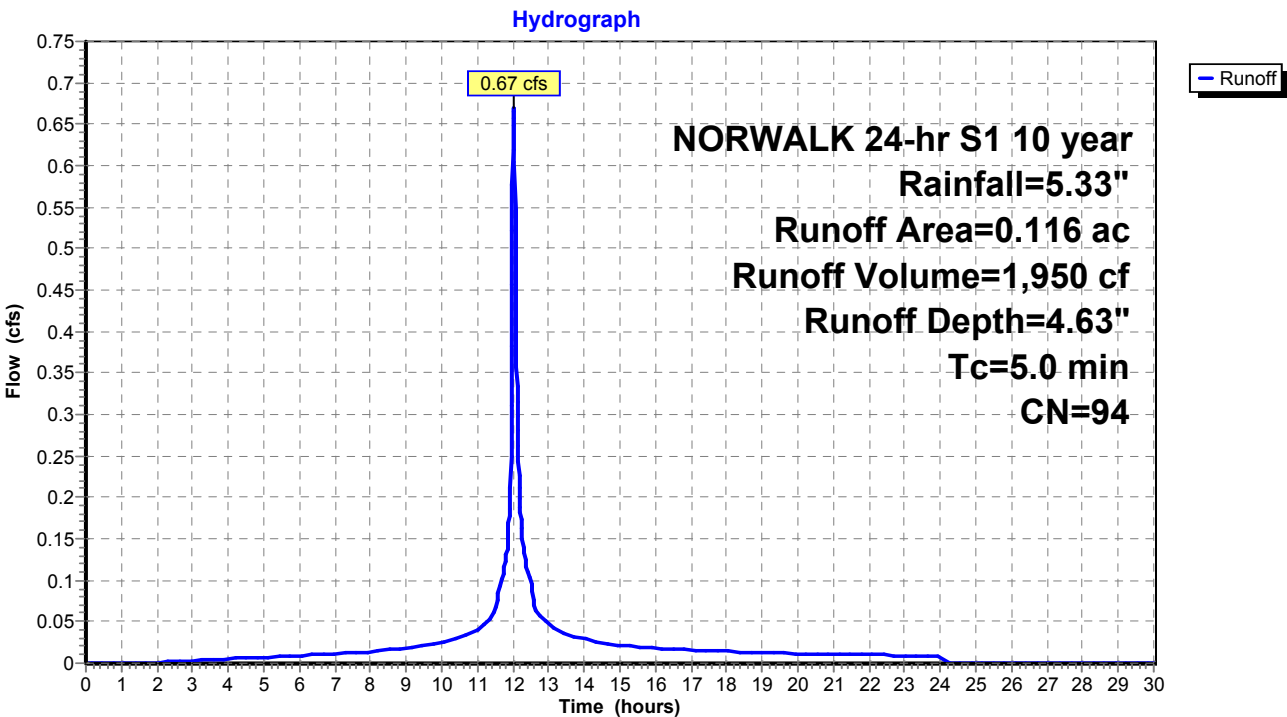
Runoff = 0.67 cfs @ 12.03 hrs, Volume= 1,950 cf, Depth= 4.63"
Routed to Pond 15P : MH-P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.020	74	>75% Grass cover, Good, HSG C
0.096	98	Paved parking & roofs
0.116	94	Weighted Average
0.020		17.24% Pervious Area
0.096		82.76% Impervious Area

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

Subcatchment 21S: Area 21



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 22S: Area 22

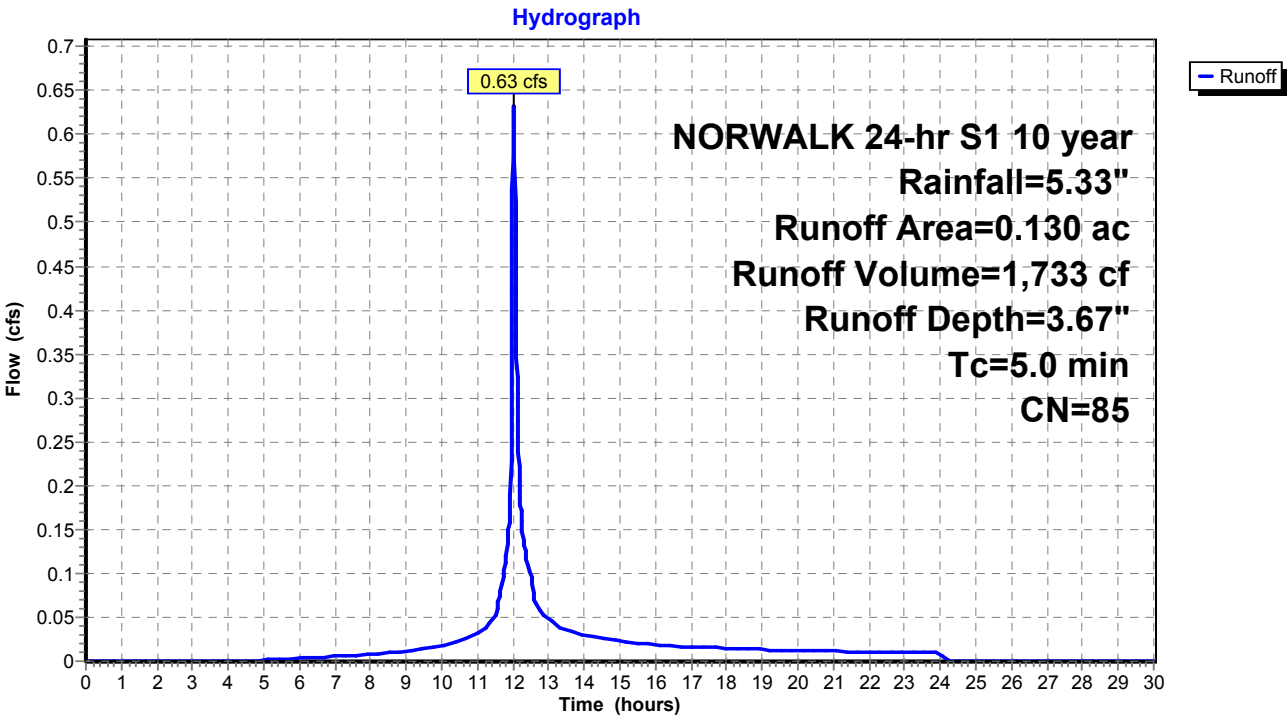
Runoff = 0.63 cfs @ 12.03 hrs, Volume= 1,733 cf, Depth= 3.67"
Routed to Pond 15P : MH-P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.068	74	>75% Grass cover, Good, HSG C
0.062	98	Paved parking & roofs
0.130	85	Weighted Average
0.068		52.31% Pervious Area
0.062		47.69% Impervious Area

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

Subcatchment 22S: Area 22



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 23S: Area 23

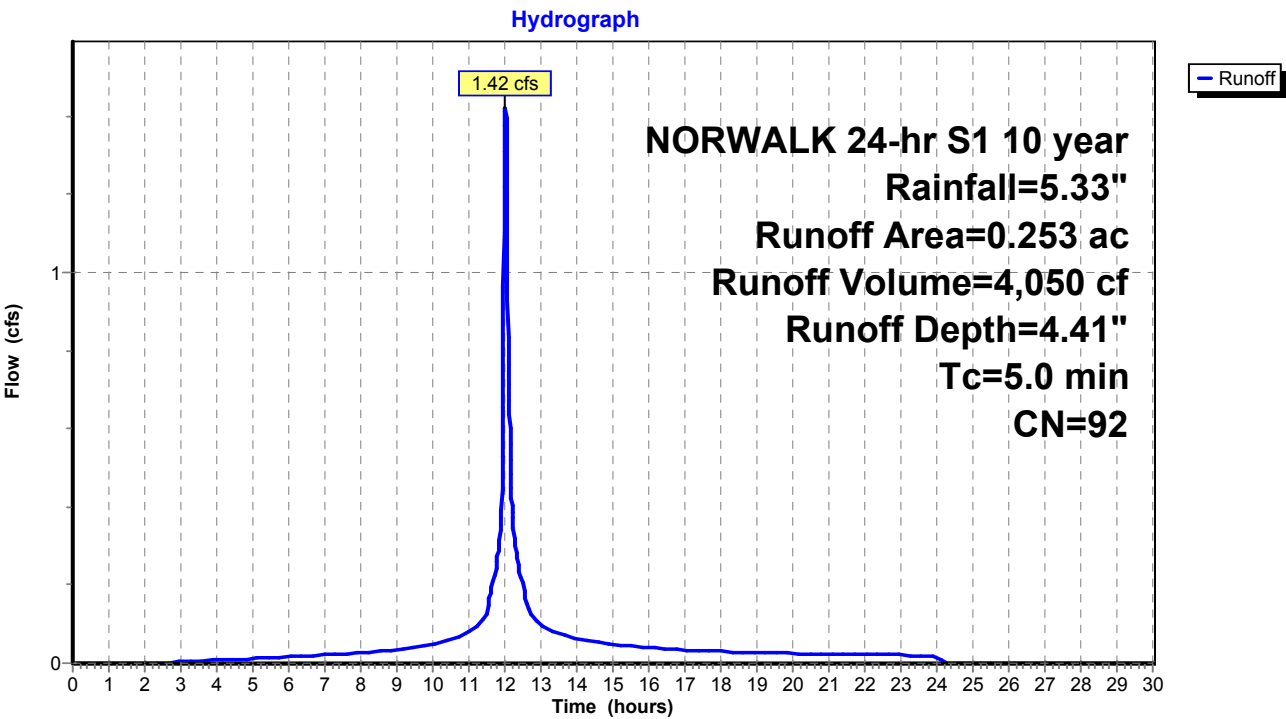
Runoff = 1.42 cfs @ 12.03 hrs, Volume= 4,050 cf, Depth= 4.41"
Routed to Pond 14P : MH-O

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.188	98	Paved parking & roofs
0.065	74	>75% Grass cover, Good, HSG C
0.253	92	Weighted Average
0.065		25.69% Pervious Area
0.188		74.31% Impervious Area

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

Subcatchment 23S: Area 23



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 24S: Area 24

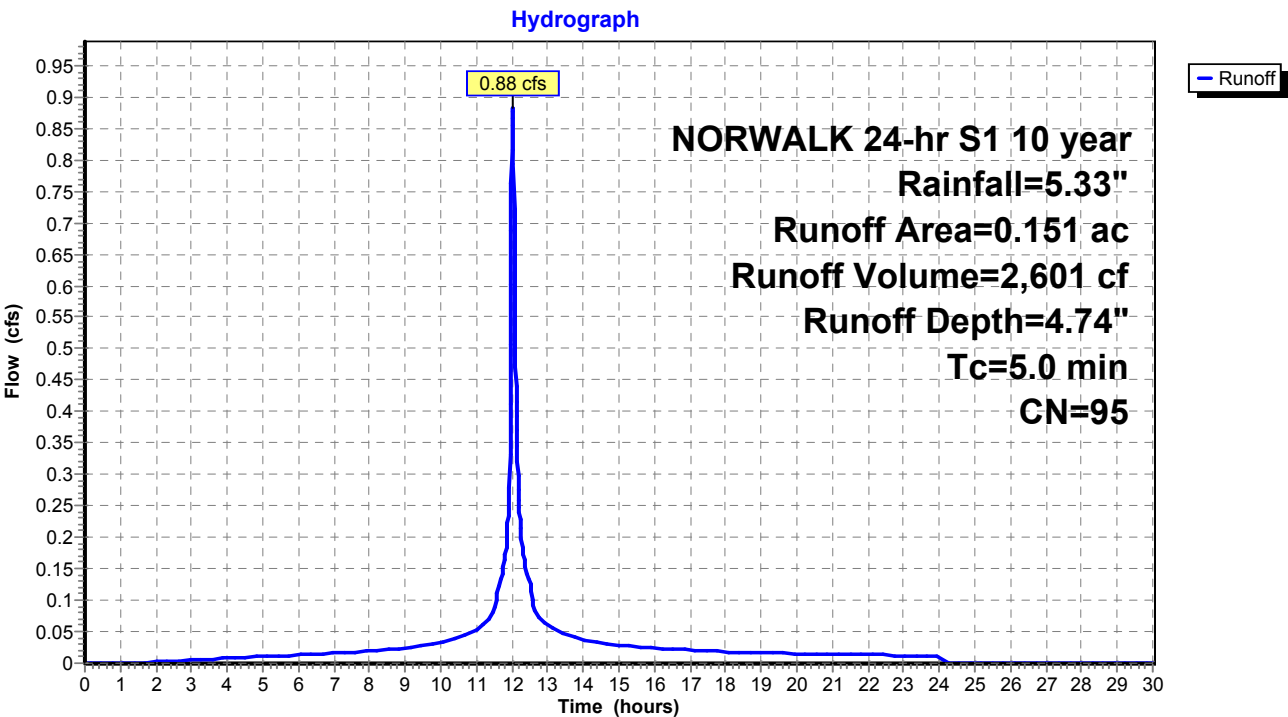
Runoff = 0.88 cfs @ 12.03 hrs, Volume= 2,601 cf, Depth= 4.74"
Routed to Pond 14P : MH-O

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.125	98	Paved parking & roofs
0.026	80	>75% Grass cover, Good, HSG D
0.151	95	Weighted Average
0.026		17.22% Pervious Area
0.125		82.78% Impervious Area

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

Subcatchment 24S: Area 24



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"
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Summary for Subcatchment 25S: Area 25

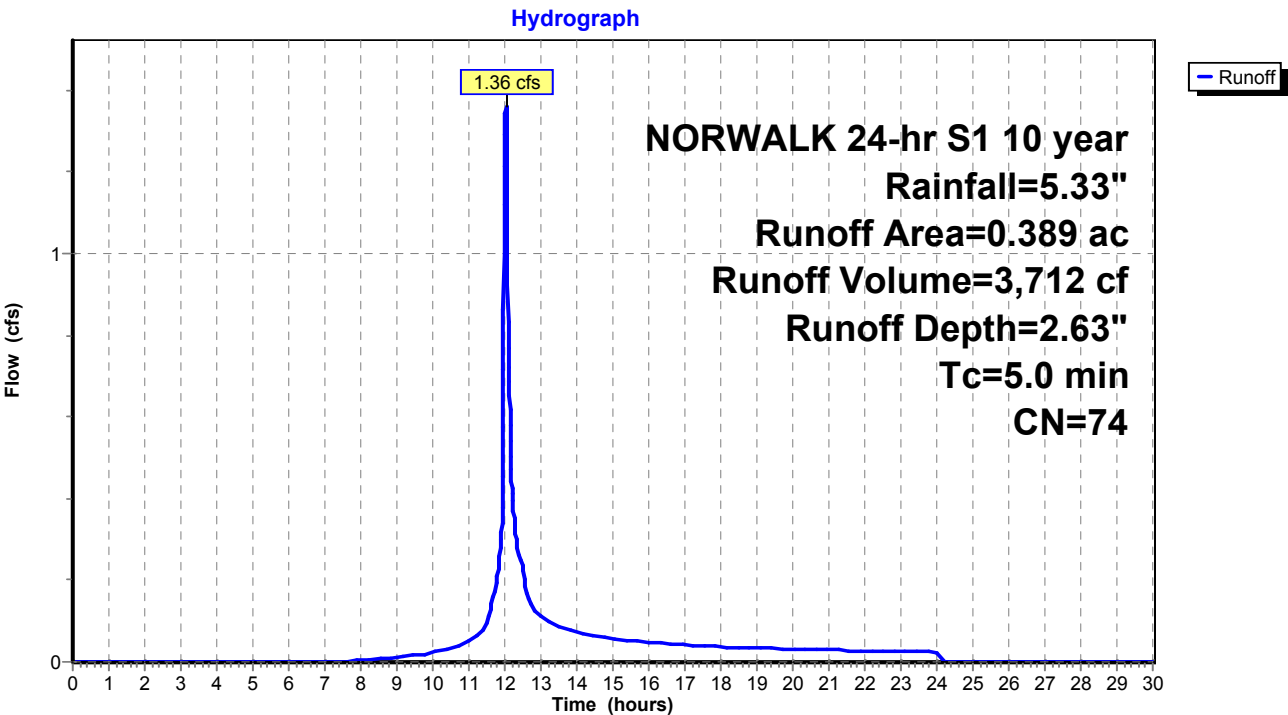
Runoff = 1.36 cfs @ 12.03 hrs, Volume= 3,712 cf, Depth= 2.63"
Routed to Pond 3P : DETENTION BASIN #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.389	74	>75% Grass cover, Good, HSG C
0.389		100.00% Pervious Area

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

Subcatchment 25S: Area 25



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 26S: Area 26

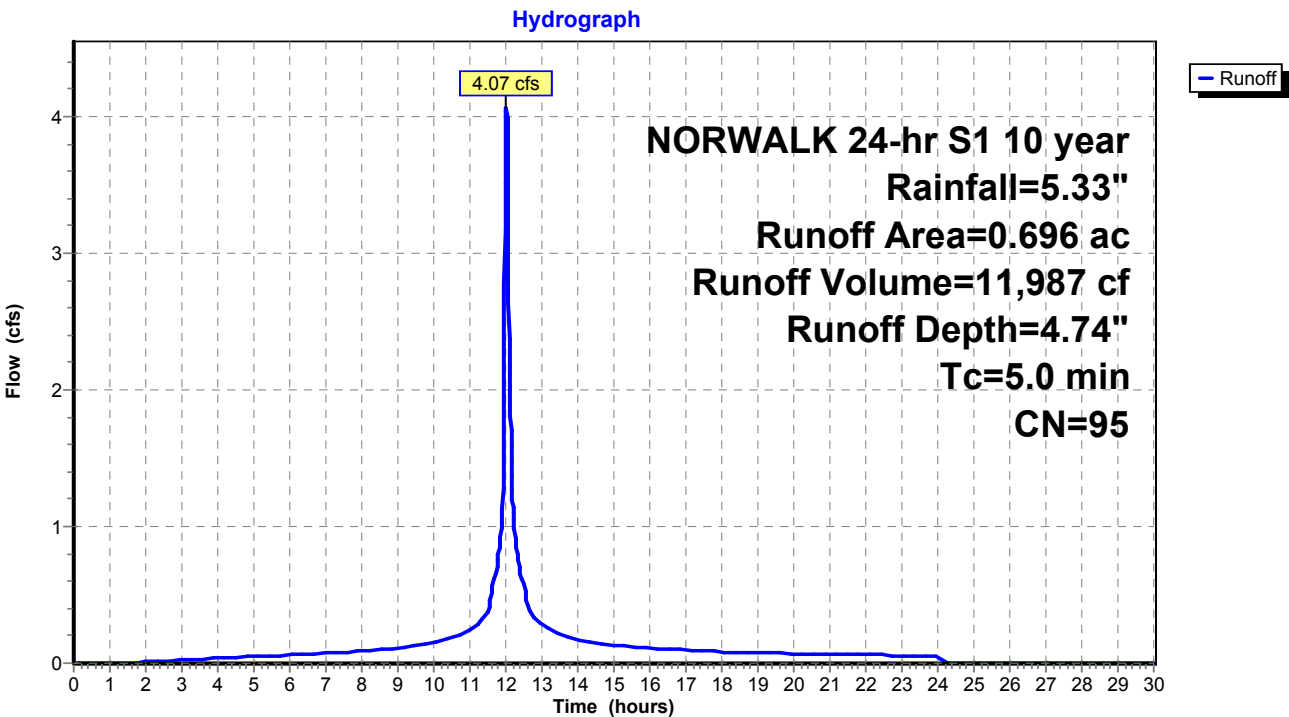
Runoff = 4.07 cfs @ 12.03 hrs, Volume= 11,987 cf, Depth= 4.74"
Routed to Pond 9P : MH-K

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.612	98	Paved parking & roofs
0.084	74	>75% Grass cover, Good, HSG C
0.696	95	Weighted Average
0.084		12.07% Pervious Area
0.612		87.93% Impervious Area

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

Subcatchment 26S: Area 26



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 27S: Area 27

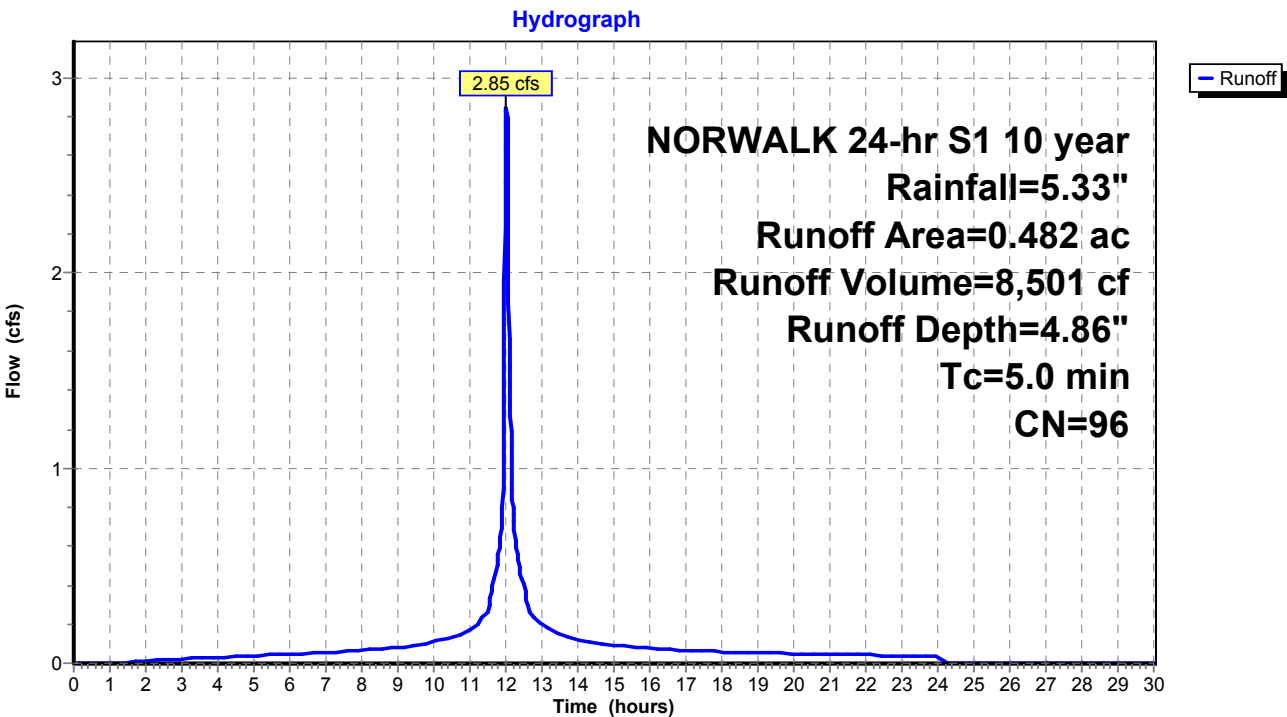
Runoff = 2.85 cfs @ 12.03 hrs, Volume= 8,501 cf, Depth= 4.86"
Routed to Pond 11P : Pipe Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.436	98	Paved parking & roofs
0.046	74	>75% Grass cover, Good, HSG C
0.482	96	Weighted Average
0.046		9.54% Pervious Area
0.436		90.46% Impervious Area

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

Subcatchment 27S: Area 27



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 28S: Area 28

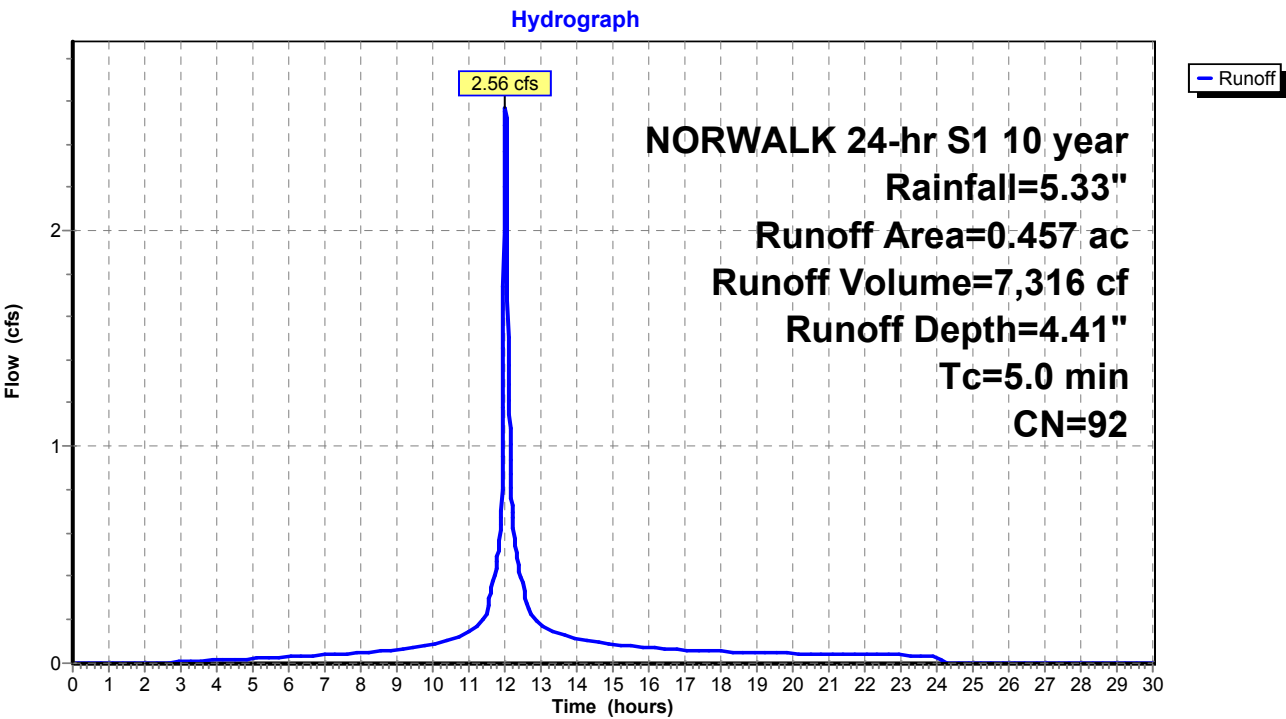
Runoff = 2.56 cfs @ 12.03 hrs, Volume= 7,316 cf, Depth= 4.41"
Routed to Pond 11P : Pipe Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.342	98	Paved parking & roofs
0.115	74	>75% Grass cover, Good, HSG C
0.457	92	Weighted Average
0.115		25.16% Pervious Area
0.342		74.84% Impervious Area

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

Subcatchment 28S: Area 28



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 29S: Area 29

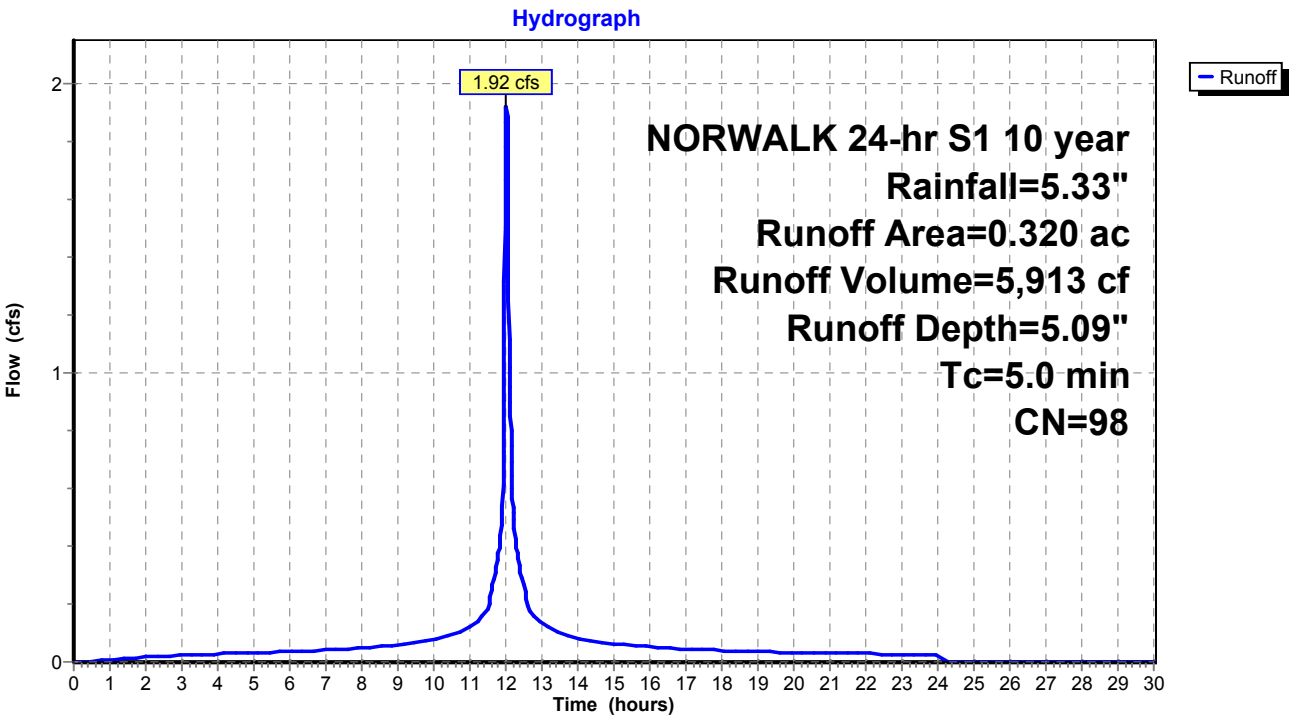
Runoff = 1.92 cfs @ 12.03 hrs, Volume= 5,913 cf, Depth= 5.09"
Routed to Pond 12P : MH-M

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.320	98	Paved parking & roofs
0.320		100.00% Impervious Area

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

Subcatchment 29S: Area 29



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"
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Summary for Subcatchment 30S: Area 30

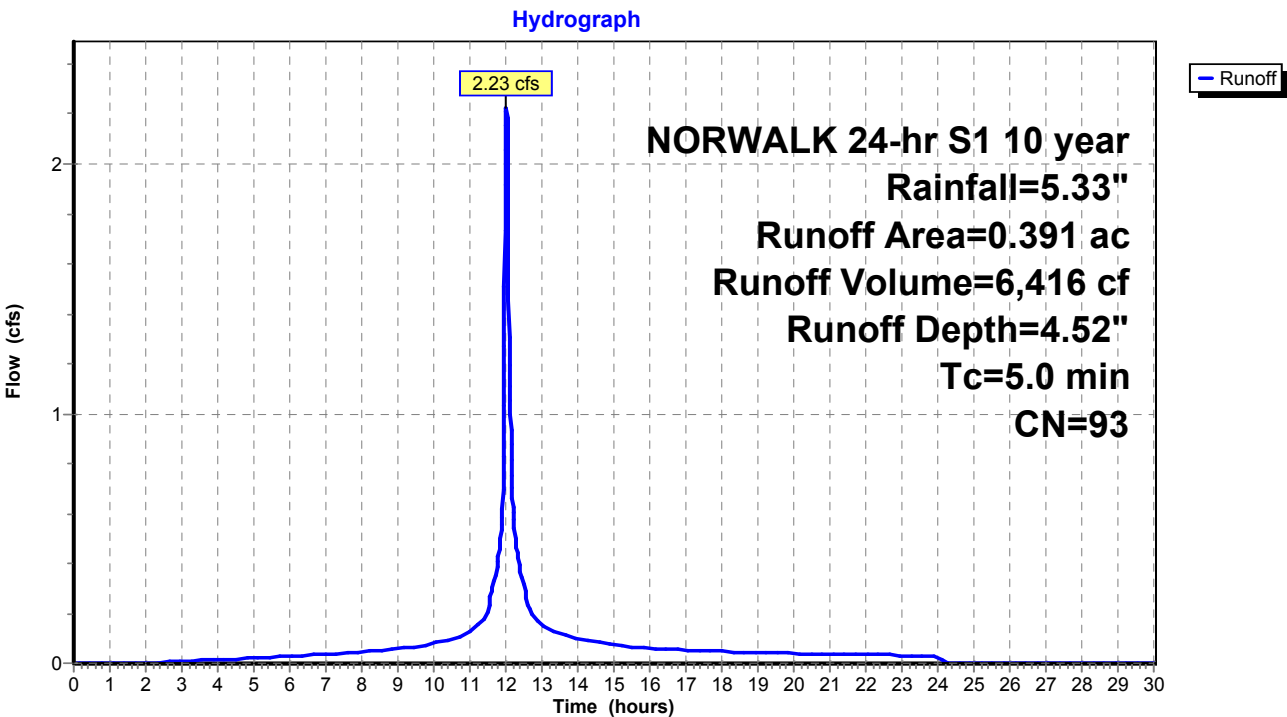
Runoff = 2.23 cfs @ 12.03 hrs, Volume= 6,416 cf, Depth= 4.52"
Routed to Pond 13P : MH-J

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.309	98	Paved parking & roofs
0.082	74	>75% Grass cover, Good, HSG C
0.391	93	Weighted Average
0.082		20.97% Pervious Area
0.309		79.03% Impervious Area

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

Subcatchment 30S: Area 30



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 52S: Area 1

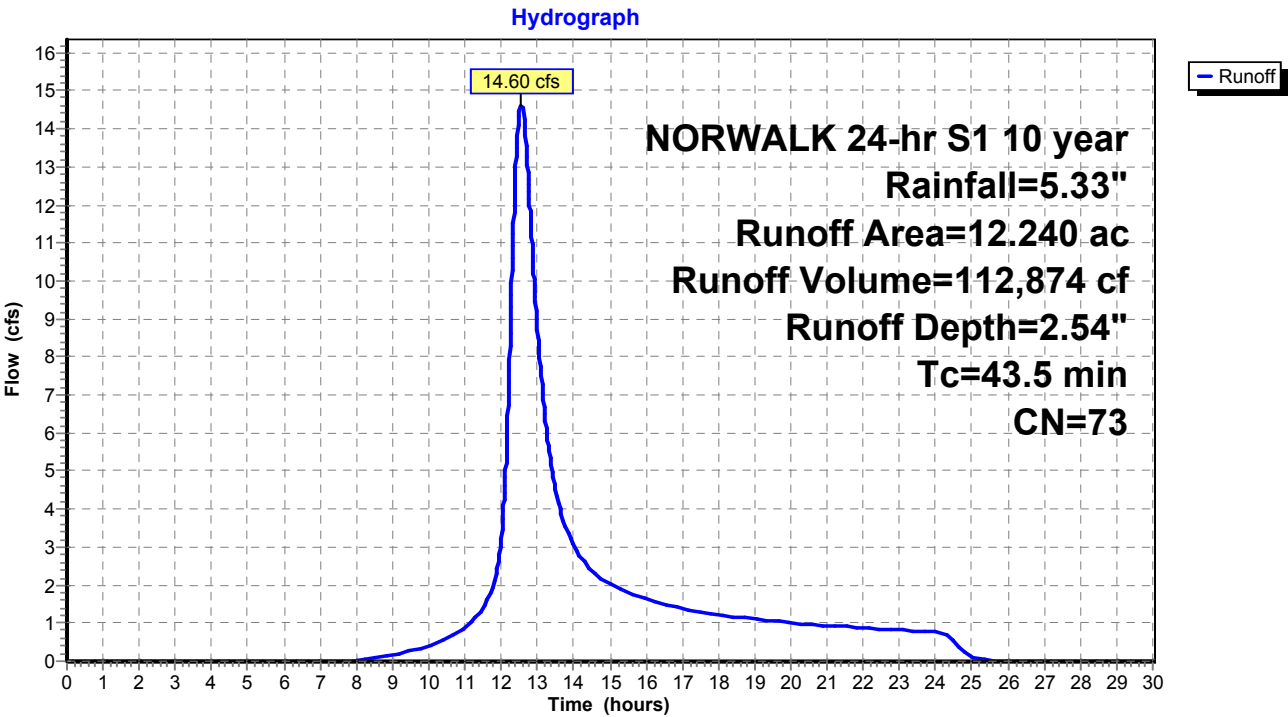
Runoff = 14.60 cfs @ 12.53 hrs, Volume= 112,874 cf, Depth= 2.54"
Routed to Pond 21P : DET 1 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
9.070	70	1/2 acre lots, 25% imp, HSG B
3.170	80	1/2 acre lots, 25% imp, HSG C
12.240	73	Weighted Average
9.180		75.00% Pervious Area
3.060		25.00% Impervious Area

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

Subcatchment 52S: Area 1



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 53S: Area 2

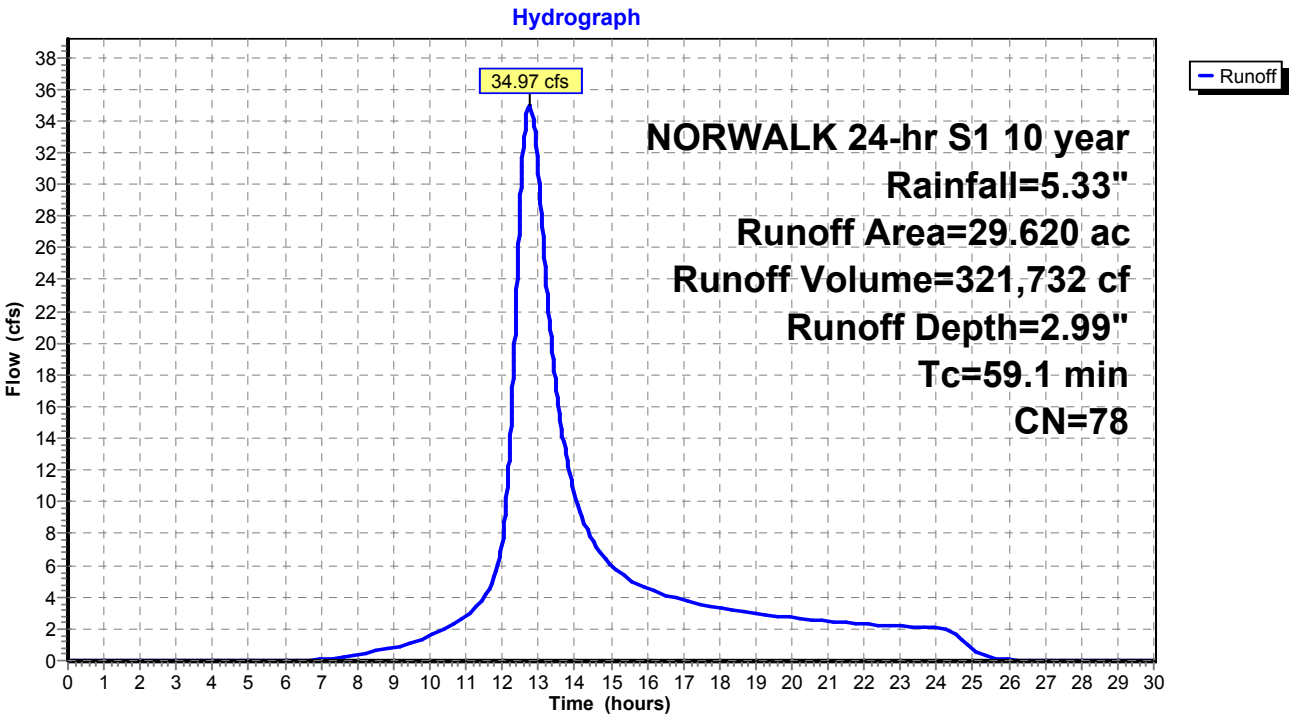
Runoff = 34.97 cfs @ 12.74 hrs, Volume= 321,732 cf, Depth= 2.99"
Routed to Pond 22P : DET 2 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
7.290	70	1/2 acre lots, 25% imp, HSG B
19.200	80	1/2 acre lots, 25% imp, HSG C
3.130	85	1/2 acre lots, 25% imp, HSG D
29.620	78	Weighted Average
22.215		75.00% Pervious Area
7.405		25.00% Impervious Area

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

Subcatchment 53S: Area 2



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 54S: Area 3

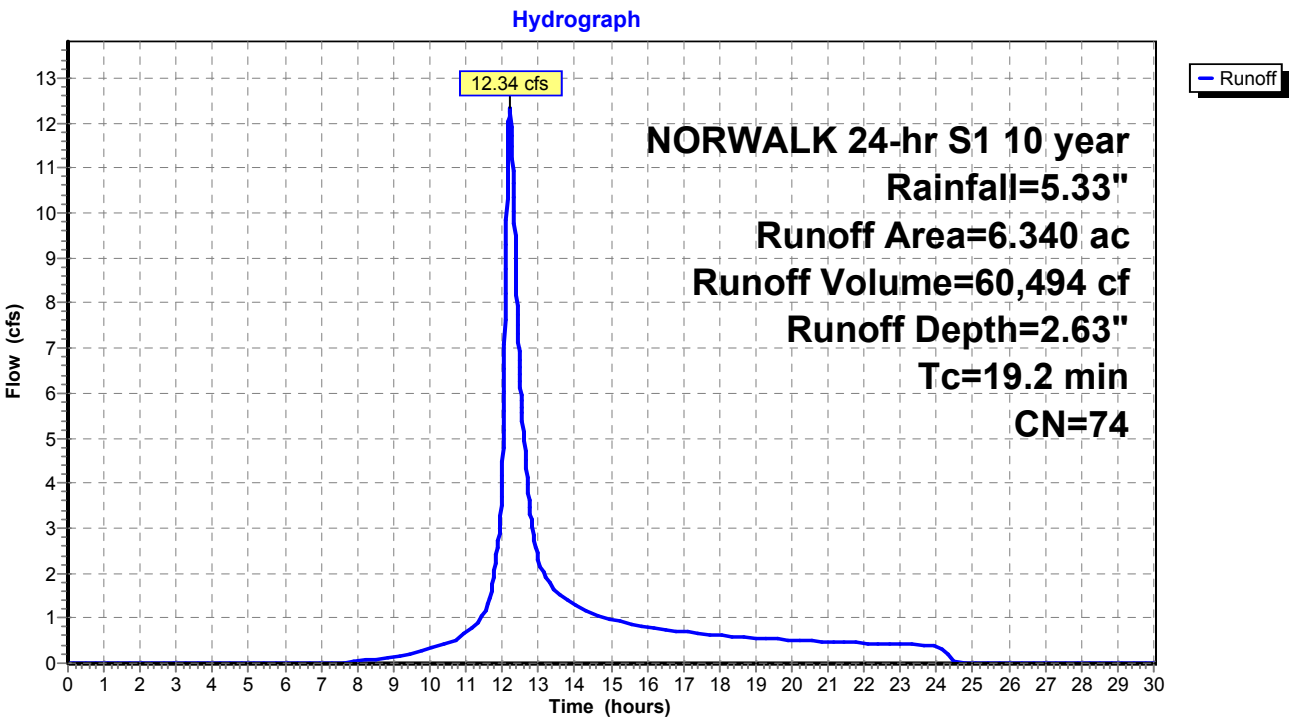
Runoff = 12.34 cfs @ 12.22 hrs, Volume= 60,494 cf, Depth= 2.63"
Routed to Pond 23P : DET 3 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
3.500	70	1/2 acre lots, 25% imp, HSG B
2.840	80	1/2 acre lots, 25% imp, HSG C
6.340	74	Weighted Average
4.755		75.00% Pervious Area
1.585		25.00% Impervious Area

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

Subcatchment 54S: Area 3



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"
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Summary for Subcatchment 56S: Area 35

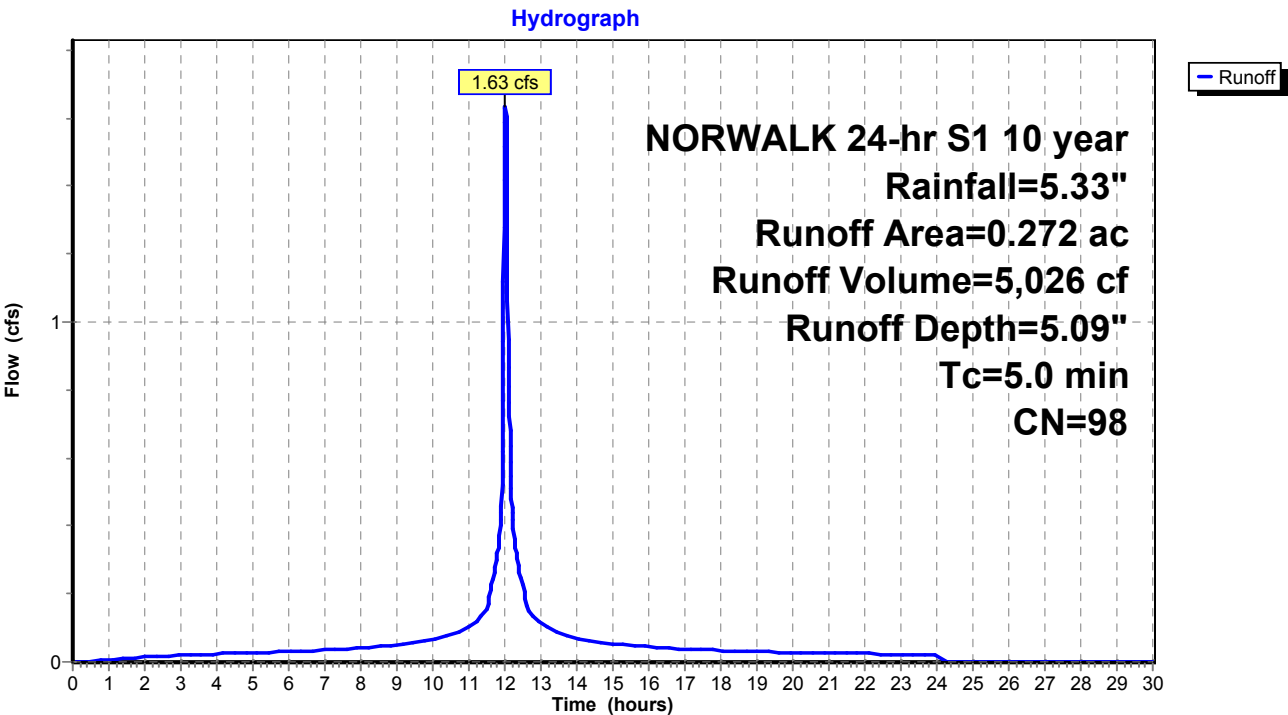
Runoff = 1.63 cfs @ 12.03 hrs, Volume= 5,026 cf, Depth= 5.09"
Routed to Pond 57P : CB-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.272	98	Paved parking & roofs
0.272		100.00% Impervious Area

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

Subcatchment 56S: Area 35



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 60S: Area 37

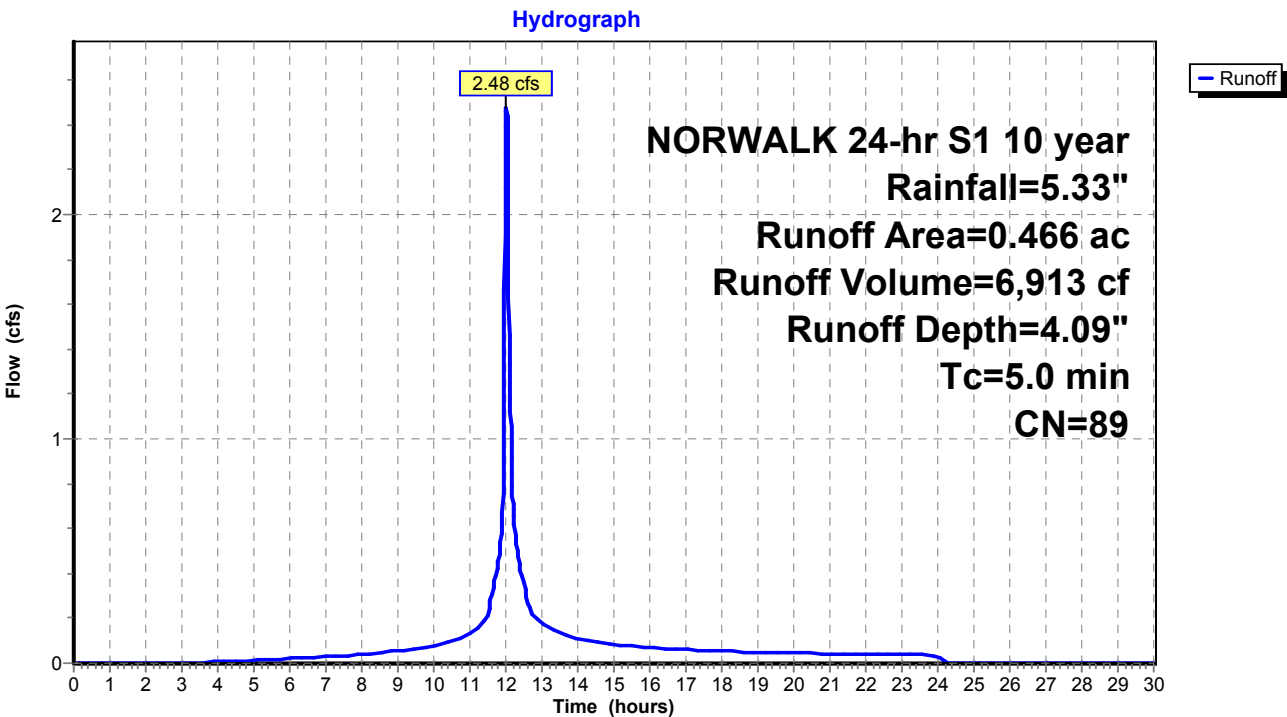
Runoff = 2.48 cfs @ 12.03 hrs, Volume= 6,913 cf, Depth= 4.09"
Routed to Pond 59P : CB-7

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.294	98	Paved parking & roofs
0.172	74	>75% Grass cover, Good, HSG C
0.466	89	Weighted Average
0.172		36.91% Pervious Area
0.294		63.09% Impervious Area

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

Subcatchment 60S: Area 37



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 62S: Area 38

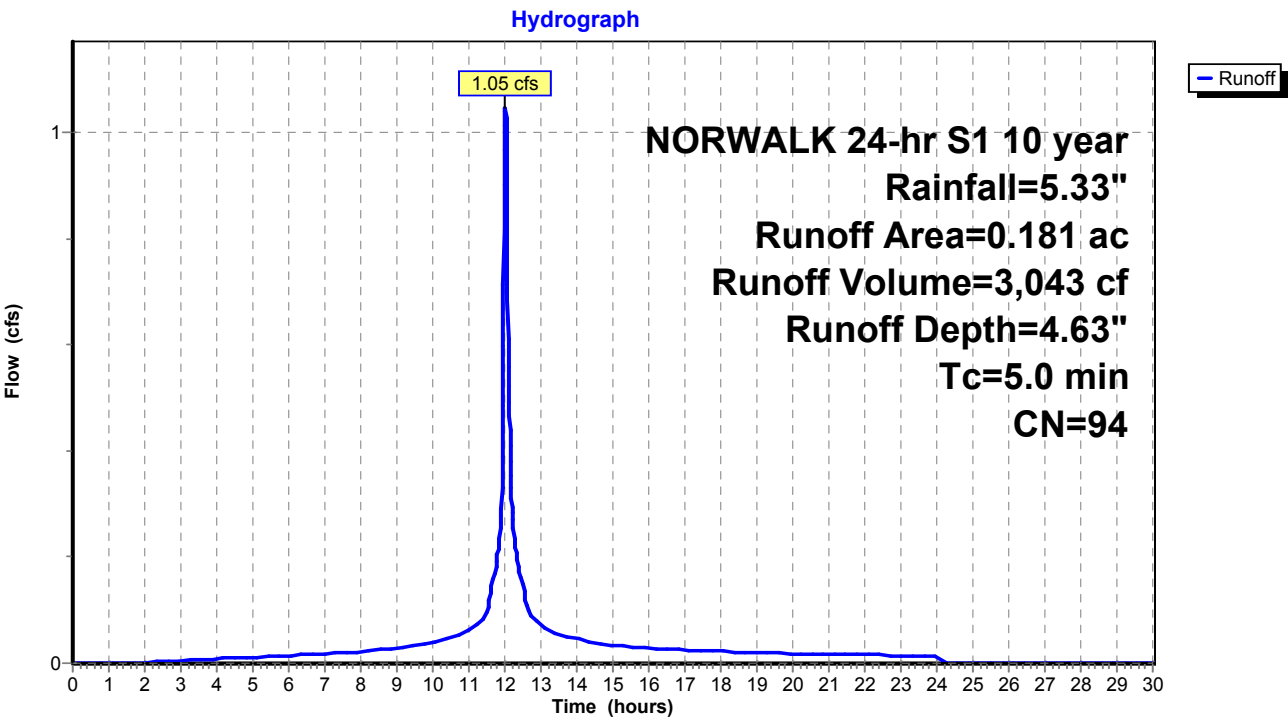
Runoff = 1.05 cfs @ 12.03 hrs, Volume= 3,043 cf, Depth= 4.63"
Routed to Pond 61P : CB-6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.149	98	Paved parking & roofs
0.032	74	>75% Grass cover, Good, HSG C
0.181	94	Weighted Average
0.032		17.68% Pervious Area
0.149		82.32% Impervious Area

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

Subcatchment 62S: Area 38



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 65S: Area 41

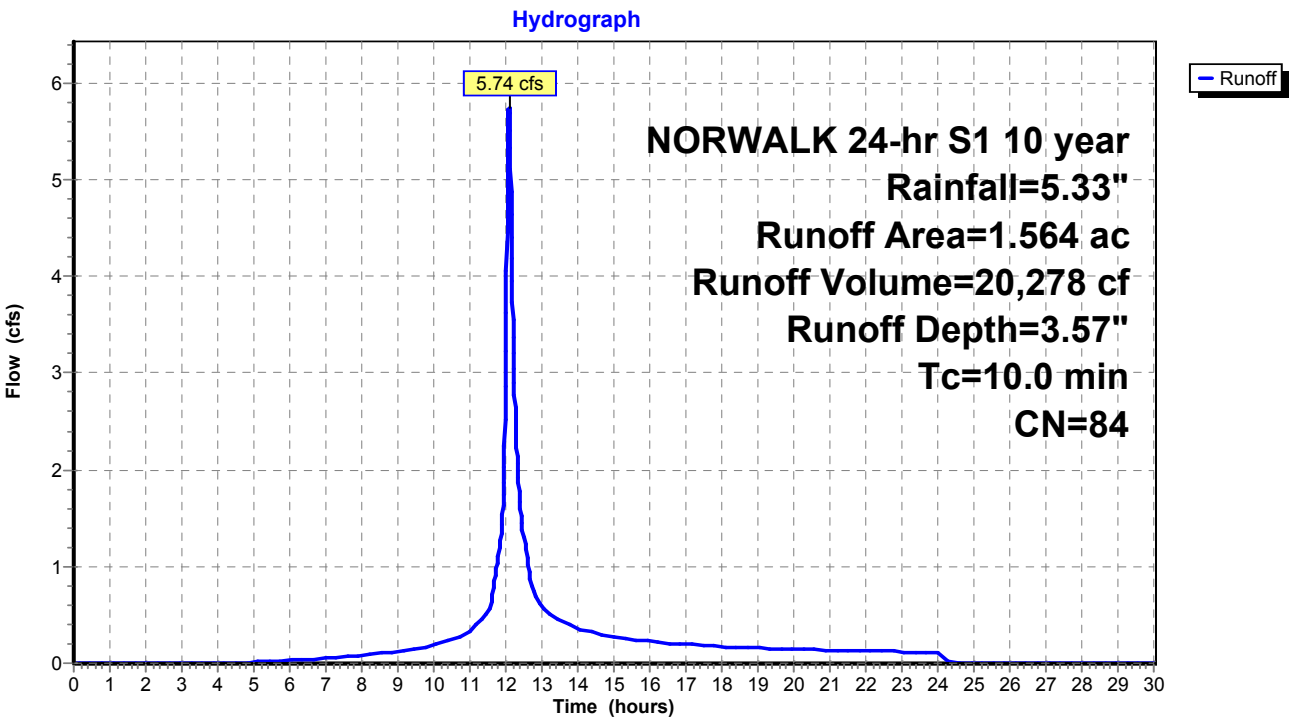
Runoff = 5.74 cfs @ 12.08 hrs, Volume= 20,278 cf, Depth= 3.57"
Routed to Pond 64P : YD

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.653	98	Paved parking & roofs
0.911	74	>75% Grass cover, Good, HSG C
1.564	84	Weighted Average
0.911		58.25% Pervious Area
0.653		41.75% Impervious Area

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

Subcatchment 65S: Area 41



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"
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Summary for Subcatchment 68S: Area 36

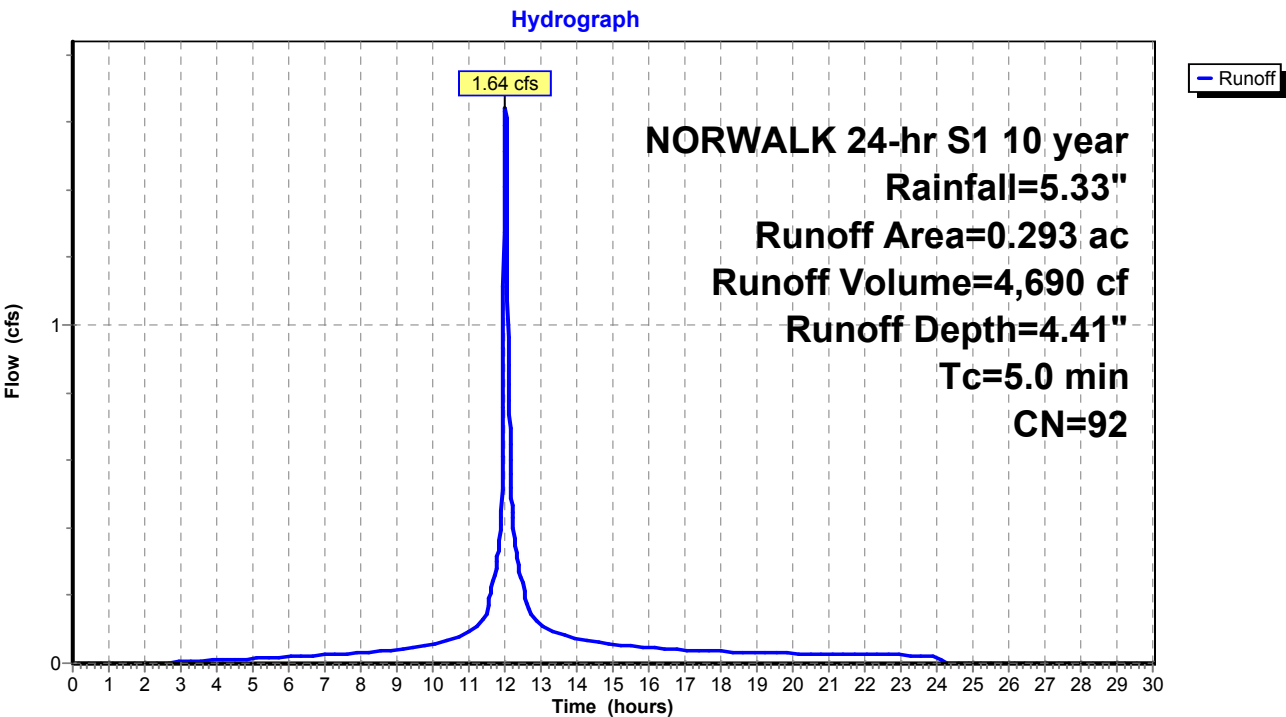
Runoff = 1.64 cfs @ 12.03 hrs, Volume= 4,690 cf, Depth= 4.41"
Routed to Pond 66P : CB-10

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.214	98	Paved parking & roofs
0.079	74	>75% Grass cover, Good, HSG C
0.293	92	Weighted Average
0.079		26.96% Pervious Area
0.214		73.04% Impervious Area

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

Subcatchment 68S: Area 36



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 69S: Area 40

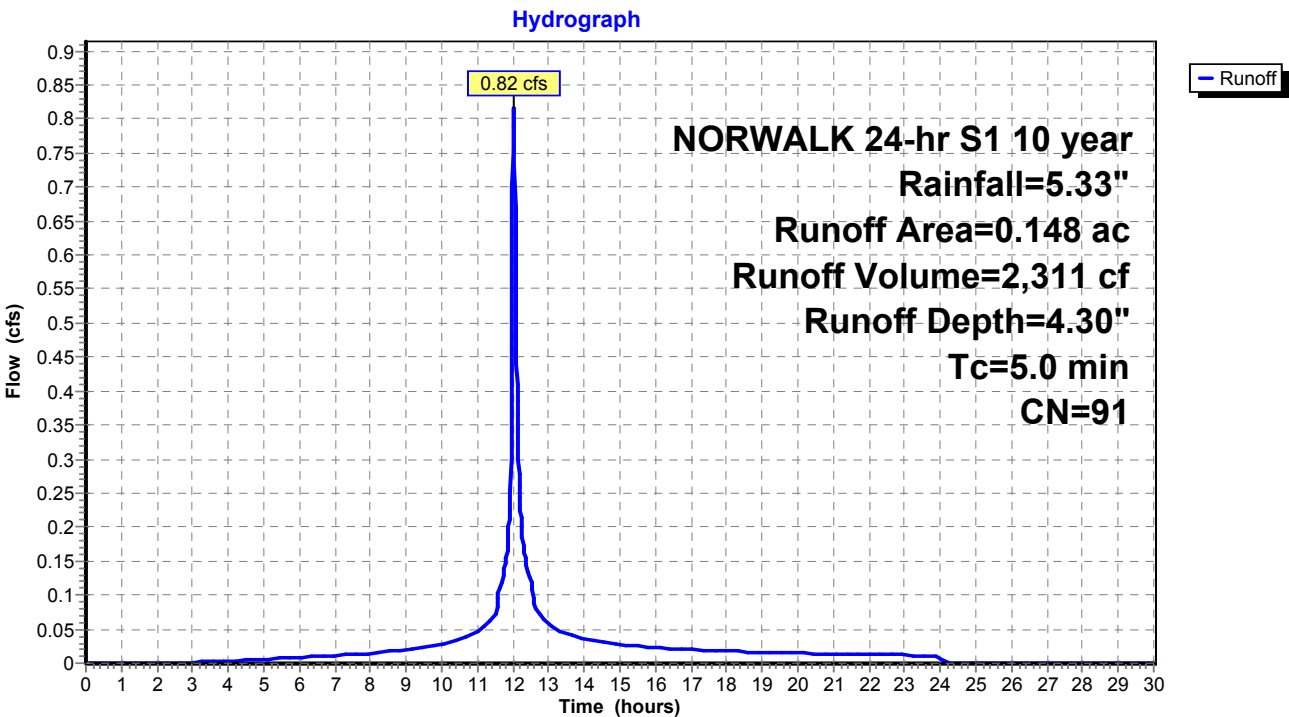
Runoff = 0.82 cfs @ 12.03 hrs, Volume= 2,311 cf, Depth= 4.30"
Routed to Pond 67P : CB-9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.103	98	Paved parking & roofs
0.045	74	>75% Grass cover, Good, HSG C
0.148	91	Weighted Average
0.045		30.41% Pervious Area
0.103		69.59% Impervious Area

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

Subcatchment 69S: Area 40



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 71S: Area 34

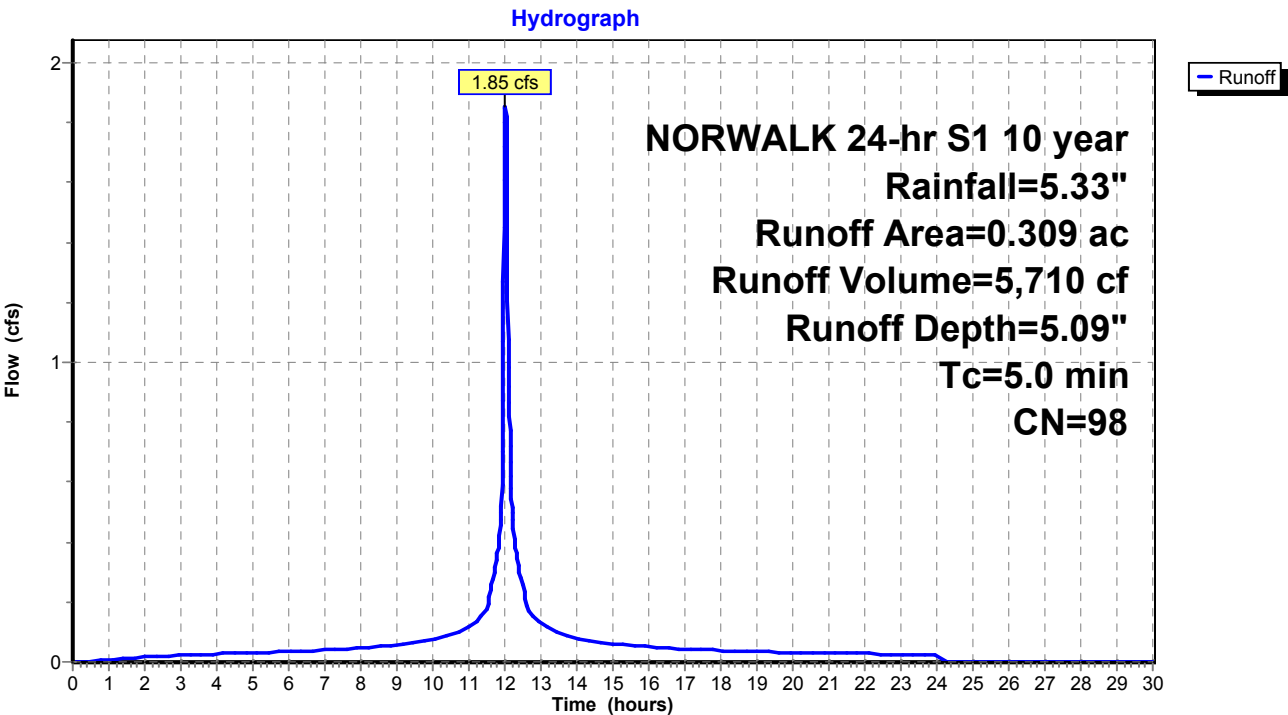
Runoff = 1.85 cfs @ 12.03 hrs, Volume= 5,710 cf, Depth= 5.09"
Routed to Pond 70P : CB-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.309	98	Paved parking & roofs
0.309		100.00% Impervious Area

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

Subcatchment 71S: Area 34



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 75S: Area 32

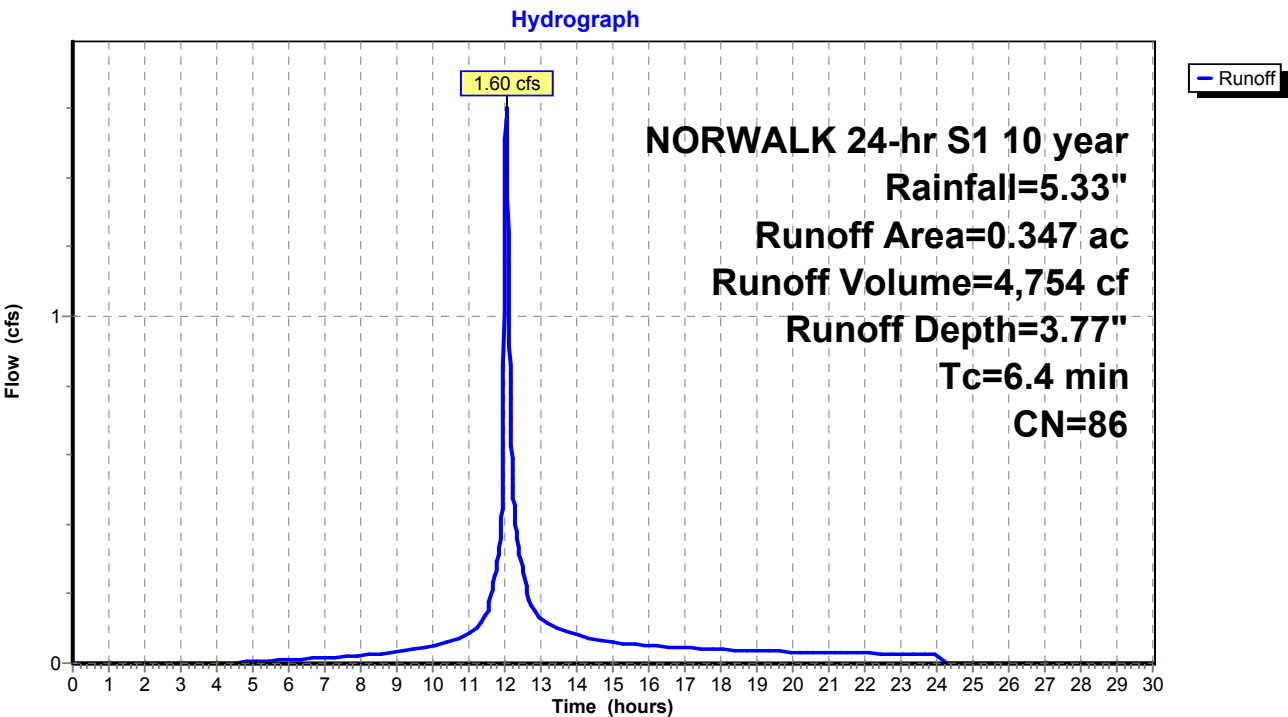
Runoff = 1.60 cfs @ 12.04 hrs, Volume= 4,754 cf, Depth= 3.77"
Routed to Pond 74P : CB-4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.196	98	Paved parking & roofs
0.151	70	Woods, Good, HSG C
0.347	86	Weighted Average
0.151		43.52% Pervious Area
0.196		56.48% Impervious Area

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

Subcatchment 75S: Area 32



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 76S: Area 33

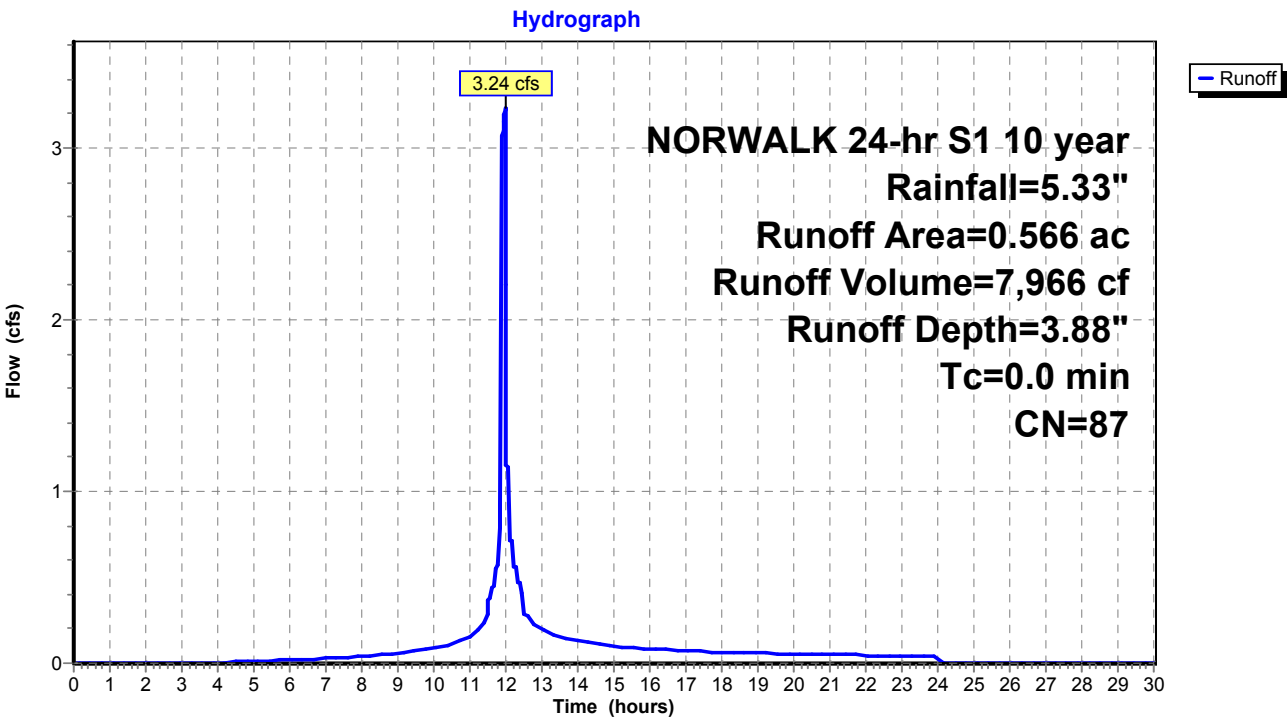
Runoff = 3.24 cfs @ 11.99 hrs, Volume= 7,966 cf, Depth= 3.88"
Routed to Pond 73P : CB-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.338	98	Paved parking & roofs
0.228	70	Woods, Good, HSG C
0.566	87	Weighted Average
0.228		40.28% Pervious Area
0.338		59.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.0					Direct Entry, 7

Subcatchment 76S: Area 33



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 78S: Area 39

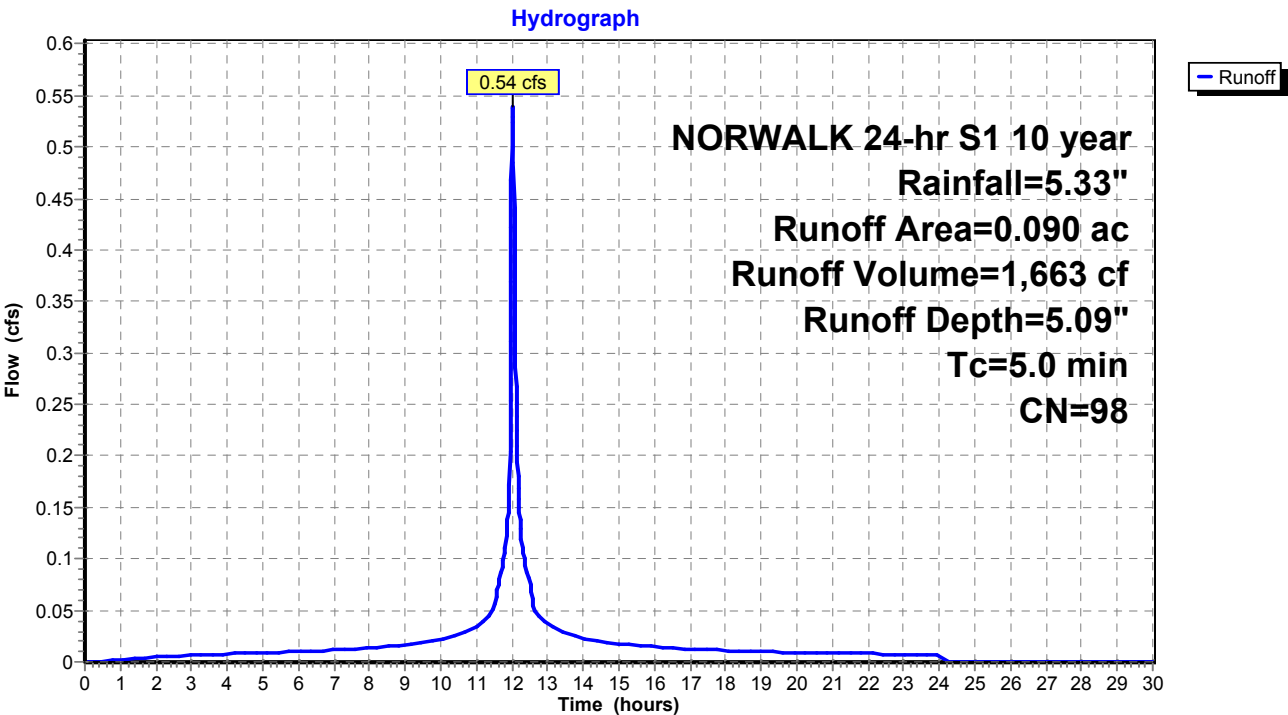
Runoff = 0.54 cfs @ 12.03 hrs, Volume= 1,663 cf, Depth= 5.09"
Routed to Pond 79P : CB-8

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.090	98	Paved parking & roofs
0.090		100.00% Impervious Area

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

Subcatchment 78S: Area 39



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 84S: Area 31

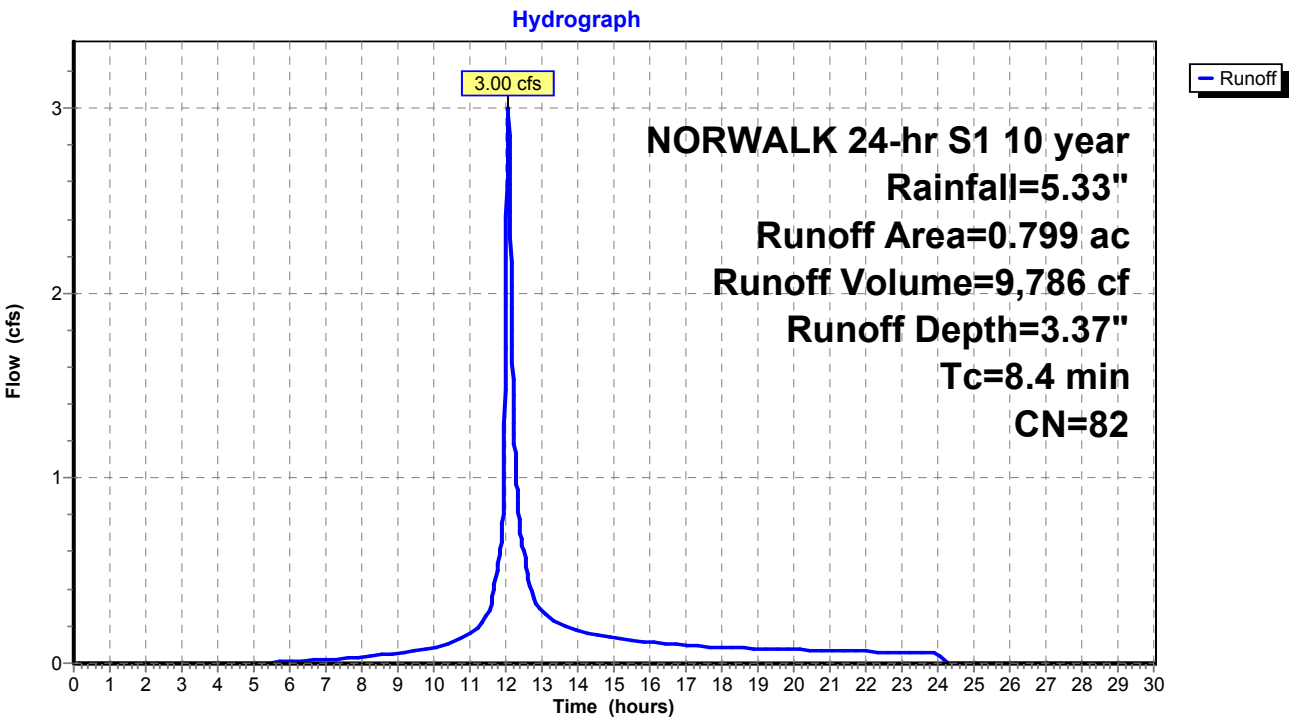
Runoff = 3.00 cfs @ 12.07 hrs, Volume= 9,786 cf, Depth= 3.37"
Routed to Pond 85P : CB-5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.337	98	Paved parking & roofs
0.462	70	Woods, Good, HSG C
0.799	82	Weighted Average
0.462		57.82% Pervious Area
0.337		42.18% Impervious Area

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

Subcatchment 84S: Area 31



Summary for Subcatchment 100S: Area 16B

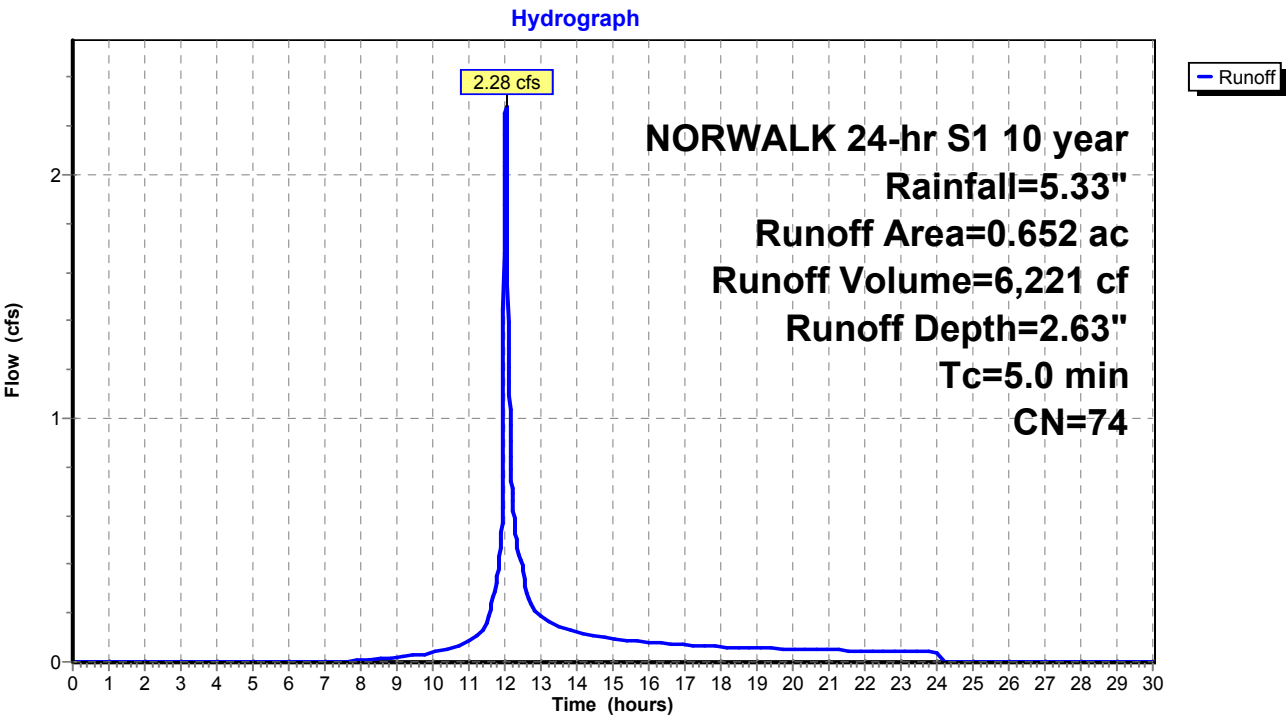
Runoff = 2.28 cfs @ 12.03 hrs, Volume= 6,221 cf, Depth= 2.63"
Routed to Pond 50P : DET BASIN #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.652	74	>75% Grass cover, Good, HSG C
0.652		100.00% Pervious Area

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

Subcatchment 100S: Area 16B



Existing Conditions

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Summary for Subcatchment 105S: Area 18

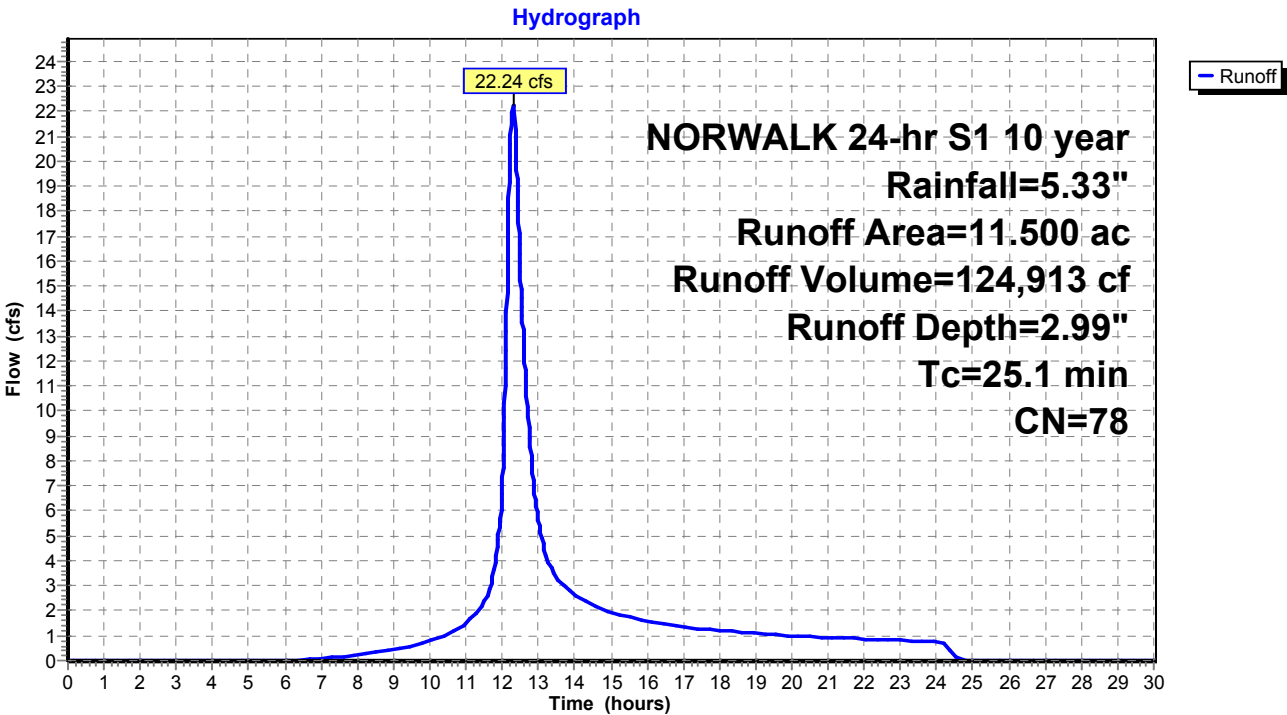
Runoff = 22.24 cfs @ 12.30 hrs, Volume= 124,913 cf, Depth= 2.99"
Routed to Pond 24P : RR Culvert 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.734	70	Woods, Good, HSG C
10.216	77	Woods, Good, HSG D
0.550	98	Paved parking, HSG C
11.500	78	Weighted Average
10.950		95.22% Pervious Area
0.550		4.78% Impervious Area

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

Subcatchment 105S: Area 18



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"
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Summary for Subcatchment BLDG: EX-BLDG

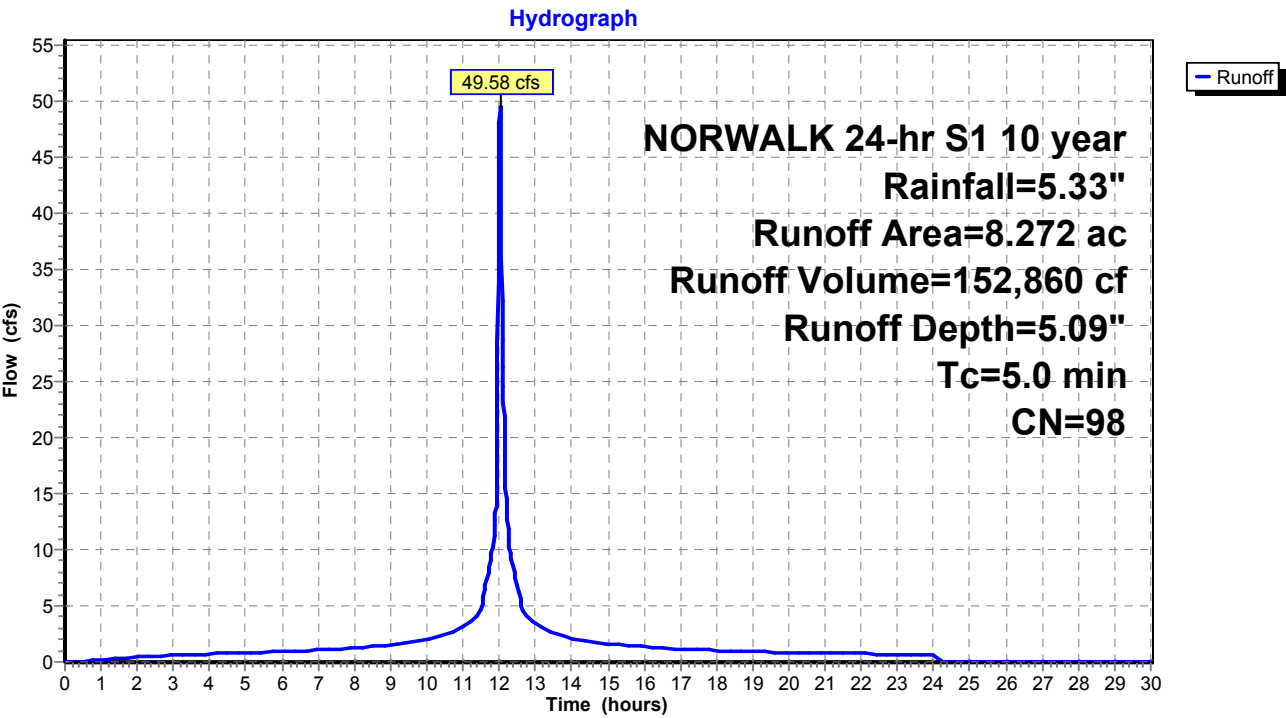
Runoff = 49.58 cfs @ 12.03 hrs, Volume= 152,860 cf, Depth= 5.09"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
8.272	98	Roofs, HSG B
8.272		100.00% Impervious Area

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

Subcatchment BLDG: EX-BLDG



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Pond 1P: RR Culvert 2

Inflow Area = 6,570,111 sf, 25.88% Impervious, Inflow Depth > 3.25" for 10 year event
Inflow = 181.04 cfs @ 12.21 hrs, Volume= 1,776,893 cf
Outflow = 181.04 cfs @ 12.21 hrs, Volume= 1,776,893 cf, Atten= 0%, Lag= 0.0 min
Primary = 31.55 cfs @ 12.21 hrs, Volume= 986,384 cf
Secondary = 149.48 cfs @ 12.21 hrs, Volume= 790,510 cf
Routed to Pond 24P : RR Culvert 3

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 13.80' @ 12.21 hrs

Device	Routing	Invert	Outlet Devices
#1	Secondary	13.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 3.00 4.00 5.00 Width (feet) 50.00 50.00 50.00 50.00 50.00 50.00
#2	Primary	9.50'	24.0" W x 36.0" H Box Culvert L= 135.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.50' / 9.50' S= 0.0000 ' / Cc= 0.900 n= 0.014, Flow Area= 6.00 sf

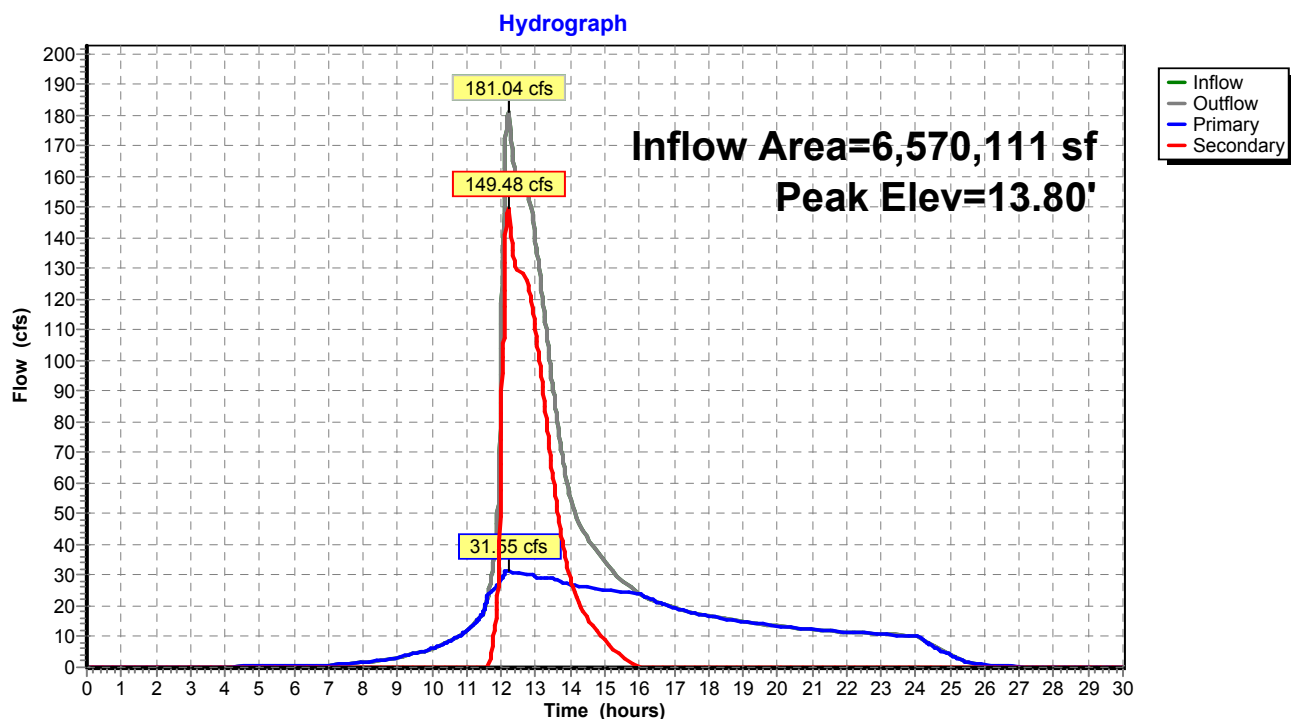
Primary OutFlow Max=31.55 cfs @ 12.21 hrs HW=13.80' (Free Discharge)

↑**2=Culvert** (Barrel Controls 31.55 cfs @ 5.26 fps)

Secondary OutFlow Max=149.31 cfs @ 12.21 hrs HW=13.80' (Free Discharge)

↑**1=Custom Weir/Orifice** (Weir Controls 149.31 cfs @ 3.73 fps)

Pond 1P: RR Culvert 2



Existing Conditions

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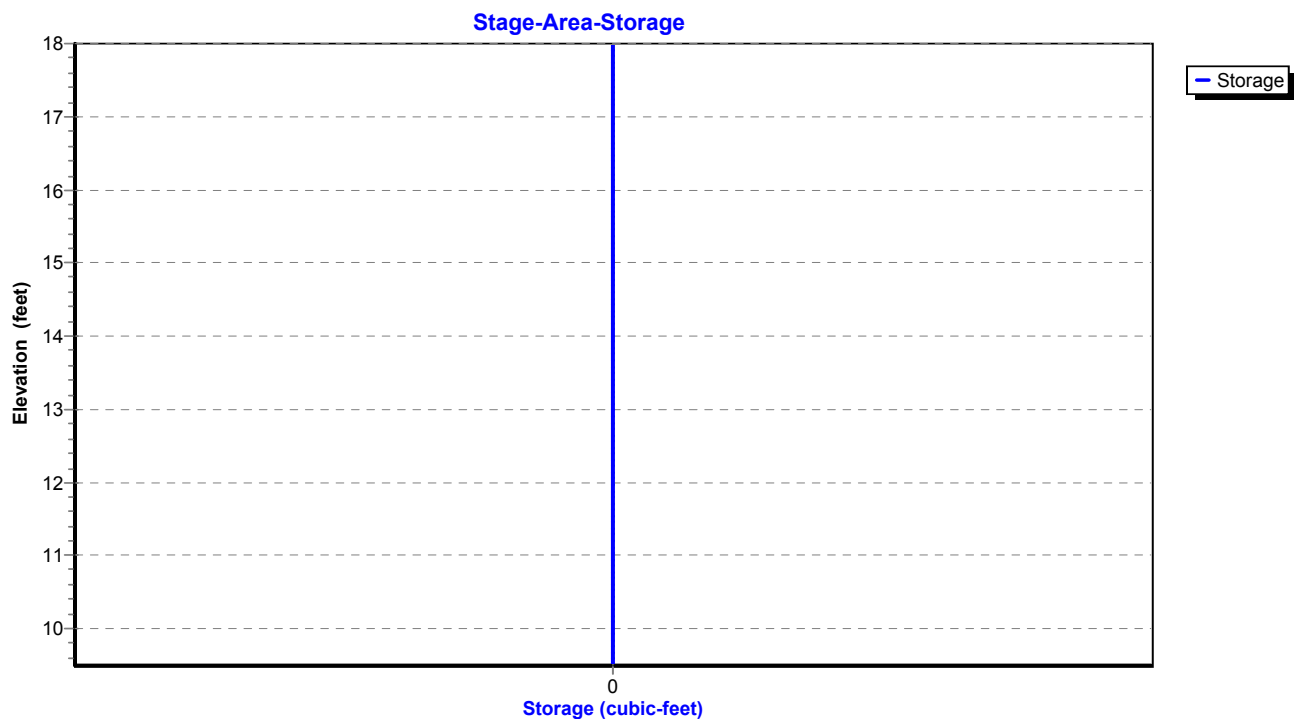
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Pond 1P: RR Culvert 2



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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Pond 2P: RR Culvert 1

Inflow Area = 3,416,890 sf, 54.57% Impervious, Inflow Depth = 3.90" for 10 year event
Inflow = 126.25 cfs @ 12.04 hrs, Volume= 1,110,863 cf
Outflow = 126.25 cfs @ 12.04 hrs, Volume= 1,110,863 cf, Atten= 0%, Lag= 0.0 min
Primary = 47.58 cfs @ 12.04 hrs, Volume= 866,224 cf
Secondary = 78.67 cfs @ 12.04 hrs, Volume= 244,639 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 29.18' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	25.00'	28.8" W x 28.8" H Box Culvert L= 123.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.00' / 23.60' S= 0.0114 '/' Cc= 0.900 n= 0.014, Flow Area= 5.76 sf
#2	Secondary	27.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 Width (feet) 6.00 6.00 6.00

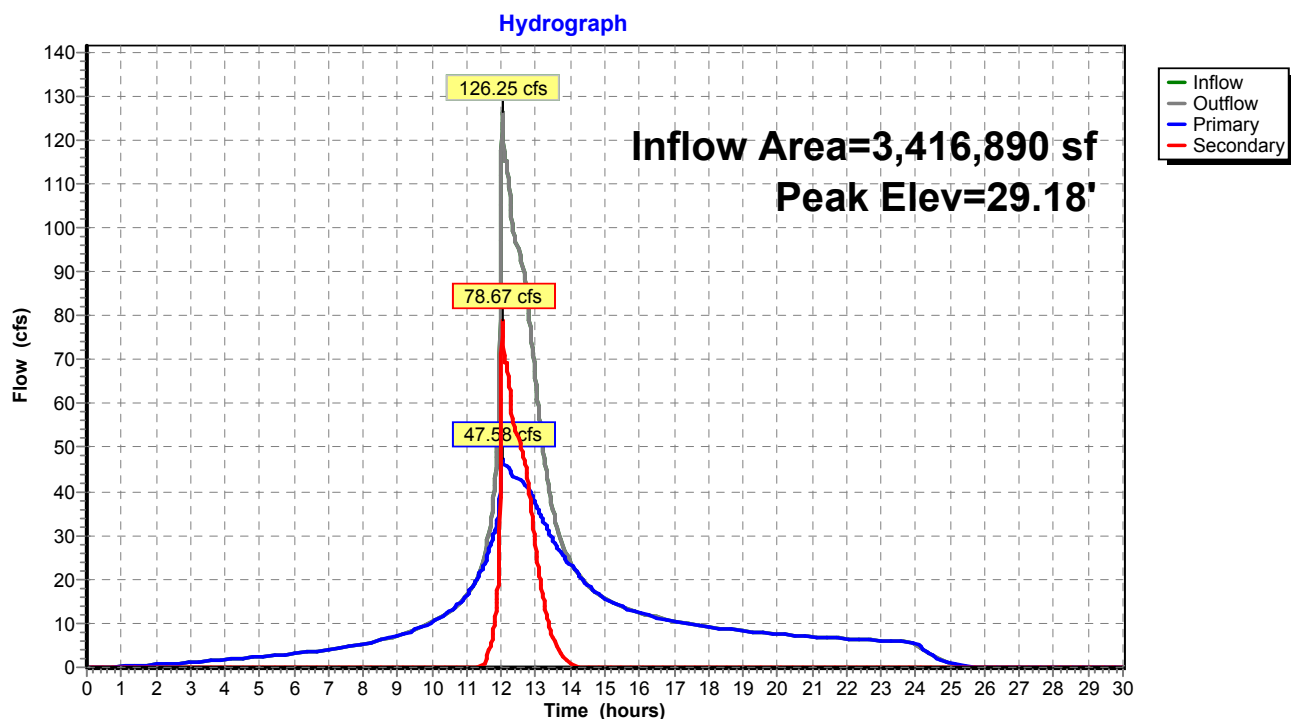
Primary OutFlow Max=47.57 cfs @ 12.04 hrs HW=29.18' (Free Discharge)

↑**1=Culvert** (Inlet Controls 47.57 cfs @ 8.26 fps)

Secondary OutFlow Max=78.60 cfs @ 12.04 hrs HW=29.18' (Free Discharge)

↑**2=Custom Weir/Orifice** (Orifice Controls 78.60 cfs @ 6.55 fps)

Pond 2P: RR Culvert 1



Existing Conditions

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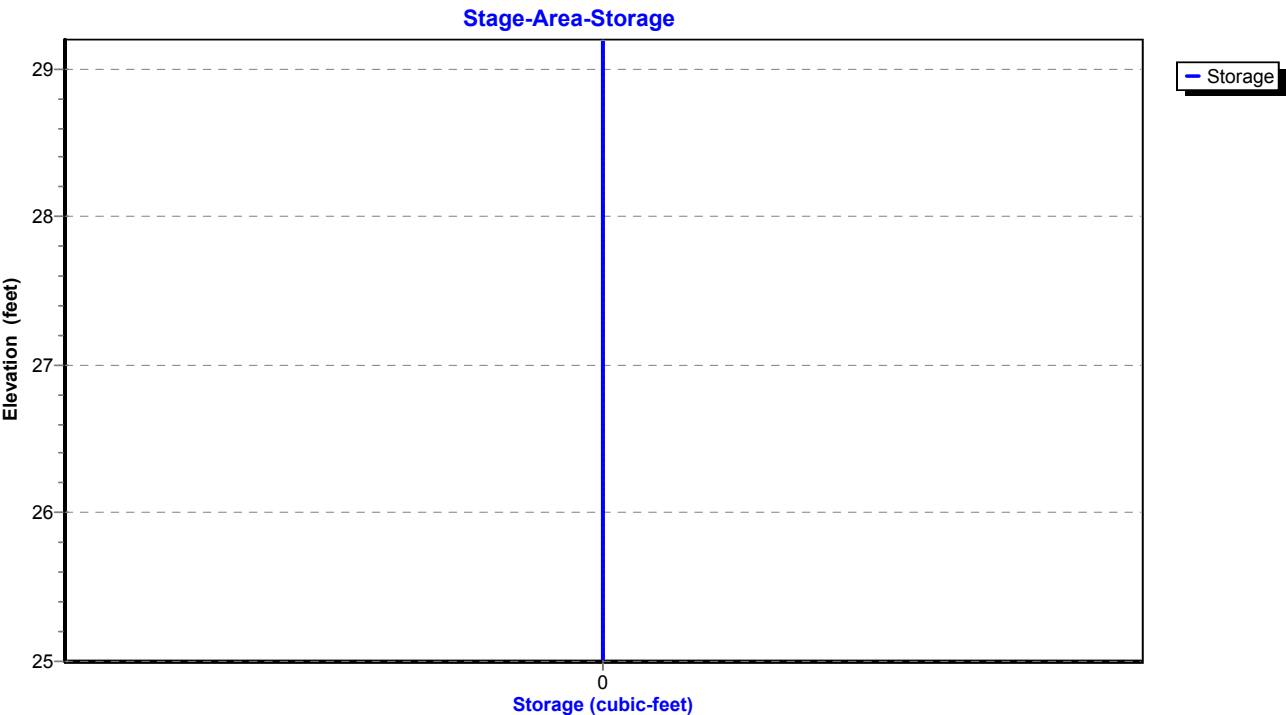
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Pond 2P: RR Culvert 1



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Summary for Pond 3P: DETENTION BASIN #2

Inflow Area = 263,277 sf, 58.24% Impervious, Inflow Depth = 3.97" for 10 year event
Inflow = 24.01 cfs @ 12.03 hrs, Volume= 87,093 cf
Outflow = 3.87 cfs @ 12.61 hrs, Volume= 71,317 cf, Atten= 84%, Lag= 34.6 min
Primary = 3.87 cfs @ 12.61 hrs, Volume= 71,317 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 49.59' @ 12.61 hrs Surf.Area= 11,287 sf Storage= 38,892 cf

Plug-Flow detention time= 221.3 min calculated for 71,317 cf (82% of inflow)
Center-of-Mass det. time= 133.8 min (961.3 - 827.5)

Volume	Invert	Avail.Storage	Storage Description
#1	44.00'	56,637 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.00	2,637	0	0
46.00	6,000	8,637	8,637
48.00	8,500	14,500	23,137
50.00	12,000	20,500	43,637
51.00	14,000	13,000	56,637

Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	18.0" Round Culvert L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.00' / 30.00' S= 0.1750 ' / Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	47.00'	10.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	50.40'	16.2" x 55.4" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.87 cfs @ 12.61 hrs HW=49.59' (Free Discharge)

1=Culvert (Passes 3.87 cfs of 18.72 cfs potential flow)
2=Orifice/Grate (Orifice Controls 3.87 cfs @ 7.10 fps)
3=Orifice/Grate (Controls 0.00 cfs)

Existing Conditions

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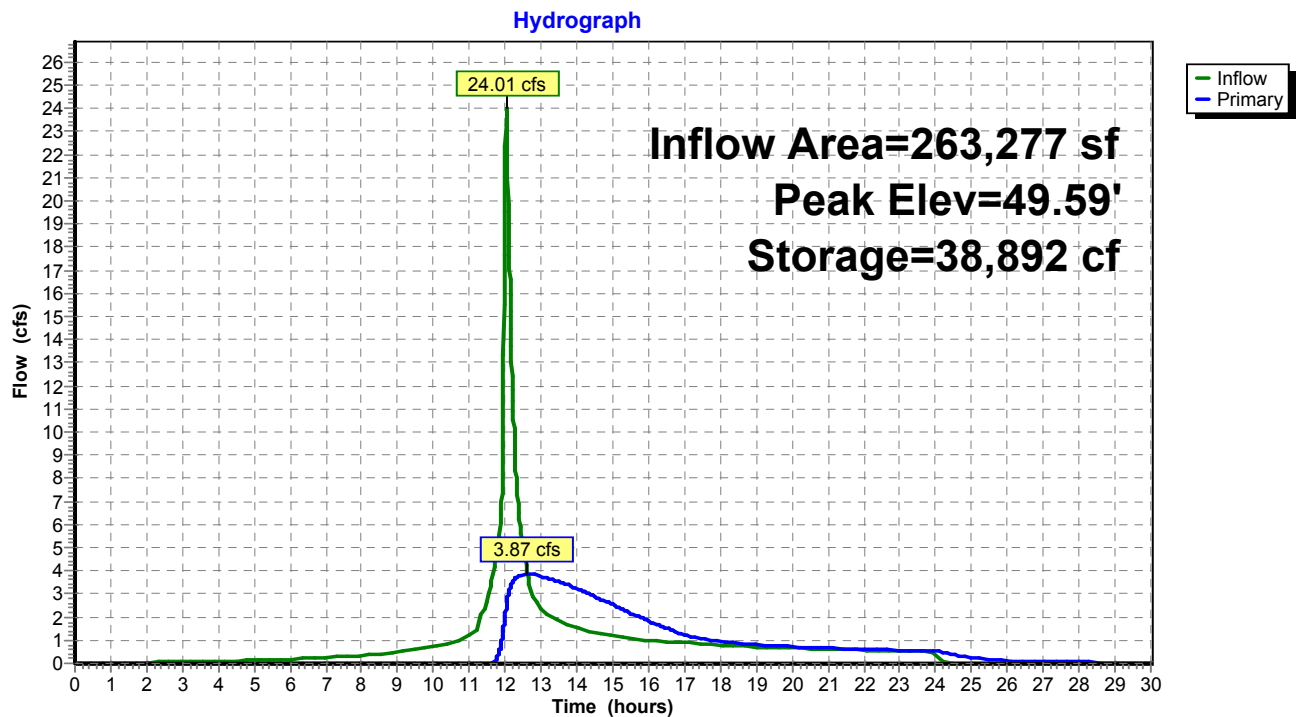
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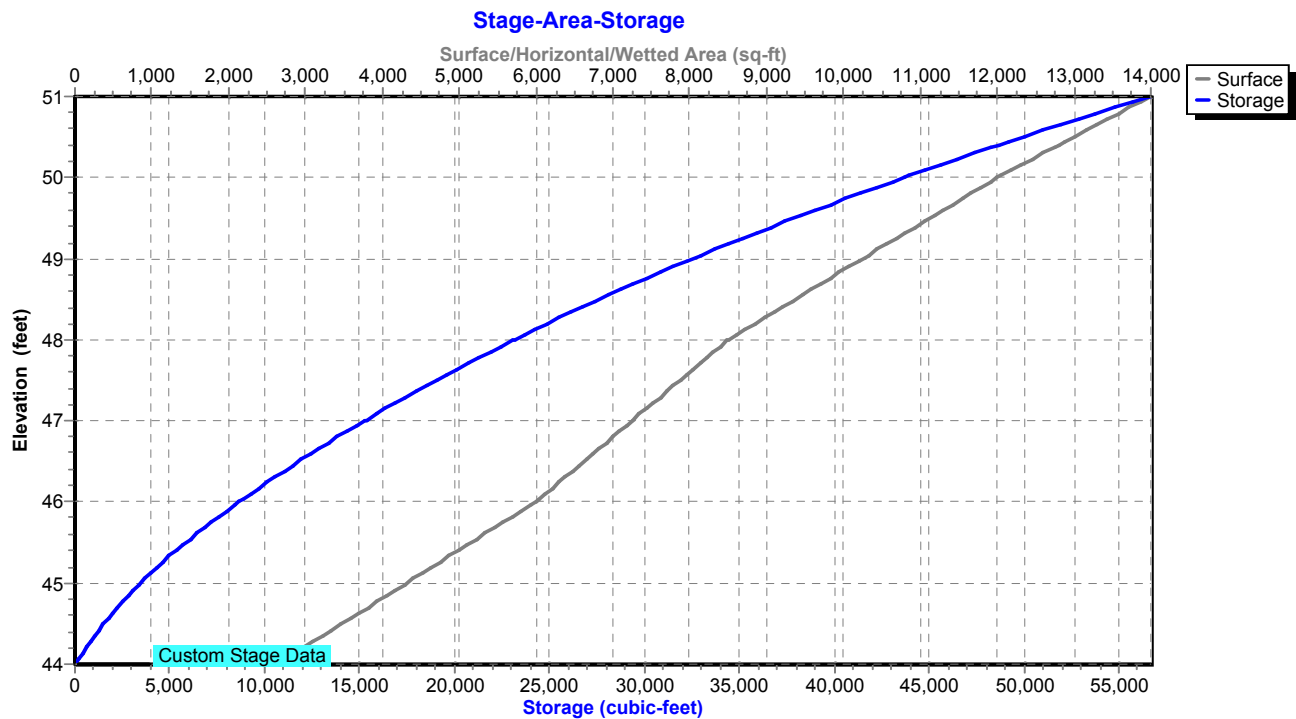
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Pond 3P: DETENTION BASIN #2



Pond 3P: DETENTION BASIN #2



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Summary for Pond 5P: DET 5 Culvert

Inflow Area = 541,015 sf, 16.51% Impervious, Inflow Depth = 2.54" for 10 year event
 Inflow = 16.39 cfs @ 12.45 hrs, Volume= 114,534 cf
 Outflow = 14.99 cfs @ 12.58 hrs, Volume= 114,533 cf, Atten= 9%, Lag= 8.0 min
 Primary = 14.99 cfs @ 12.58 hrs, Volume= 114,533 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 80.12' @ 12.58 hrs Storage= 4,872 cf

Plug-Flow detention time= 6.2 min calculated for 114,533 cf (100% of inflow)

Center-of-Mass det. time= 6.2 min (897.9 - 891.7)

Volume	Invert	Avail.Storage	Storage Description
#1	78.00'	62,584 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
78.00	0	0
79.00	1,179	1,179
80.00	3,009	4,188
81.00	5,795	9,983
82.00	9,335	19,318
83.00	16,518	35,836
84.00	26,748	62,584

Device	Routing	Invert	Outlet Devices
#1	Primary	78.00'	24.0" Round Culvert L= 224.0' Ke= 0.600 Inlet / Outlet Invert= 78.00' / 72.40' S= 0.0250 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=14.99 cfs @ 12.58 hrs HW=80.12' (Free Discharge)↑**1=Culvert** (Inlet Controls 14.99 cfs @ 4.77 fps)

Existing Conditions

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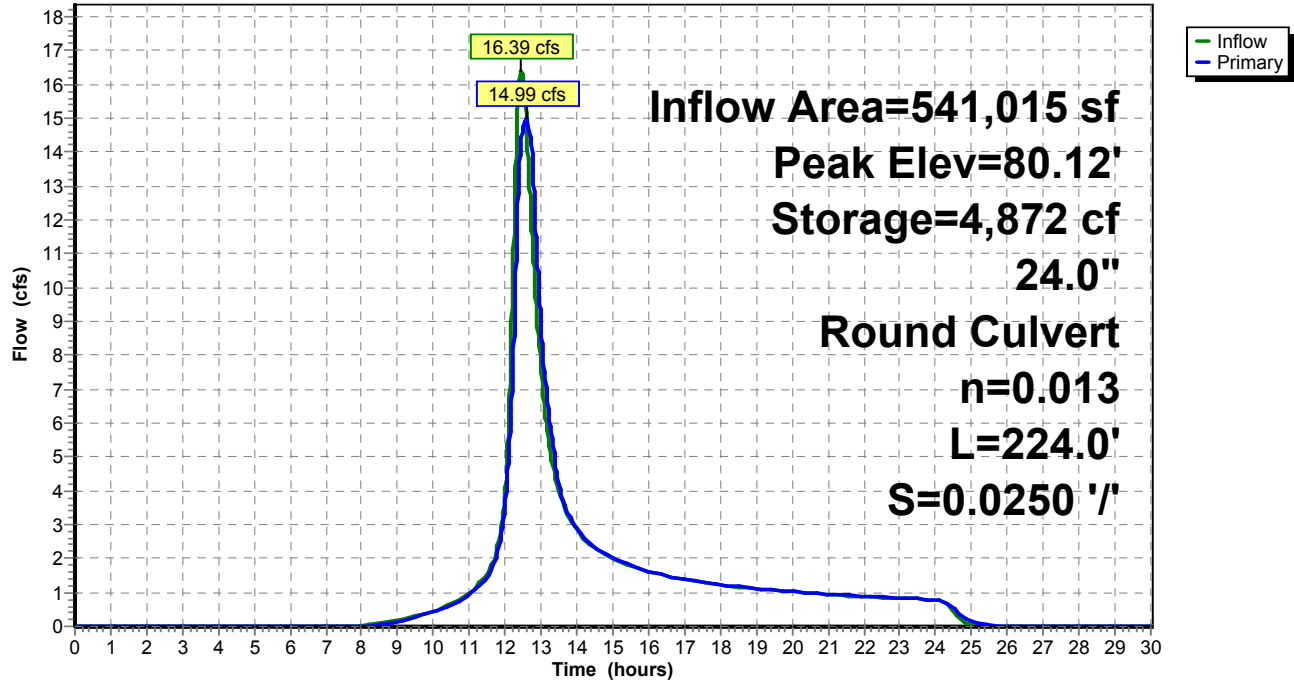
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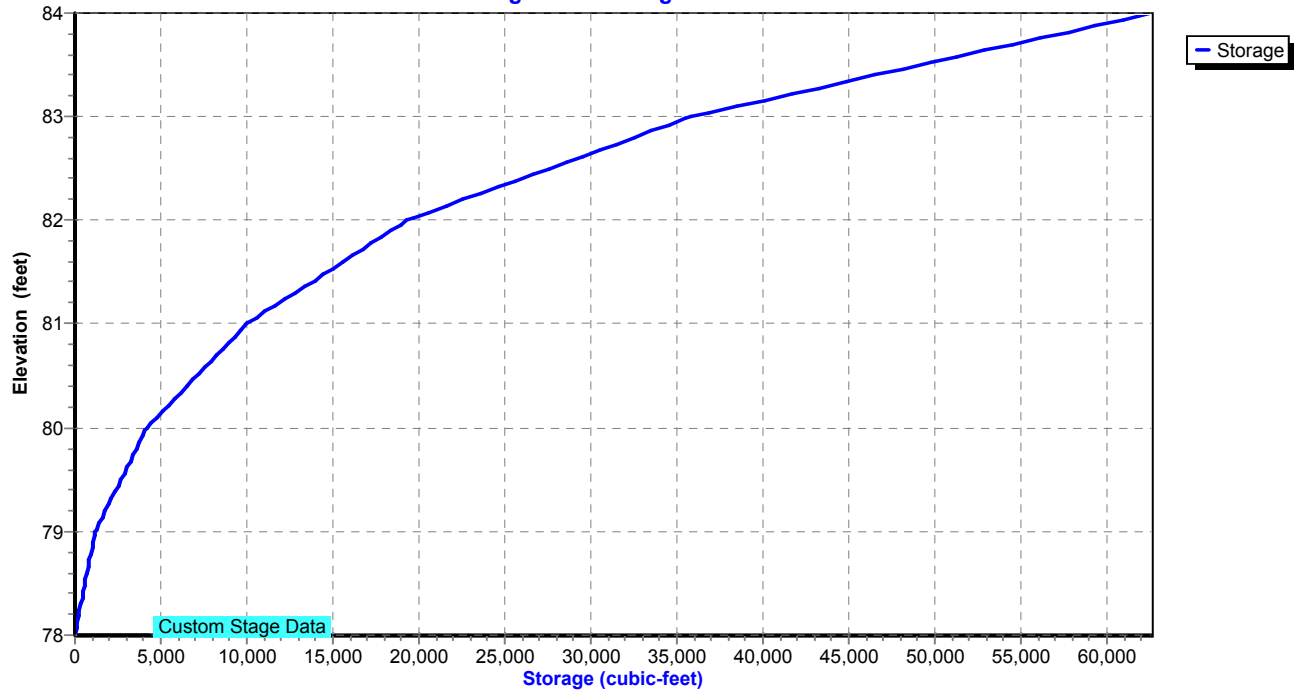
Pond 5P: DET 5 Culvert

Hydrograph



Pond 5P: DET 5 Culvert

Stage-Area-Storage



Existing Conditions

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Summary for Pond 6P: DET 6 Culvert

Inflow Area = 747,054 sf, 37.20% Impervious, Inflow Depth = 3.37" for 10 year event
 Inflow = 24.10 cfs @ 12.70 hrs, Volume= 210,050 cf
 Outflow = 24.05 cfs @ 12.71 hrs, Volume= 210,050 cf, Atten= 0%, Lag= 0.7 min
 Primary = 24.05 cfs @ 12.71 hrs, Volume= 210,050 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 90.91' @ 12.71 hrs Storage= 689 cf

Plug-Flow detention time= 0.4 min calculated for 210,050 cf (100% of inflow)
 Center-of-Mass det. time= 0.4 min (878.6 - 878.2)

Volume	Invert	Avail.Storage	Storage Description
#1	88.50'	5,954 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
88.50	0	0
90.00	154	154
92.00	1,175	1,329
93.00	4,625	5,954

Device	Routing	Invert	Outlet Devices
#1	Primary	88.50'	30.0" Round Culvert L= 180.0' Ke= 0.600 Inlet / Outlet Invert= 88.50' / 86.00' S= 0.0139 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=24.06 cfs @ 12.71 hrs HW=90.91' (Free Discharge)
 ↑ **1=Culvert** (Inlet Controls 24.06 cfs @ 4.96 fps)

Existing Conditions

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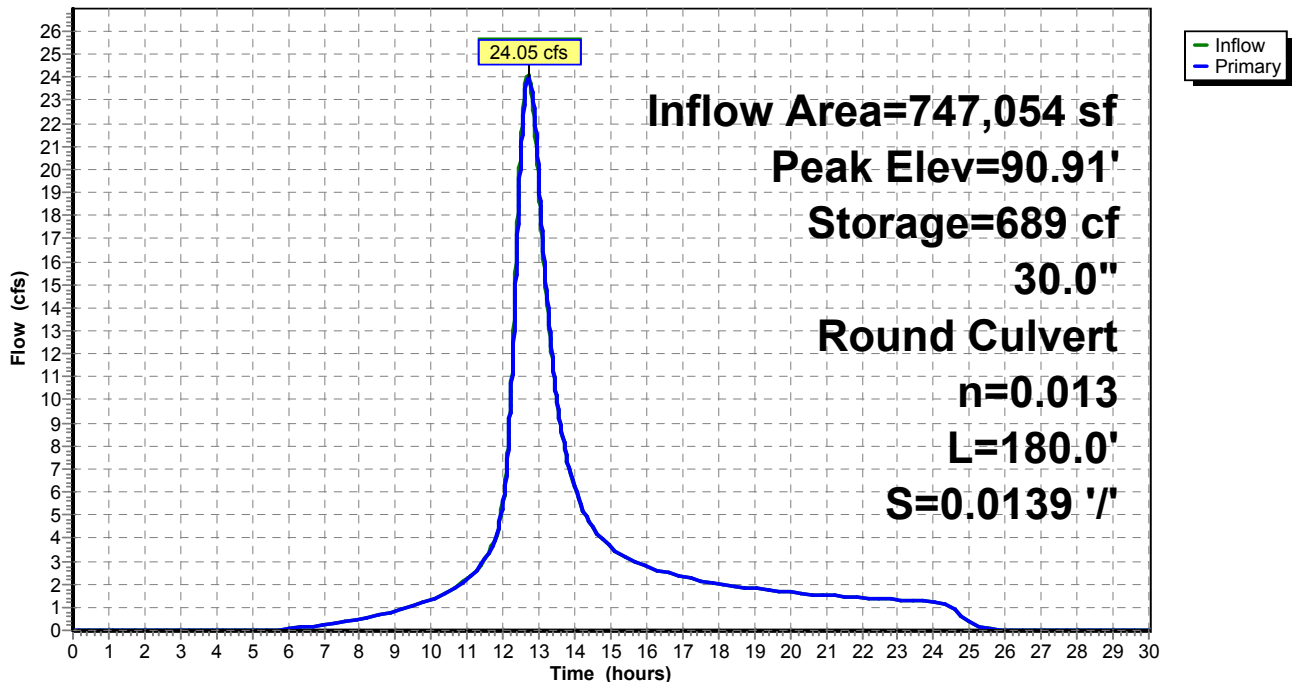
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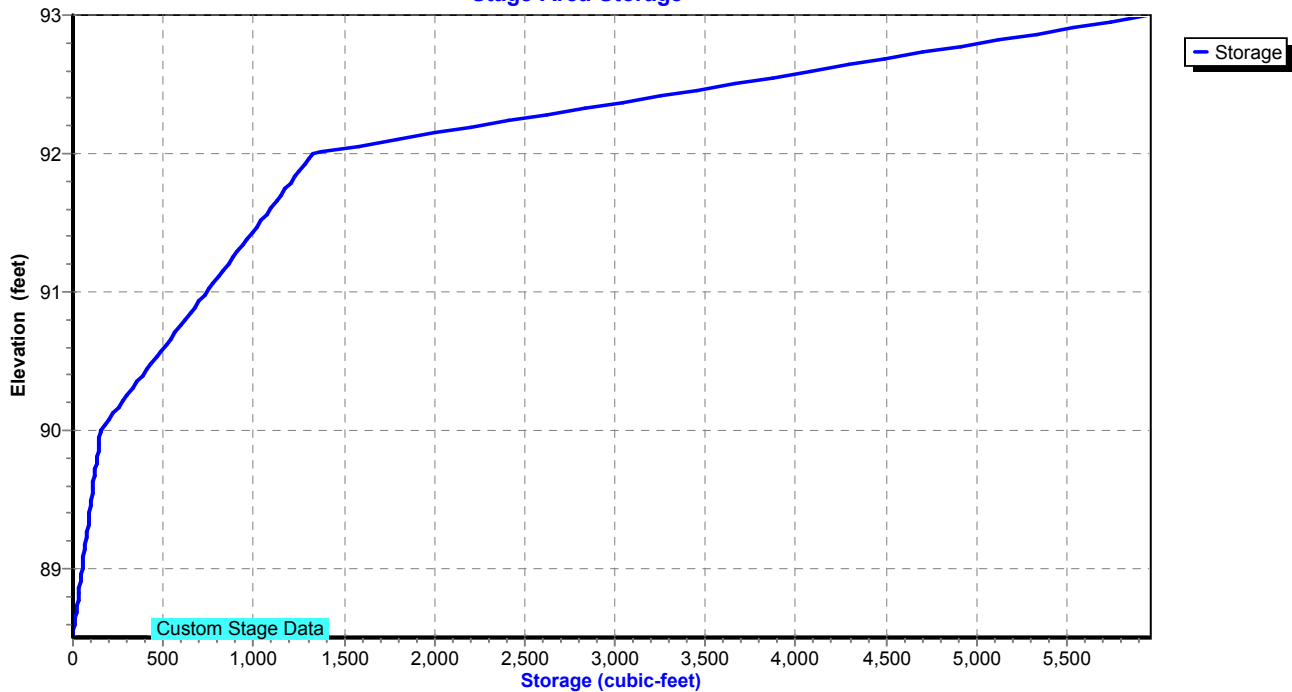
Pond 6P: DET 6 Culvert

Hydrograph



Pond 6P: DET 6 Culvert

Stage-Area-Storage



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Summary for Pond 7P: DET 7 Culvert

Inflow Area = 64,033 sf, 0.00% Impervious, Inflow Depth = 3.28" for 10 year event
Inflow = 3.29 cfs @ 12.26 hrs, Volume= 17,486 cf
Outflow = 2.21 cfs @ 12.46 hrs, Volume= 17,486 cf, Atten= 33%, Lag= 12.1 min
Primary = 2.21 cfs @ 12.46 hrs, Volume= 17,486 cf
Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 93.27' @ 12.46 hrs Storage= 1,651 cf

Plug-Flow detention time= 6.0 min calculated for 17,480 cf (100% of inflow)

Center-of-Mass det. time= 6.1 min (858.1 - 852.0)

Volume	Invert	Avail.Storage	Storage Description
#1	92.50'	5,874 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
92.50	0	0
93.00	103	103
94.00	5,771	5,874

Device	Routing	Invert	Outlet Devices
#1	Primary	92.50'	15.0" Round Culvert L= 202.0' Ke= 0.600 Inlet / Outlet Invert= 92.50' / 89.11' S= 0.0168 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=2.21 cfs @ 12.46 hrs HW=93.27' (Free Discharge)↑**1=Culvert** (Inlet Controls 2.21 cfs @ 2.80 fps)

Existing Conditions

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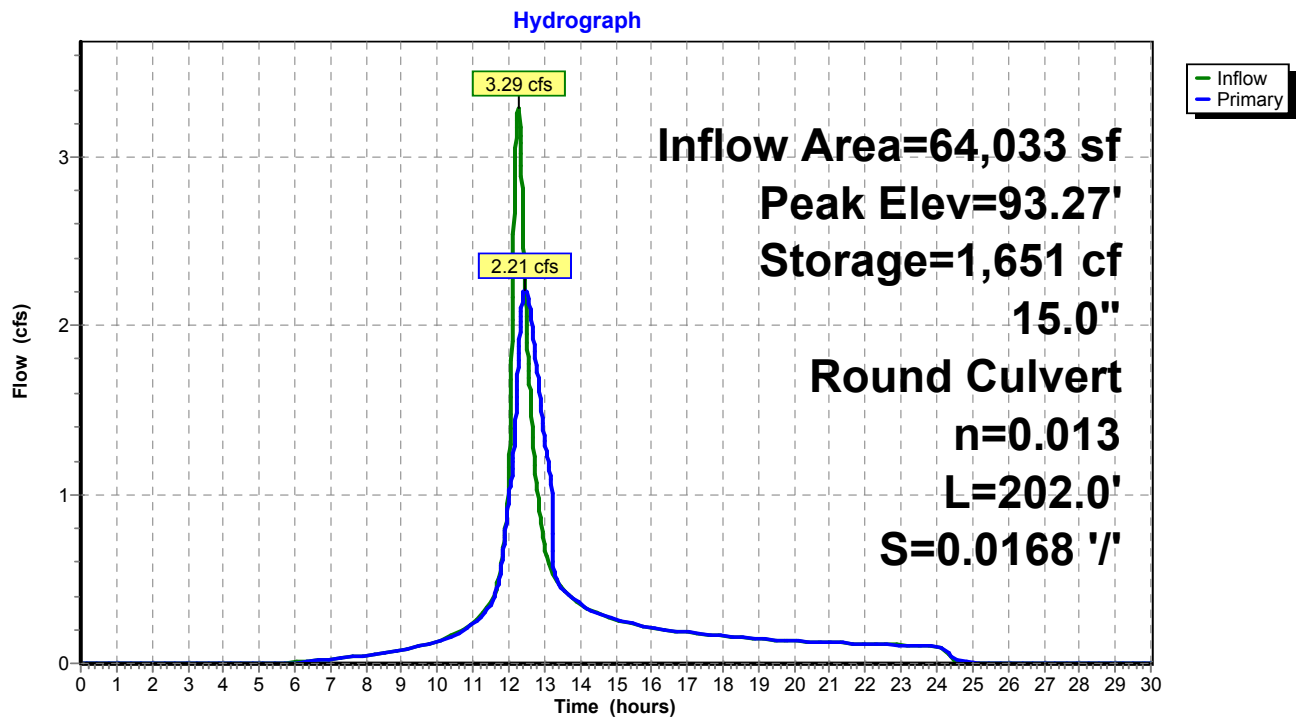
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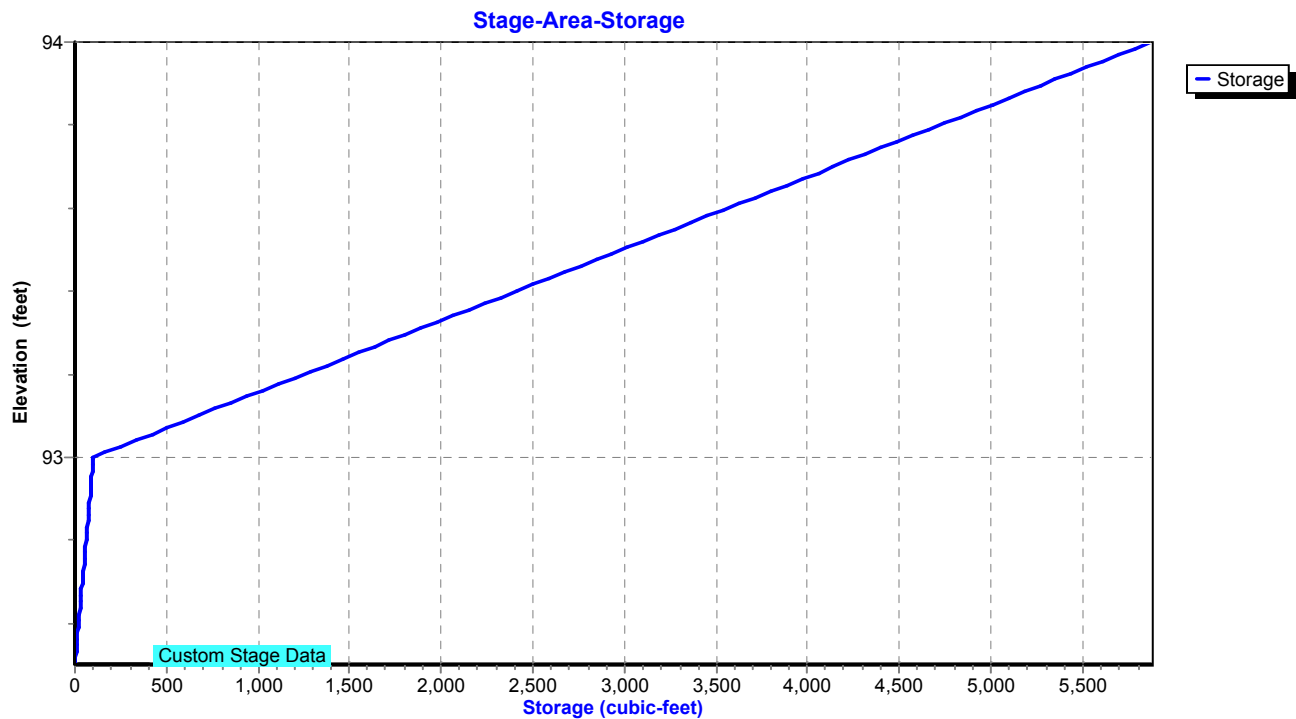
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Pond 7P: DET 7 Culvert



Pond 7P: DET 7 Culvert



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Summary for Pond 8P: Comb. 5,6,7,8,9

Inflow Area = 1,584,277 sf, 30.02% Impervious, Inflow Depth = 3.18" for 10 year event
 Inflow = 48.91 cfs @ 12.65 hrs, Volume= 419,897 cf
 Outflow = 48.91 cfs @ 12.66 hrs, Volume= 419,897 cf, Atten= 0%, Lag= 0.1 min
 Primary = 48.91 cfs @ 12.66 hrs, Volume= 419,897 cf
 Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 71.28' @ 12.66 hrs Storage= 85 cf

Plug-Flow detention time= 0.0 min calculated for 419,757 cf (100% of inflow)
 Center-of-Mass det. time= 0.0 min (874.3 - 874.3)

Volume	Invert	Avail.Storage	Storage Description
#1	68.40'	5,234 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.40	0	0
71.00	52	52
72.00	118	170
73.00	471	641
74.00	1,318	1,959
75.00	3,275	5,234

Device	Routing	Invert	Outlet Devices
#1	Primary	68.40'	42.0" Round Culvert L= 900.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 68.40' / 36.99' S= 0.0349 ' / Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=48.91 cfs @ 12.66 hrs HW=71.28' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 48.91 cfs @ 5.78 fps)

Existing Conditions

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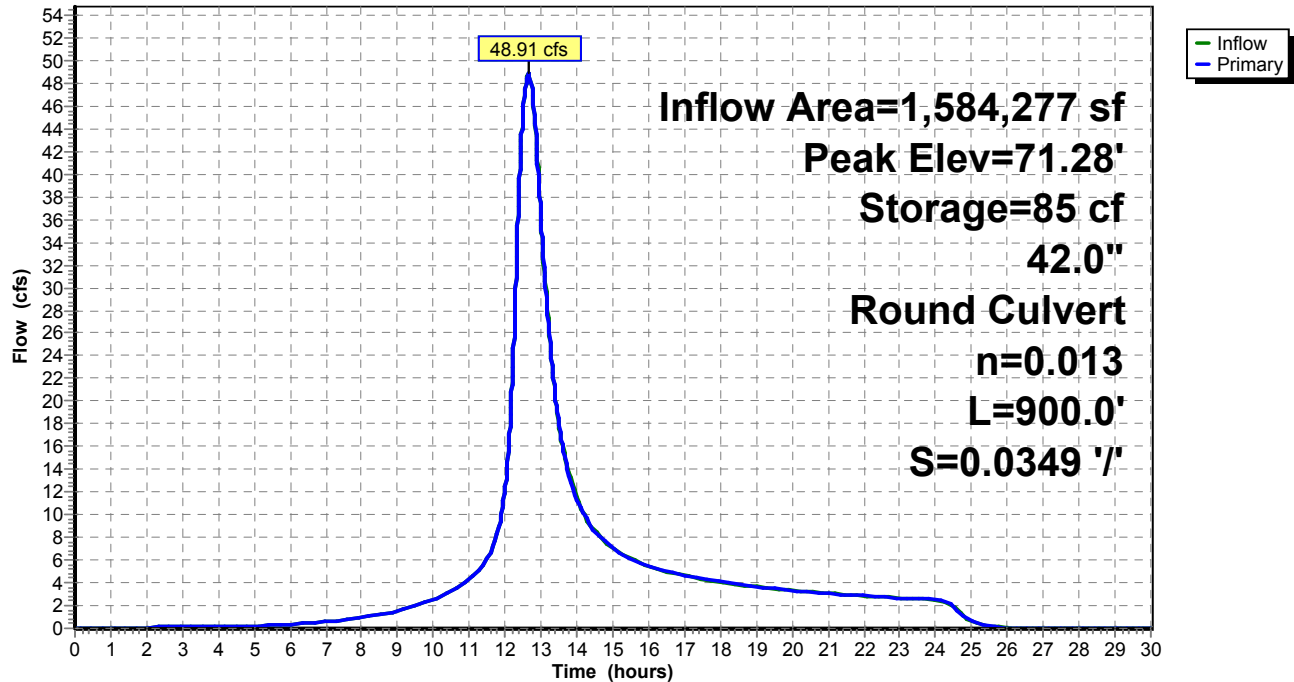
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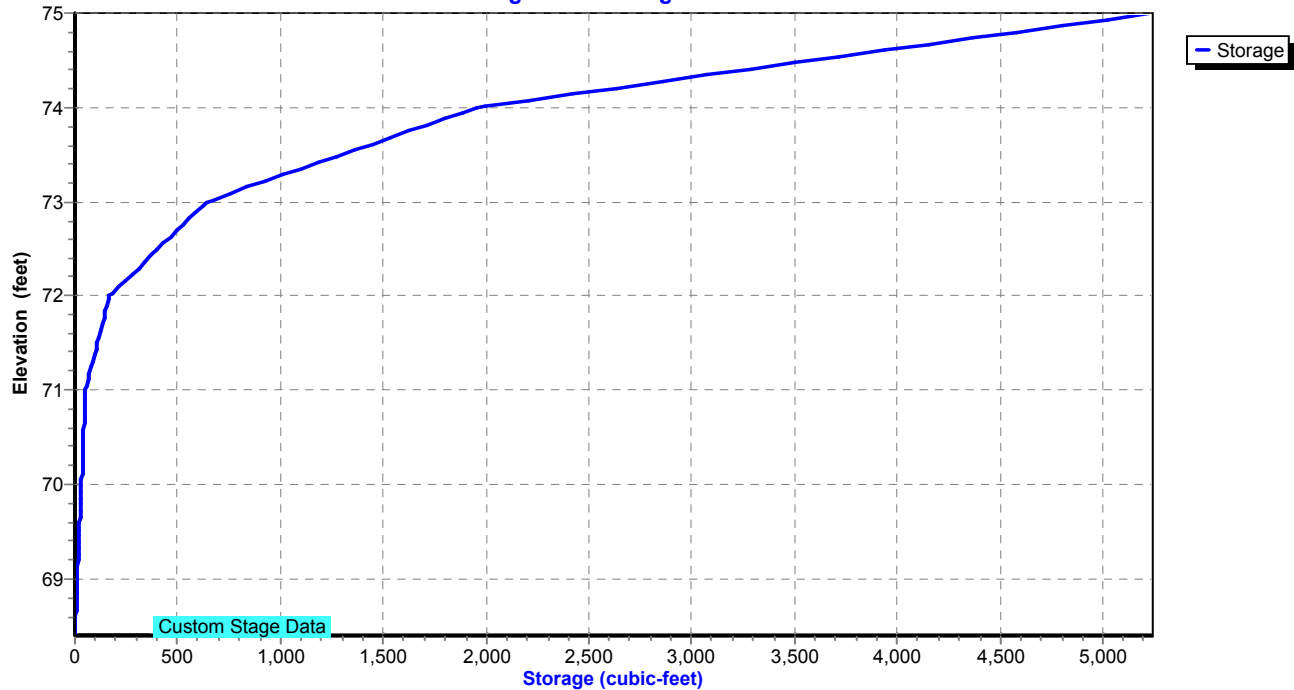
Pond 8P: Comb. 5,6,7,8,9

Hydrograph



Pond 8P: Comb. 5,6,7,8,9

Stage-Area-Storage



Existing Conditions

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Summary for Pond 9P: MH-K

Inflow Area = 246,332 sf, 62.25% Impervious, Inflow Depth = 4.06" for 10 year event
Inflow = 22.66 cfs @ 12.03 hrs, Volume= 83,382 cf
Outflow = 22.66 cfs @ 12.03 hrs, Volume= 83,382 cf, Atten= 0%, Lag= 0.0 min
Primary = 22.66 cfs @ 12.03 hrs, Volume= 83,382 cf
Routed to Pond 3P : DETENTION BASIN #2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.42' @ 12.03 hrs

Flood Elev= 51.80'

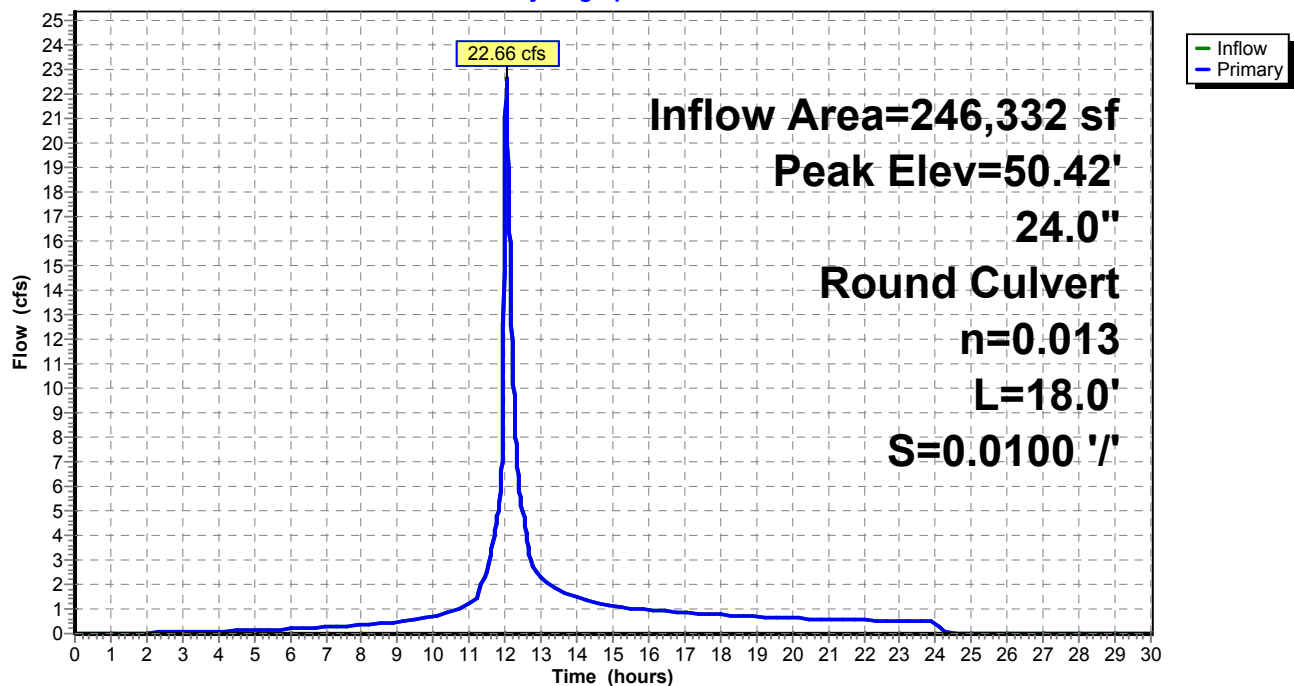
Device	Routing	Invert	Outlet Devices
#1	Primary	47.18'	24.0" Round Culvert L= 18.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.18' / 47.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=22.59 cfs @ 12.03 hrs HW=50.41' (Free Discharge)

↑1=Culvert (Inlet Controls 22.59 cfs @ 7.19 fps)

Pond 9P: MH-K

Hydrograph



Existing Conditions

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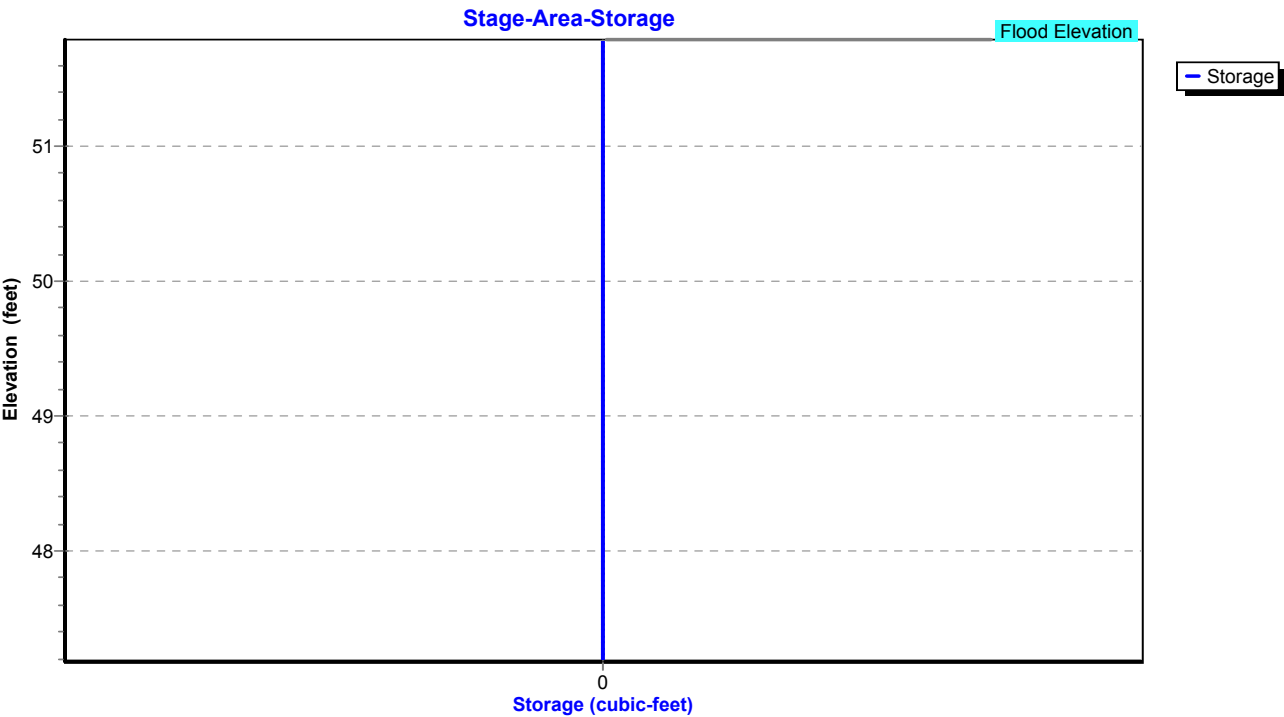
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Pond 9P: MH-K



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Summary for Pond 10P: MH-L

Inflow Area = 71,874 sf, 85.27% Impervious, Inflow Depth = 4.91" for 10 year event
Inflow = 9.67 cfs @ 12.03 hrs, Volume= 29,431 cf
Outflow = 9.67 cfs @ 12.03 hrs, Volume= 29,431 cf, Atten= 0%, Lag= 0.0 min
Primary = 9.67 cfs @ 12.03 hrs, Volume= 29,431 cf
Routed to Pond 9P : MH-K

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.36' @ 12.03 hrs

Flood Elev= 53.00'

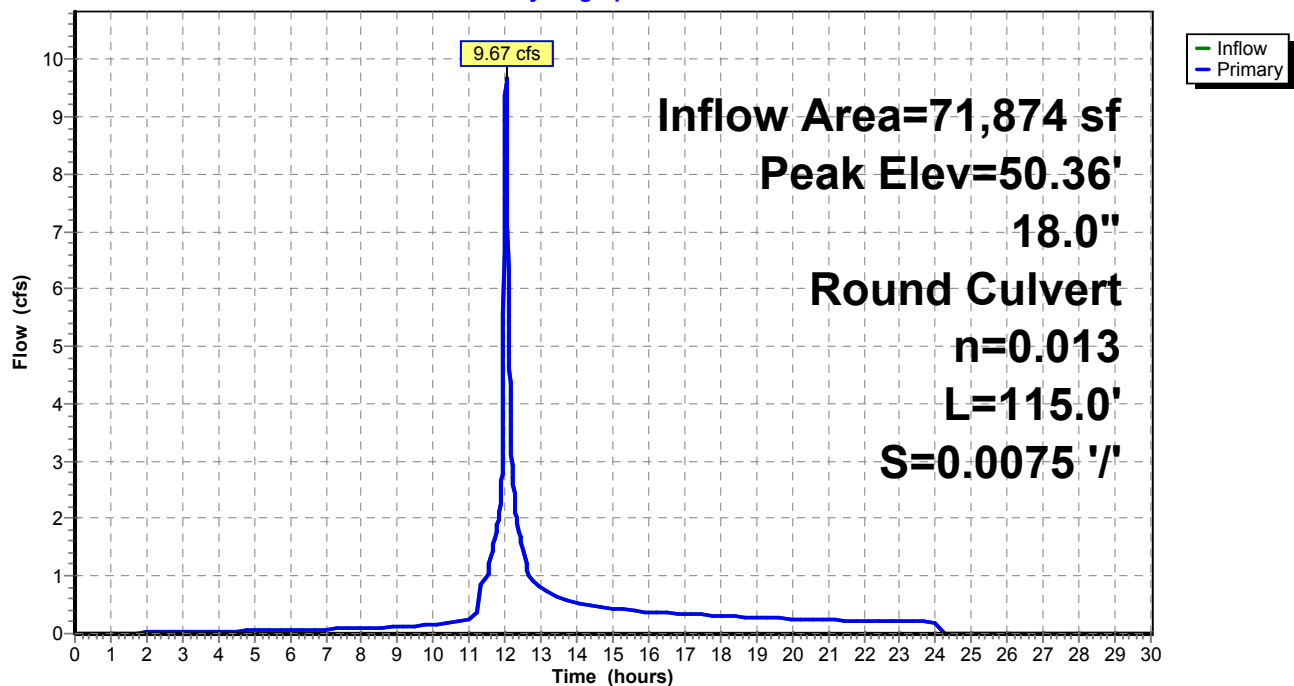
Device	Routing	Invert	Outlet Devices
#1	Primary	48.04'	18.0" Round Culvert L= 115.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.04' / 47.18' S= 0.0075 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=9.63 cfs @ 12.03 hrs HW=50.34' (Free Discharge)

↑1=Culvert (Barrel Controls 9.63 cfs @ 5.45 fps)

Pond 10P: MH-L

Hydrograph



Existing Conditions

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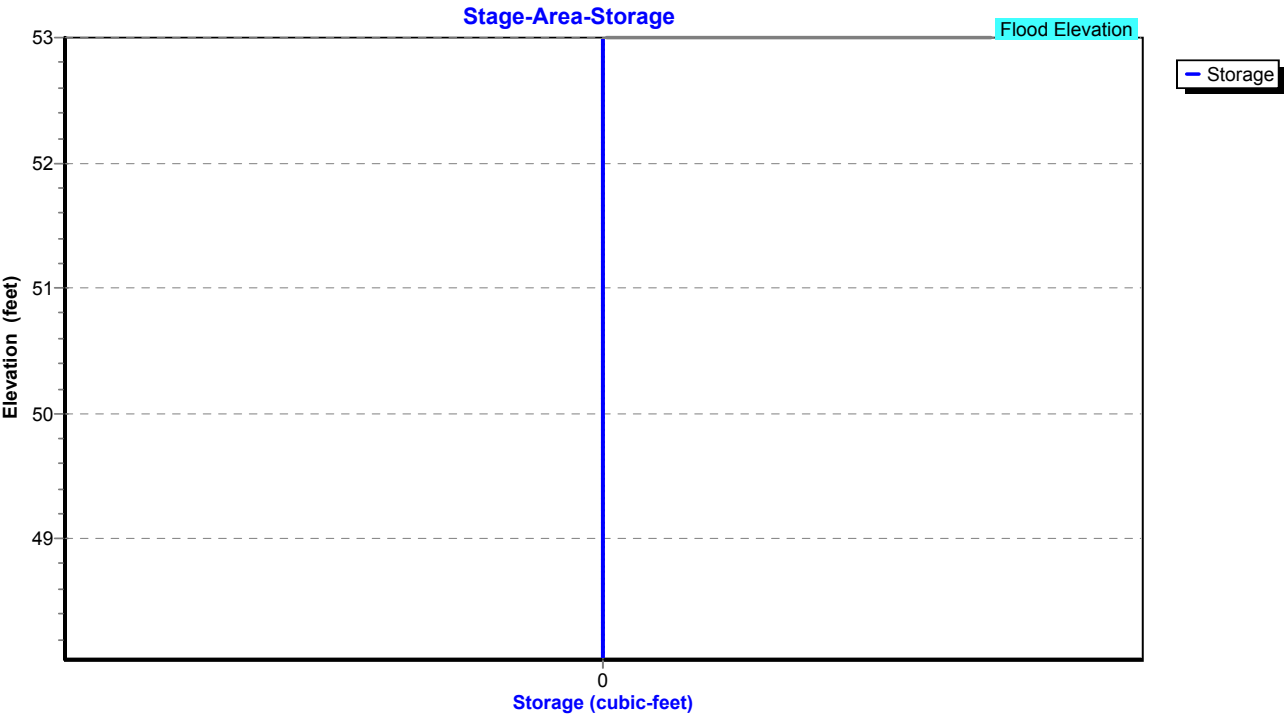
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Pond 10P: MH-L



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Summary for Pond 11P: Pipe Storage

Inflow Area = 40,903 sf, 82.85% Impervious, Inflow Depth = 4.64" for 10 year event
Inflow = 5.41 cfs @ 12.03 hrs, Volume= 15,817 cf
Outflow = 5.53 cfs @ 12.03 hrs, Volume= 17,102 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.53 cfs @ 12.03 hrs, Volume= 17,102 cf
Routed to Pond 10P : MH-L

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 51.36' @ 12.03 hrs Storage= 0.081 af

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 126.1 min (901.5 - 775.4)

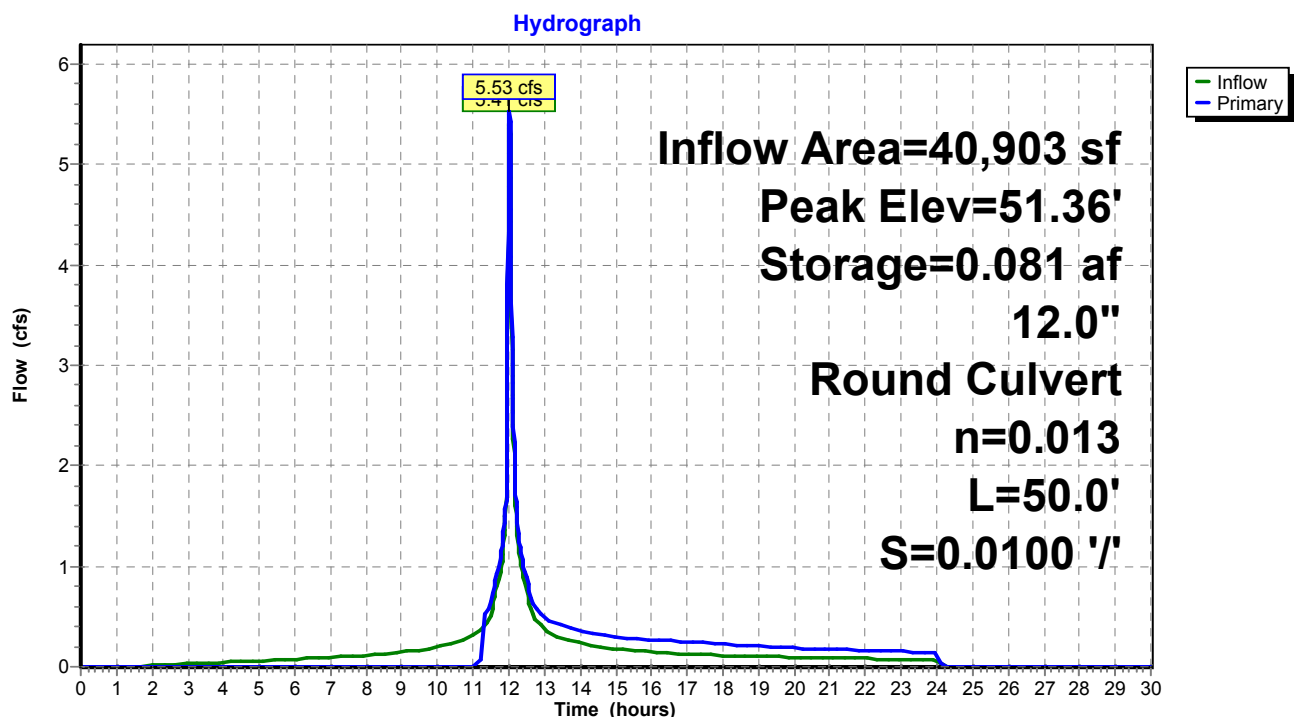
Volume	Invert	Avail.Storage	Storage Description
#1	45.50'	0.081 af	36.0" Round Pipe Storage x 2 L= 250.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.50'	12.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.50' / 48.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=5.51 cfs @ 12.03 hrs HW=51.34' (Free Discharge)

↑1=Culvert (Barrel Controls 5.51 cfs @ 7.01 fps)

Pond 11P: Pipe Storage



Existing Conditions

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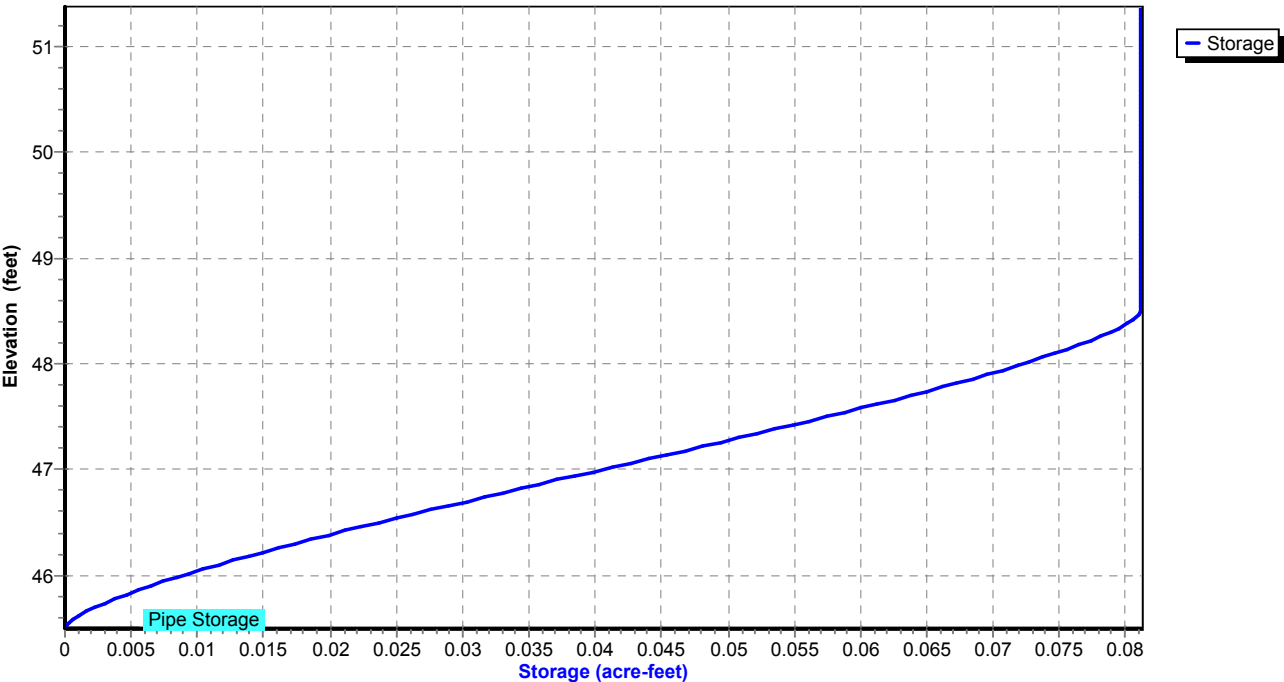
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Pond 11P: Pipe Storage

Stage-Area-Storage



Existing Conditions

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Summary for Pond 12P: MH-M

Inflow Area = 30,971 sf, 88.47% Impervious, Inflow Depth = 4.78" for 10 year event
Inflow = 4.14 cfs @ 12.03 hrs, Volume= 12,329 cf
Outflow = 4.14 cfs @ 12.03 hrs, Volume= 12,329 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.14 cfs @ 12.03 hrs, Volume= 12,329 cf
Routed to Pond 10P : MH-L

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.13' @ 12.03 hrs

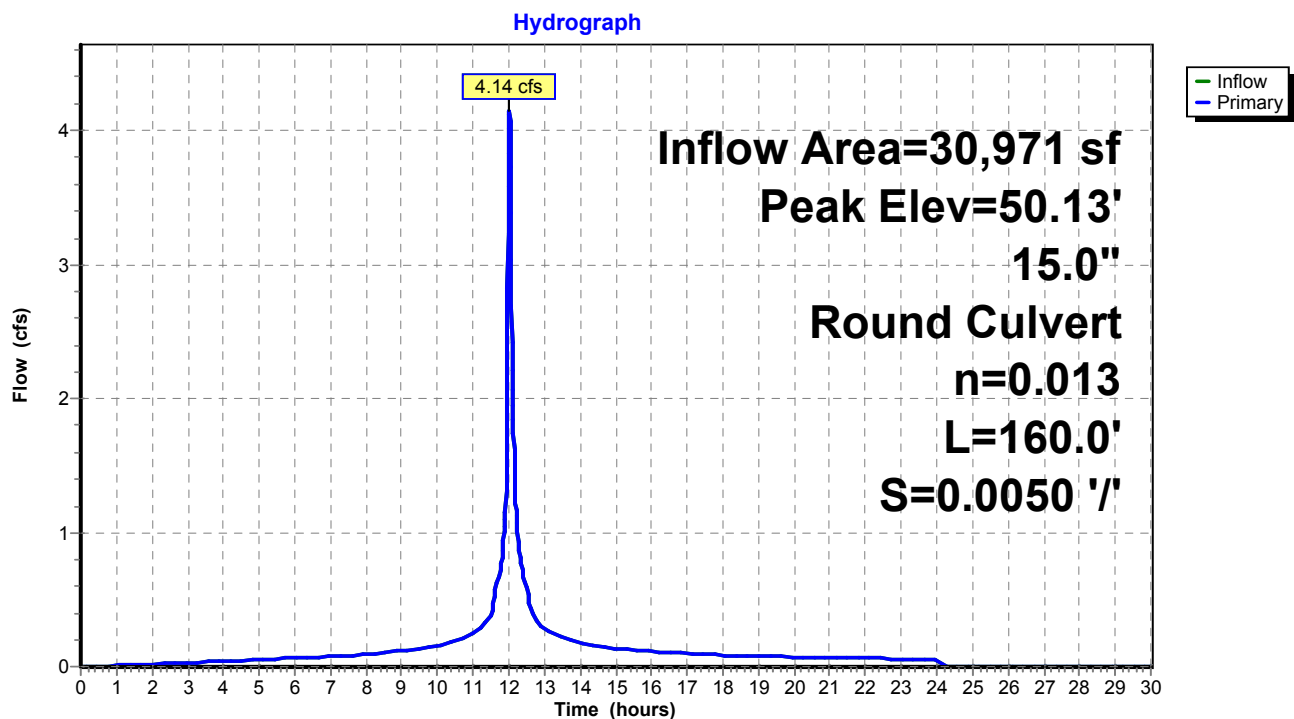
Flood Elev= 54.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.84'	15.0" Round Culvert L= 160.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.84' / 48.04' S= 0.0050 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=4.13 cfs @ 12.03 hrs HW=50.13' (Free Discharge)

↑1=Culvert (Barrel Controls 4.13 cfs @ 4.06 fps)

Pond 12P: MH-M



Existing Conditions

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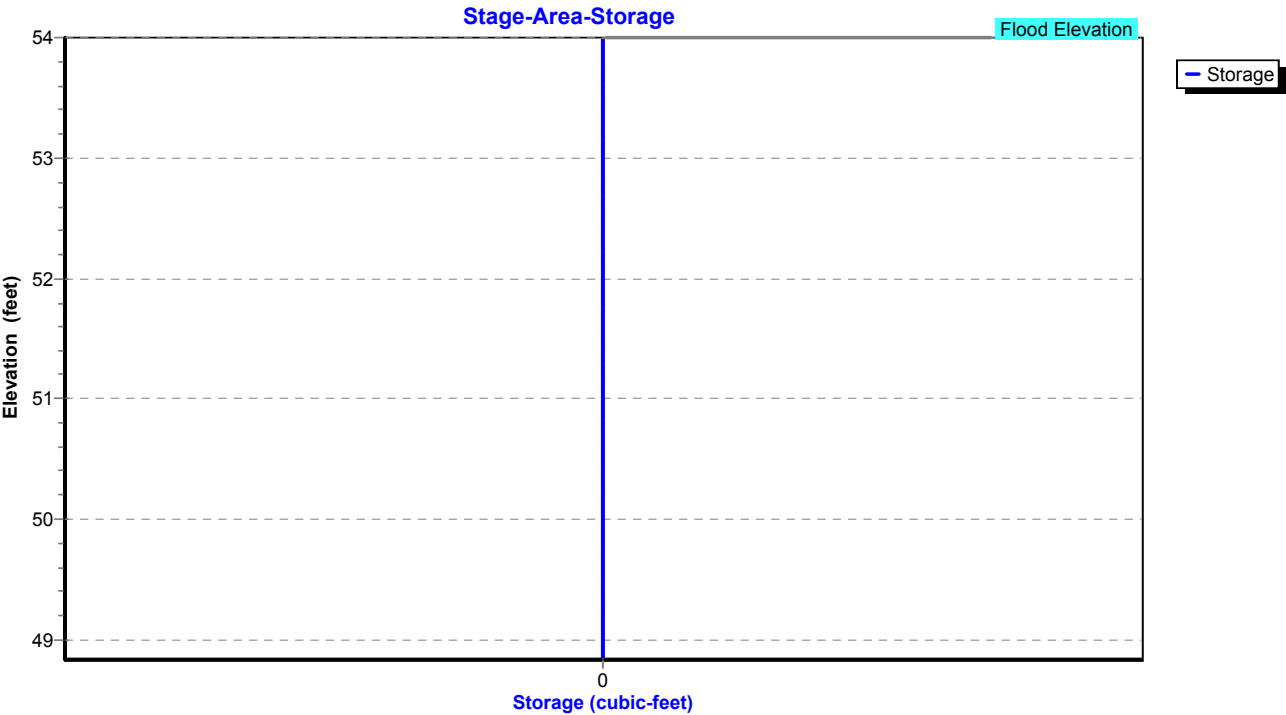
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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Pond 12P: MH-M



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Summary for Pond 13P: MH-J

Inflow Area = 17,032 sf, 79.03% Impervious, Inflow Depth = 4.52" for 10 year event
Inflow = 2.23 cfs @ 12.03 hrs, Volume= 6,416 cf
Outflow = 2.23 cfs @ 12.03 hrs, Volume= 6,416 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.23 cfs @ 12.03 hrs, Volume= 6,416 cf
Routed to Pond 12P : MH-M

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.57' @ 12.03 hrs

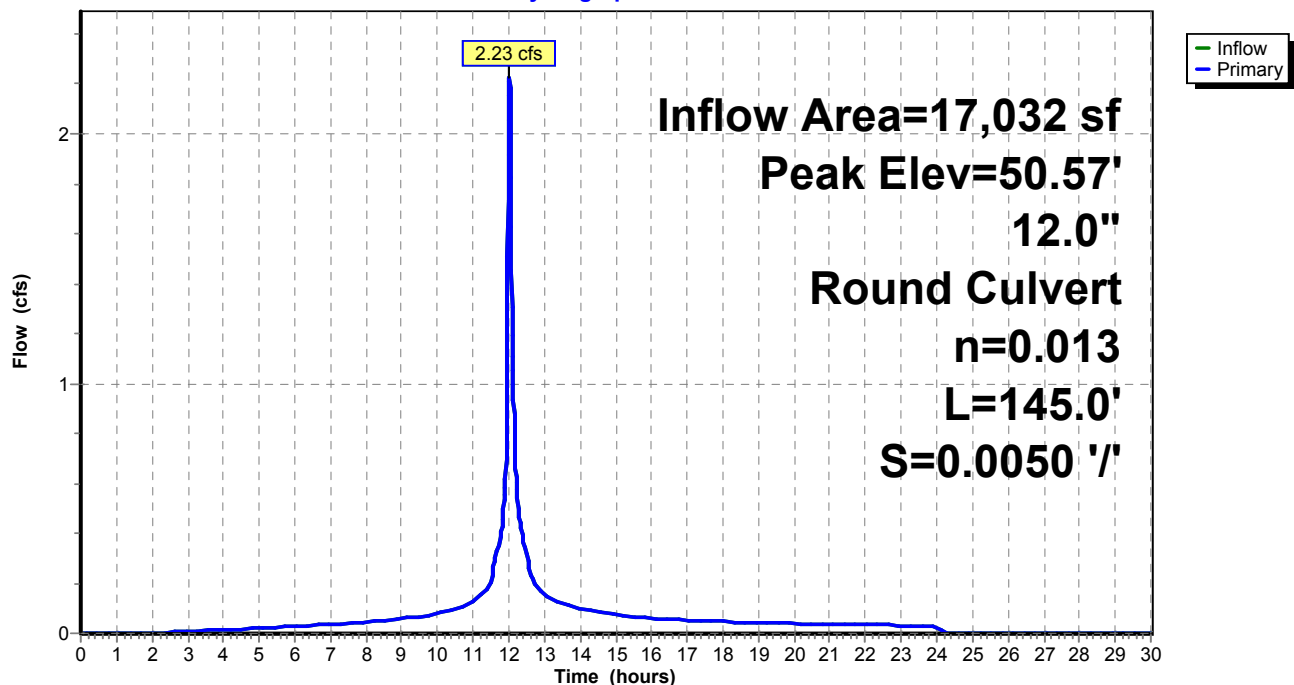
Device	Routing	Invert	Outlet Devices
#1	Primary	49.57'	12.0" Round Culvert L= 145.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.57' / 48.84' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=2.22 cfs @ 12.03 hrs HW=50.56' (Free Discharge)

↑1=Culvert (Barrel Controls 2.22 cfs @ 3.53 fps)

Pond 13P: MH-J

Hydrograph



Existing Conditions

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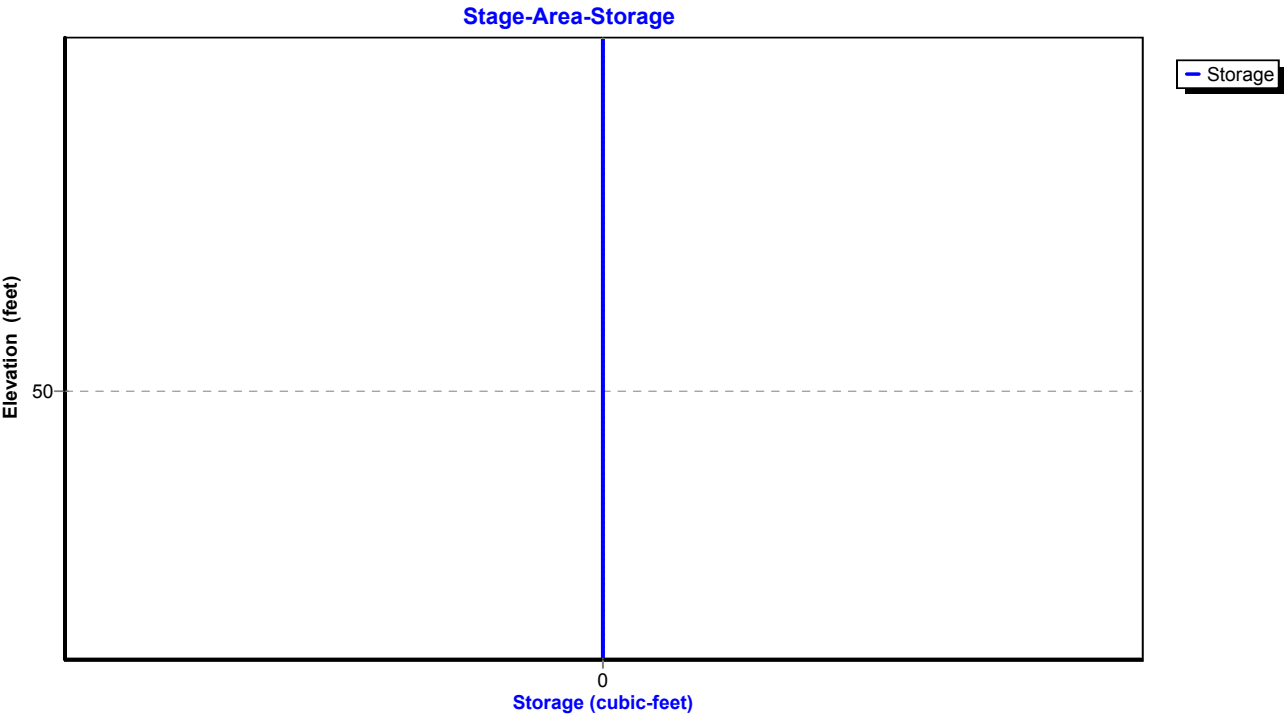
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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Pond 13P: MH-J



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Summary for Pond 14P: MH-O

Inflow Area = 144,140 sf, 45.36% Impervious, Inflow Depth = 3.49" for 10 year event
Inflow = 9.99 cfs @ 12.10 hrs, Volume= 41,963 cf
Outflow = 9.99 cfs @ 12.10 hrs, Volume= 41,963 cf, Atten= 0%, Lag= 0.0 min
Primary = 9.99 cfs @ 12.10 hrs, Volume= 41,963 cf
Routed to Pond 9P : MH-K

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.15' @ 12.10 hrs

Flood Elev= 51.80'

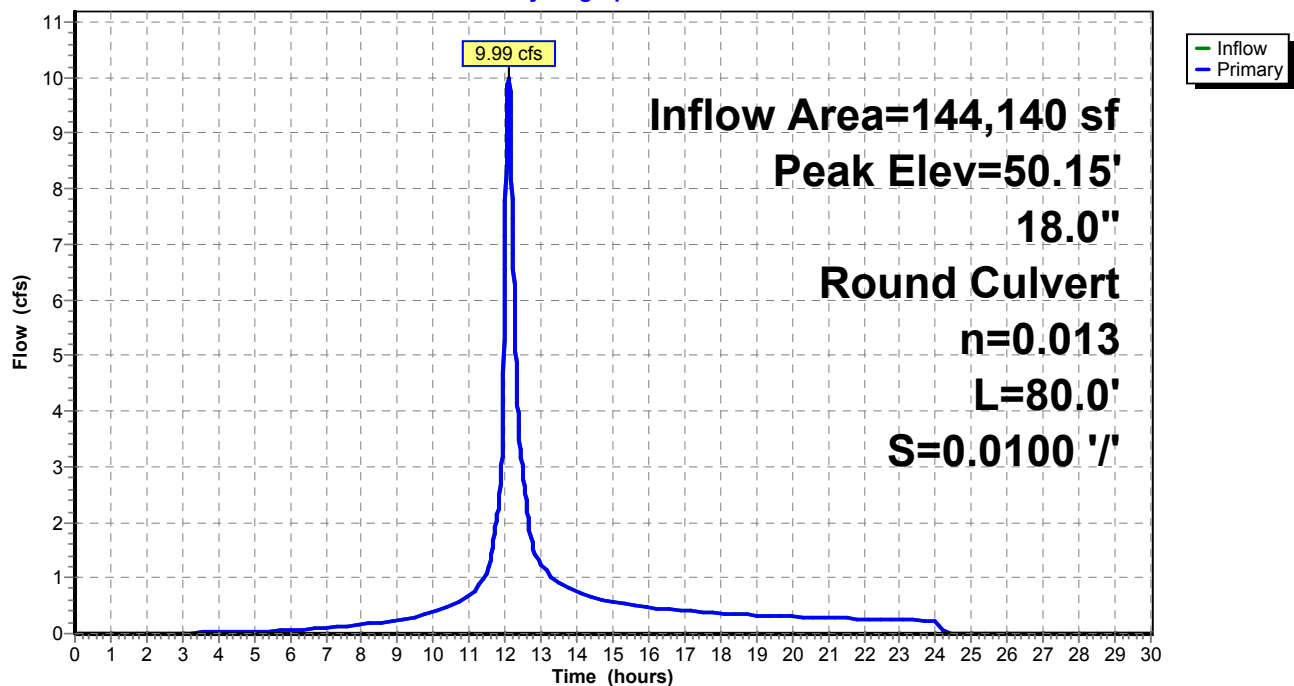
Device	Routing	Invert	Outlet Devices
#1	Primary	47.98'	18.0" Round Culvert L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.98' / 47.18' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=9.98 cfs @ 12.10 hrs HW=50.15' (Free Discharge)

↑1=Culvert (Barrel Controls 9.98 cfs @ 5.65 fps)

Pond 14P: MH-O

Hydrograph



Existing Conditions

Prepared by Tighe & Bond

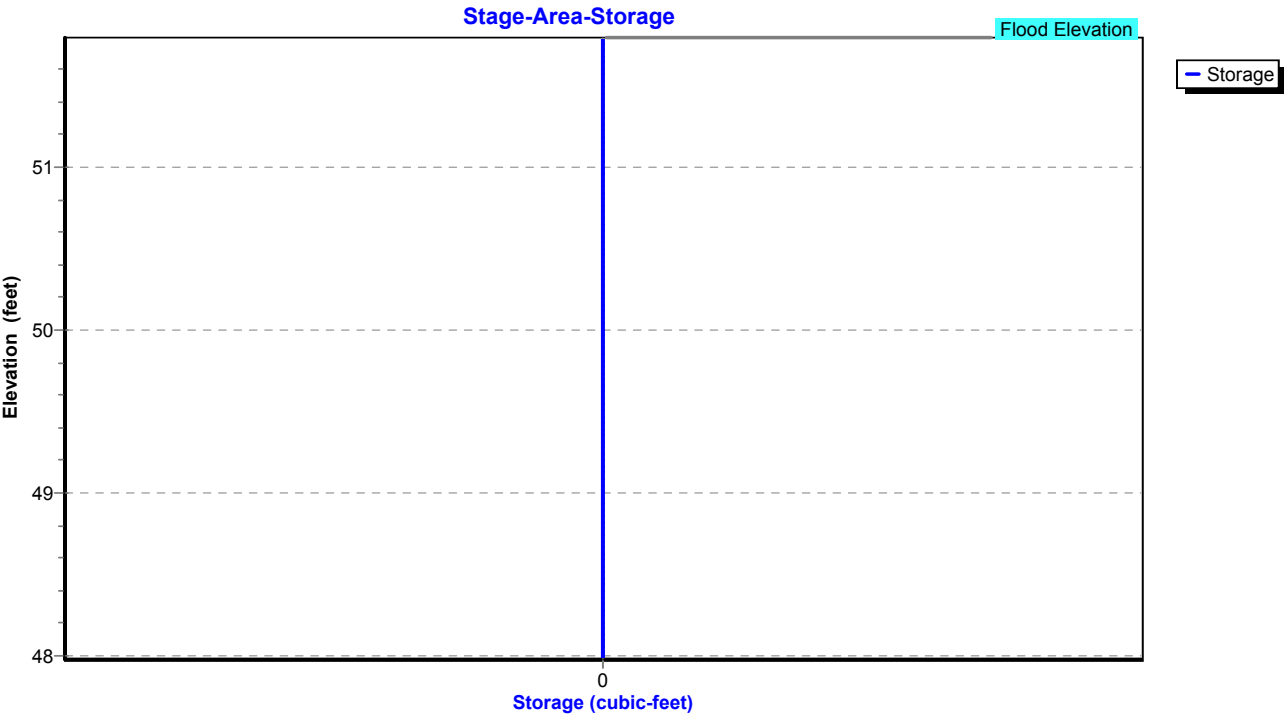
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Pond 14P: MH-O



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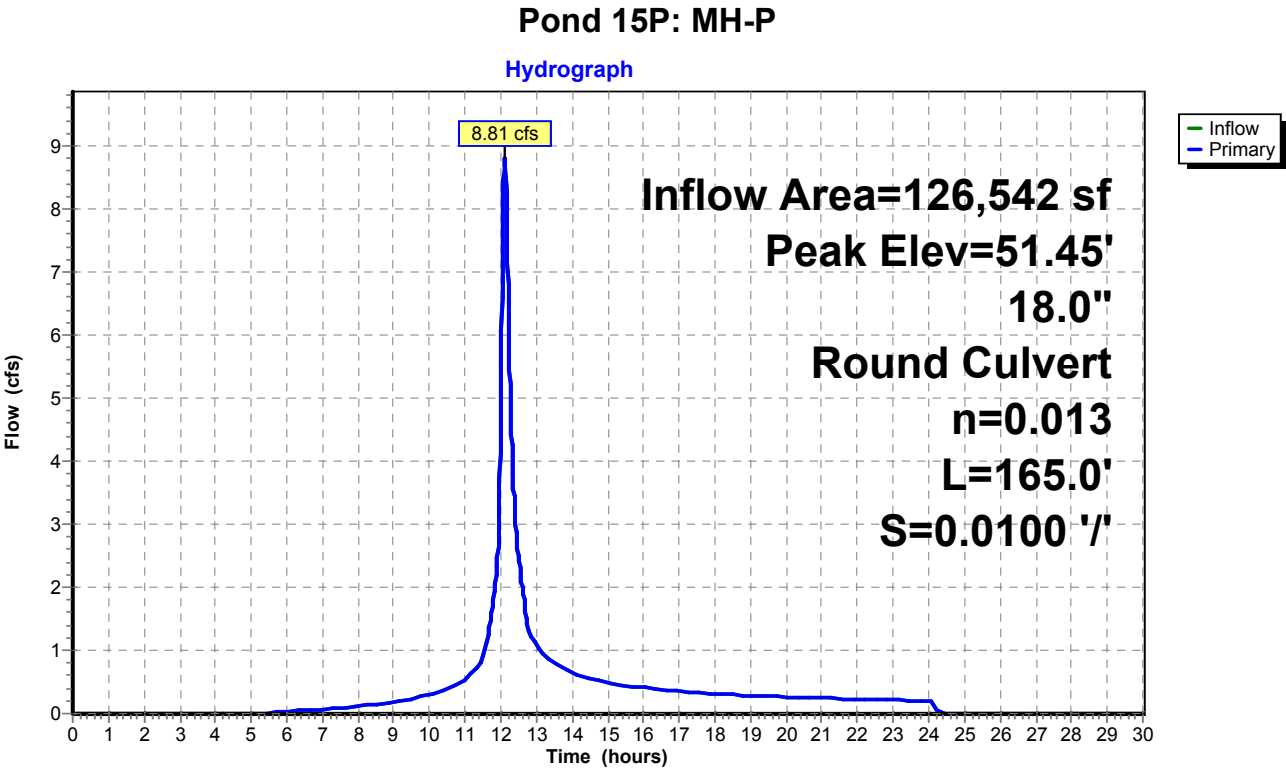
Summary for Pond 15P: MH-P

Inflow Area = 126,542 sf, 40.90% Impervious, Inflow Depth = 3.35" for 10 year event
Inflow = 8.81 cfs @ 12.11 hrs, Volume= 35,313 cf
Outflow = 8.81 cfs @ 12.11 hrs, Volume= 35,313 cf, Atten= 0%, Lag= 0.0 min
Primary = 8.81 cfs @ 12.11 hrs, Volume= 35,313 cf
Routed to Pond 14P : MH-O

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 51.45' @ 12.11 hrs
Flood Elev= 53.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	49.63'	18.0" Round Culvert L= 165.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.63' / 47.98' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=8.81 cfs @ 12.11 hrs HW=51.45' (Free Discharge)
1=Culvert (Inlet Controls 8.81 cfs @ 4.98 fps)



Existing Conditions

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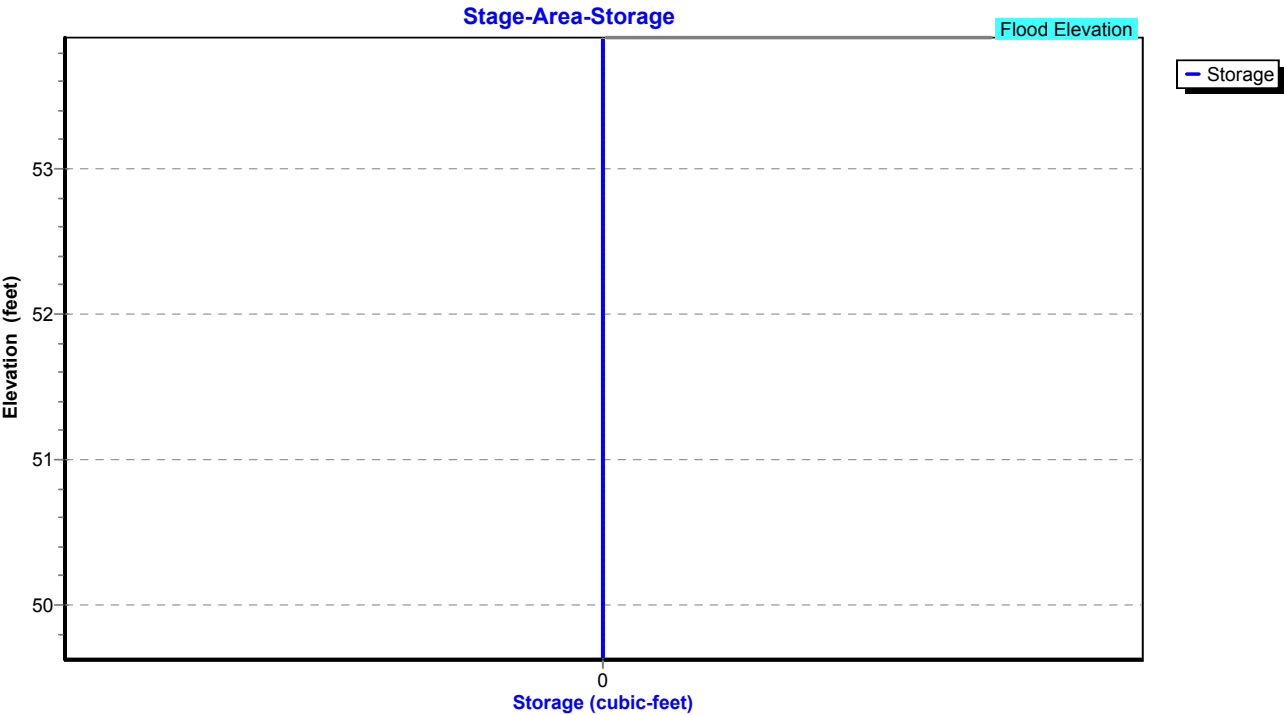
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Pond 15P: MH-P



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Summary for Pond 16P: MH-Q

Inflow Area = 115,826 sf, 38.74% Impervious, Inflow Depth = 3.28" for 10 year event
Inflow = 8.17 cfs @ 12.12 hrs, Volume= 31,629 cf
Outflow = 8.17 cfs @ 12.12 hrs, Volume= 31,629 cf, Atten= 0%, Lag= 0.0 min
Primary = 8.17 cfs @ 12.12 hrs, Volume= 31,629 cf
Routed to Pond 15P : MH-P

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 54.56' @ 12.12 hrs

Flood Elev= 55.90'

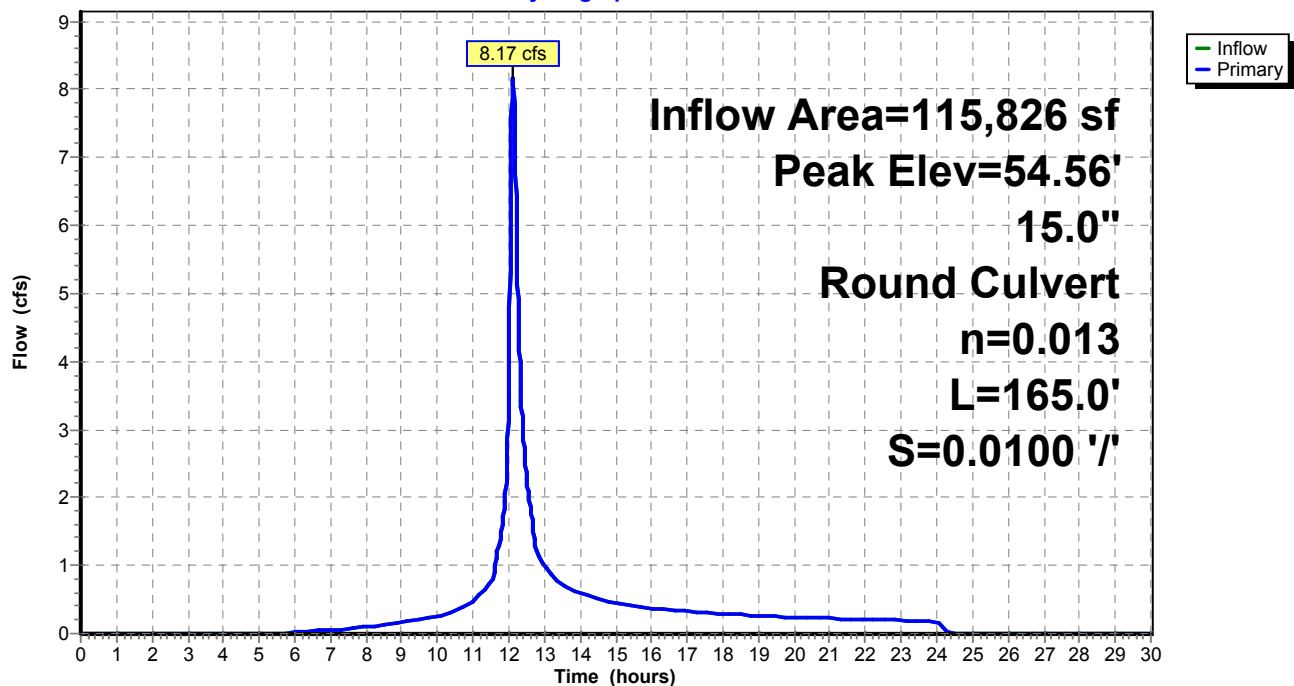
Device	Routing	Invert	Outlet Devices
#1	Primary	51.28'	15.0" Round Culvert L= 165.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 51.28' / 49.63' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=8.16 cfs @ 12.12 hrs HW=54.55' (Free Discharge)

↑1=Culvert (Barrel Controls 8.16 cfs @ 6.65 fps)

Pond 16P: MH-Q

Hydrograph



Existing Conditions

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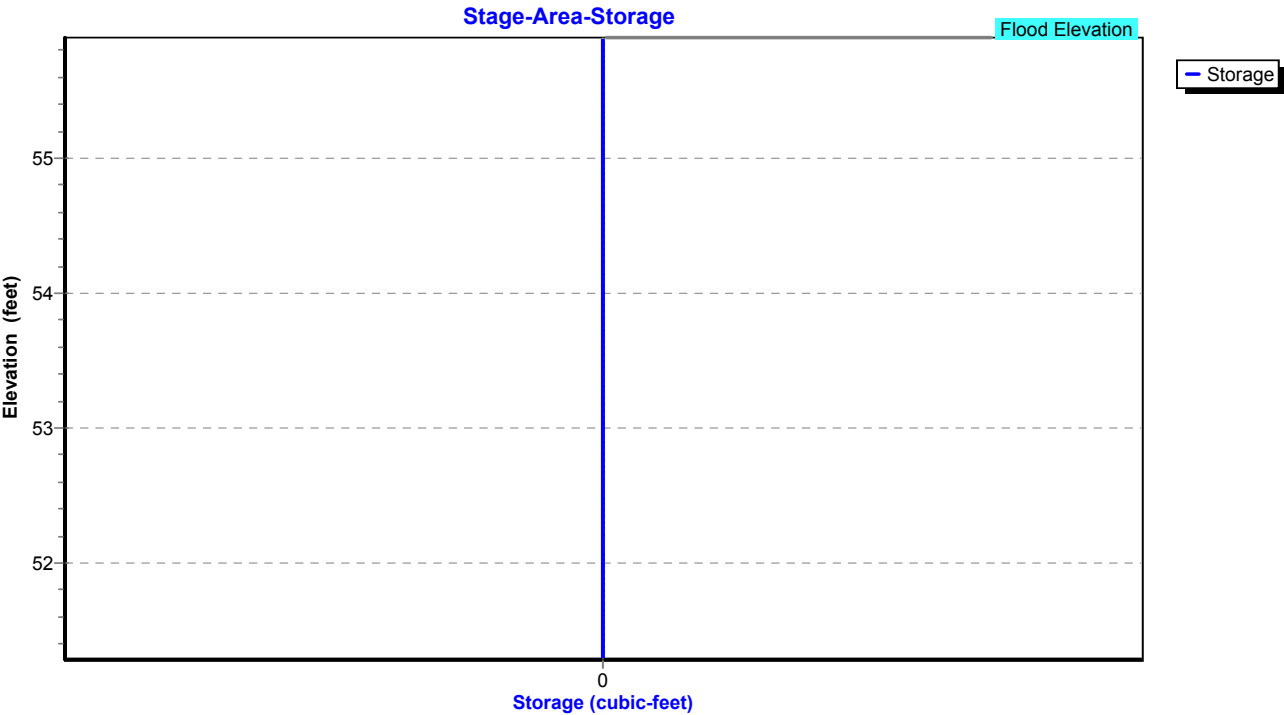
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Pond 16P: MH-Q



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Pond 17P: DET 12 Culvert

Inflow Area = 2,935,247 sf, 23.28% Impervious, Inflow Depth = 2.63" for 10 year event
 Inflow = 51.37 cfs @ 13.08 hrs, Volume= 644,488 cf
 Outflow = 51.26 cfs @ 13.11 hrs, Volume= 644,488 cf, Atten= 0%, Lag= 1.6 min
 Primary = 51.26 cfs @ 13.11 hrs, Volume= 644,488 cf
 Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 46.37' @ 13.11 hrs Surf.Area= 3,343 sf Storage= 4,273 cf

Plug-Flow detention time= 1.6 min calculated for 644,488 cf (100% of inflow)
 Center-of-Mass det. time= 1.6 min (922.4 - 920.8)

Volume	Invert	Avail.Storage	Storage Description
#1	43.80'	45,995 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
43.80	222	0	0
44.00	709	93	93
45.00	1,401	1,055	1,148
46.00	2,634	2,018	3,166
47.00	4,548	3,591	6,757
48.00	6,960	5,754	12,511
49.00	9,390	8,175	20,686
50.00	12,553	10,972	31,657
51.00	16,122	14,338	45,995

Device	Routing	Invert	Outlet Devices
#1	Primary	43.80'	54.0" Round Culvert L= 281.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 43.80' / 23.20' S= 0.0733 ' / Cc= 0.900 n= 0.013, Flow Area= 15.90 sf

Primary OutFlow Max=51.25 cfs @ 13.11 hrs HW=46.37' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 51.25 cfs @ 5.46 fps)

Existing Conditions

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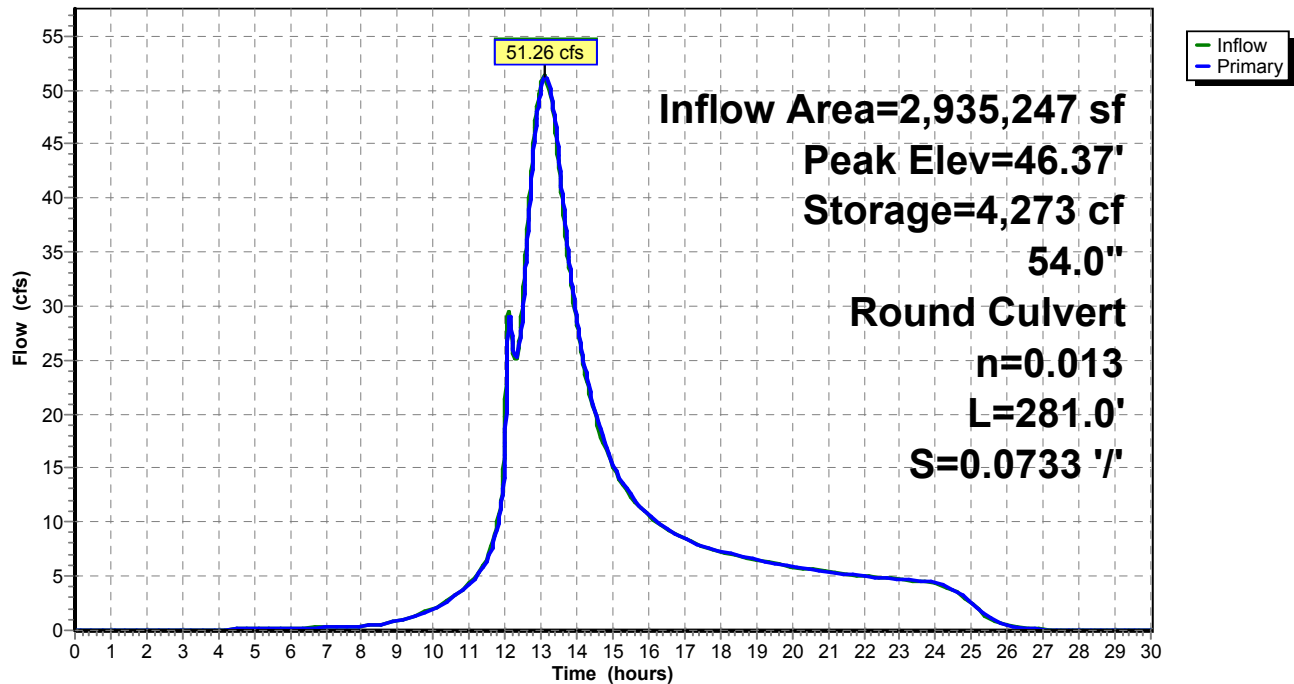
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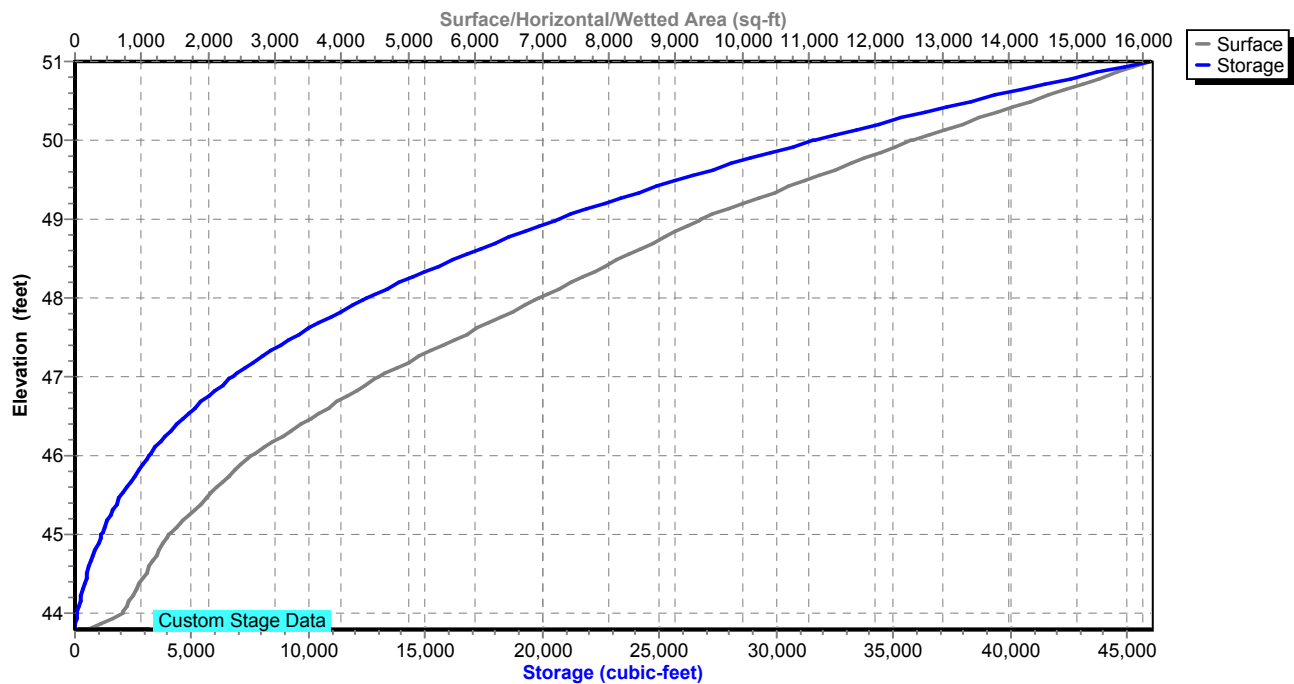
Pond 17P: DET 12 Culvert

Hydrograph



Pond 17P: DET 12 Culvert

Stage-Area-Storage



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Summary for Pond 18P: DET 4 Culvert

Inflow Area = 2,651,933 sf, 21.42% Impervious, Inflow Depth = 2.54" for 10 year event
 Inflow = 49.15 cfs @ 13.07 hrs, Volume= 561,420 cf
 Outflow = 49.10 cfs @ 13.08 hrs, Volume= 561,420 cf, Atten= 0%, Lag= 0.8 min
 Primary = 49.10 cfs @ 13.08 hrs, Volume= 561,420 cf
 Routed to Pond 17P : DET 12 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 65.58' @ 13.08 hrs Surf.Area= 526 sf Storage= 691 cf

Plug-Flow detention time= 0.2 min calculated for 561,233 cf (100% of inflow)
 Center-of-Mass det. time= 0.2 min (935.4 - 935.3)

Volume	Invert	Avail.Storage	Storage Description
#1	62.00'	13,716 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.00	10	0	0
65.00	292	453	453
66.00	695	494	947
67.00	1,049	872	1,819
68.00	1,488	1,269	3,087
69.00	2,004	1,746	4,833
70.00	2,550	2,277	7,110
71.00	3,178	2,864	9,974
72.00	4,305	3,742	13,716

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	36.0" Round Culvert L= 213.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 62.00' / 50.90' S= 0.0521 ' / S= 0.0521 ' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=49.09 cfs @ 13.08 hrs HW=65.58' (Free Discharge)
 ↑**1=Culvert** (Inlet Controls 49.09 cfs @ 6.95 fps)

Existing Conditions

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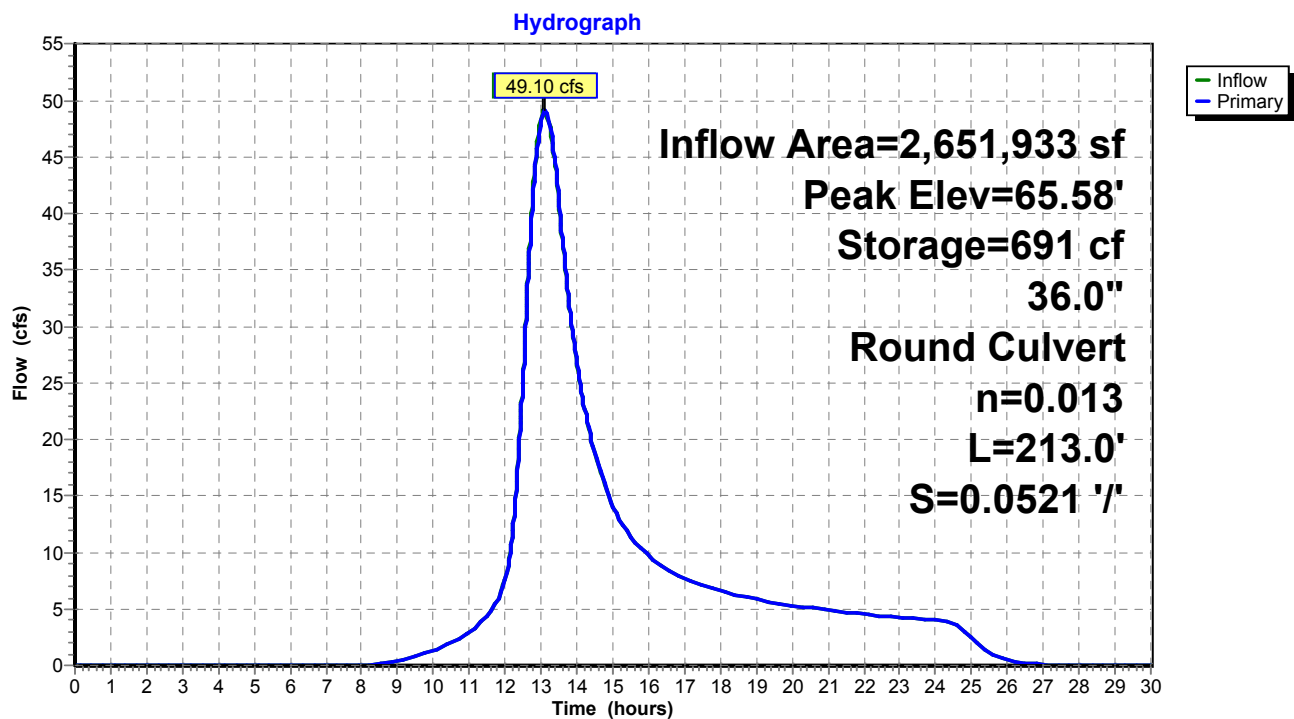
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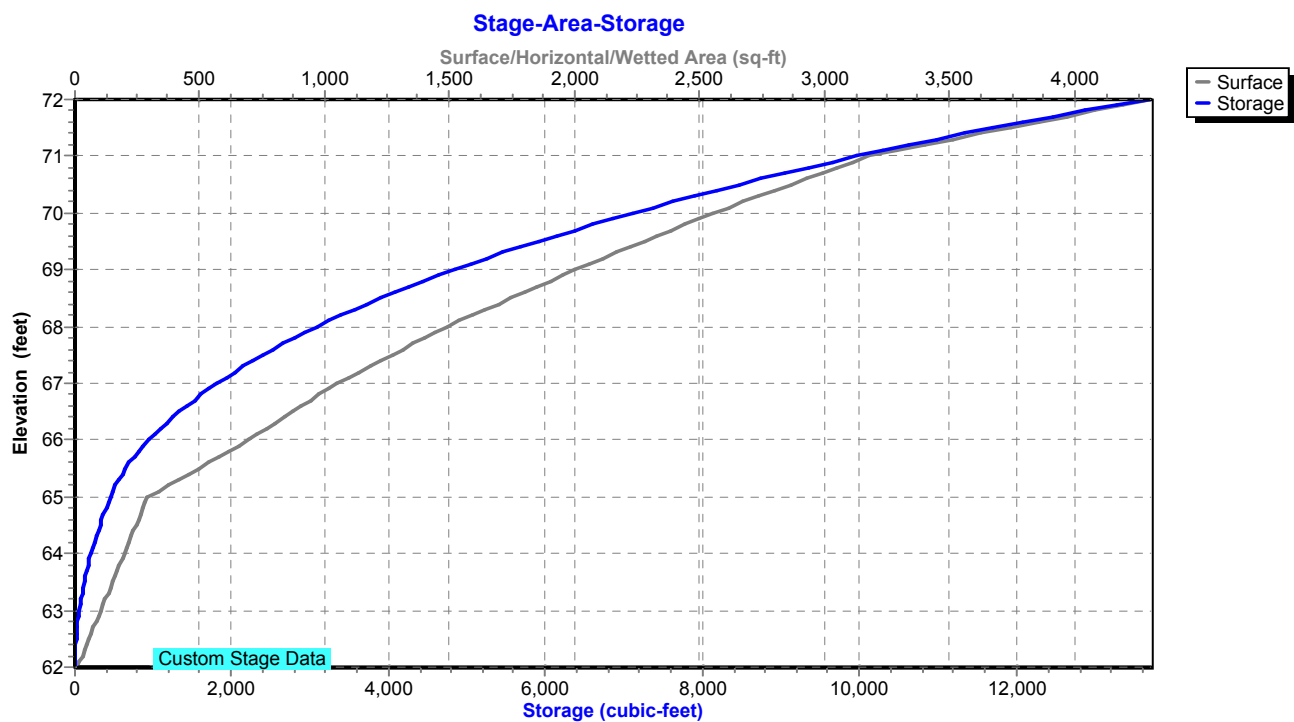
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Pond 18P: DET 4 Culvert



Pond 18P: DET 4 Culvert



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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Pond 21P: DET 1 Culvert

Inflow Area = 533,174 sf, 25.00% Impervious, Inflow Depth = 2.54" for 10 year event
 Inflow = 14.60 cfs @ 12.53 hrs, Volume= 112,874 cf
 Outflow = 14.59 cfs @ 12.56 hrs, Volume= 112,874 cf, Atten= 0%, Lag= 2.1 min
 Primary = 14.59 cfs @ 12.56 hrs, Volume= 112,874 cf
 Routed to Pond 27P : DET 17 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 38.92' @ 12.56 hrs Surf.Area= 448 sf Storage= 442 cf

Plug-Flow detention time= 0.5 min calculated for 112,837 cf (100% of inflow)
 Center-of-Mass det. time= 0.5 min (898.8 - 898.2)

Volume	Invert	Avail.Storage	Storage Description
#1	37.00'	1,591 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
37.00	66	0	0
38.00	213	140	140
39.00	470	342	481
40.00	1,750	1,110	1,591

Device	Routing	Invert	Outlet Devices
#1	Primary	37.00'	24.0" Round Culvert L= 206.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 37.00' / 27.01' S= 0.0485 ' / Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=14.59 cfs @ 12.56 hrs HW=38.92' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 14.59 cfs @ 4.71 fps)

Existing Conditions

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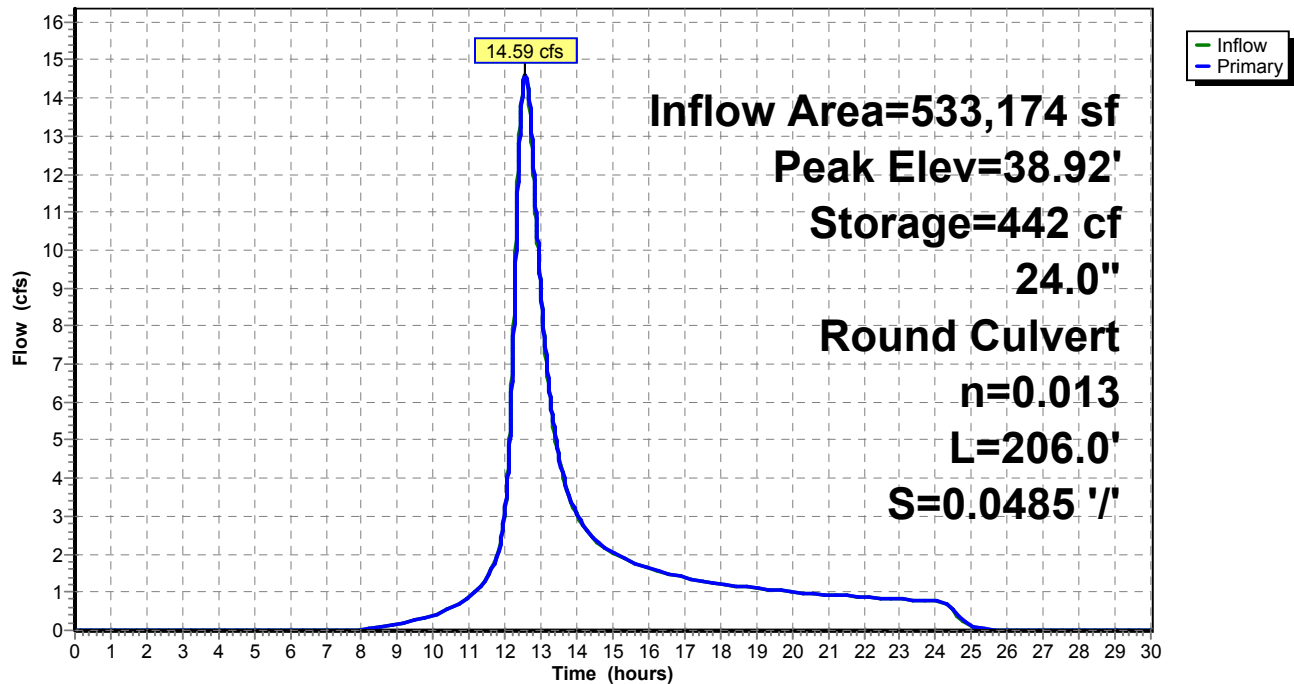
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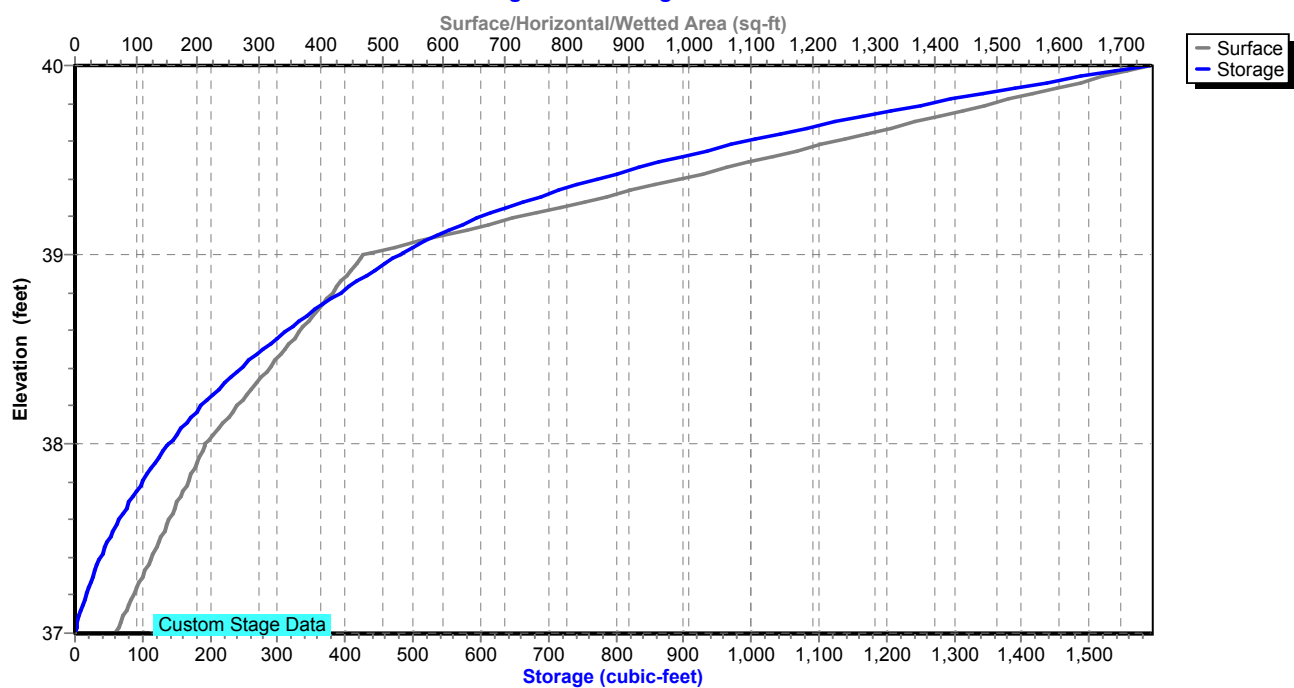
Pond 21P: DET 1 Culvert

Hydrograph



Pond 21P: DET 1 Culvert

Stage-Area-Storage



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Summary for Pond 22P: DET 2 Culvert

Inflow Area = 1,290,247 sf, 25.00% Impervious, Inflow Depth = 2.99" for 10 year event
 Inflow = 34.97 cfs @ 12.74 hrs, Volume= 321,732 cf
 Outflow = 31.92 cfs @ 12.96 hrs, Volume= 321,732 cf, Atten= 9%, Lag= 13.0 min
 Primary = 31.92 cfs @ 12.96 hrs, Volume= 321,732 cf
 Routed to Pond 27P : DET 17 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 37.87' @ 12.96 hrs Surf.Area= 10,516 sf Storage= 13,440 cf

Plug-Flow detention time= 4.4 min calculated for 321,732 cf (100% of inflow)
 Center-of-Mass det. time= 4.4 min (900.6 - 896.2)

Volume	Invert	Avail.Storage	Storage Description
#1	34.80'	46,687 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.80	185	0	0
35.00	813	100	100
36.00	2,345	1,579	1,679
37.00	6,398	4,372	6,050
38.00	11,111	8,755	14,805
39.00	15,364	13,238	28,042
40.00	21,926	18,645	46,687

Device	Routing	Invert	Outlet Devices
#1	Primary	34.80'	30.0" Round Culvert L= 198.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.80' / 28.07' S= 0.0340 ' / Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=31.92 cfs @ 12.96 hrs HW=37.87' (Free Discharge)
 ↑**1=Culvert** (Inlet Controls 31.92 cfs @ 6.50 fps)

Existing Conditions

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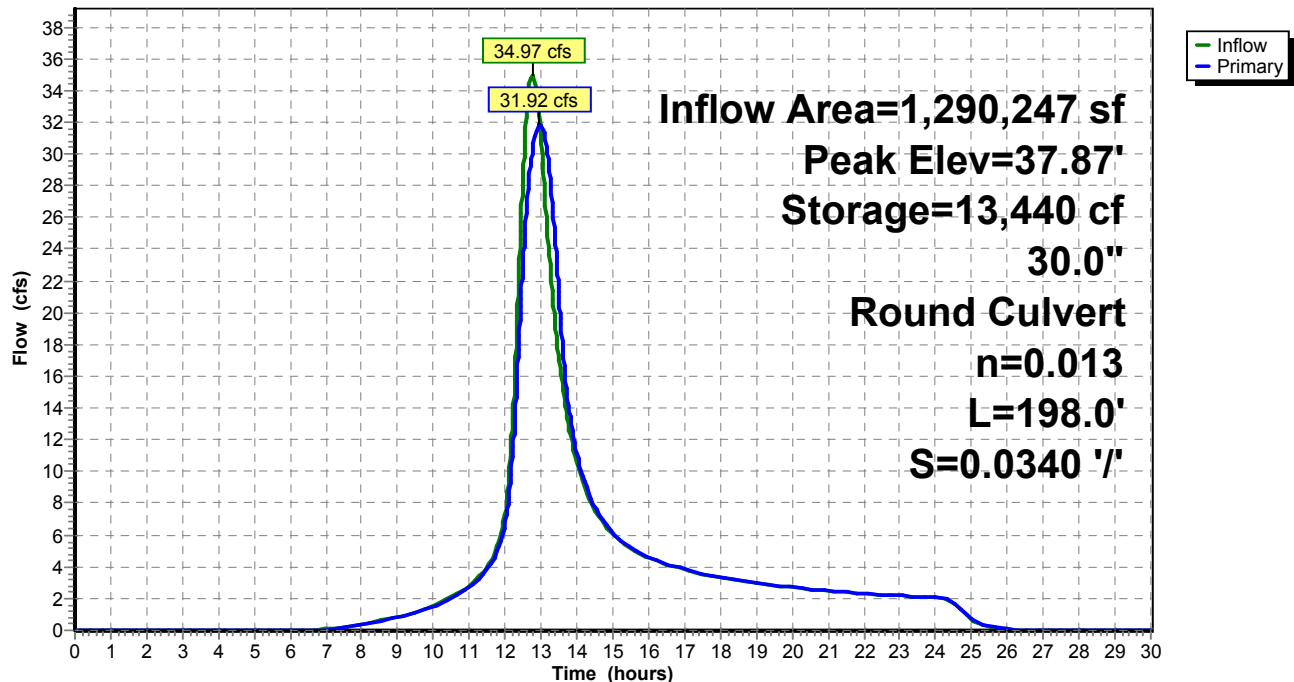
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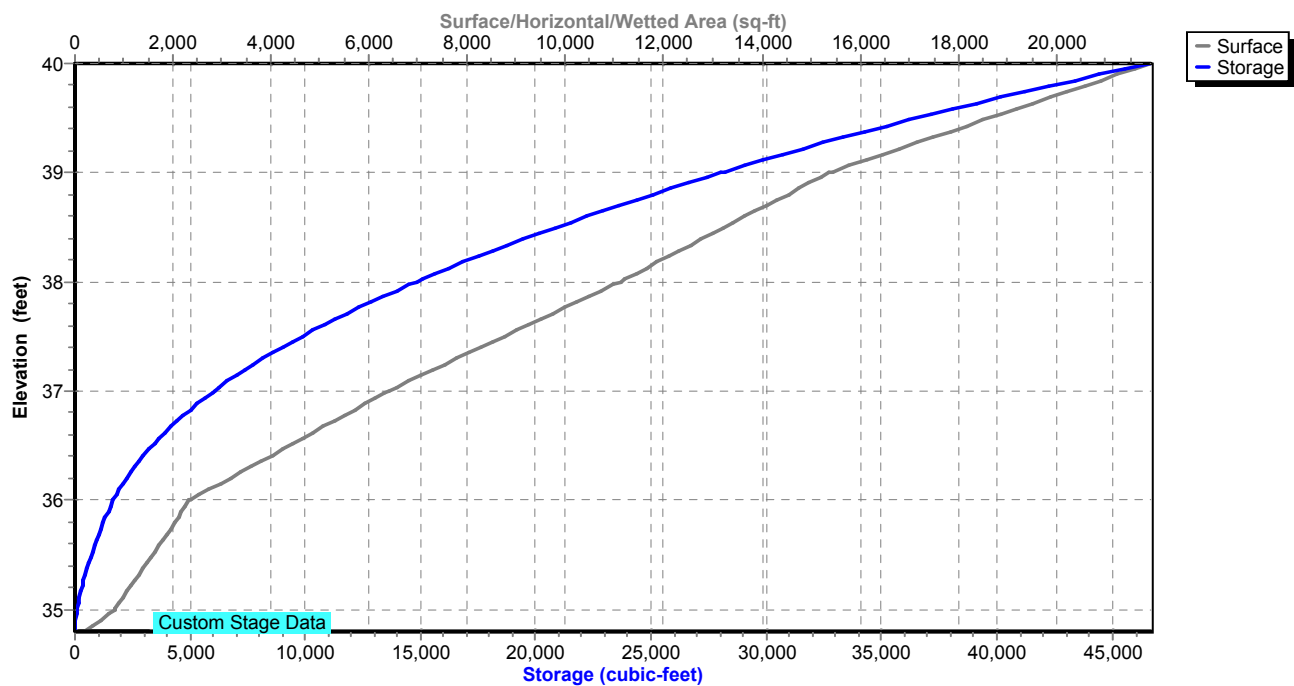
Pond 22P: DET 2 Culvert

Hydrograph



Pond 22P: DET 2 Culvert

Stage-Area-Storage



Existing Conditions

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Summary for Pond 23P: DET 3 Culvert

Inflow Area = 276,170 sf, 25.00% Impervious, Inflow Depth = 2.63" for 10 year event
 Inflow = 12.34 cfs @ 12.22 hrs, Volume= 60,494 cf
 Outflow = 12.24 cfs @ 12.24 hrs, Volume= 60,494 cf, Atten= 1%, Lag= 1.0 min
 Primary = 12.24 cfs @ 12.24 hrs, Volume= 60,494 cf
 Routed to Pond 26P : DET 16 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 44.16' @ 12.24 hrs Surf.Area= 739 sf Storage= 543 cf

Plug-Flow detention time= 0.6 min calculated for 60,474 cf (100% of inflow)
 Center-of-Mass det. time= 0.6 min (873.1 - 872.5)

Volume	Invert	Avail.Storage	Storage Description
#1	42.50'	16,475 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
42.50	10	0	0
43.00	198	52	52
44.00	572	385	437
45.00	1,607	1,090	1,527
46.00	3,156	2,382	3,908
47.00	5,953	4,555	8,463
48.00	10,072	8,013	16,475

Device	Routing	Invert	Outlet Devices
#1	Primary	42.50'	24.0" Round Culvert L= 202.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 42.50' / 32.20' S= 0.0510 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=12.24 cfs @ 12.24 hrs HW=44.16' (Free Discharge)
 ↑**1=Culvert** (Inlet Controls 12.24 cfs @ 4.39 fps)

Existing Conditions

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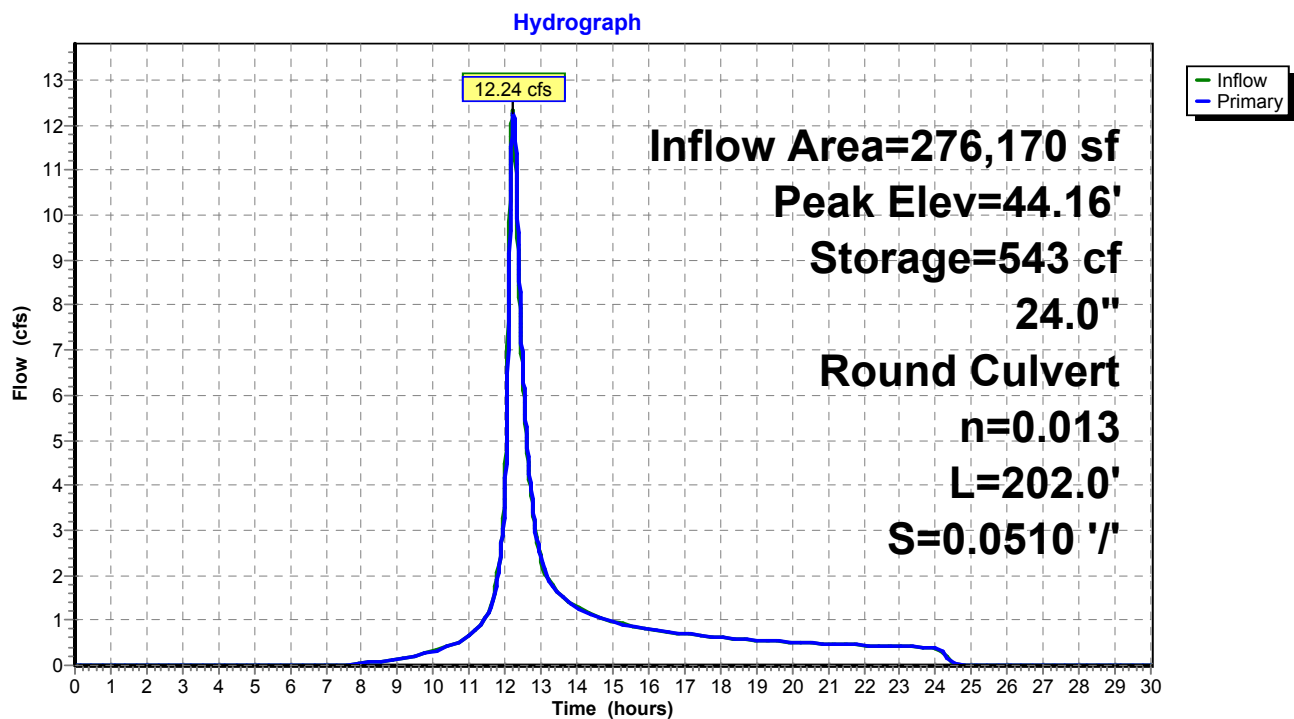
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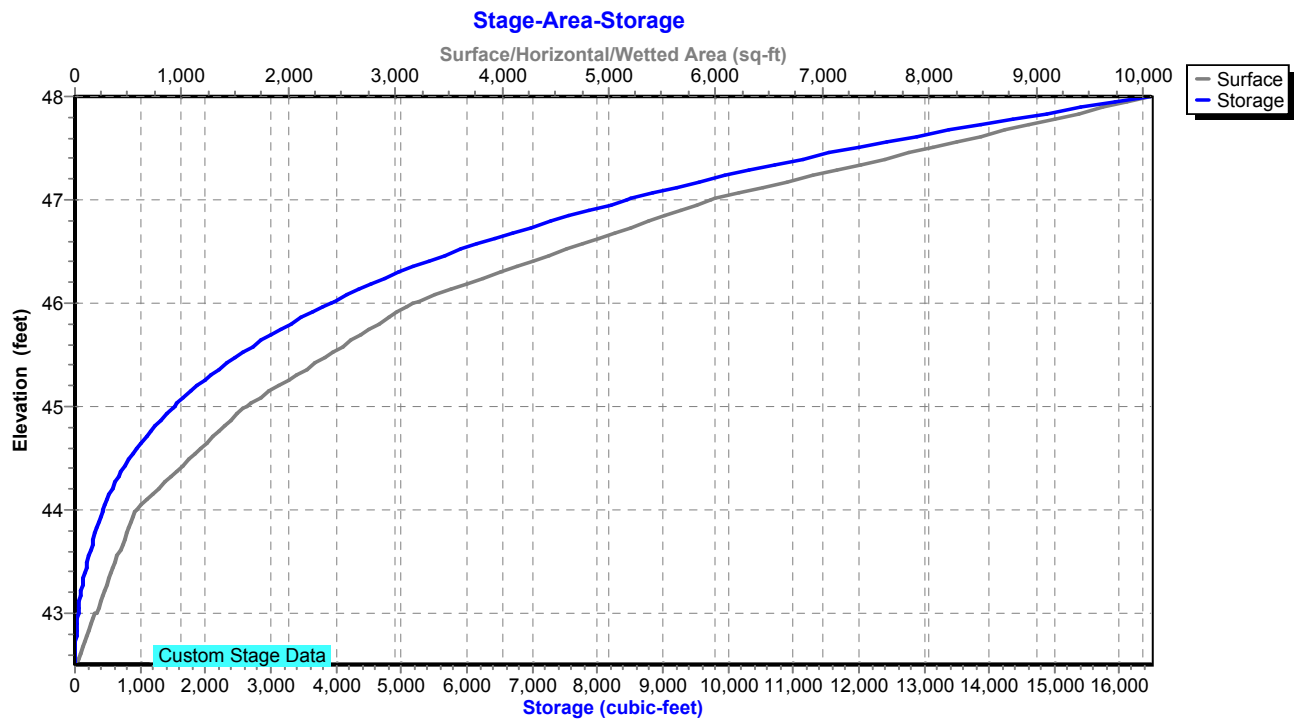
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Pond 23P: DET 3 Culvert



Pond 23P: DET 3 Culvert



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Summary for Pond 24P: RR Culvert 3

Inflow Area = 500,940 sf, 4.78% Impervious, Inflow Depth = 21.93" for 10 year event
 Inflow = 169.98 cfs @ 12.22 hrs, Volume= 915,423 cf
 Outflow = 44.37 cfs @ 13.75 hrs, Volume= 915,427 cf, Atten= 74%, Lag= 92.0 min
 Primary = 44.37 cfs @ 13.75 hrs, Volume= 915,427 cf

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 12.50' @ 13.75 hrs Storage= 502,876 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 127.1 min (915.3 - 788.2)

Volume	Invert	Avail.Storage	Storage Description
#1	8.10'	2,250,385 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
8.10	0	0
9.00	9	9
10.00	148	157
11.00	64,834	64,991
12.00	244,457	309,448
13.00	383,724	693,172
14.00	435,183	1,128,355
15.00	514,834	1,643,189
16.00	607,196	2,250,385

Device	Routing	Invert	Outlet Devices
#1	Primary	8.10'	30.0" W x 42.0" H Box Culvert L= 135.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 8.10' / 7.80' S= 0.0022 ' / Cc= 0.900 n= 0.019, Flow Area= 8.75 sf

Primary OutFlow Max=44.37 cfs @ 13.75 hrs HW=12.50' (Free Discharge)

↑ **1=Culvert** (Barrel Controls 44.37 cfs @ 5.37 fps)

Existing Conditions

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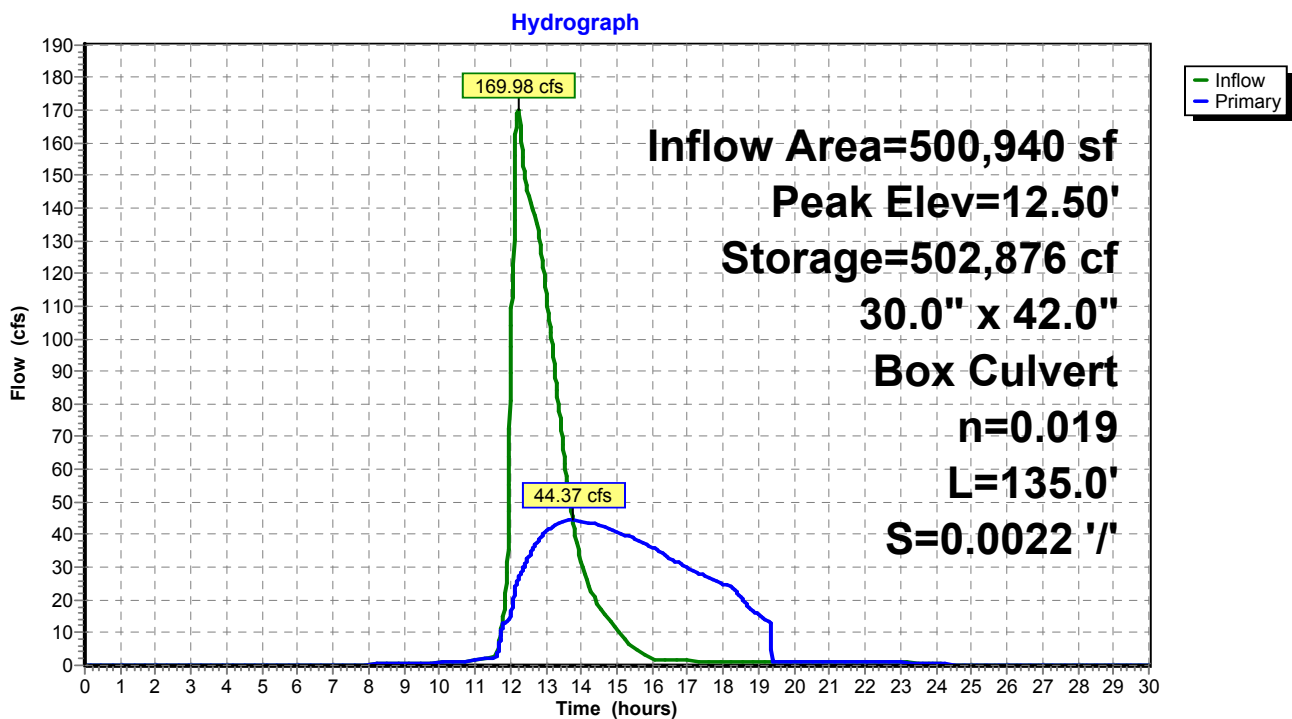
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NORWALK 24-hr S1 10 year Rainfall=5.33"

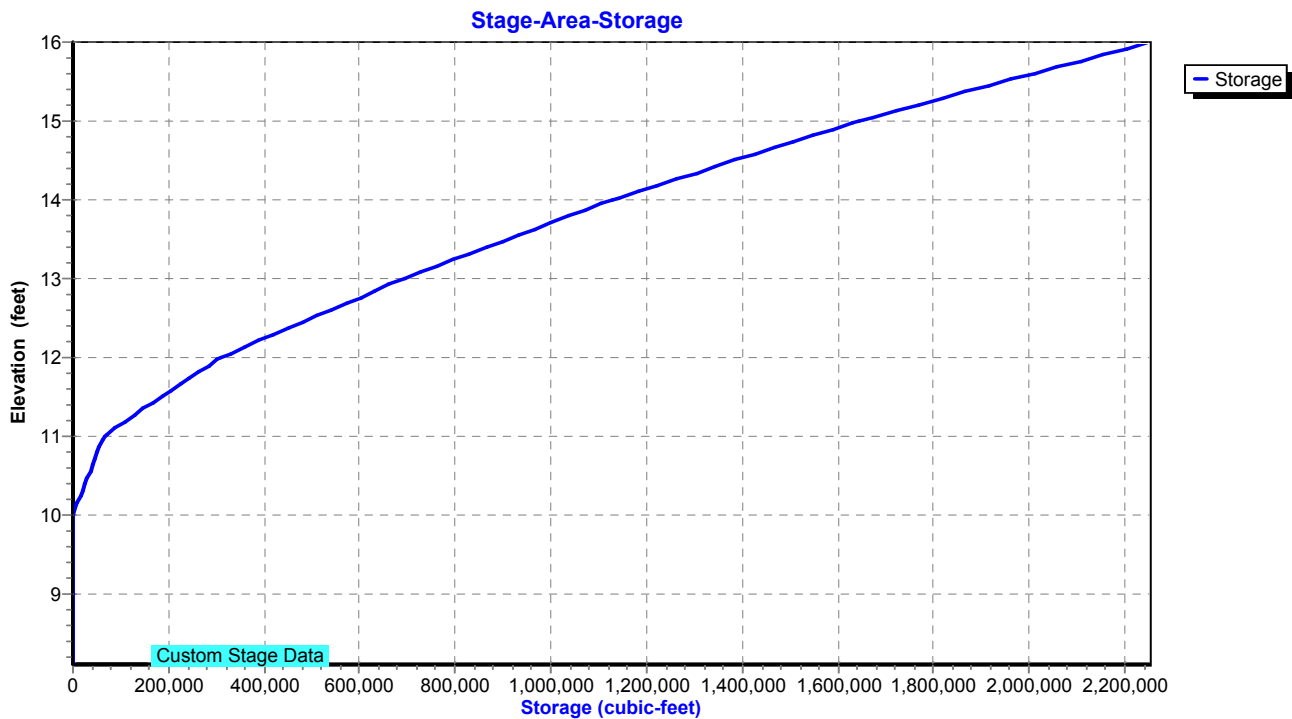
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Pond 24P: RR Culvert 3



Pond 24P: RR Culvert 3



Existing Conditions

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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Pond 26P: DET 16 Culvert

Inflow Area = 777,546 sf, 30.36% Impervious, Inflow Depth > 2.72" for 10 year event
 Inflow = 27.61 cfs @ 12.21 hrs, Volume= 176,385 cf
 Outflow = 27.60 cfs @ 12.21 hrs, Volume= 176,377 cf, Atten= 0%, Lag= 0.1 min
 Primary = 27.60 cfs @ 12.21 hrs, Volume= 176,377 cf
 Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 20.07' @ 12.21 hrs Surf.Area= 2,197 sf Storage= 2,544 cf

Plug-Flow detention time= 0.7 min calculated for 176,318 cf (100% of inflow)
 Center-of-Mass det. time= 0.7 min (900.9 - 900.3)

Volume	Invert	Avail.Storage	Storage Description
#1	17.00'	11,069 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.00	76	0	0
18.00	323	200	200
19.00	1,002	663	862
20.00	2,073	1,538	2,400
21.00	3,912	2,993	5,392
22.00	7,442	5,677	11,069

Device	Routing	Invert	Outlet Devices
#1	Primary	15.10'	15.0" Round Culvert L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 15.10' / 11.30' S= 0.0691 ' S= 0.0691 ' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Primary	20.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 Width (feet) 200.00 200.00 200.00

Primary OutFlow Max=26.93 cfs @ 12.21 hrs HW=20.07' (Free Discharge)

1=Culvert (Inlet Controls 12.31 cfs @ 10.03 fps)
 2=Custom Weir/Orifice (Weir Controls 14.61 cfs @ 1.08 fps)

Existing Conditions

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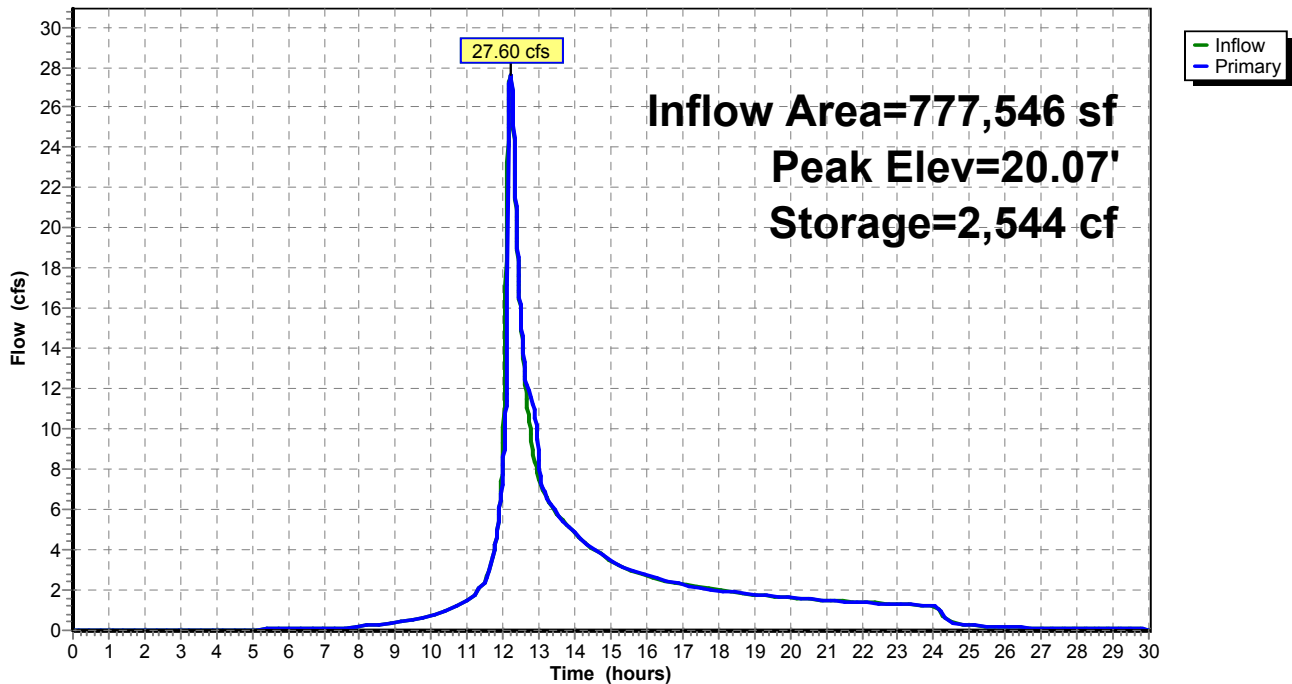
NORWALK 24-hr S1 10 year Rainfall=5.33"

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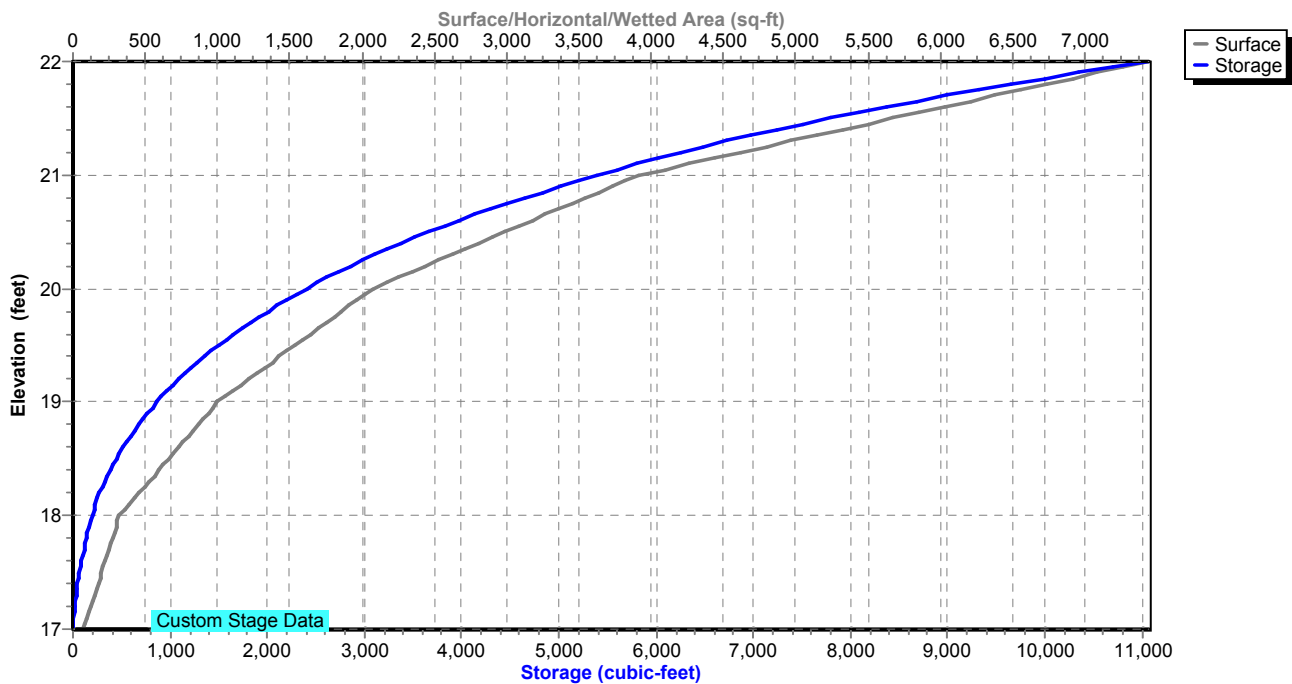
Pond 26P: DET 16 Culvert

Hydrograph



Pond 26P: DET 16 Culvert

Stage-Area-Storage



Existing Conditions

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Summary for Pond 27P: DET 17 Culvert

Inflow Area = 2,205,878 sf, 28.45% Impervious, Inflow Depth = 2.99" for 10 year event
Inflow = 49.31 cfs @ 12.66 hrs, Volume= 549,236 cf
Outflow = 49.30 cfs @ 12.67 hrs, Volume= 549,236 cf, Atten= 0%, Lag= 0.6 min
Primary = 49.30 cfs @ 12.67 hrs, Volume= 549,236 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 18.74' @ 12.67 hrs Surf.Area= 10,562 sf Storage= 10,309 cf

Plug-Flow detention time= 3.7 min calculated for 549,053 cf (100% of inflow)
Center-of-Mass det. time= 3.7 min (887.6 - 883.9)

Volume	Invert	Avail.Storage	Storage Description
#1	16.00'	13,420 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
16.00	340	0	0
17.00	2,203	1,272	1,272
18.00	4,950	3,577	4,848
18.55	8,311	3,647	8,495
19.00	13,580	4,925	13,420

Device	Routing	Invert	Outlet Devices
#1	Primary	15.30'	18.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 15.30' / 14.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Primary	18.55'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 3.00 Width (feet) 100.00 100.00 100.00 100.00

Primary OutFlow Max=49.04 cfs @ 12.67 hrs HW=18.74' (Free Discharge)

1=Culvert (Inlet Controls 13.96 cfs @ 7.90 fps)

2=Custom Weir/Orifice (Weir Controls 35.08 cfs @ 1.82 fps)

Existing Conditions

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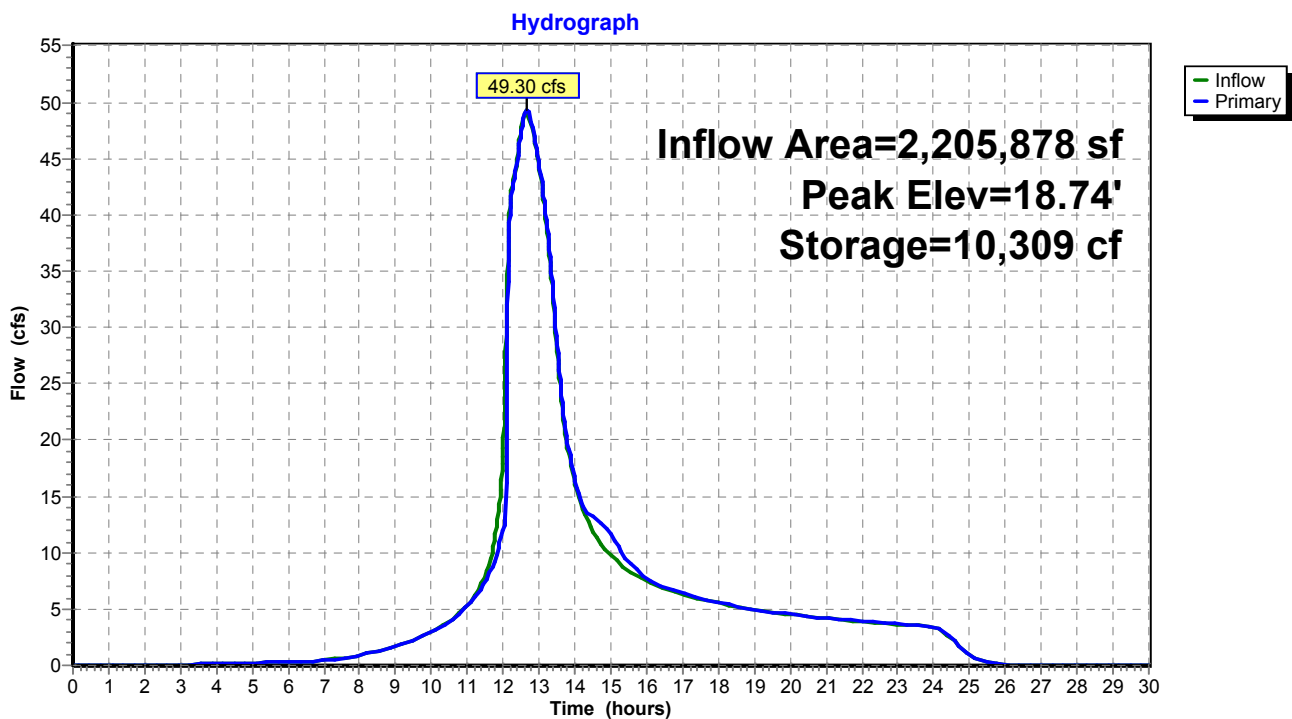
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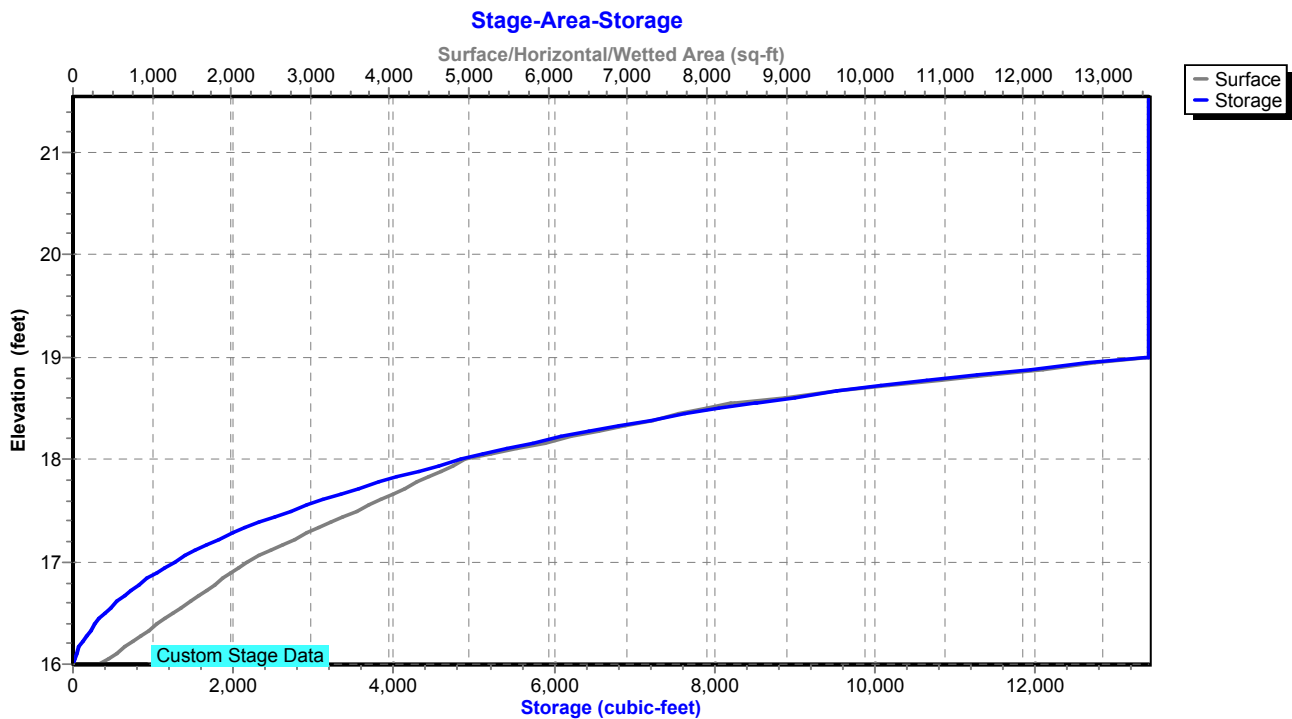
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Pond 27P: DET 17 Culvert



Pond 27P: DET 17 Culvert



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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Pond 50P: DET BASIN #1

Inflow Area = 247,726 sf, 51.96% Impervious, Inflow Depth = 3.80" for 10 year event
Inflow = 22.29 cfs @ 12.04 hrs, Volume= 78,362 cf
Outflow = 3.14 cfs @ 12.63 hrs, Volume= 52,973 cf, Atten= 86%, Lag= 35.6 min
Primary = 3.14 cfs @ 12.63 hrs, Volume= 52,973 cf
Routed to Pond 26P : DET 16 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 27.69' @ 12.63 hrs Surf.Area= 14,532 sf Storage= 40,335 cf

Plug-Flow detention time= 303.9 min calculated for 52,973 cf (68% of inflow)
Center-of-Mass det. time= 180.2 min (989.0 - 808.8)

Volume	Invert	Avail.Storage	Storage Description
#1	24.00'	61,441 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
24.00	5,941	0	0
26.00	12,000	17,941	17,941
28.00	15,000	27,000	44,941
29.00	18,000	16,500	61,441

Device	Routing	Invert	Outlet Devices
#1	Primary	24.00'	18.0" Round Culvert L= 120.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 24.00' / 20.00' S= 0.0333 ' / S= 0.0333 ' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	26.50'	12.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	28.50'	16.2" x 55.4" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.14 cfs @ 12.63 hrs HW=27.69' (Free Discharge)

1=Culvert (Passes 3.14 cfs of 14.58 cfs potential flow)
2=Orifice/Grate (Orifice Controls 3.14 cfs @ 3.99 fps)
3=Orifice/Grate (Controls 0.00 cfs)

Existing Conditions

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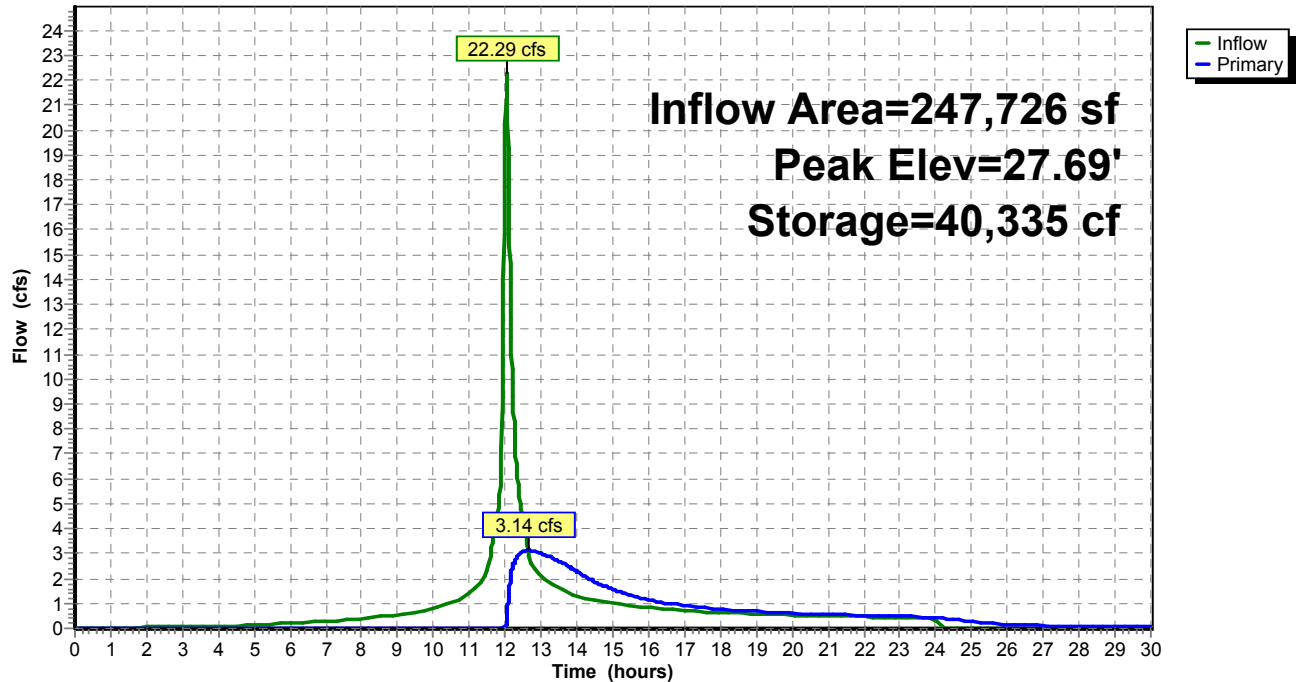
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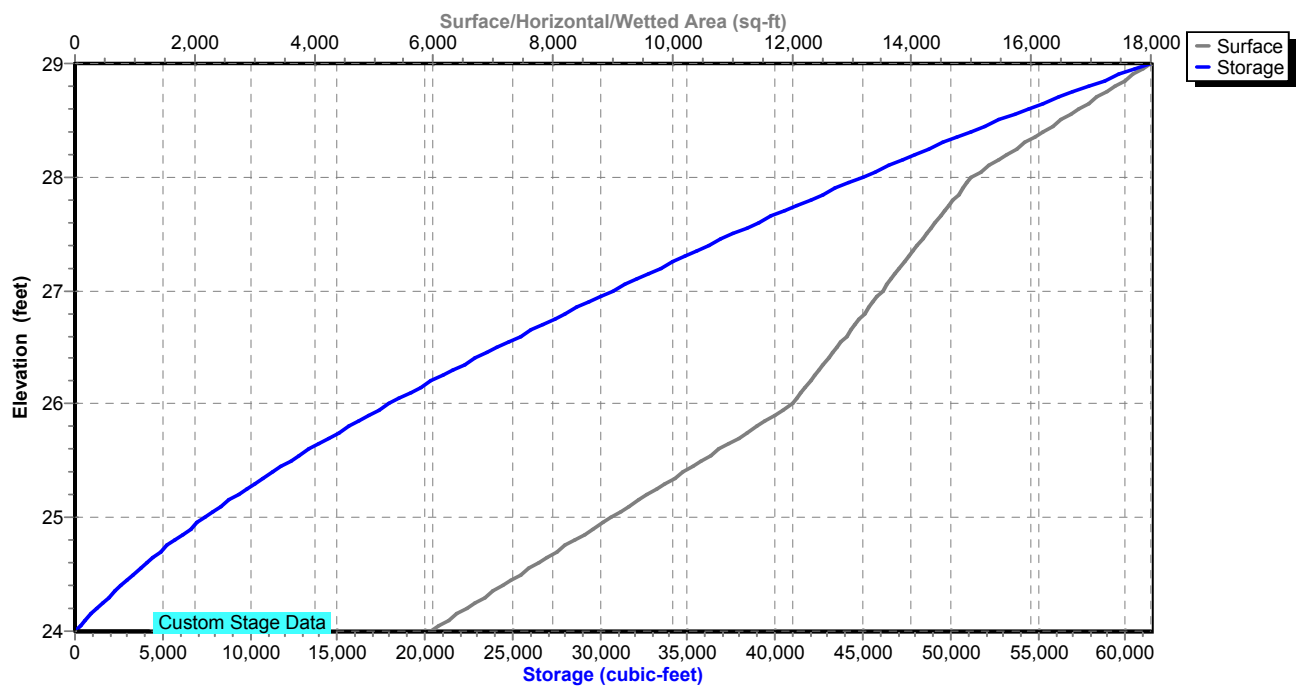
Pond 50P: DET BASIN #1

Hydrograph



Pond 50P: DET BASIN #1

Stage-Area-Storage



Existing Conditions

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Summary for Pond 51P: Manhole

Inflow Area = 219,325 sf, 58.69% Impervious, Inflow Depth = 3.95" for 10 year event
Inflow = 20.06 cfs @ 12.04 hrs, Volume= 72,141 cf
Outflow = 20.06 cfs @ 12.04 hrs, Volume= 72,141 cf, Atten= 0%, Lag= 0.0 min
Primary = 20.06 cfs @ 12.04 hrs, Volume= 72,141 cf
Routed to Pond 50P : DET BASIN #1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 46.76' @ 12.04 hrs

Flood Elev= 51.00'

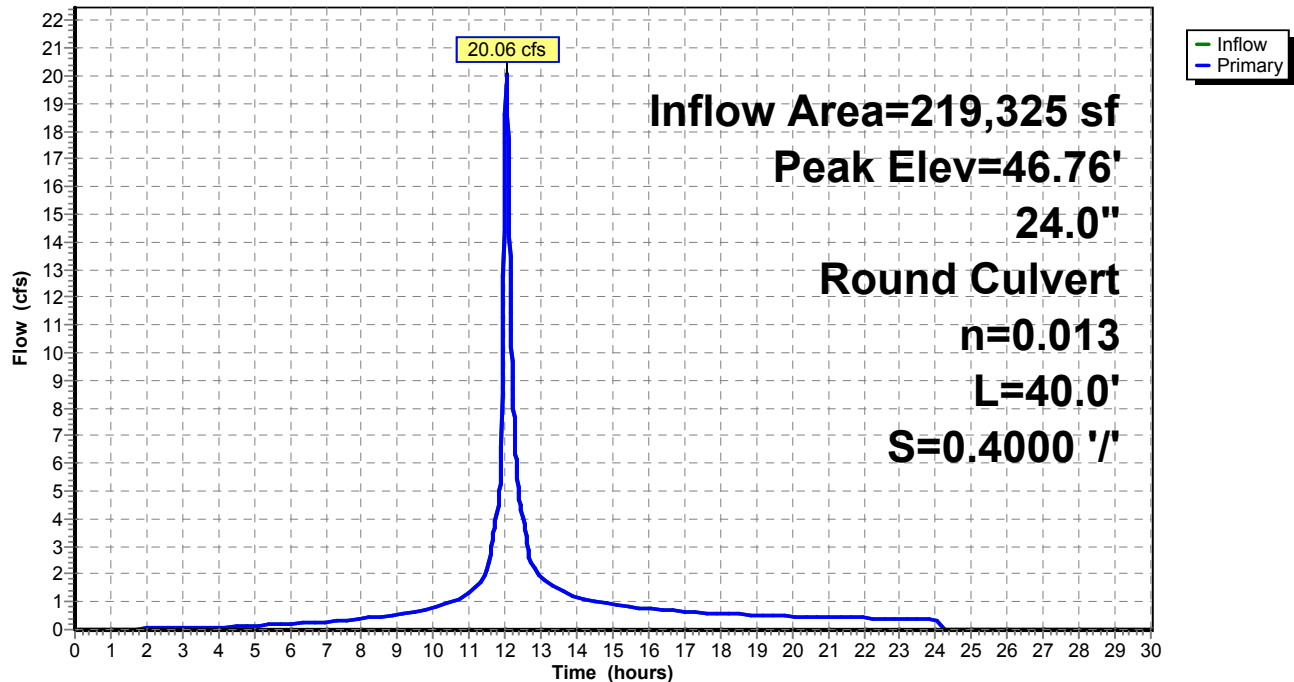
Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	24.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.00' / 28.00' S= 0.4000 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=20.04 cfs @ 12.04 hrs HW=46.76' (Free Discharge)

↑1=Culvert (Inlet Controls 20.04 cfs @ 6.38 fps)

Pond 51P: Manhole

Hydrograph



Existing Conditions

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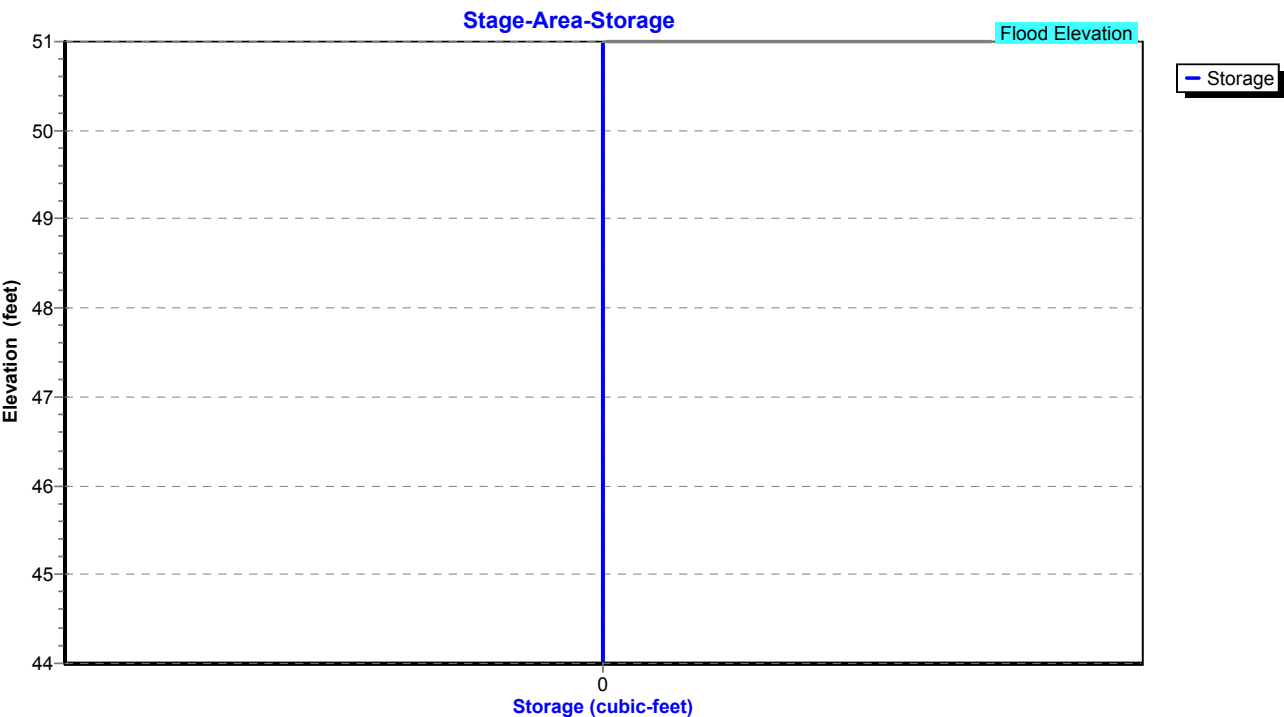
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Pond 51P: Manhole



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Summary for Pond 57P: CB-1

Inflow Area = 131,290 sf, 58.89% Impervious, Inflow Depth = 4.01" for 10 year event
Inflow = 12.72 cfs @ 12.04 hrs, Volume= 43,925 cf
Outflow = 12.72 cfs @ 12.04 hrs, Volume= 43,925 cf, Atten= 0%, Lag= 0.0 min
Primary = 12.72 cfs @ 12.04 hrs, Volume= 43,925 cf
Routed to Pond 51P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 46.26' @ 12.04 hrs

Flood Elev= 49.00'

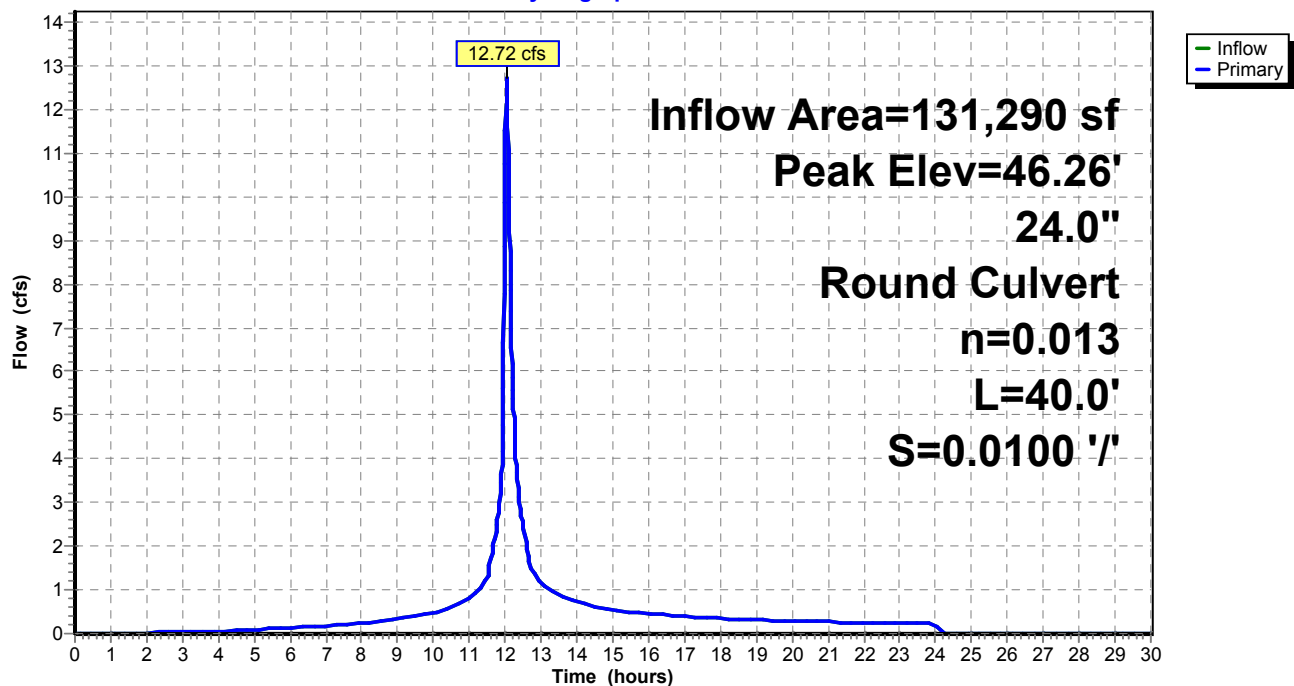
Device	Routing	Invert	Outlet Devices
#1	Primary	44.40'	24.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.40' / 44.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=12.70 cfs @ 12.04 hrs HW=46.26' (Free Discharge)

↑1=Culvert (Barrel Controls 12.70 cfs @ 5.42 fps)

Pond 57P: CB-1

Hydrograph



Existing Conditions

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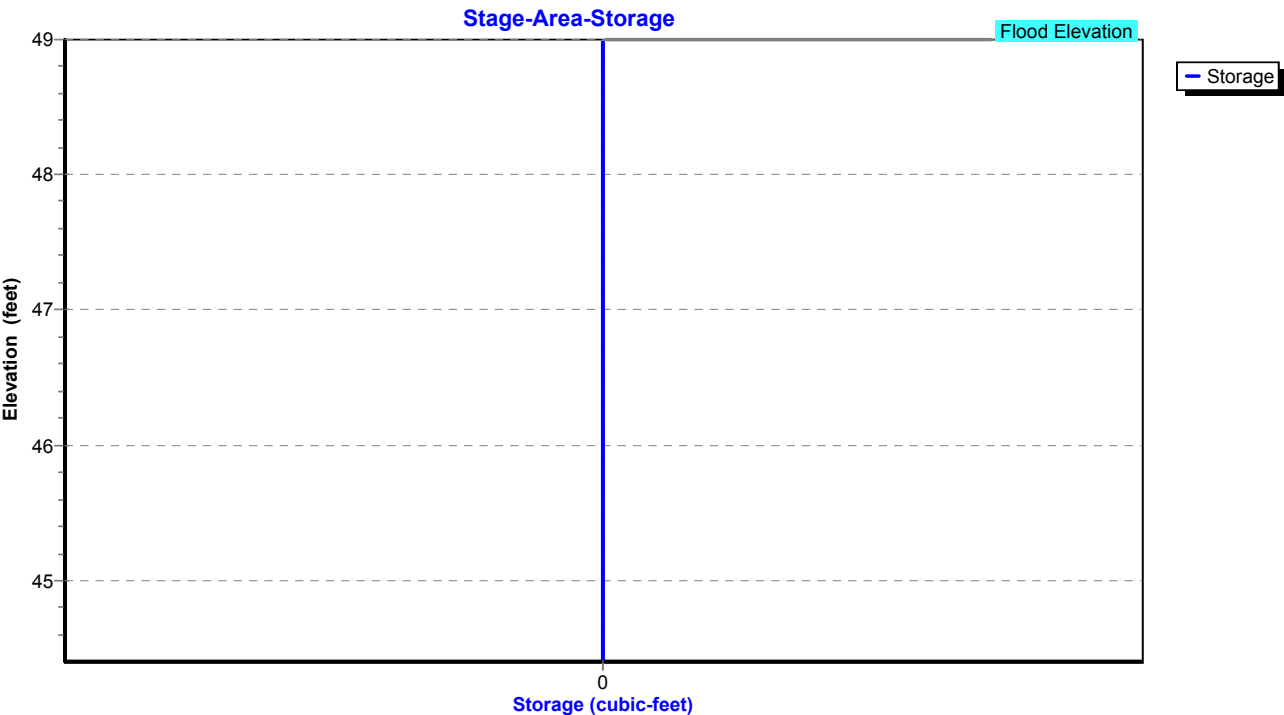
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Pond 57P: CB-1



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Summary for Pond 58P: Manhole

Inflow Area = 119,442 sf, 54.81% Impervious, Inflow Depth = 3.91" for 10 year event
Inflow = 11.15 cfs @ 12.04 hrs, Volume= 38,899 cf
Outflow = 11.15 cfs @ 12.04 hrs, Volume= 38,899 cf, Atten= 0%, Lag= 0.0 min
Primary = 11.15 cfs @ 12.04 hrs, Volume= 38,899 cf
Routed to Pond 57P : CB-1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.39' @ 12.04 hrs

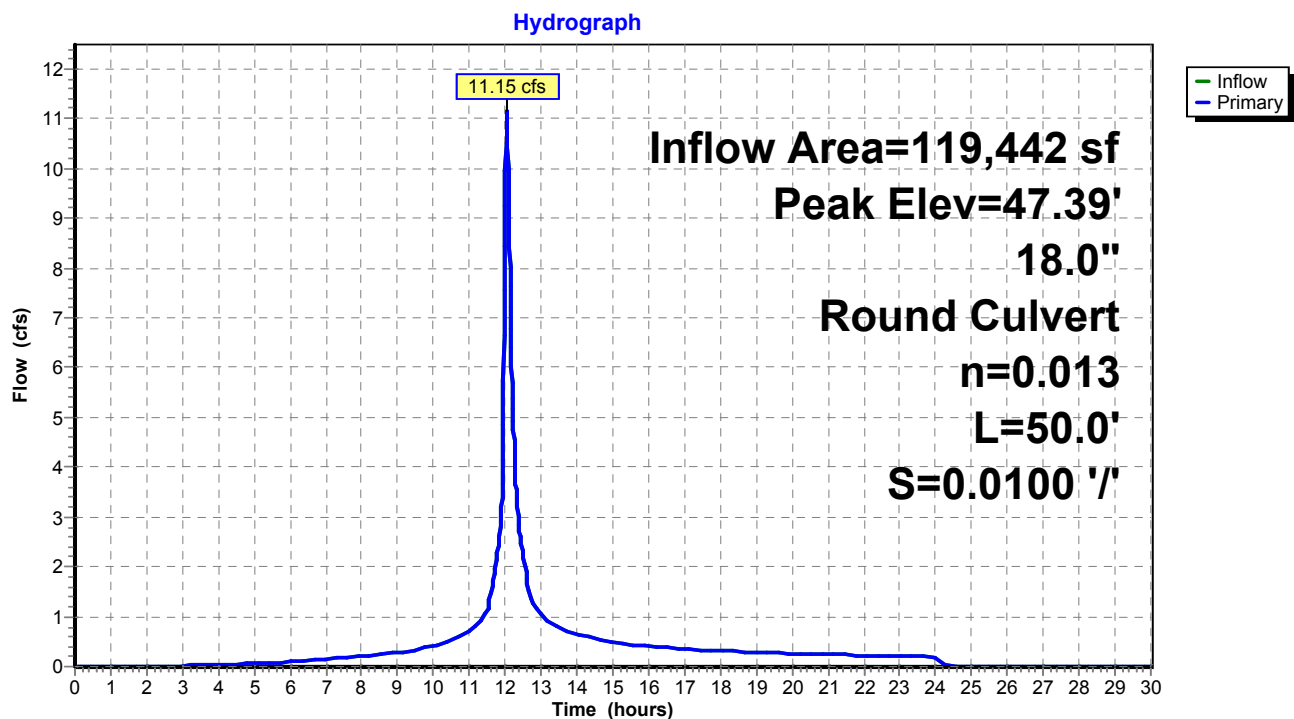
Flood Elev= 49.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	44.90'	18.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.90' / 44.40' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=11.13 cfs @ 12.04 hrs HW=47.39' (Free Discharge)

↑1=Culvert (Barrel Controls 11.13 cfs @ 6.30 fps)

Pond 58P: Manhole



Existing Conditions

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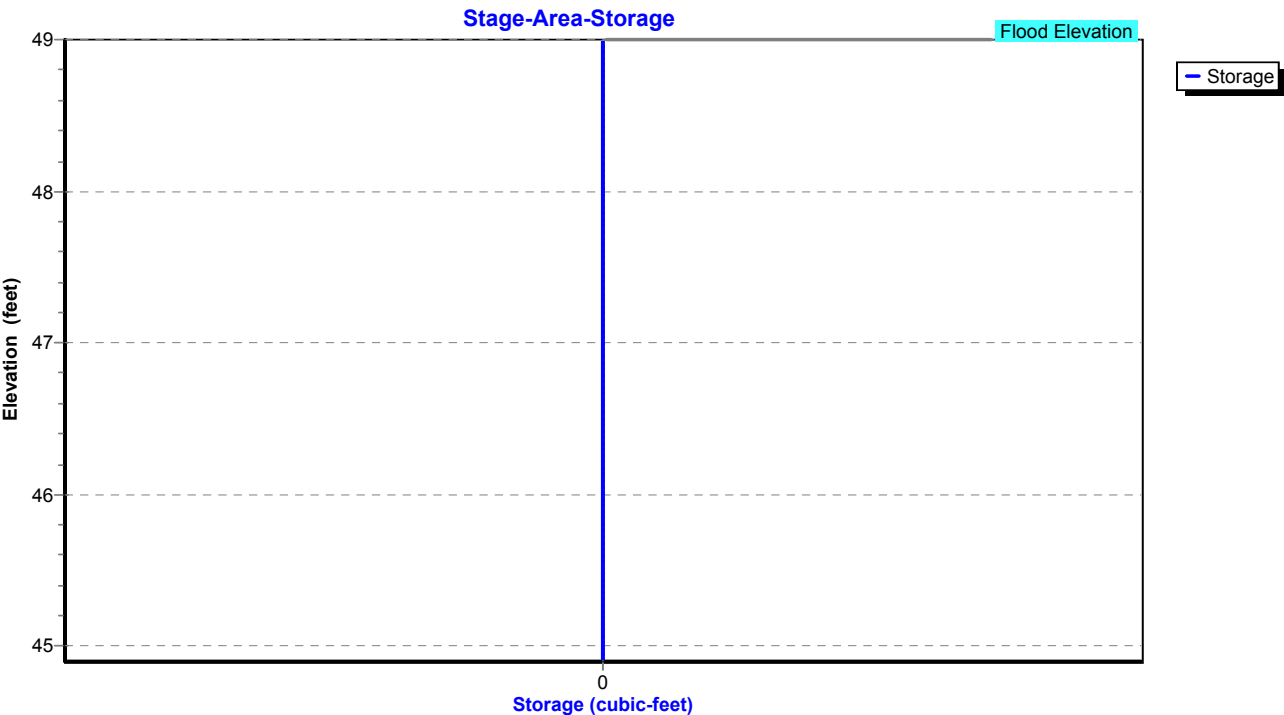
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Pond 58P: Manhole



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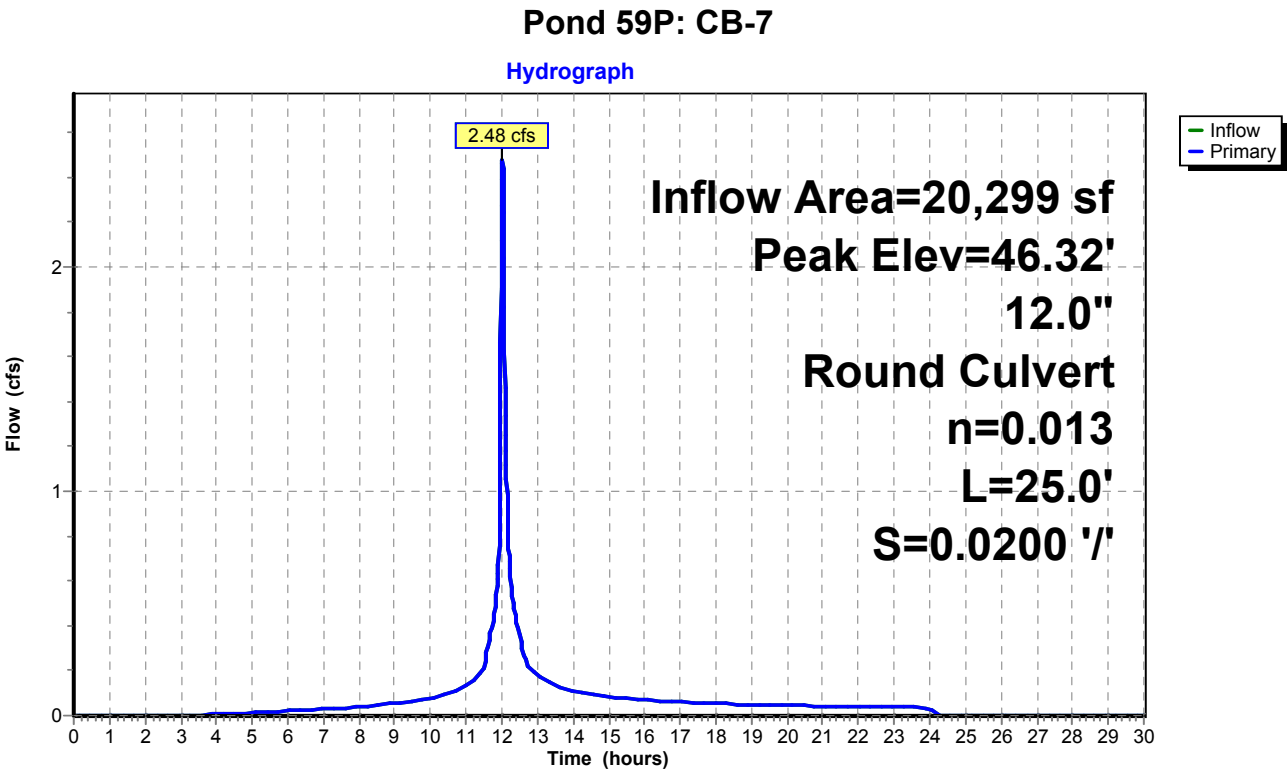
Summary for Pond 59P: CB-7

Inflow Area = 20,299 sf, 63.09% Impervious, Inflow Depth = 4.09" for 10 year event
Inflow = 2.48 cfs @ 12.03 hrs, Volume= 6,913 cf
Outflow = 2.48 cfs @ 12.03 hrs, Volume= 6,913 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.48 cfs @ 12.03 hrs, Volume= 6,913 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 46.32' @ 12.03 hrs
Flood Elev= 49.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	45.40'	12.0" Round Culvert L= 25.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.40' / 44.90' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=2.47 cfs @ 12.03 hrs HW=46.32' (Free Discharge)
↑1=Culvert (Inlet Controls 2.47 cfs @ 3.27 fps)



Existing Conditions

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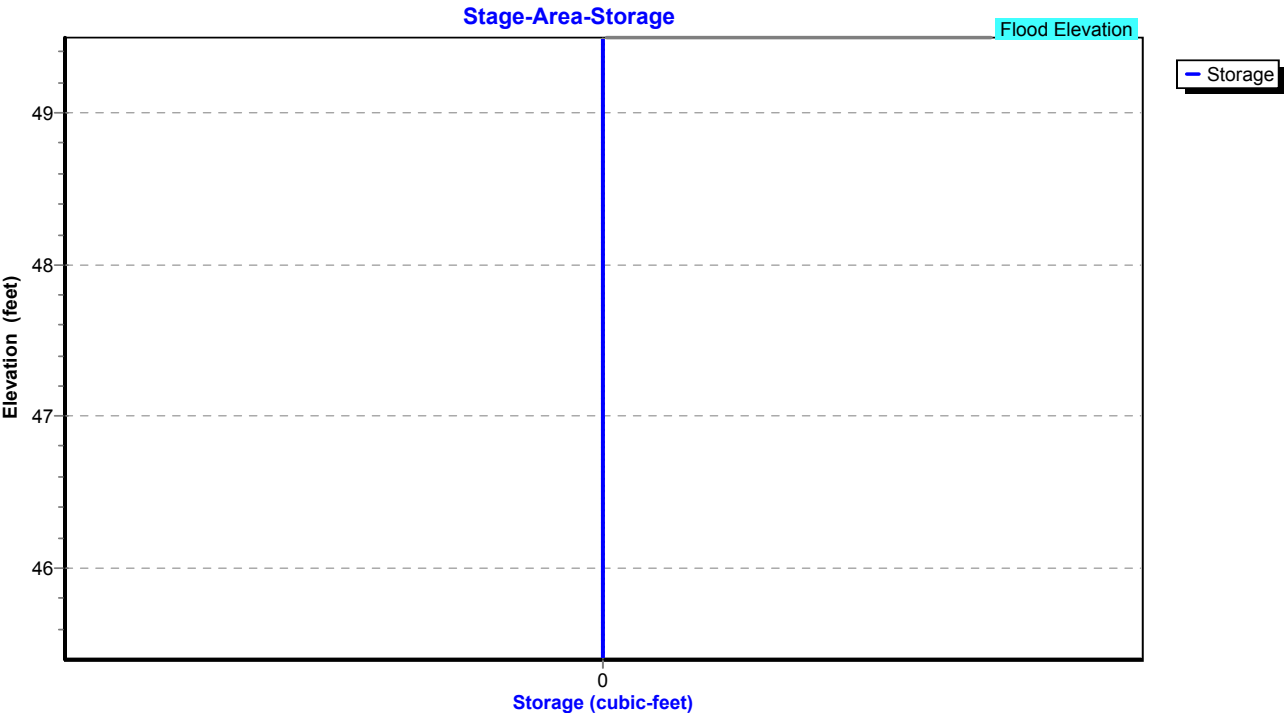
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Pond 59P: CB-7



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Summary for Pond 61P: CB-6

Inflow Area = 7,884 sf, 82.32% Impervious, Inflow Depth = 4.63" for 10 year event
Inflow = 1.05 cfs @ 12.03 hrs, Volume= 3,043 cf
Outflow = 1.05 cfs @ 12.03 hrs, Volume= 3,043 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.05 cfs @ 12.03 hrs, Volume= 3,043 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 45.65' @ 12.03 hrs

Flood Elev= 49.00'

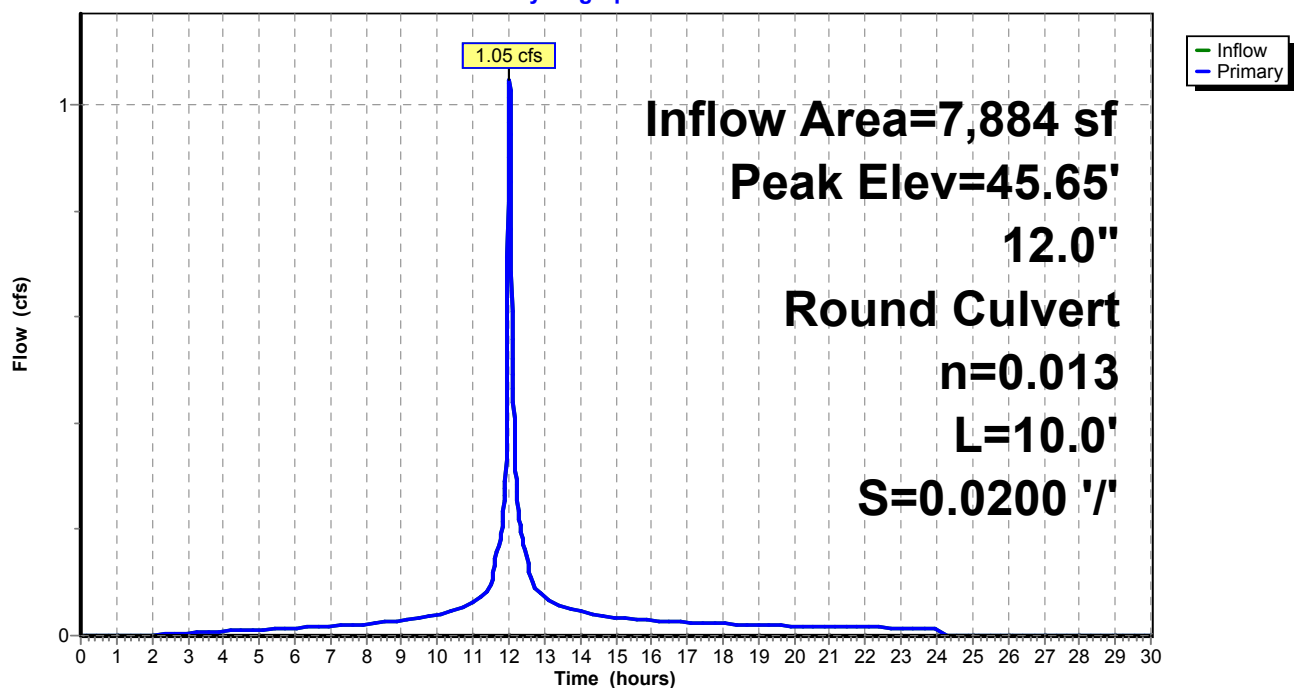
Device	Routing	Invert	Outlet Devices
#1	Primary	45.10'	12.0" Round Culvert L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.10' / 44.90' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.04 cfs @ 12.03 hrs HW=45.65' (Free Discharge)

↑1=Culvert (Barrel Controls 1.04 cfs @ 3.41 fps)

Pond 61P: CB-6

Hydrograph



Existing Conditions

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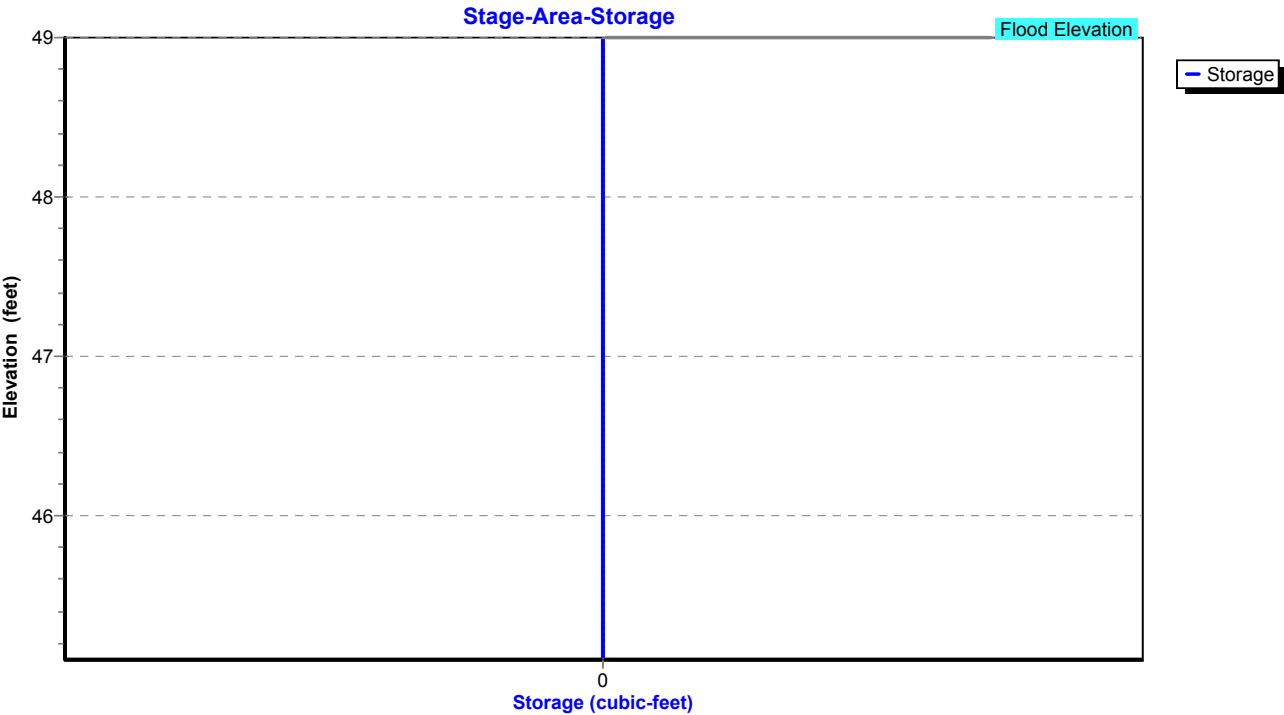
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Pond 61P: CB-6



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Summary for Pond 63P: Manhole

Inflow Area = 91,258 sf, 50.60% Impervious, Inflow Depth = 3.81" for 10 year event
Inflow = 7.91 cfs @ 12.06 hrs, Volume= 28,943 cf
Outflow = 7.91 cfs @ 12.06 hrs, Volume= 28,943 cf, Atten= 0%, Lag= 0.0 min
Primary = 7.91 cfs @ 12.06 hrs, Volume= 28,943 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 49.07' @ 12.06 hrs

Flood Elev= 51.00'

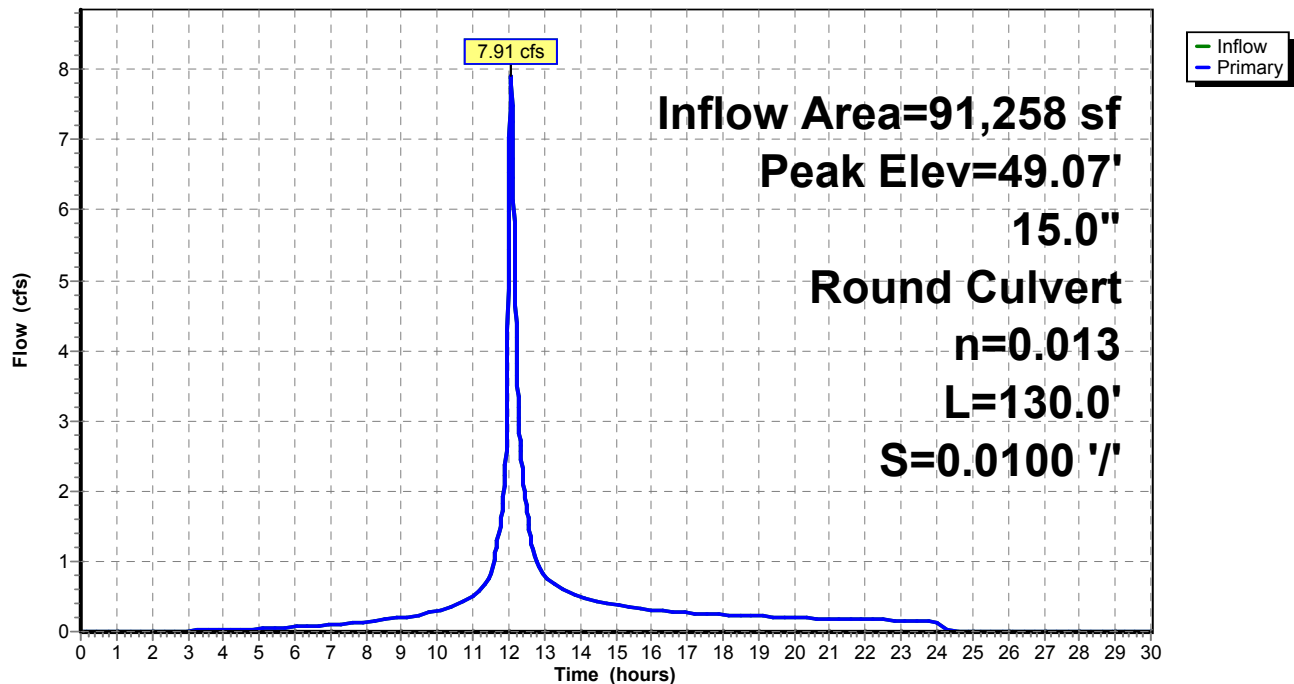
Device	Routing	Invert	Outlet Devices
#1	Primary	46.20'	15.0" Round Culvert L= 130.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.20' / 44.90' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=7.90 cfs @ 12.06 hrs HW=49.06' (Free Discharge)

↑1=Culvert (Barrel Controls 7.90 cfs @ 6.44 fps)

Pond 63P: Manhole

Hydrograph



Existing Conditions

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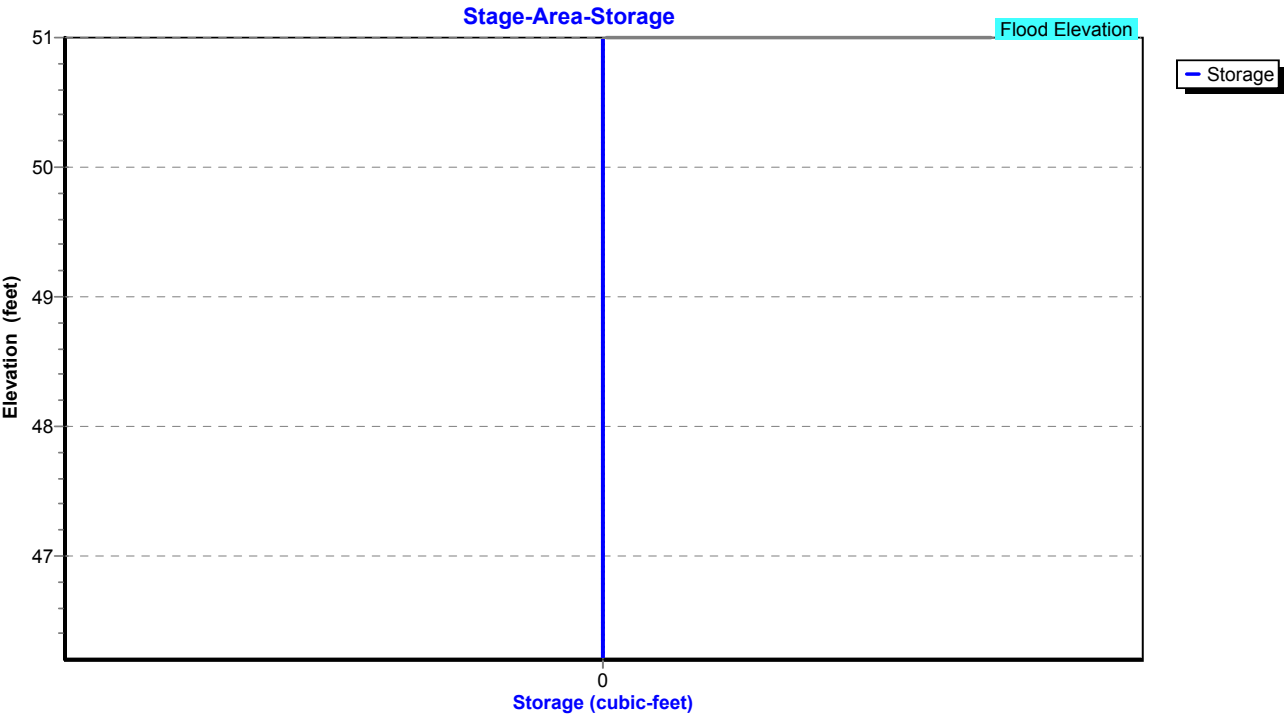
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Pond 63P: Manhole



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Summary for Pond 64P: YD

Inflow Area = 68,128 sf, 41.75% Impervious, Inflow Depth = 3.57" for 10 year event
Inflow = 5.74 cfs @ 12.08 hrs, Volume= 20,278 cf
Outflow = 5.74 cfs @ 12.08 hrs, Volume= 20,278 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.74 cfs @ 12.08 hrs, Volume= 20,278 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 54.41' @ 12.08 hrs

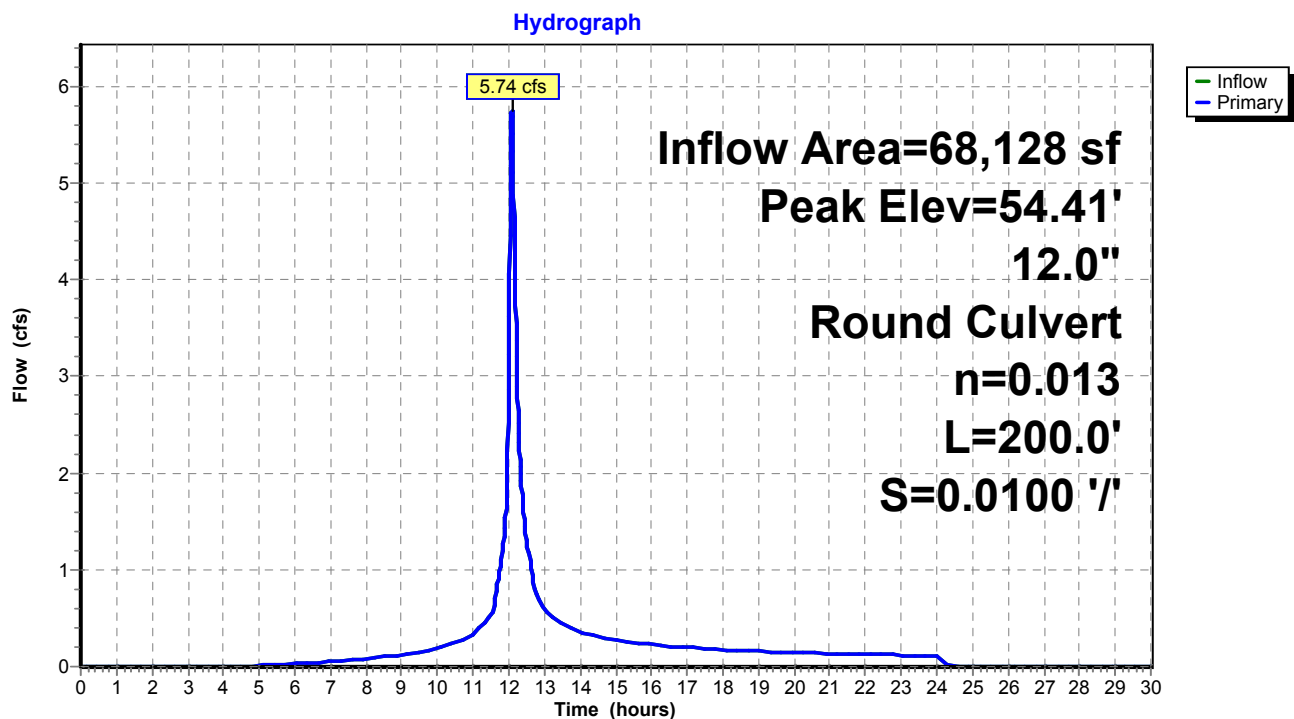
Flood Elev= 54.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.95'	12.0" Round Culvert L= 200.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.95' / 46.95' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=5.73 cfs @ 12.08 hrs HW=54.38' (Free Discharge)

↑1=Culvert (Barrel Controls 5.73 cfs @ 7.30 fps)

Pond 64P: YD



Existing Conditions

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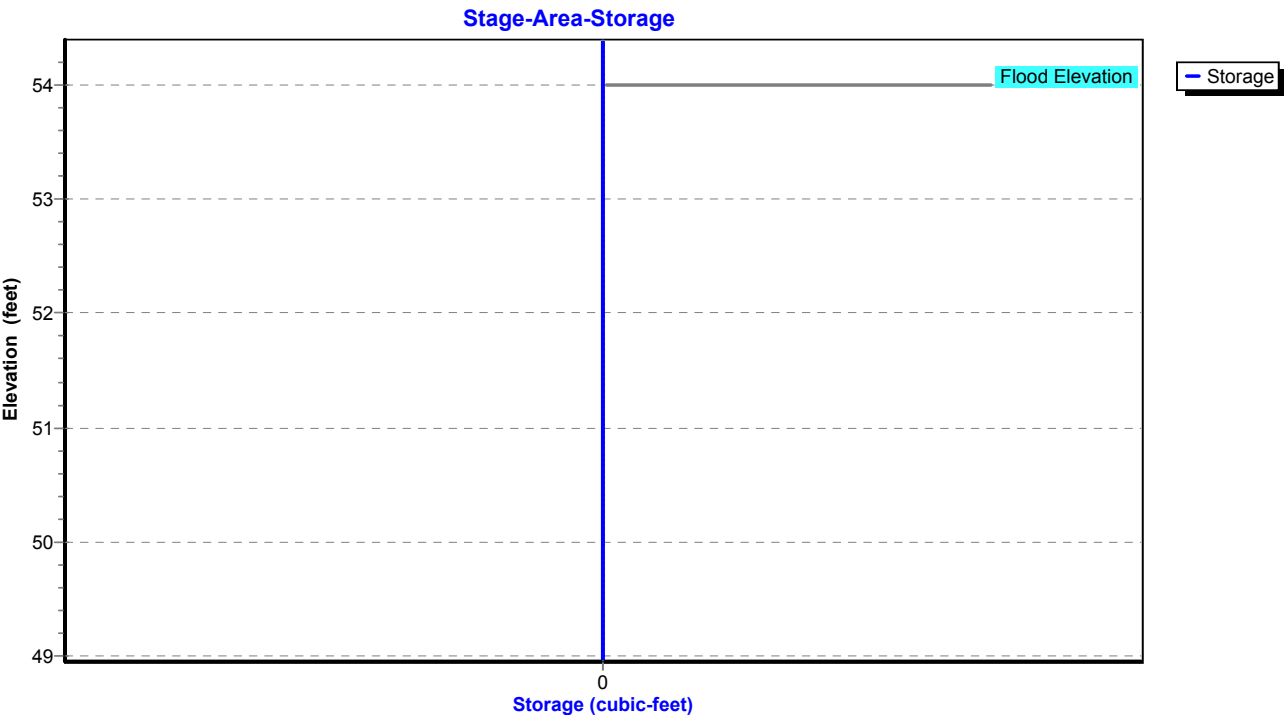
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Pond 64P: YD



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Summary for Pond 66P: CB-10

Inflow Area = 12,763 sf, 73.04% Impervious, Inflow Depth = 4.41" for 10 year event
Inflow = 1.64 cfs @ 12.03 hrs, Volume= 4,690 cf
Outflow = 1.64 cfs @ 12.03 hrs, Volume= 4,690 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.64 cfs @ 12.03 hrs, Volume= 4,690 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 48.24' @ 12.03 hrs

Flood Elev= 53.00'

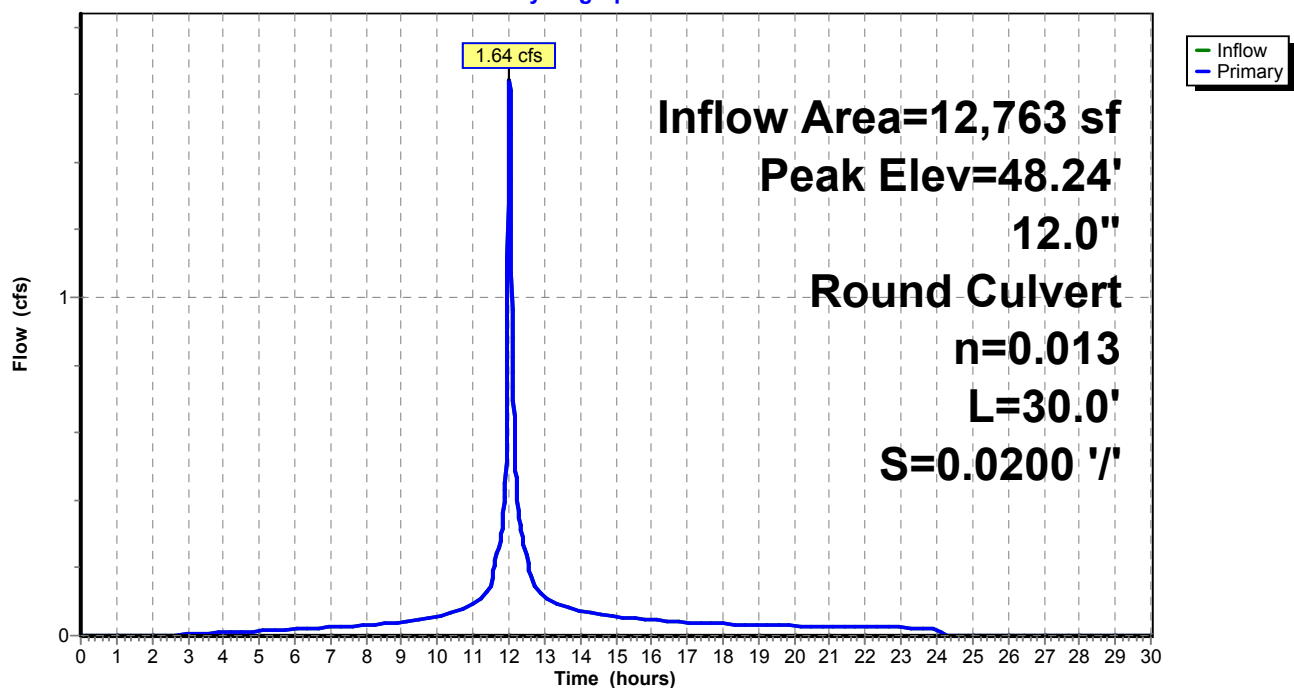
Device	Routing	Invert	Outlet Devices
#1	Primary	47.55'	12.0" Round Culvert L= 30.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.55' / 46.95' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.64 cfs @ 12.03 hrs HW=48.24' (Free Discharge)

↑1=Culvert (Inlet Controls 1.64 cfs @ 2.83 fps)

Pond 66P: CB-10

Hydrograph



Existing Conditions

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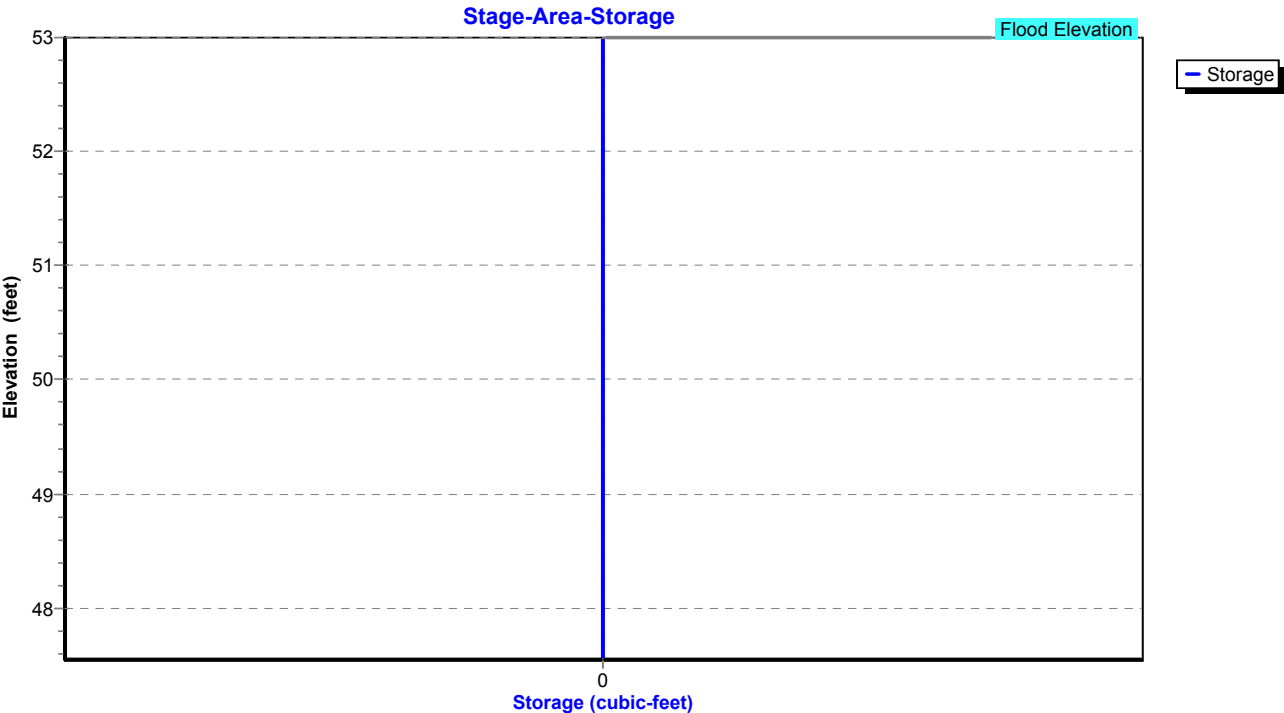
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Pond 66P: CB-10



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Summary for Pond 67P: CB-9

Inflow Area = 6,447 sf, 69.59% Impervious, Inflow Depth = 4.30" for 10 year event
Inflow = 0.82 cfs @ 12.03 hrs, Volume= 2,311 cf
Outflow = 0.82 cfs @ 12.03 hrs, Volume= 2,311 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.82 cfs @ 12.03 hrs, Volume= 2,311 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.62' @ 12.03 hrs

Flood Elev= 52.00'

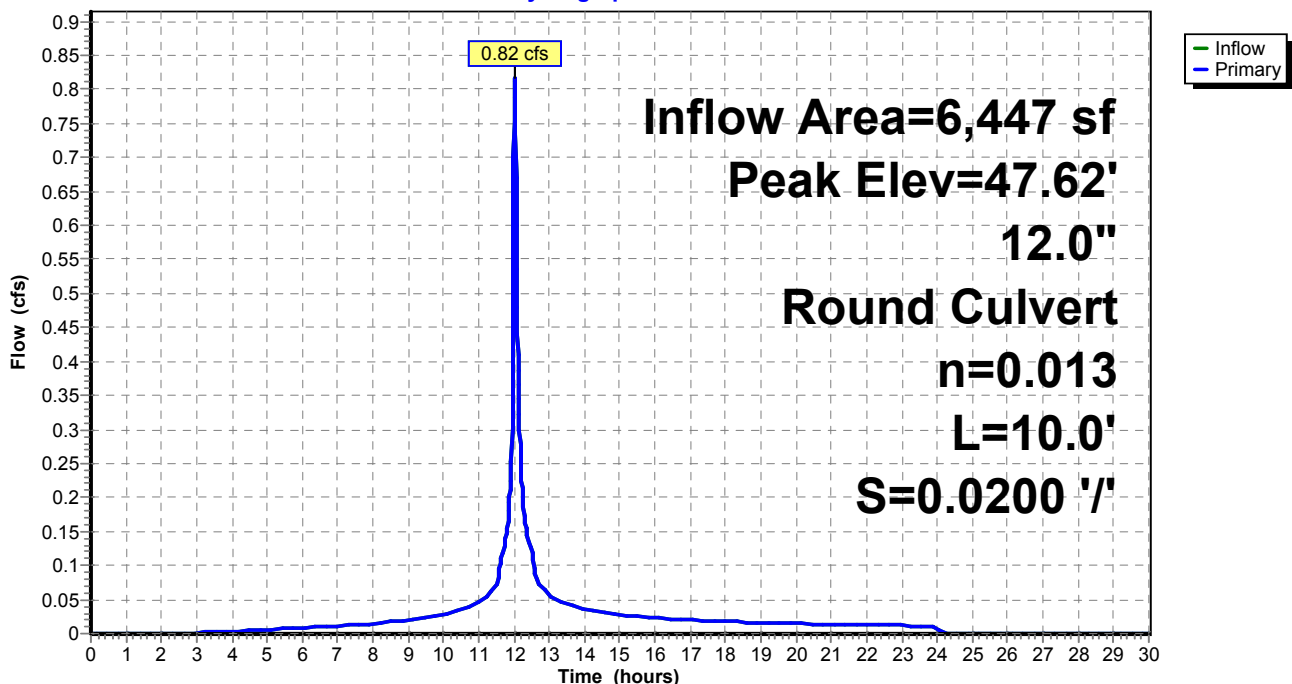
Device	Routing	Invert	Outlet Devices
#1	Primary	47.15'	12.0" Round Culvert L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.15' / 46.95' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.81 cfs @ 12.03 hrs HW=47.62' (Free Discharge)

↑1=Culvert (Barrel Controls 0.81 cfs @ 3.25 fps)

Pond 67P: CB-9

Hydrograph



Existing Conditions

Prepared by Tighe & Bond

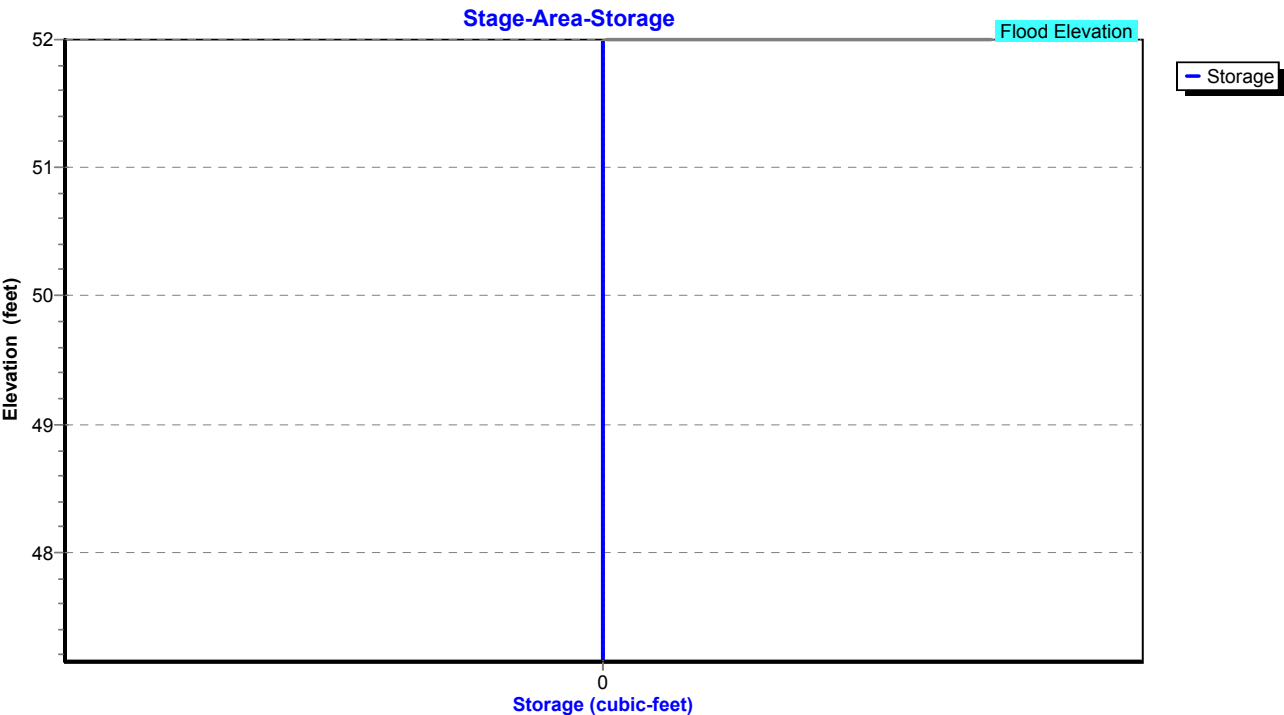
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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Pond 67P: CB-9



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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Pond 70P: CB-2

Inflow Area = 88,035 sf, 58.39% Impervious, Inflow Depth = 3.85" for 10 year event
Inflow = 7.70 cfs @ 11.99 hrs, Volume= 28,216 cf
Outflow = 7.70 cfs @ 11.99 hrs, Volume= 28,216 cf, Atten= 0%, Lag= 0.0 min
Primary = 7.70 cfs @ 11.99 hrs, Volume= 28,216 cf
Routed to Pond 51P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 48.66' @ 11.99 hrs

Flood Elev= 53.30'

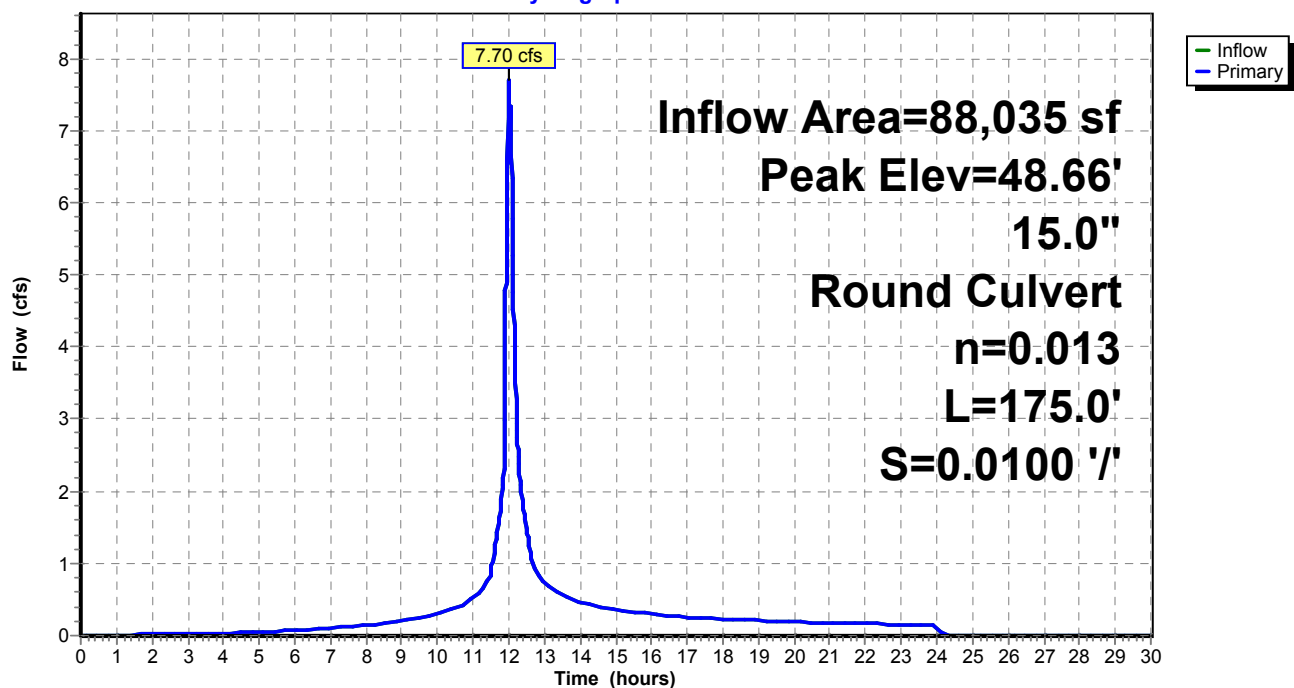
Device	Routing	Invert	Outlet Devices
#1	Primary	45.75'	15.0" Round Culvert L= 175.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.75' / 44.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=7.70 cfs @ 11.99 hrs HW=48.66' (Free Discharge)

↑1=Culvert (Barrel Controls 7.70 cfs @ 6.27 fps)

Pond 70P: CB-2

Hydrograph



Existing Conditions

Prepared by Tighe & Bond

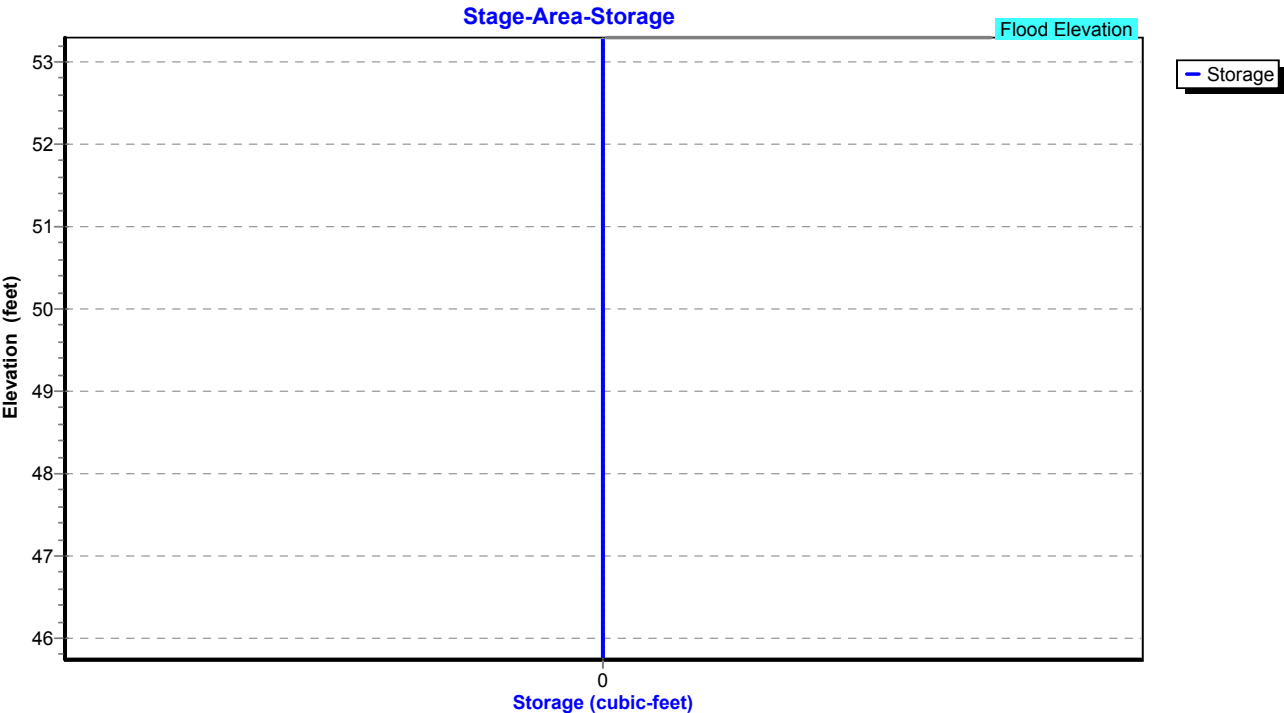
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Pond 70P: CB-2



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Summary for Pond 72P: Manhole

Inflow Area = 74,575 sf, 50.88% Impervious, Inflow Depth = 3.62" for 10 year event
Inflow = 6.10 cfs @ 11.99 hrs, Volume= 22,506 cf
Outflow = 6.10 cfs @ 11.99 hrs, Volume= 22,506 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.10 cfs @ 11.99 hrs, Volume= 22,506 cf
Routed to Pond 70P : CB-2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 48.34' @ 11.99 hrs

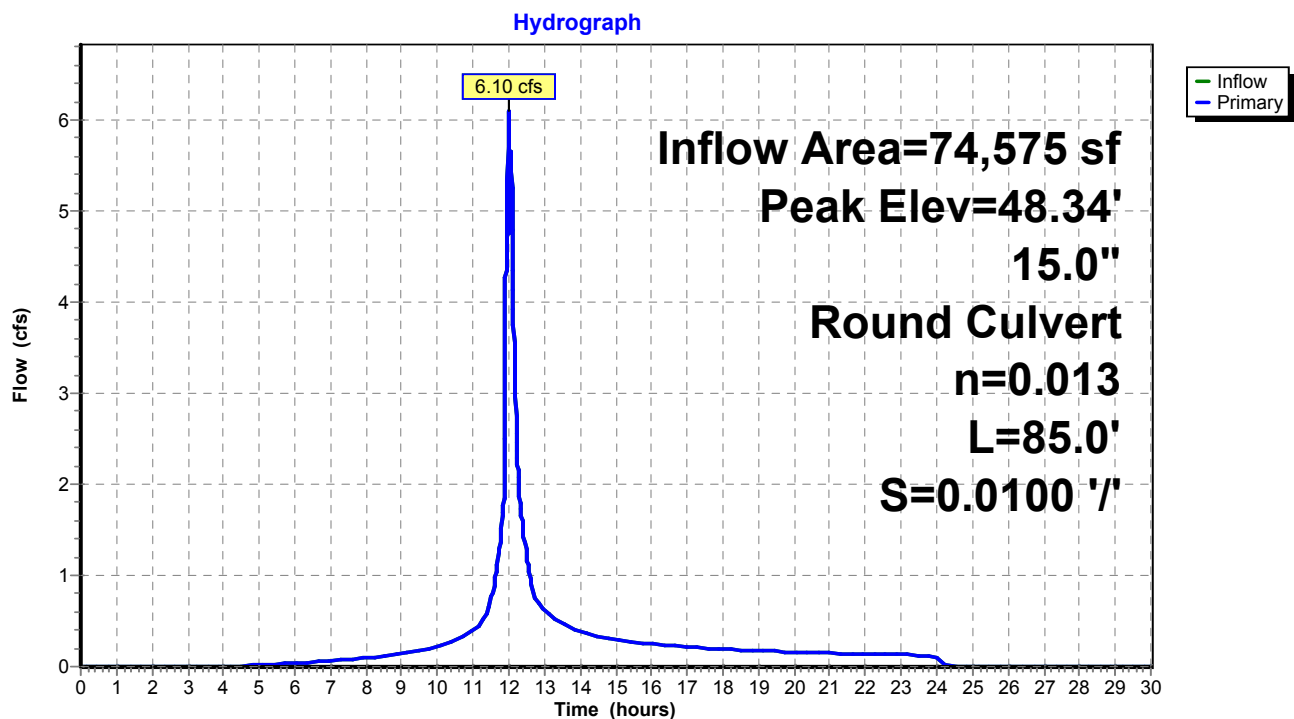
Flood Elev= 54.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.60'	15.0" Round Culvert L= 85.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.60' / 45.75' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=6.04 cfs @ 11.99 hrs HW=48.31' (Free Discharge)

↑1=Culvert (Barrel Controls 6.04 cfs @ 4.92 fps)

Pond 72P: Manhole



Existing Conditions

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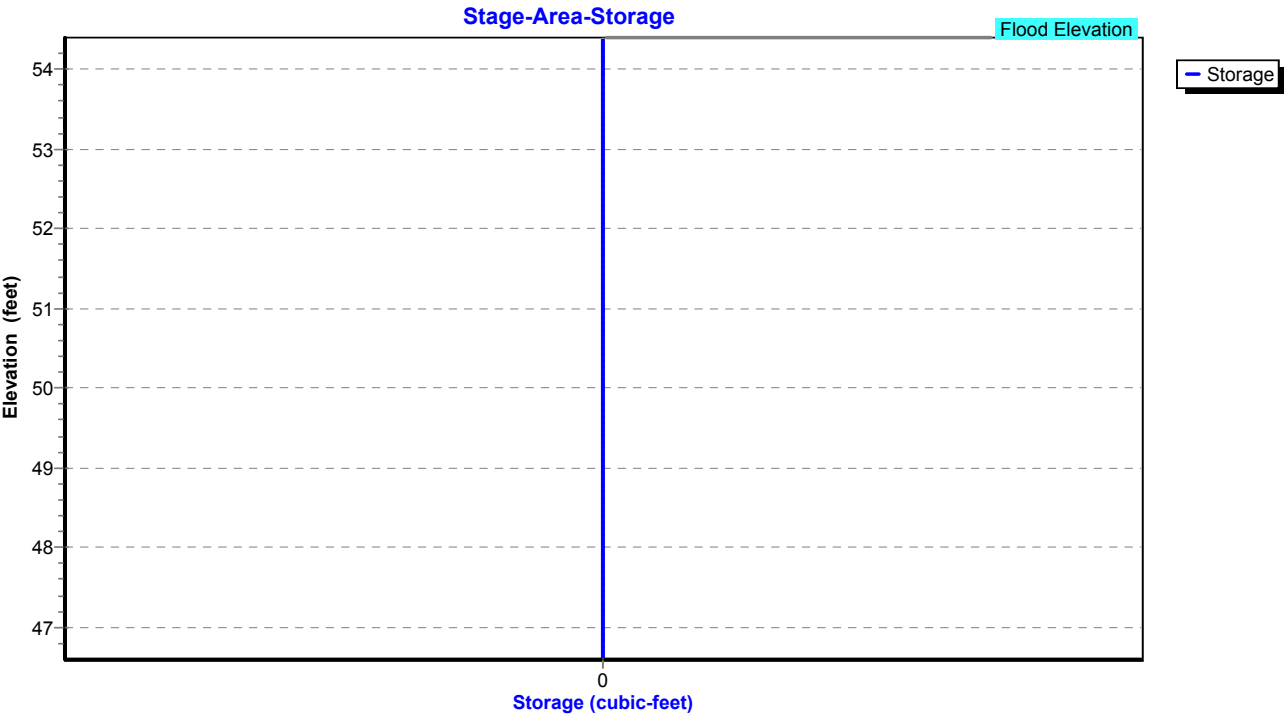
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Pond 72P: Manhole



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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Pond 73P: CB-3

Inflow Area = 74,575 sf, 50.88% Impervious, Inflow Depth = 3.62" for 10 year event
Inflow = 6.10 cfs @ 11.99 hrs, Volume= 22,506 cf
Outflow = 6.10 cfs @ 11.99 hrs, Volume= 22,506 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.10 cfs @ 11.99 hrs, Volume= 22,506 cf
Routed to Pond 72P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 49.41' @ 11.99 hrs

Flood Elev= 53.30'

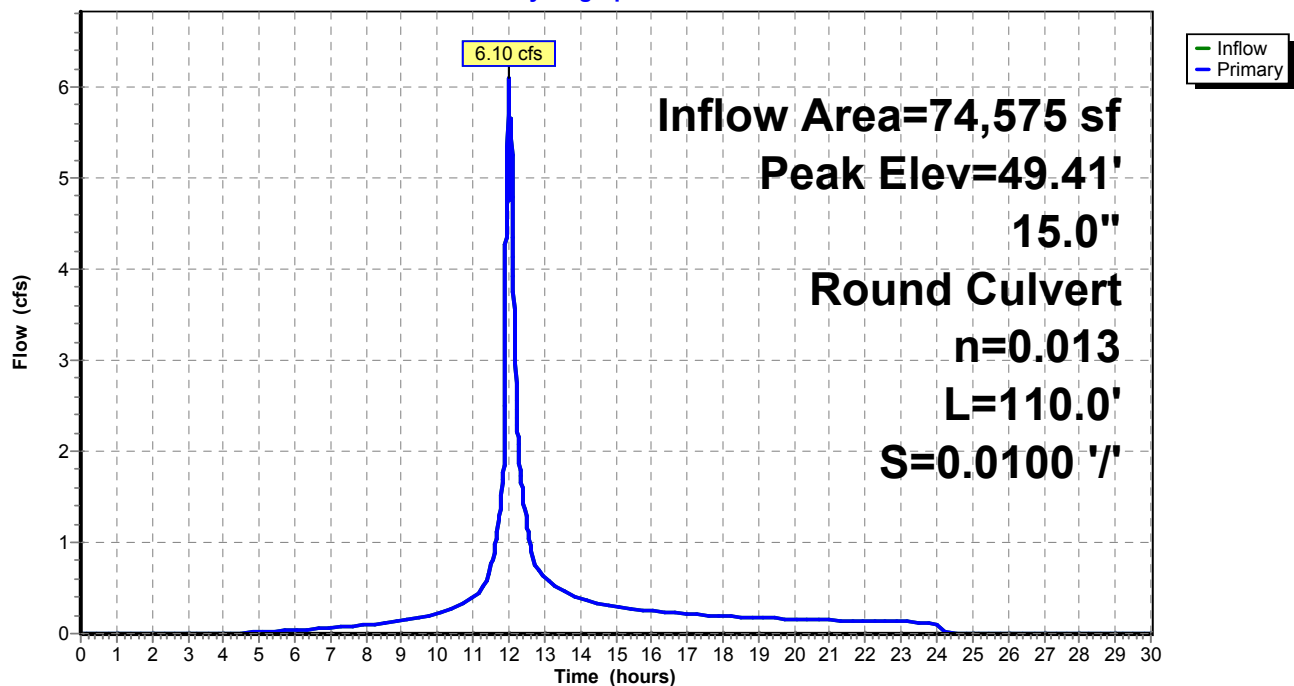
Device	Routing	Invert	Outlet Devices
#1	Primary	47.70'	15.0" Round Culvert L= 110.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.70' / 46.60' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=6.06 cfs @ 11.99 hrs HW=49.39' (Free Discharge)

↑**1=Culvert** (Barrel Controls 6.06 cfs @ 4.94 fps)

Pond 73P: CB-3

Hydrograph



Existing Conditions

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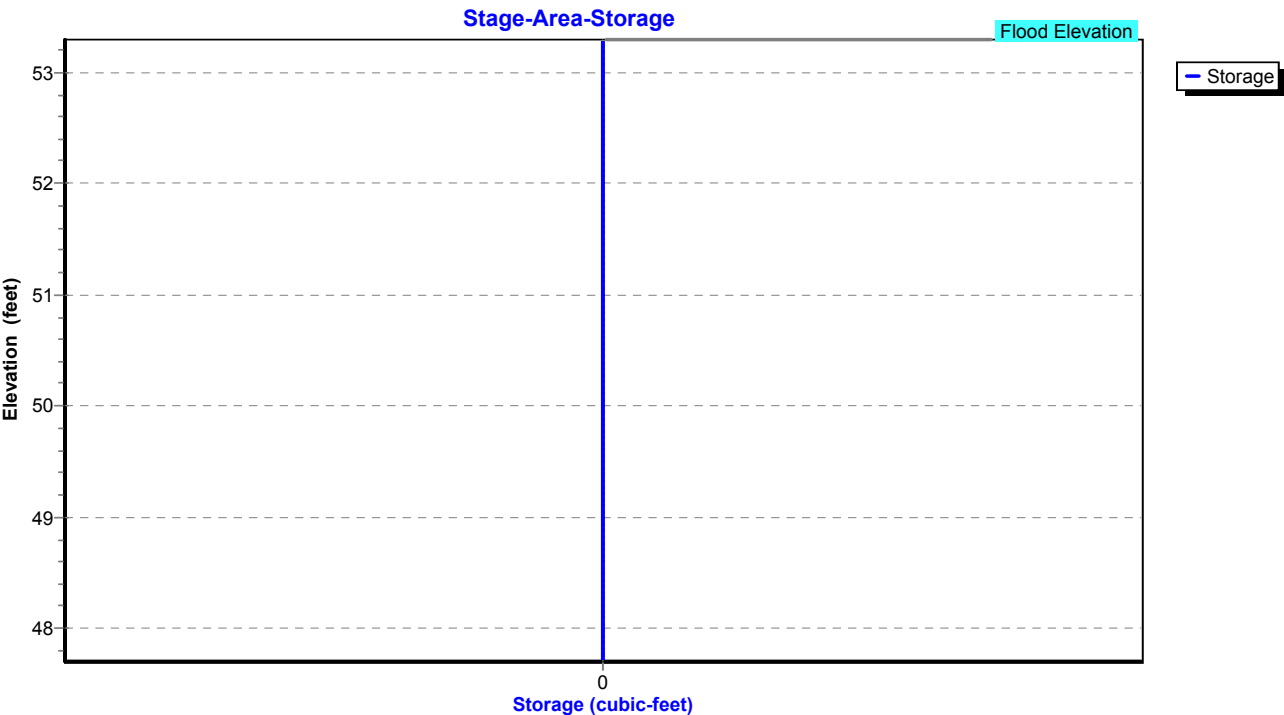
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Pond 73P: CB-3



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Summary for Pond 74P: CB-4

Inflow Area = 49,920 sf, 46.51% Impervious, Inflow Depth = 3.50" for 10 year event
Inflow = 4.52 cfs @ 12.06 hrs, Volume= 14,540 cf
Outflow = 4.52 cfs @ 12.06 hrs, Volume= 14,540 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.52 cfs @ 12.06 hrs, Volume= 14,540 cf
Routed to Pond 73P : CB-3

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.40' @ 12.06 hrs

Flood Elev= 53.70'

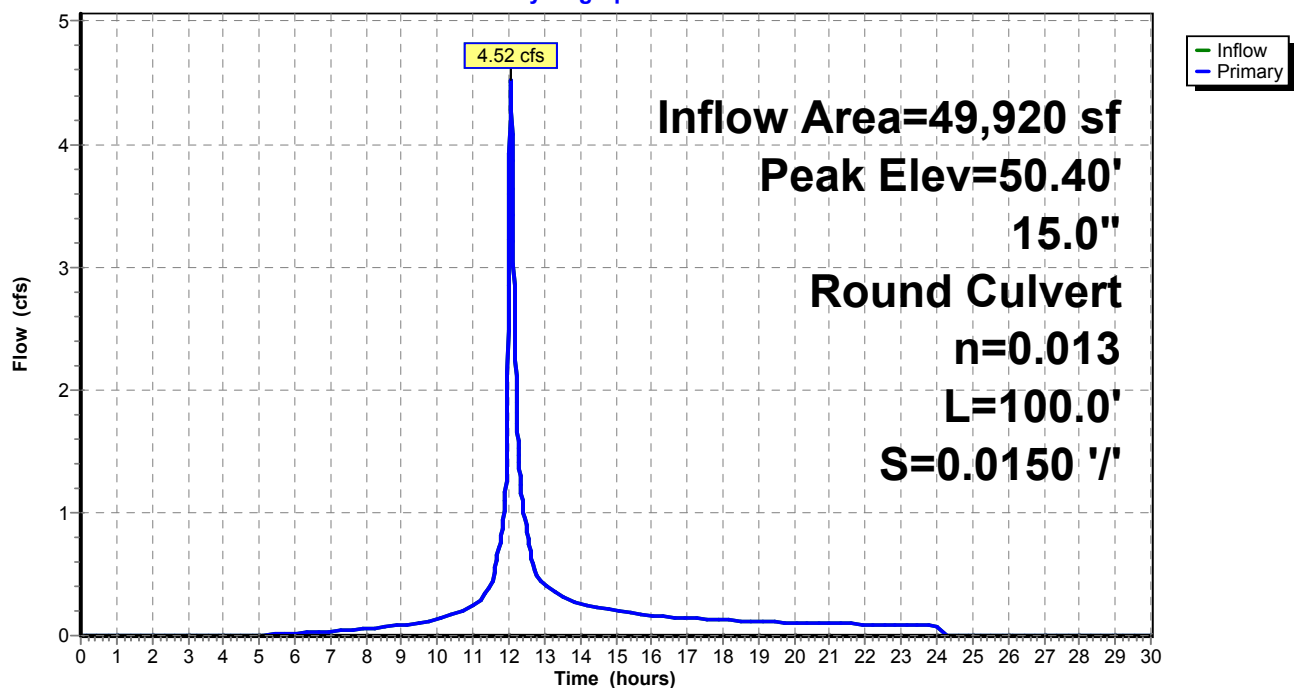
Device	Routing	Invert	Outlet Devices
#1	Primary	49.20'	15.0" Round Culvert L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.20' / 47.70' S= 0.0150 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=4.51 cfs @ 12.06 hrs HW=50.40' (Free Discharge)

↑1=Culvert (Inlet Controls 4.51 cfs @ 3.73 fps)

Pond 74P: CB-4

Hydrograph



Existing Conditions

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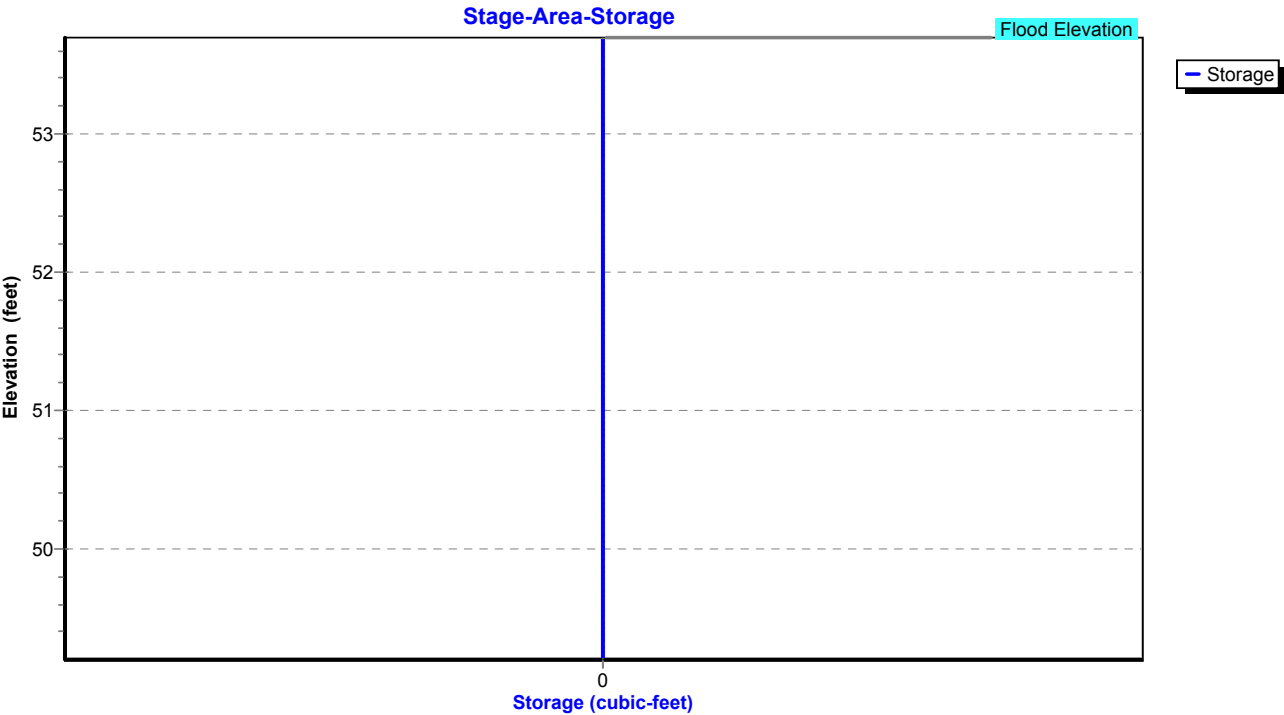
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Pond 74P: CB-4



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Summary for Pond 77P: Manhole

Inflow Area = 87,338 sf, 48.38% Impervious, Inflow Depth = 3.75" for 10 year event
Inflow = 7.47 cfs @ 12.06 hrs, Volume= 27,279 cf
Outflow = 7.47 cfs @ 12.06 hrs, Volume= 27,279 cf, Atten= 0%, Lag= 0.0 min
Primary = 7.47 cfs @ 12.06 hrs, Volume= 27,279 cf
Routed to Pond 63P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 49.32' @ 12.06 hrs

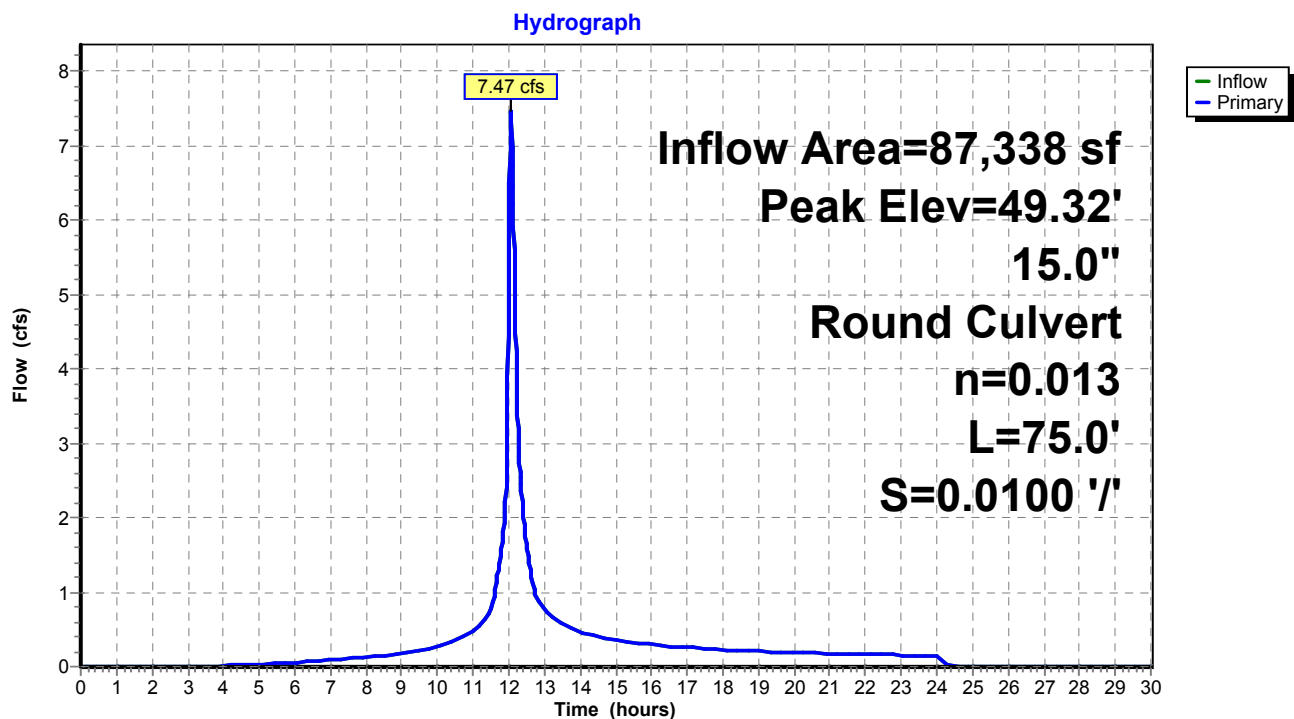
Flood Elev= 52.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.95'	15.0" Round Culvert L= 75.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.95' / 46.20' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=7.46 cfs @ 12.06 hrs HW=49.31' (Free Discharge)

↑1=Culvert (Barrel Controls 7.46 cfs @ 6.08 fps)

Pond 77P: Manhole



Existing Conditions

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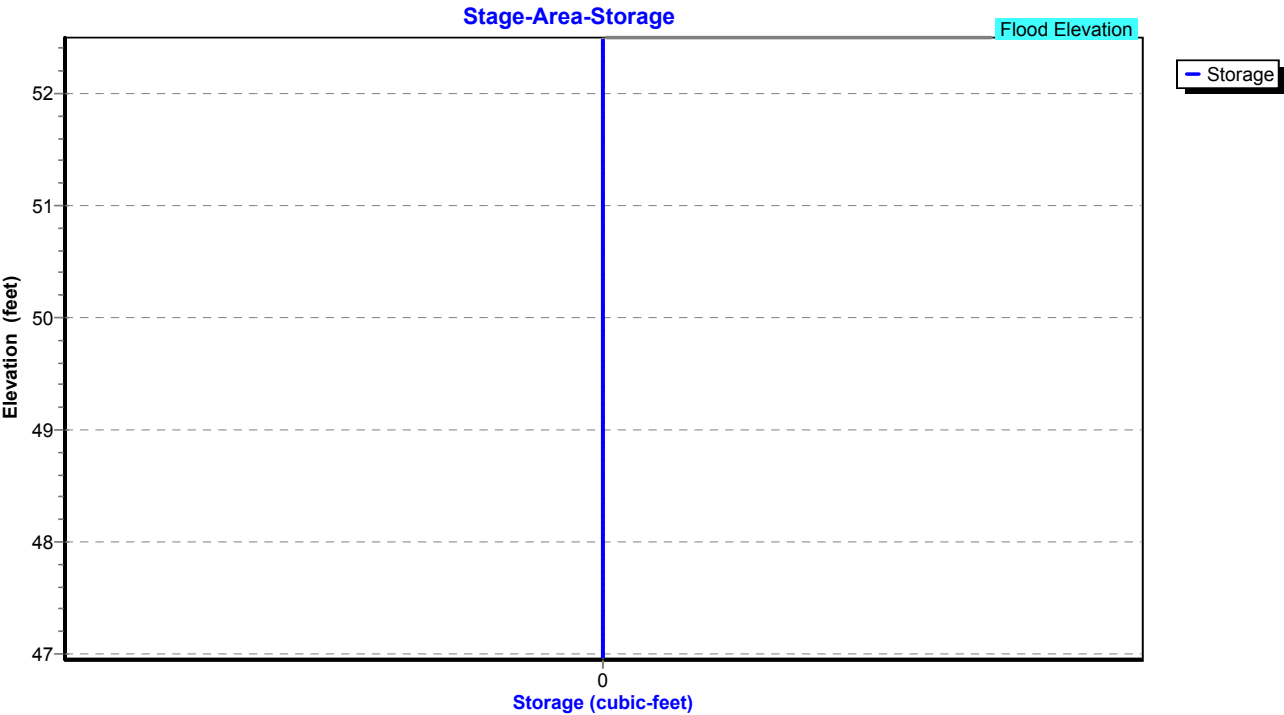
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Pond 77P: Manhole



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Summary for Pond 79P: CB-8

Inflow Area = 3,920 sf, 100.00% Impervious, Inflow Depth = 5.09" for 10 year event
Inflow = 0.54 cfs @ 12.03 hrs, Volume= 1,663 cf
Outflow = 0.54 cfs @ 12.03 hrs, Volume= 1,663 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.54 cfs @ 12.03 hrs, Volume= 1,663 cf
Routed to Pond 63P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.57' @ 12.03 hrs

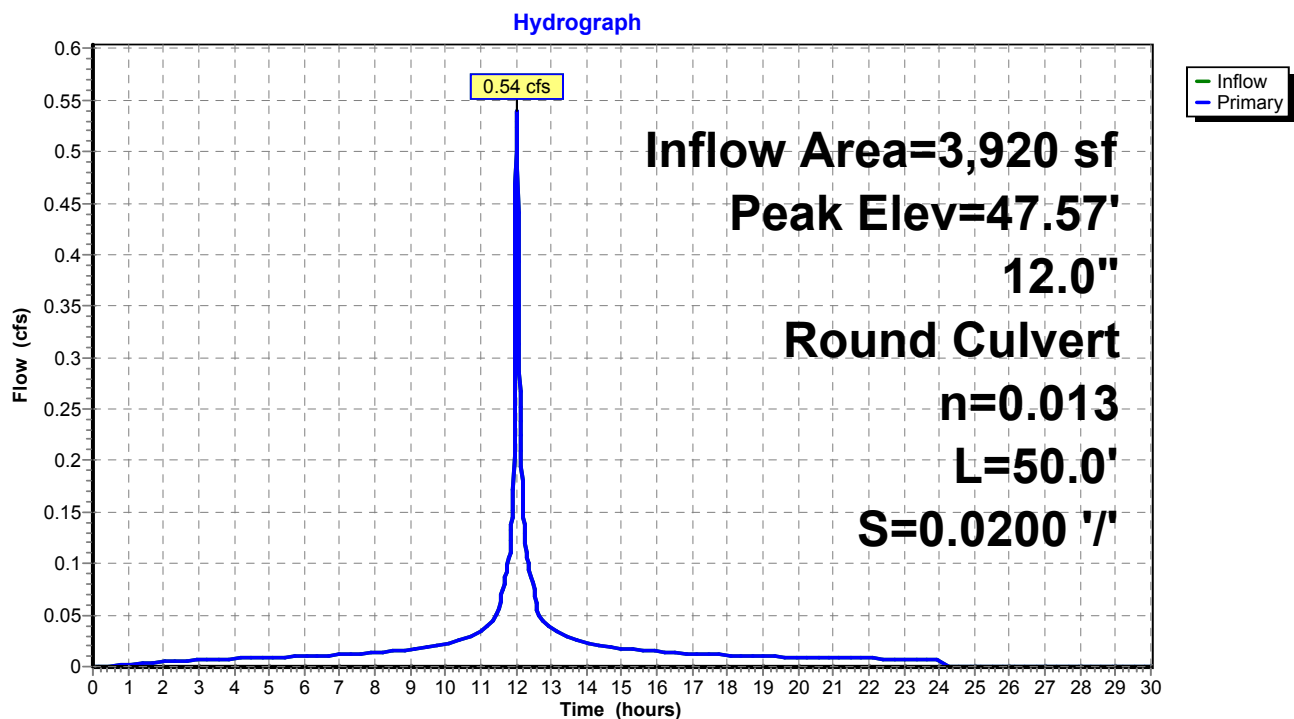
Flood Elev= 52.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.20'	12.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.20' / 46.20' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.54 cfs @ 12.03 hrs HW=47.57' (Free Discharge)

↑1=Culvert (Inlet Controls 0.54 cfs @ 2.06 fps)

Pond 79P: CB-8



Existing Conditions

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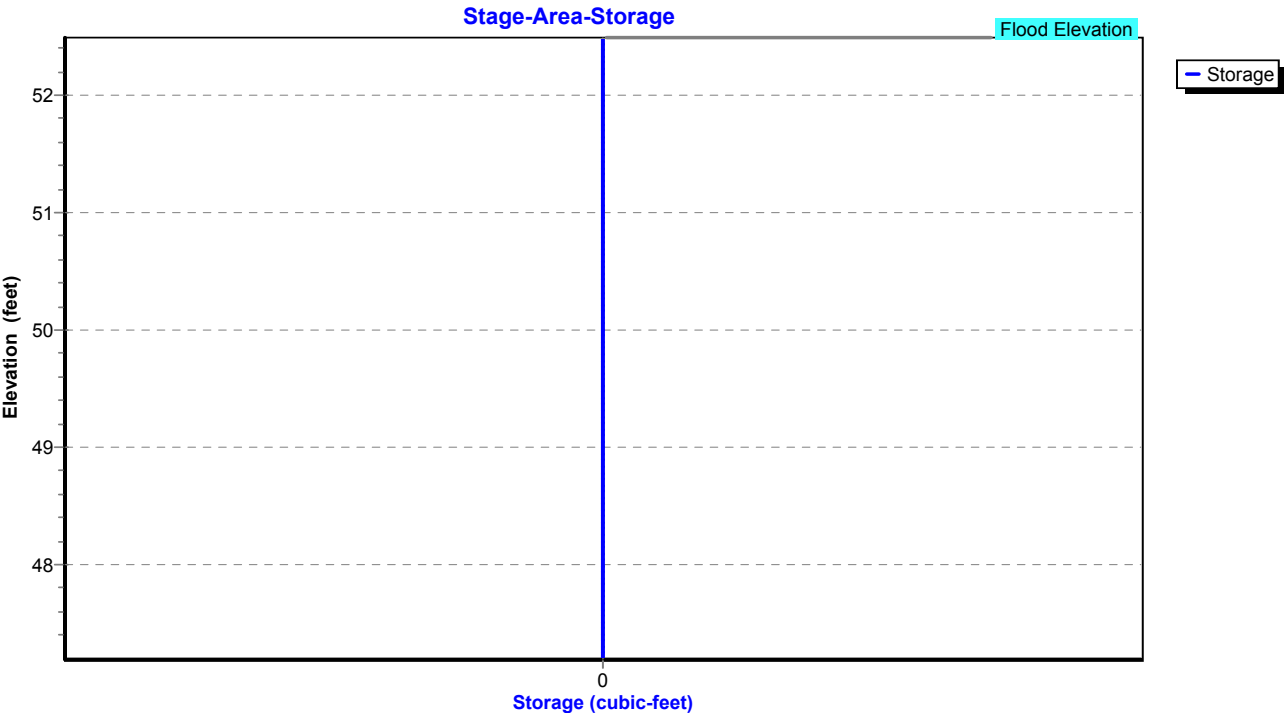
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Pond 79P: CB-8



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Summary for Pond 85P: CB-5

Inflow Area = 34,804 sf, 42.18% Impervious, Inflow Depth = 3.37" for 10 year event
Inflow = 3.00 cfs @ 12.07 hrs, Volume= 9,786 cf
Outflow = 3.00 cfs @ 12.07 hrs, Volume= 9,786 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.00 cfs @ 12.07 hrs, Volume= 9,786 cf
Routed to Pond 74P : CB-4

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 51.33' @ 12.07 hrs

Flood Elev= 53.30'

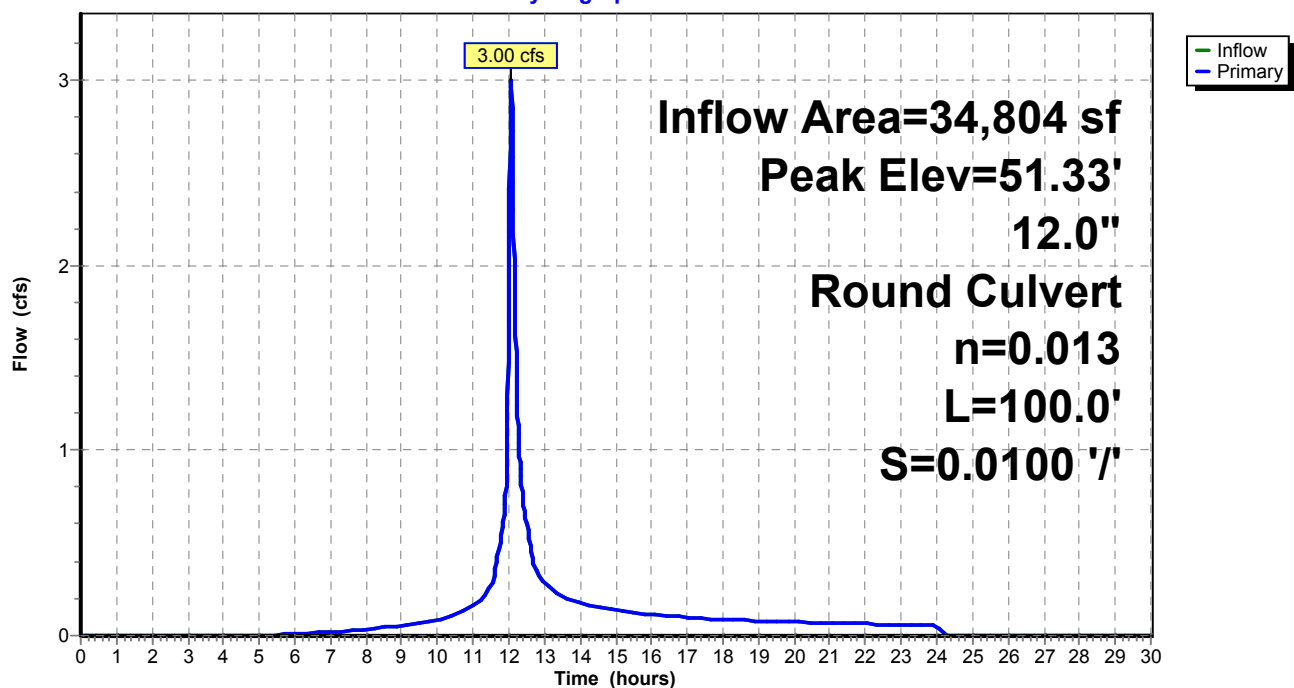
Device	Routing	Invert	Outlet Devices
#1	Primary	50.20'	12.0" Round Culvert L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 50.20' / 49.20' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=2.99 cfs @ 12.07 hrs HW=51.33' (Free Discharge)

↑1=Culvert (Inlet Controls 2.99 cfs @ 3.81 fps)

Pond 85P: CB-5

Hydrograph



Existing Conditions

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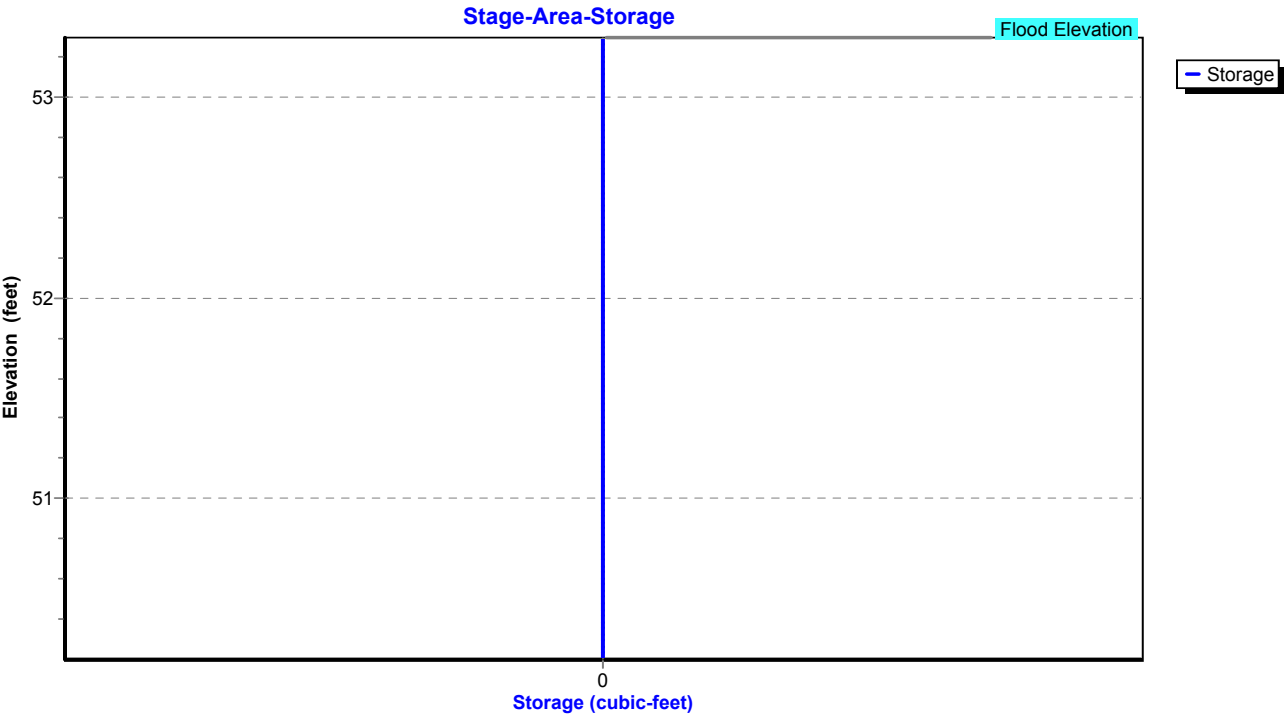
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Pond 85P: CB-5



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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Pond P: ADS Stormtech

Inflow Area = 16,901 sf, 100.00% Impervious, Inflow Depth = 5.09" for 10 year event
Inflow = 2.33 cfs @ 12.03 hrs, Volume= 7,170 cf
Outflow = 0.64 cfs @ 12.20 hrs, Volume= 7,170 cf, Atten= 73%, Lag= 10.8 min
Primary = 0.64 cfs @ 12.20 hrs, Volume= 7,170 cf
Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 53.79' @ 12.20 hrs Surf.Area= 749 sf Storage= 1,222 cf

Plug-Flow detention time= 18.7 min calculated for 7,170 cf (100% of inflow)
Center-of-Mass det. time= 18.6 min (765.9 - 747.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	51.34'	764 cf	15.75'W x 46.34'L x 3.75'H Field A 2,737 cf Overall - 827 cf Embedded = 1,910 cf x 40.0% Voids
#2A	51.84'	827 cf	ADS_StormTech SC-740 +Cap x 18 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 18 Chambers in 3 Rows
#3	51.34'	114 cf	5.00'D x 5.80'H OCS
		1,705 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	51.34'	12.0" Round Culvert L= 4.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 51.34' / 51.30' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	51.34'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	54.30'	5.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.64 cfs @ 12.20 hrs HW=53.79' (Free Discharge)

- 1=Culvert (Passes 0.64 cfs of 5.28 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.64 cfs @ 7.28 fps)
- 3=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Existing Conditions

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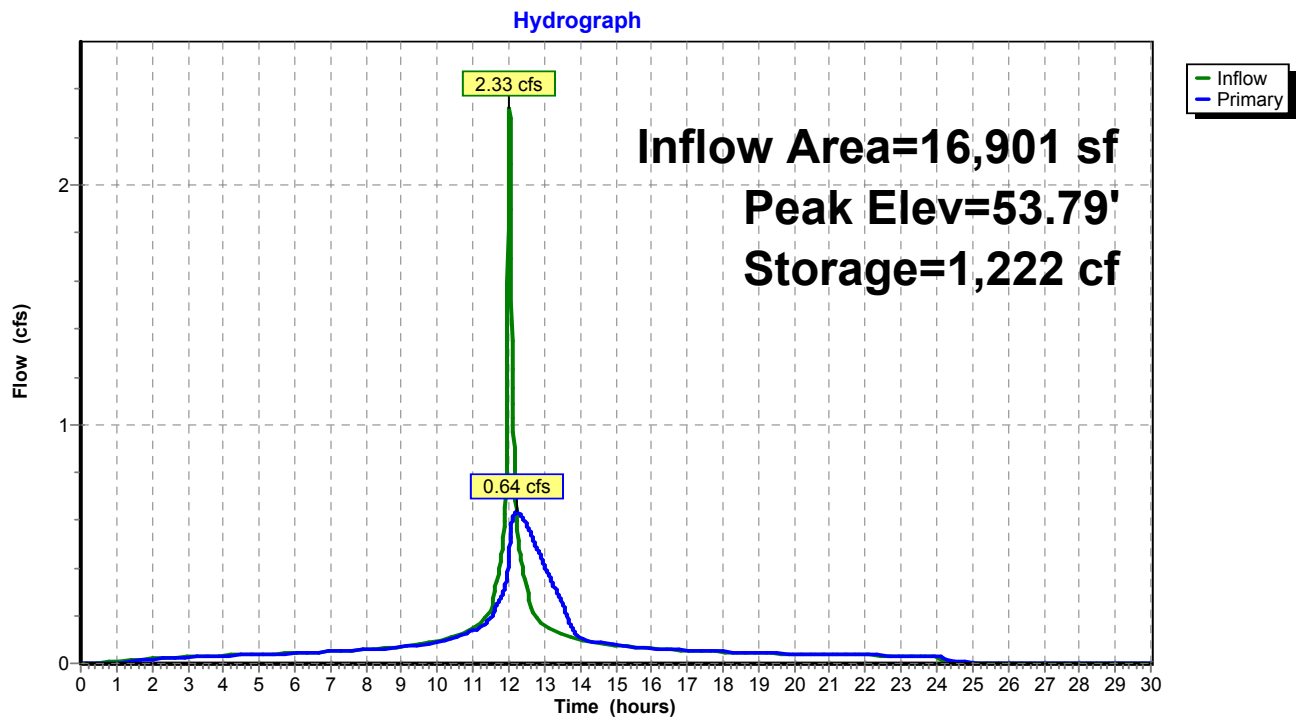
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NORWALK 24-hr S1 10 year Rainfall=5.33"

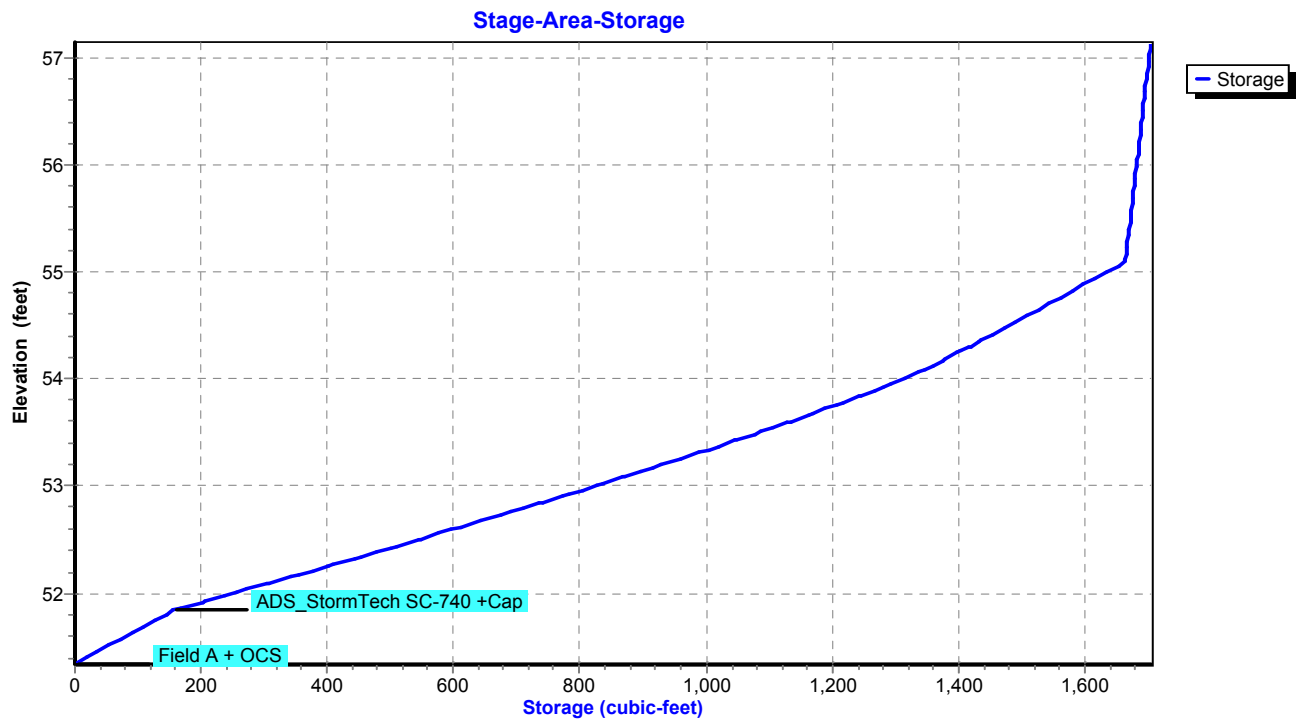
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Pond P: ADS Stormtech



Pond P: ADS Stormtech



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 4S: Area 4

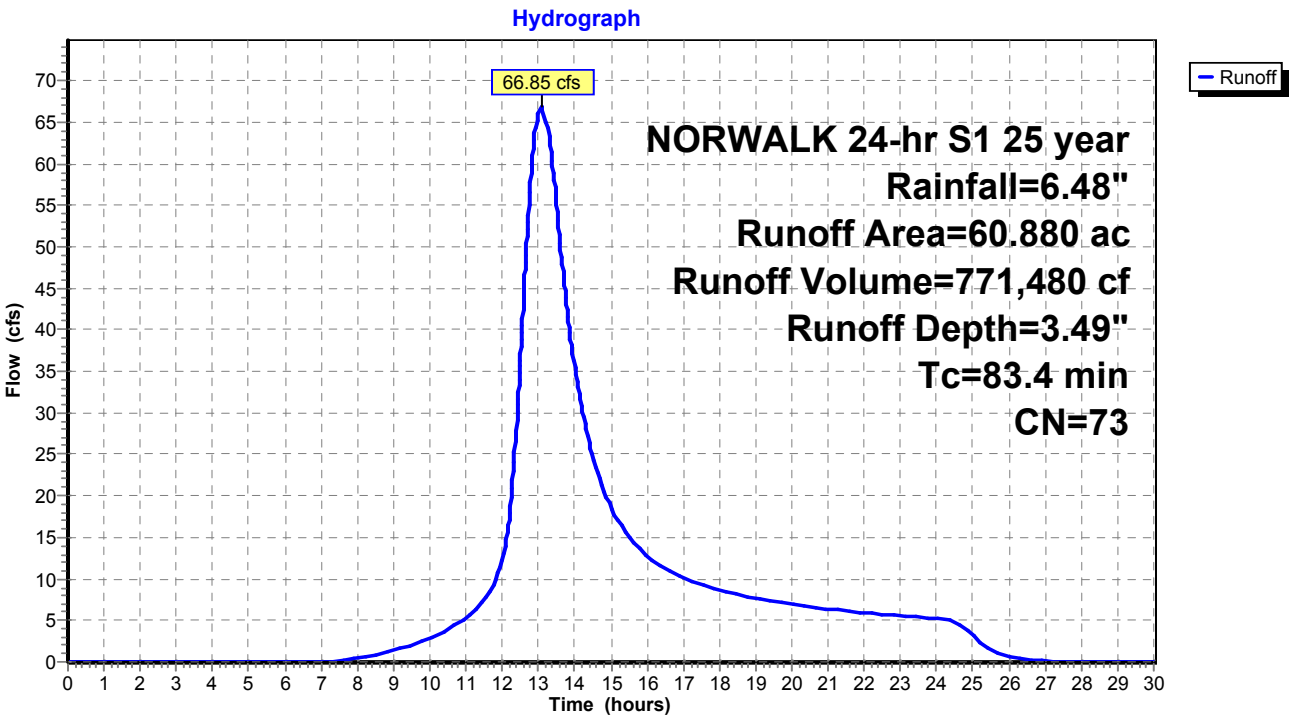
Runoff = 66.85 cfs @ 13.07 hrs, Volume= 771,480 cf, Depth= 3.49"
Routed to Pond 18P : DET 4 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
8.210	61	>75% Grass cover, Good, HSG B
0.140	74	>75% Grass cover, Good, HSG C
0.380	80	>75% Grass cover, Good, HSG D
25.920	70	1/2 acre lots, 25% imp, HSG B
22.630	80	1/2 acre lots, 25% imp, HSG C
3.600	85	1/2 acre lots, 25% imp, HSG D
60.880	73	Weighted Average
47.842		78.58% Pervious Area
13.037		21.42% Impervious Area

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

Subcatchment 4S: Area 4



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 5S: Area 5

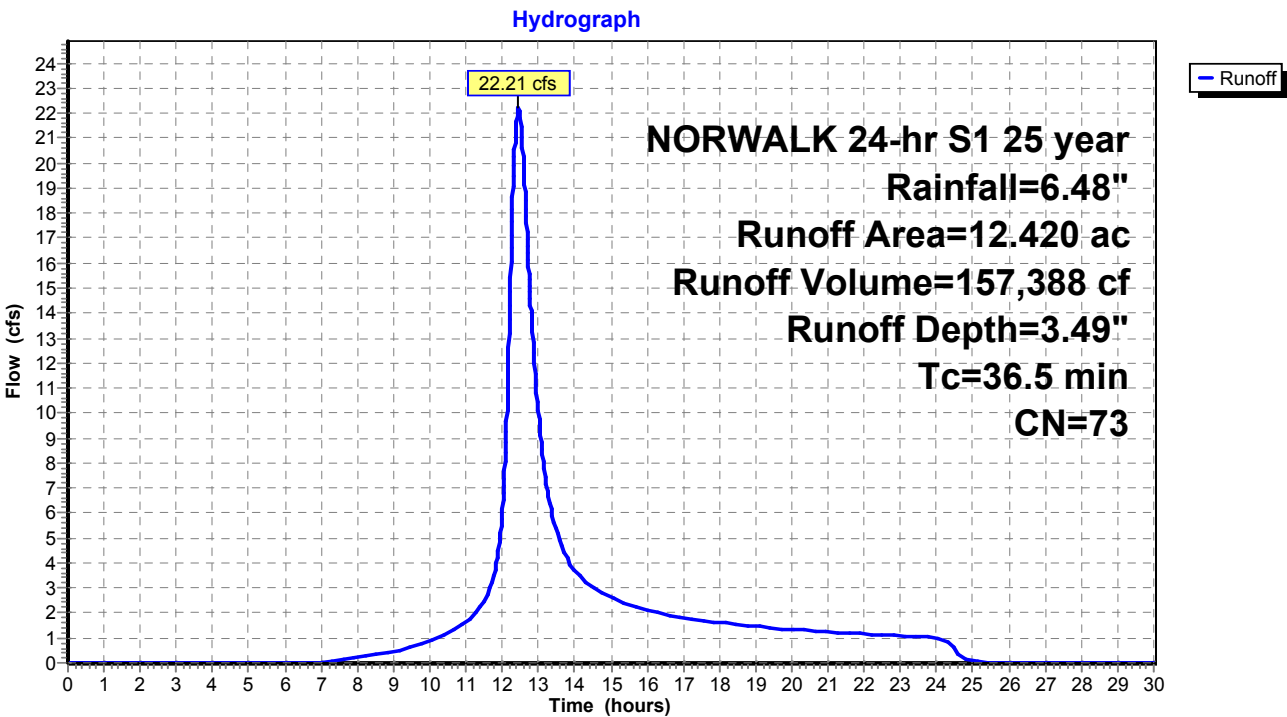
Runoff = 22.21 cfs @ 12.45 hrs, Volume= 157,388 cf, Depth= 3.49"
Routed to Pond 5P : DET 5 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
4.770	61	>75% Grass cover, Good, HSG B
5.210	74	>75% Grass cover, Good, HSG C
0.390	80	>75% Grass cover, Good, HSG D
2.050	98	Paved parking & roofs
12.420	73	Weighted Average
10.370		83.49% Pervious Area
2.050		16.51% Impervious Area

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

Subcatchment 5S: Area 5



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 6S: Area 6

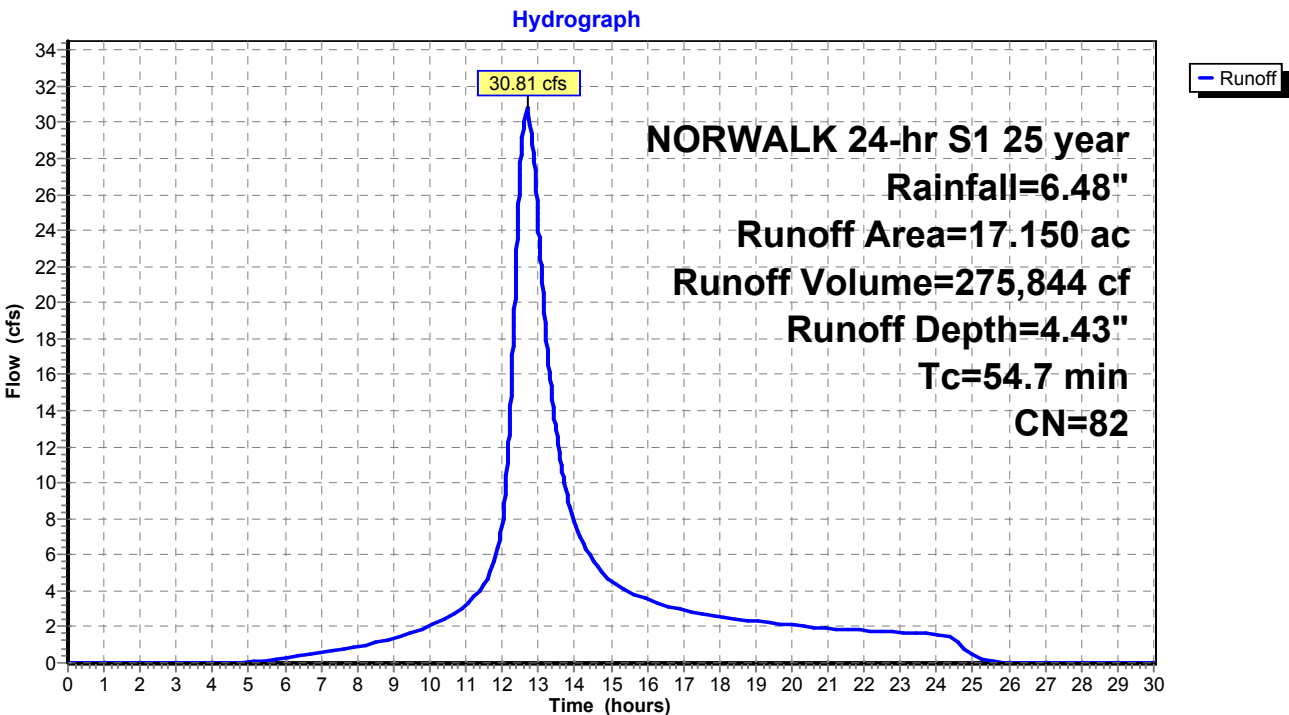
Runoff = 30.81 cfs @ 12.70 hrs, Volume= 275,844 cf, Depth= 4.43"
Routed to Pond 6P : DET 6 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
9.290	71	Meadow, non-grazed, HSG C
5.410	98	Paved parking & roofs
1.480	77	Woods, Good, HSG D
0.970	98	Paved parking & roofs
17.150	82	Weighted Average
10.770		62.80% Pervious Area
6.380		37.20% Impervious Area

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

Subcatchment 6S: Area 6



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 7S: Area 7

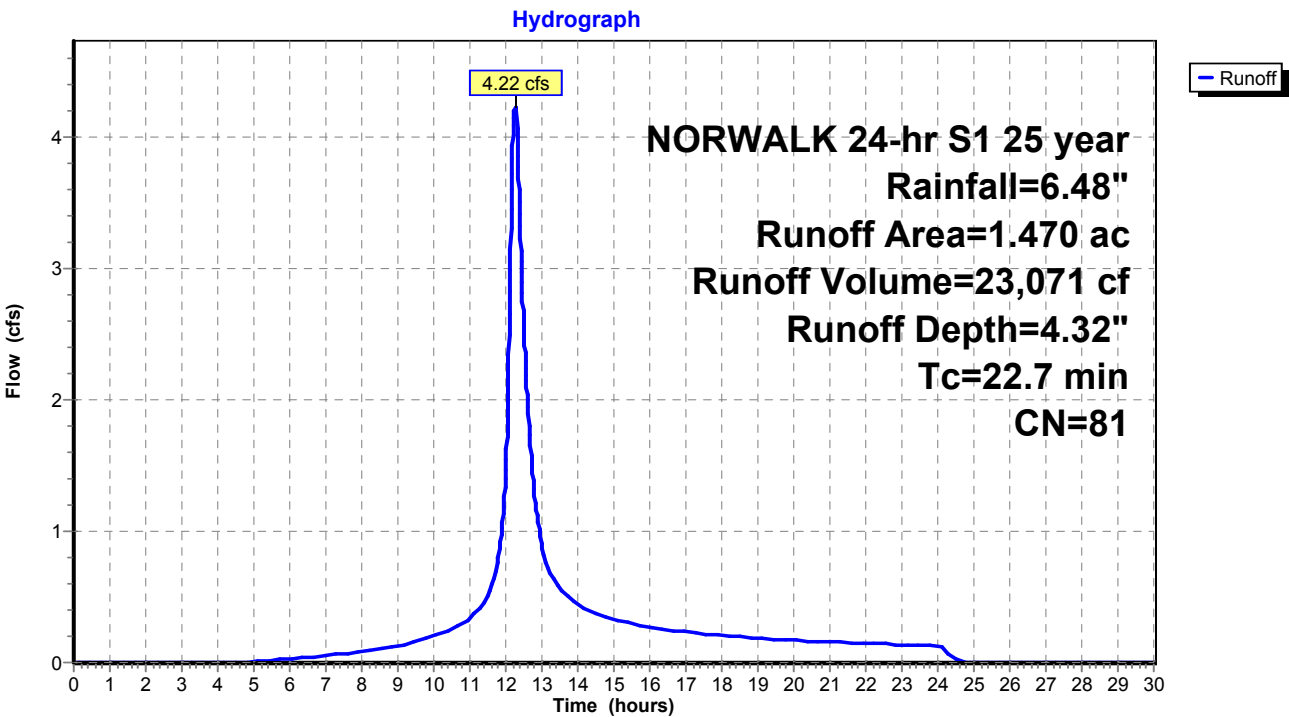
Runoff = 4.22 cfs @ 12.26 hrs, Volume= 23,071 cf, Depth= 4.32"
Routed to Pond 7P : DET 7 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.890	79	50-75% Grass cover, Fair, HSG C
0.580	84	50-75% Grass cover, Fair, HSG D
1.470	81	Weighted Average
1.470		100.00% Pervious Area

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

Subcatchment 7S: Area 7



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 8S: Area 8

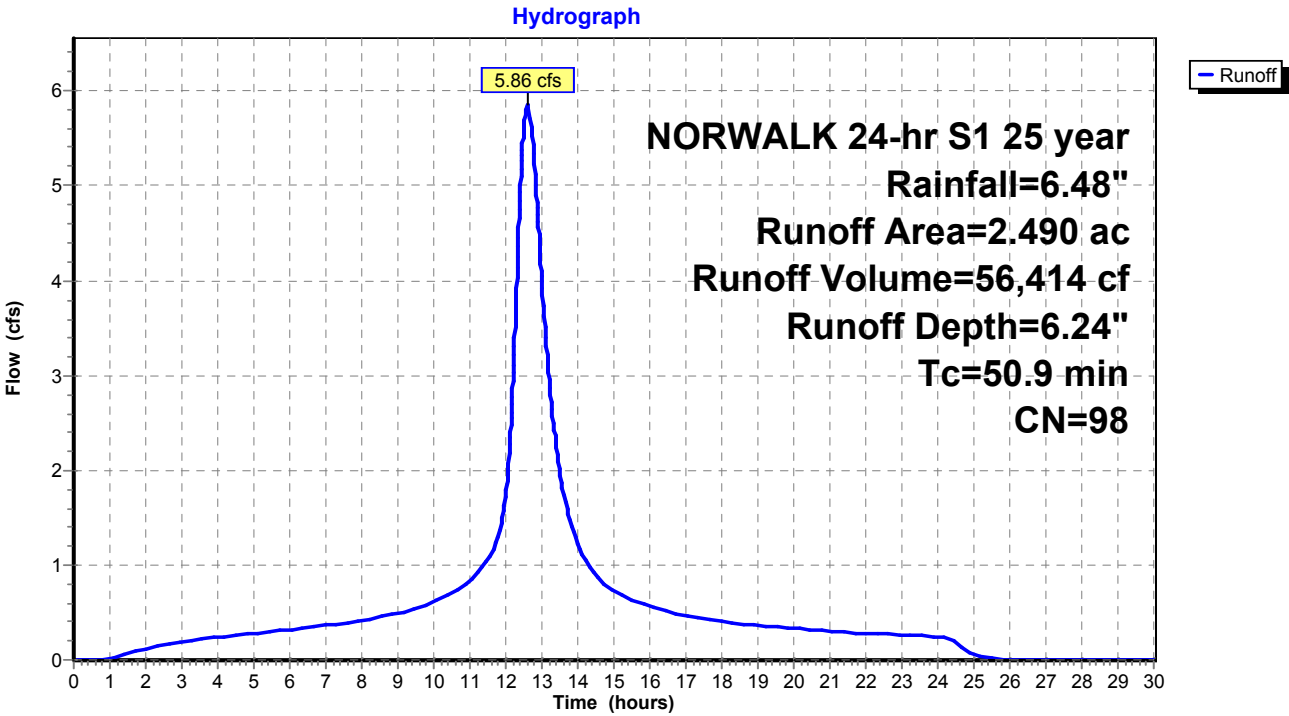
Runoff = 5.86 cfs @ 12.61 hrs, Volume= 56,414 cf, Depth= 6.24"
Routed to Pond 8P : Comb. 5,6,7,8,9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
2.490	98	Paved parking & roofs
2.490		100.00% Impervious Area

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

Subcatchment 8S: Area 8



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 9S: Area 9

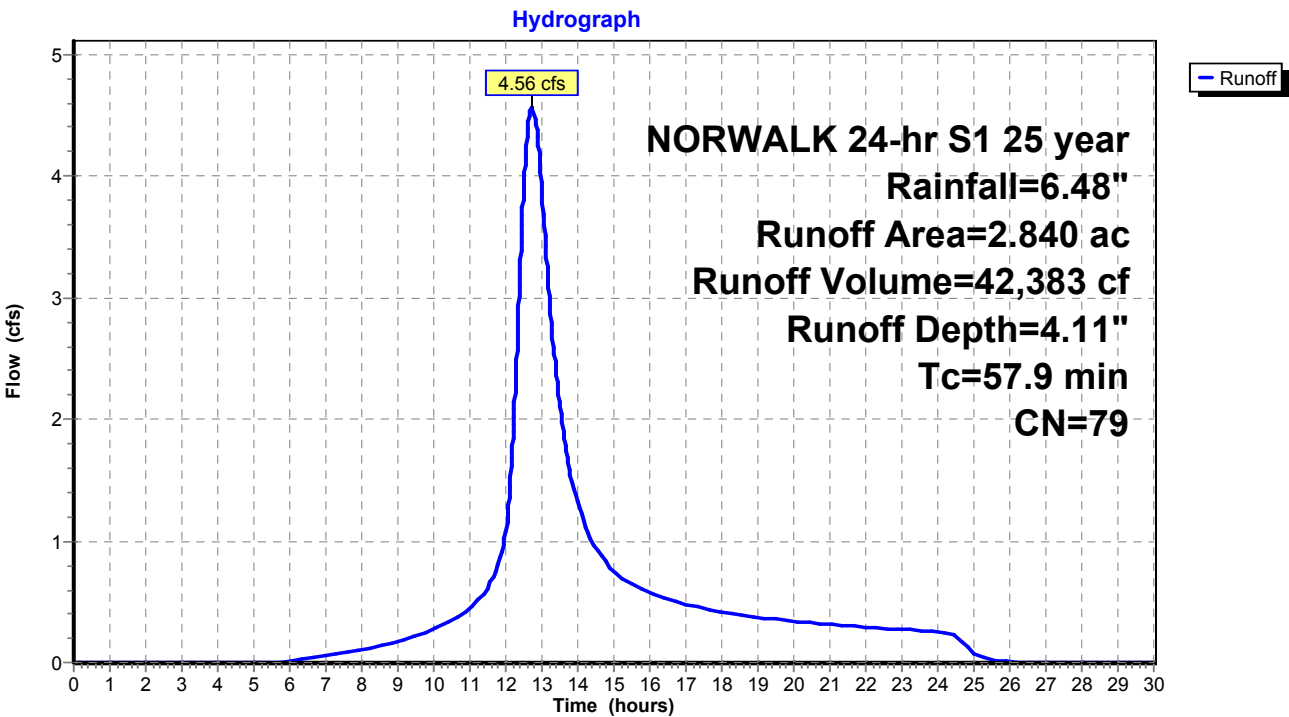
Runoff = 4.56 cfs @ 12.73 hrs, Volume= 42,383 cf, Depth= 4.11"
Routed to Pond 8P : Comb. 5,6,7,8,9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.530	74	>75% Grass cover, Good, HSG C
2.310	80	>75% Grass cover, Good, HSG D
2.840	79	Weighted Average
2.840		100.00% Pervious Area

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

Subcatchment 9S: Area 9



Existing Conditions

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Summary for Subcatchment 10AS: Area 10A

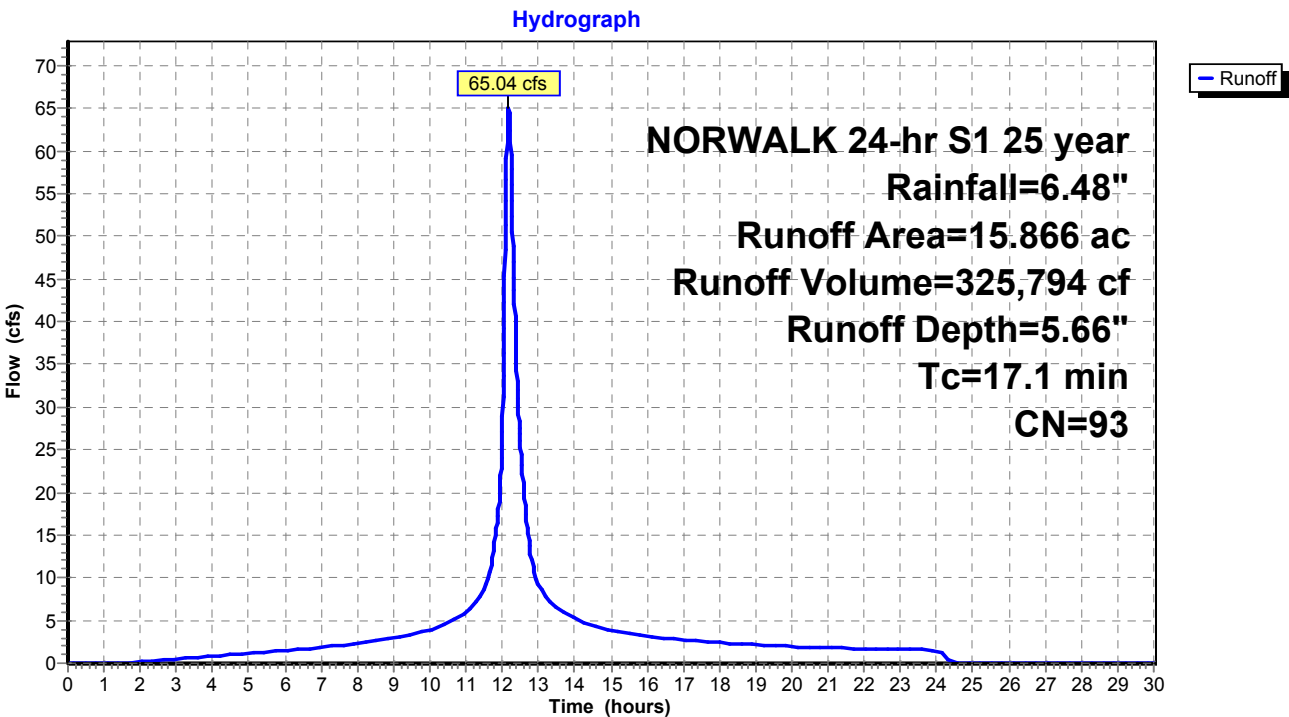
Runoff = 65.04 cfs @ 12.18 hrs, Volume= 325,794 cf, Depth= 5.66"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
3.905	79	50-75% Grass cover, Fair, HSG C
11.961	98	Paved roads w/curbs & sewers, HSG C
15.866	93	Weighted Average
3.905		24.61% Pervious Area
11.961		75.39% Impervious Area

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

Subcatchment 10AS: Area 10A



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 10BS: Area 10B

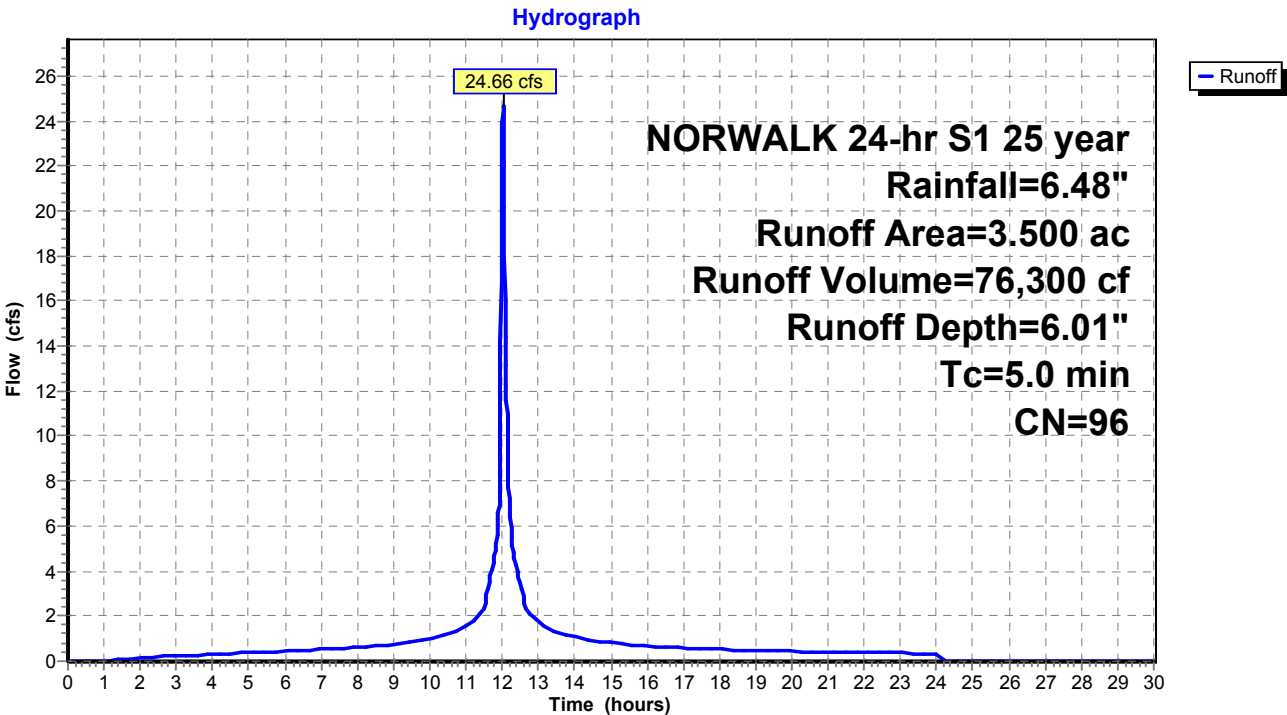
Runoff = 24.66 cfs @ 12.03 hrs, Volume= 76,300 cf, Depth= 6.01"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
3.308	98	Paved parking & roofs
0.192	61	>75% Grass cover, Good, HSG B
3.500	96	Weighted Average
0.192		5.49% Pervious Area
3.308		94.51% Impervious Area

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

Subcatchment 10BS: Area 10B



Existing Conditions

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Summary for Subcatchment 10CS: Area 10C

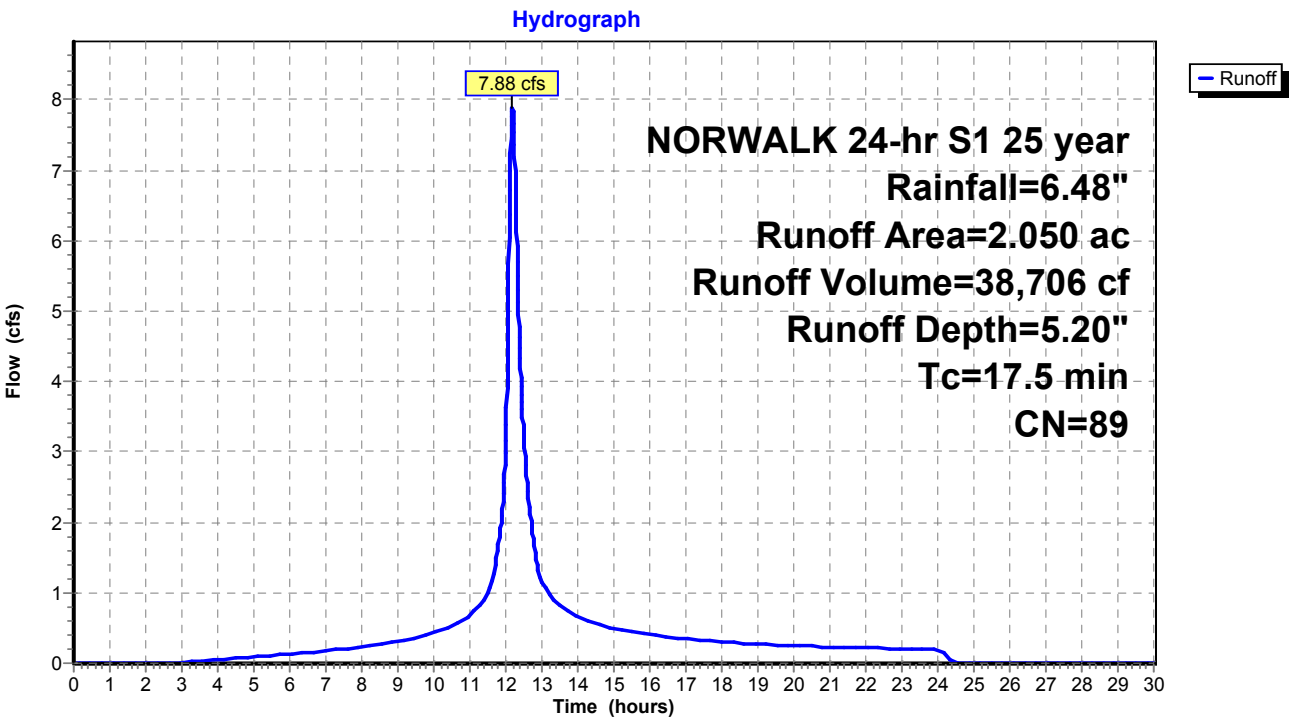
Runoff = 7.88 cfs @ 12.19 hrs, Volume= 38,706 cf, Depth= 5.20"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
1.526	98	Paved parking & roofs
0.524	61	>75% Grass cover, Good, HSG B
2.050	89	Weighted Average
0.524		25.56% Pervious Area
1.526		74.44% Impervious Area

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

Subcatchment 10CS: Area 10C



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 10DS: Area 10D

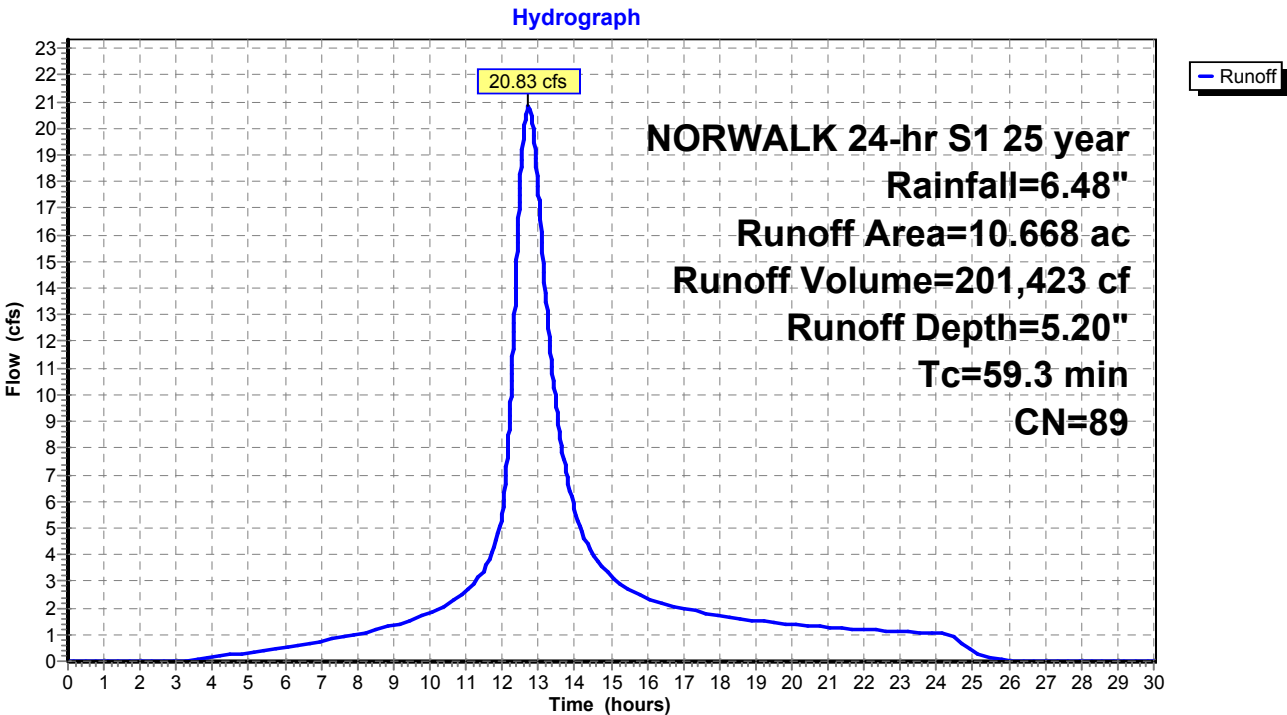
Runoff = 20.83 cfs @ 12.72 hrs, Volume= 201,423 cf, Depth= 5.20"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
5.033	79	50-75% Grass cover, Fair, HSG C
5.635	98	Paved parking, HSG C
10.668	89	Weighted Average
5.033		47.18% Pervious Area
5.635		52.82% Impervious Area

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

Subcatchment 10DS: Area 10D



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 10ES: Area 10E

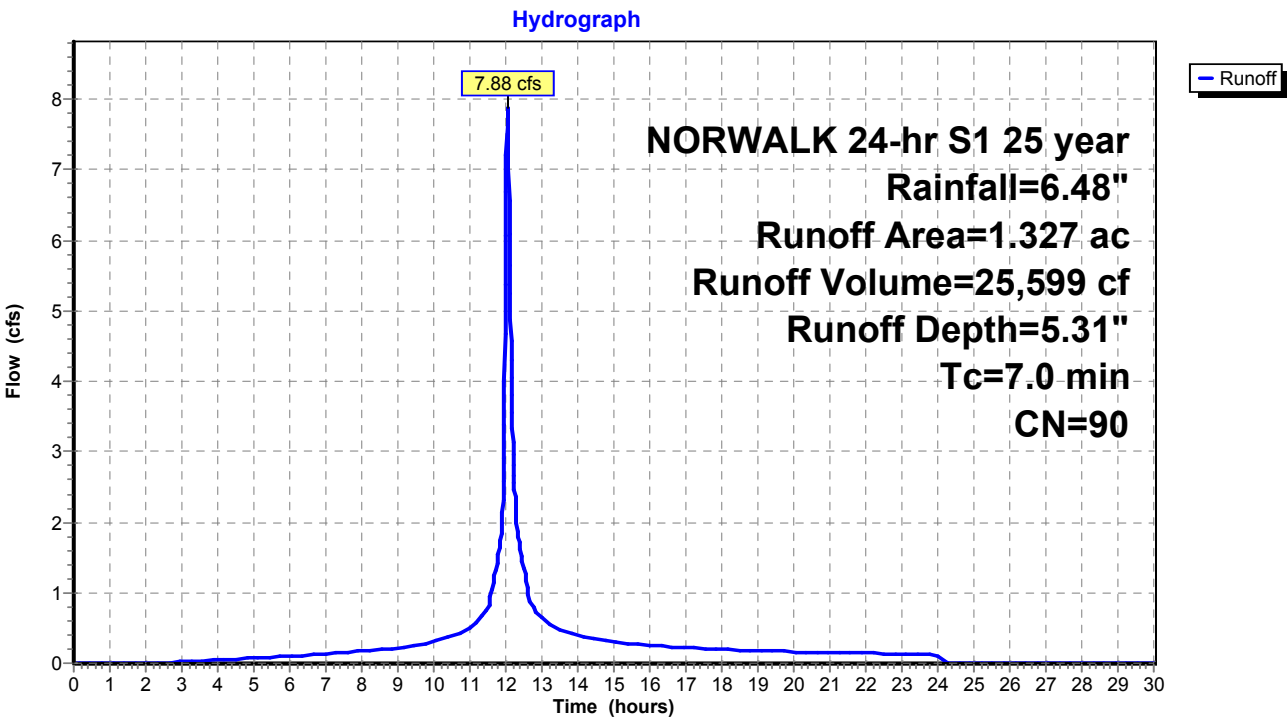
Runoff = 7.88 cfs @ 12.05 hrs, Volume= 25,599 cf, Depth= 5.31"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.798	98	Paved parking, HSG C
0.529	79	50-75% Grass cover, Fair, HSG C
1.327	90	Weighted Average
0.529		39.86% Pervious Area
0.798		60.14% Impervious Area

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

Subcatchment 10ES: Area 10E



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 10FS: Area 10F

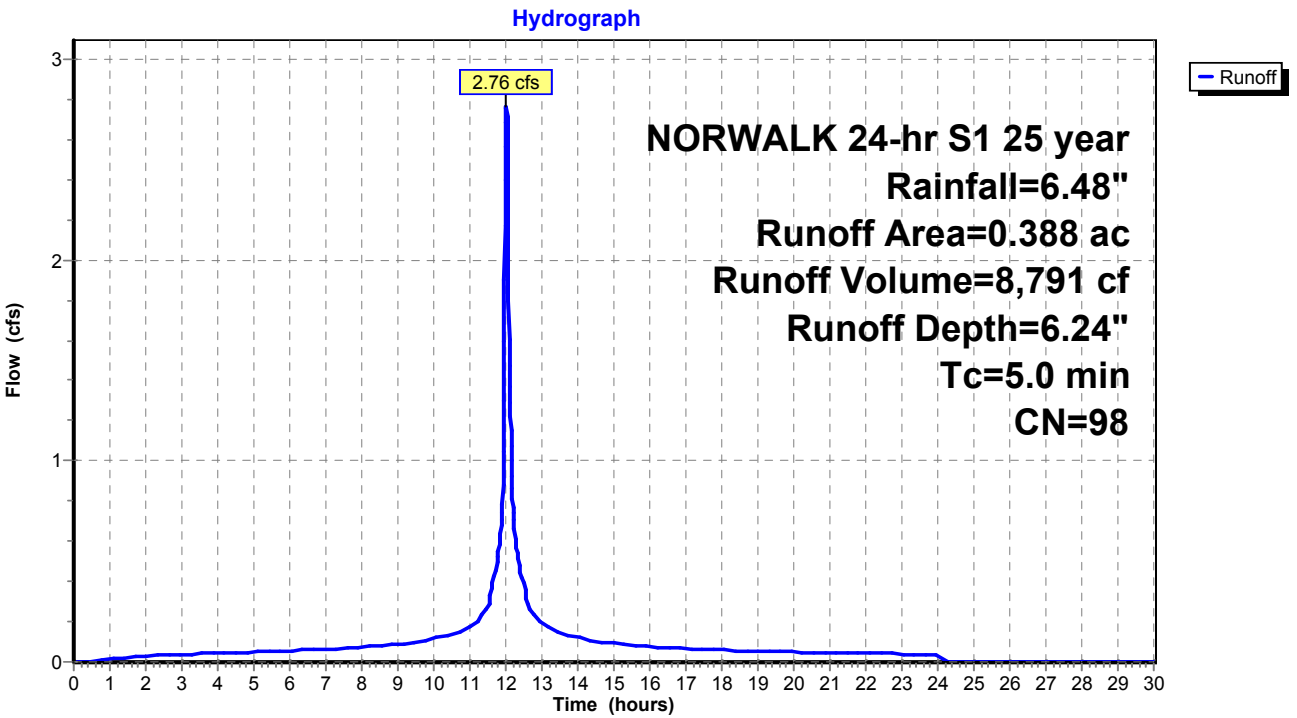
Runoff = 2.76 cfs @ 12.03 hrs, Volume= 8,791 cf, Depth= 6.24"
Routed to Pond P : ADS Stormtech

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.388	98	Paved roads w/curbs & sewers, HSG C
0.388		100.00% Impervious Area

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

Subcatchment 10FS: Area 10F



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 11S: Area 11

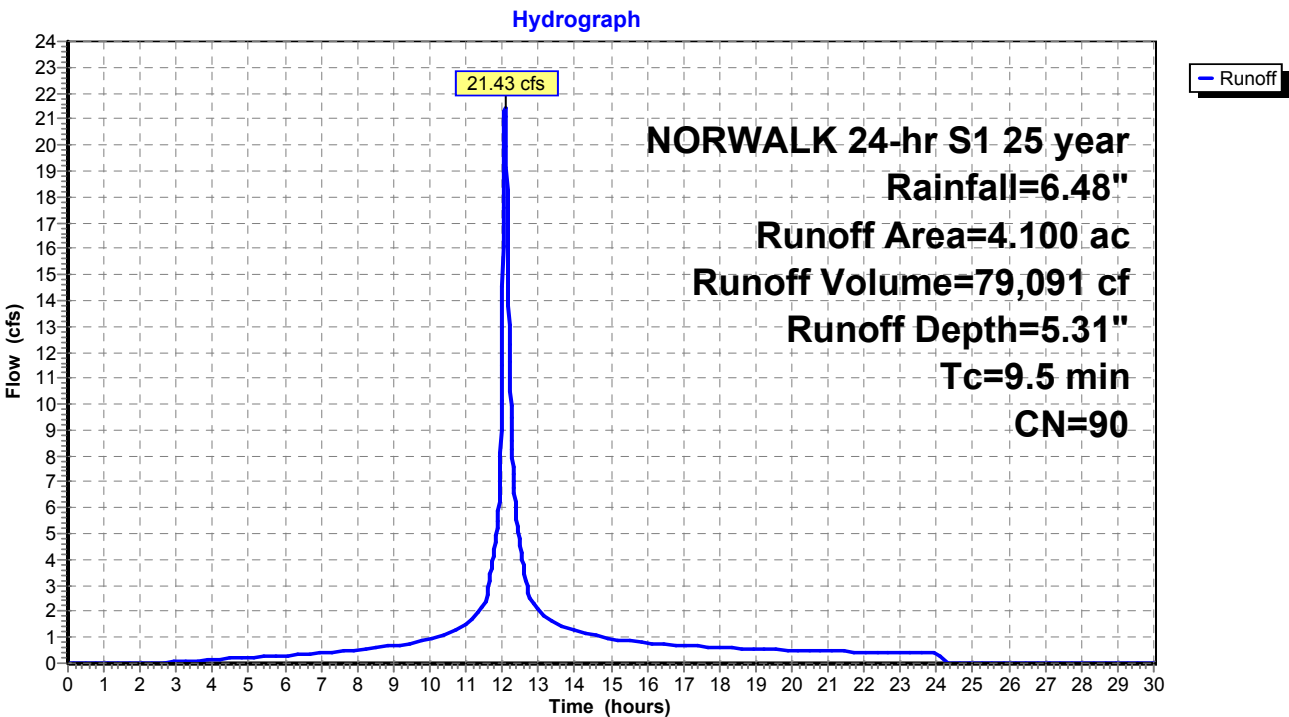
Runoff = 21.43 cfs @ 12.08 hrs, Volume= 79,091 cf, Depth= 5.31"
Routed to Pond 17P : DET 12 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
1.450	74	>75% Grass cover, Good, HSG C
2.650	98	Paved parking & roofs
4.100	90	Weighted Average
1.450		35.37% Pervious Area
2.650		64.63% Impervious Area

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

Subcatchment 11S: Area 11



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 12S: Area 12

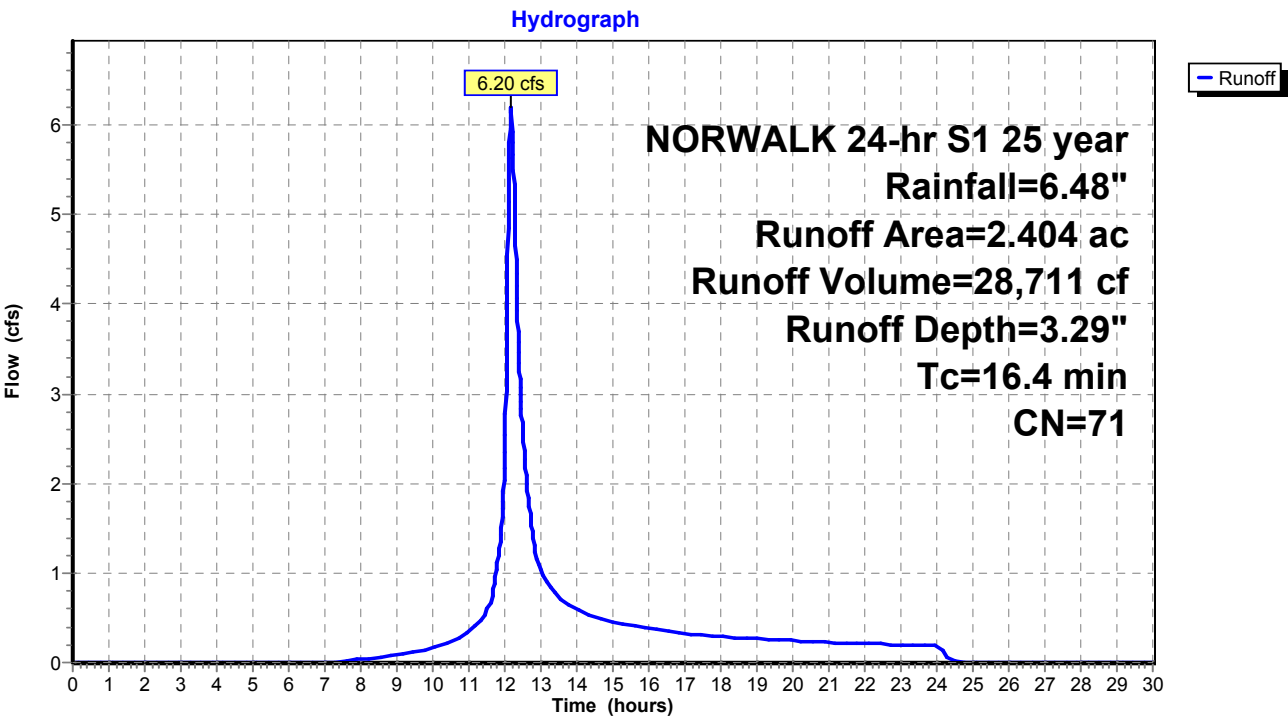
Runoff = 6.20 cfs @ 12.18 hrs, Volume= 28,711 cf, Depth= 3.29"
Routed to Pond 17P : DET 12 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
2.054	70	Woods, Good, HSG C
0.350	77	Woods, Good, HSG D
2.404	71	Weighted Average
2.404		100.00% Pervious Area

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

Subcatchment 12S: Area 12



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 13S: Area 13

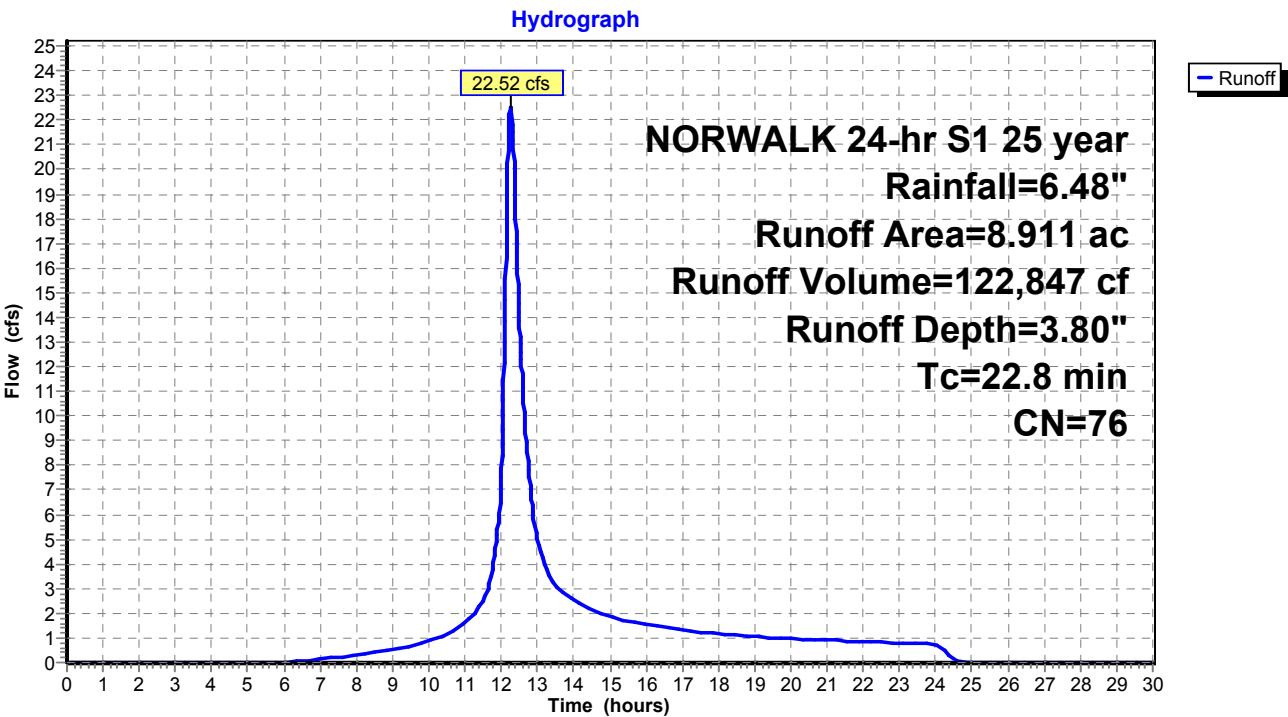
Runoff = 22.52 cfs @ 12.26 hrs, Volume= 122,847 cf, Depth= 3.80"
Routed to Pond 1P : RR Culvert 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
1.220	70	Woods, Good, HSG C
7.691	77	Woods, Good, HSG D
8.911	76	Weighted Average
8.911		100.00% Pervious Area

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

Subcatchment 13S: Area 13



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 14S: Area 14

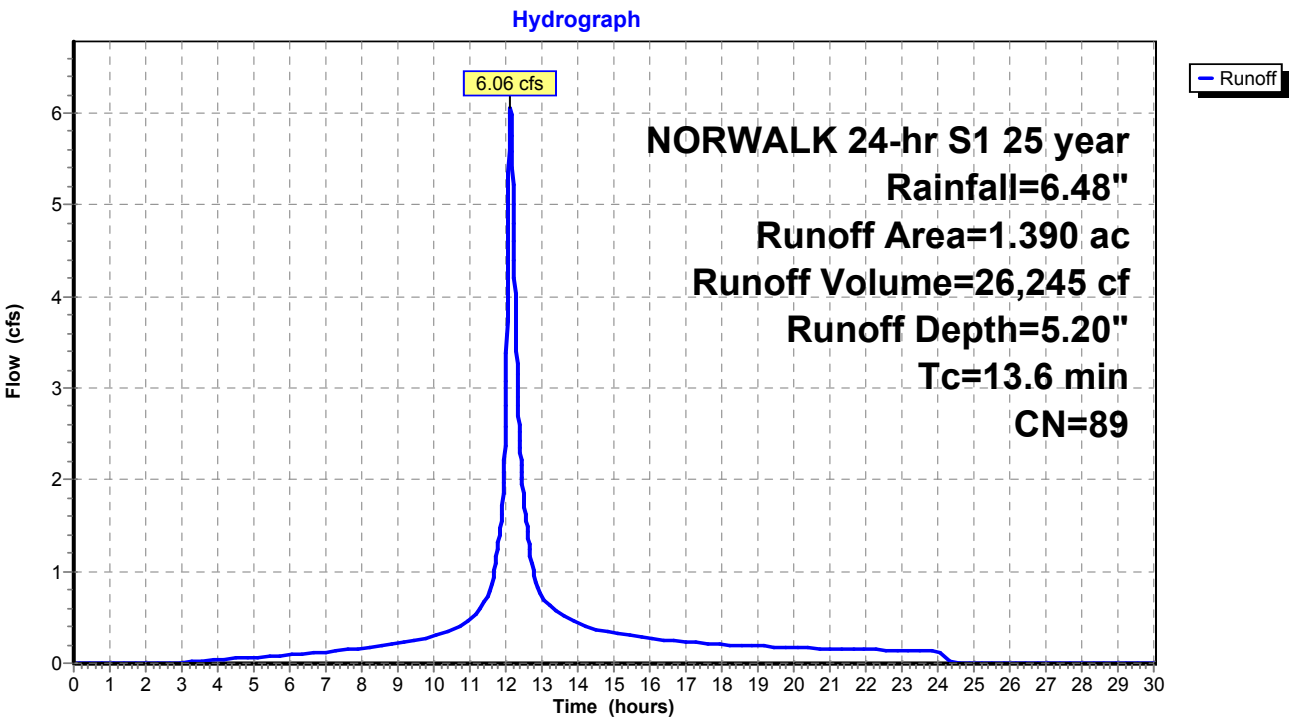
Runoff = 6.06 cfs @ 12.13 hrs, Volume= 26,245 cf, Depth= 5.20"
Routed to Pond 26P : DET 16 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.510	74	>75% Grass cover, Good, HSG C
0.880	98	Paved parking & roofs
1.390	89	Weighted Average
0.510		36.69% Pervious Area
0.880		63.31% Impervious Area

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

Subcatchment 14S: Area 14



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 15S: Area 15

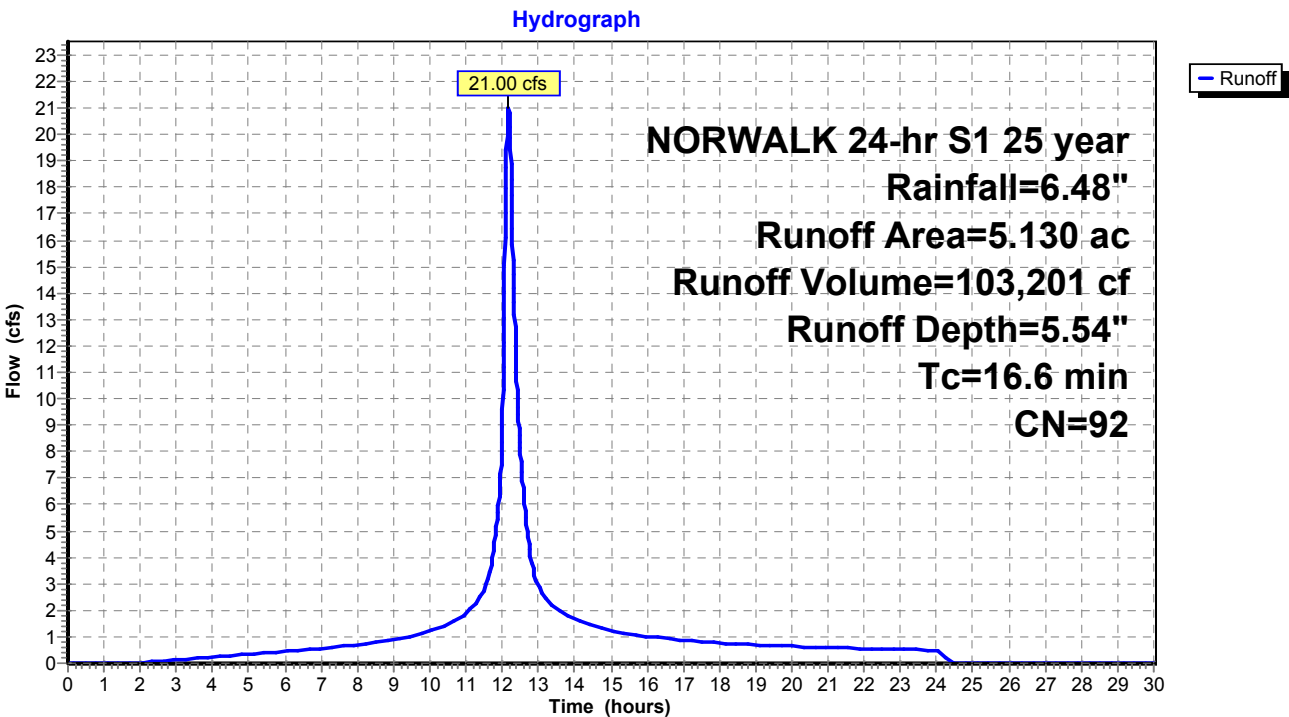
Runoff = 21.00 cfs @ 12.17 hrs, Volume= 103,201 cf, Depth= 5.54"
Routed to Pond 27P : DET 17 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
1.250	74	>75% Grass cover, Good, HSG C
3.880	98	Paved parking & roofs
5.130	92	Weighted Average
1.250		24.37% Pervious Area
3.880		75.63% Impervious Area

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

Subcatchment 15S: Area 15



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 16S: Area 16A

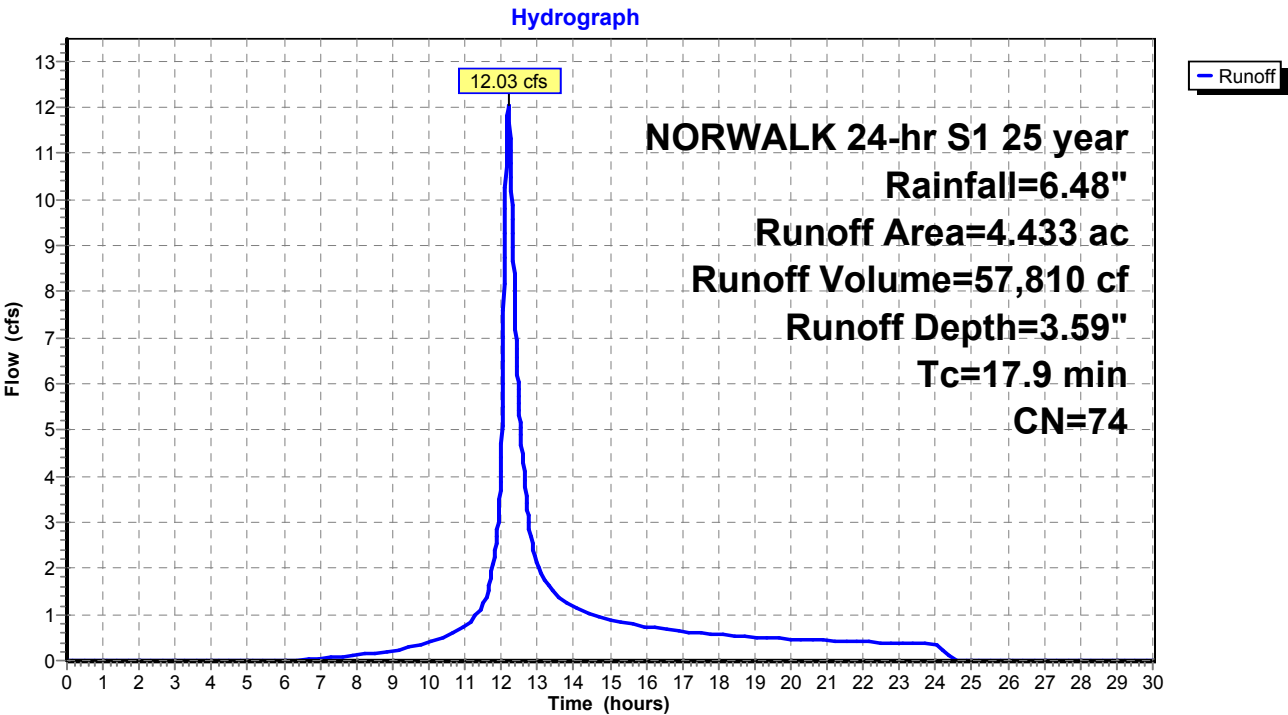
Runoff = 12.03 cfs @ 12.19 hrs, Volume= 57,810 cf, Depth= 3.59"
Routed to Pond 26P : DET 16 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
2.030	70	Woods, Good, HSG C
2.060	77	Woods, Good, HSG D
0.150	89	Gravel roads, HSG C
0.193	74	>75% Grass cover, Good, HSG C
4.433	74	Weighted Average
4.433		100.00% Pervious Area

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

Subcatchment 16S: Area 16A



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 17S: Area 17

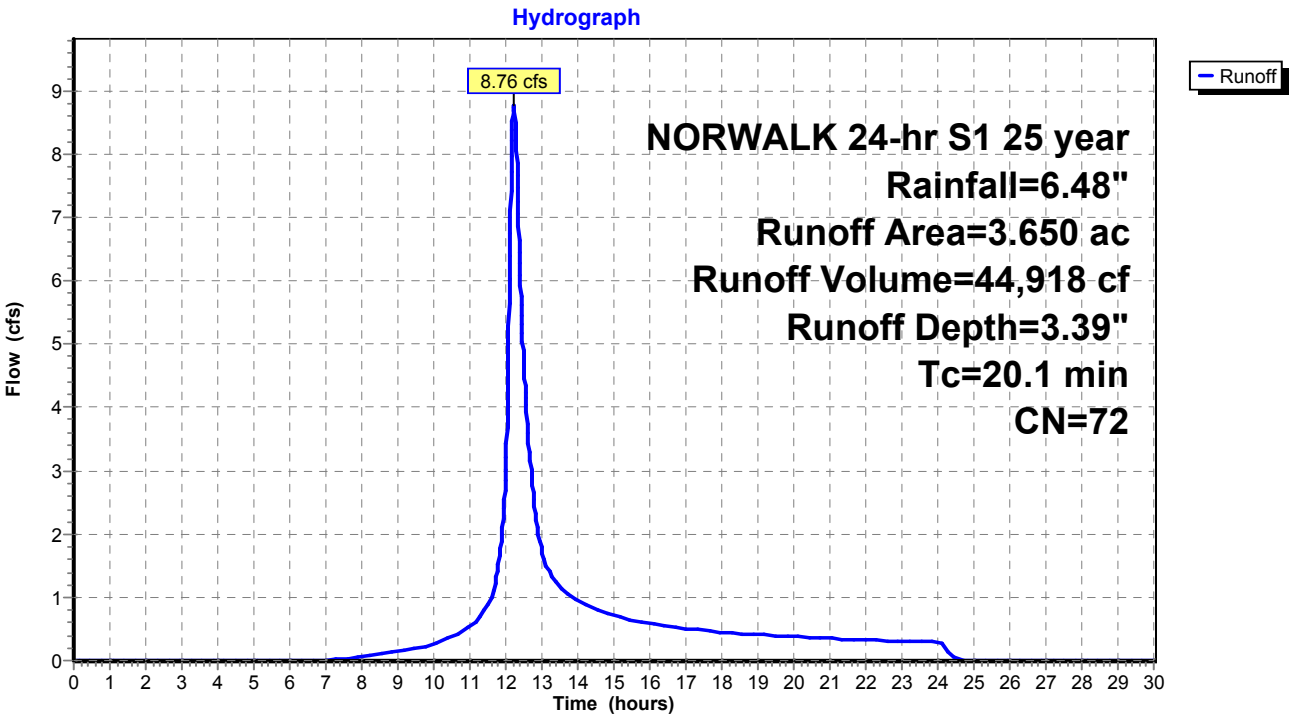
Runoff = 8.76 cfs @ 12.22 hrs, Volume= 44,918 cf, Depth= 3.39"
Routed to Pond 27P : DET 17 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
2.630	70	Woods, Good, HSG C
0.960	77	Woods, Good, HSG D
0.060	98	Paved parking & roofs
3.650	72	Weighted Average
3.590		98.36% Pervious Area
0.060		1.64% Impervious Area

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

Subcatchment 17S: Area 17



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 20S: Area 20

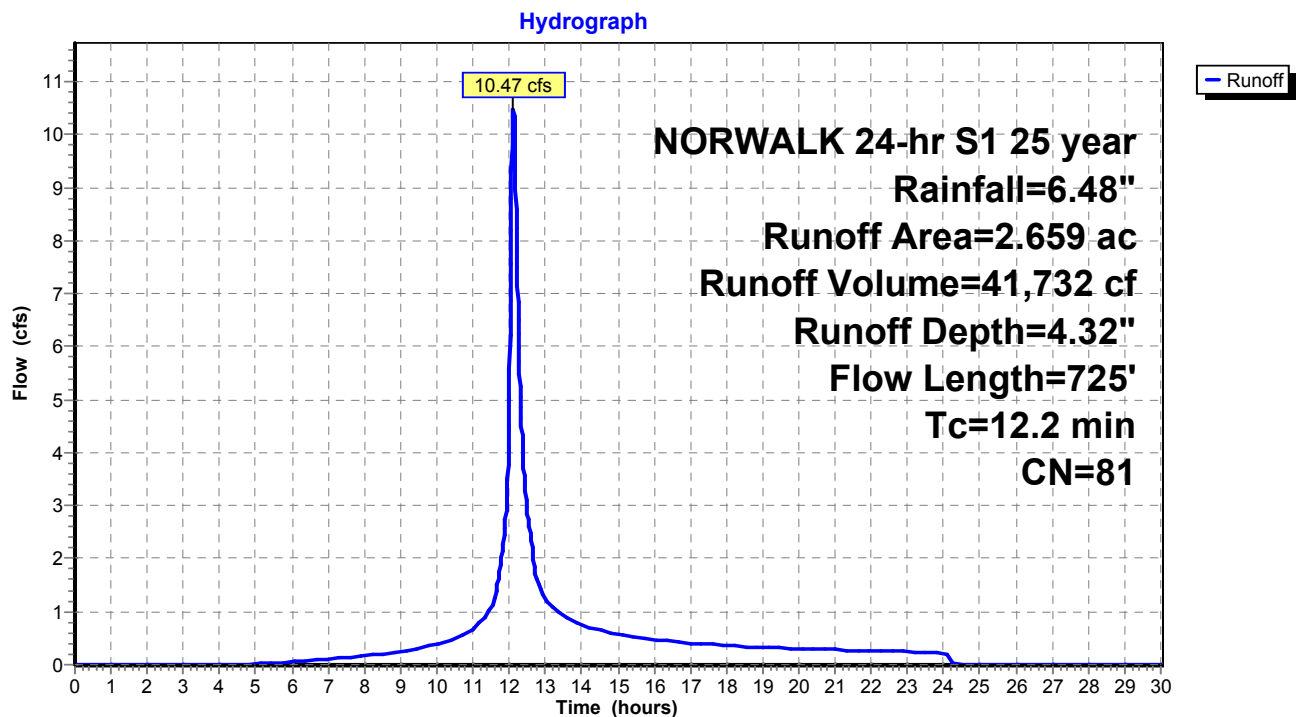
Runoff = 10.47 cfs @ 12.12 hrs, Volume= 41,732 cf, Depth= 4.32"
Routed to Pond 16P : MH-Q

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
1.030	98	Paved parking & roofs
1.629	70	Woods, Good, HSG C
2.659	81	Weighted Average
1.629		61.26% Pervious Area
1.030		38.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	125	0.2400	0.19		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.40"
1.2	600	0.0200	8.41	14.86	Pipe Channel, 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
12.2	725	Total			

Subcatchment 20S: Area 20



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 21S: Area 21

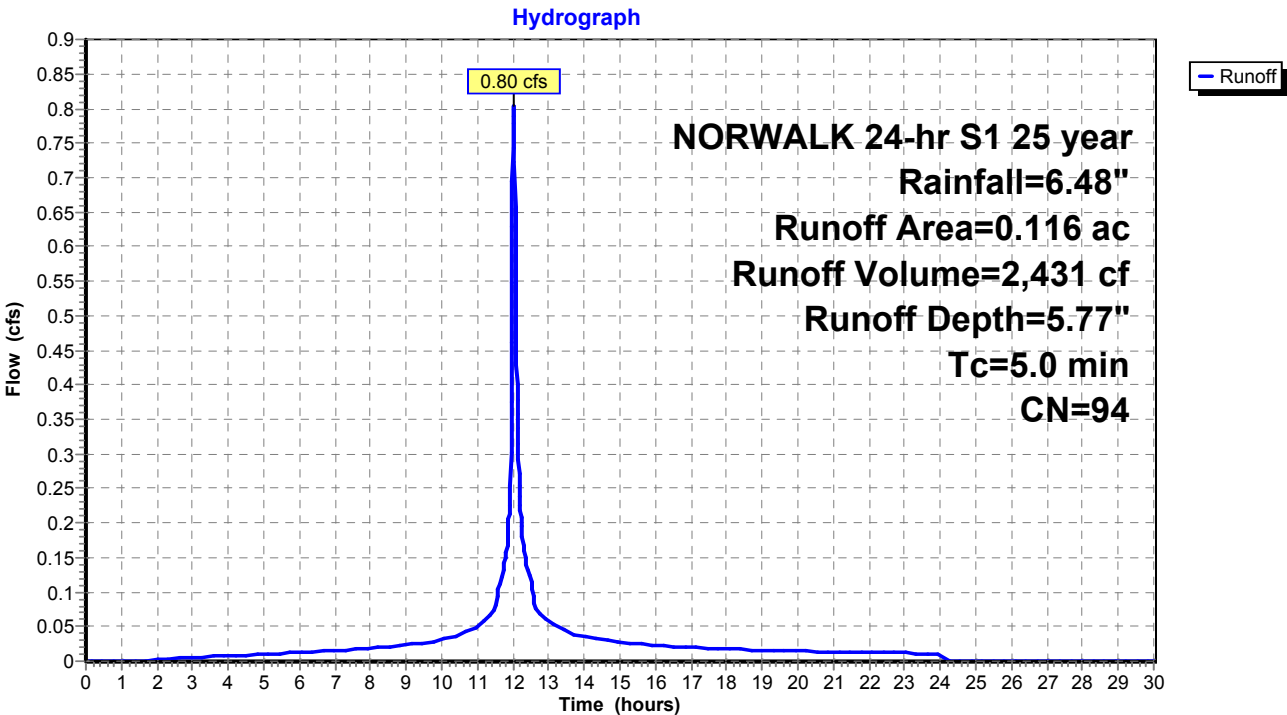
Runoff = 0.80 cfs @ 12.03 hrs, Volume= 2,431 cf, Depth= 5.77"
Routed to Pond 15P : MH-P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.020	74	>75% Grass cover, Good, HSG C
0.096	98	Paved parking & roofs
0.116	94	Weighted Average
0.020		17.24% Pervious Area
0.096		82.76% Impervious Area

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

Subcatchment 21S: Area 21



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 22S: Area 22

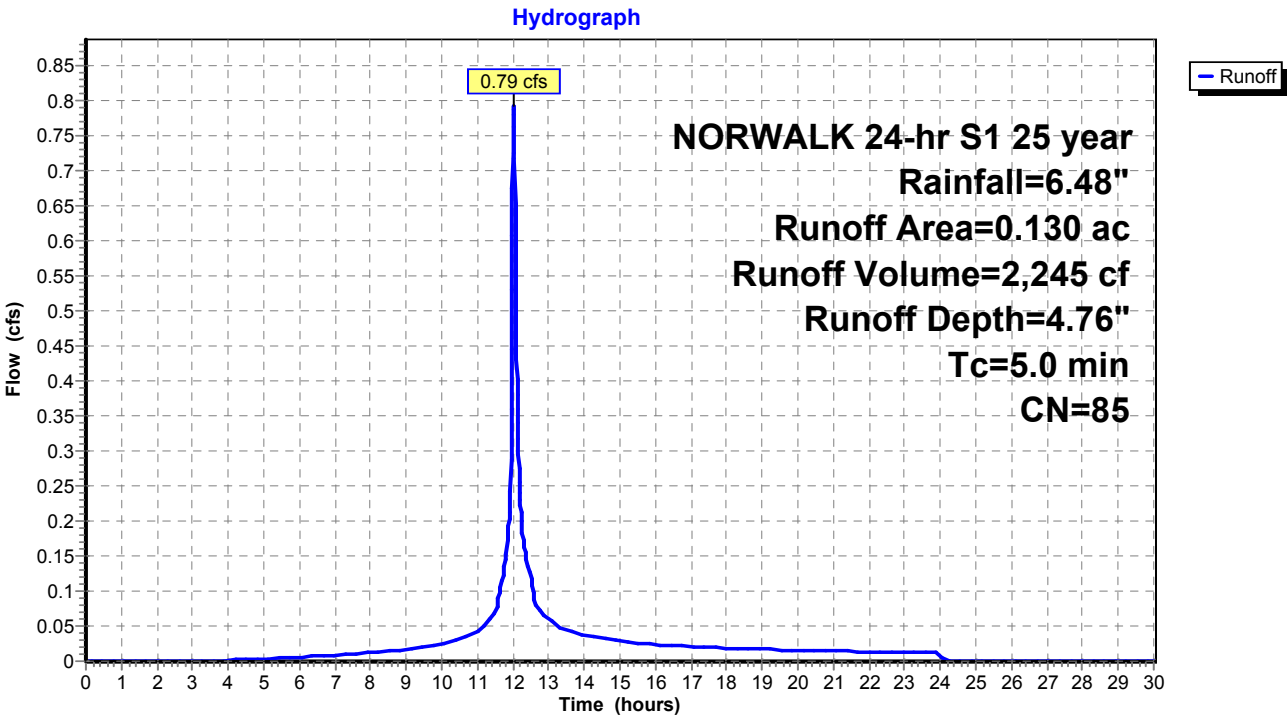
Runoff = 0.79 cfs @ 12.03 hrs, Volume= 2,245 cf, Depth= 4.76"
Routed to Pond 15P : MH-P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.068	74	>75% Grass cover, Good, HSG C
0.062	98	Paved parking & roofs
0.130	85	Weighted Average
0.068		52.31% Pervious Area
0.062		47.69% Impervious Area

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

Subcatchment 22S: Area 22



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 23S: Area 23

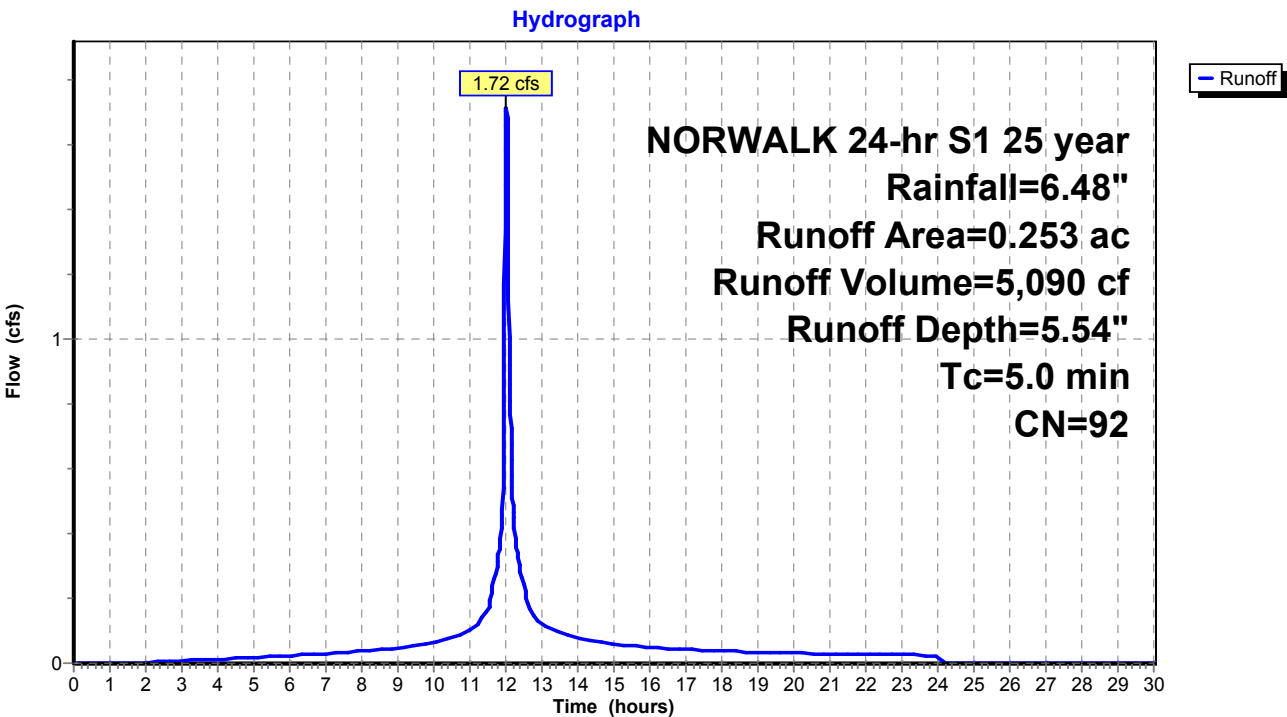
Runoff = 1.72 cfs @ 12.03 hrs, Volume= 5,090 cf, Depth= 5.54"
Routed to Pond 14P : MH-O

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.188	98	Paved parking & roofs
0.065	74	>75% Grass cover, Good, HSG C
0.253	92	Weighted Average
0.065		25.69% Pervious Area
0.188		74.31% Impervious Area

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

Subcatchment 23S: Area 23



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 24S: Area 24

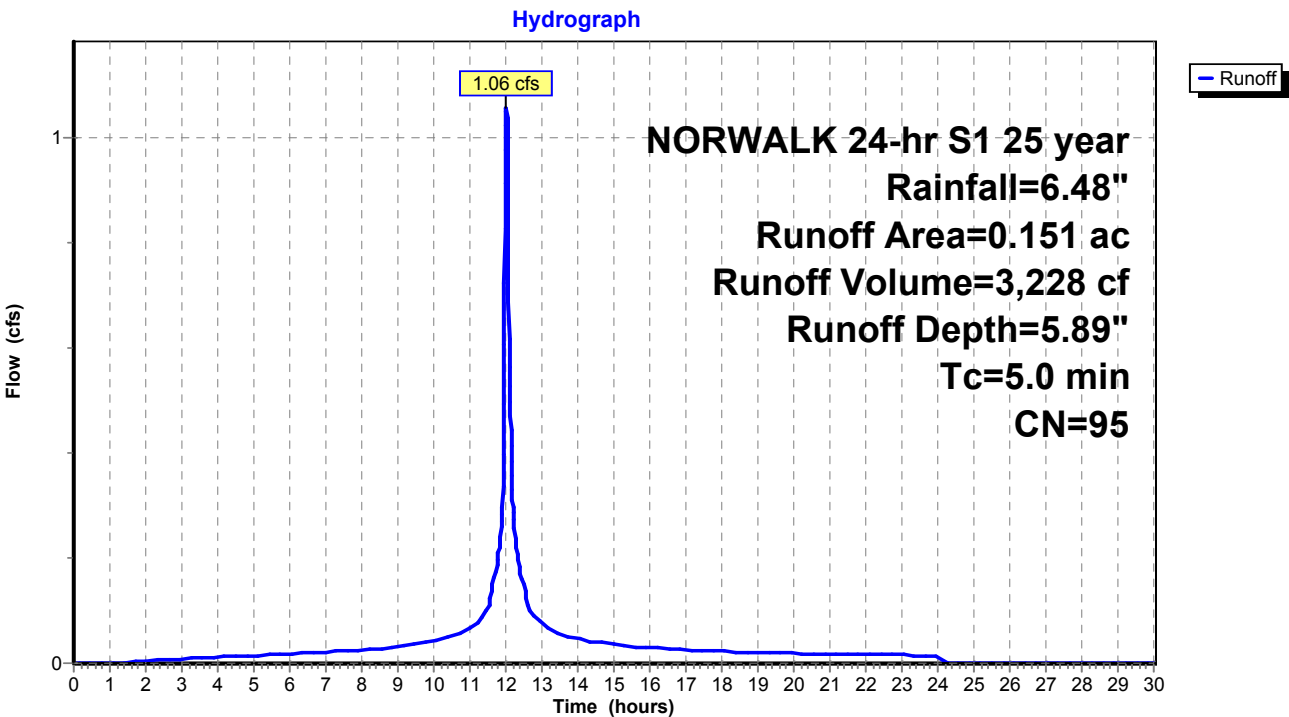
Runoff = 1.06 cfs @ 12.03 hrs, Volume= 3,228 cf, Depth= 5.89"
Routed to Pond 14P : MH-O

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.125	98	Paved parking & roofs
0.026	80	>75% Grass cover, Good, HSG D
0.151	95	Weighted Average
0.026		17.22% Pervious Area
0.125		82.78% Impervious Area

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

Subcatchment 24S: Area 24



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 25S: Area 25

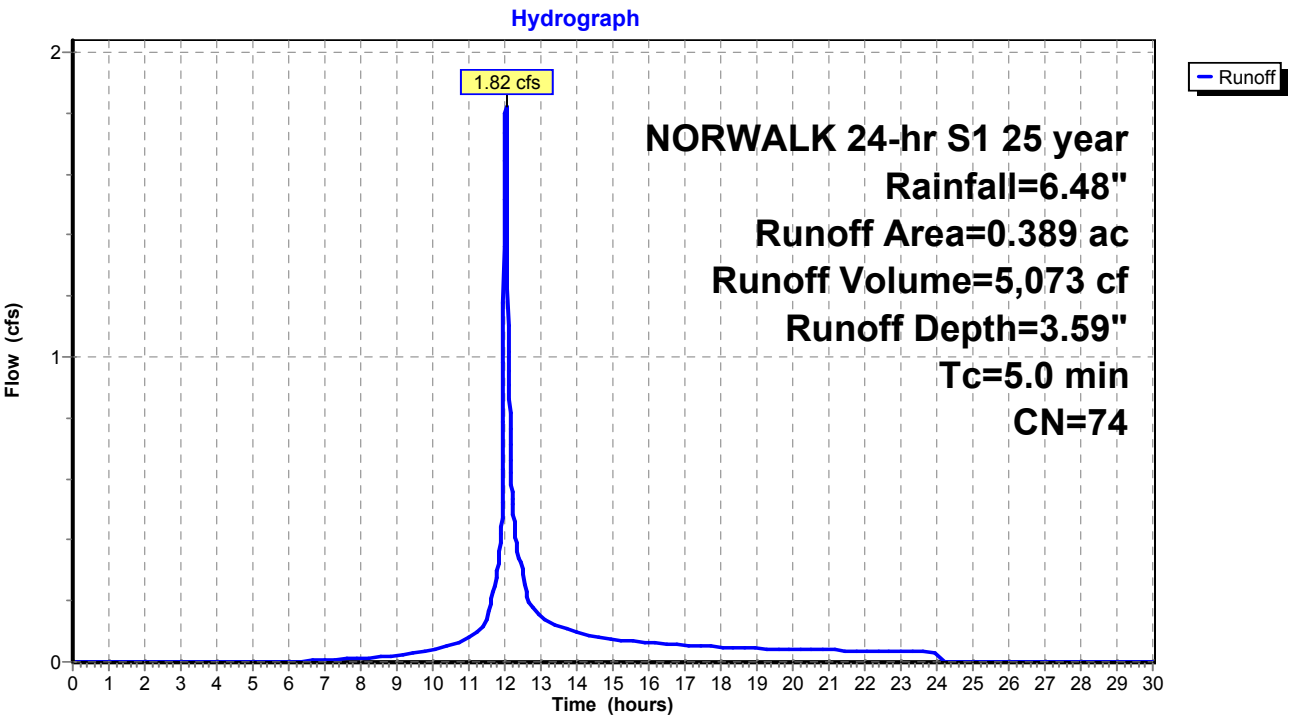
Runoff = 1.82 cfs @ 12.03 hrs, Volume= 5,073 cf, Depth= 3.59"
Routed to Pond 3P : DETENTION BASIN #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.389	74	>75% Grass cover, Good, HSG C
0.389		100.00% Pervious Area

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

Subcatchment 25S: Area 25



Existing Conditions

Prepared by Tighe & Bond

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 26S: Area 26

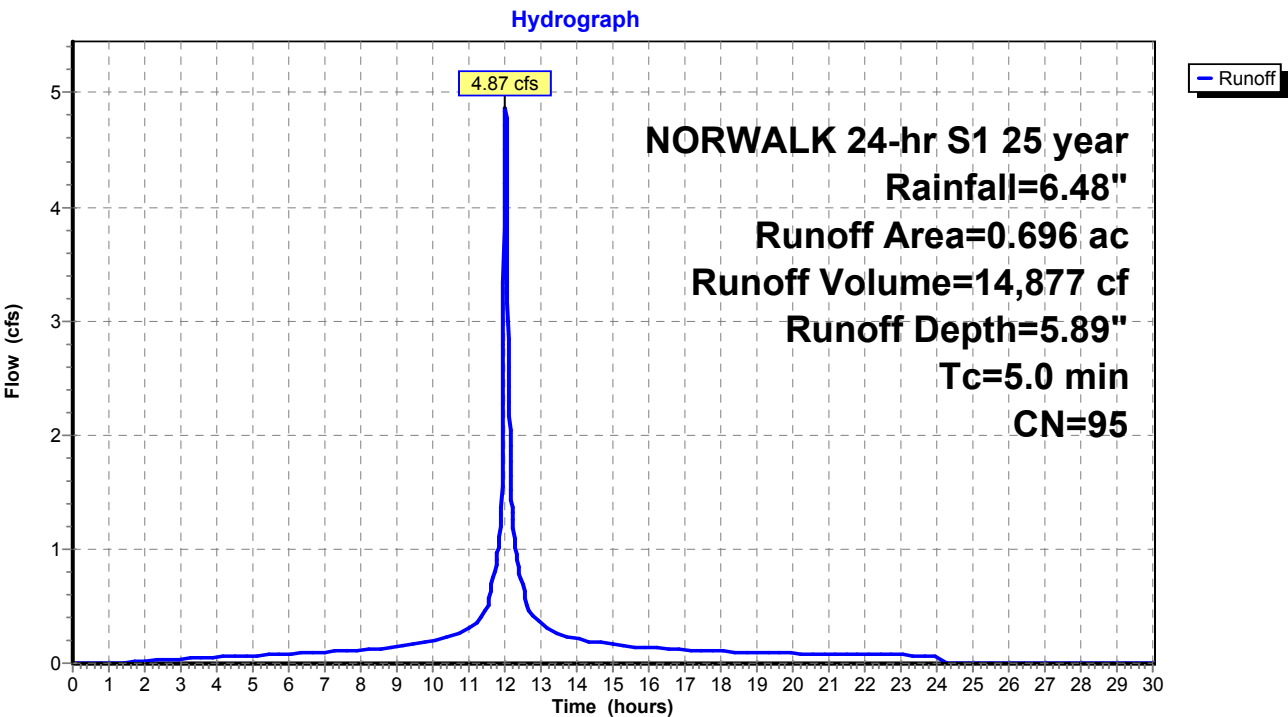
Runoff = 4.87 cfs @ 12.03 hrs, Volume= 14,877 cf, Depth= 5.89"
Routed to Pond 9P : MH-K

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.612	98	Paved parking & roofs
0.084	74	>75% Grass cover, Good, HSG C
0.696	95	Weighted Average
0.084		12.07% Pervious Area
0.612		87.93% Impervious Area

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

Subcatchment 26S: Area 26



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 27S: Area 27

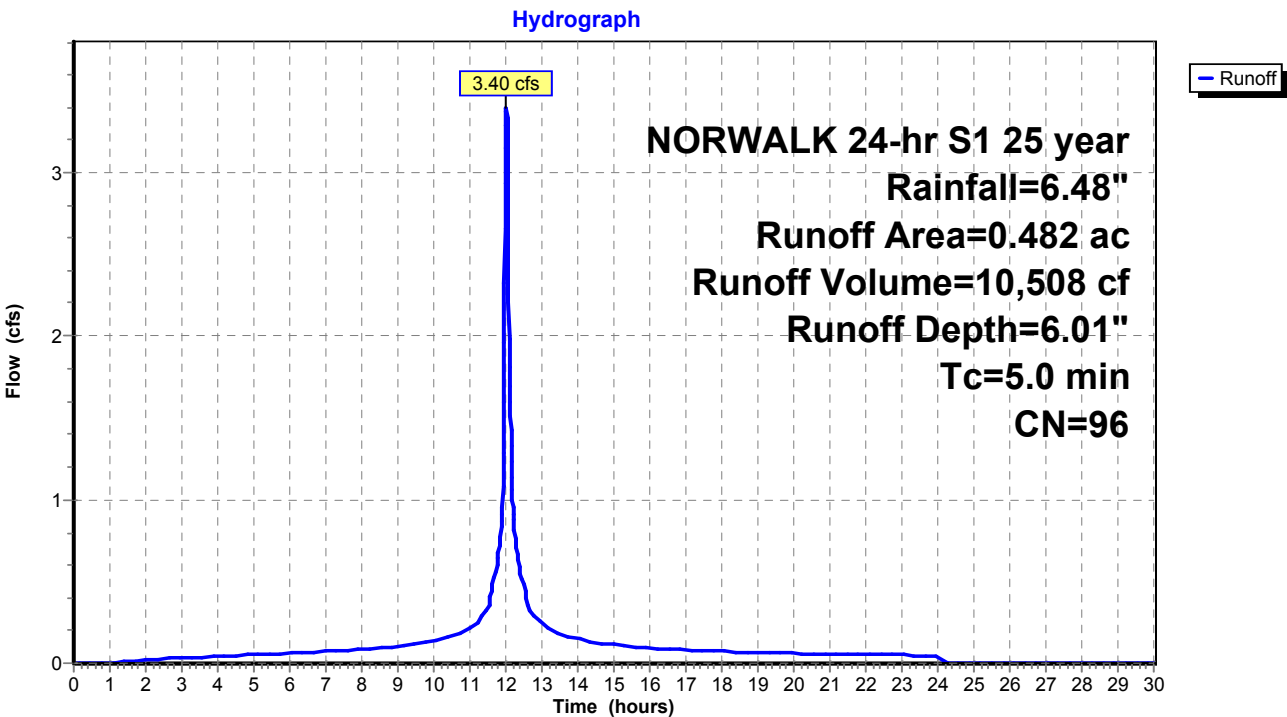
Runoff = 3.40 cfs @ 12.03 hrs, Volume= 10,508 cf, Depth= 6.01"
Routed to Pond 11P : Pipe Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.436	98	Paved parking & roofs
0.046	74	>75% Grass cover, Good, HSG C
0.482	96	Weighted Average
0.046		9.54% Pervious Area
0.436		90.46% Impervious Area

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

Subcatchment 27S: Area 27



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 28S: Area 28

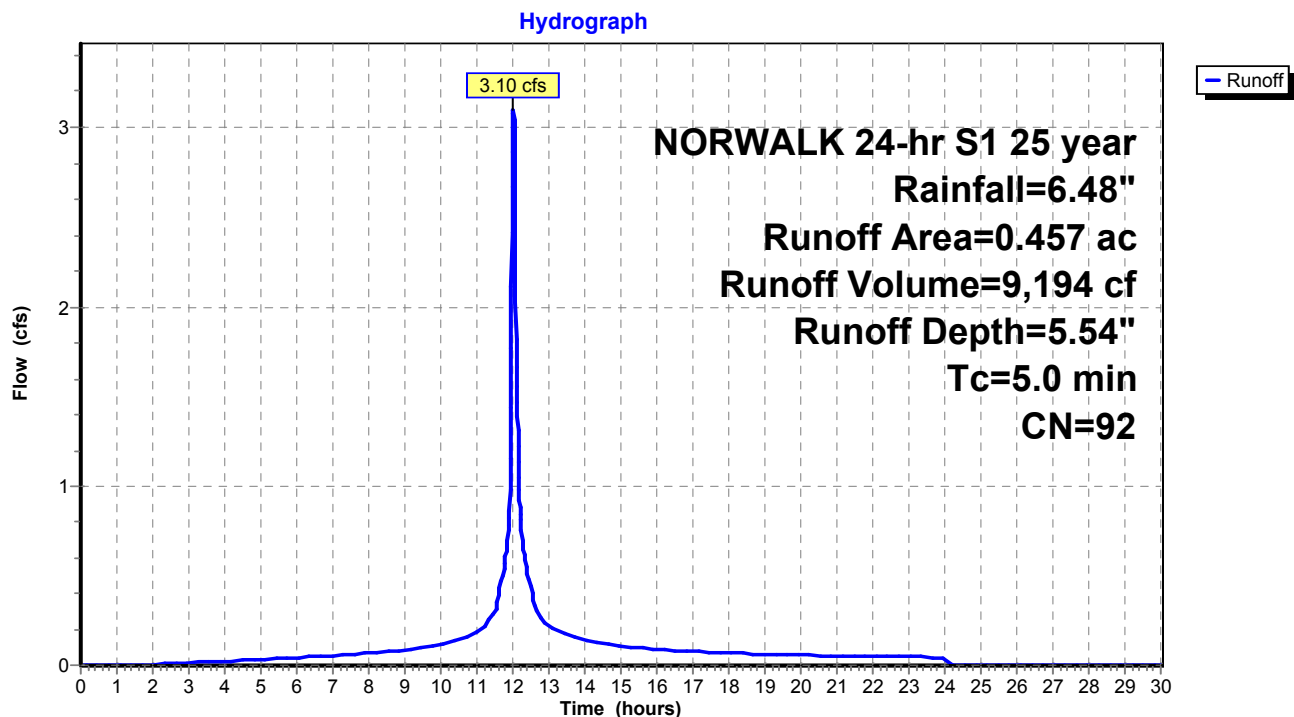
Runoff = 3.10 cfs @ 12.03 hrs, Volume= 9,194 cf, Depth= 5.54"
Routed to Pond 11P : Pipe Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.342	98	Paved parking & roofs
0.115	74	>75% Grass cover, Good, HSG C
0.457	92	Weighted Average
0.115		25.16% Pervious Area
0.342		74.84% Impervious Area

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

Subcatchment 28S: Area 28



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 29S: Area 29

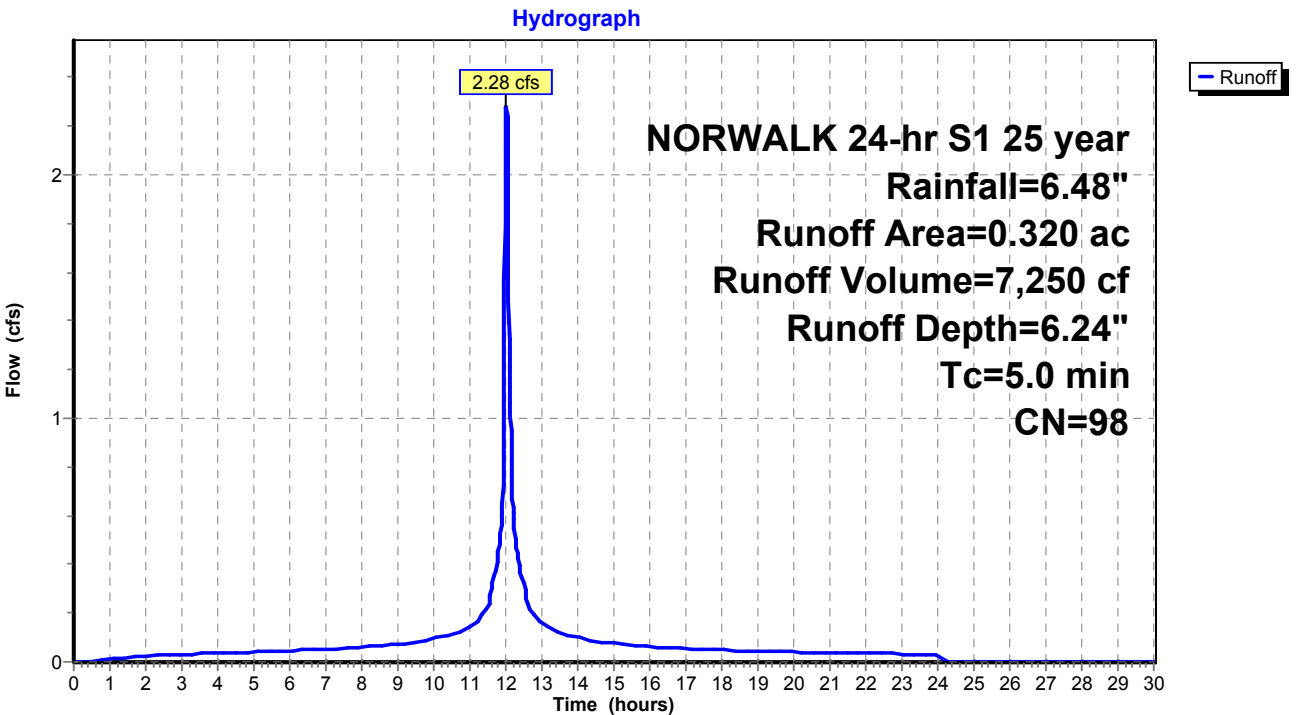
Runoff = 2.28 cfs @ 12.03 hrs, Volume= 7,250 cf, Depth= 6.24"
Routed to Pond 12P : MH-M

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.320	98	Paved parking & roofs
0.320		100.00% Impervious Area

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

Subcatchment 29S: Area 29



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 30S: Area 30

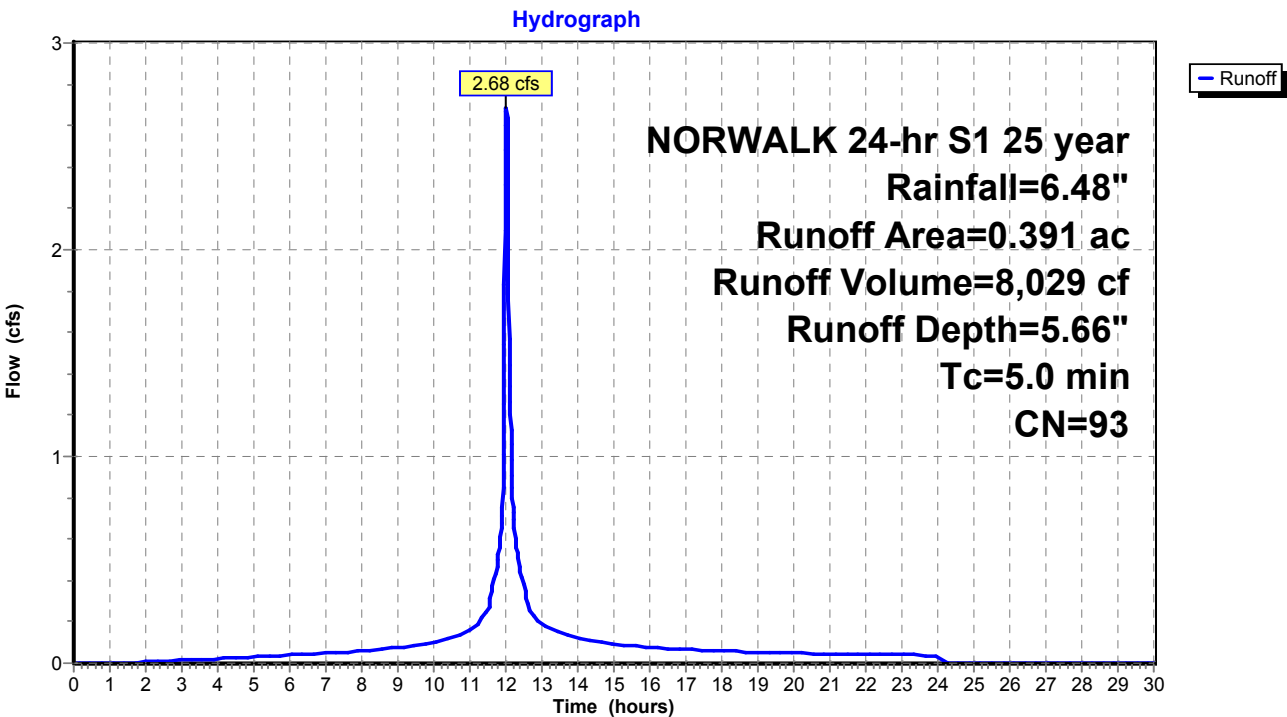
Runoff = 2.68 cfs @ 12.03 hrs, Volume= 8,029 cf, Depth= 5.66"
Routed to Pond 13P : MH-J

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.309	98	Paved parking & roofs
0.082	74	>75% Grass cover, Good, HSG C
0.391	93	Weighted Average
0.082		20.97% Pervious Area
0.309		79.03% Impervious Area

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

Subcatchment 30S: Area 30



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 52S: Area 1

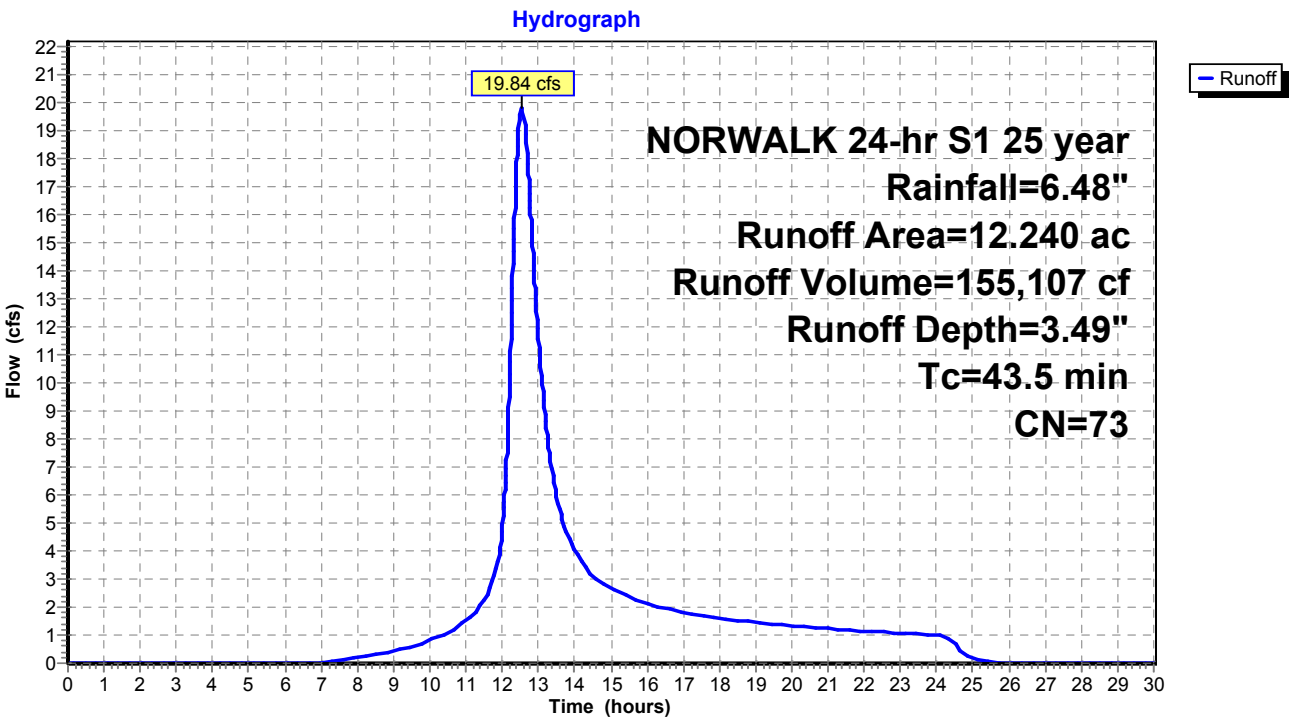
Runoff = 19.84 cfs @ 12.52 hrs, Volume= 155,107 cf, Depth= 3.49"
Routed to Pond 21P : DET 1 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
9.070	70	1/2 acre lots, 25% imp, HSG B
3.170	80	1/2 acre lots, 25% imp, HSG C
12.240	73	Weighted Average
9.180		75.00% Pervious Area
3.060		25.00% Impervious Area

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

Subcatchment 52S: Area 1



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 53S: Area 2

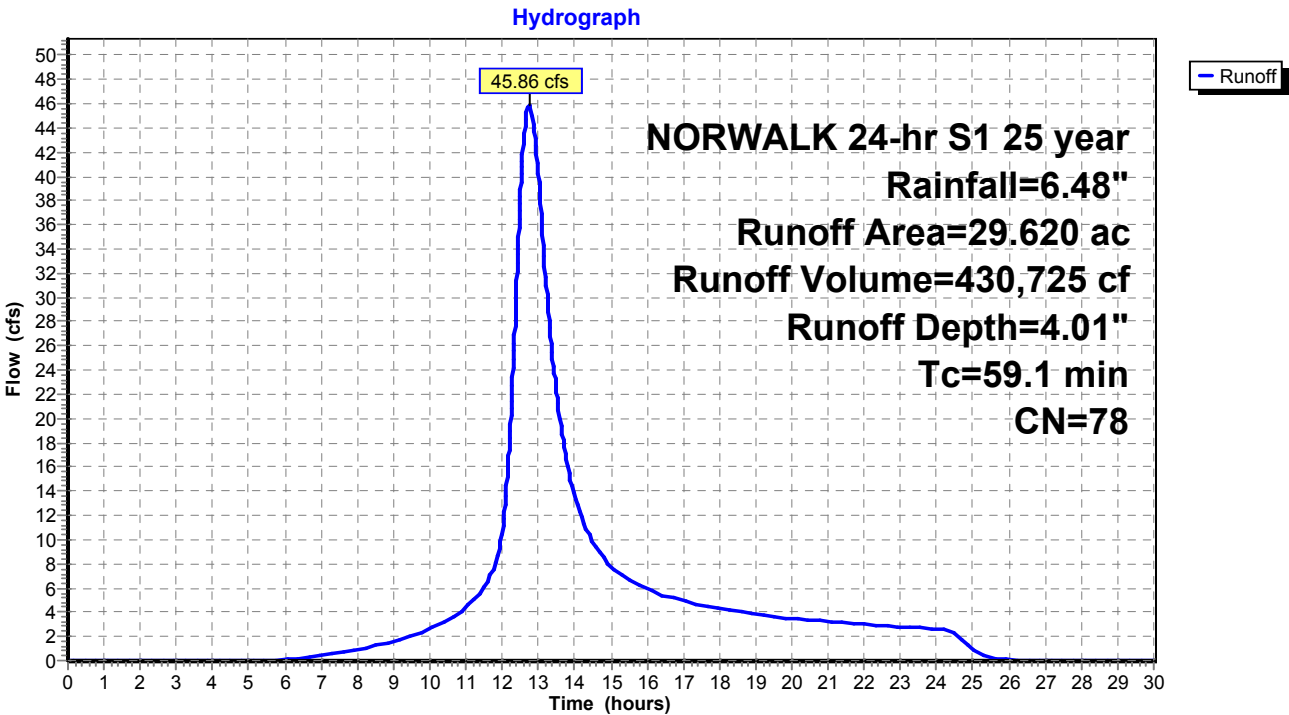
Runoff = 45.86 cfs @ 12.74 hrs, Volume= 430,725 cf, Depth= 4.01"
Routed to Pond 22P : DET 2 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
7.290	70	1/2 acre lots, 25% imp, HSG B
19.200	80	1/2 acre lots, 25% imp, HSG C
3.130	85	1/2 acre lots, 25% imp, HSG D
29.620	78	Weighted Average
22.215		75.00% Pervious Area
7.405		25.00% Impervious Area

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

Subcatchment 53S: Area 2



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 54S: Area 3

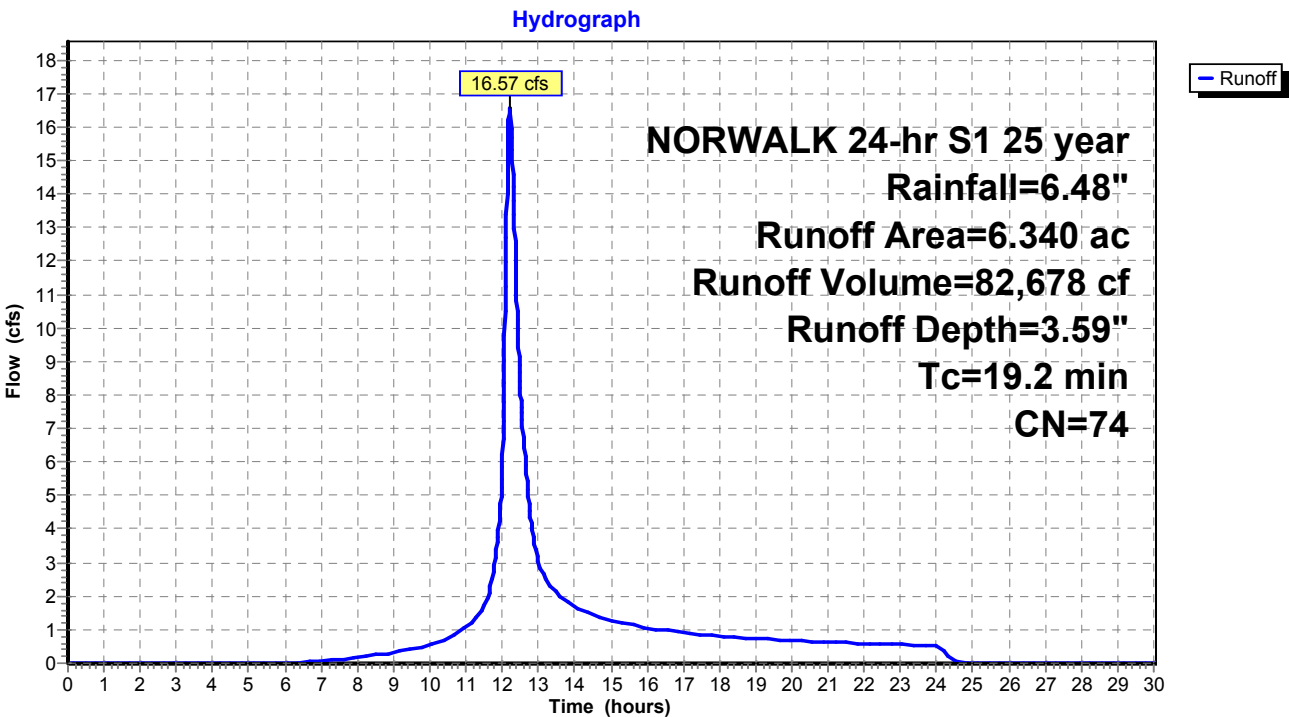
Runoff = 16.57 cfs @ 12.22 hrs, Volume= 82,678 cf, Depth= 3.59"
Routed to Pond 23P : DET 3 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
3.500	70	1/2 acre lots, 25% imp, HSG B
2.840	80	1/2 acre lots, 25% imp, HSG C
6.340	74	Weighted Average
4.755		75.00% Pervious Area
1.585		25.00% Impervious Area

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

Subcatchment 54S: Area 3



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 56S: Area 35

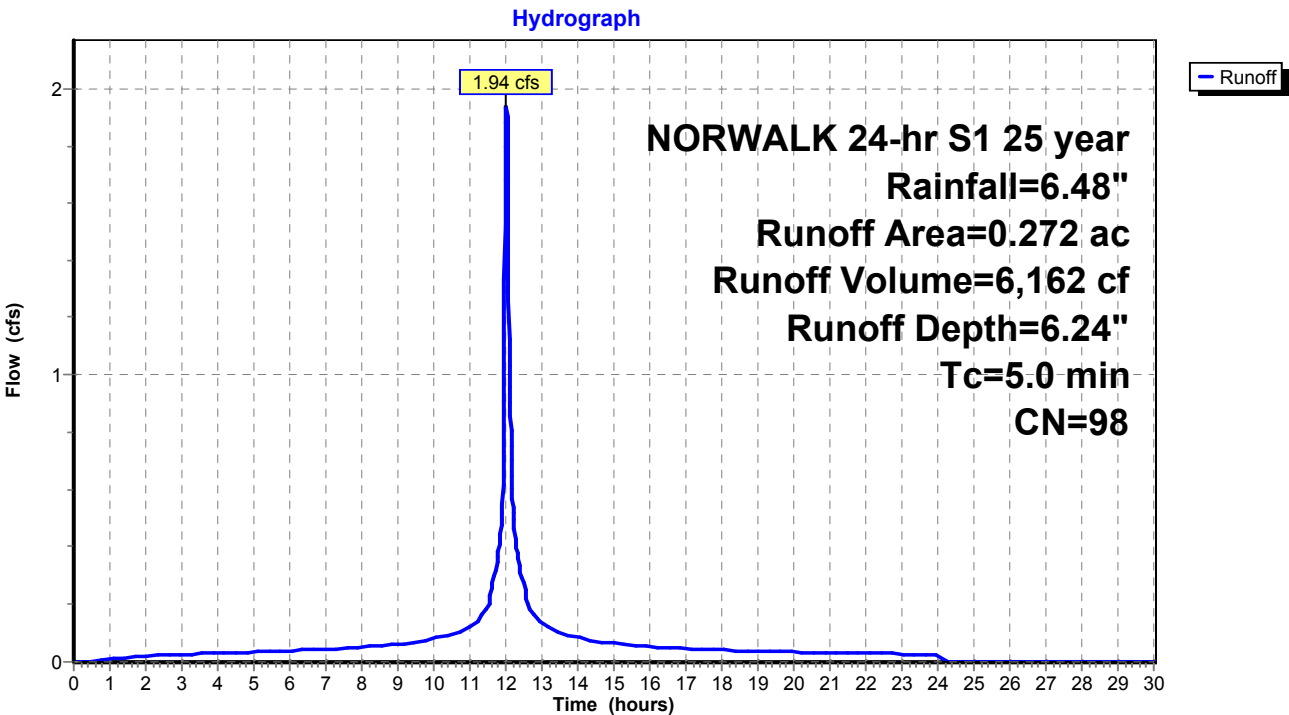
Runoff = 1.94 cfs @ 12.03 hrs, Volume= 6,162 cf, Depth= 6.24"
Routed to Pond 57P : CB-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.272	98	Paved parking & roofs
0.272		100.00% Impervious Area

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

Subcatchment 56S: Area 35



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 60S: Area 37

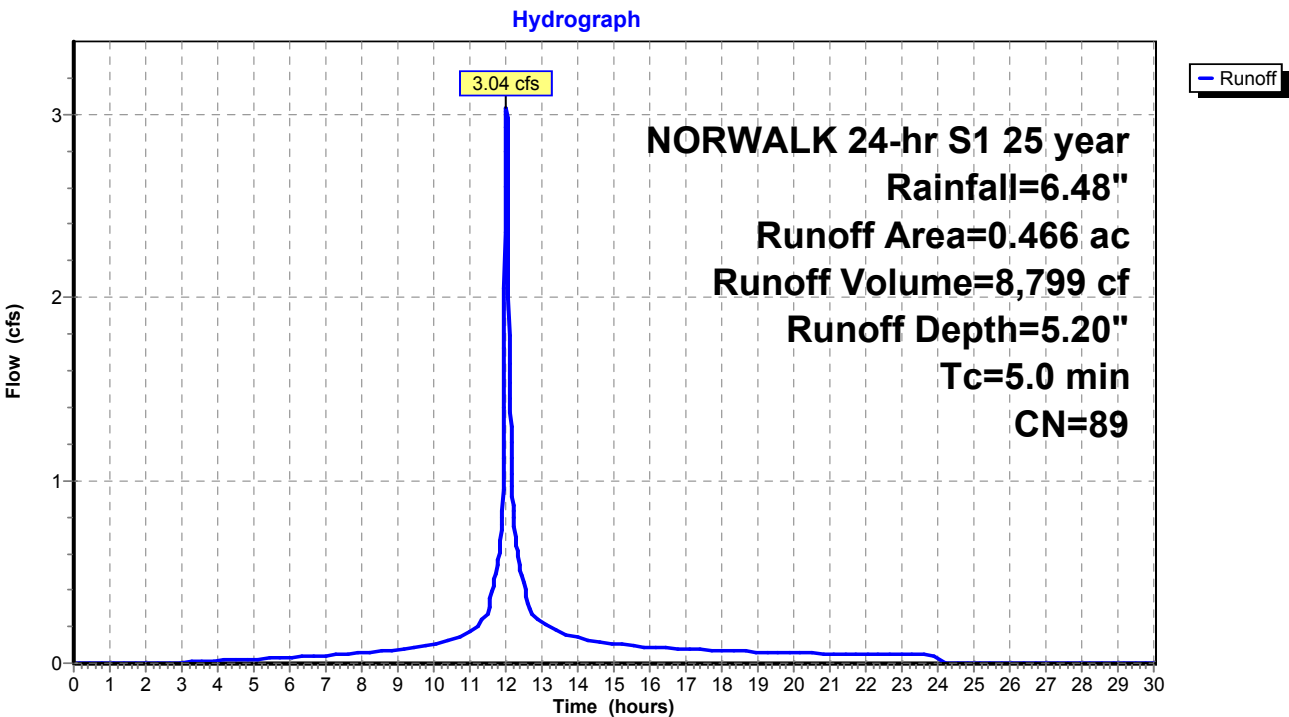
Runoff = 3.04 cfs @ 12.03 hrs, Volume= 8,799 cf, Depth= 5.20"
Routed to Pond 59P : CB-7

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.294	98	Paved parking & roofs
0.172	74	>75% Grass cover, Good, HSG C
0.466	89	Weighted Average
0.172		36.91% Pervious Area
0.294		63.09% Impervious Area

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

Subcatchment 60S: Area 37



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"
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Summary for Subcatchment 62S: Area 38

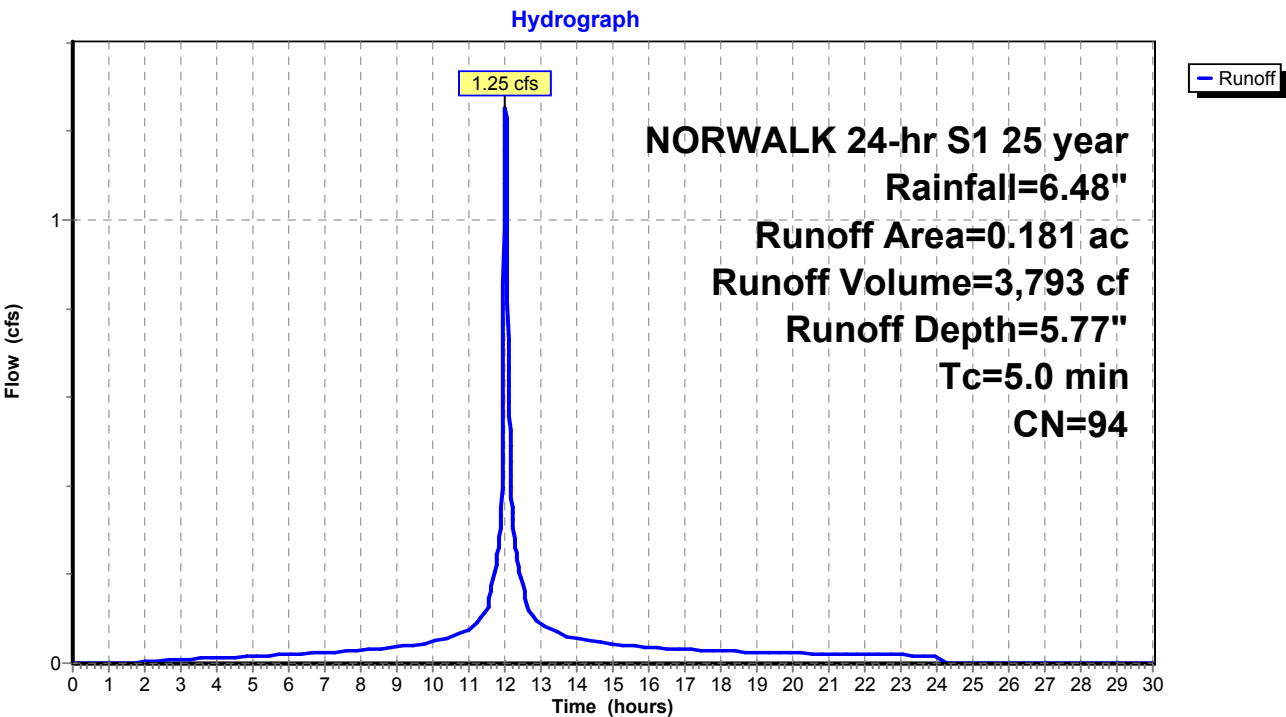
Runoff = 1.25 cfs @ 12.03 hrs, Volume= 3,793 cf, Depth= 5.77"
Routed to Pond 61P : CB-6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.149	98	Paved parking & roofs
0.032	74	>75% Grass cover, Good, HSG C
0.181	94	Weighted Average
0.032		17.68% Pervious Area
0.149		82.32% Impervious Area

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

Subcatchment 62S: Area 38



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 65S: Area 41

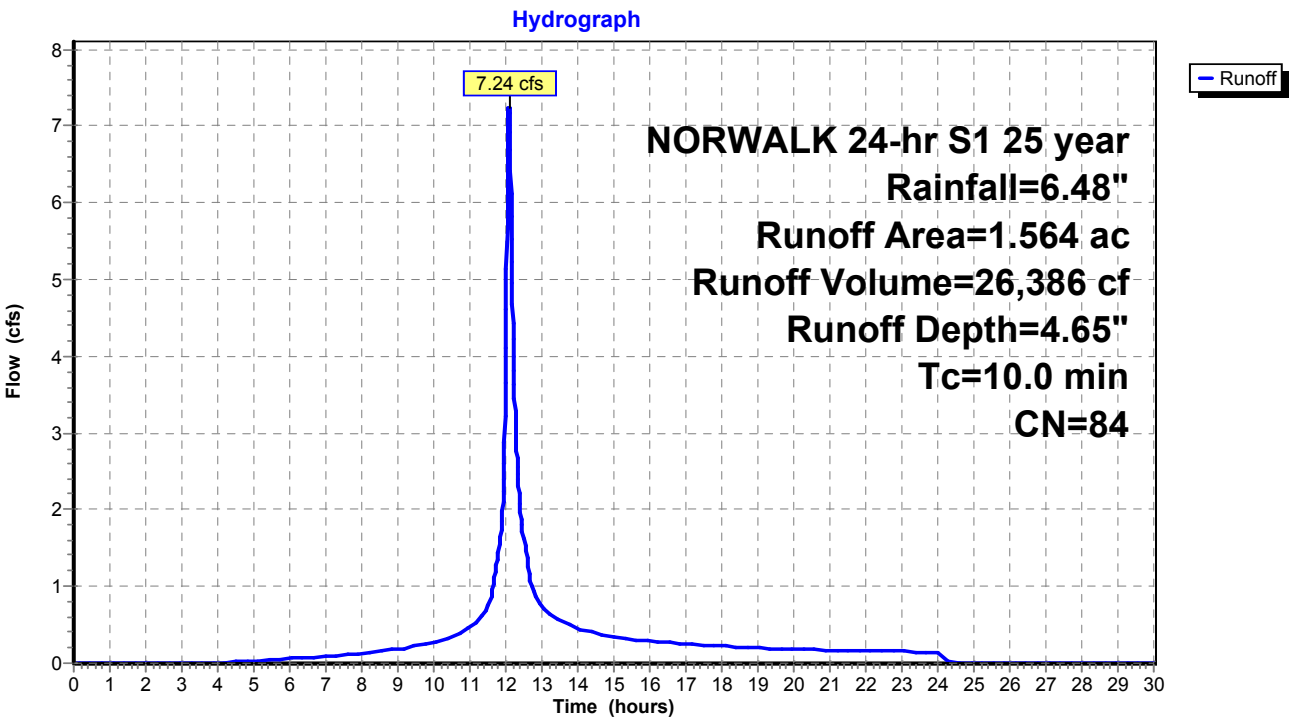
Runoff = 7.24 cfs @ 12.08 hrs, Volume= 26,386 cf, Depth= 4.65"
Routed to Pond 64P : YD

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.653	98	Paved parking & roofs
0.911	74	>75% Grass cover, Good, HSG C
1.564	84	Weighted Average
0.911		58.25% Pervious Area
0.653		41.75% Impervious Area

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

Subcatchment 65S: Area 41



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 68S: Area 36

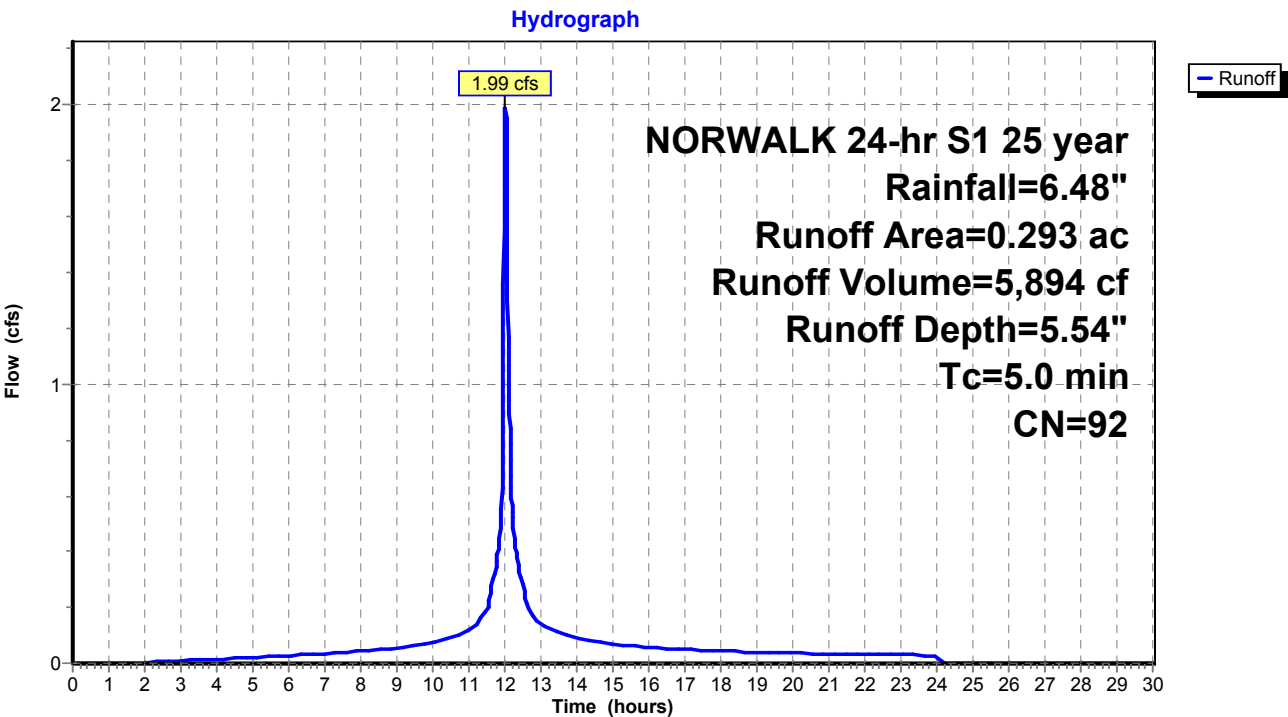
Runoff = 1.99 cfs @ 12.03 hrs, Volume= 5,894 cf, Depth= 5.54"
Routed to Pond 66P : CB-10

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.214	98	Paved parking & roofs
0.079	74	>75% Grass cover, Good, HSG C
0.293	92	Weighted Average
0.079		26.96% Pervious Area
0.214		73.04% Impervious Area

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

Subcatchment 68S: Area 36



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 69S: Area 40

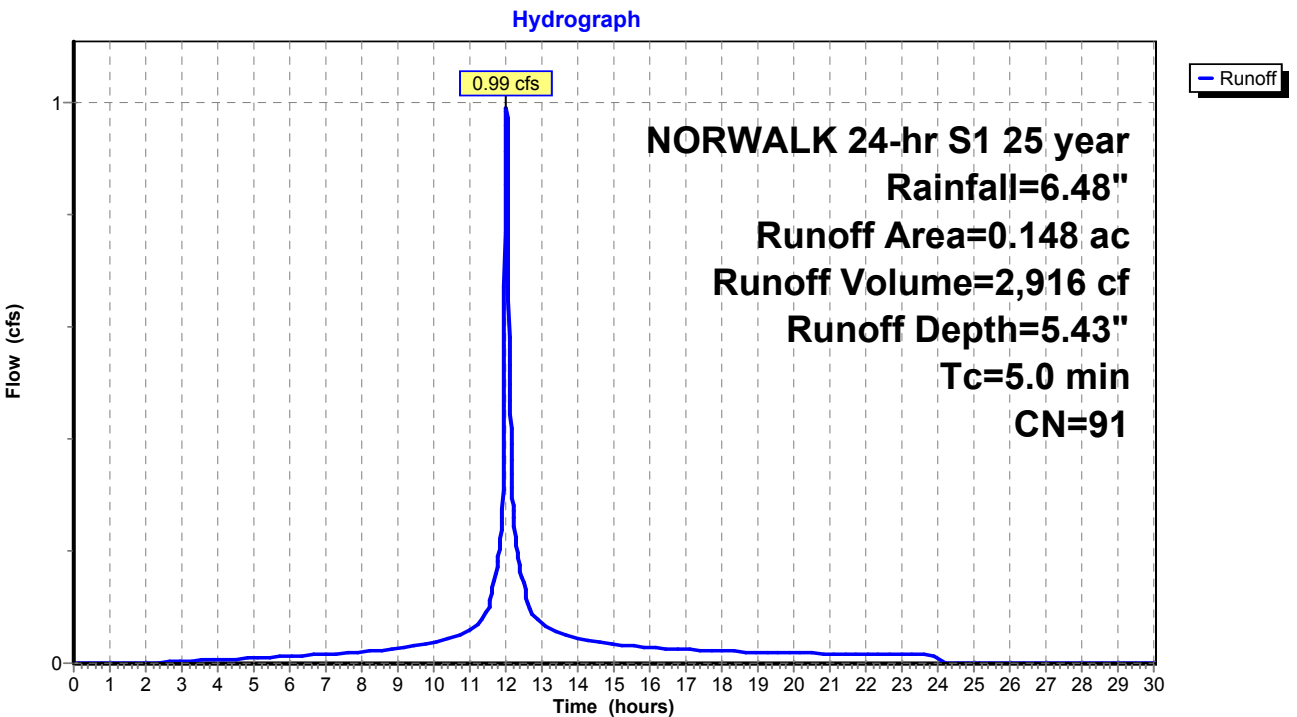
Runoff = 0.99 cfs @ 12.03 hrs, Volume= 2,916 cf, Depth= 5.43"
Routed to Pond 67P : CB-9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.103	98	Paved parking & roofs
0.045	74	>75% Grass cover, Good, HSG C
0.148	91	Weighted Average
0.045		30.41% Pervious Area
0.103		69.59% Impervious Area

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

Subcatchment 69S: Area 40



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 71S: Area 34

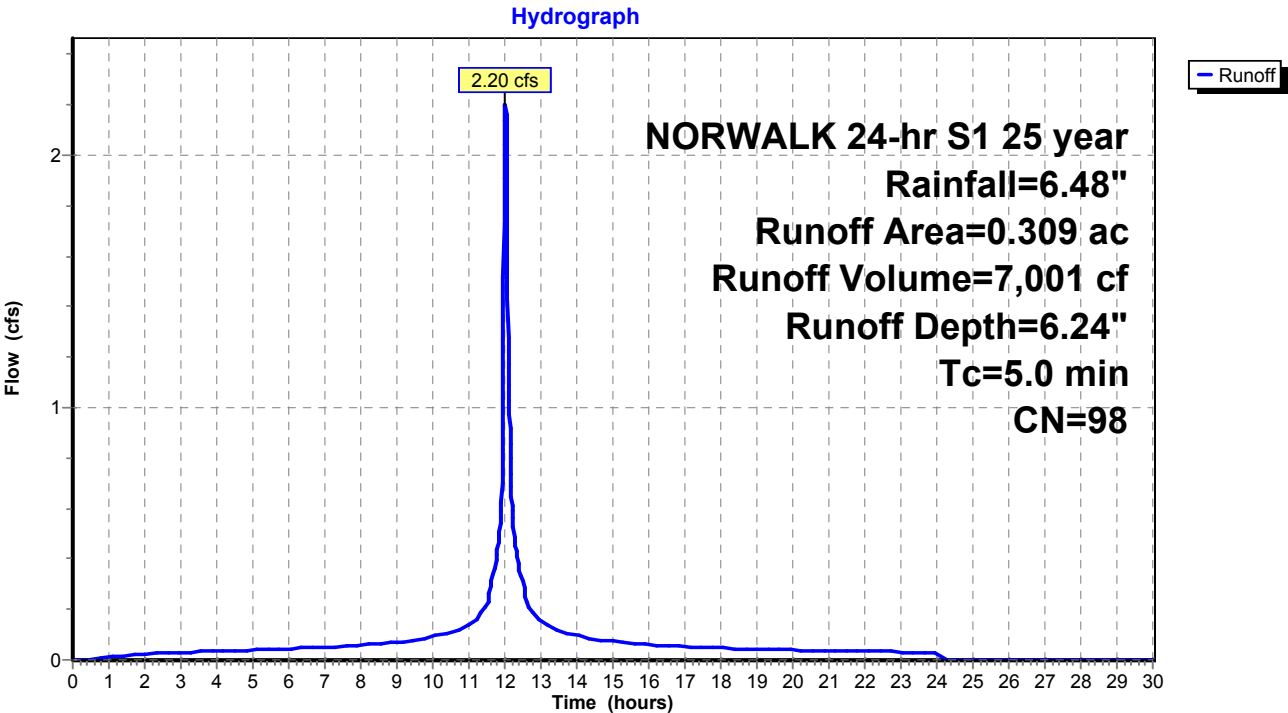
Runoff = 2.20 cfs @ 12.03 hrs, Volume= 7,001 cf, Depth= 6.24"
Routed to Pond 70P : CB-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.309	98	Paved parking & roofs
0.309		100.00% Impervious Area

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

Subcatchment 71S: Area 34



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 75S: Area 32

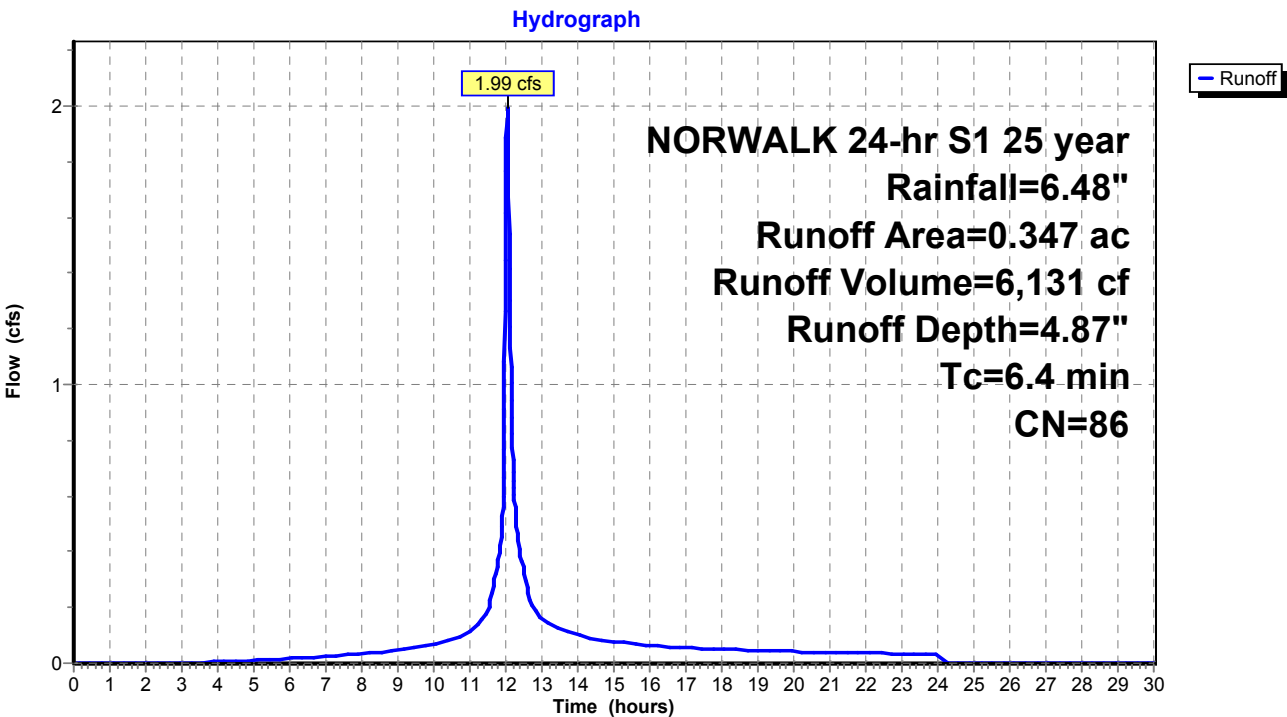
Runoff = 1.99 cfs @ 12.04 hrs, Volume= 6,131 cf, Depth= 4.87"
Routed to Pond 74P : CB-4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.196	98	Paved parking & roofs
0.151	70	Woods, Good, HSG C
0.347	86	Weighted Average
0.151		43.52% Pervious Area
0.196		56.48% Impervious Area

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

Subcatchment 75S: Area 32



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 76S: Area 33

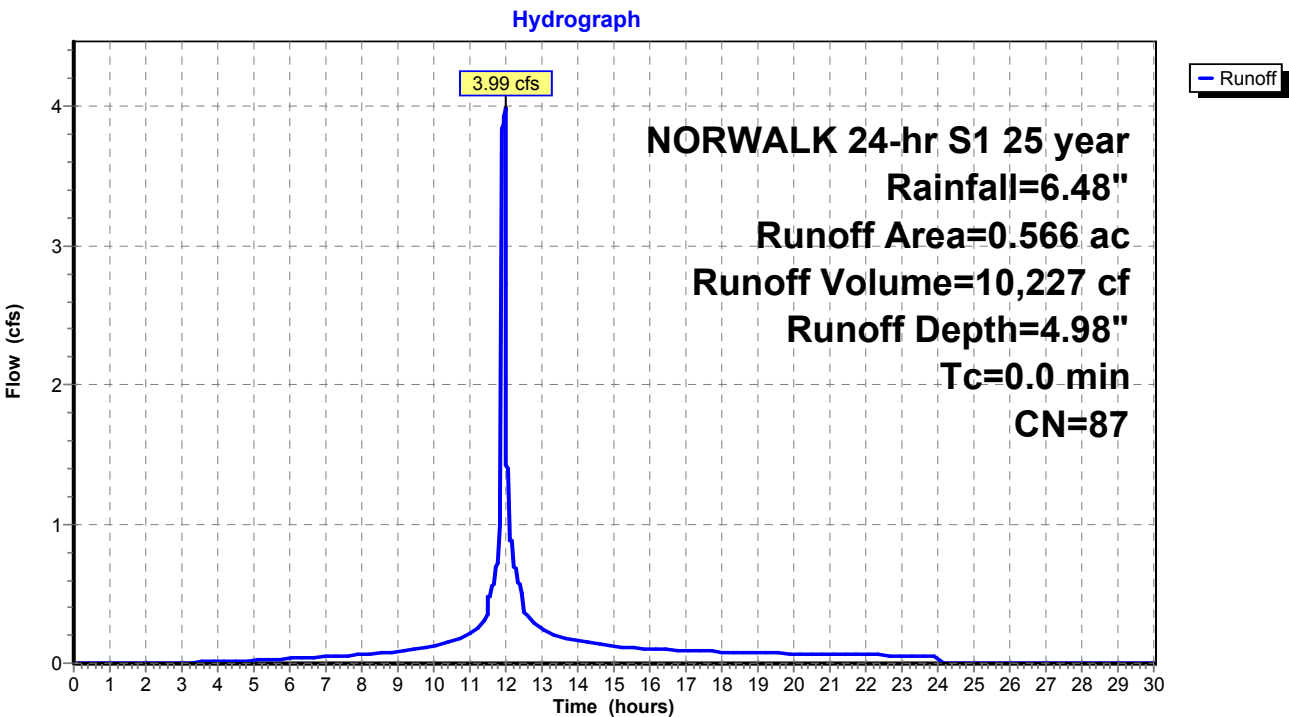
Runoff = 3.99 cfs @ 11.99 hrs, Volume= 10,227 cf, Depth= 4.98"
Routed to Pond 73P : CB-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.338	98	Paved parking & roofs
0.228	70	Woods, Good, HSG C
0.566	87	Weighted Average
0.228		40.28% Pervious Area
0.338		59.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.0					Direct Entry, 7

Subcatchment 76S: Area 33



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"
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Summary for Subcatchment 78S: Area 39

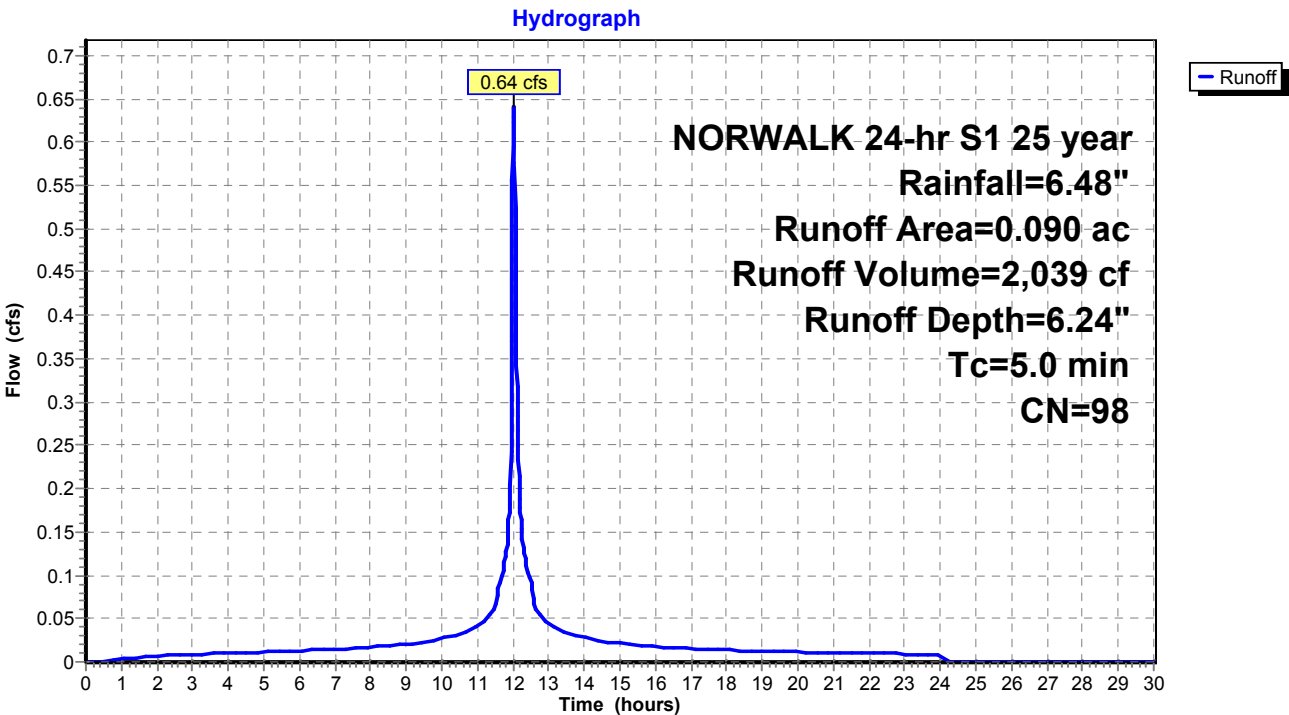
Runoff = 0.64 cfs @ 12.03 hrs, Volume= 2,039 cf, Depth= 6.24"
Routed to Pond 79P : CB-8

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.090	98	Paved parking & roofs
0.090		100.00% Impervious Area

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

Subcatchment 78S: Area 39



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 84S: Area 31

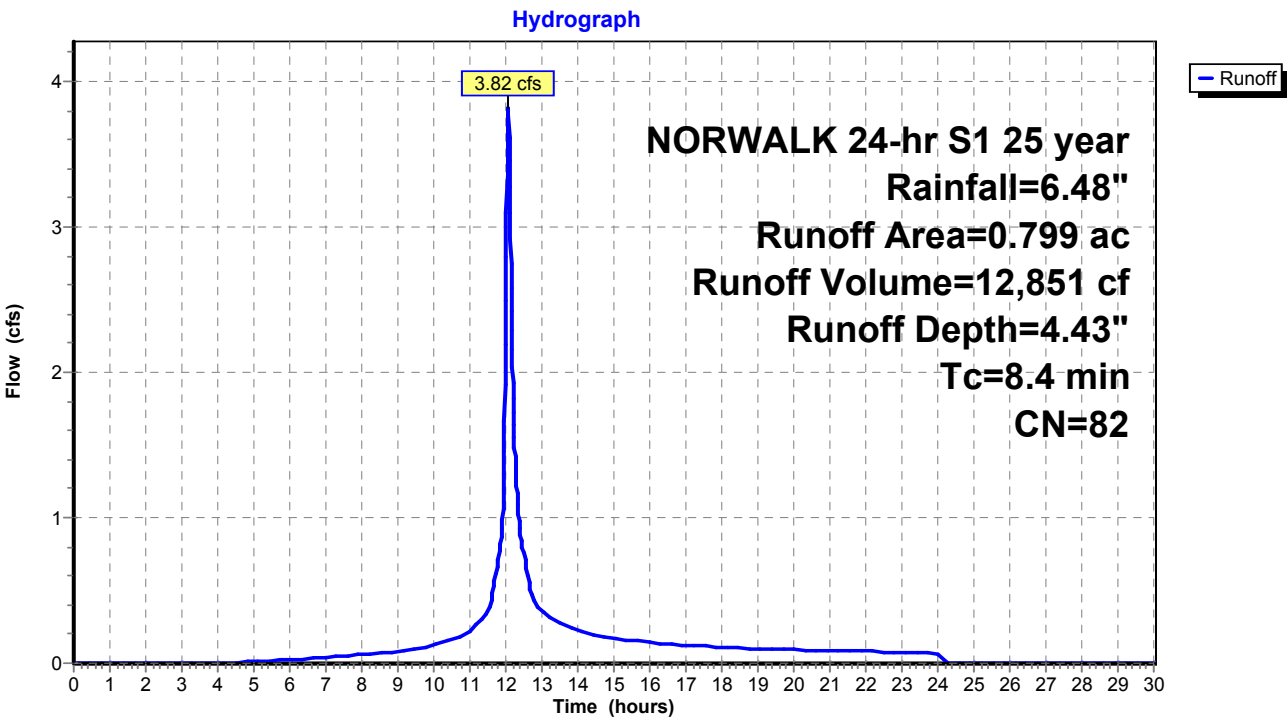
Runoff = 3.82 cfs @ 12.07 hrs, Volume= 12,851 cf, Depth= 4.43"
Routed to Pond 85P : CB-5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.337	98	Paved parking & roofs
0.462	70	Woods, Good, HSG C
0.799	82	Weighted Average
0.462		57.82% Pervious Area
0.337		42.18% Impervious Area

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

Subcatchment 84S: Area 31



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 100S: Area 16B

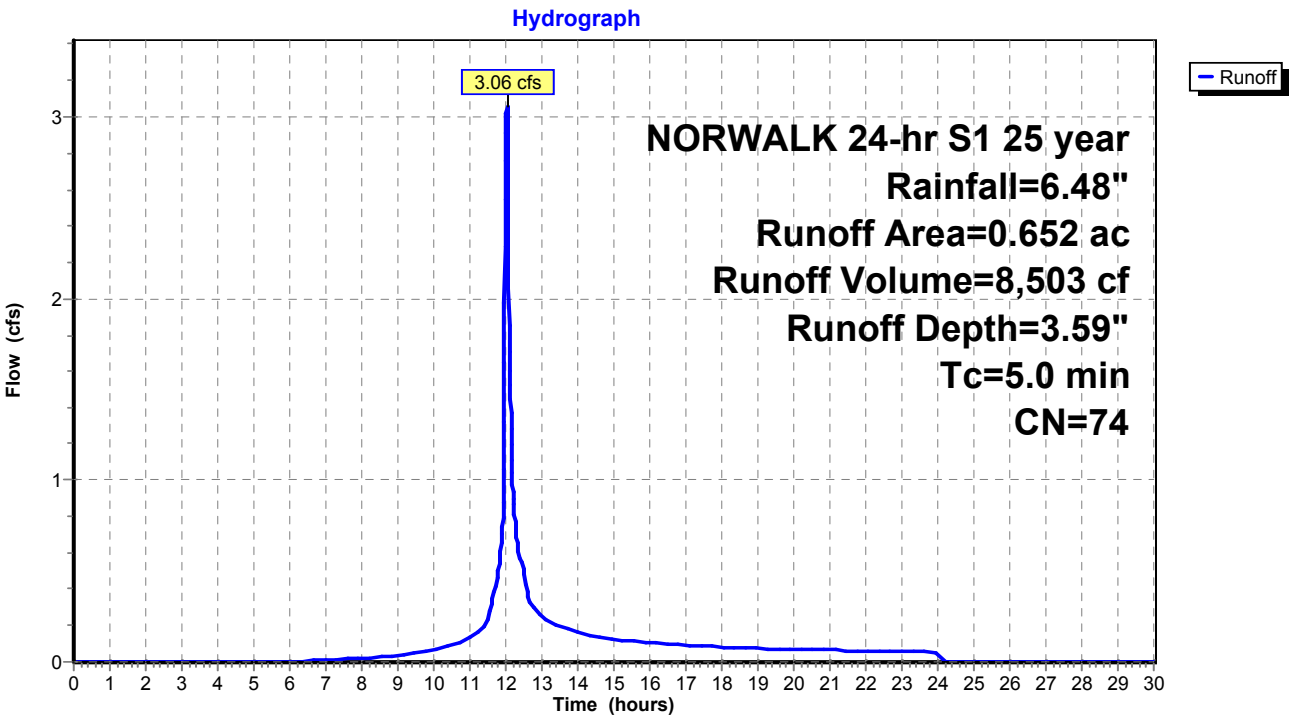
Runoff = 3.06 cfs @ 12.03 hrs, Volume= 8,503 cf, Depth= 3.59"
Routed to Pond 50P : DET BASIN #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.652	74	>75% Grass cover, Good, HSG C
0.652		100.00% Pervious Area

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

Subcatchment 100S: Area 16B



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 105S: Area 18

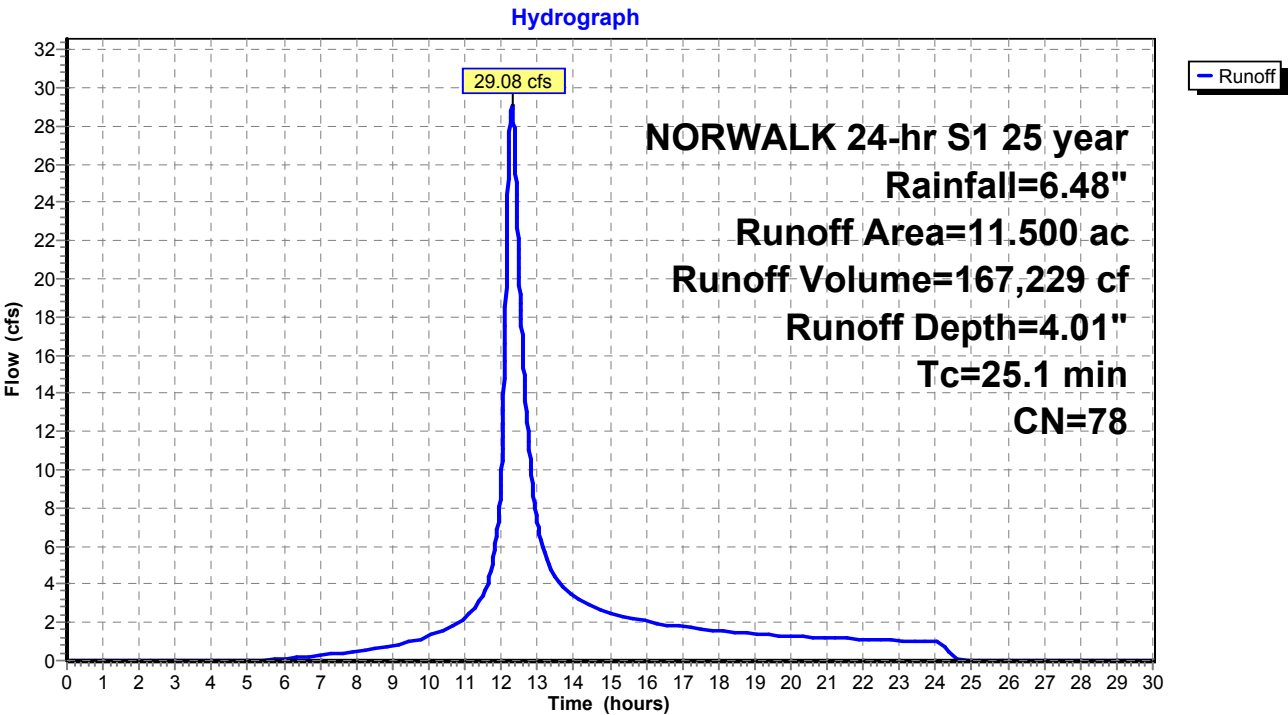
Runoff = 29.08 cfs @ 12.30 hrs, Volume= 167,229 cf, Depth= 4.01"
Routed to Pond 24P : RR Culvert 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.734	70	Woods, Good, HSG C
10.216	77	Woods, Good, HSG D
0.550	98	Paved parking, HSG C
11.500	78	Weighted Average
10.950		95.22% Pervious Area
0.550		4.78% Impervious Area

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

Subcatchment 105S: Area 18



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Summary for Subcatchment BLDG: EX-BLDG

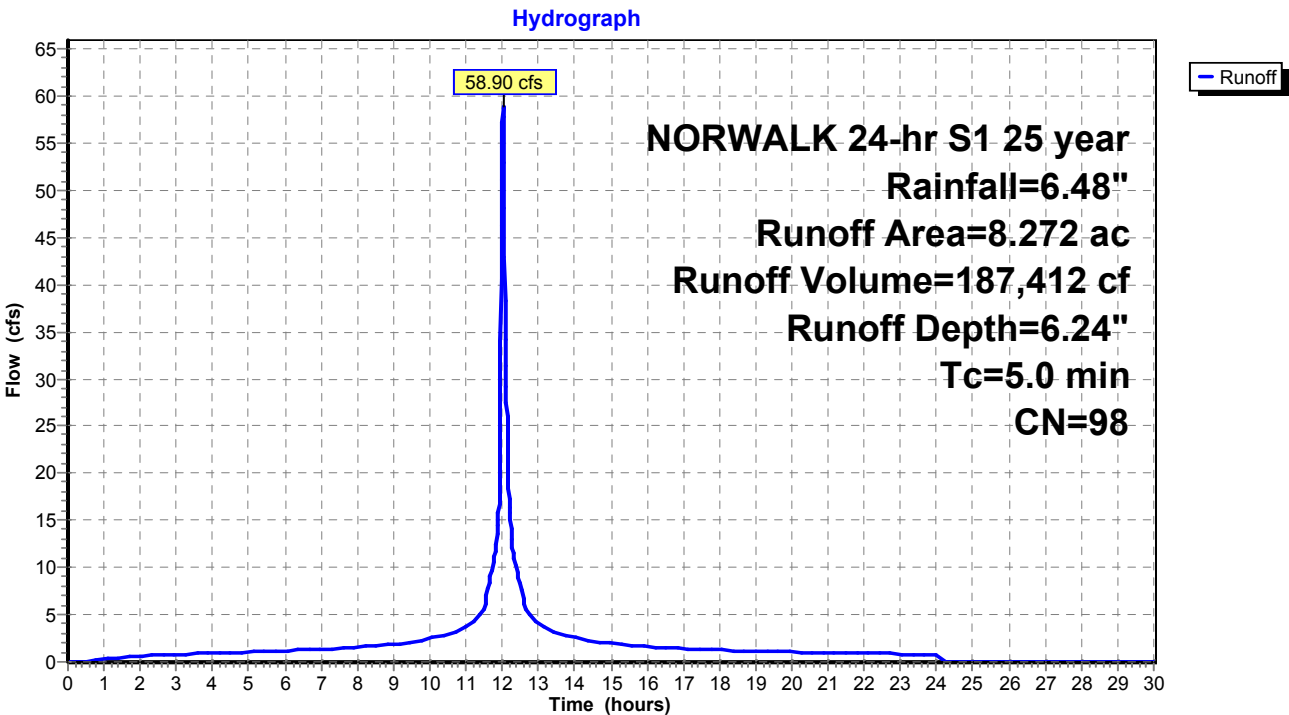
Runoff = 58.90 cfs @ 12.03 hrs, Volume= 187,412 cf, Depth= 6.24"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
8.272	98	Roofs, HSG B
8.272		100.00% Impervious Area

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

Subcatchment BLDG: EX-BLDG



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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Pond 1P: RR Culvert 2

Inflow Area = 6,570,111 sf, 25.88% Impervious, Inflow Depth > 4.42" for 25 year event
Inflow = 240.12 cfs @ 12.21 hrs, Volume= 2,419,547 cf
Outflow = 240.12 cfs @ 12.21 hrs, Volume= 2,419,547 cf, Atten= 0%, Lag= 0.0 min
Primary = 33.81 cfs @ 12.21 hrs, Volume= 1,193,787 cf
Secondary = 206.31 cfs @ 12.21 hrs, Volume= 1,225,760 cf
Routed to Pond 24P : RR Culvert 3

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 13.99' @ 12.21 hrs

Device	Routing	Invert	Outlet Devices
#1	Secondary	13.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 3.00 4.00 5.00 Width (feet) 50.00 50.00 50.00 50.00 50.00 50.00
#2	Primary	9.50'	24.0" W x 36.0" H Box Culvert L= 135.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.50' / 9.50' S= 0.0000 ' / Cc= 0.900 n= 0.014, Flow Area= 6.00 sf

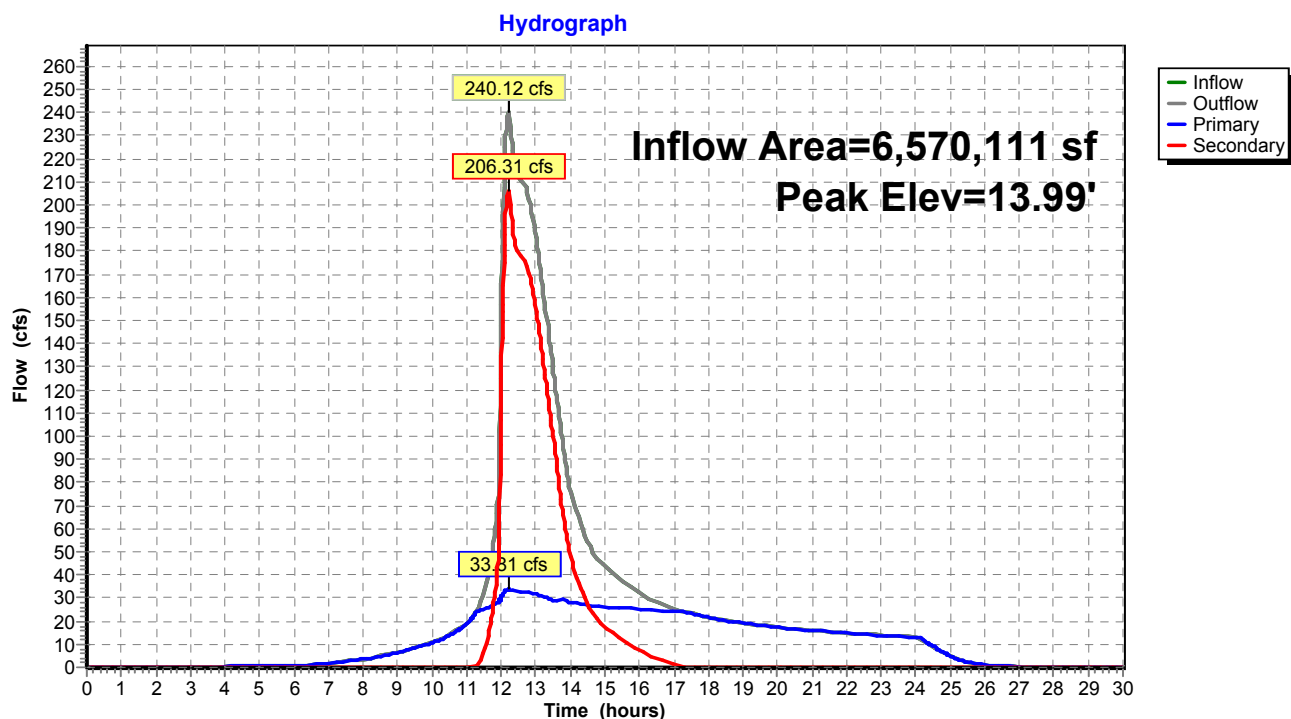
Primary OutFlow Max=33.81 cfs @ 12.21 hrs HW=13.99' (Free Discharge)

↑**2=Culvert** (Barrel Controls 33.81 cfs @ 5.63 fps)

Secondary OutFlow Max=206.25 cfs @ 12.21 hrs HW=13.99' (Free Discharge)

↑**1=Custom Weir/Orifice** (Weir Controls 206.25 cfs @ 4.15 fps)

Pond 1P: RR Culvert 2



Existing Conditions

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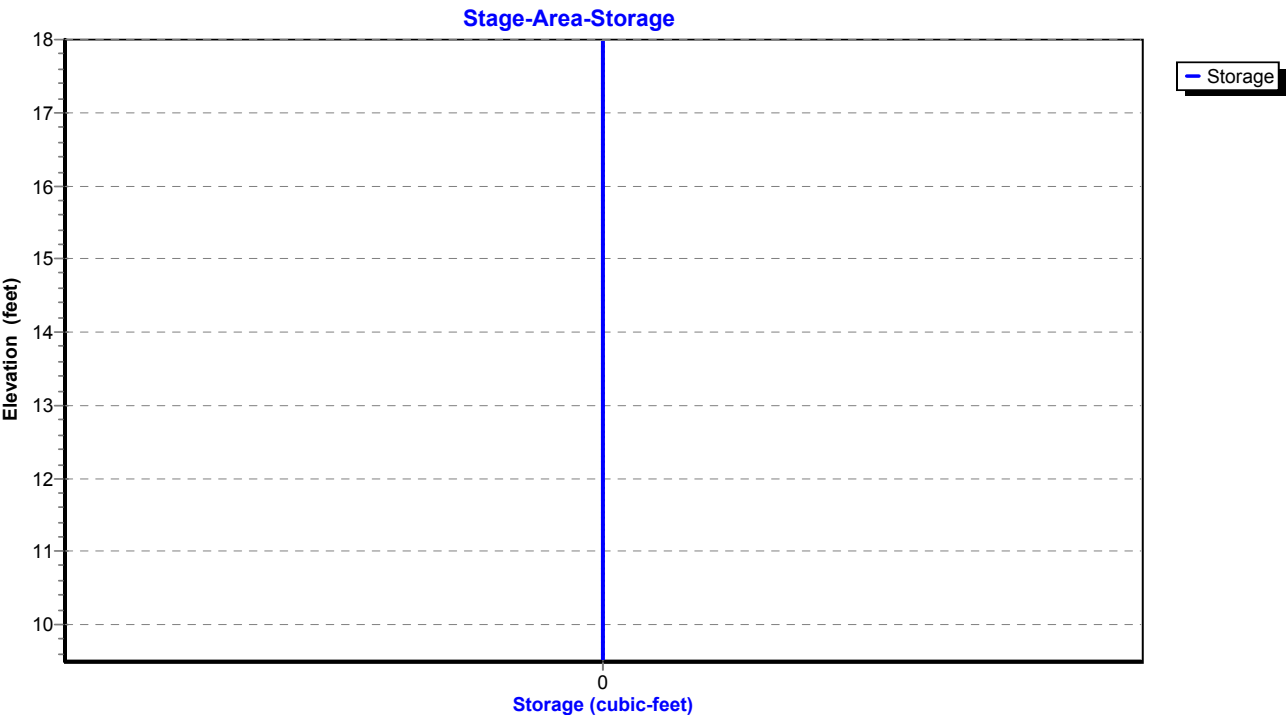
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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Pond 1P: RR Culvert 2



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Pond 2P: RR Culvert 1

Inflow Area = 3,416,890 sf, 54.57% Impervious, Inflow Depth = 4.98" for 25 year event
Inflow = 153.54 cfs @ 12.04 hrs, Volume= 1,419,122 cf
Outflow = 153.54 cfs @ 12.04 hrs, Volume= 1,419,122 cf, Atten= 0%, Lag= 0.0 min
Primary = 52.79 cfs @ 12.04 hrs, Volume= 1,059,659 cf
Secondary = 100.76 cfs @ 12.04 hrs, Volume= 359,463 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 29.86' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	25.00'	28.8" W x 28.8" H Box Culvert L= 123.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.00' / 23.60' S= 0.0114 '/' Cc= 0.900 n= 0.014, Flow Area= 5.76 sf
#2	Secondary	27.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 Width (feet) 6.00 6.00 6.00

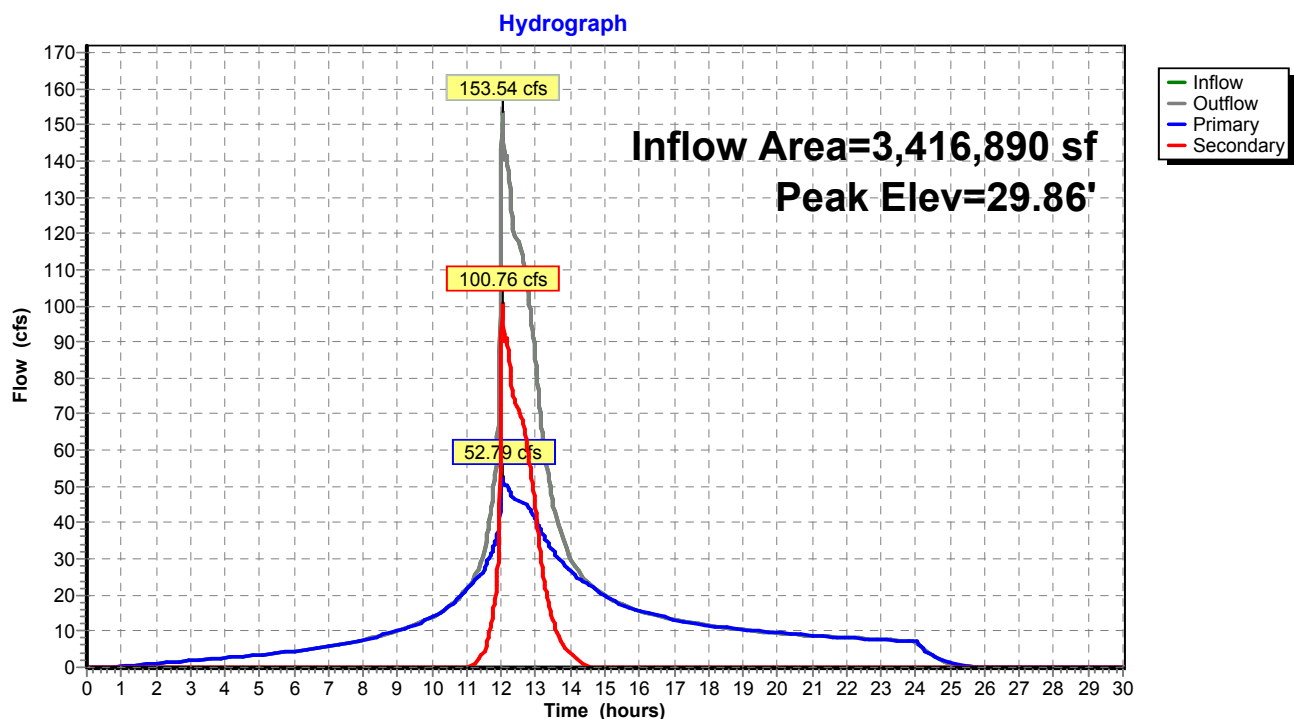
Primary OutFlow Max=52.77 cfs @ 12.04 hrs HW=29.85' (Free Discharge)

↑**1=Culvert** (Inlet Controls 52.77 cfs @ 9.16 fps)

Secondary OutFlow Max=100.68 cfs @ 12.04 hrs HW=29.85' (Free Discharge)

↑**2=Custom Weir/Orifice** (Orifice Controls 100.68 cfs @ 8.39 fps)

Pond 2P: RR Culvert 1



Existing Conditions

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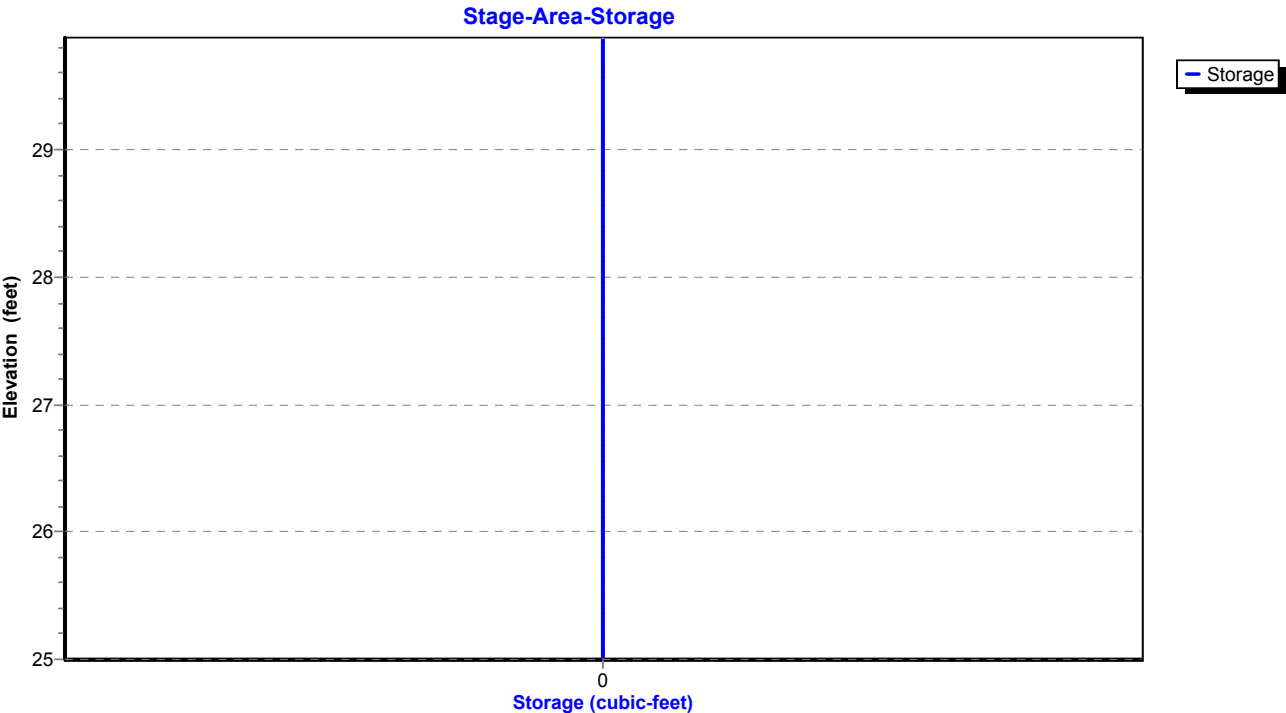
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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Pond 2P: RR Culvert 1



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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Pond 3P: DETENTION BASIN #2

Inflow Area = 263,277 sf, 58.24% Impervious, Inflow Depth = 4.45" for 25 year event
Inflow = 29.16 cfs @ 12.03 hrs, Volume= 97,738 cf
Outflow = 4.45 cfs @ 12.61 hrs, Volume= 81,966 cf, Atten= 85%, Lag= 34.4 min
Primary = 4.45 cfs @ 12.61 hrs, Volume= 81,966 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 50.29' @ 12.61 hrs Surf.Area= 12,581 sf Storage= 47,206 cf

Plug-Flow detention time= 218.9 min calculated for 81,939 cf (84% of inflow)
Center-of-Mass det. time= 140.4 min (937.2 - 796.8)

Volume	Invert	Avail.Storage	Storage Description
#1	44.00'	56,637 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.00	2,637	0	0
46.00	6,000	8,637	8,637
48.00	8,500	14,500	23,137
50.00	12,000	20,500	43,637
51.00	14,000	13,000	56,637

Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	18.0" Round Culvert L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.00' / 30.00' S= 0.1750 ' / Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	47.00'	10.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	50.40'	16.2" x 55.4" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.45 cfs @ 12.61 hrs HW=50.29' (Free Discharge)

1=Culvert (Passes 4.45 cfs of 20.03 cfs potential flow)
2=Orifice/Grate (Orifice Controls 4.45 cfs @ 8.16 fps)
3=Orifice/Grate (Controls 0.00 cfs)

Existing Conditions

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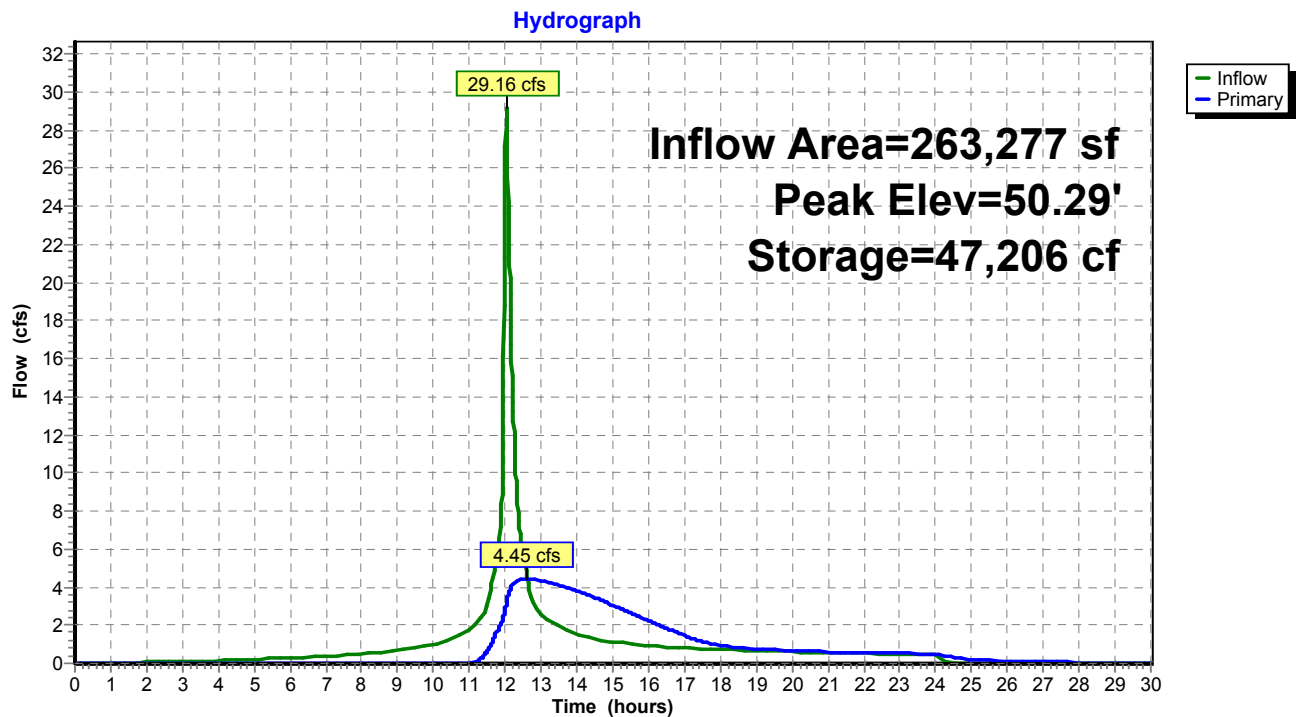
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NORWALK 24-hr S1 25 year Rainfall=6.48"

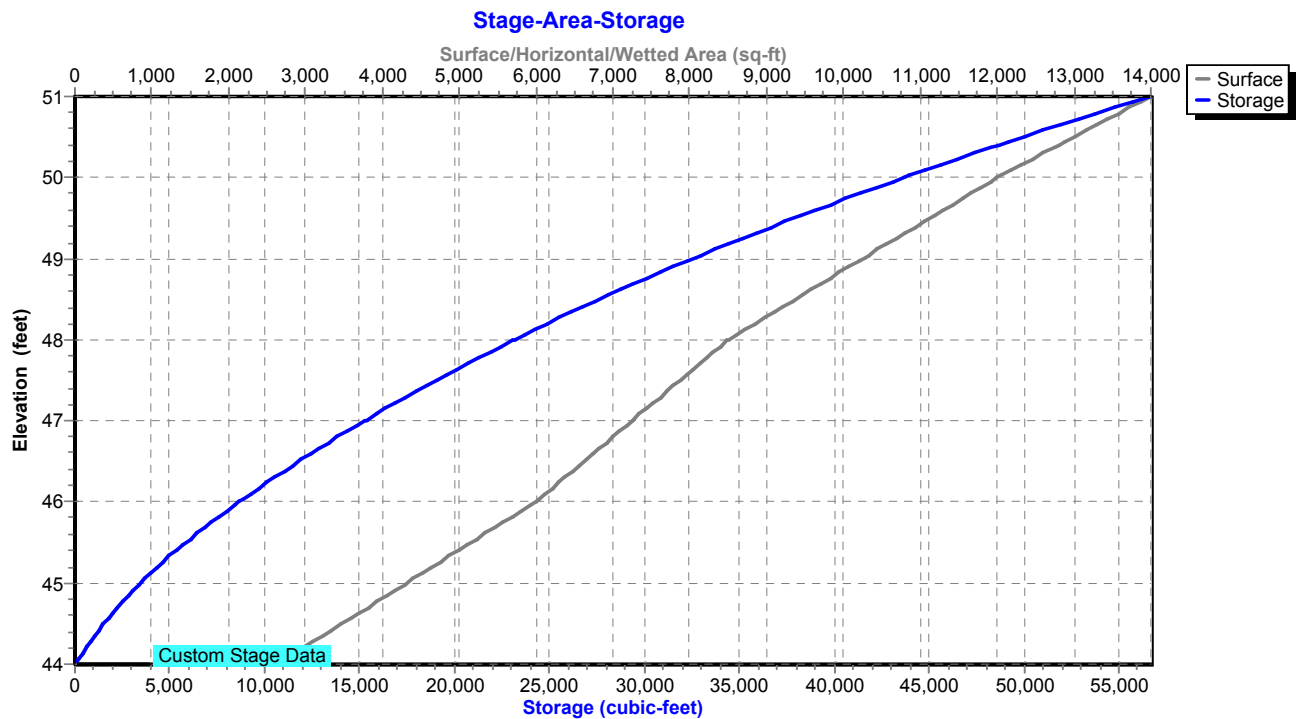
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Pond 3P: DETENTION BASIN #2



Pond 3P: DETENTION BASIN #2



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Summary for Pond 5P: DET 5 Culvert

Inflow Area = 541,015 sf, 16.51% Impervious, Inflow Depth = 3.49" for 25 year event
 Inflow = 22.21 cfs @ 12.45 hrs, Volume= 157,388 cf
 Outflow = 18.94 cfs @ 12.63 hrs, Volume= 157,387 cf, Atten= 15%, Lag= 10.6 min
 Primary = 18.94 cfs @ 12.63 hrs, Volume= 157,387 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 80.78' @ 12.63 hrs Storage= 8,732 cf

Plug-Flow detention time= 6.3 min calculated for 157,387 cf (100% of inflow)

Center-of-Mass det. time= 6.3 min (887.5 - 881.2)

Volume	Invert	Avail.Storage	Storage Description
#1	78.00'	62,584 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
78.00	0	0
79.00	1,179	1,179
80.00	3,009	4,188
81.00	5,795	9,983
82.00	9,335	19,318
83.00	16,518	35,836
84.00	26,748	62,584

Device	Routing	Invert	Outlet Devices
#1	Primary	78.00'	24.0" Round Culvert L= 224.0' Ke= 0.600 Inlet / Outlet Invert= 78.00' / 72.40' S= 0.0250 ' / Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=18.94 cfs @ 12.63 hrs HW=80.78' (Free Discharge)↑**1=Culvert** (Inlet Controls 18.94 cfs @ 6.03 fps)

Existing Conditions

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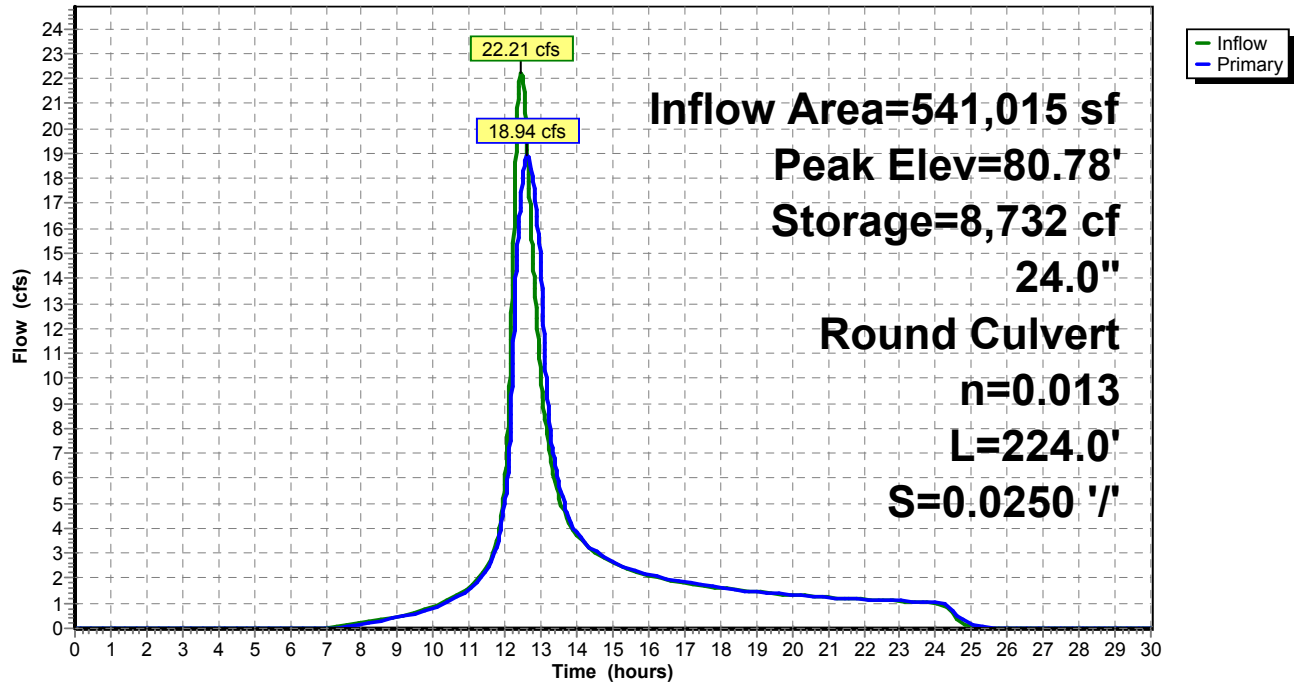
NORWALK 24-hr S1 25 year Rainfall=6.48"

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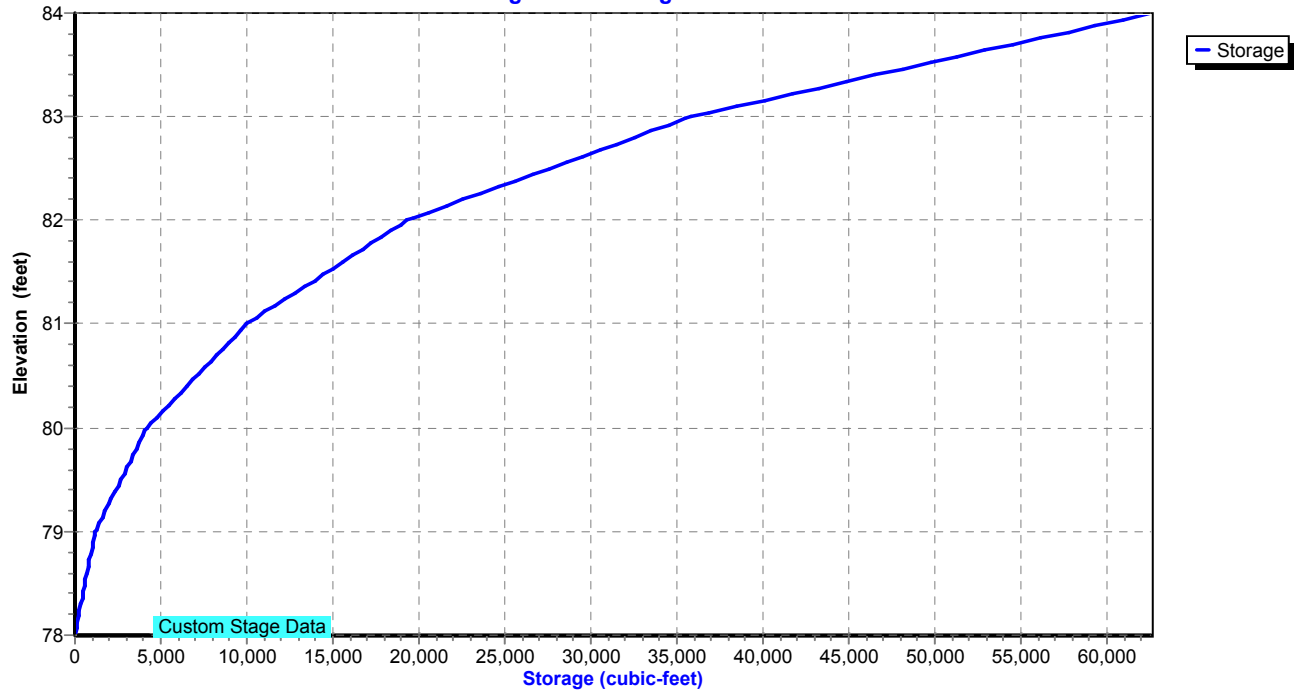
Pond 5P: DET 5 Culvert

Hydrograph



Pond 5P: DET 5 Culvert

Stage-Area-Storage



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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Pond 6P: DET 6 Culvert

Inflow Area = 747,054 sf, 37.20% Impervious, Inflow Depth = 4.43" for 25 year event
 Inflow = 30.81 cfs @ 12.70 hrs, Volume= 275,844 cf
 Outflow = 30.74 cfs @ 12.71 hrs, Volume= 275,844 cf, Atten= 0%, Lag= 0.7 min
 Primary = 30.74 cfs @ 12.71 hrs, Volume= 275,844 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 91.67' @ 12.71 hrs Storage= 1,138 cf

Plug-Flow detention time= 0.5 min calculated for 275,844 cf (100% of inflow)

Center-of-Mass det. time= 0.4 min (869.5 - 869.0)

Volume	Invert	Avail.Storage	Storage Description
#1	88.50'	5,954 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
88.50	0	0
90.00	154	154
92.00	1,175	1,329
93.00	4,625	5,954

Device	Routing	Invert	Outlet Devices
#1	Primary	88.50'	30.0" Round Culvert L= 180.0' Ke= 0.600 Inlet / Outlet Invert= 88.50' / 86.00' S= 0.0139 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=30.74 cfs @ 12.71 hrs HW=91.67' (Free Discharge)
 ↑**1=Culvert** (Inlet Controls 30.74 cfs @ 6.26 fps)

Existing Conditions

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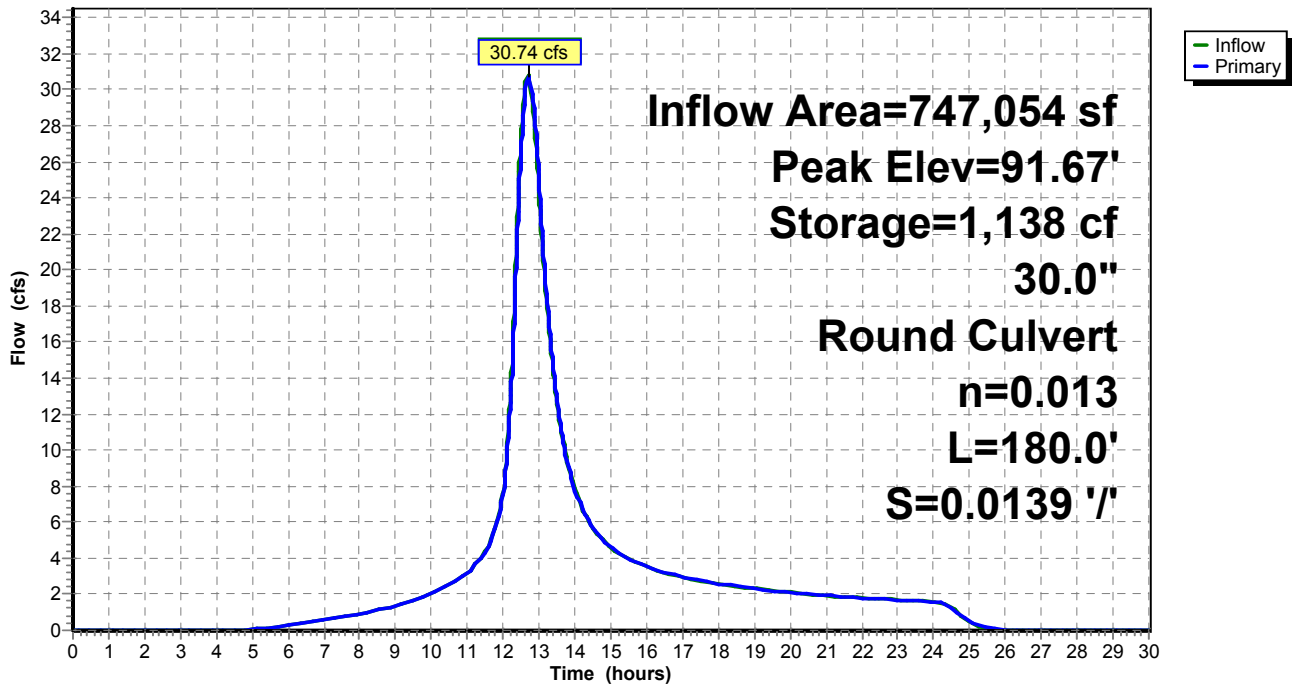
NORWALK 24-hr S1 25 year Rainfall=6.48"

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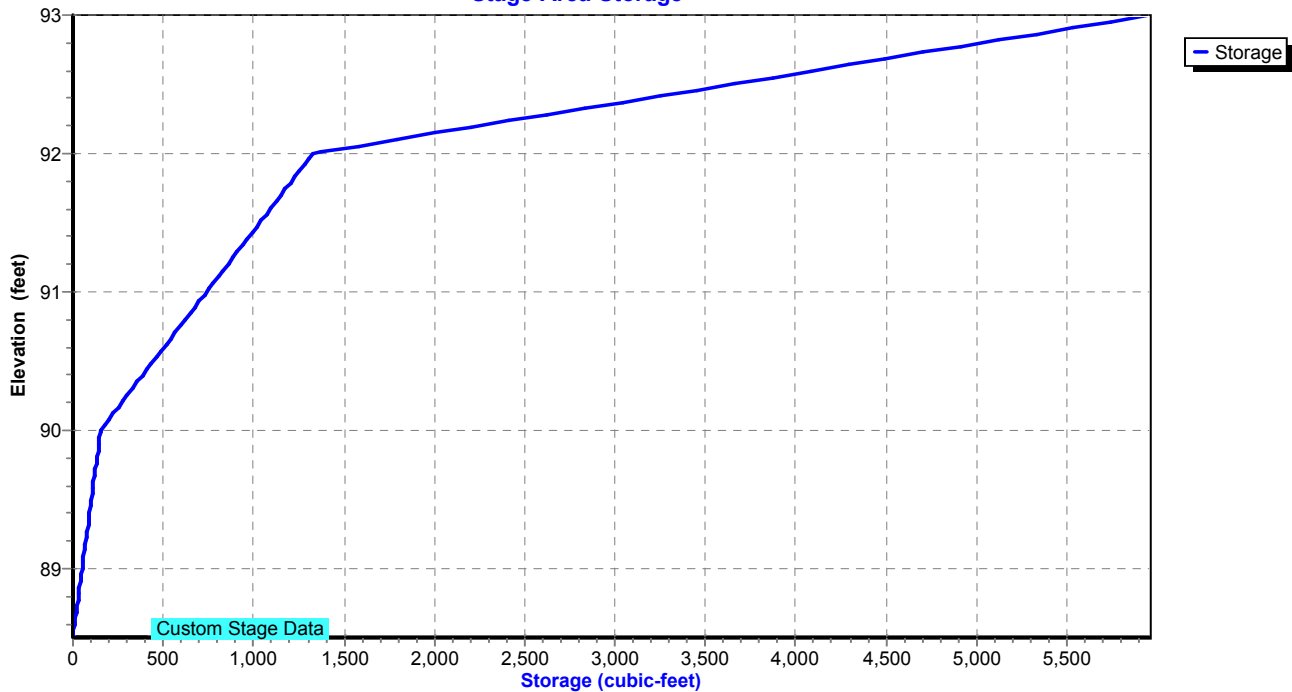
Pond 6P: DET 6 Culvert

Hydrograph



Pond 6P: DET 6 Culvert

Stage-Area-Storage



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Pond 7P: DET 7 Culvert

Inflow Area = 64,033 sf, 0.00% Impervious, Inflow Depth = 4.32" for 25 year event
 Inflow = 4.22 cfs @ 12.26 hrs, Volume= 23,071 cf
 Outflow = 2.81 cfs @ 12.46 hrs, Volume= 23,071 cf, Atten= 33%, Lag= 12.2 min
 Primary = 2.81 cfs @ 12.46 hrs, Volume= 23,071 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 93.39' @ 12.46 hrs Storage= 2,350 cf

Plug-Flow detention time= 6.6 min calculated for 23,071 cf (100% of inflow)

Center-of-Mass det. time= 6.6 min (849.3 - 842.7)

Volume	Invert	Avail.Storage	Storage Description
#1	92.50'	5,874 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
92.50	0	0
93.00	103	103
94.00	5,771	5,874

Device	Routing	Invert	Outlet Devices
#1	Primary	92.50'	15.0" Round Culvert L= 202.0' Ke= 0.600 Inlet / Outlet Invert= 92.50' / 89.11' S= 0.0168 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=2.81 cfs @ 12.46 hrs HW=93.39' (Free Discharge)↑**1=Culvert** (Inlet Controls 2.81 cfs @ 3.01 fps)

Existing Conditions

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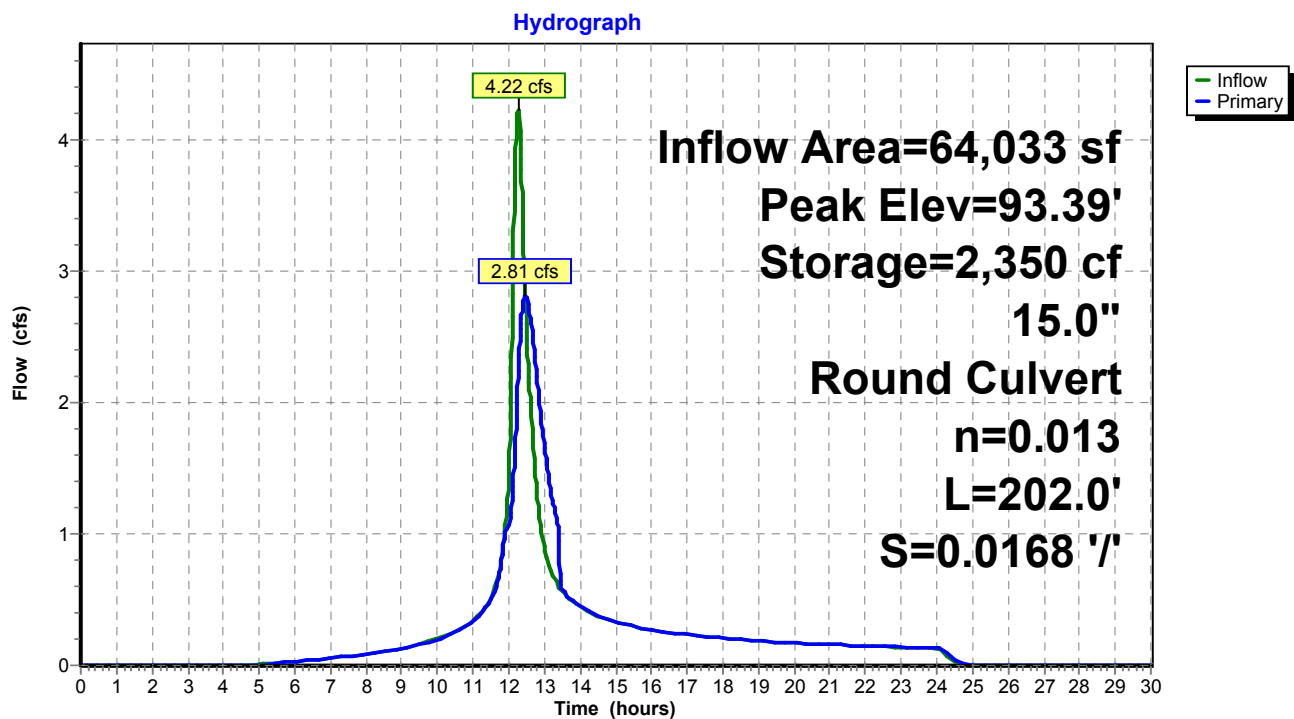
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NORWALK 24-hr S1 25 year Rainfall=6.48"

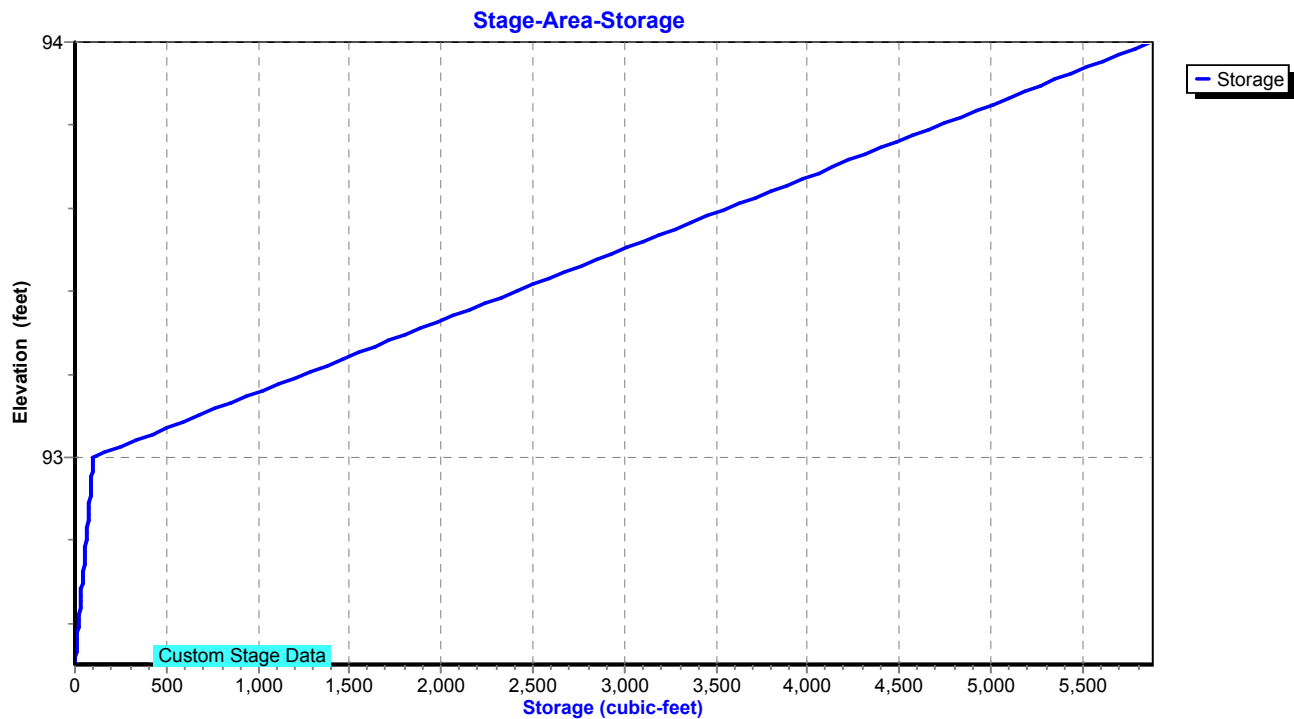
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Pond 7P: DET 7 Culvert



Pond 7P: DET 7 Culvert



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Pond 8P: Comb. 5,6,7,8,9

Inflow Area = 1,584,277 sf, 30.02% Impervious, Inflow Depth = 4.20" for 25 year event
 Inflow = 62.19 cfs @ 12.67 hrs, Volume= 555,099 cf
 Outflow = 62.19 cfs @ 12.67 hrs, Volume= 555,099 cf, Atten= 0%, Lag= 0.1 min
 Primary = 62.19 cfs @ 12.67 hrs, Volume= 555,099 cf
 Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 71.95' @ 12.67 hrs Storage= 164 cf

Plug-Flow detention time= 0.0 min calculated for 555,099 cf (100% of inflow)
 Center-of-Mass det. time= 0.0 min (866.3 - 866.3)

Volume	Invert	Avail.Storage	Storage Description
#1	68.40'	5,234 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.40	0	0
71.00	52	52
72.00	118	170
73.00	471	641
74.00	1,318	1,959
75.00	3,275	5,234

Device	Routing	Invert	Outlet Devices
#1	Primary	68.40'	42.0" Round Culvert L= 900.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 68.40' / 36.99' S= 0.0349 ' / Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=62.19 cfs @ 12.67 hrs HW=71.95' (Free Discharge)

↑**1=Culvert** (Inlet Controls 62.19 cfs @ 6.46 fps)

Existing Conditions

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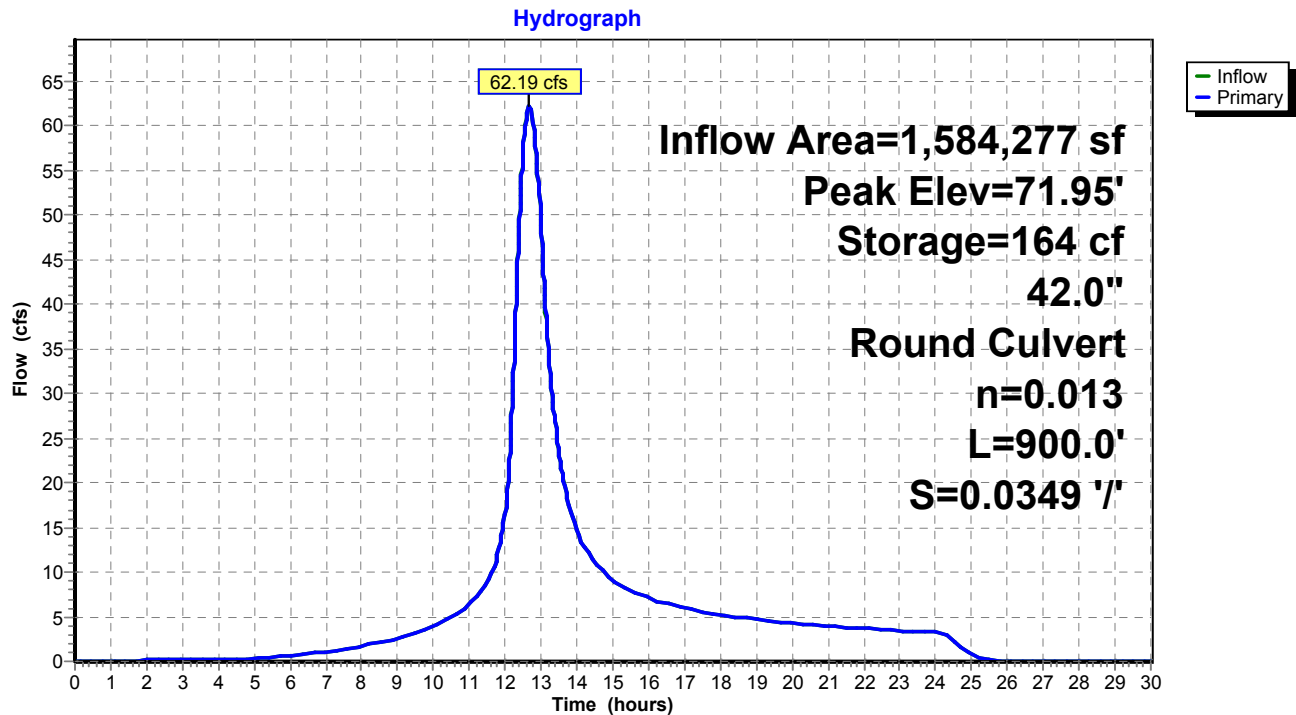
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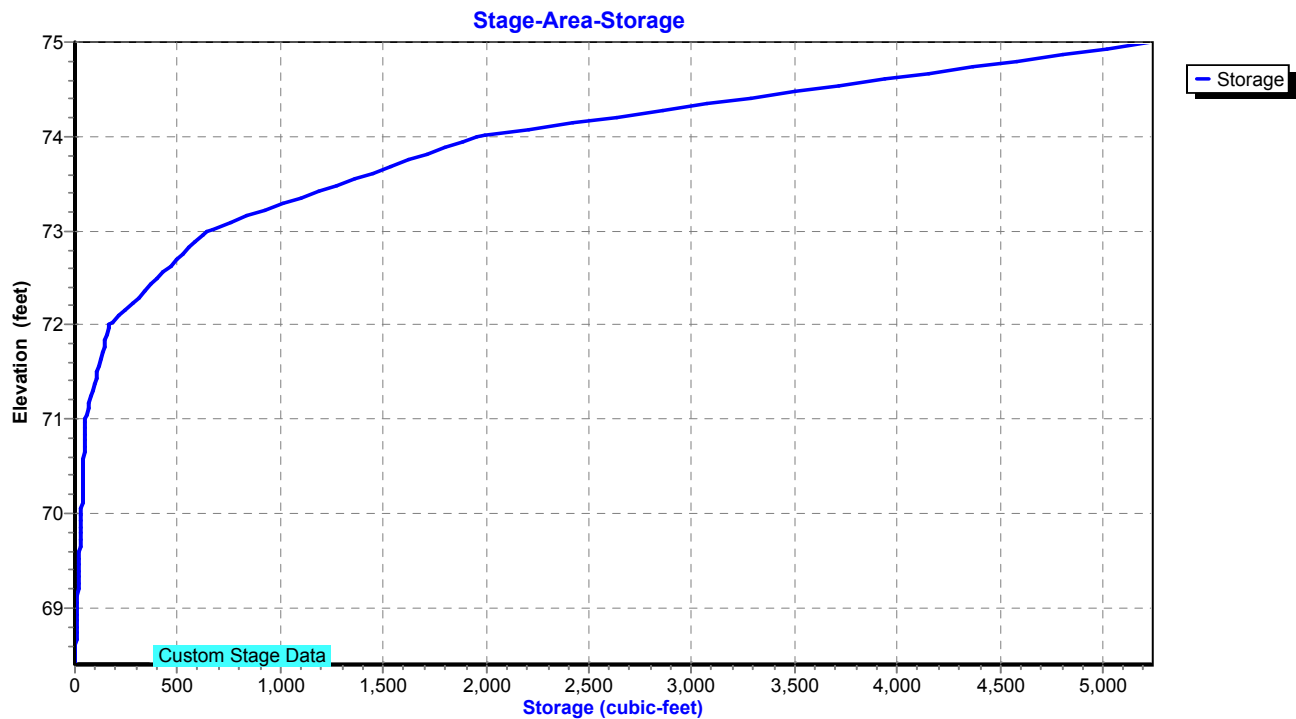
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Pond 8P: Comb. 5,6,7,8,9



Pond 8P: Comb. 5,6,7,8,9



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Pond 9P: MH-K

Inflow Area = 246,332 sf, 62.25% Impervious, Inflow Depth = 4.51" for 25 year event
Inflow = 27.36 cfs @ 12.04 hrs, Volume= 92,665 cf
Outflow = 27.36 cfs @ 12.04 hrs, Volume= 92,665 cf, Atten= 0%, Lag= 0.0 min
Primary = 27.36 cfs @ 12.04 hrs, Volume= 92,665 cf
Routed to Pond 3P : DETENTION BASIN #2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 51.45' @ 12.04 hrs

Flood Elev= 51.80'

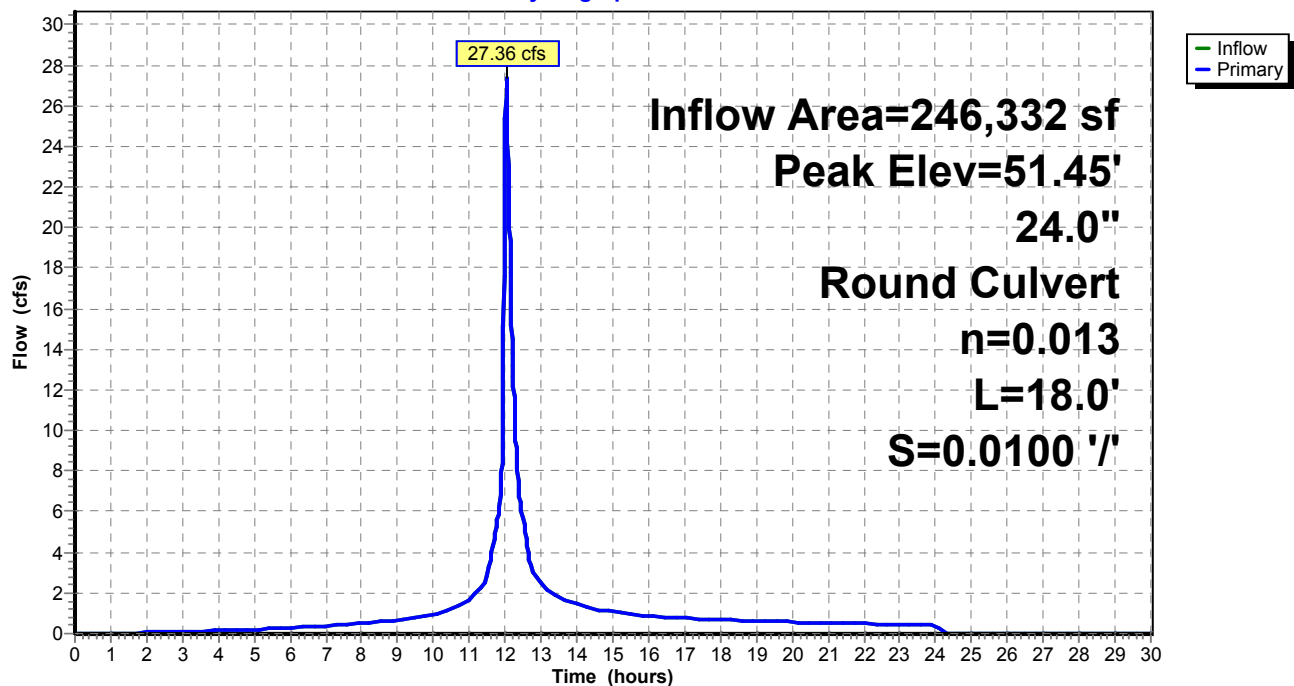
Device	Routing	Invert	Outlet Devices
#1	Primary	47.18'	24.0" Round Culvert L= 18.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.18' / 47.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=27.27 cfs @ 12.04 hrs HW=51.43' (Free Discharge)

↑1=Culvert (Inlet Controls 27.27 cfs @ 8.68 fps)

Pond 9P: MH-K

Hydrograph



Existing Conditions

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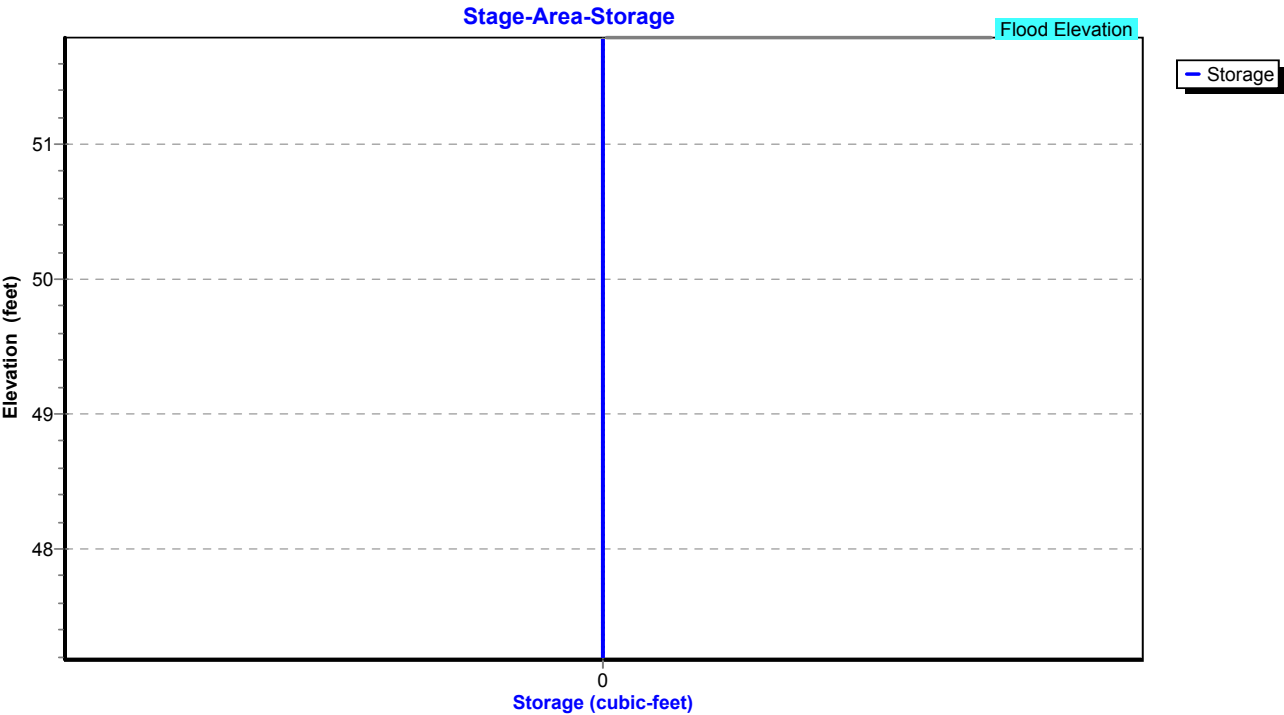
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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Pond 9P: MH-K



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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Pond 10P: MH-L

Inflow Area = 71,874 sf, 85.27% Impervious, Inflow Depth = 3.85" for 25 year event
Inflow = 11.21 cfs @ 12.03 hrs, Volume= 23,062 cf
Outflow = 11.21 cfs @ 12.03 hrs, Volume= 23,062 cf, Atten= 0%, Lag= 0.0 min
Primary = 11.21 cfs @ 12.03 hrs, Volume= 23,062 cf
Routed to Pond 9P : MH-K

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.93' @ 12.03 hrs

Flood Elev= 53.00'

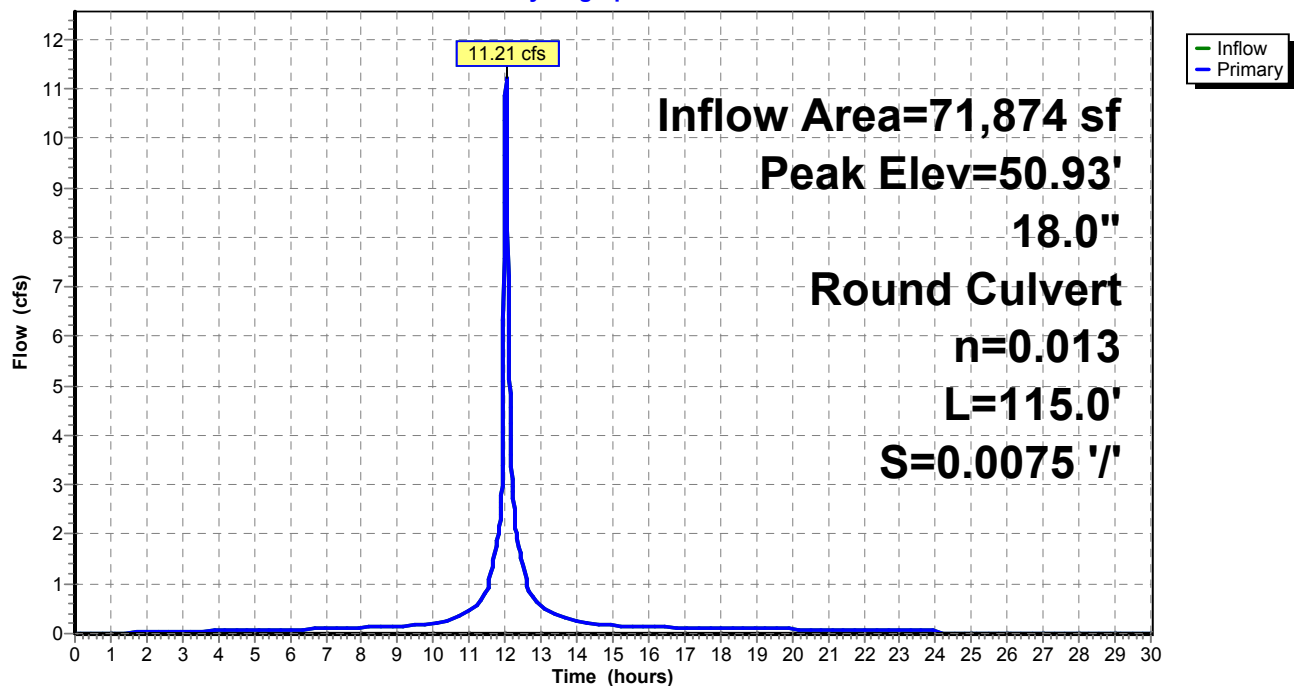
Device	Routing	Invert	Outlet Devices
#1	Primary	48.04'	18.0" Round Culvert L= 115.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.04' / 47.18' S= 0.0075 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=11.16 cfs @ 12.03 hrs HW=50.91' (Free Discharge)

↑1=Culvert (Barrel Controls 11.16 cfs @ 6.32 fps)

Pond 10P: MH-L

Hydrograph



Existing Conditions

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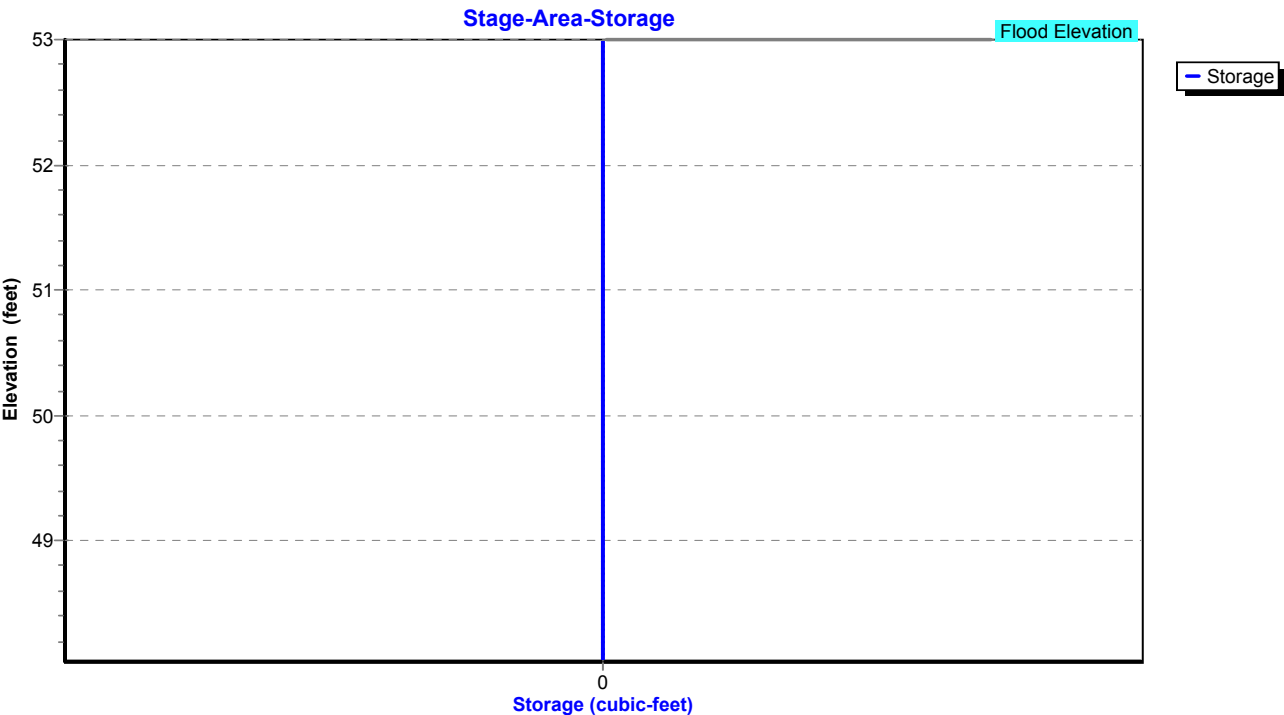
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Pond 10P: MH-L



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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Pond 11P: Pipe Storage

Inflow Area = 40,903 sf, 82.85% Impervious, Inflow Depth = 5.78" for 25 year event
Inflow = 6.50 cfs @ 12.03 hrs, Volume= 19,701 cf
Outflow = 6.25 cfs @ 12.03 hrs, Volume= 7,784 cf, Atten= 4%, Lag= 0.0 min
Primary = 6.25 cfs @ 12.03 hrs, Volume= 7,784 cf
Routed to Pond 10P : MH-L

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 52.02' @ 12.03 hrs Storage= 0.081 af

Plug-Flow detention time= 146.8 min calculated for 7,781 cf (39% of inflow)

Center-of-Mass det. time= (not calculated: outflow precedes inflow)

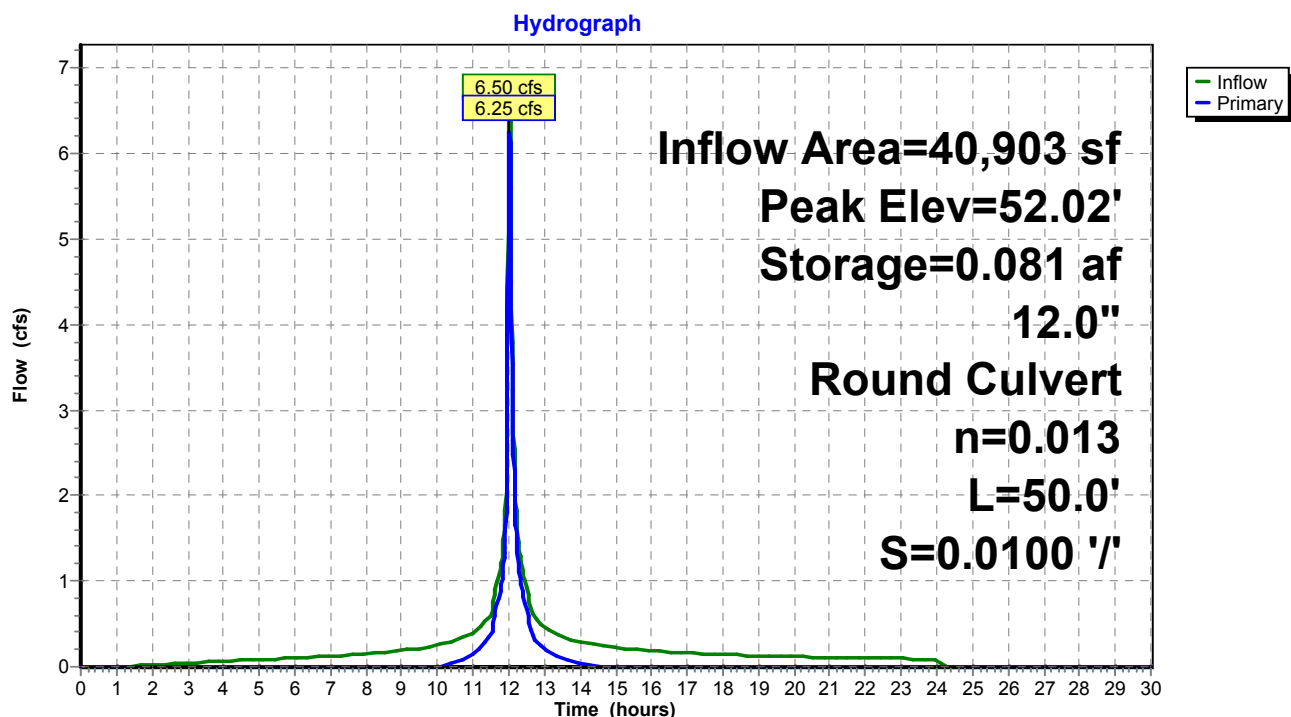
Volume	Invert	Avail.Storage	Storage Description
#1	45.50'	0.081 af	36.0" Round Pipe Storage x 2 L= 250.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.50'	12.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.50' / 48.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=6.22 cfs @ 12.03 hrs HW=51.99' (Free Discharge)

↑1=Culvert (Barrel Controls 6.22 cfs @ 7.92 fps)

Pond 11P: Pipe Storage



Existing Conditions

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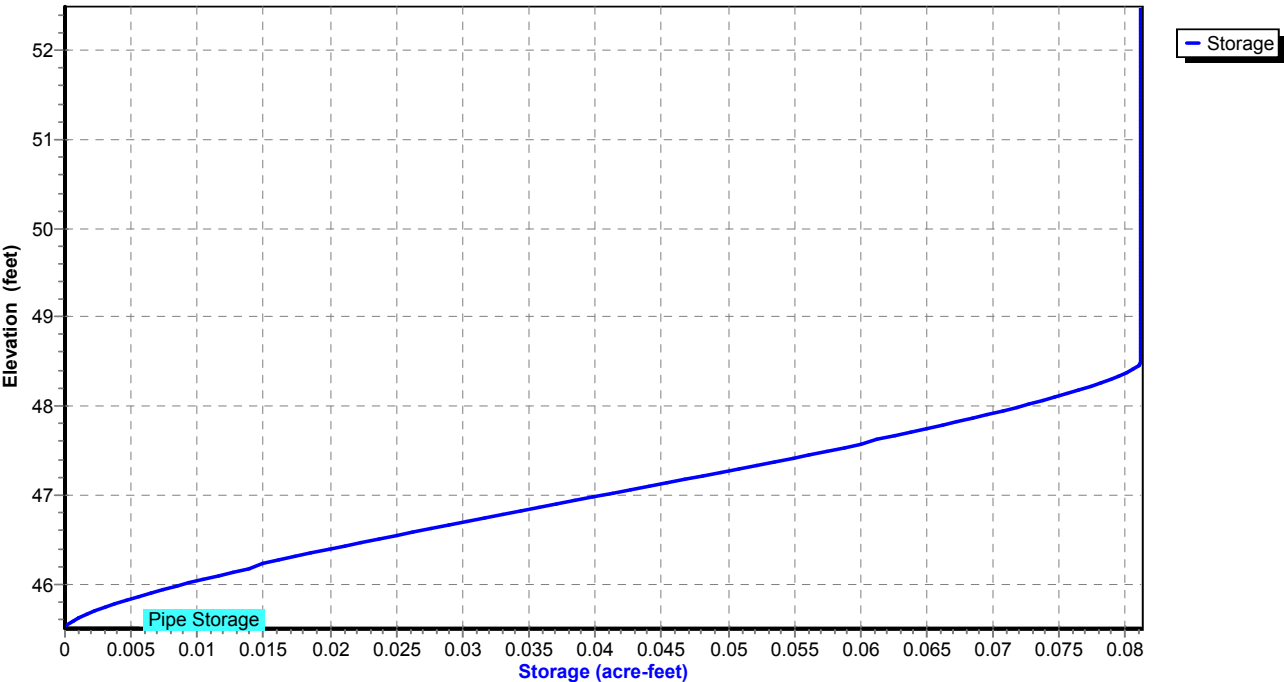
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Pond 11P: Pipe Storage

Stage-Area-Storage



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Summary for Pond 12P: MH-M

Inflow Area = 30,971 sf, 88.47% Impervious, Inflow Depth = 5.92" for 25 year event
Inflow = 4.96 cfs @ 12.03 hrs, Volume= 15,279 cf
Outflow = 4.96 cfs @ 12.03 hrs, Volume= 15,279 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.96 cfs @ 12.03 hrs, Volume= 15,279 cf
Routed to Pond 10P : MH-L

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.64' @ 12.03 hrs

Flood Elev= 54.00'

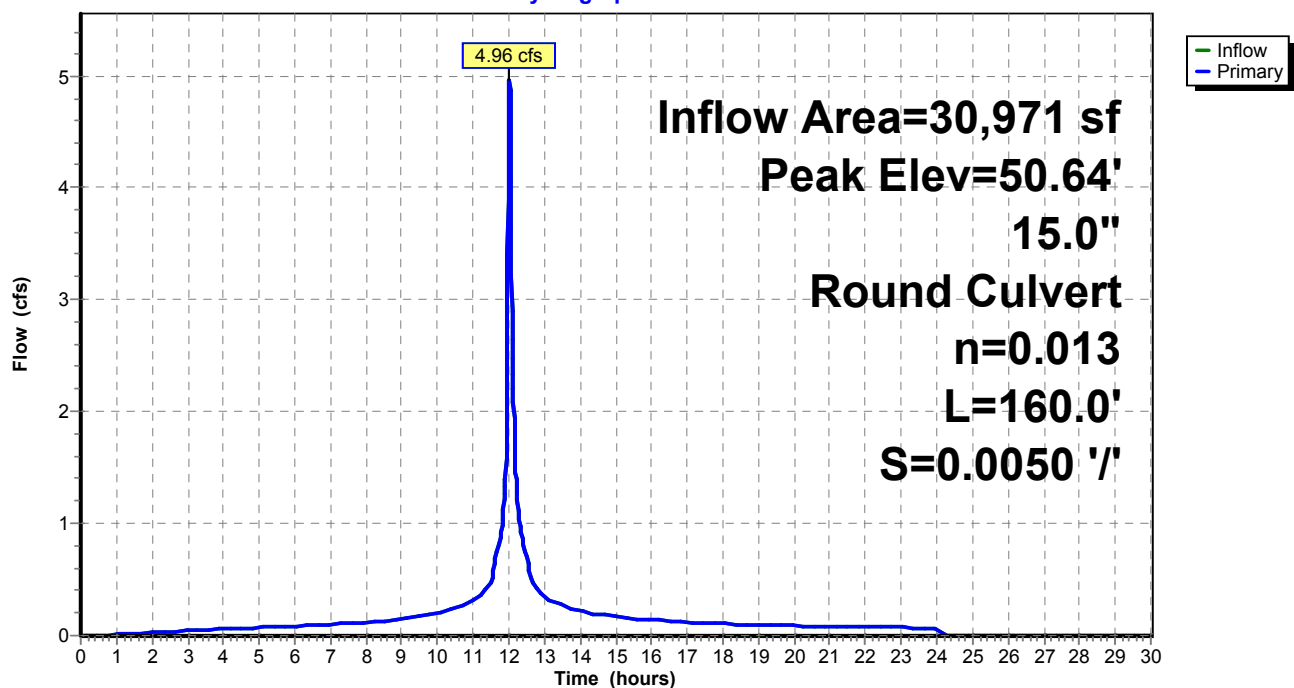
Device	Routing	Invert	Outlet Devices
#1	Primary	48.84'	15.0" Round Culvert L= 160.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.84' / 48.04' S= 0.0050 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=4.94 cfs @ 12.03 hrs HW=50.61' (Free Discharge)

↑1=Culvert (Barrel Controls 4.94 cfs @ 4.03 fps)

Pond 12P: MH-M

Hydrograph



Existing Conditions

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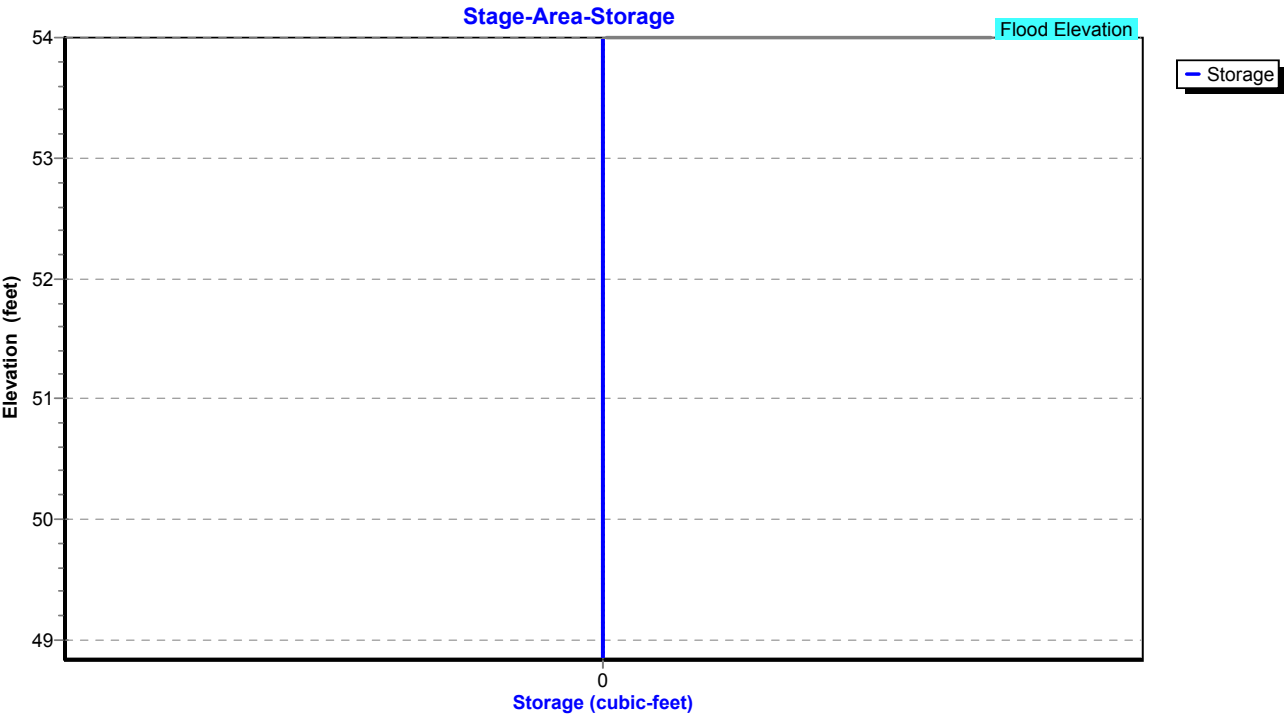
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Pond 12P: MH-M



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Summary for Pond 13P: MH-J

Inflow Area = 17,032 sf, 79.03% Impervious, Inflow Depth = 5.66" for 25 year event
Inflow = 2.68 cfs @ 12.03 hrs, Volume= 8,029 cf
Outflow = 2.68 cfs @ 12.03 hrs, Volume= 8,029 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.68 cfs @ 12.03 hrs, Volume= 8,029 cf
Routed to Pond 12P : MH-M

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

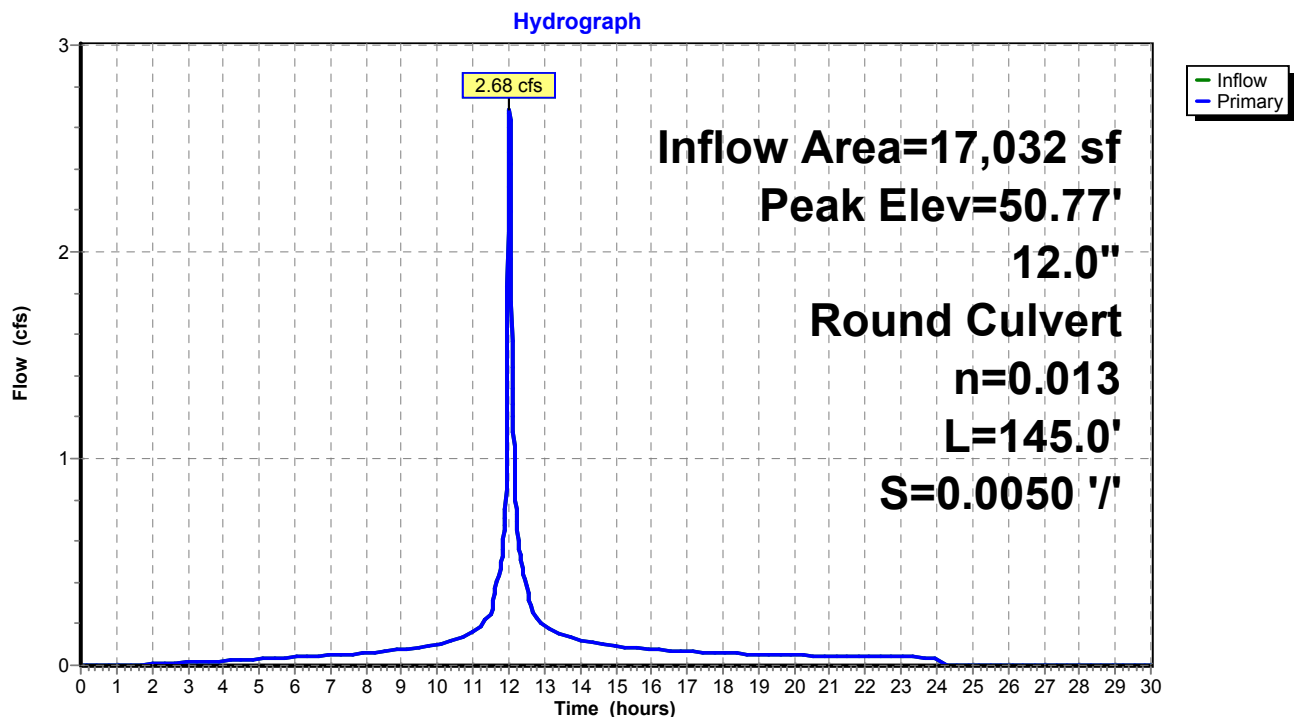
Peak Elev= 50.77' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	49.57'	12.0" Round Culvert L= 145.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.57' / 48.84' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=2.67 cfs @ 12.03 hrs HW=50.76' (Free Discharge)

↑1=Culvert (Barrel Controls 2.67 cfs @ 3.61 fps)

Pond 13P: MH-J



Existing Conditions

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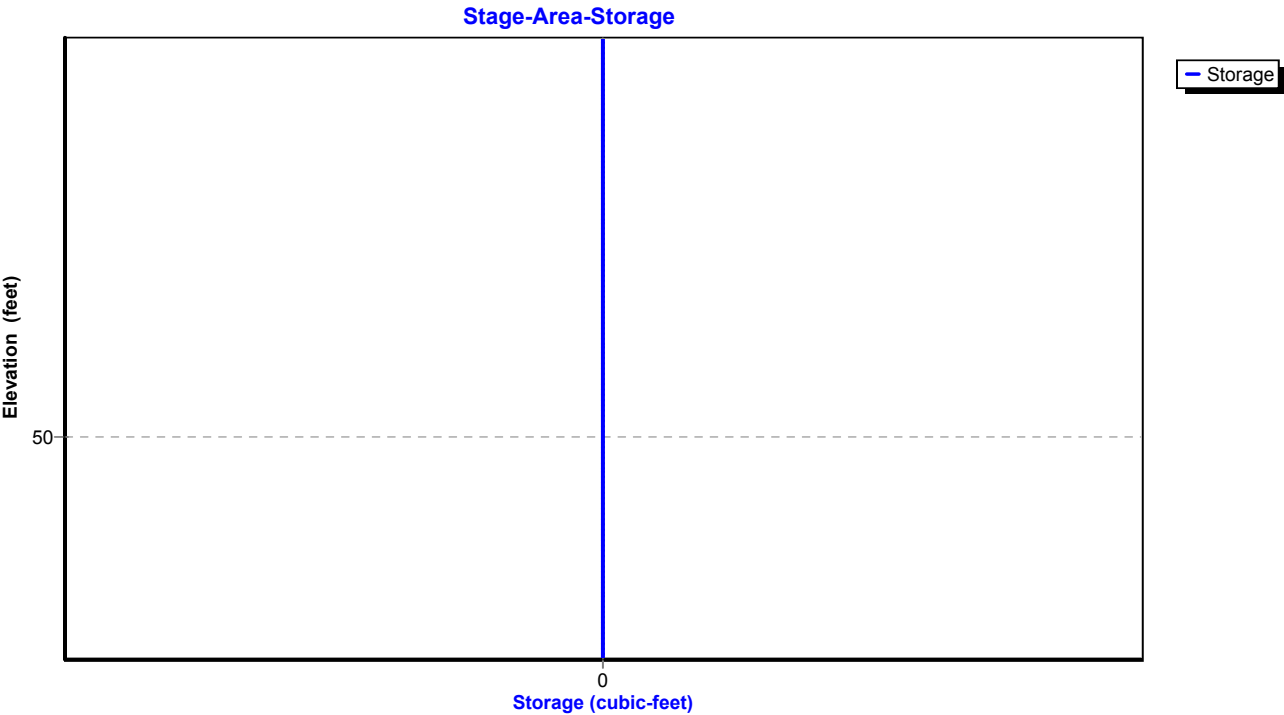
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Pond 13P: MH-J



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Summary for Pond 14P: MH-O

Inflow Area = 144,140 sf, 45.36% Impervious, Inflow Depth = 4.56" for 25 year event
Inflow = 12.69 cfs @ 12.10 hrs, Volume= 54,725 cf
Outflow = 12.69 cfs @ 12.10 hrs, Volume= 54,725 cf, Atten= 0%, Lag= 0.0 min
Primary = 12.69 cfs @ 12.10 hrs, Volume= 54,725 cf
Routed to Pond 9P : MH-K

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 51.05' @ 12.10 hrs

Flood Elev= 51.80'

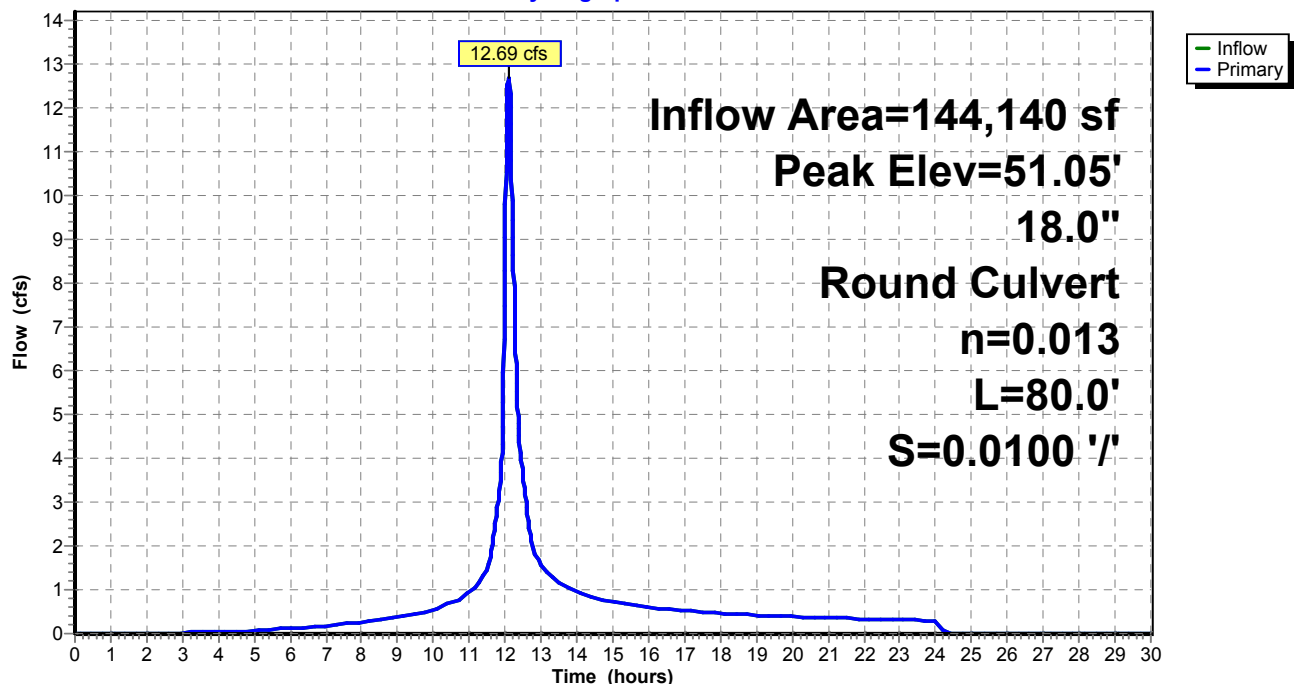
Device	Routing	Invert	Outlet Devices
#1	Primary	47.98'	18.0" Round Culvert L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.98' / 47.18' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=12.68 cfs @ 12.10 hrs HW=51.05' (Free Discharge)

↑1=Culvert (Barrel Controls 12.68 cfs @ 7.18 fps)

Pond 14P: MH-O

Hydrograph



Existing Conditions

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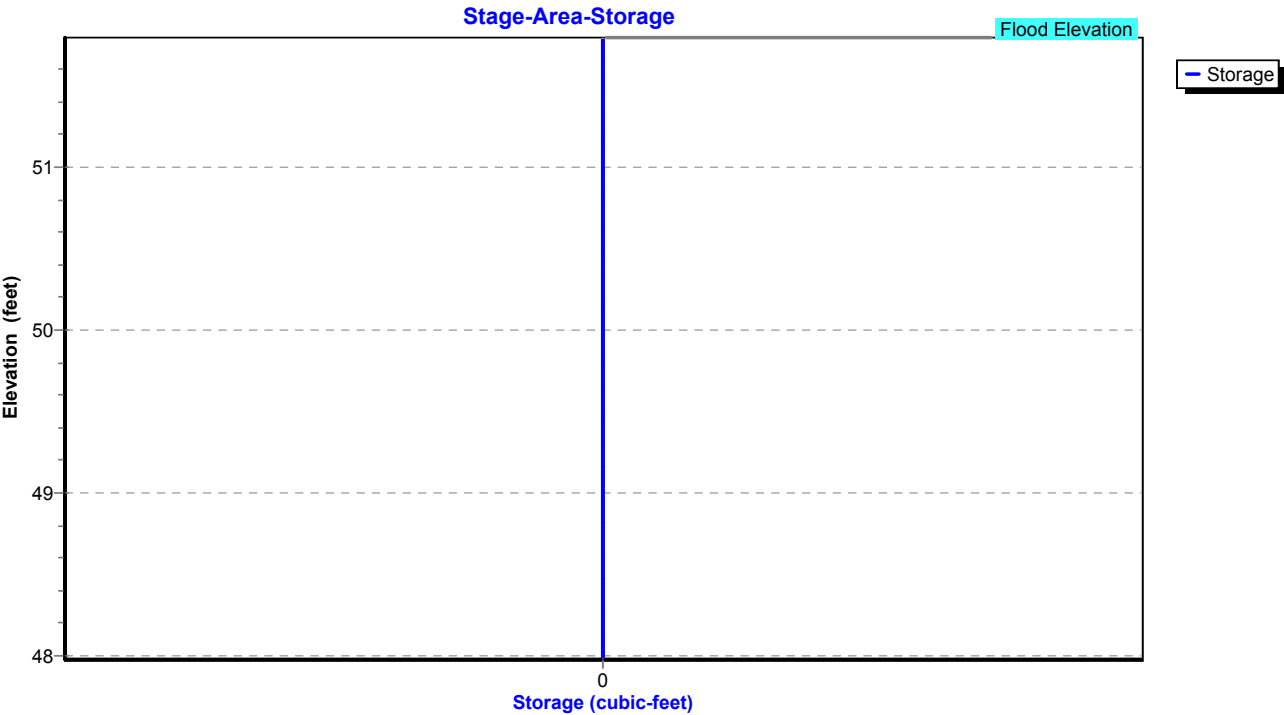
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Pond 14P: MH-O



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Summary for Pond 15P: MH-P

Inflow Area = 126,542 sf, 40.90% Impervious, Inflow Depth = 4.40" for 25 year event
Inflow = 11.27 cfs @ 12.11 hrs, Volume= 46,408 cf
Outflow = 11.27 cfs @ 12.11 hrs, Volume= 46,408 cf, Atten= 0%, Lag= 0.0 min
Primary = 11.27 cfs @ 12.11 hrs, Volume= 46,408 cf
Routed to Pond 14P : MH-O

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 52.33' @ 12.11 hrs

Flood Elev= 53.90'

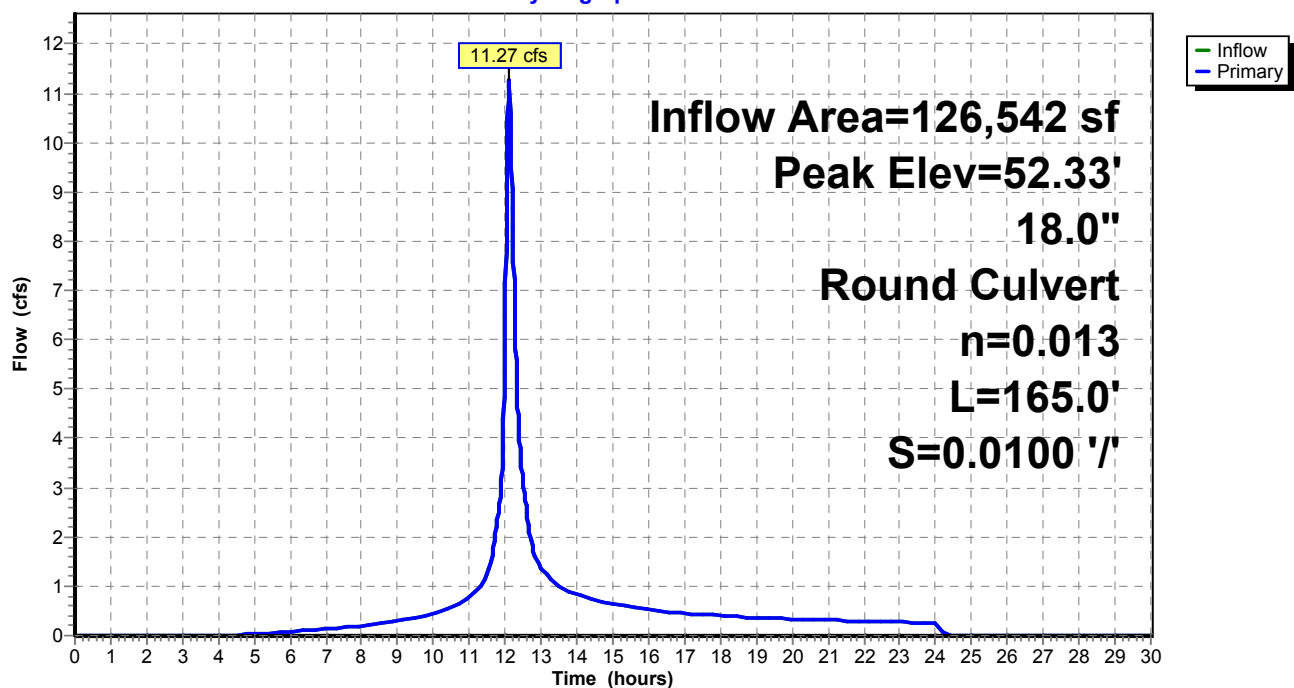
Device	Routing	Invert	Outlet Devices
#1	Primary	49.63'	18.0" Round Culvert L= 165.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.63' / 47.98' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=11.26 cfs @ 12.11 hrs HW=52.33' (Free Discharge)

↑1=Culvert (Barrel Controls 11.26 cfs @ 6.37 fps)

Pond 15P: MH-P

Hydrograph



Existing Conditions

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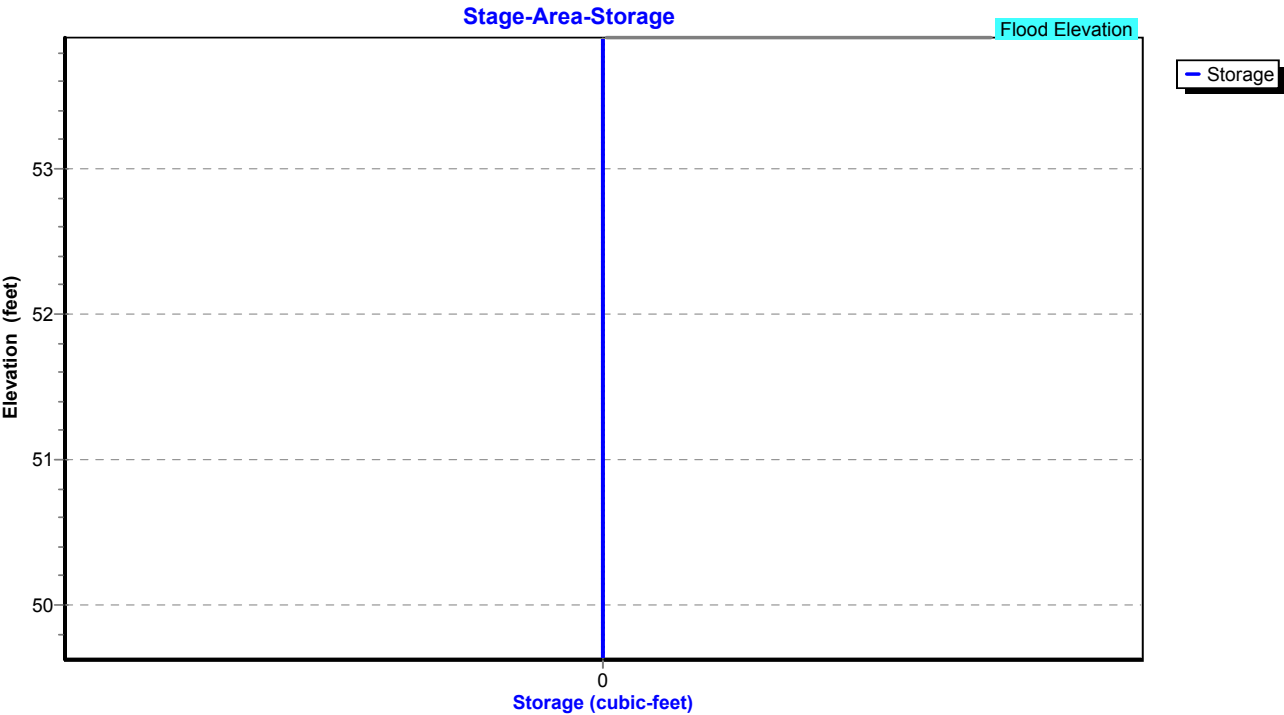
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Pond 15P: MH-P



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Summary for Pond 16P: MH-Q

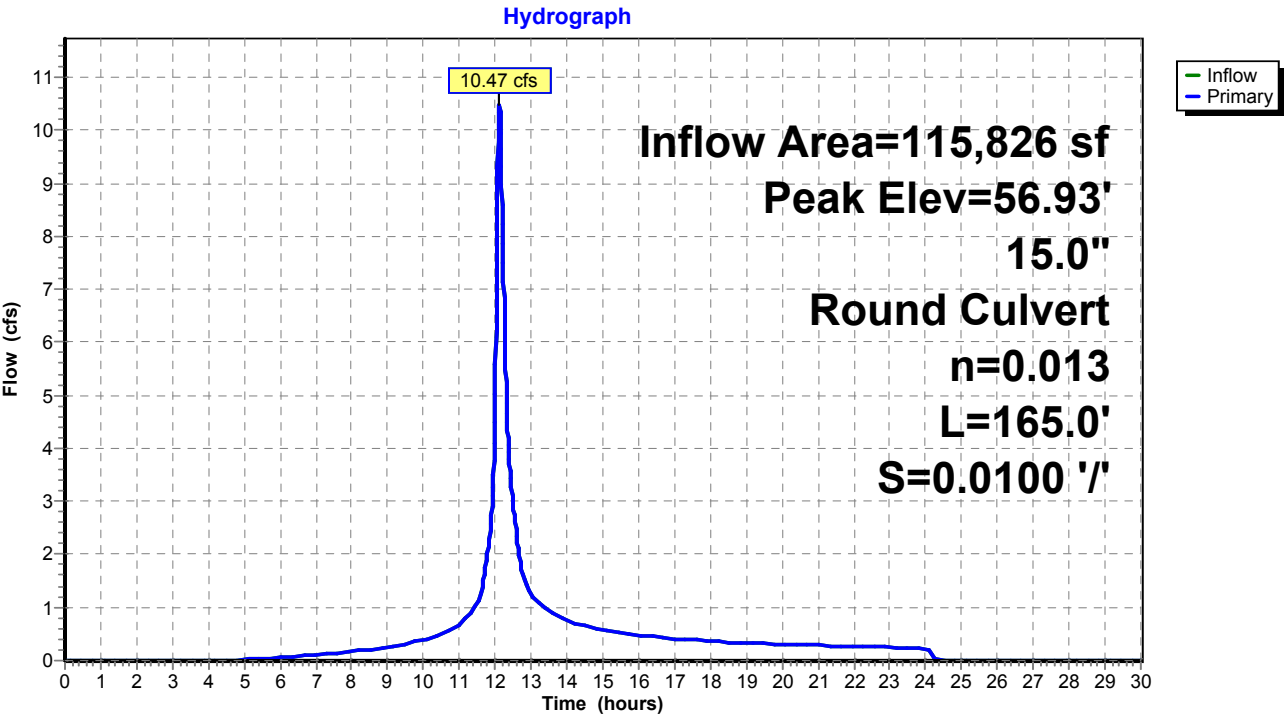
Inflow Area = 115,826 sf, 38.74% Impervious, Inflow Depth = 4.32" for 25 year event
Inflow = 10.47 cfs @ 12.12 hrs, Volume= 41,732 cf
Outflow = 10.47 cfs @ 12.12 hrs, Volume= 41,732 cf, Atten= 0%, Lag= 0.0 min
Primary = 10.47 cfs @ 12.12 hrs, Volume= 41,732 cf
Routed to Pond 15P : MH-P

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 56.93' @ 12.12 hrs
Flood Elev= 55.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.28'	15.0" Round Culvert L= 165.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 51.28' / 49.63' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=10.46 cfs @ 12.12 hrs HW=56.92' (Free Discharge)
1=Culvert (Barrel Controls 10.46 cfs @ 8.53 fps)

Pond 16P: MH-Q



Existing Conditions

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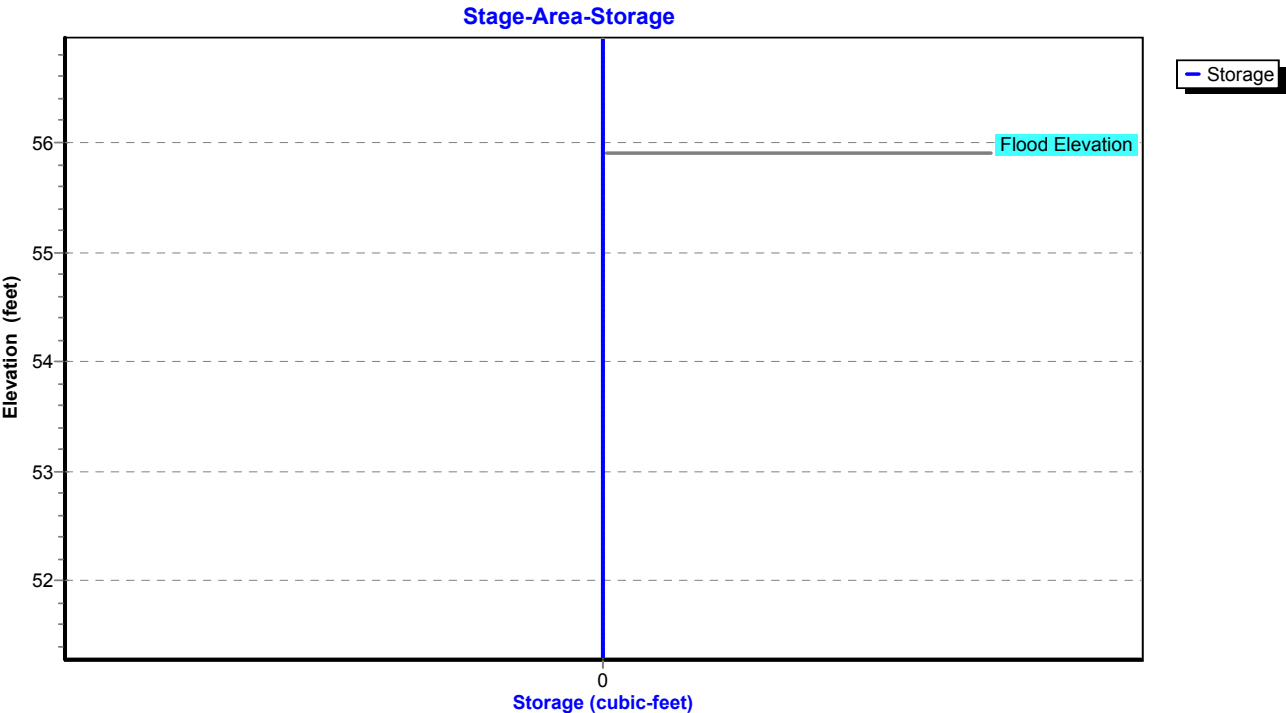
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Pond 16P: MH-Q



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Summary for Pond 17P: DET 12 Culvert

Inflow Area = 2,935,247 sf, 23.28% Impervious, Inflow Depth = 3.59" for 25 year event
 Inflow = 69.41 cfs @ 13.10 hrs, Volume= 879,283 cf
 Outflow = 69.27 cfs @ 13.13 hrs, Volume= 879,283 cf, Atten= 0%, Lag= 2.1 min
 Primary = 69.27 cfs @ 13.13 hrs, Volume= 879,283 cf
 Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 46.88' @ 13.13 hrs Surf.Area= 4,316 sf Storage= 6,219 cf

Plug-Flow detention time= 1.6 min calculated for 879,283 cf (100% of inflow)
 Center-of-Mass det. time= 1.6 min (913.1 - 911.5)

Volume	Invert	Avail.Storage	Storage Description
#1	43.80'	45,995 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
43.80	222	0	0
44.00	709	93	93
45.00	1,401	1,055	1,148
46.00	2,634	2,018	3,166
47.00	4,548	3,591	6,757
48.00	6,960	5,754	12,511
49.00	9,390	8,175	20,686
50.00	12,553	10,972	31,657
51.00	16,122	14,338	45,995

Device	Routing	Invert	Outlet Devices
#1	Primary	43.80'	54.0" Round Culvert L= 281.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 43.80' / 23.20' S= 0.0733 ' / Cc= 0.900 n= 0.013, Flow Area= 15.90 sf

Primary OutFlow Max=69.27 cfs @ 13.13 hrs HW=46.88' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 69.27 cfs @ 5.97 fps)

Existing Conditions

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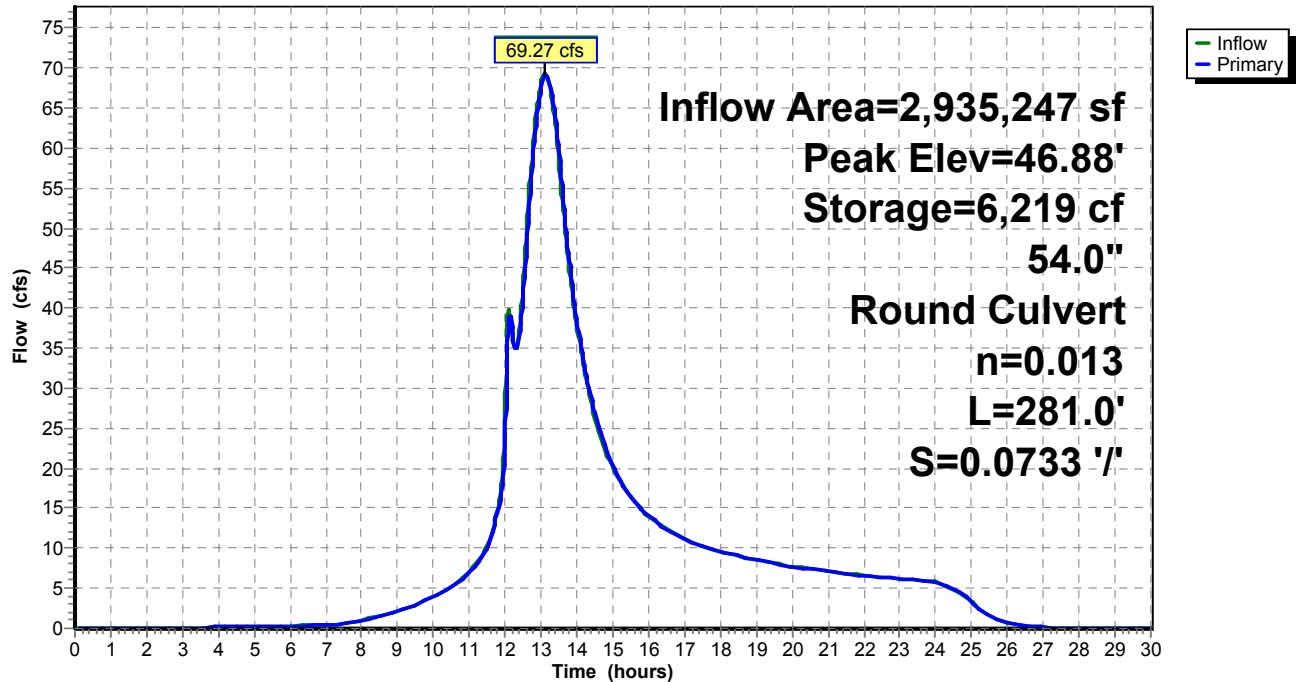
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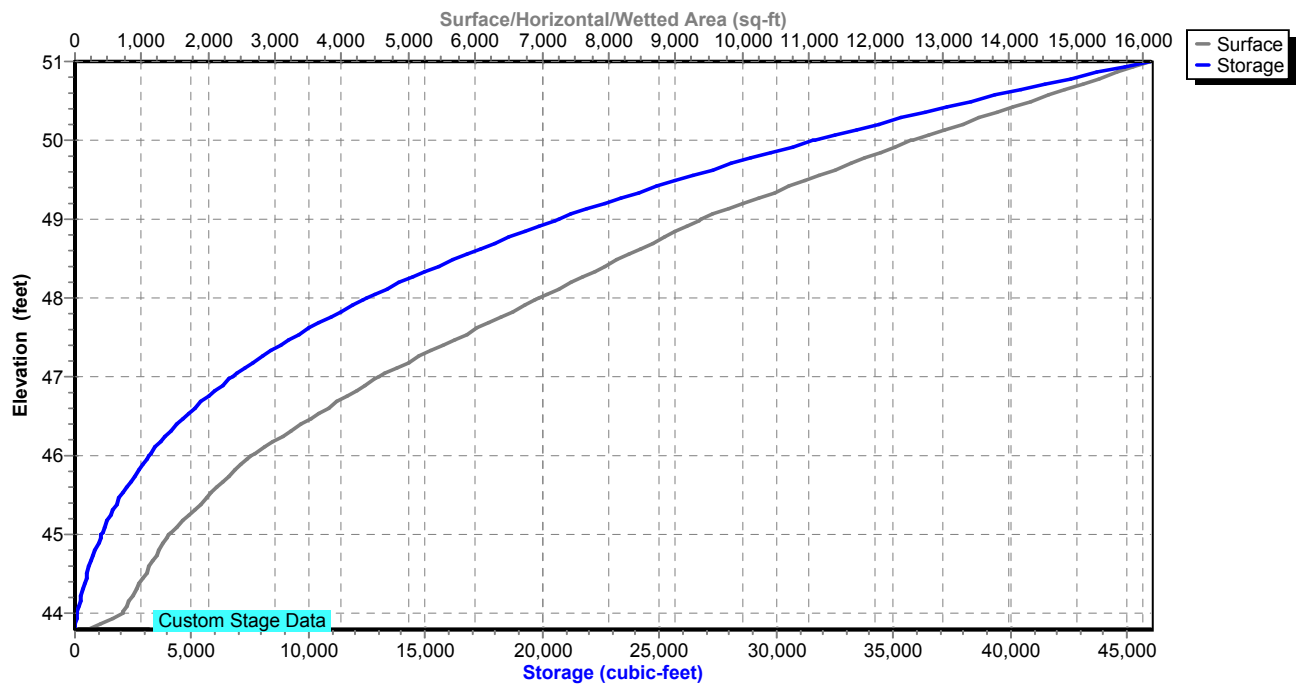
Pond 17P: DET 12 Culvert

Hydrograph



Pond 17P: DET 12 Culvert

Stage-Area-Storage



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Summary for Pond 18P: DET 4 Culvert

Inflow Area = 2,651,933 sf, 21.42% Impervious, Inflow Depth = 3.49" for 25 year event
 Inflow = 66.85 cfs @ 13.07 hrs, Volume= 771,480 cf
 Outflow = 66.55 cfs @ 13.10 hrs, Volume= 771,480 cf, Atten= 0%, Lag= 2.1 min
 Primary = 66.55 cfs @ 13.10 hrs, Volume= 771,480 cf
 Routed to Pond 17P : DET 12 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 67.32' @ 13.10 hrs Surf.Area= 1,191 sf Storage= 2,181 cf

Plug-Flow detention time= 0.2 min calculated for 771,480 cf (100% of inflow)
 Center-of-Mass det. time= 0.2 min (925.0 - 924.8)

Volume	Invert	Avail.Storage	Storage Description
#1	62.00'	13,716 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.00	10	0	0
65.00	292	453	453
66.00	695	494	947
67.00	1,049	872	1,819
68.00	1,488	1,269	3,087
69.00	2,004	1,746	4,833
70.00	2,550	2,277	7,110
71.00	3,178	2,864	9,974
72.00	4,305	3,742	13,716

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	36.0" Round Culvert L= 213.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 62.00' / 50.90' S= 0.0521 ' / S= 0.0521 ' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=66.55 cfs @ 13.10 hrs HW=67.32' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 66.55 cfs @ 9.42 fps)

Existing Conditions

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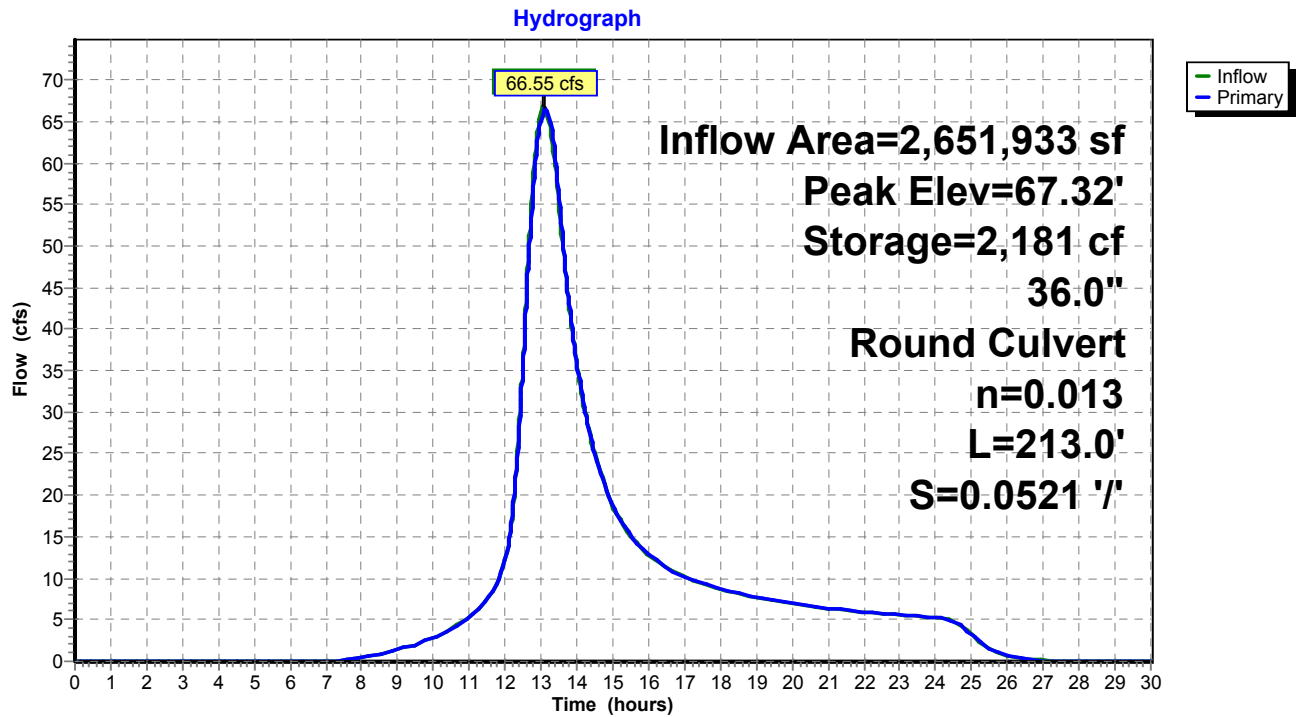
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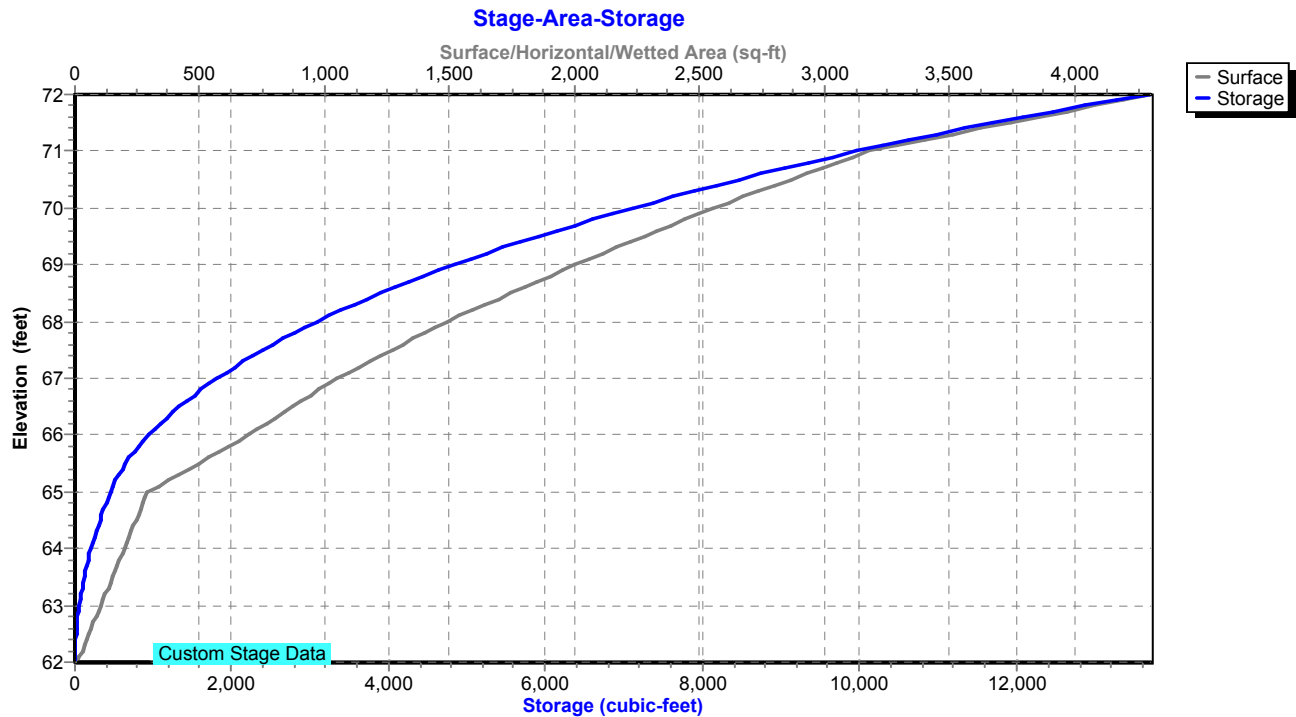
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Pond 18P: DET 4 Culvert



Pond 18P: DET 4 Culvert



Existing Conditions

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Summary for Pond 21P: DET 1 Culvert

Inflow Area = 533,174 sf, 25.00% Impervious, Inflow Depth = 3.49" for 25 year event
 Inflow = 19.84 cfs @ 12.52 hrs, Volume= 155,107 cf
 Outflow = 19.57 cfs @ 12.60 hrs, Volume= 155,107 cf, Atten= 1%, Lag= 4.5 min
 Primary = 19.57 cfs @ 12.60 hrs, Volume= 155,107 cf
 Routed to Pond 27P : DET 17 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 39.67' @ 12.60 hrs Surf.Area= 1,331 sf Storage= 1,087 cf

Plug-Flow detention time= 0.6 min calculated for 155,055 cf (100% of inflow)
 Center-of-Mass det. time= 0.6 min (888.3 - 887.8)

Volume	Invert	Avail.Storage	Storage Description
#1	37.00'	1,591 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
37.00	66	0	0
38.00	213	140	140
39.00	470	342	481
40.00	1,750	1,110	1,591

Device	Routing	Invert	Outlet Devices
#1	Primary	37.00'	24.0" Round Culvert L= 206.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 37.00' / 27.01' S= 0.0485 ' / Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=19.56 cfs @ 12.60 hrs HW=39.67' (Free Discharge)
 ↑ **1=Culvert** (Inlet Controls 19.56 cfs @ 6.23 fps)

Existing Conditions

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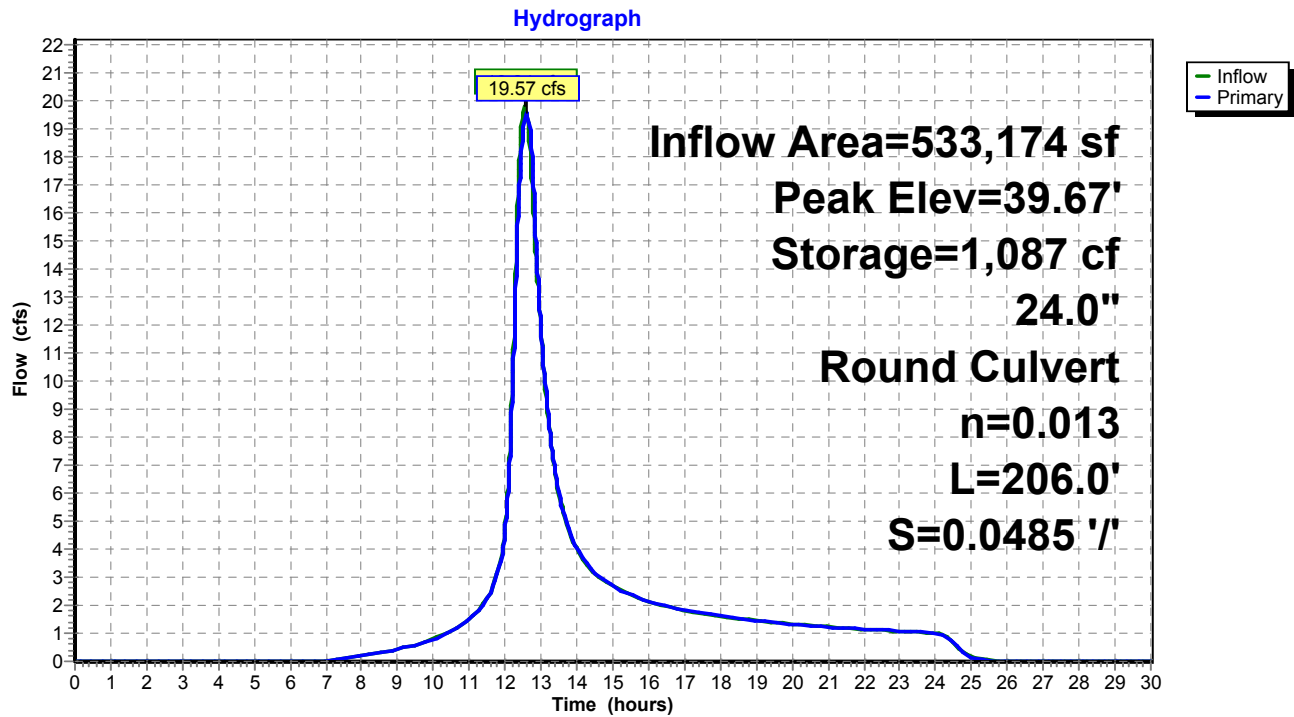
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NORWALK 24-hr S1 25 year Rainfall=6.48"

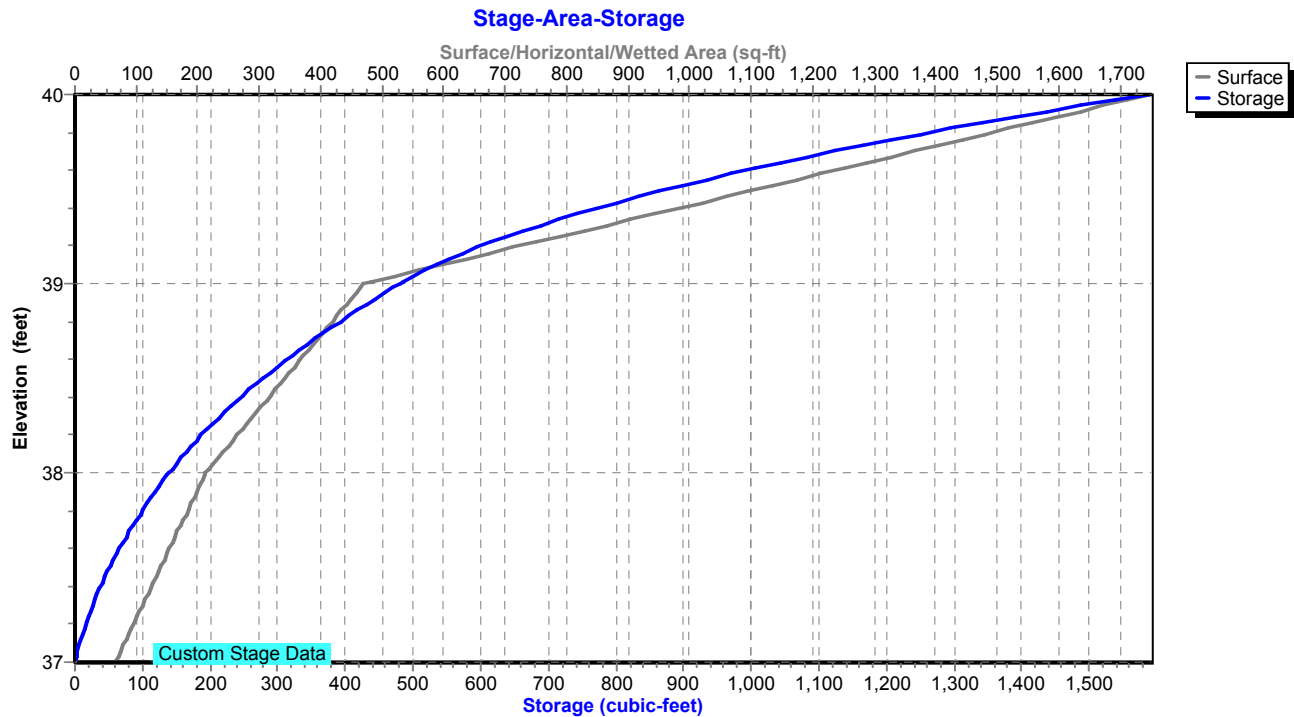
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Pond 21P: DET 1 Culvert



Pond 21P: DET 1 Culvert



Existing Conditions

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Summary for Pond 22P: DET 2 Culvert

Inflow Area = 1,290,247 sf, 25.00% Impervious, Inflow Depth = 4.01" for 25 year event
 Inflow = 45.86 cfs @ 12.74 hrs, Volume= 430,725 cf
 Outflow = 39.05 cfs @ 13.02 hrs, Volume= 430,725 cf, Atten= 15%, Lag= 17.0 min
 Primary = 39.05 cfs @ 13.02 hrs, Volume= 430,725 cf
 Routed to Pond 27P : DET 17 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 38.78' @ 13.02 hrs Surf.Area= 14,427 sf Storage= 24,760 cf

Plug-Flow detention time= 5.4 min calculated for 430,725 cf (100% of inflow)
 Center-of-Mass det. time= 5.4 min (891.8 - 886.5)

Volume	Invert	Avail.Storage	Storage Description
#1	34.80'	46,687 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.80	185	0	0
35.00	813	100	100
36.00	2,345	1,579	1,679
37.00	6,398	4,372	6,050
38.00	11,111	8,755	14,805
39.00	15,364	13,238	28,042
40.00	21,926	18,645	46,687

Device	Routing	Invert	Outlet Devices
#1	Primary	34.80'	30.0" Round Culvert L= 198.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.80' / 28.07' S= 0.0340 ' / Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=39.05 cfs @ 13.02 hrs HW=38.78' (Free Discharge)
 ↑**1=Culvert** (Inlet Controls 39.05 cfs @ 7.95 fps)

Existing Conditions

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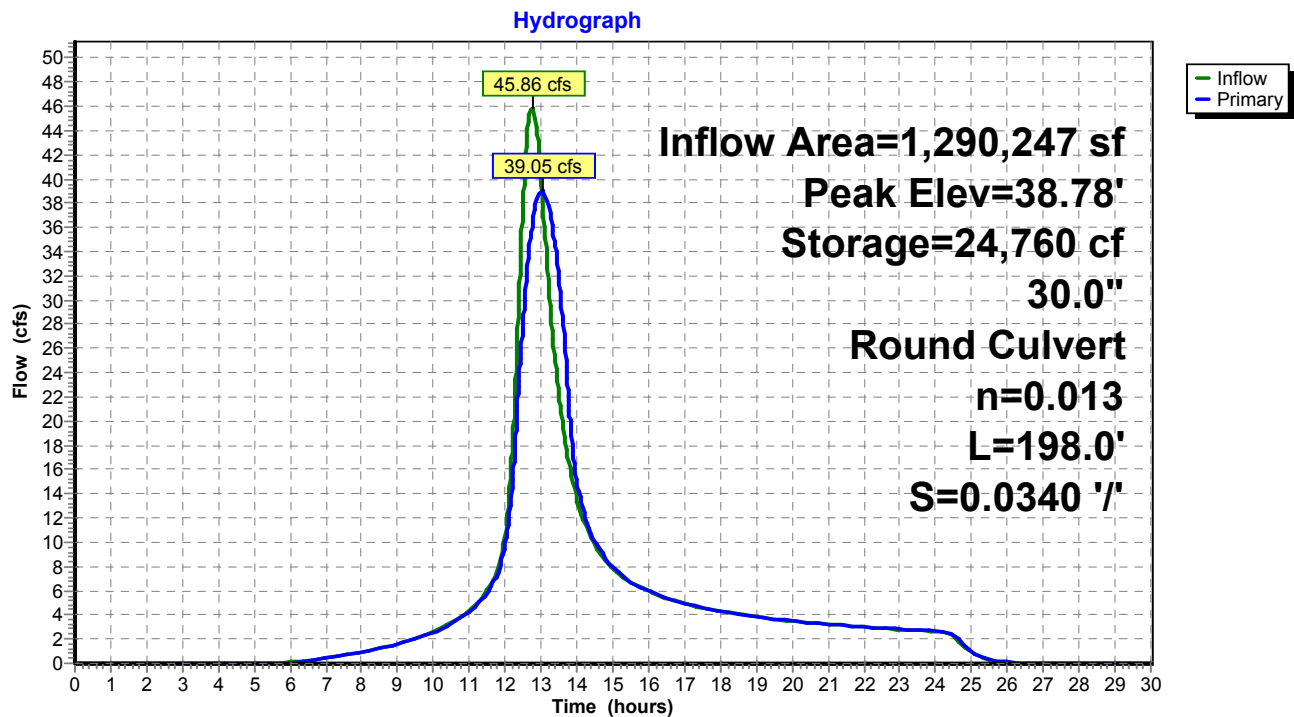
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NORWALK 24-hr S1 25 year Rainfall=6.48"

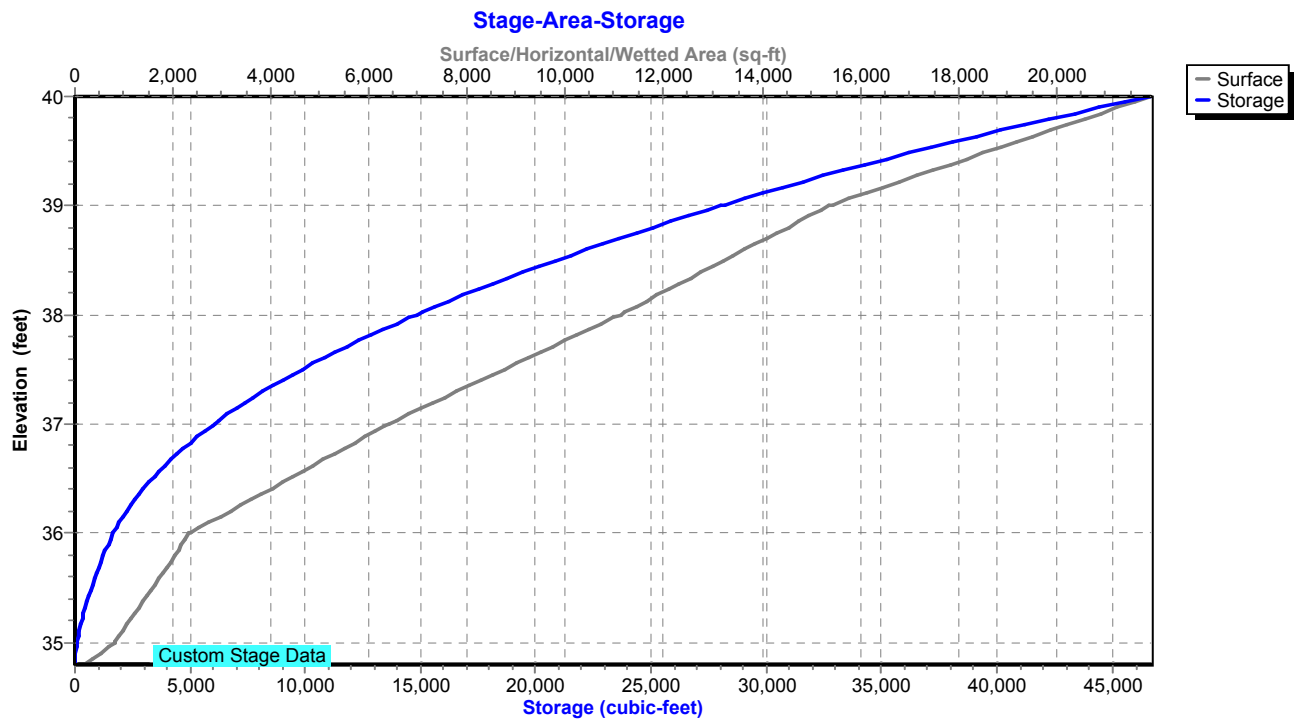
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Pond 22P: DET 2 Culvert



Pond 22P: DET 2 Culvert



Existing Conditions

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Pond 23P: DET 3 Culvert

Inflow Area = 276,170 sf, 25.00% Impervious, Inflow Depth = 3.59" for 25 year event
 Inflow = 16.57 cfs @ 12.22 hrs, Volume= 82,678 cf
 Outflow = 16.10 cfs @ 12.25 hrs, Volume= 82,678 cf, Atten= 3%, Lag= 2.1 min
 Primary = 16.10 cfs @ 12.25 hrs, Volume= 82,678 cf
 Routed to Pond 26P : DET 16 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 44.63' @ 12.25 hrs Surf.Area= 1,227 sf Storage= 1,006 cf

Plug-Flow detention time= 0.7 min calculated for 82,651 cf (100% of inflow)
 Center-of-Mass det. time= 0.7 min (862.8 - 862.1)

Volume	Invert	Avail.Storage	Storage Description
#1	42.50'	16,475 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
42.50	10	0	0
43.00	198	52	52
44.00	572	385	437
45.00	1,607	1,090	1,527
46.00	3,156	2,382	3,908
47.00	5,953	4,555	8,463
48.00	10,072	8,013	16,475

Device	Routing	Invert	Outlet Devices
#1	Primary	42.50'	24.0" Round Culvert L= 202.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 42.50' / 32.20' S= 0.0510 ' / Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=16.09 cfs @ 12.25 hrs HW=44.63' (Free Discharge)
 ↑ **1=Culvert** (Inlet Controls 16.09 cfs @ 5.12 fps)

Existing Conditions

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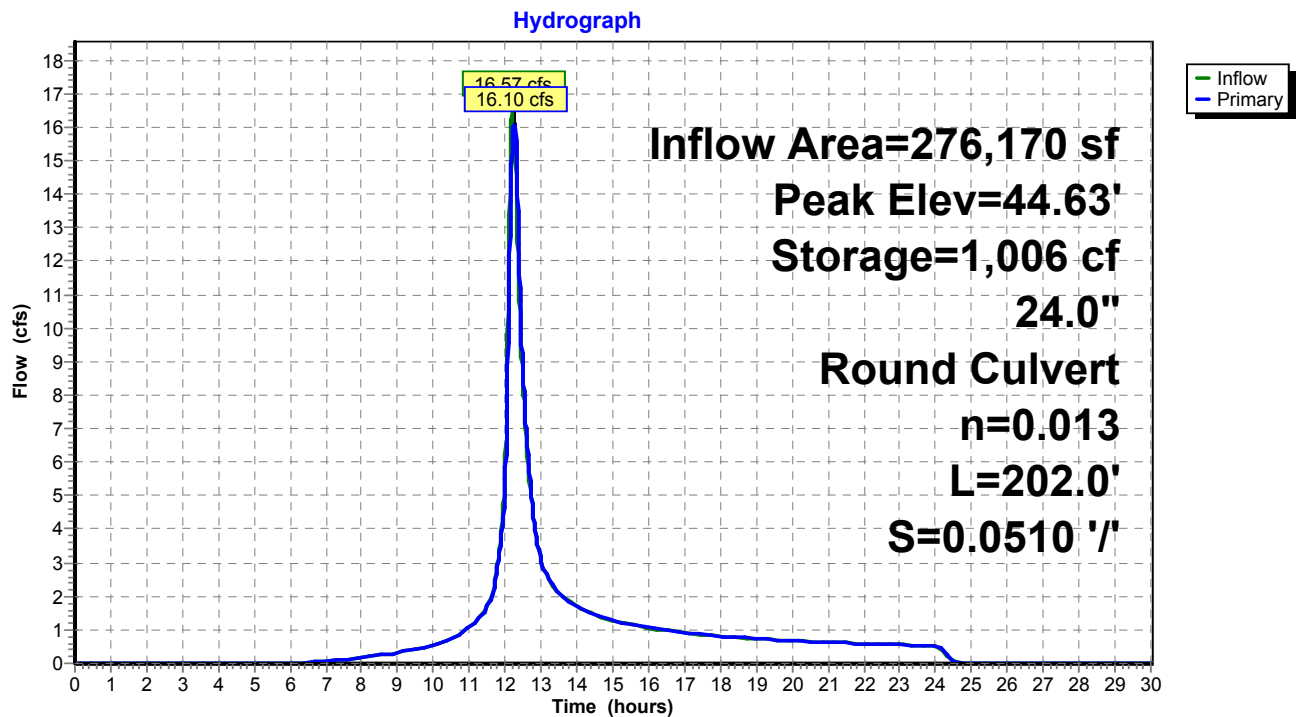
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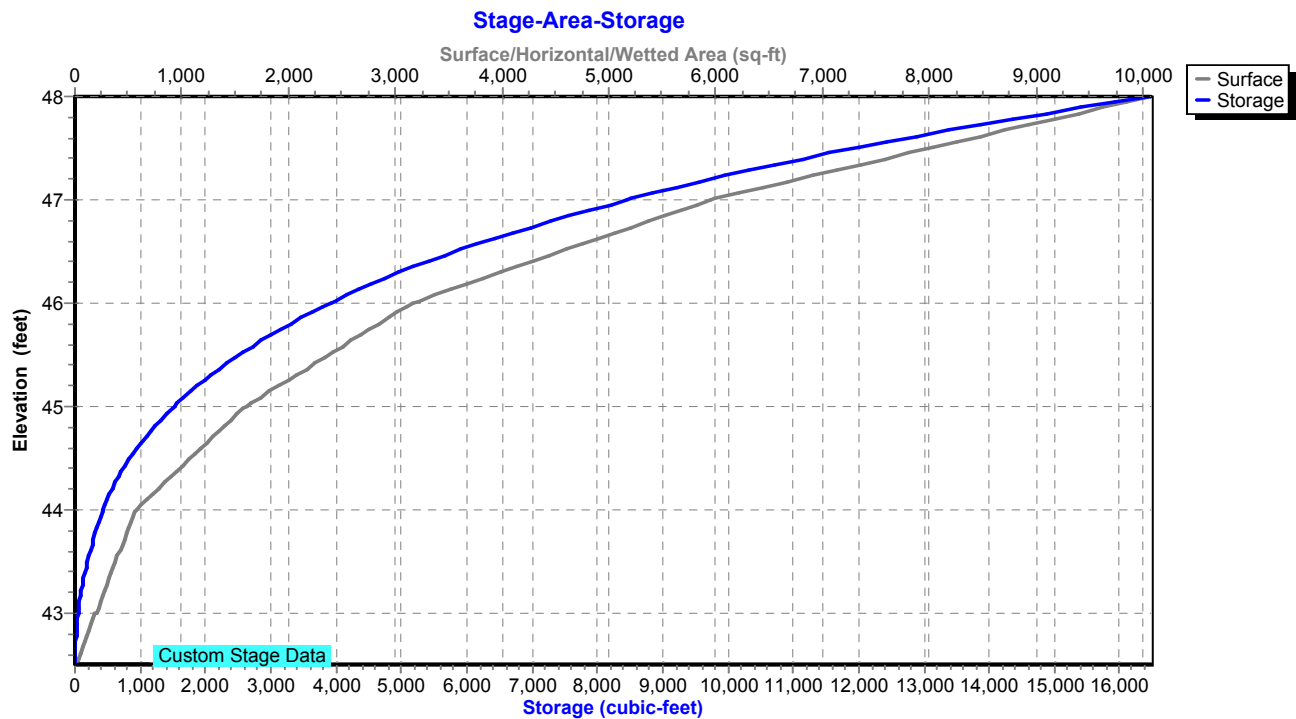
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Pond 23P: DET 3 Culvert



Pond 23P: DET 3 Culvert



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Summary for Pond 24P: RR Culvert 3

Inflow Area = 500,940 sf, 4.78% Impervious, Inflow Depth = 33.37" for 25 year event
 Inflow = 233.47 cfs @ 12.22 hrs, Volume= 1,392,990 cf
 Outflow = 51.44 cfs @ 14.01 hrs, Volume= 1,393,043 cf, Atten= 78%, Lag= 107.3 min
 Primary = 51.44 cfs @ 14.01 hrs, Volume= 1,393,043 cf

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 13.27' @ 14.01 hrs Storage= 811,456 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 175.3 min (966.5 - 791.2)

Volume	Invert	Avail.Storage	Storage Description
#1	8.10'	2,250,385 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
8.10	0	0
9.00	9	9
10.00	148	157
11.00	64,834	64,991
12.00	244,457	309,448
13.00	383,724	693,172
14.00	435,183	1,128,355
15.00	514,834	1,643,189
16.00	607,196	2,250,385

Device	Routing	Invert	Outlet Devices
#1	Primary	8.10'	30.0" W x 42.0" H Box Culvert L= 135.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 8.10' / 7.80' S= 0.0022 ' / Cc= 0.900 n= 0.019, Flow Area= 8.75 sf

Primary OutFlow Max=51.45 cfs @ 14.01 hrs HW=13.27' (Free Discharge)↑ **1=Culvert** (Barrel Controls 51.45 cfs @ 5.88 fps)

Existing Conditions

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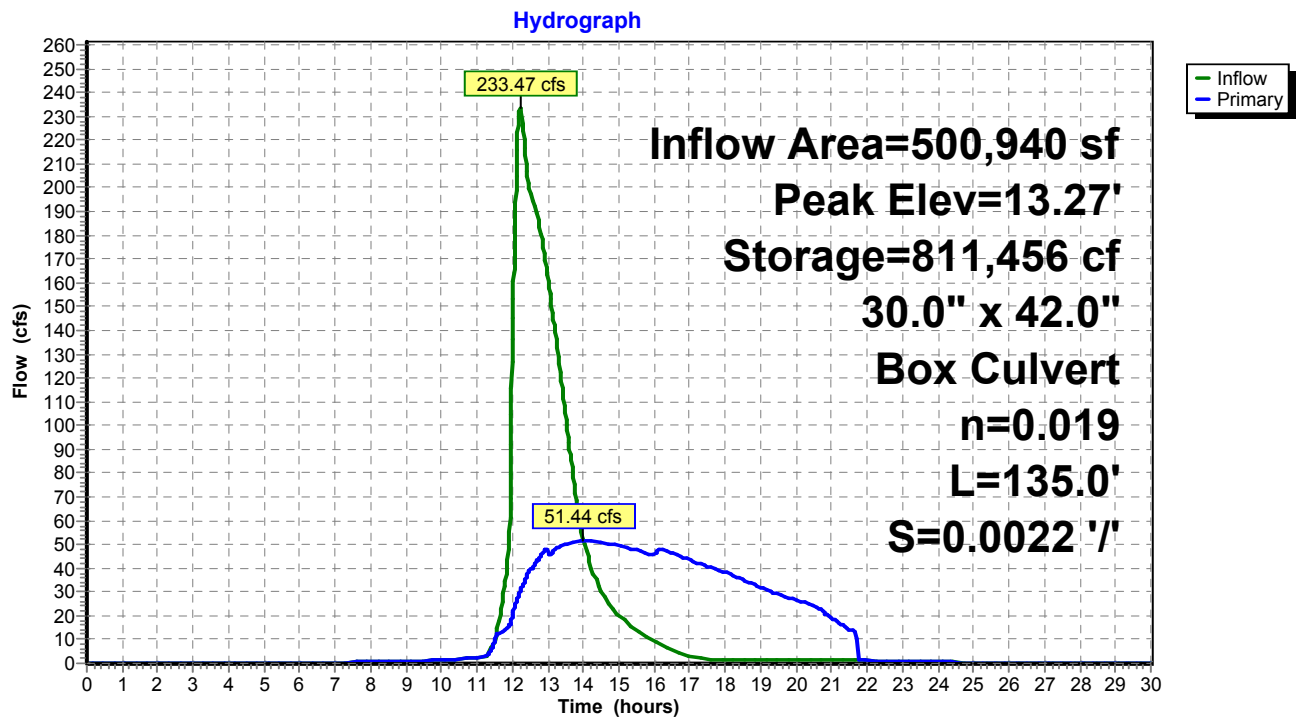
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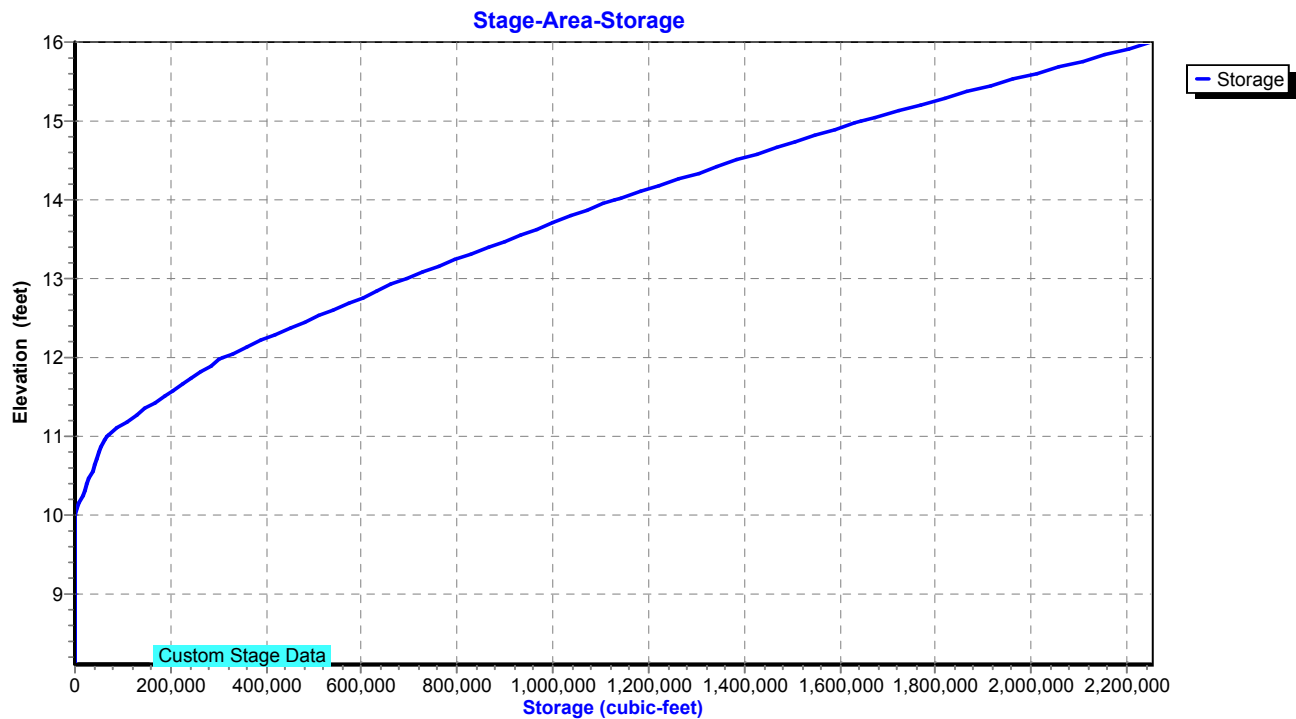
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Pond 24P: RR Culvert 3



Pond 24P: RR Culvert 3



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Summary for Pond 26P: DET 16 Culvert

Inflow Area = 777,546 sf, 30.36% Impervious, Inflow Depth > 3.73" for 25 year event
Inflow = 36.64 cfs @ 12.21 hrs, Volume= 241,993 cf
Outflow = 36.63 cfs @ 12.21 hrs, Volume= 242,038 cf, Atten= 0%, Lag= 0.1 min
Primary = 36.63 cfs @ 12.21 hrs, Volume= 242,038 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 20.09' @ 12.21 hrs Surf.Area= 2,246 sf Storage= 2,602 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.7 min (889.4 - 888.8)

Volume	Invert	Avail.Storage	Storage Description
#1	17.00'	11,069 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.00	76	0	0
18.00	323	200	200
19.00	1,002	663	862
20.00	2,073	1,538	2,400
21.00	3,912	2,993	5,392
22.00	7,442	5,677	11,069

Device	Routing	Invert	Outlet Devices
#1	Primary	15.10'	15.0" Round Culvert L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 15.10' / 11.30' S= 0.0691 ' / Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Primary	20.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 Width (feet) 200.00 200.00 200.00

Primary OutFlow Max=36.33 cfs @ 12.21 hrs HW=20.09' (Free Discharge)

1=Culvert (Inlet Controls 12.35 cfs @ 10.06 fps)
2=Custom Weir/Orifice (Weir Controls 23.98 cfs @ 1.28 fps)

Existing Conditions

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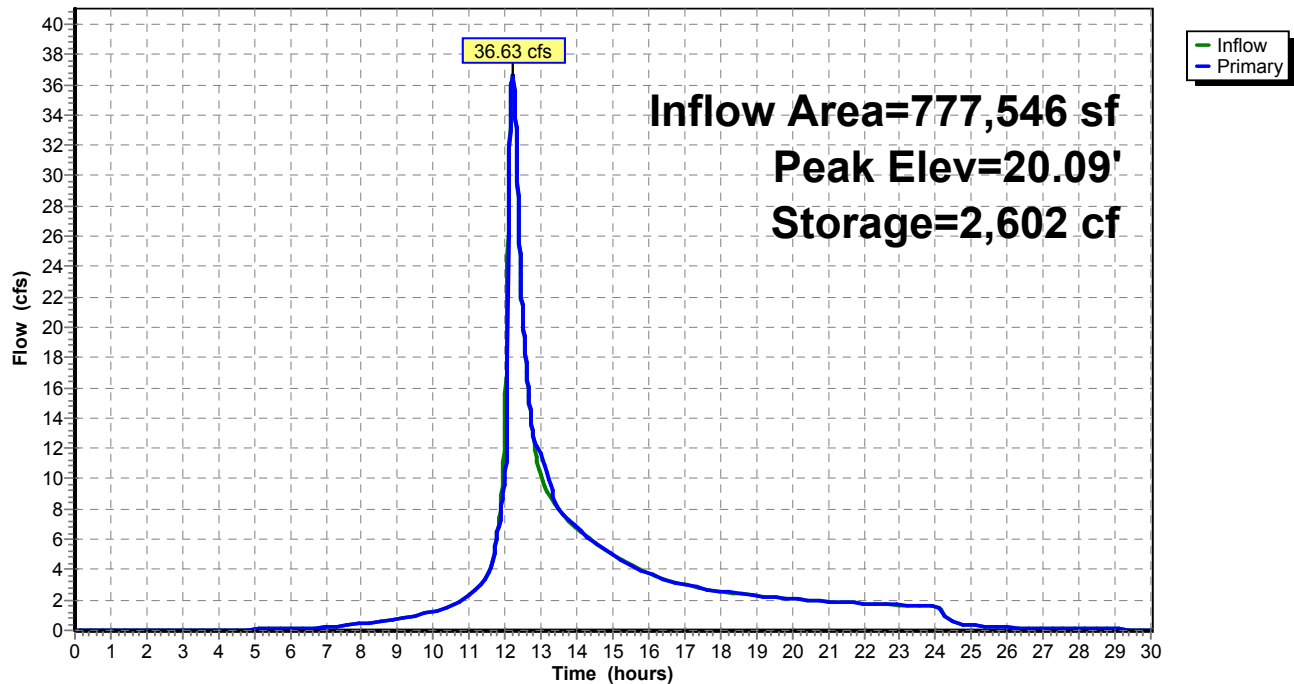
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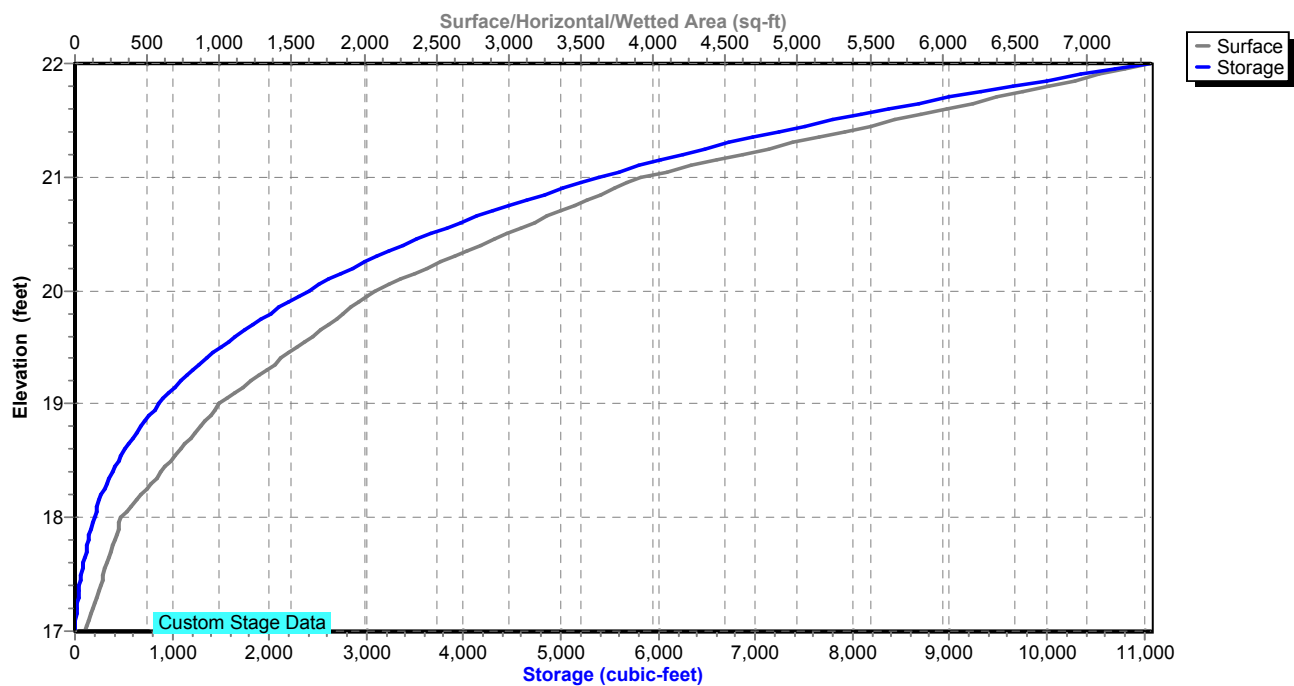
Pond 26P: DET 16 Culvert

Hydrograph



Pond 26P: DET 16 Culvert

Stage-Area-Storage



Existing Conditions

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Summary for Pond 27P: DET 17 Culvert

Inflow Area = 2,205,878 sf, 28.45% Impervious, Inflow Depth = 3.99" for 25 year event
Inflow = 61.95 cfs @ 12.67 hrs, Volume= 733,950 cf
Outflow = 61.94 cfs @ 12.67 hrs, Volume= 733,950 cf, Atten= 0%, Lag= 0.5 min
Primary = 61.94 cfs @ 12.67 hrs, Volume= 733,950 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 18.79' @ 12.67 hrs Surf.Area= 11,074 sf Storage= 10,782 cf

Plug-Flow detention time= 3.8 min calculated for 733,950 cf (100% of inflow)
Center-of-Mass det. time= 3.8 min (879.5 - 875.8)

Volume	Invert	Avail.Storage	Storage Description
#1	16.00'	13,420 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
16.00	340	0	0
17.00	2,203	1,272	1,272
18.00	4,950	3,577	4,848
18.55	8,311	3,647	8,495
19.00	13,580	4,925	13,420

Device	Routing	Invert	Outlet Devices
#1	Primary	15.30'	18.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 15.30' / 14.90' S= 0.0100 ' / Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Primary	18.55'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 3.00 Width (feet) 100.00 100.00 100.00 100.00

Primary OutFlow Max=61.78 cfs @ 12.67 hrs HW=18.79' (Free Discharge)

1=Culvert (Inlet Controls 14.07 cfs @ 7.96 fps)

2=Custom Weir/Orifice (Weir Controls 47.71 cfs @ 2.02 fps)

Existing Conditions

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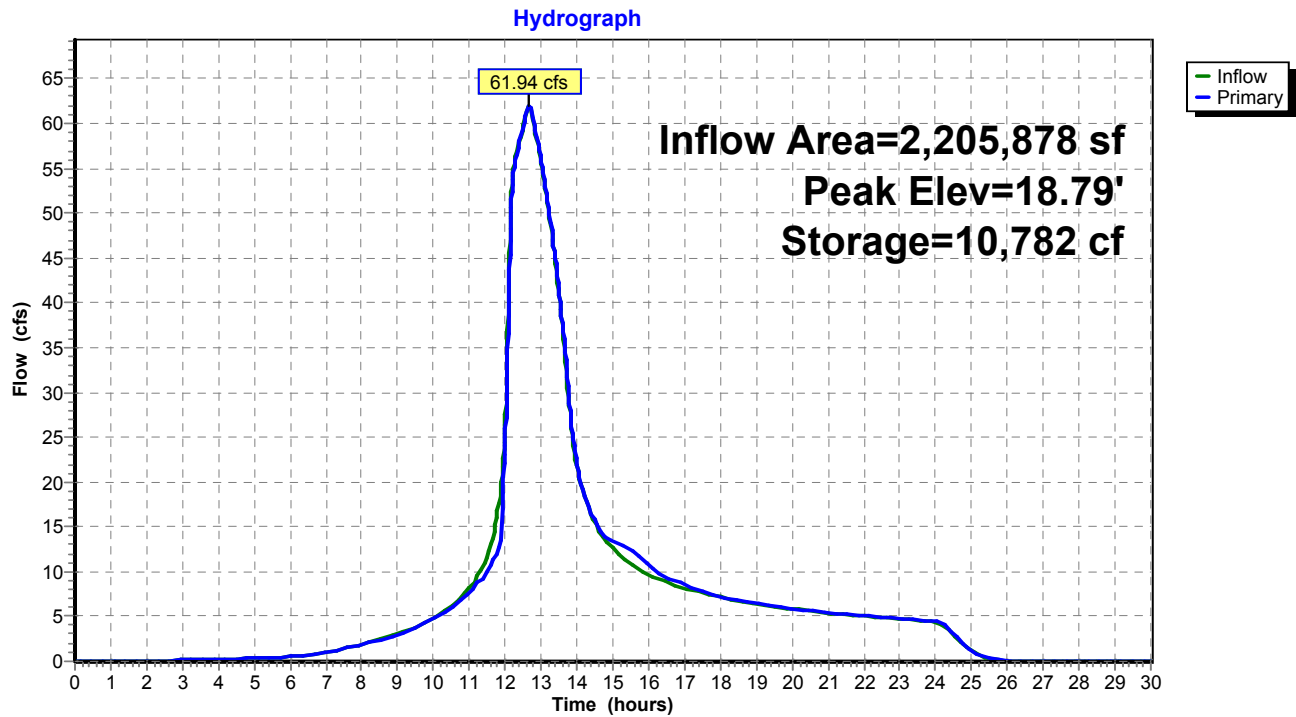
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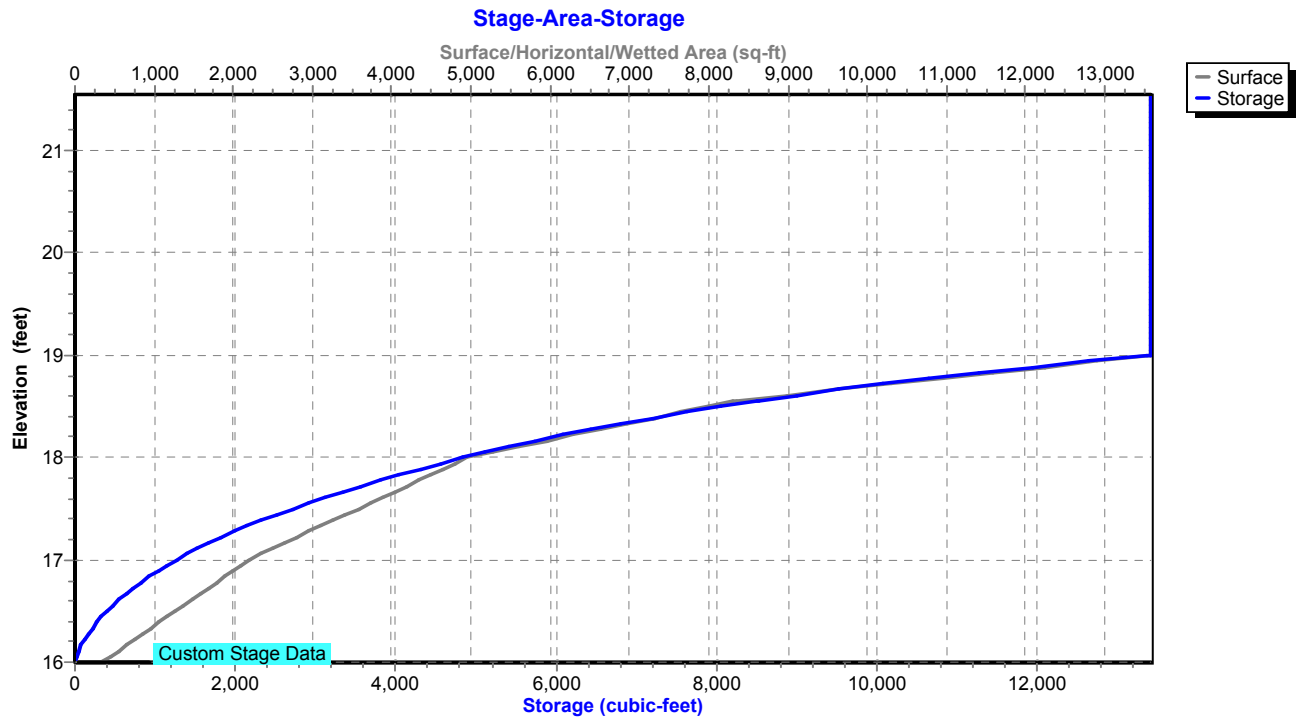
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Pond 27P: DET 17 Culvert



Pond 27P: DET 17 Culvert



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Summary for Pond 50P: DET BASIN #1

Inflow Area = 247,726 sf, 51.96% Impervious, Inflow Depth = 4.88" for 25 year event
Inflow = 27.74 cfs @ 12.04 hrs, Volume= 100,701 cf
Outflow = 4.39 cfs @ 12.59 hrs, Volume= 75,261 cf, Atten= 84%, Lag= 32.8 min
Primary = 4.39 cfs @ 12.59 hrs, Volume= 75,261 cf
Routed to Pond 26P : DET 16 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 28.35' @ 12.59 hrs Surf.Area= 16,050 sf Storage= 50,377 cf

Plug-Flow detention time= 275.1 min calculated for 75,261 cf (75% of inflow)
Center-of-Mass det. time= 166.3 min (968.3 - 802.0)

Volume	Invert	Avail.Storage	Storage Description
#1	24.00'	61,441 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
24.00	5,941	0	0
26.00	12,000	17,941	17,941
28.00	15,000	27,000	44,941
29.00	18,000	16,500	61,441

Device	Routing	Invert	Outlet Devices
#1	Primary	24.00'	18.0" Round Culvert L= 120.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 24.00' / 20.00' S= 0.0333 ' / S= 0.0333 ' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	26.50'	12.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	28.50'	16.2" x 55.4" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.39 cfs @ 12.59 hrs HW=28.35' (Free Discharge)

1=Culvert (Passes 4.39 cfs of 16.14 cfs potential flow)
2=Orifice/Grate (Orifice Controls 4.39 cfs @ 5.59 fps)
3=Orifice/Grate (Controls 0.00 cfs)

Existing Conditions

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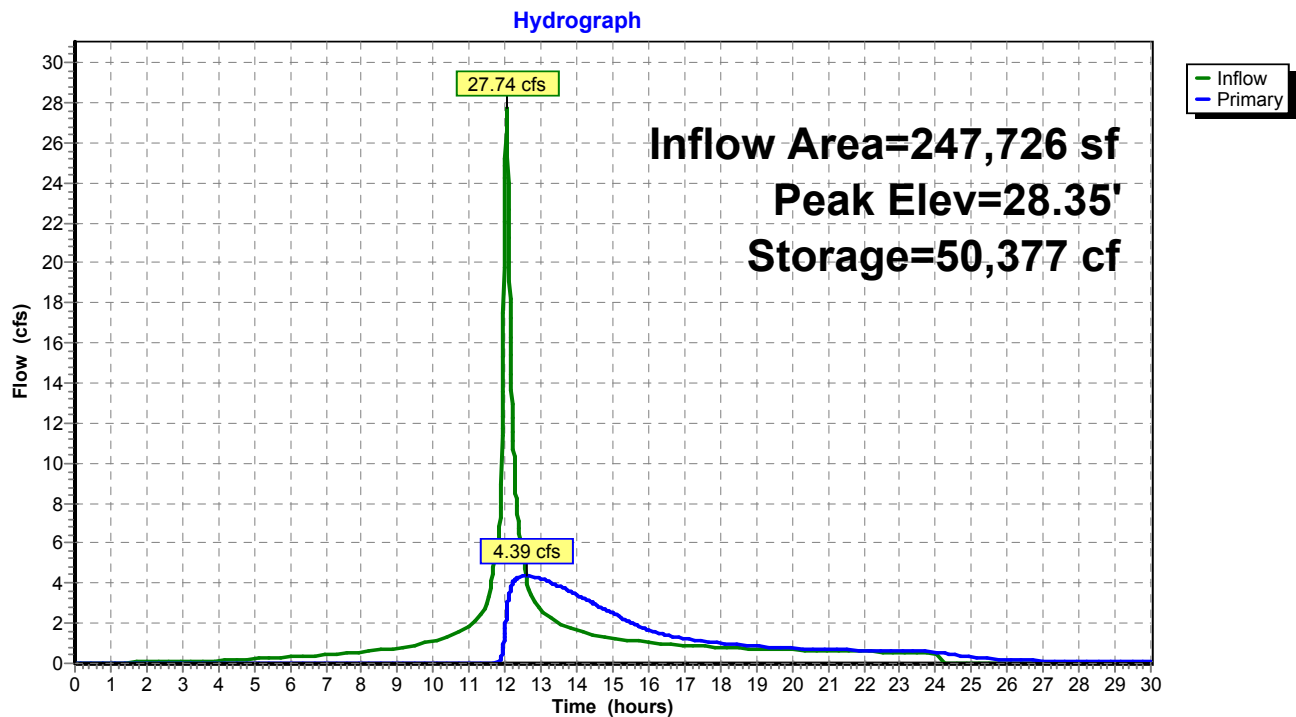
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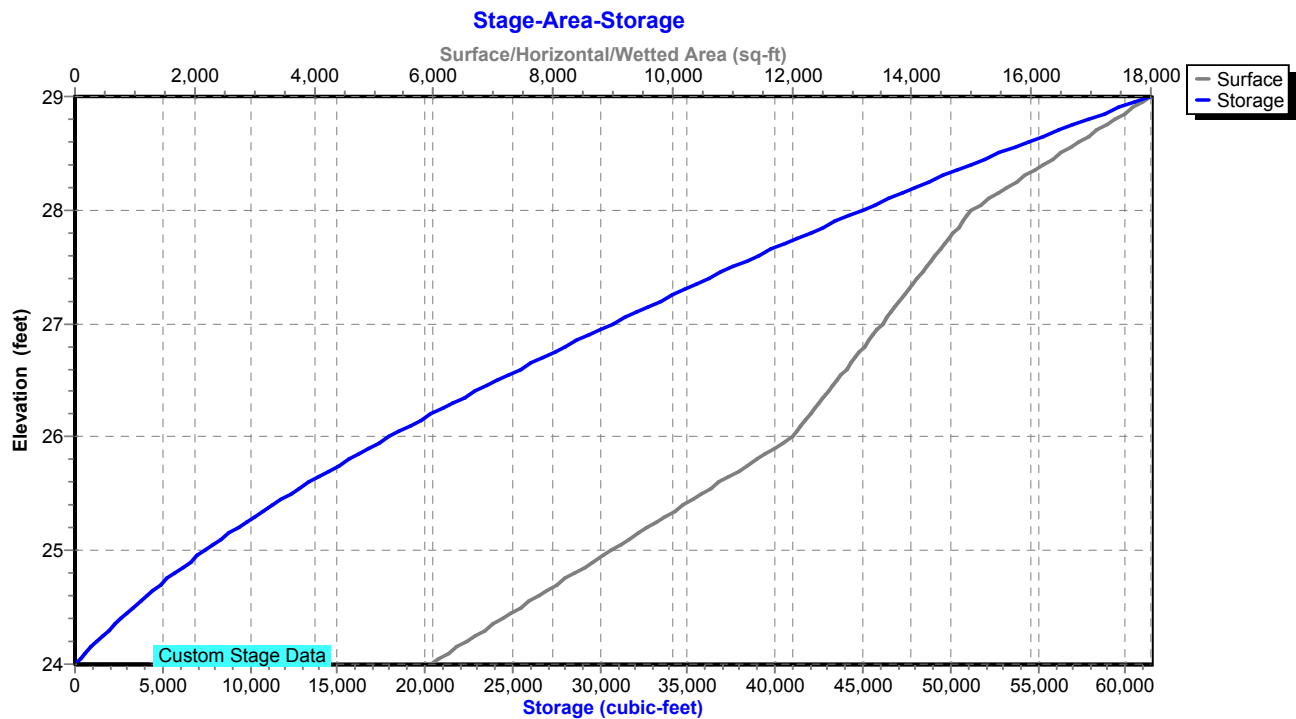
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Pond 50P: DET BASIN #1



Pond 50P: DET BASIN #1



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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Pond 51P: Manhole

Inflow Area = 219,325 sf, 58.69% Impervious, Inflow Depth = 5.04" for 25 year event
Inflow = 24.76 cfs @ 12.04 hrs, Volume= 92,199 cf
Outflow = 24.76 cfs @ 12.04 hrs, Volume= 92,199 cf, Atten= 0%, Lag= 0.0 min
Primary = 24.76 cfs @ 12.04 hrs, Volume= 92,199 cf
Routed to Pond 50P : DET BASIN #1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.68' @ 12.04 hrs

Flood Elev= 51.00'

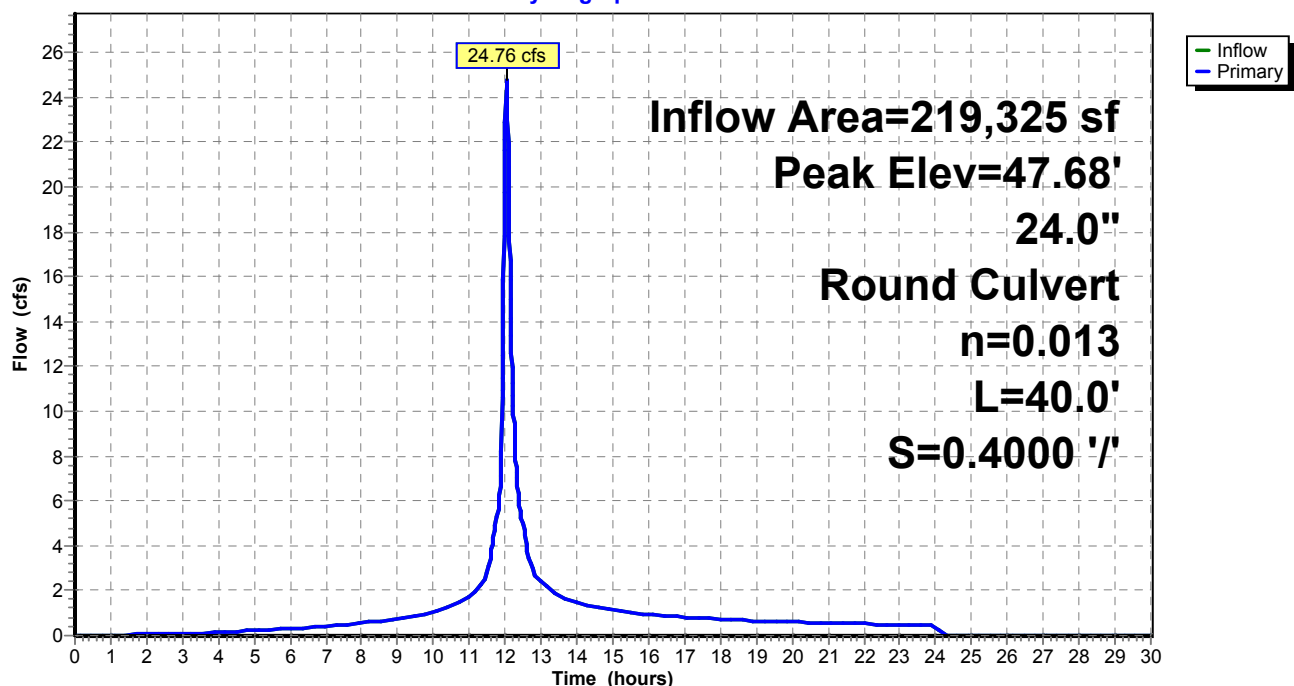
Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	24.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.00' / 28.00' S= 0.4000 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=24.73 cfs @ 12.04 hrs HW=47.67' (Free Discharge)

↑1=Culvert (Inlet Controls 24.73 cfs @ 7.87 fps)

Pond 51P: Manhole

Hydrograph



Existing Conditions

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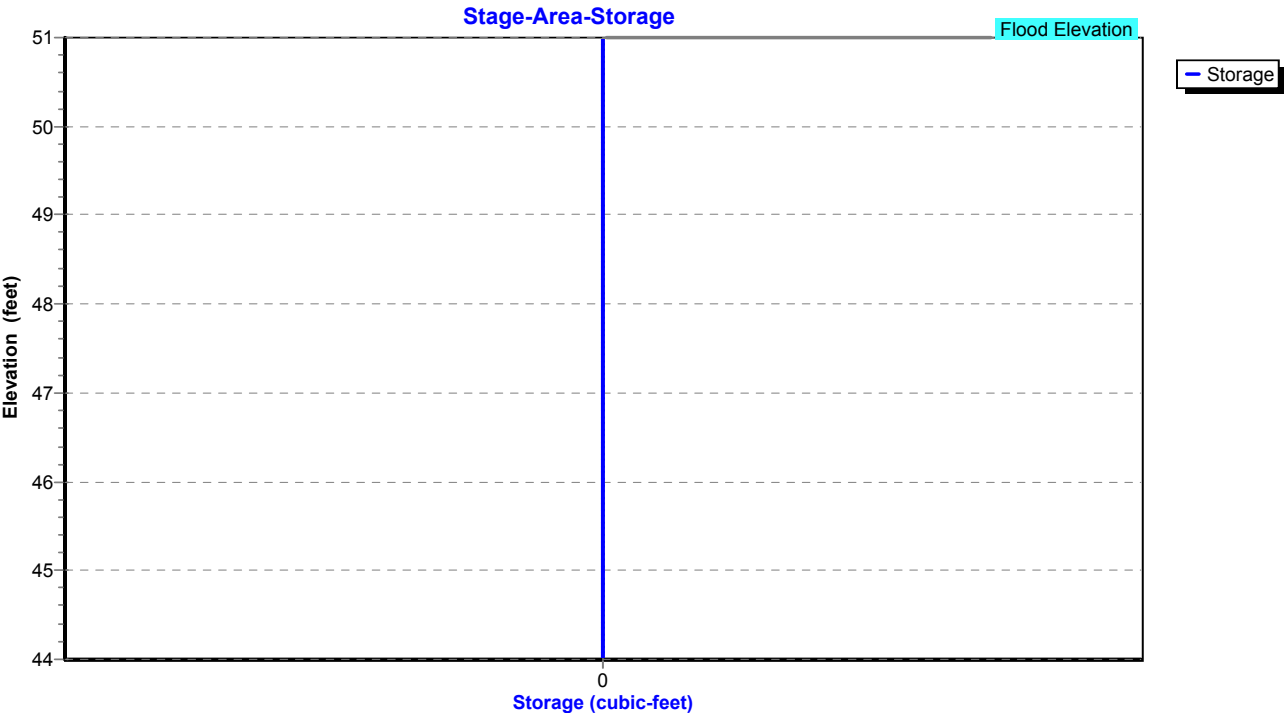
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Pond 51P: Manhole



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Summary for Pond 57P: CB-1

Inflow Area = 131,290 sf, 58.89% Impervious, Inflow Depth = 5.12" for 25 year event
Inflow = 15.64 cfs @ 12.04 hrs, Volume= 55,989 cf
Outflow = 15.64 cfs @ 12.04 hrs, Volume= 55,989 cf, Atten= 0%, Lag= 0.0 min
Primary = 15.64 cfs @ 12.04 hrs, Volume= 55,989 cf
Routed to Pond 51P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 46.58' @ 12.04 hrs

Flood Elev= 49.00'

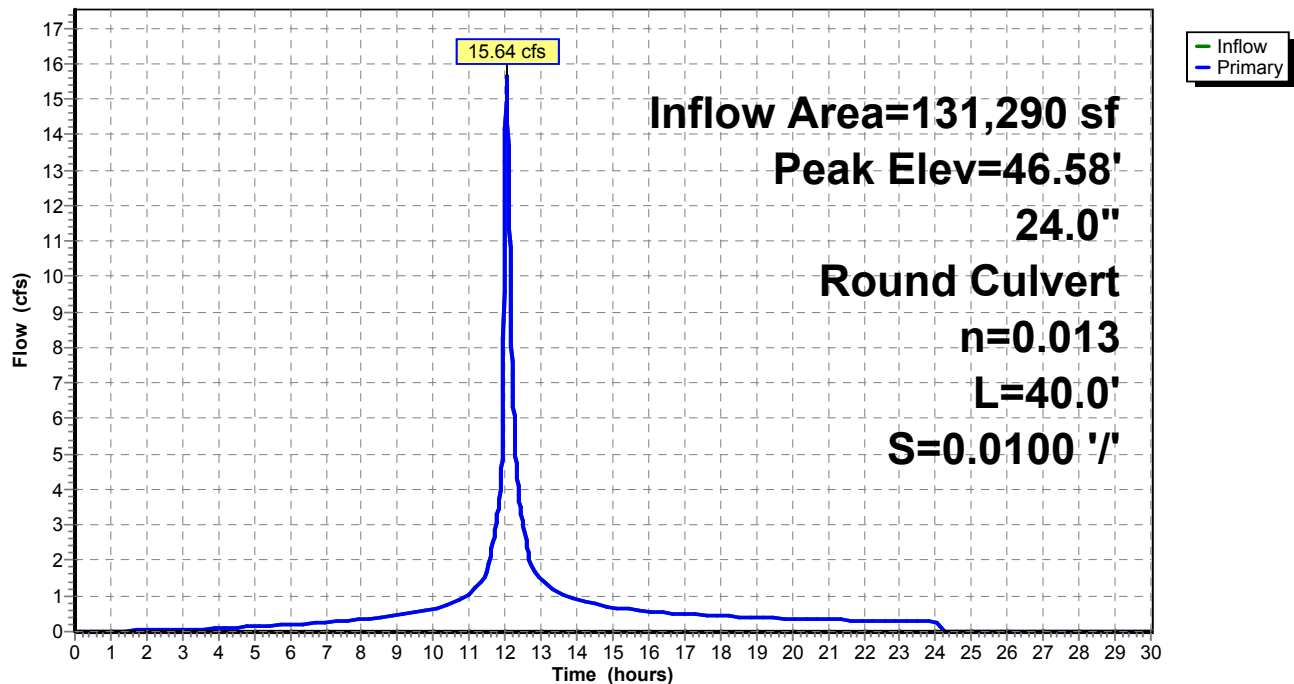
Device	Routing	Invert	Outlet Devices
#1	Primary	44.40'	24.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.40' / 44.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=15.63 cfs @ 12.04 hrs HW=46.58' (Free Discharge)

↑1=Culvert (Barrel Controls 15.63 cfs @ 5.68 fps)

Pond 57P: CB-1

Hydrograph



Existing Conditions

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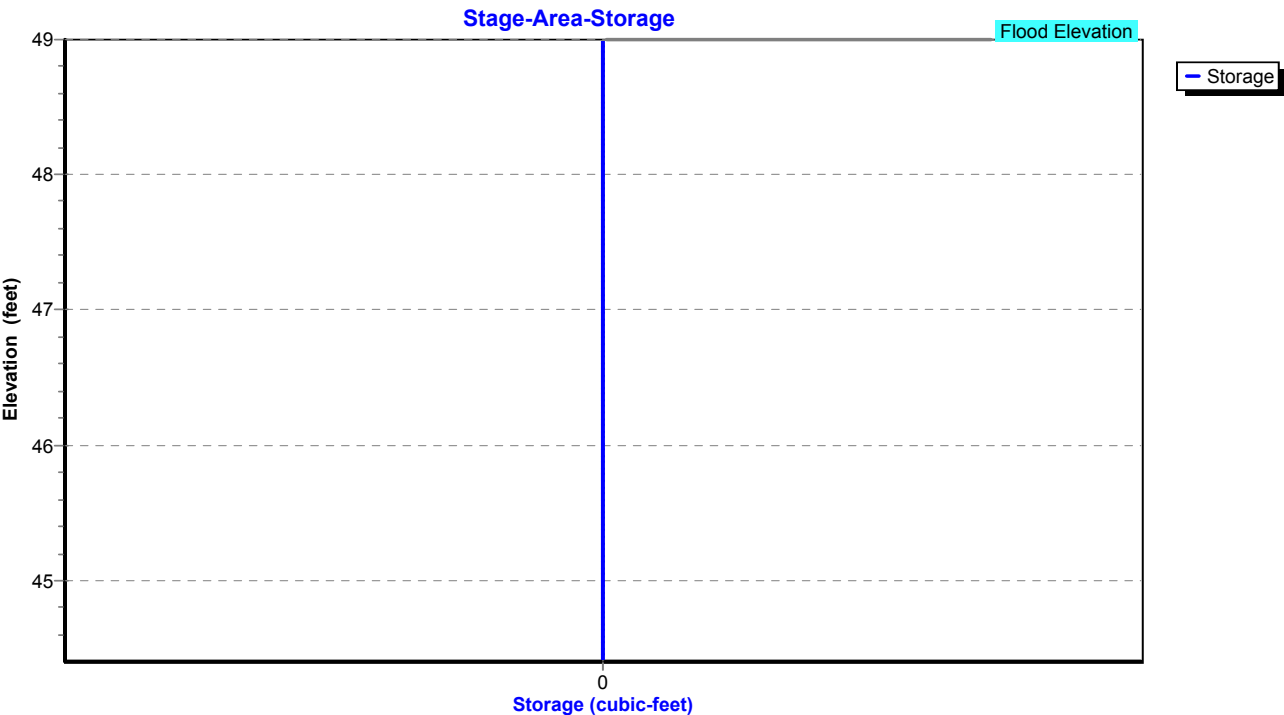
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Pond 57P: CB-1



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Summary for Pond 58P: Manhole

Inflow Area = 119,442 sf, 54.81% Impervious, Inflow Depth = 5.01" for 25 year event
Inflow = 13.78 cfs @ 12.04 hrs, Volume= 49,826 cf
Outflow = 13.78 cfs @ 12.04 hrs, Volume= 49,826 cf, Atten= 0%, Lag= 0.0 min
Primary = 13.78 cfs @ 12.04 hrs, Volume= 49,826 cf
Routed to Pond 57P : CB-1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 48.27' @ 12.04 hrs

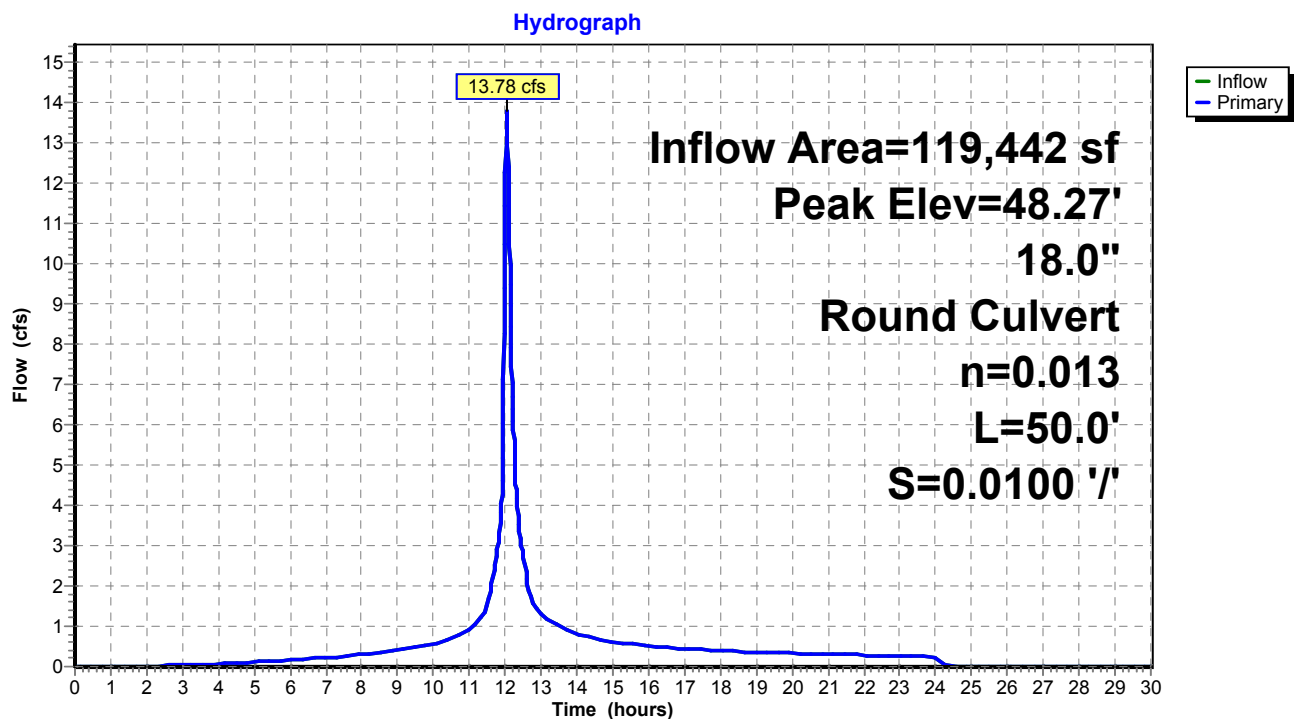
Flood Elev= 49.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	44.90'	18.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.90' / 44.40' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=13.75 cfs @ 12.04 hrs HW=48.26' (Free Discharge)

↑1=Culvert (Inlet Controls 13.75 cfs @ 7.78 fps)

Pond 58P: Manhole



Existing Conditions

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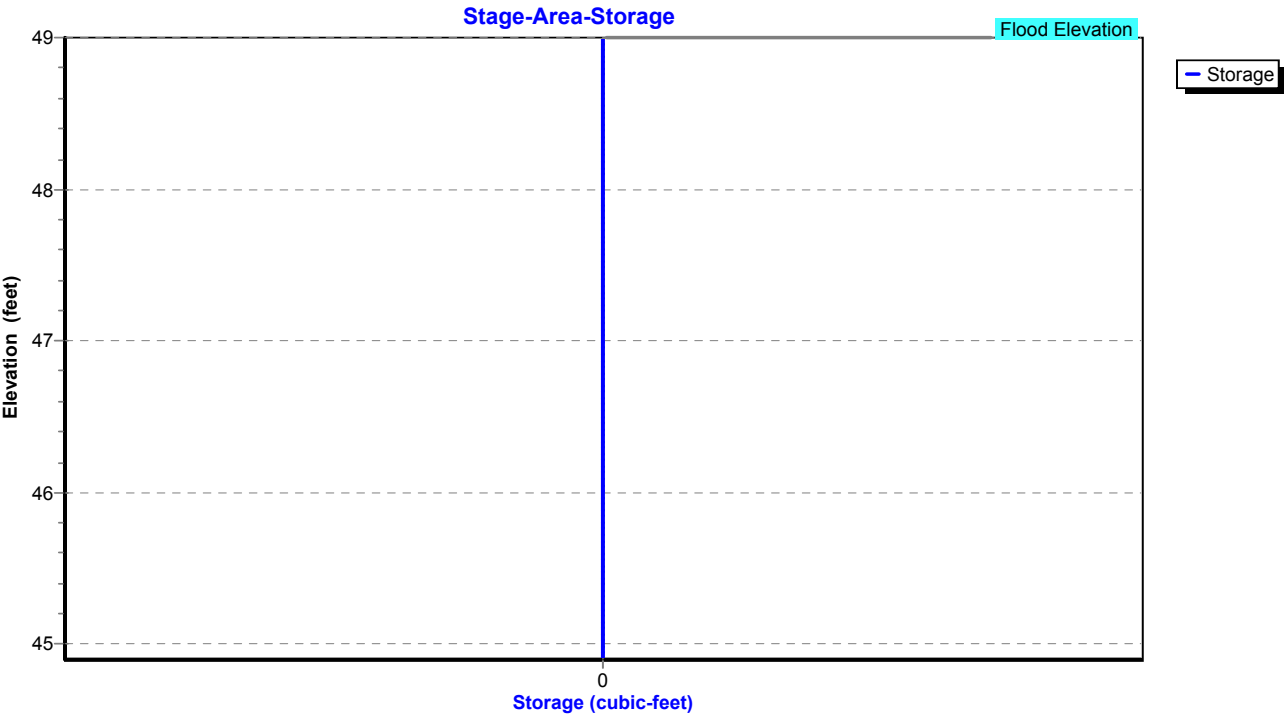
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Pond 58P: Manhole



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Summary for Pond 59P: CB-7

Inflow Area = 20,299 sf, 63.09% Impervious, Inflow Depth = 5.20" for 25 year event
Inflow = 3.04 cfs @ 12.03 hrs, Volume= 8,799 cf
Outflow = 3.04 cfs @ 12.03 hrs, Volume= 8,799 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.04 cfs @ 12.03 hrs, Volume= 8,799 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 46.54' @ 12.03 hrs

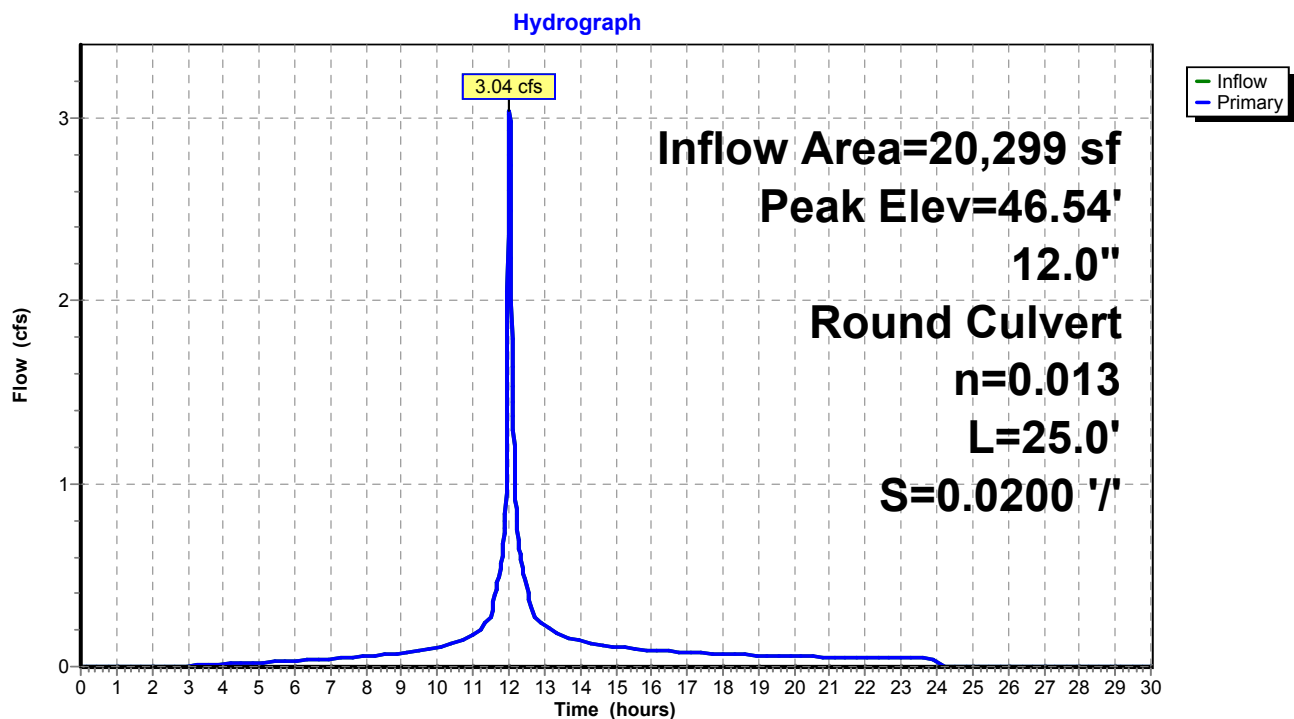
Flood Elev= 49.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	45.40'	12.0" Round Culvert L= 25.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.40' / 44.90' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=3.02 cfs @ 12.03 hrs HW=46.54' (Free Discharge)

↑1=Culvert (Inlet Controls 3.02 cfs @ 3.85 fps)

Pond 59P: CB-7



Existing Conditions

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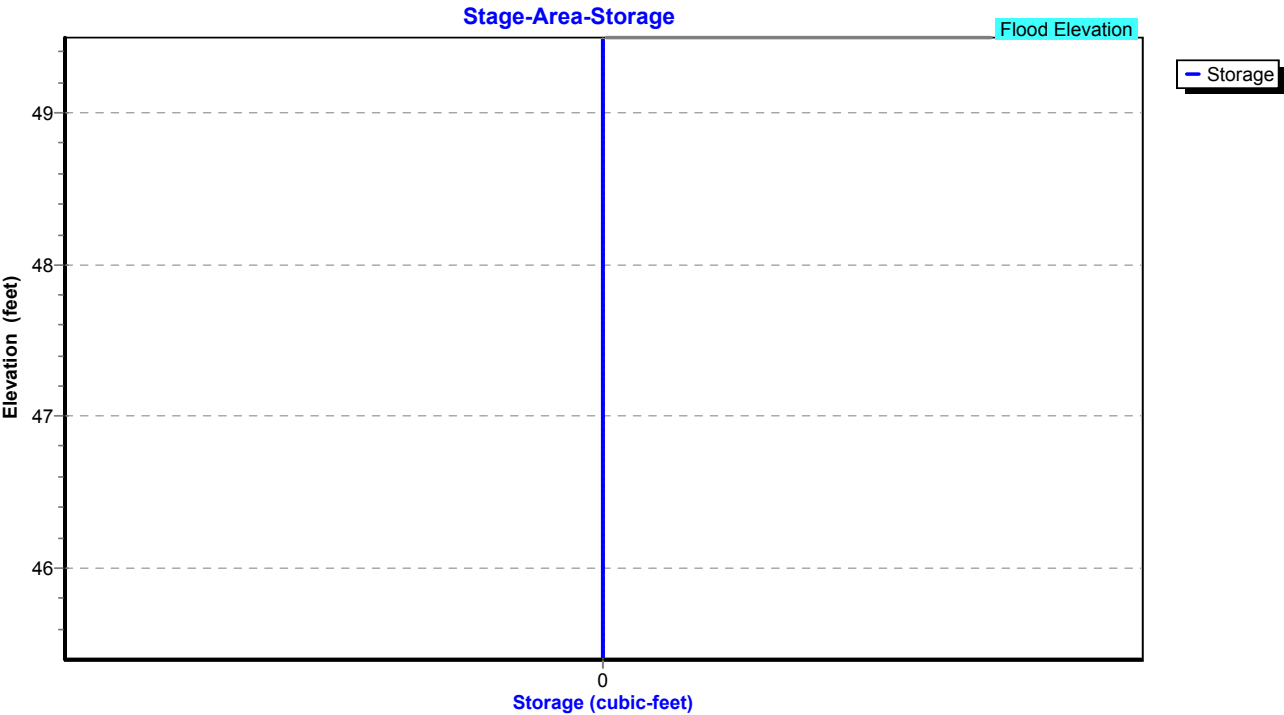
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Pond 59P: CB-7



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NORWALK 24-hr S1 25 year Rainfall=6.48"

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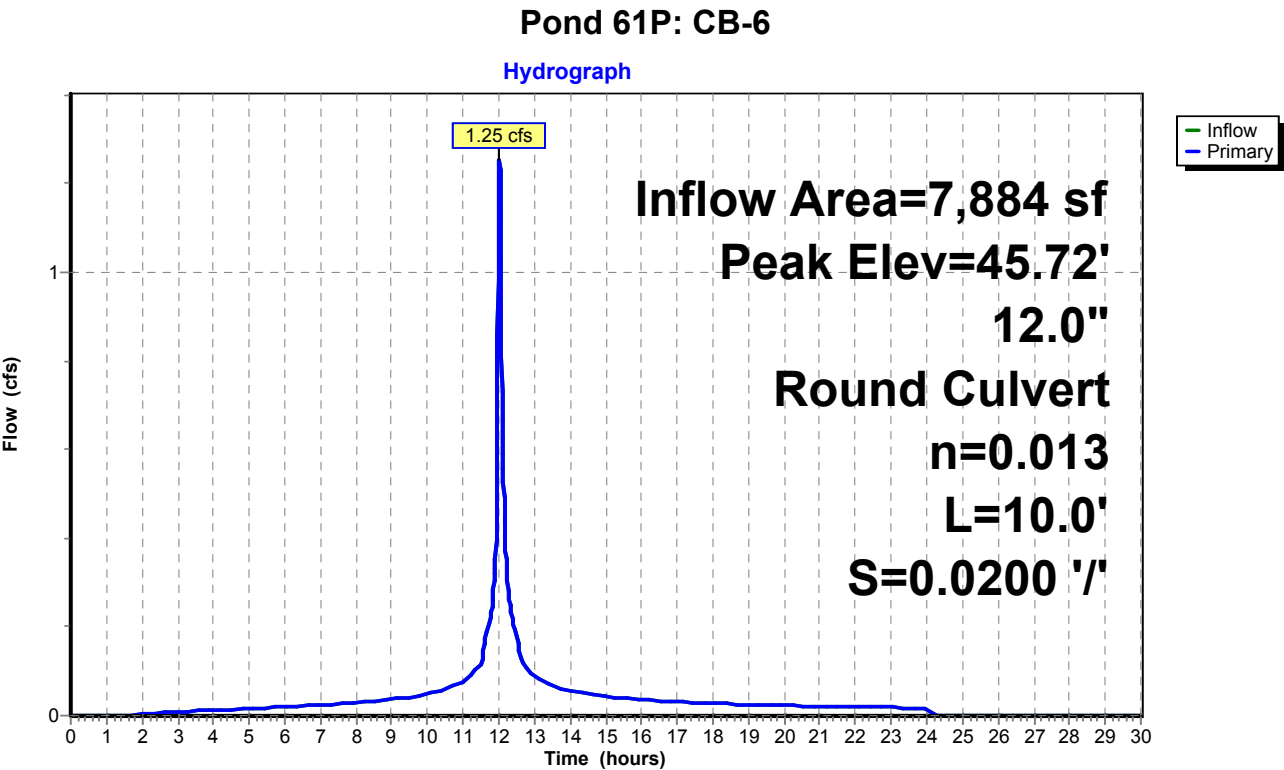
Summary for Pond 61P: CB-6

Inflow Area = 7,884 sf, 82.32% Impervious, Inflow Depth = 5.77" for 25 year event
Inflow = 1.25 cfs @ 12.03 hrs, Volume= 3,793 cf
Outflow = 1.25 cfs @ 12.03 hrs, Volume= 3,793 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.25 cfs @ 12.03 hrs, Volume= 3,793 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 45.72' @ 12.03 hrs
Flood Elev= 49.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	45.10'	12.0" Round Culvert L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.10' / 44.90' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.25 cfs @ 12.03 hrs HW=45.72' (Free Discharge)
1=Culvert (Barrel Controls 1.25 cfs @ 3.52 fps)



Existing Conditions

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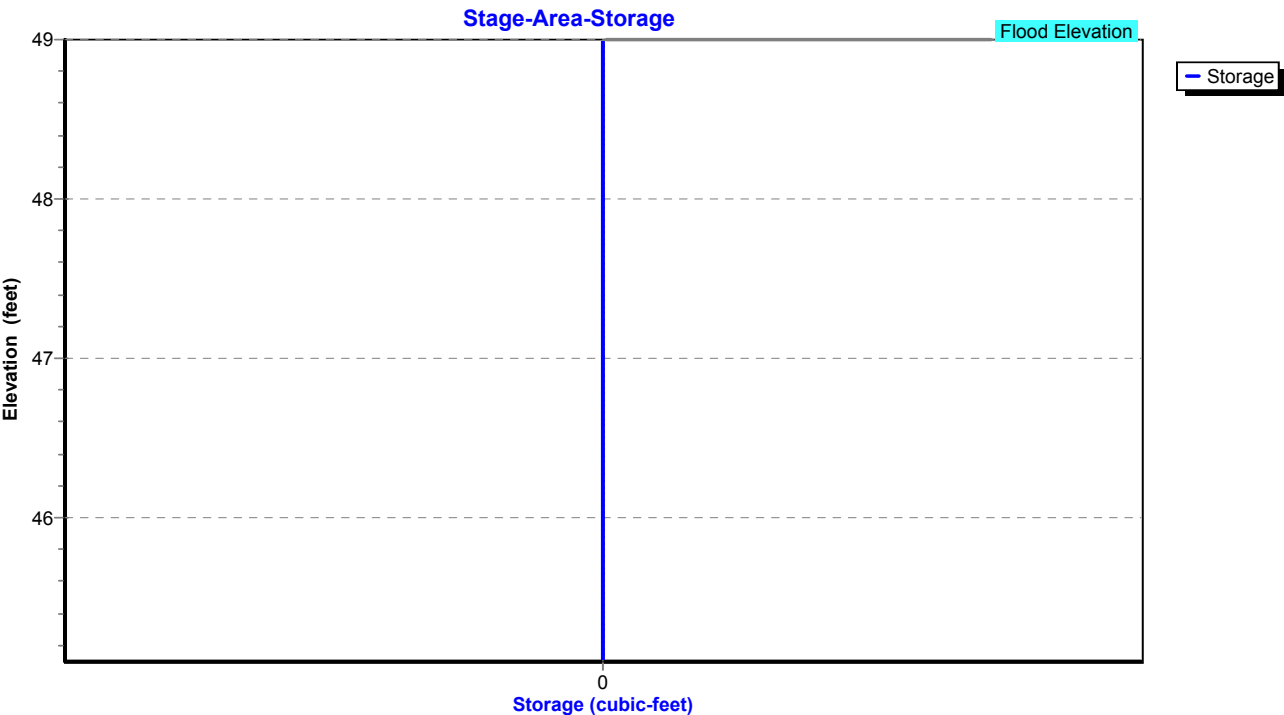
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Pond 61P: CB-6



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Summary for Pond 63P: Manhole

Inflow Area = 91,258 sf, 50.60% Impervious, Inflow Depth = 4.90" for 25 year event
Inflow = 9.85 cfs @ 12.06 hrs, Volume= 37,235 cf
Outflow = 9.85 cfs @ 12.06 hrs, Volume= 37,235 cf, Atten= 0%, Lag= 0.0 min
Primary = 9.85 cfs @ 12.06 hrs, Volume= 37,235 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.68' @ 12.06 hrs

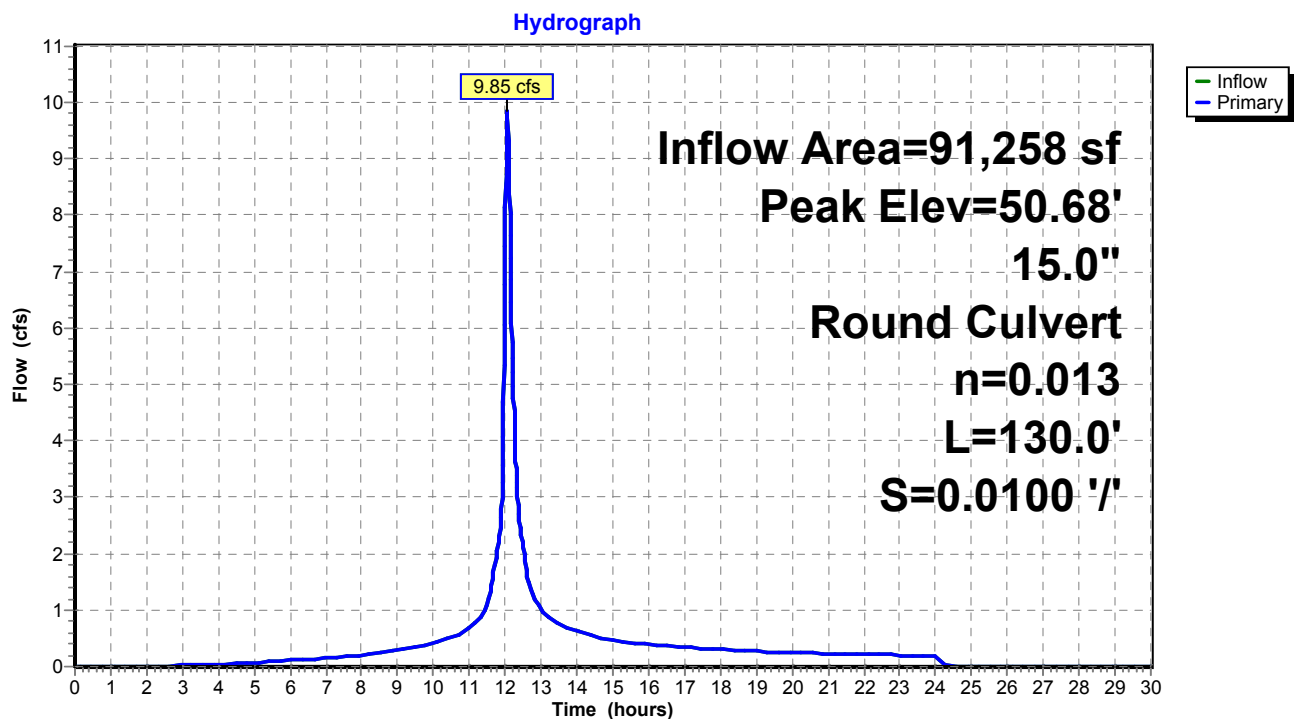
Flood Elev= 51.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.20'	15.0" Round Culvert L= 130.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.20' / 44.90' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=9.84 cfs @ 12.06 hrs HW=50.67' (Free Discharge)

↑1=Culvert (Barrel Controls 9.84 cfs @ 8.02 fps)

Pond 63P: Manhole



Existing Conditions

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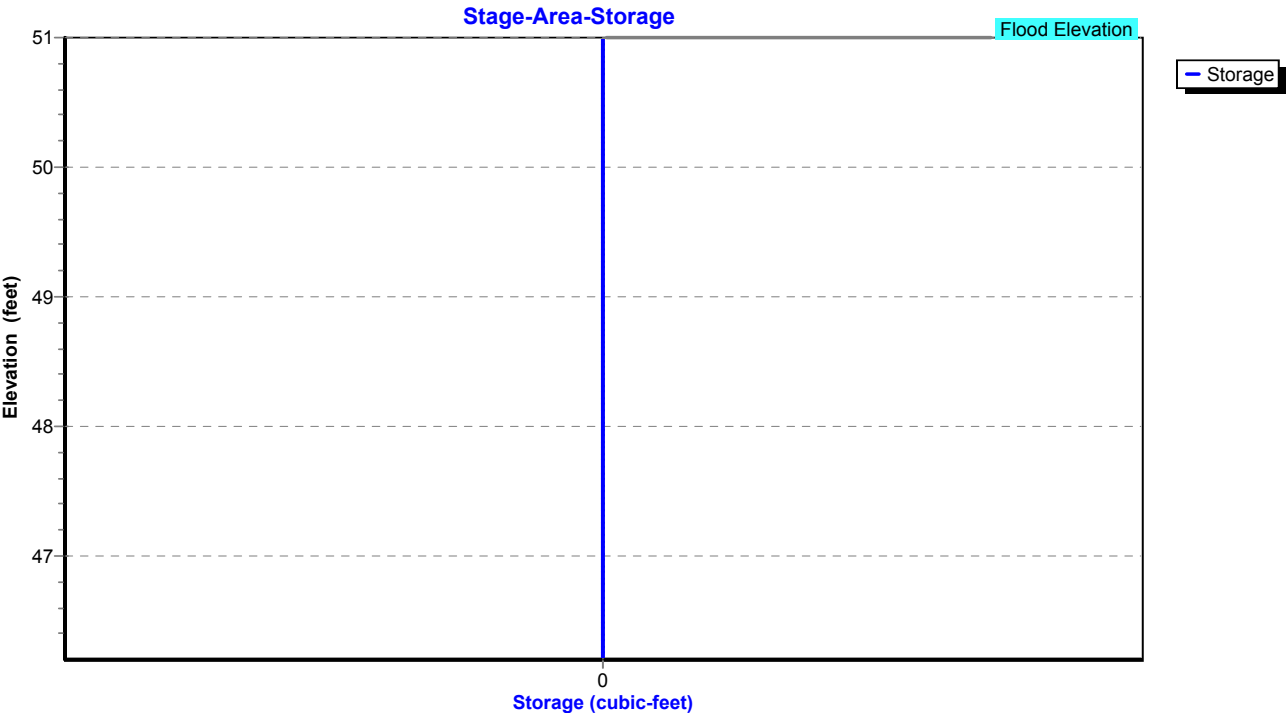
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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Pond 63P: Manhole



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Summary for Pond 64P: YD

Inflow Area = 68,128 sf, 41.75% Impervious, Inflow Depth = 4.65" for 25 year event
Inflow = 7.24 cfs @ 12.08 hrs, Volume= 26,386 cf
Outflow = 7.24 cfs @ 12.08 hrs, Volume= 26,386 cf, Atten= 0%, Lag= 0.0 min
Primary = 7.24 cfs @ 12.08 hrs, Volume= 26,386 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 58.21' @ 12.08 hrs

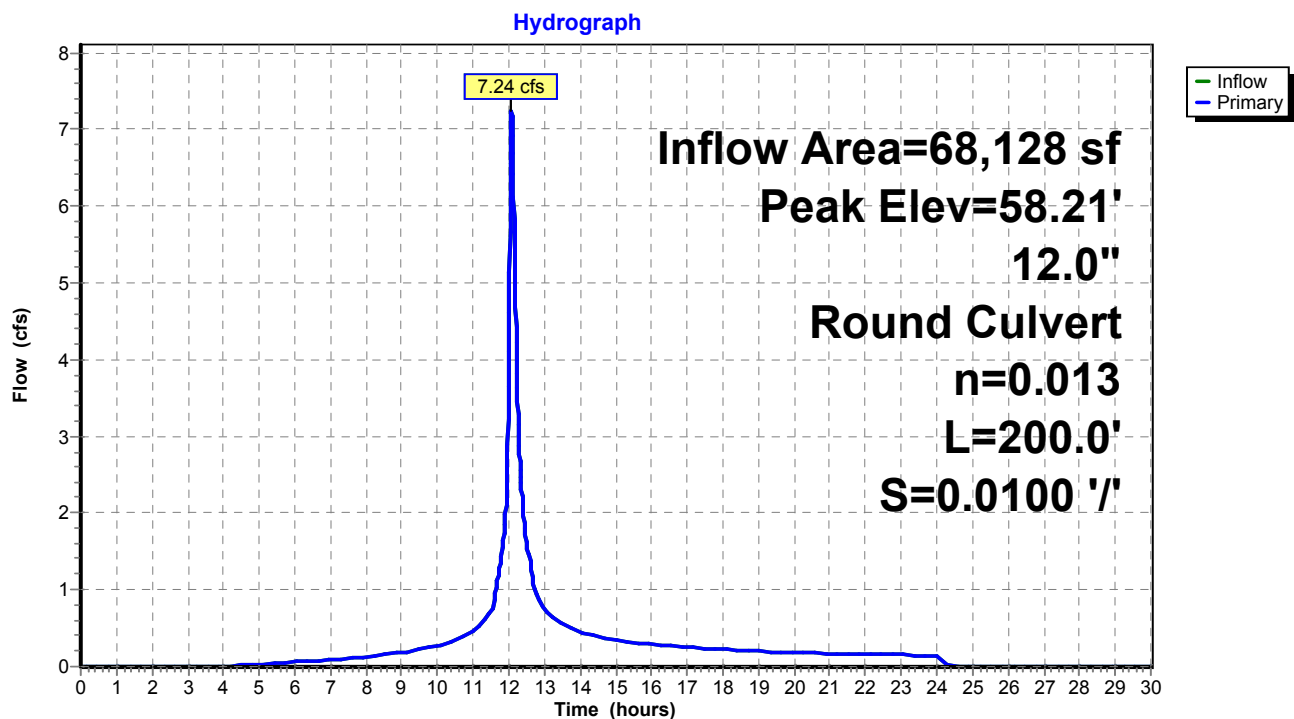
Flood Elev= 54.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.95'	12.0" Round Culvert L= 200.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.95' / 46.95' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=7.22 cfs @ 12.08 hrs HW=58.17' (Free Discharge)

↑1=Culvert (Barrel Controls 7.22 cfs @ 9.20 fps)

Pond 64P: YD



Existing Conditions

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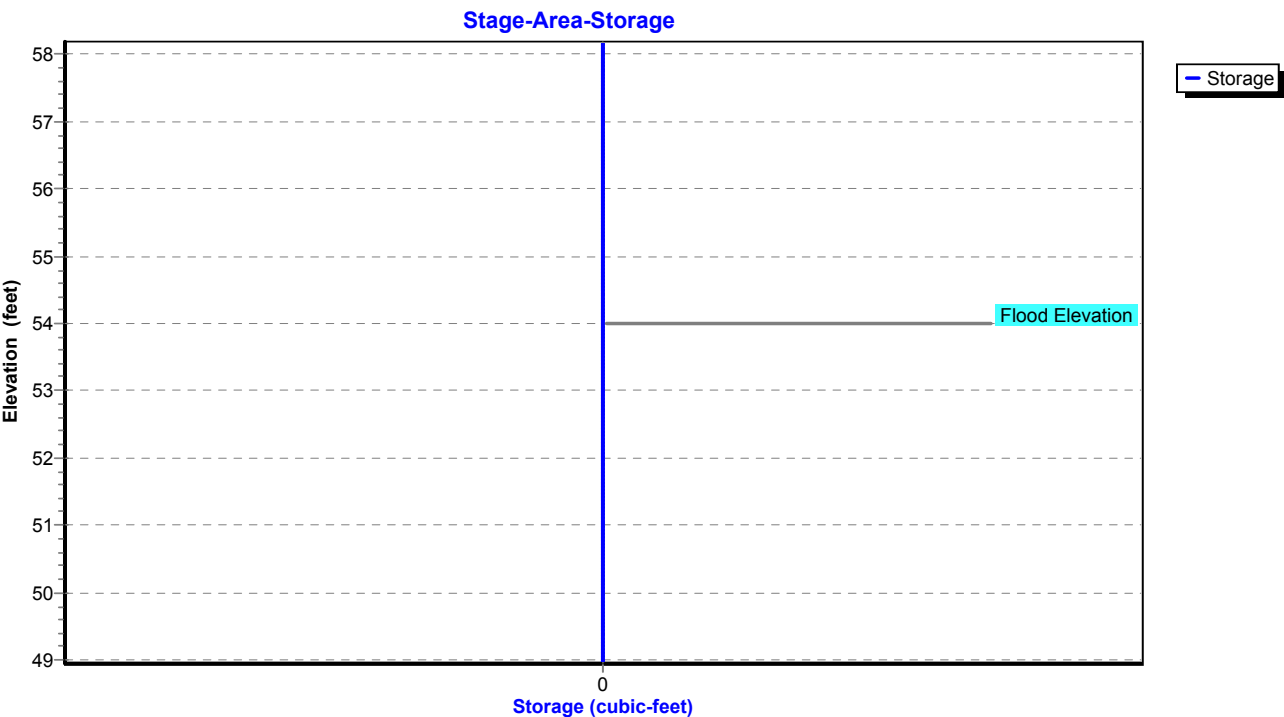
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Pond 64P: YD



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Summary for Pond 66P: CB-10

Inflow Area = 12,763 sf, 73.04% Impervious, Inflow Depth = 5.54" for 25 year event
Inflow = 1.99 cfs @ 12.03 hrs, Volume= 5,894 cf
Outflow = 1.99 cfs @ 12.03 hrs, Volume= 5,894 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.99 cfs @ 12.03 hrs, Volume= 5,894 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 48.33' @ 12.03 hrs

Flood Elev= 53.00'

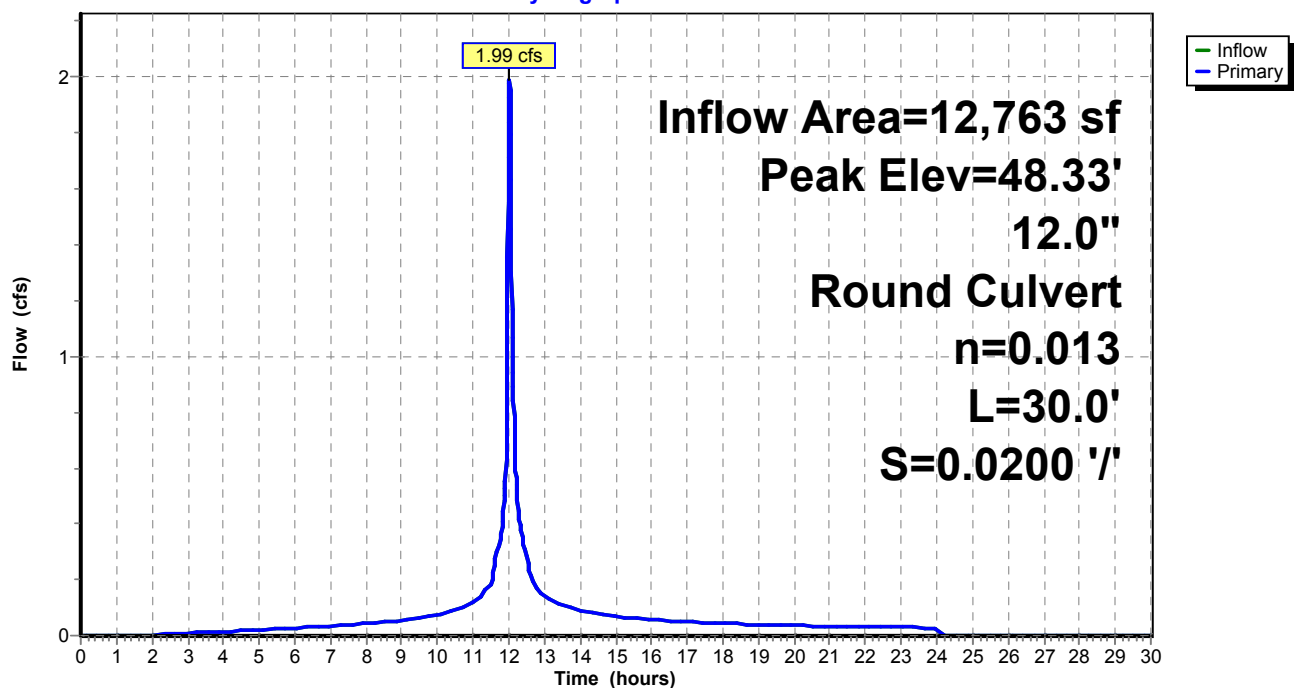
Device	Routing	Invert	Outlet Devices
#1	Primary	47.55'	12.0" Round Culvert L= 30.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.55' / 46.95' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.98 cfs @ 12.03 hrs HW=48.33' (Free Discharge)

↑1=Culvert (Inlet Controls 1.98 cfs @ 3.01 fps)

Pond 66P: CB-10

Hydrograph



Existing Conditions

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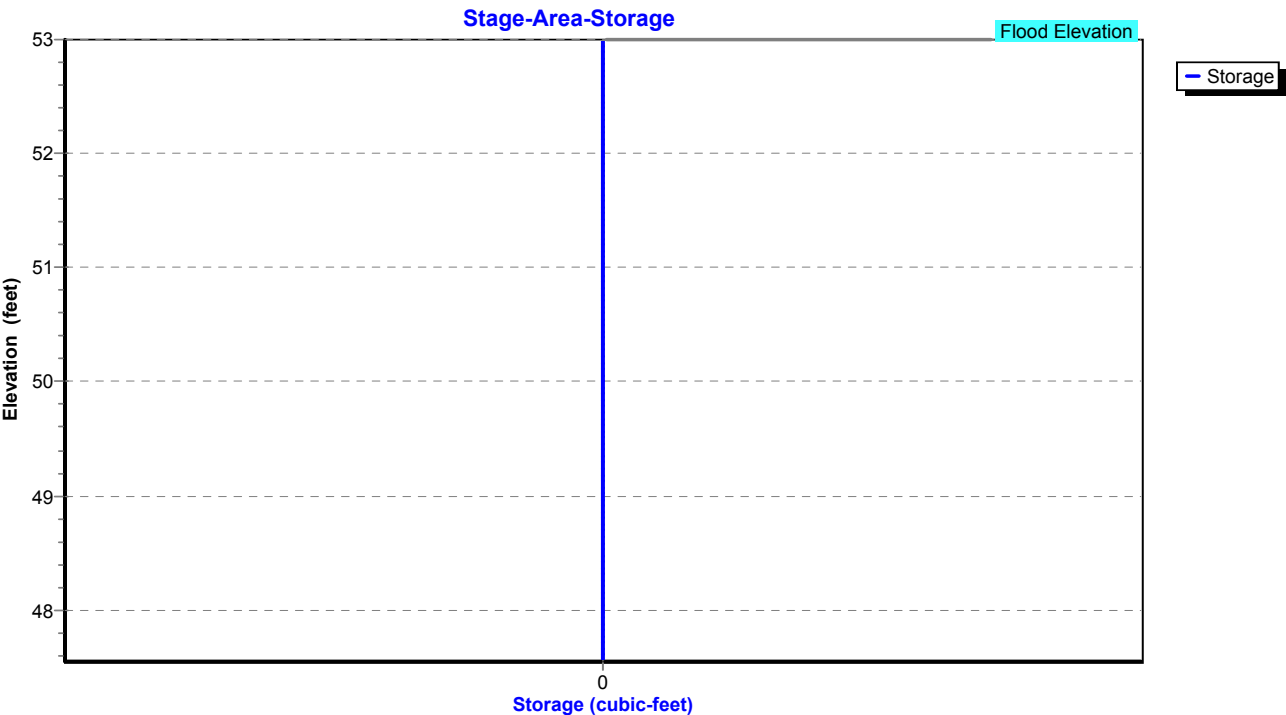
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Pond 66P: CB-10



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Summary for Pond 67P: CB-9

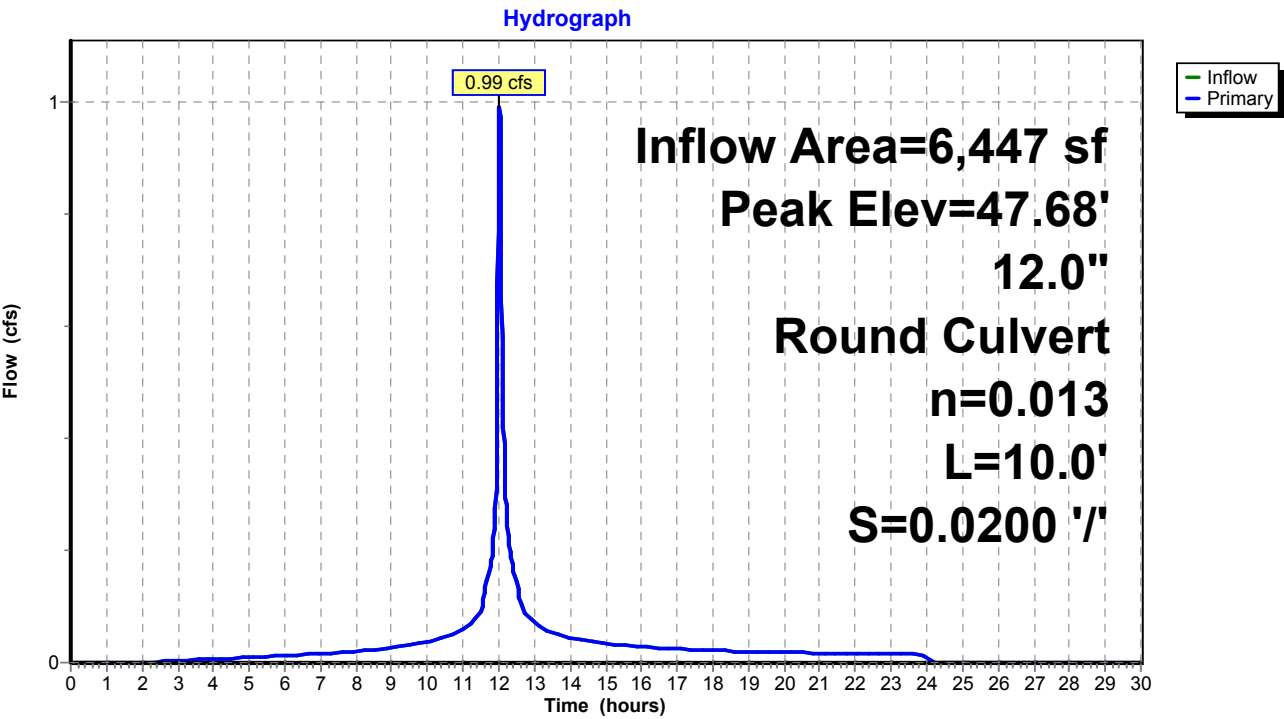
Inflow Area = 6,447 sf, 69.59% Impervious, Inflow Depth = 5.43" for 25 year event
Inflow = 0.99 cfs @ 12.03 hrs, Volume= 2,916 cf
Outflow = 0.99 cfs @ 12.03 hrs, Volume= 2,916 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.99 cfs @ 12.03 hrs, Volume= 2,916 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 47.68' @ 12.03 hrs
Flood Elev= 52.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.15'	12.0" Round Culvert L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.15' / 46.95' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.99 cfs @ 12.03 hrs HW=47.68' (Free Discharge)
1=Culvert (Barrel Controls 0.99 cfs @ 3.37 fps)

Pond 67P: CB-9



Existing Conditions

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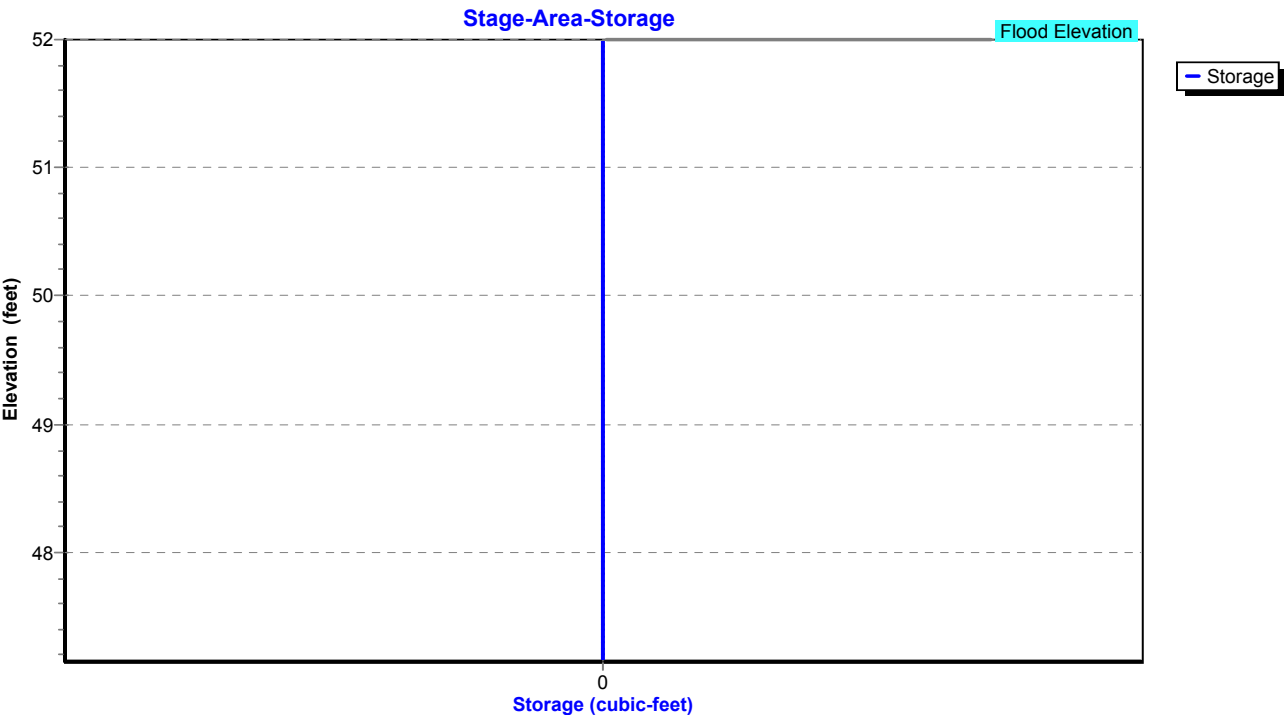
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Pond 67P: CB-9



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Summary for Pond 70P: CB-2

Inflow Area = 88,035 sf, 58.39% Impervious, Inflow Depth = 4.94" for 25 year event
Inflow = 9.54 cfs @ 11.99 hrs, Volume= 36,210 cf
Outflow = 9.54 cfs @ 11.99 hrs, Volume= 36,210 cf, Atten= 0%, Lag= 0.0 min
Primary = 9.54 cfs @ 11.99 hrs, Volume= 36,210 cf
Routed to Pond 51P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.49' @ 11.99 hrs

Flood Elev= 53.30'

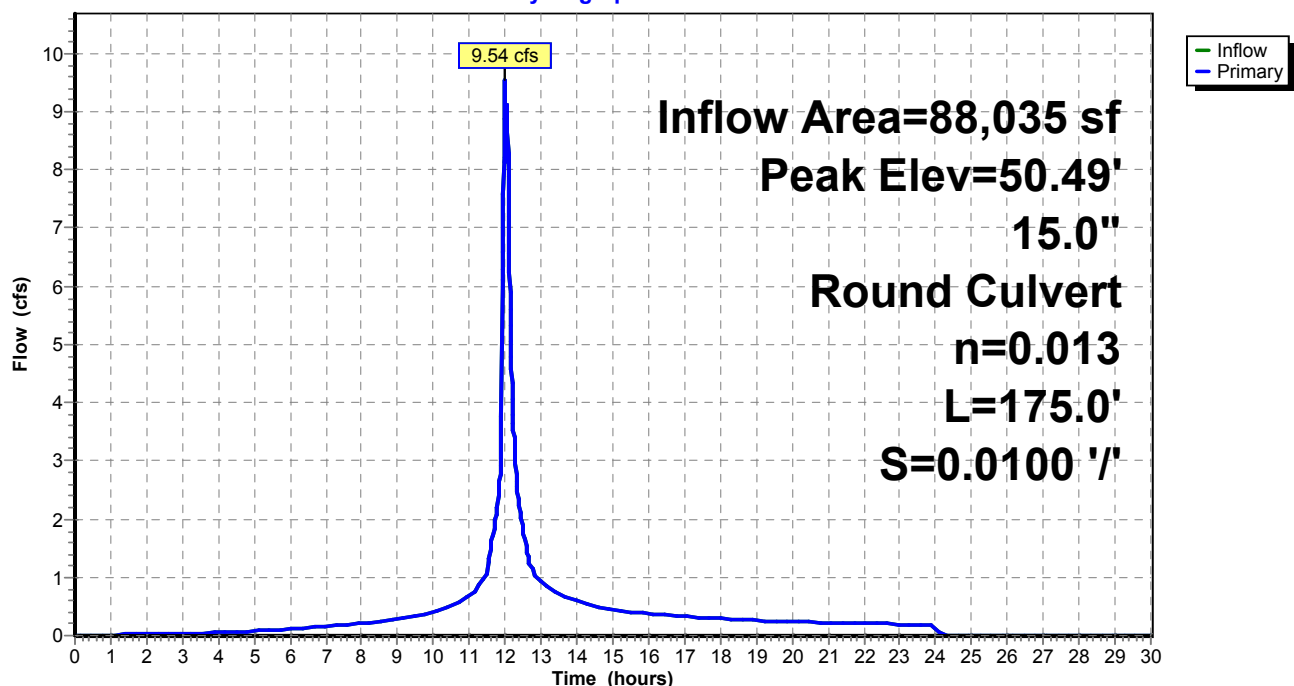
Device	Routing	Invert	Outlet Devices
#1	Primary	45.75'	15.0" Round Culvert L= 175.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.75' / 44.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=9.54 cfs @ 11.99 hrs HW=50.48' (Free Discharge)

↑1=Culvert (Barrel Controls 9.54 cfs @ 7.77 fps)

Pond 70P: CB-2

Hydrograph



Existing Conditions

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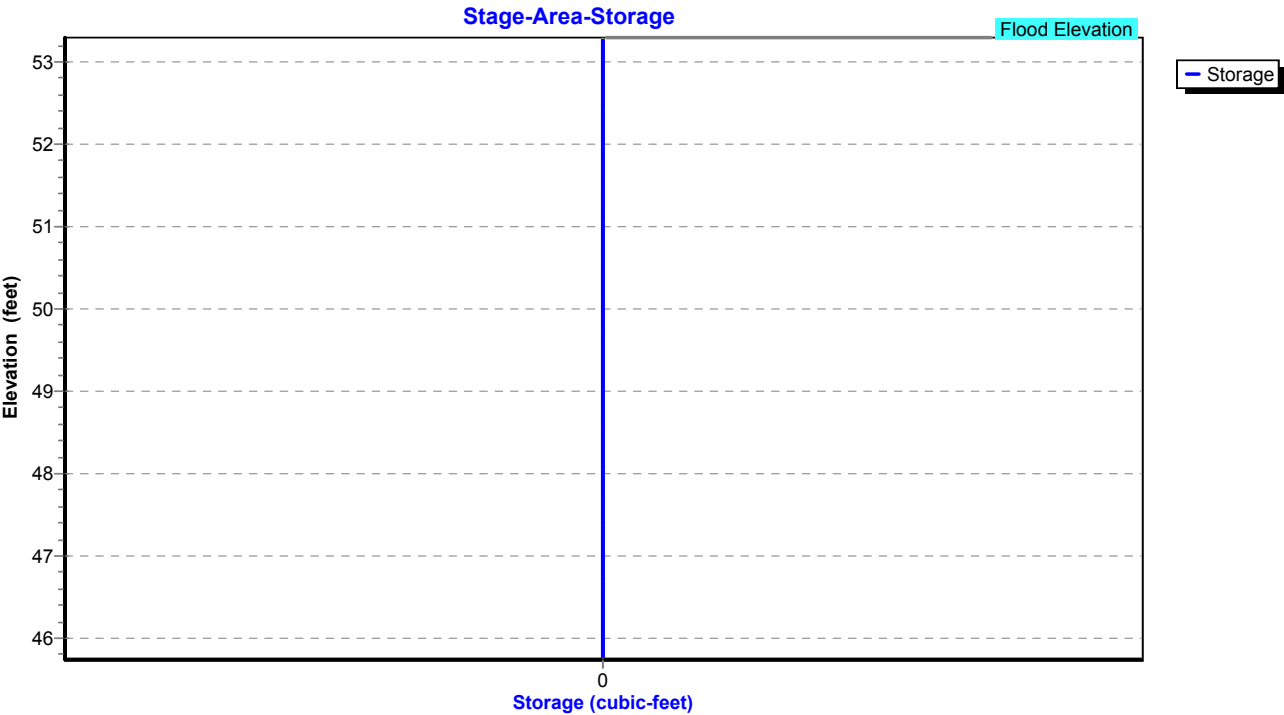
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Pond 70P: CB-2



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Summary for Pond 72P: Manhole

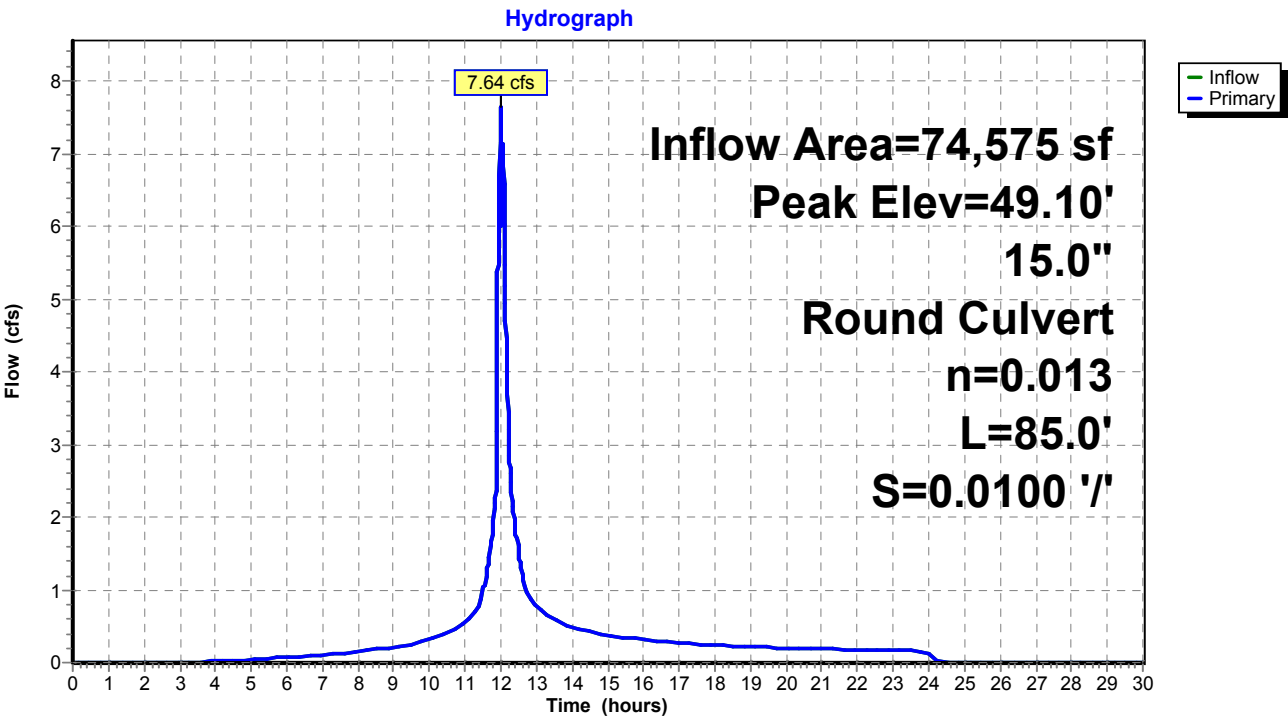
Inflow Area = 74,575 sf, 50.88% Impervious, Inflow Depth = 4.70" for 25 year event
Inflow = 7.64 cfs @ 11.99 hrs, Volume= 29,209 cf
Outflow = 7.64 cfs @ 11.99 hrs, Volume= 29,209 cf, Atten= 0%, Lag= 0.0 min
Primary = 7.64 cfs @ 11.99 hrs, Volume= 29,209 cf
Routed to Pond 70P : CB-2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 49.10' @ 11.99 hrs
Flood Elev= 54.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.60'	15.0" Round Culvert L= 85.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.60' / 45.75' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=7.57 cfs @ 11.99 hrs HW=49.06' (Free Discharge)
1=Culvert (Barrel Controls 7.57 cfs @ 6.17 fps)

Pond 72P: Manhole



Existing Conditions

Prepared by Tighe & Bond

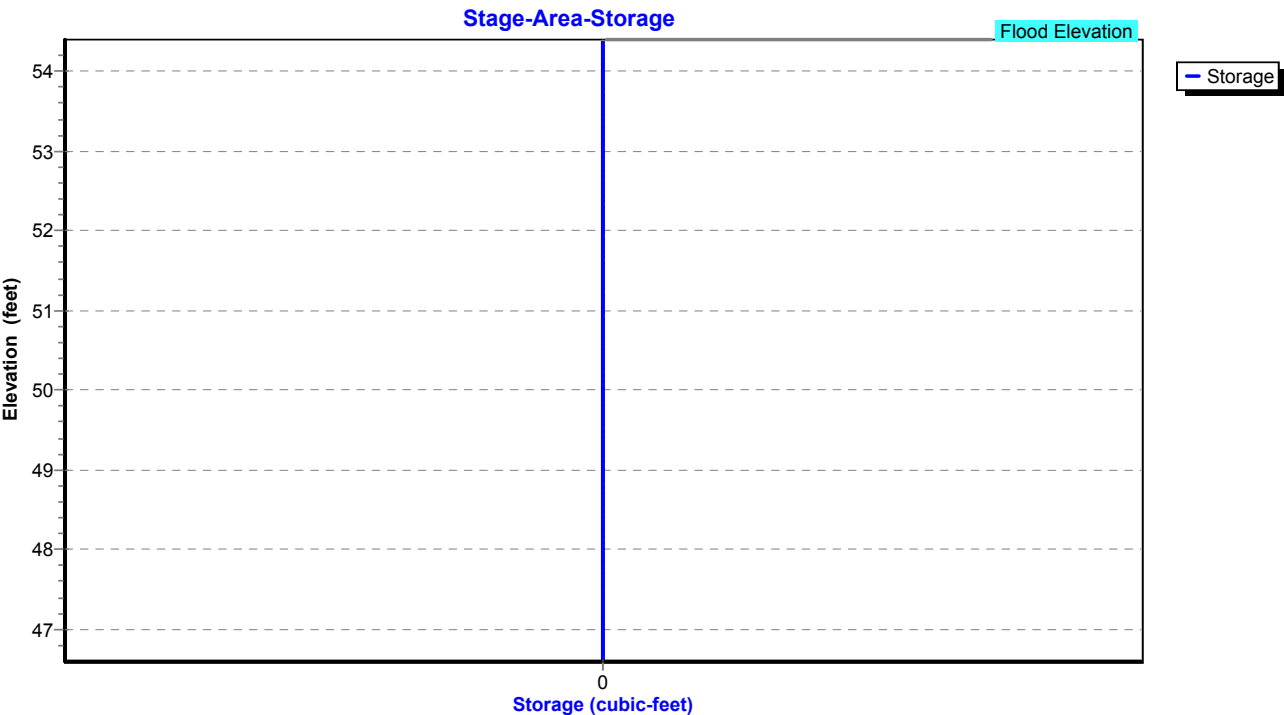
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Pond 72P: Manhole



Existing Conditions

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Summary for Pond 73P: CB-3

Inflow Area = 74,575 sf, 50.88% Impervious, Inflow Depth = 4.70" for 25 year event
Inflow = 7.64 cfs @ 11.99 hrs, Volume= 29,209 cf
Outflow = 7.64 cfs @ 11.99 hrs, Volume= 29,209 cf, Atten= 0%, Lag= 0.0 min
Primary = 7.64 cfs @ 11.99 hrs, Volume= 29,209 cf
Routed to Pond 72P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.30' @ 11.99 hrs

Flood Elev= 53.30'

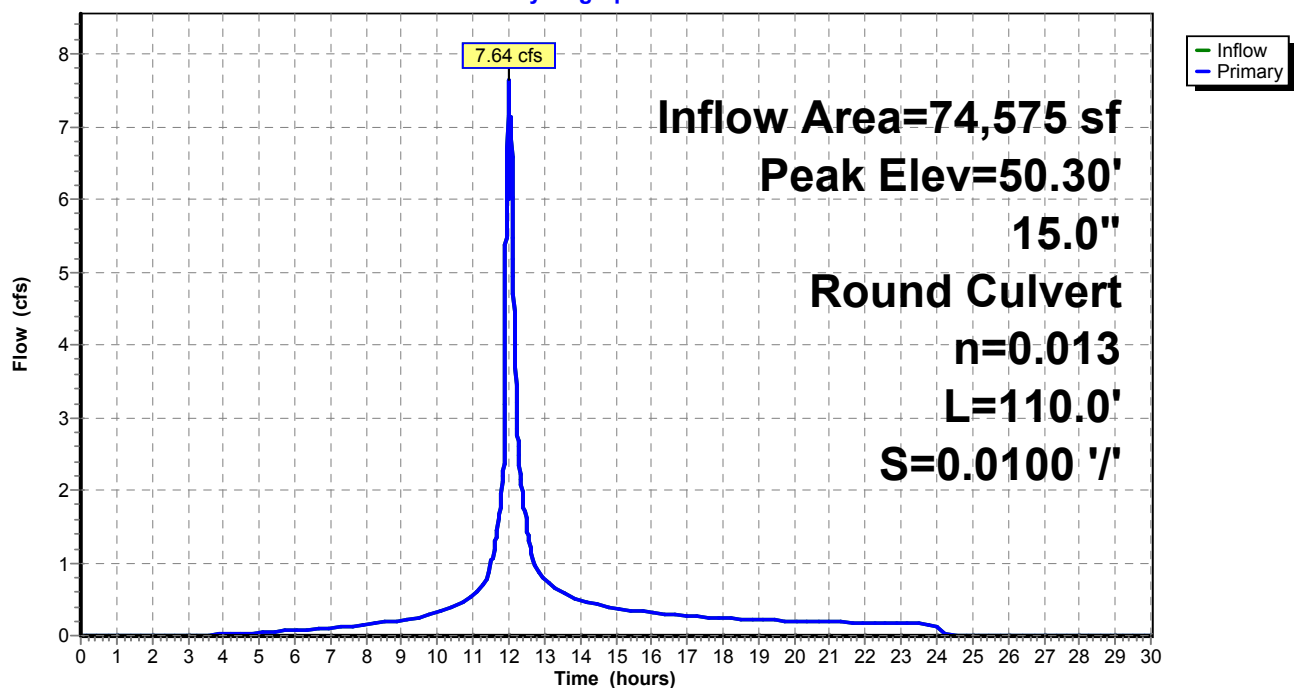
Device	Routing	Invert	Outlet Devices
#1	Primary	47.70'	15.0" Round Culvert L= 110.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.70' / 46.60' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=7.57 cfs @ 11.99 hrs HW=50.25' (Free Discharge)

↑1=Culvert (Barrel Controls 7.57 cfs @ 6.17 fps)

Pond 73P: CB-3

Hydrograph



Existing Conditions

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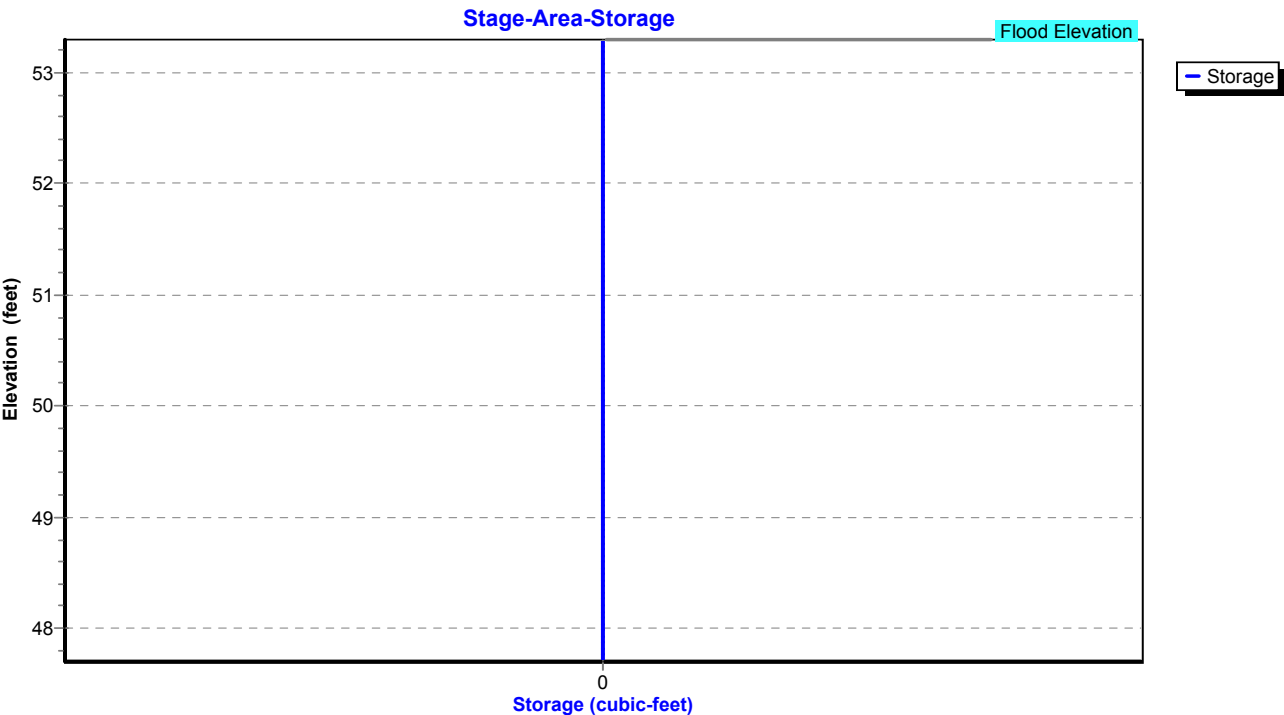
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Pond 73P: CB-3



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Summary for Pond 74P: CB-4

Inflow Area = 49,920 sf, 46.51% Impervious, Inflow Depth = 4.56" for 25 year event
Inflow = 5.72 cfs @ 12.06 hrs, Volume= 18,982 cf
Outflow = 5.72 cfs @ 12.06 hrs, Volume= 18,982 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.72 cfs @ 12.06 hrs, Volume= 18,982 cf
Routed to Pond 73P : CB-3

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.76' @ 12.06 hrs

Flood Elev= 53.70'

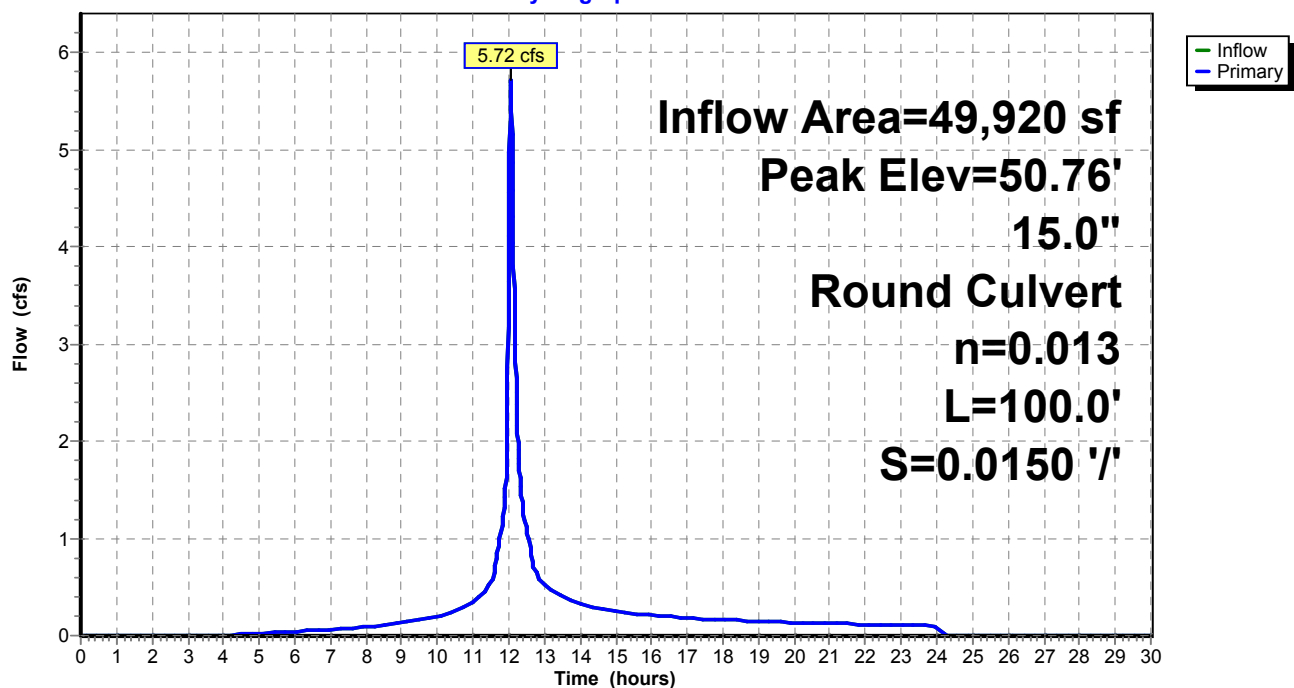
Device	Routing	Invert	Outlet Devices
#1	Primary	49.20'	15.0" Round Culvert L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.20' / 47.70' S= 0.0150 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=5.71 cfs @ 12.06 hrs HW=50.76' (Free Discharge)

↑1=Culvert (Inlet Controls 5.71 cfs @ 4.65 fps)

Pond 74P: CB-4

Hydrograph



Existing Conditions

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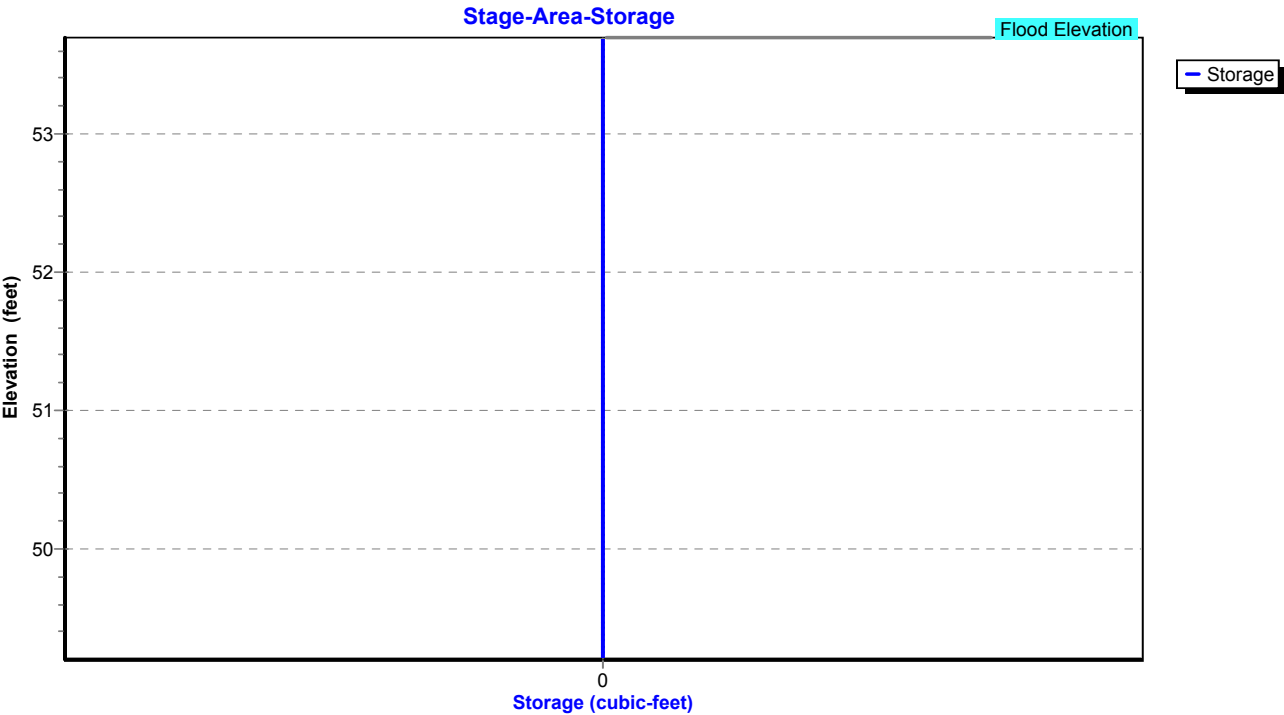
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Pond 74P: CB-4



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Summary for Pond 77P: Manhole

Inflow Area = 87,338 sf, 48.38% Impervious, Inflow Depth = 4.84" for 25 year event
Inflow = 9.33 cfs @ 12.06 hrs, Volume= 35,196 cf
Outflow = 9.33 cfs @ 12.06 hrs, Volume= 35,196 cf, Atten= 0%, Lag= 0.0 min
Primary = 9.33 cfs @ 12.06 hrs, Volume= 35,196 cf
Routed to Pond 63P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.36' @ 12.06 hrs

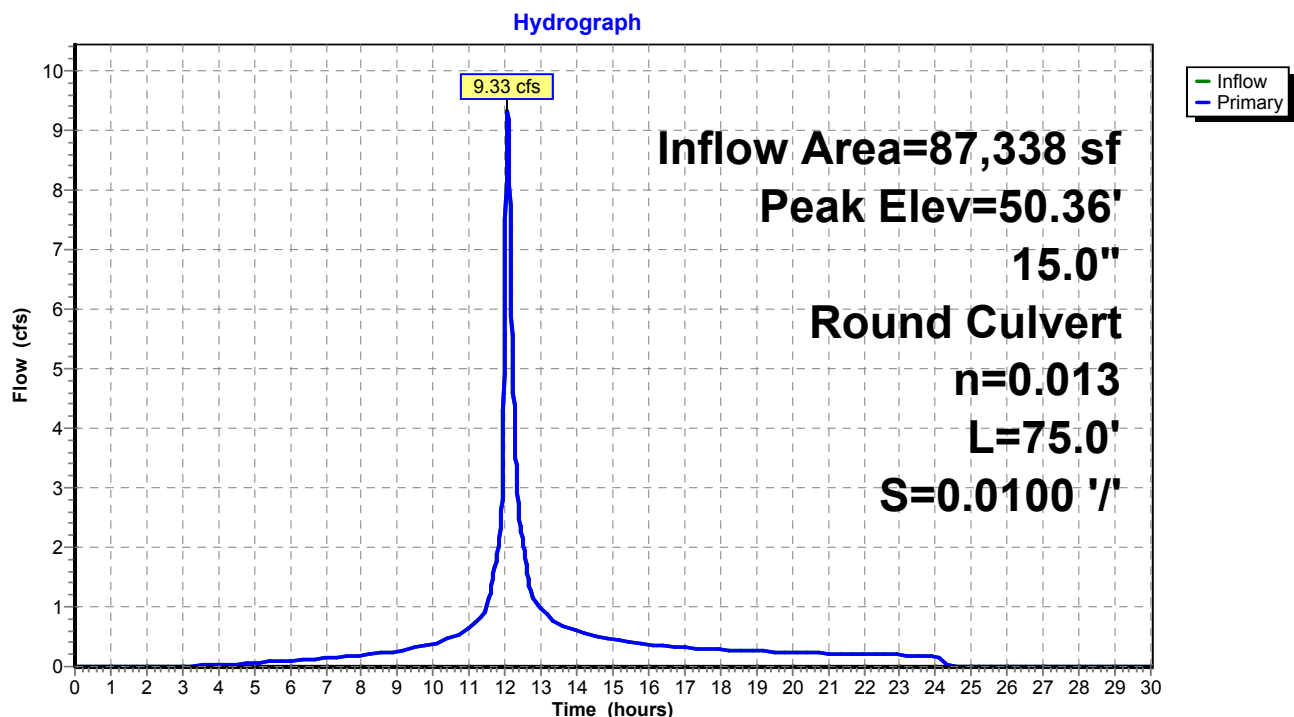
Flood Elev= 52.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.95'	15.0" Round Culvert L= 75.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.95' / 46.20' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=9.31 cfs @ 12.06 hrs HW=50.36' (Free Discharge)

↑1=Culvert (Barrel Controls 9.31 cfs @ 7.59 fps)

Pond 77P: Manhole



Existing Conditions

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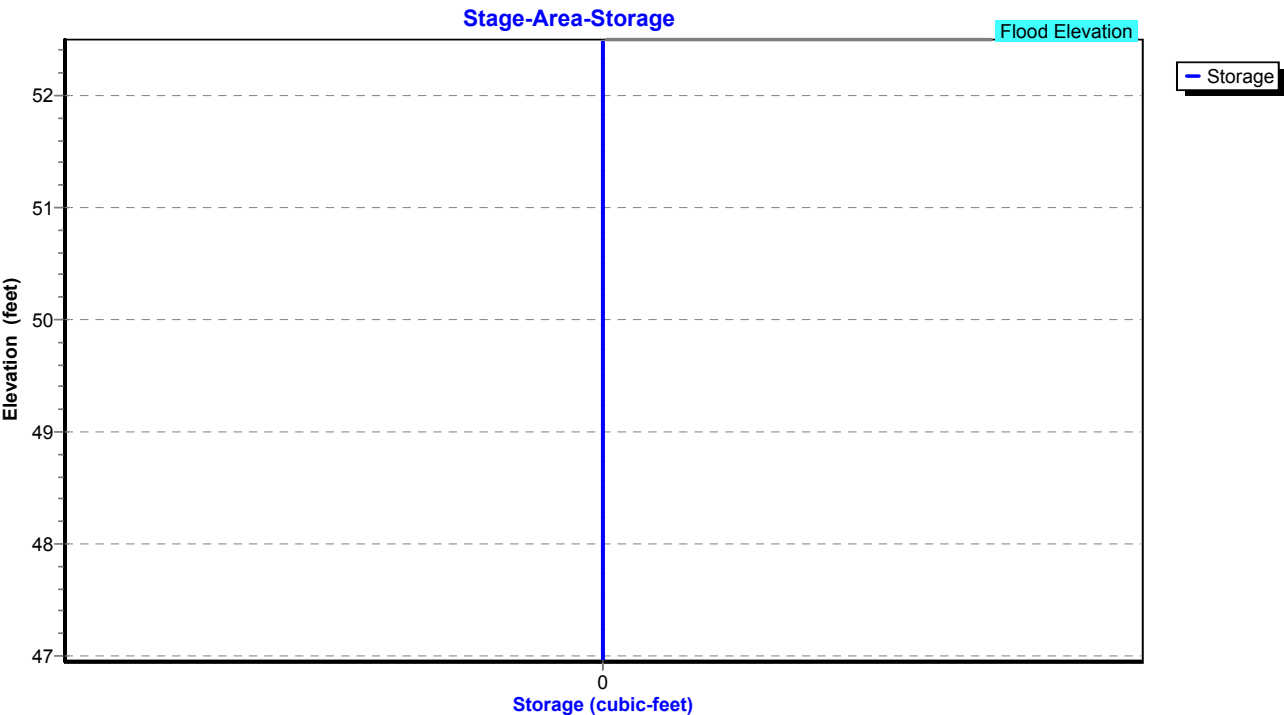
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Pond 77P: Manhole



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Summary for Pond 79P: CB-8

Inflow Area = 3,920 sf, 100.00% Impervious, Inflow Depth = 6.24" for 25 year event
Inflow = 0.64 cfs @ 12.03 hrs, Volume= 2,039 cf
Outflow = 0.64 cfs @ 12.03 hrs, Volume= 2,039 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.64 cfs @ 12.03 hrs, Volume= 2,039 cf
Routed to Pond 63P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.60' @ 12.03 hrs

Flood Elev= 52.50'

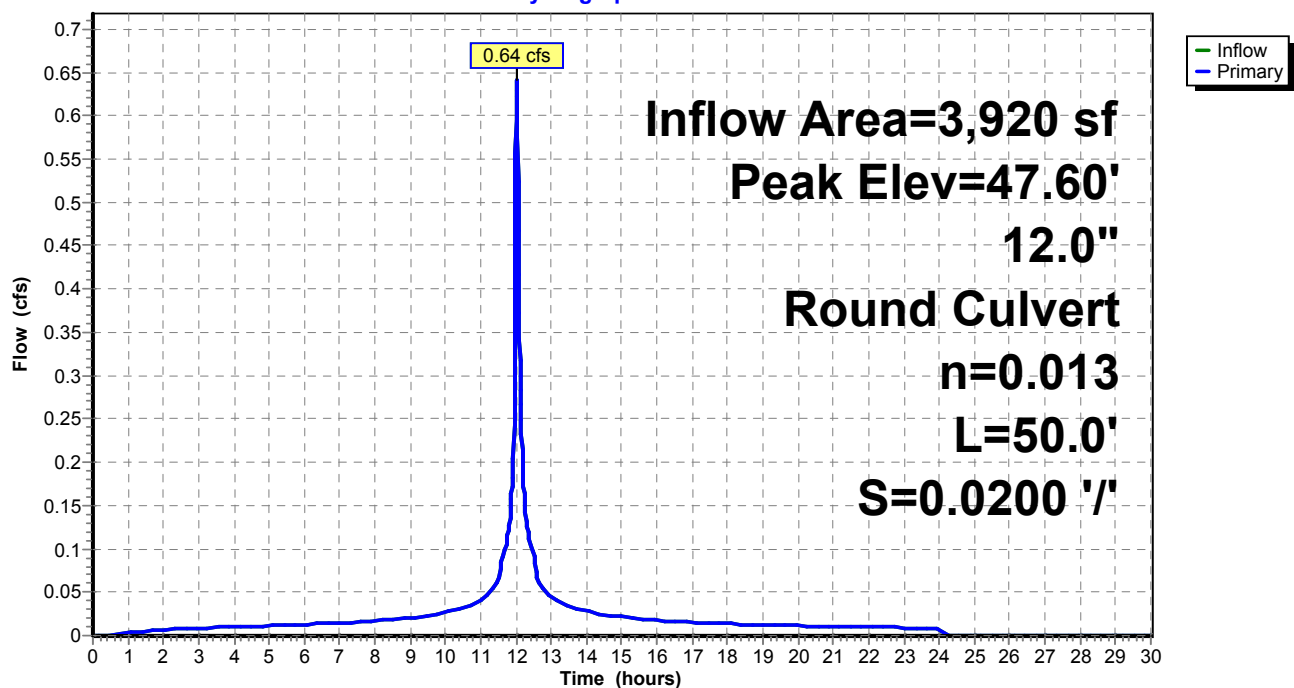
Device	Routing	Invert	Outlet Devices
#1	Primary	47.20'	12.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.20' / 46.20' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.64 cfs @ 12.03 hrs HW=47.60' (Free Discharge)

↑1=Culvert (Inlet Controls 0.64 cfs @ 2.16 fps)

Pond 79P: CB-8

Hydrograph



Existing Conditions

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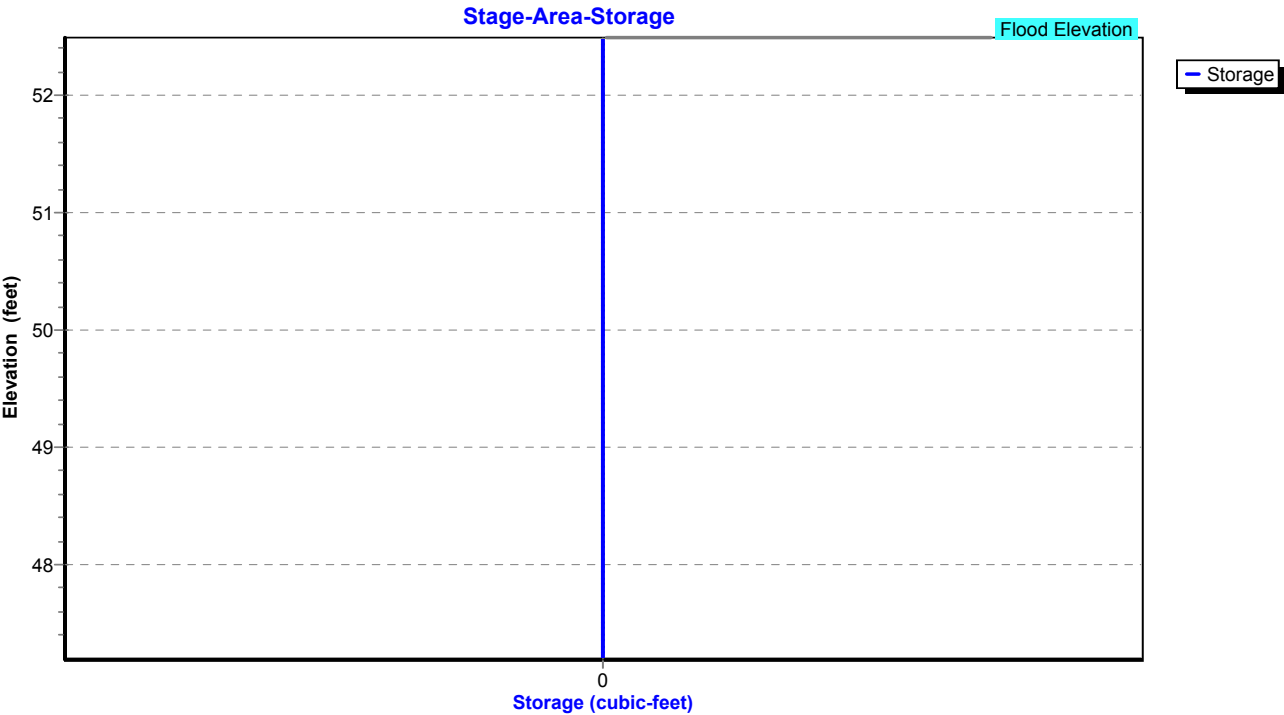
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Pond 79P: CB-8



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Summary for Pond 85P: CB-5

Inflow Area = 34,804 sf, 42.18% Impervious, Inflow Depth = 4.43" for 25 year event
Inflow = 3.82 cfs @ 12.07 hrs, Volume= 12,851 cf
Outflow = 3.82 cfs @ 12.07 hrs, Volume= 12,851 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.82 cfs @ 12.07 hrs, Volume= 12,851 cf
Routed to Pond 74P : CB-4

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 51.91' @ 12.07 hrs

Flood Elev= 53.30'

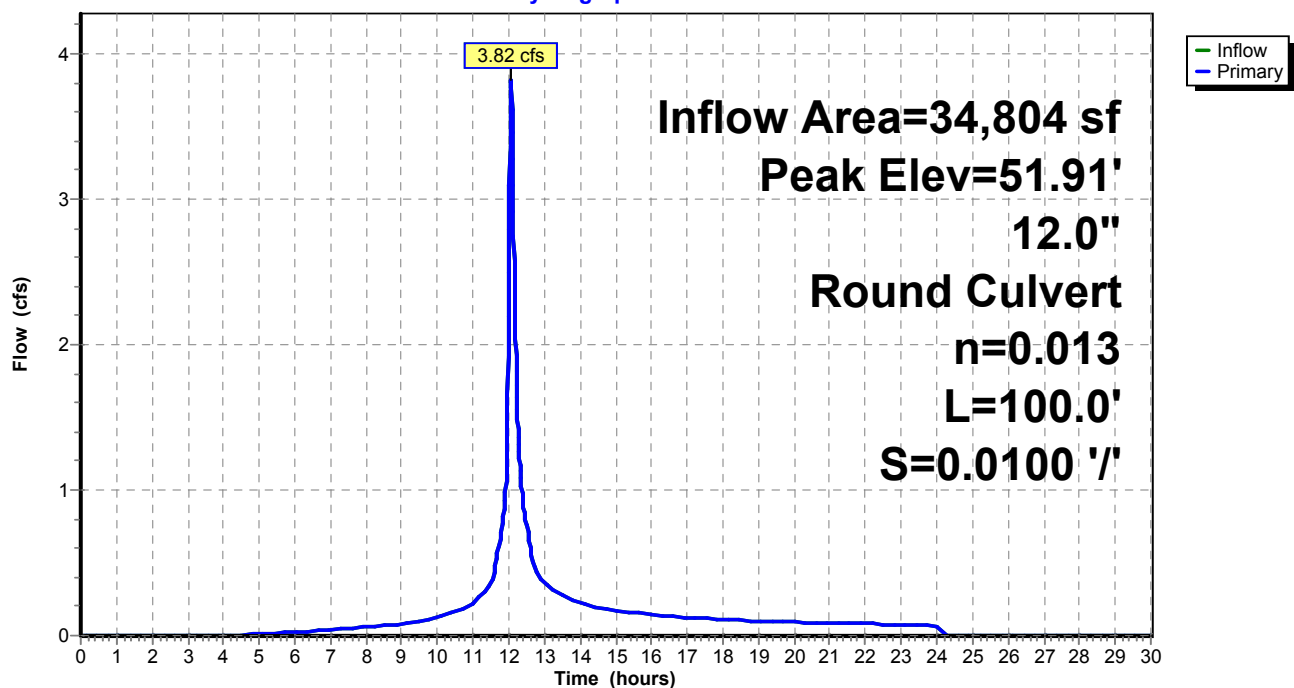
Device	Routing	Invert	Outlet Devices
#1	Primary	50.20'	12.0" Round Culvert L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 50.20' / 49.20' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=3.81 cfs @ 12.07 hrs HW=51.90' (Free Discharge)

↑1=Culvert (Barrel Controls 3.81 cfs @ 4.85 fps)

Pond 85P: CB-5

Hydrograph



Existing Conditions

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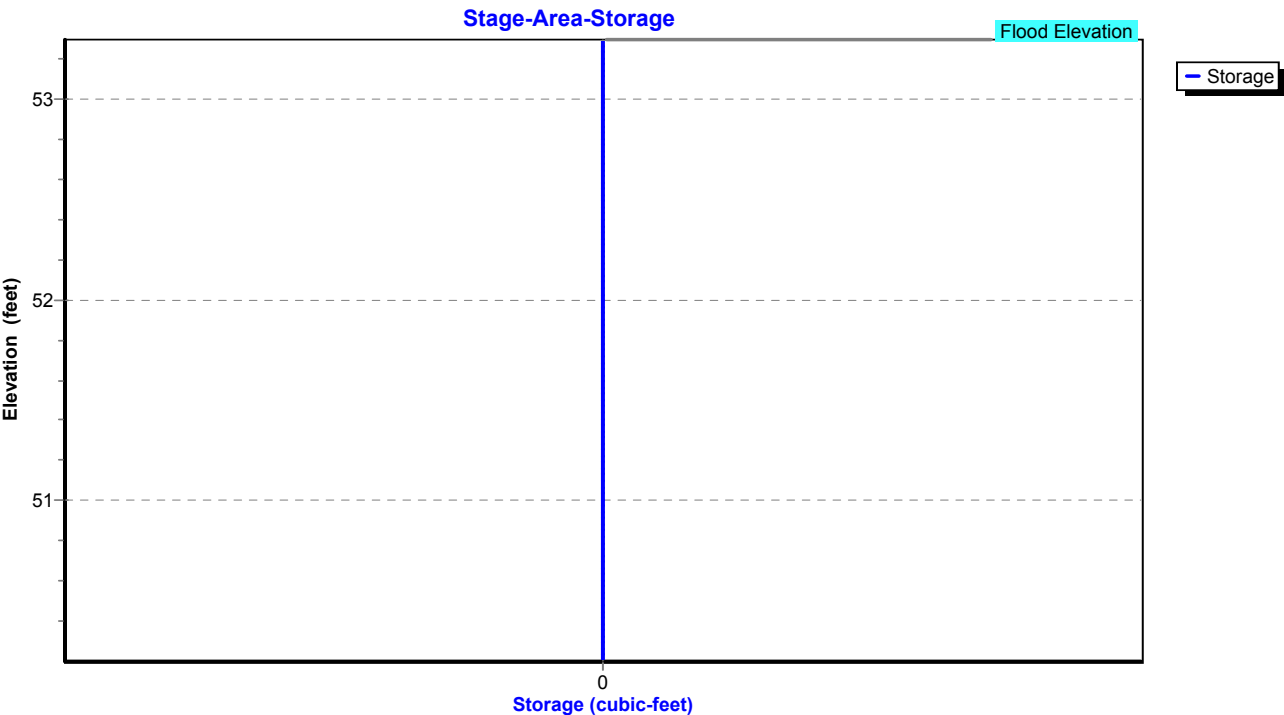
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Pond 85P: CB-5



Existing Conditions

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Summary for Pond P: ADS Stormtech

Inflow Area = 16,901 sf, 100.00% Impervious, Inflow Depth = 6.24" for 25 year event
Inflow = 2.76 cfs @ 12.03 hrs, Volume= 8,791 cf
Outflow = 1.12 cfs @ 12.14 hrs, Volume= 8,791 cf, Atten= 59%, Lag= 7.2 min
Primary = 1.12 cfs @ 12.14 hrs, Volume= 8,791 cf
Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 54.39' @ 12.14 hrs Surf.Area= 749 sf Storage= 1,447 cf

Plug-Flow detention time= 18.6 min calculated for 8,788 cf (100% of inflow)
Center-of-Mass det. time= 18.6 min (762.5 - 743.9)

Volume	Invert	Avail.Storage	Storage Description
#1A	51.34'	764 cf	15.75'W x 46.34'L x 3.75'H Field A 2,737 cf Overall - 827 cf Embedded = 1,910 cf x 40.0% Voids
#2A	51.84'	827 cf	ADS_StormTech SC-740 +Cap x 18 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 18 Chambers in 3 Rows
#3	51.34'	114 cf	5.00'D x 5.80'H OCS
		1,705 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	51.34'	12.0" Round Culvert L= 4.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 51.34' / 51.30' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	51.34'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	54.30'	5.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=1.10 cfs @ 12.14 hrs HW=54.39' (Free Discharge)

1=Culvert (Passes 1.10 cfs of 6.04 cfs potential flow)

2=Orifice/Grate (Orifice Controls 0.71 cfs @ 8.18 fps)

3=Broad-Crested Rectangular Weir (Weir Controls 0.39 cfs @ 0.85 fps)

Existing Conditions

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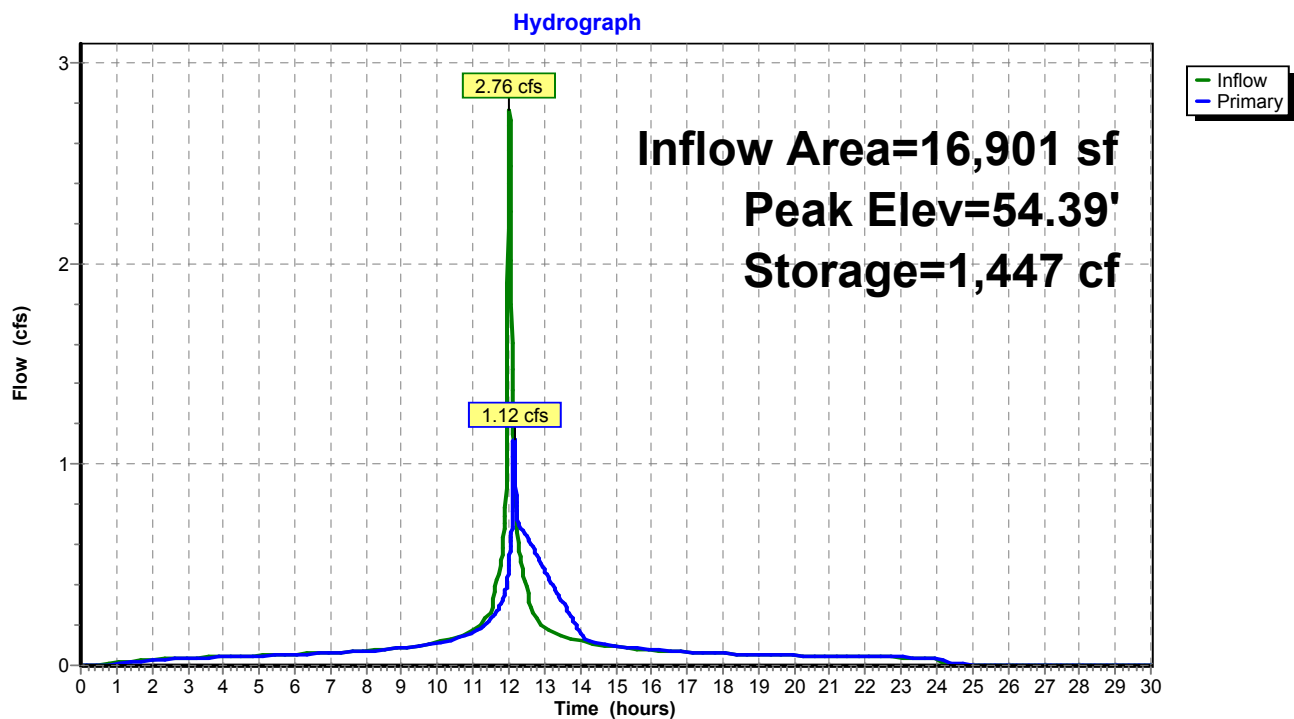
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NORWALK 24-hr S1 25 year Rainfall=6.48"

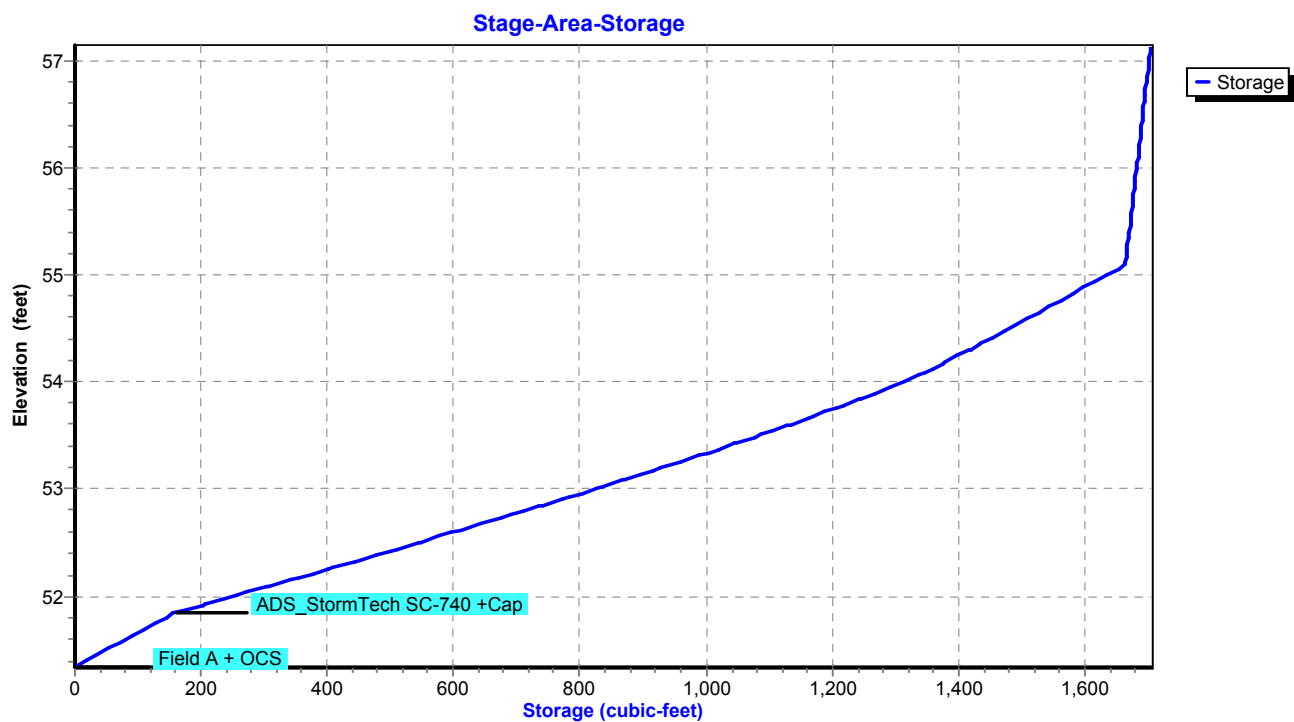
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Pond P: ADS Stormtech



Pond P: ADS Stormtech



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 4S: Area 4

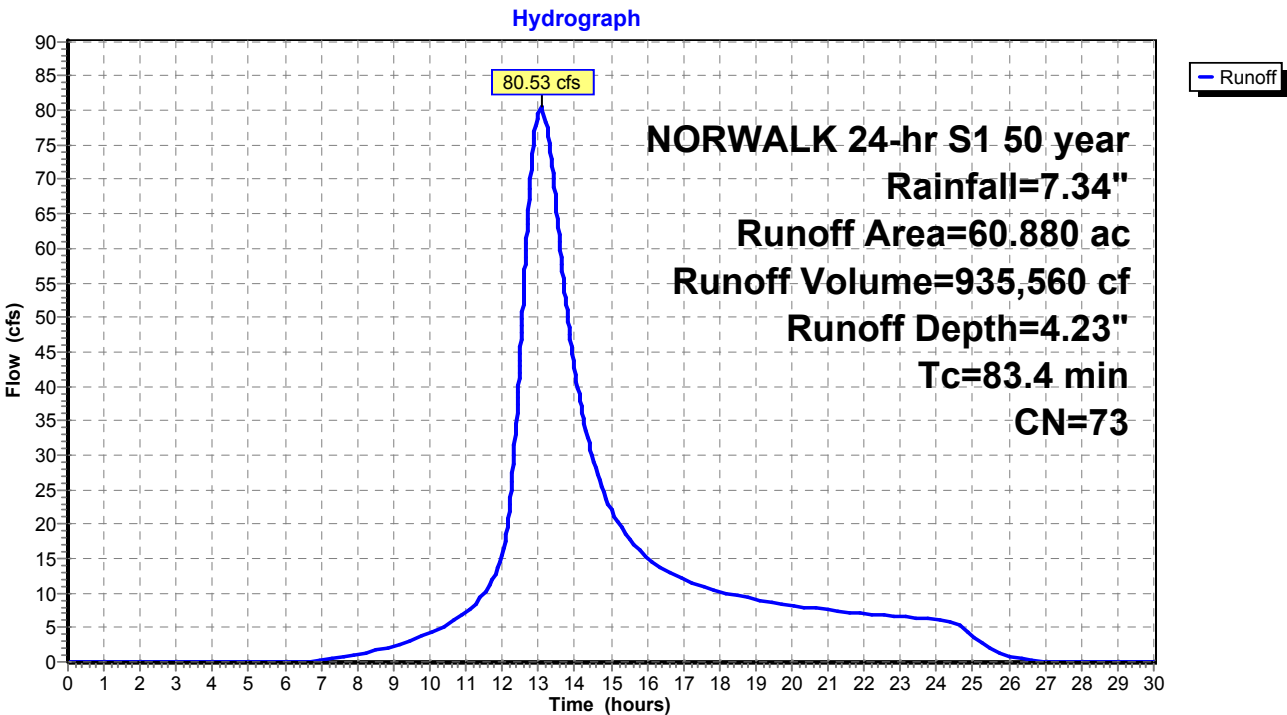
Runoff = 80.53 cfs @ 13.07 hrs, Volume= 935,560 cf, Depth= 4.23"
Routed to Pond 18P : DET 4 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
8.210	61	>75% Grass cover, Good, HSG B
0.140	74	>75% Grass cover, Good, HSG C
0.380	80	>75% Grass cover, Good, HSG D
25.920	70	1/2 acre lots, 25% imp, HSG B
22.630	80	1/2 acre lots, 25% imp, HSG C
3.600	85	1/2 acre lots, 25% imp, HSG D
60.880	73	Weighted Average
47.842		78.58% Pervious Area
13.037		21.42% Impervious Area

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

Subcatchment 4S: Area 4



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 5S: Area 5

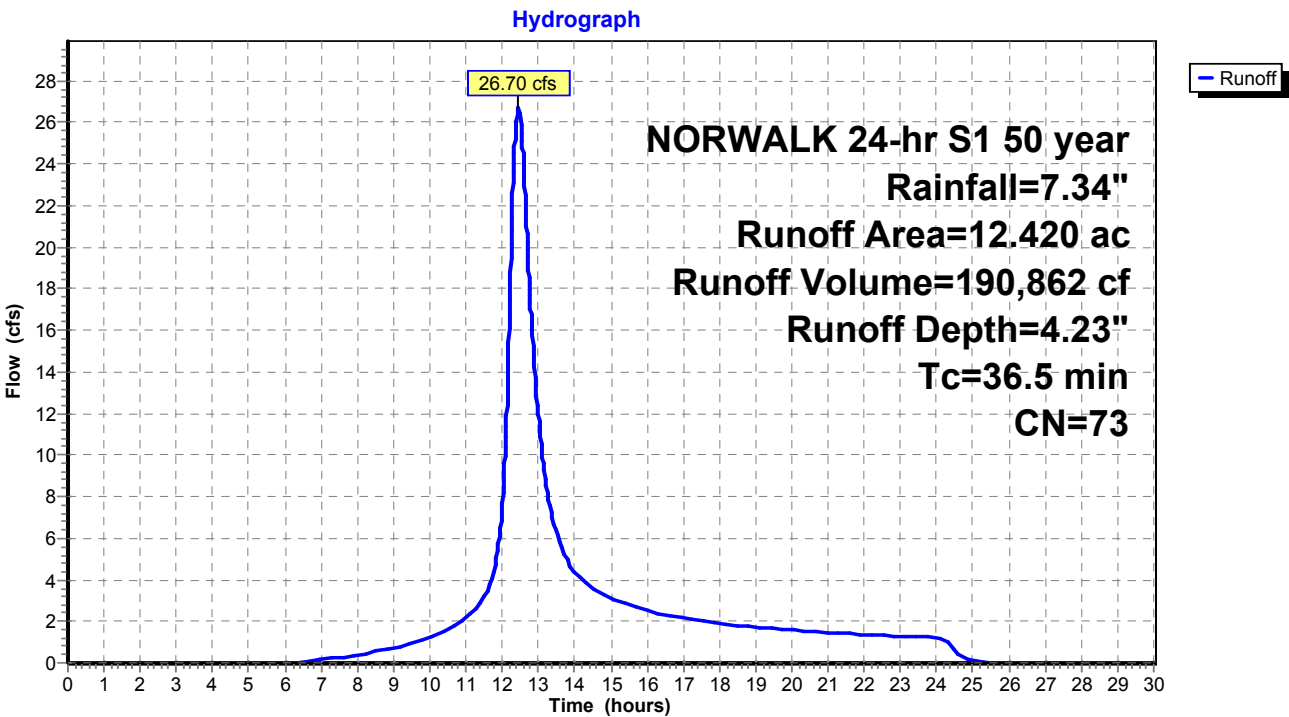
Runoff = 26.70 cfs @ 12.45 hrs, Volume= 190,862 cf, Depth= 4.23"
Routed to Pond 5P : DET 5 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
4.770	61	>75% Grass cover, Good, HSG B
5.210	74	>75% Grass cover, Good, HSG C
0.390	80	>75% Grass cover, Good, HSG D
2.050	98	Paved parking & roofs
12.420	73	Weighted Average
10.370		83.49% Pervious Area
2.050		16.51% Impervious Area

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

Subcatchment 5S: Area 5



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 6S: Area 6

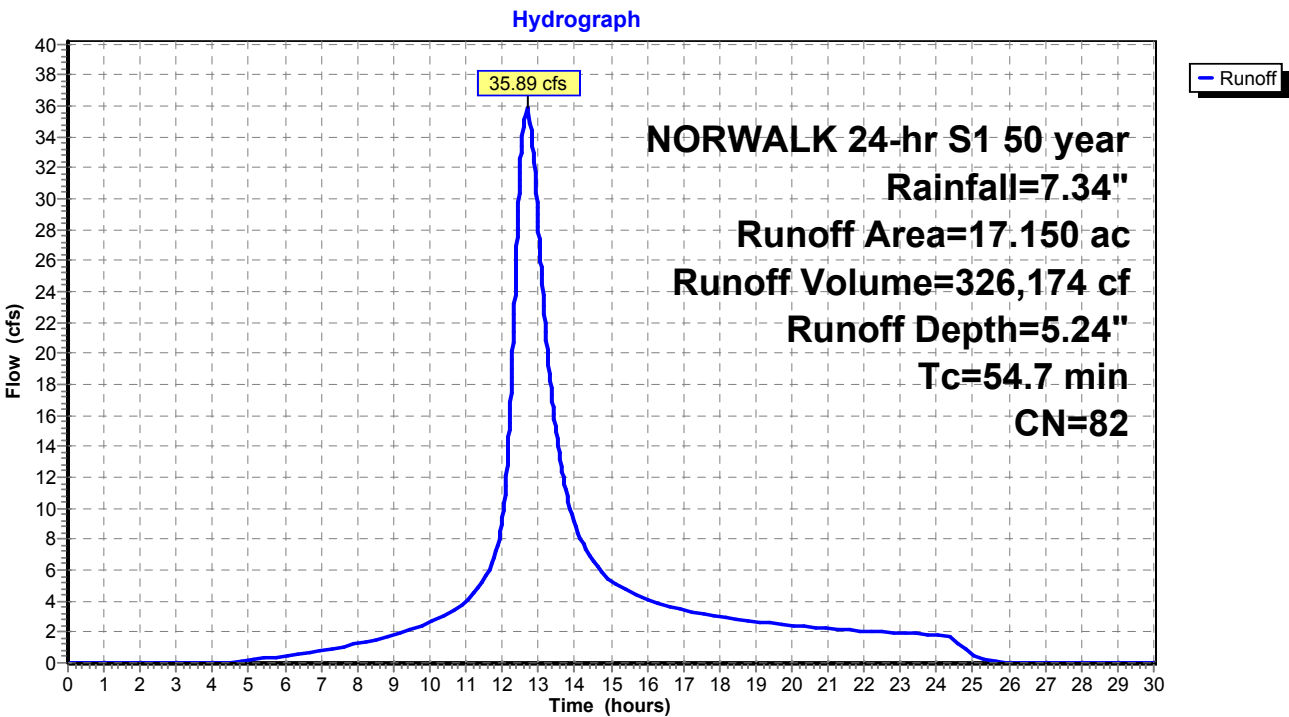
Runoff = 35.89 cfs @ 12.70 hrs, Volume= 326,174 cf, Depth= 5.24"
Routed to Pond 6P : DET 6 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
9.290	71	Meadow, non-grazed, HSG C
5.410	98	Paved parking & roofs
1.480	77	Woods, Good, HSG D
0.970	98	Paved parking & roofs
17.150	82	Weighted Average
10.770		62.80% Pervious Area
6.380		37.20% Impervious Area

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

Subcatchment 6S: Area 6



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 7S: Area 7

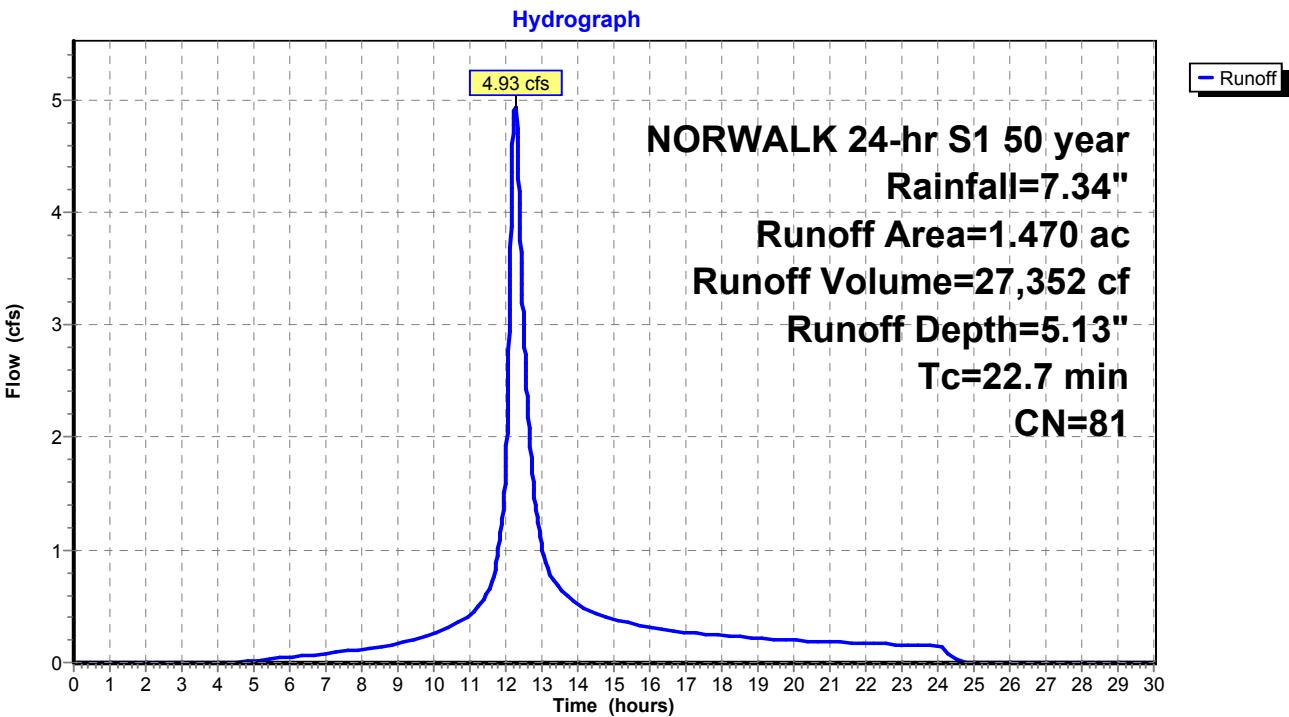
Runoff = 4.93 cfs @ 12.26 hrs, Volume= 27,352 cf, Depth= 5.13"
Routed to Pond 7P : DET 7 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.890	79	50-75% Grass cover, Fair, HSG C
0.580	84	50-75% Grass cover, Fair, HSG D
1.470	81	Weighted Average
1.470		100.00% Pervious Area

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

Subcatchment 7S: Area 7



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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 8S: Area 8

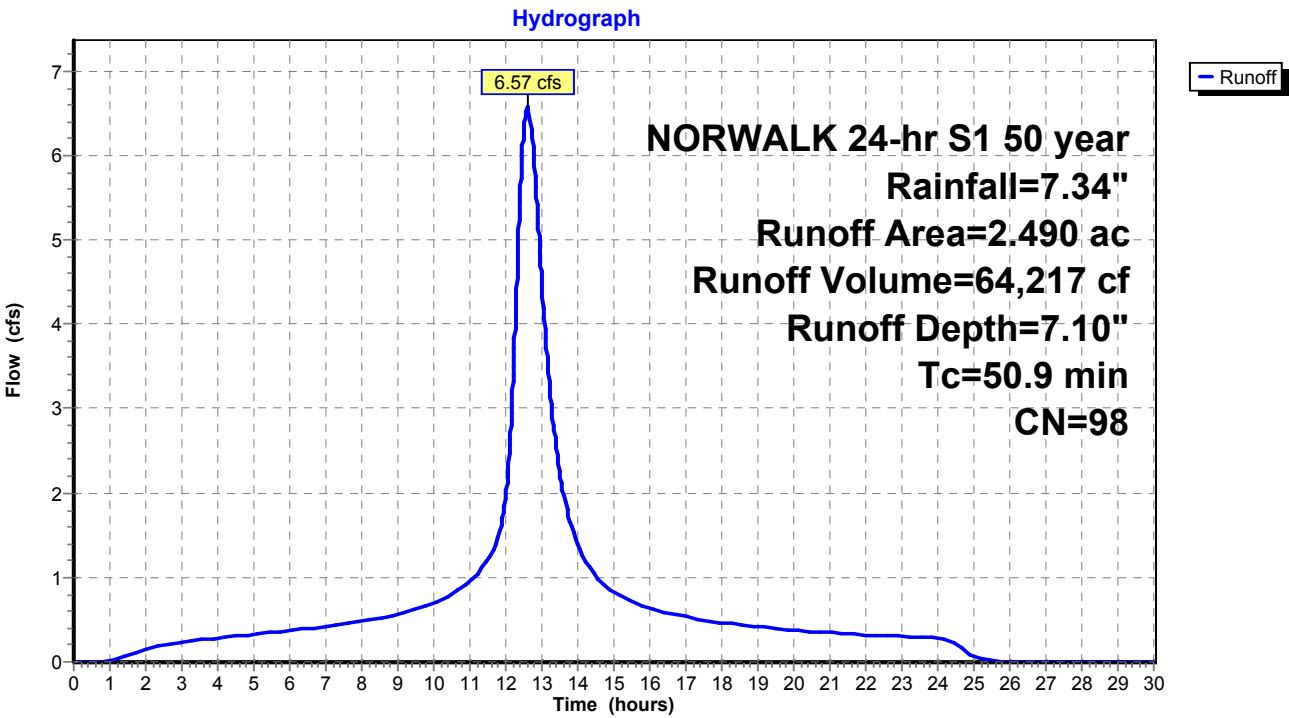
Runoff = 6.57 cfs @ 12.61 hrs, Volume= 64,217 cf, Depth= 7.10"
Routed to Pond 8P : Comb. 5,6,7,8,9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
2.490	98	Paved parking & roofs
2.490		100.00% Impervious Area

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

Subcatchment 8S: Area 8



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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 9S: Area 9

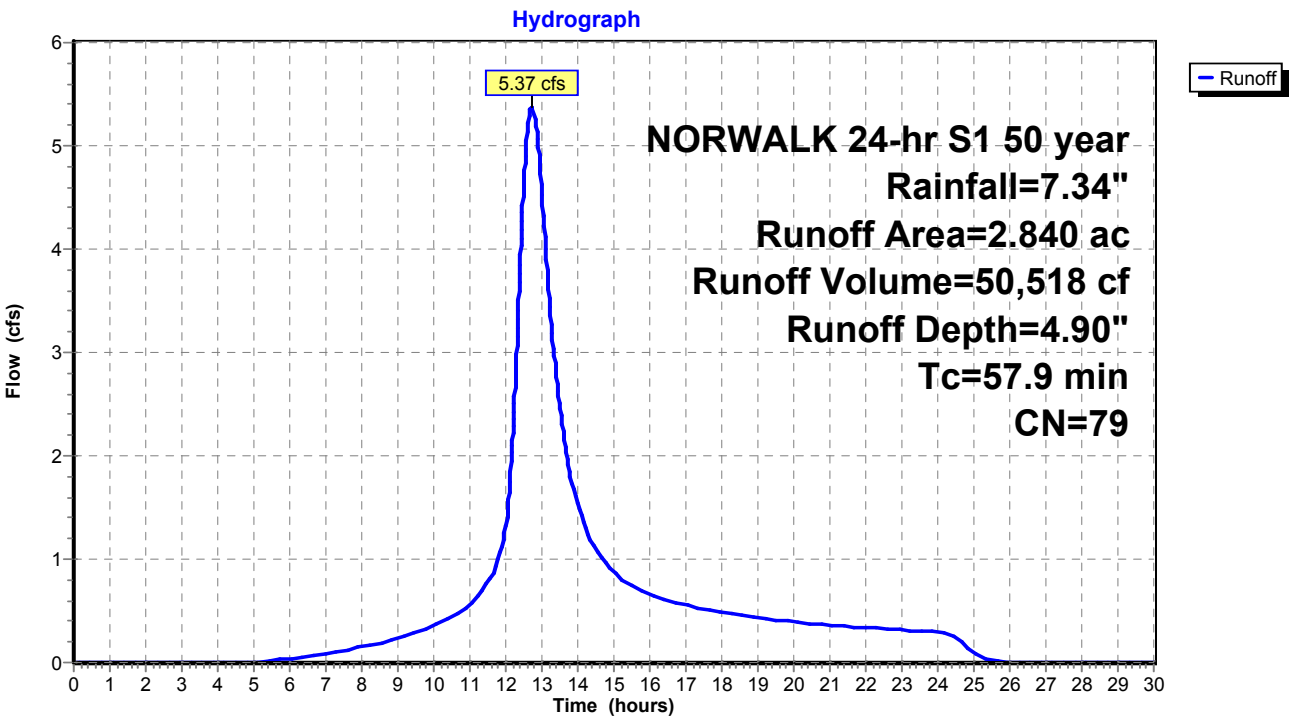
Runoff = 5.37 cfs @ 12.73 hrs, Volume= 50,518 cf, Depth= 4.90"
Routed to Pond 8P : Comb. 5,6,7,8,9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.530	74	>75% Grass cover, Good, HSG C
2.310	80	>75% Grass cover, Good, HSG D
2.840	79	Weighted Average
2.840		100.00% Pervious Area

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

Subcatchment 9S: Area 9



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 10AS: Area 10A

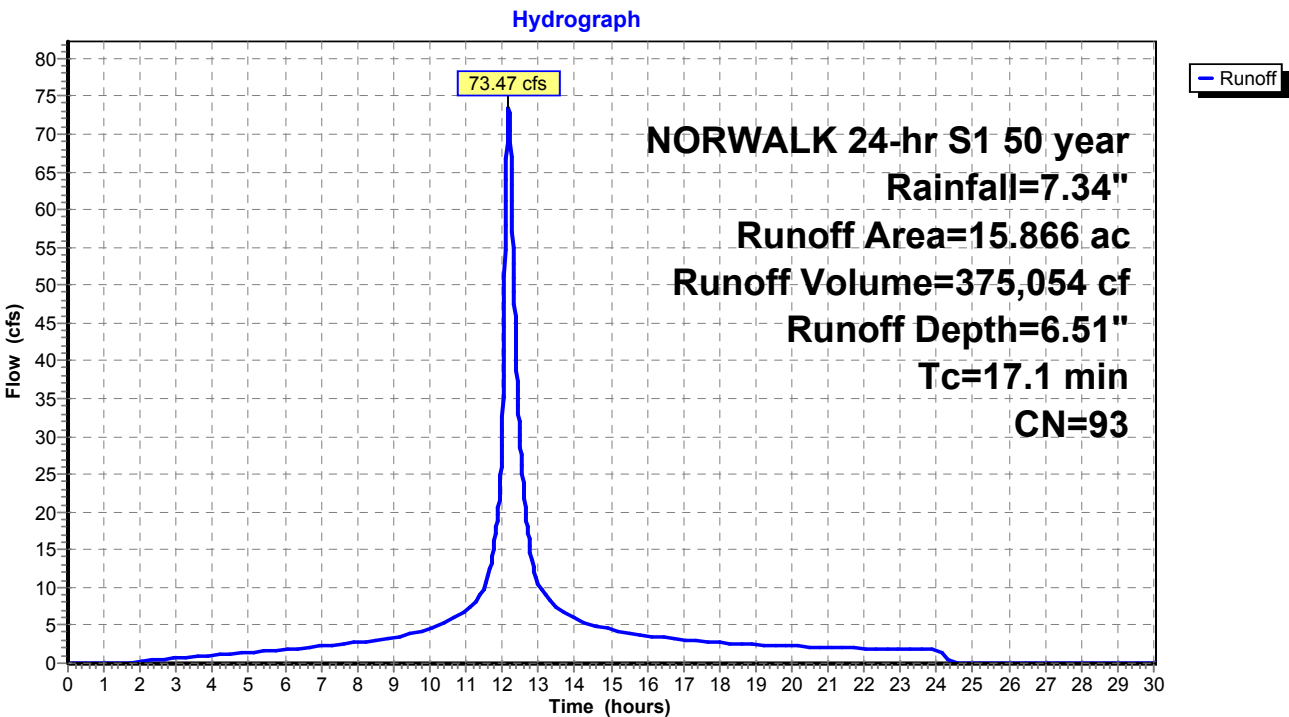
Runoff = 73.47 cfs @ 12.18 hrs, Volume= 375,054 cf, Depth= 6.51"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
3.905	79	50-75% Grass cover, Fair, HSG C
11.961	98	Paved roads w/curbs & sewers, HSG C
15.866	93	Weighted Average
3.905		24.61% Pervious Area
11.961		75.39% Impervious Area

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

Subcatchment 10AS: Area 10A



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 10BS: Area 10B

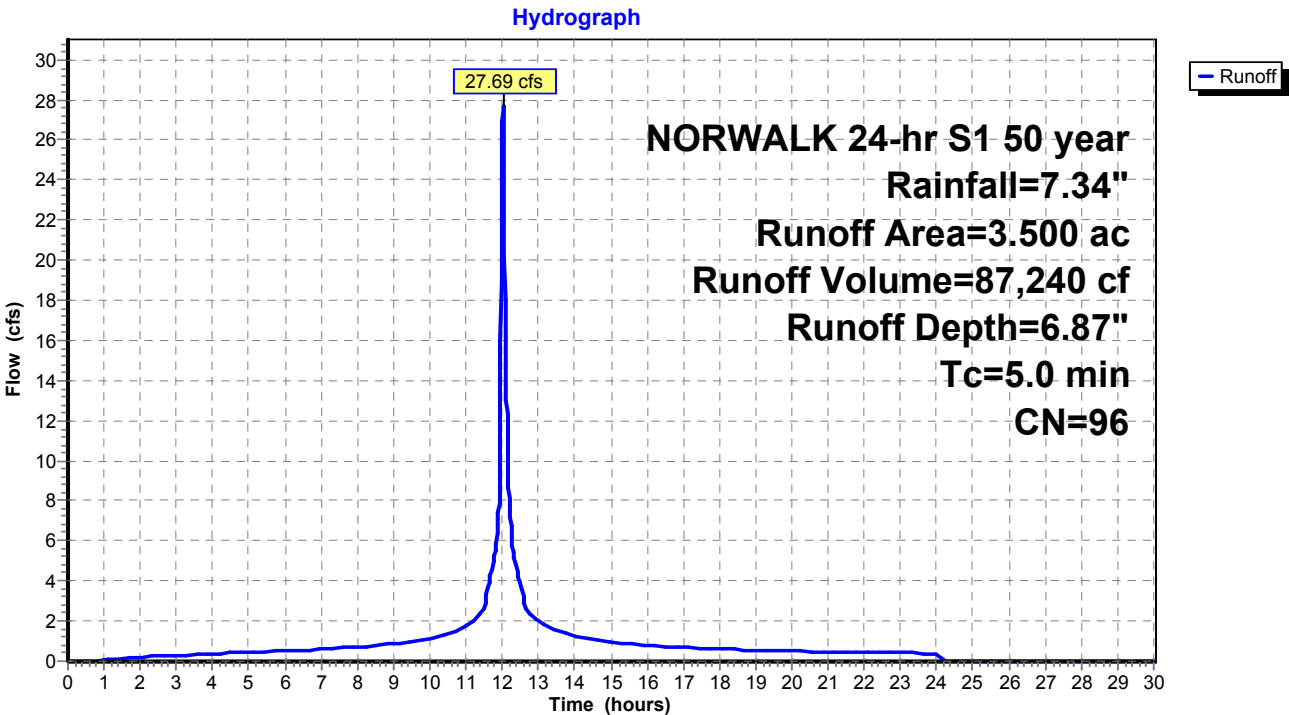
Runoff = 27.69 cfs @ 12.03 hrs, Volume= 87,240 cf, Depth= 6.87"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
3.308	98	Paved parking & roofs
0.192	61	>75% Grass cover, Good, HSG B
3.500	96	Weighted Average
0.192		5.49% Pervious Area
3.308		94.51% Impervious Area

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

Subcatchment 10BS: Area 10B



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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 10CS: Area 10C

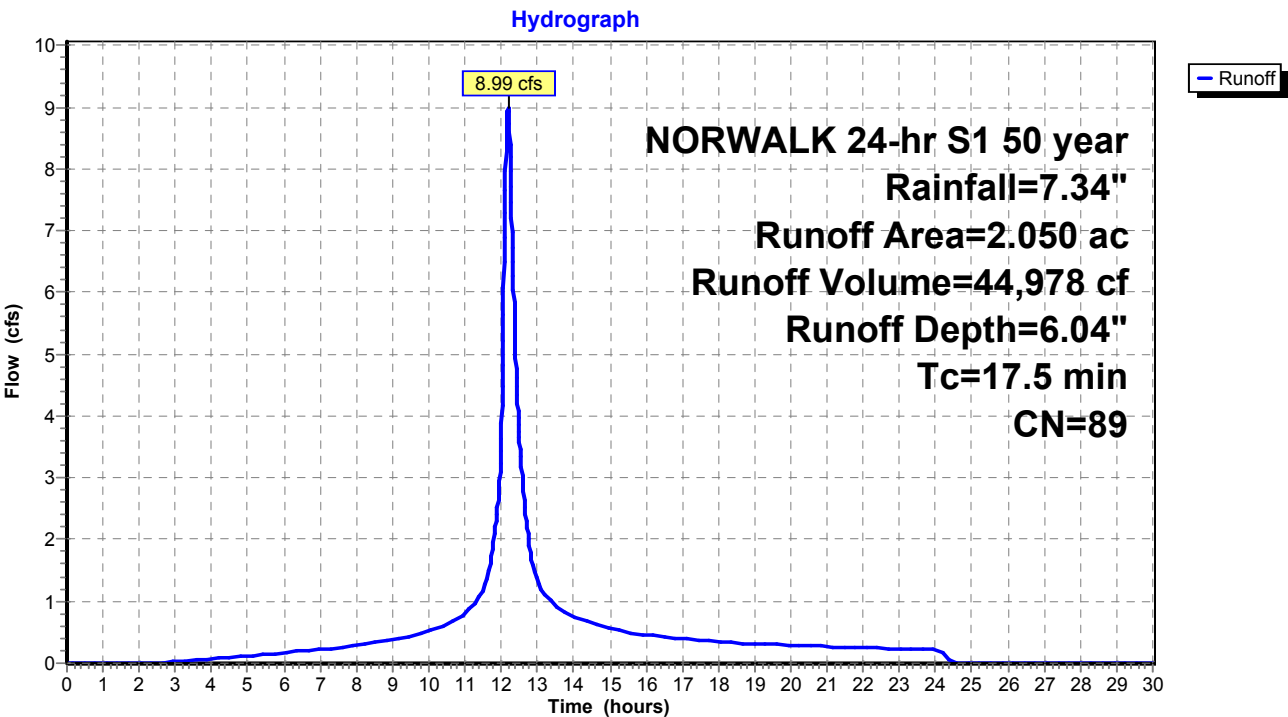
Runoff = 8.99 cfs @ 12.19 hrs, Volume= 44,978 cf, Depth= 6.04"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
1.526	98	Paved parking & roofs
0.524	61	>75% Grass cover, Good, HSG B
2.050	89	Weighted Average
0.524		25.56% Pervious Area
1.526		74.44% Impervious Area

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

Subcatchment 10CS: Area 10C



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 10DS: Area 10D

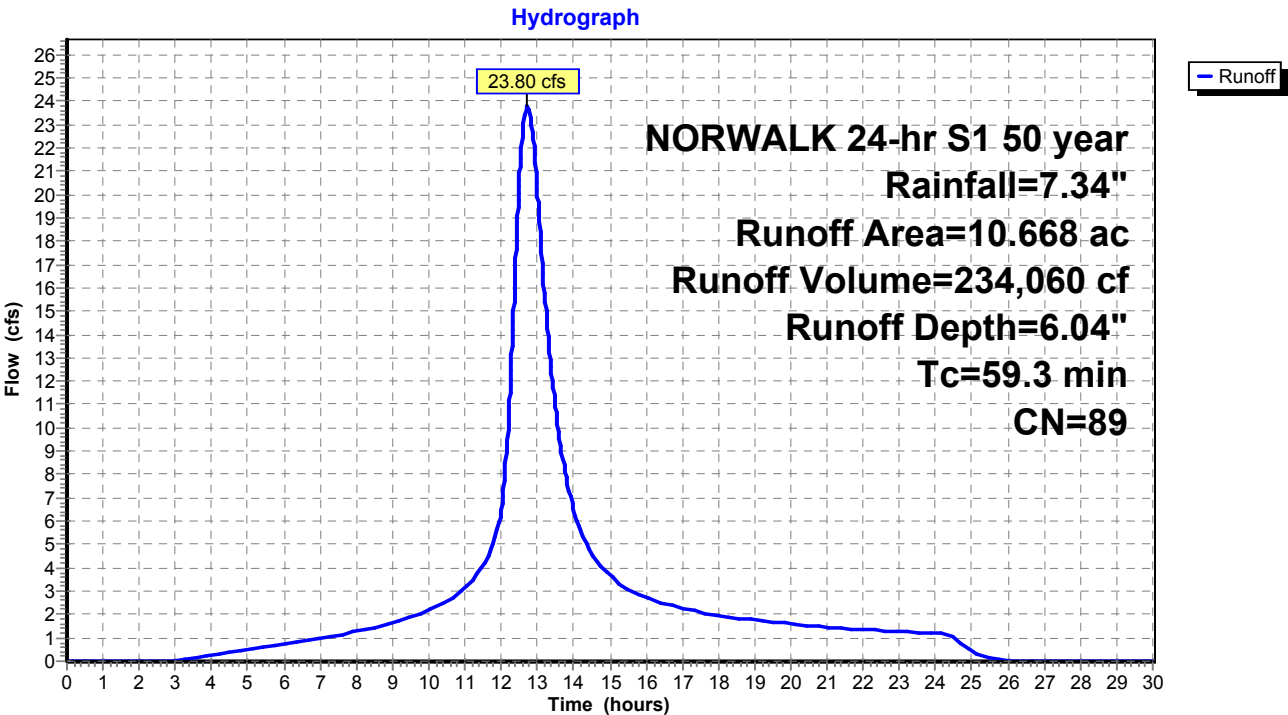
Runoff = 23.80 cfs @ 12.72 hrs, Volume= 234,060 cf, Depth= 6.04"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
5.033	79	50-75% Grass cover, Fair, HSG C
5.635	98	Paved parking, HSG C
10.668	89	Weighted Average
5.033		47.18% Pervious Area
5.635		52.82% Impervious Area

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

Subcatchment 10DS: Area 10D



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 10ES: Area 10E

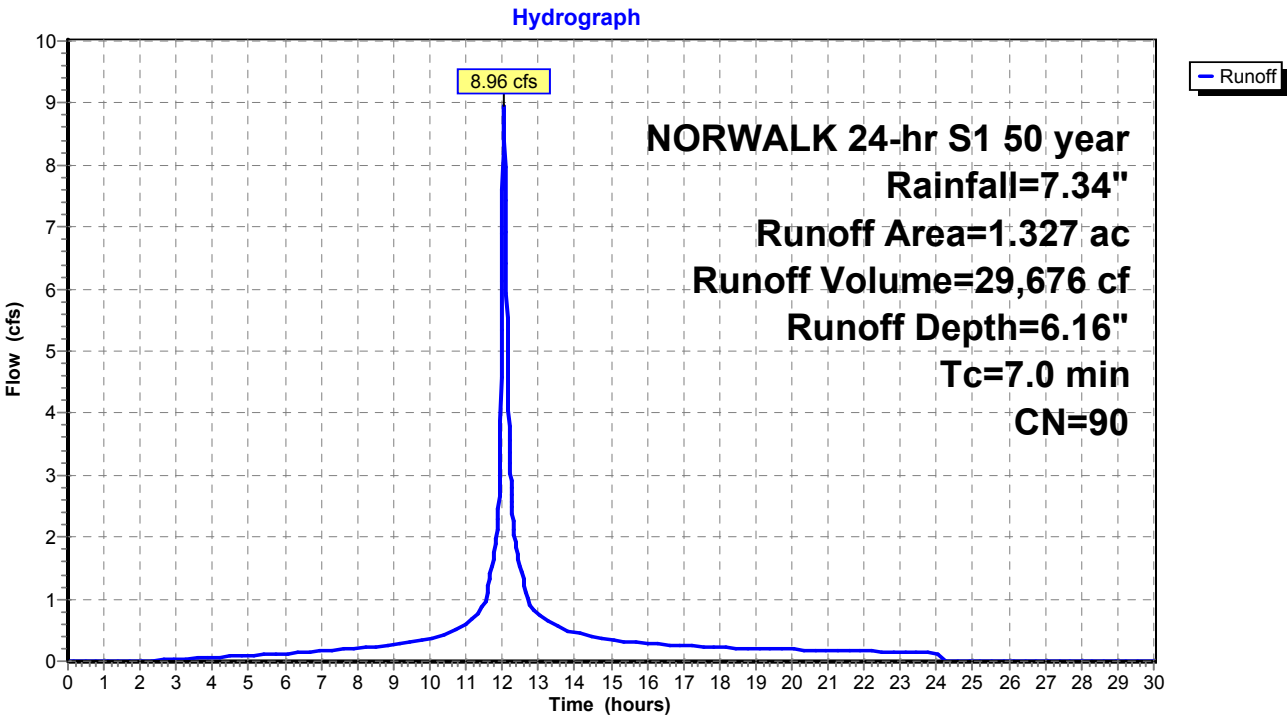
Runoff = 8.96 cfs @ 12.05 hrs, Volume= 29,676 cf, Depth= 6.16"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.798	98	Paved parking, HSG C
0.529	79	50-75% Grass cover, Fair, HSG C
1.327	90	Weighted Average
0.529		39.86% Pervious Area
0.798		60.14% Impervious Area

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

Subcatchment 10ES: Area 10E



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 10FS: Area 10F

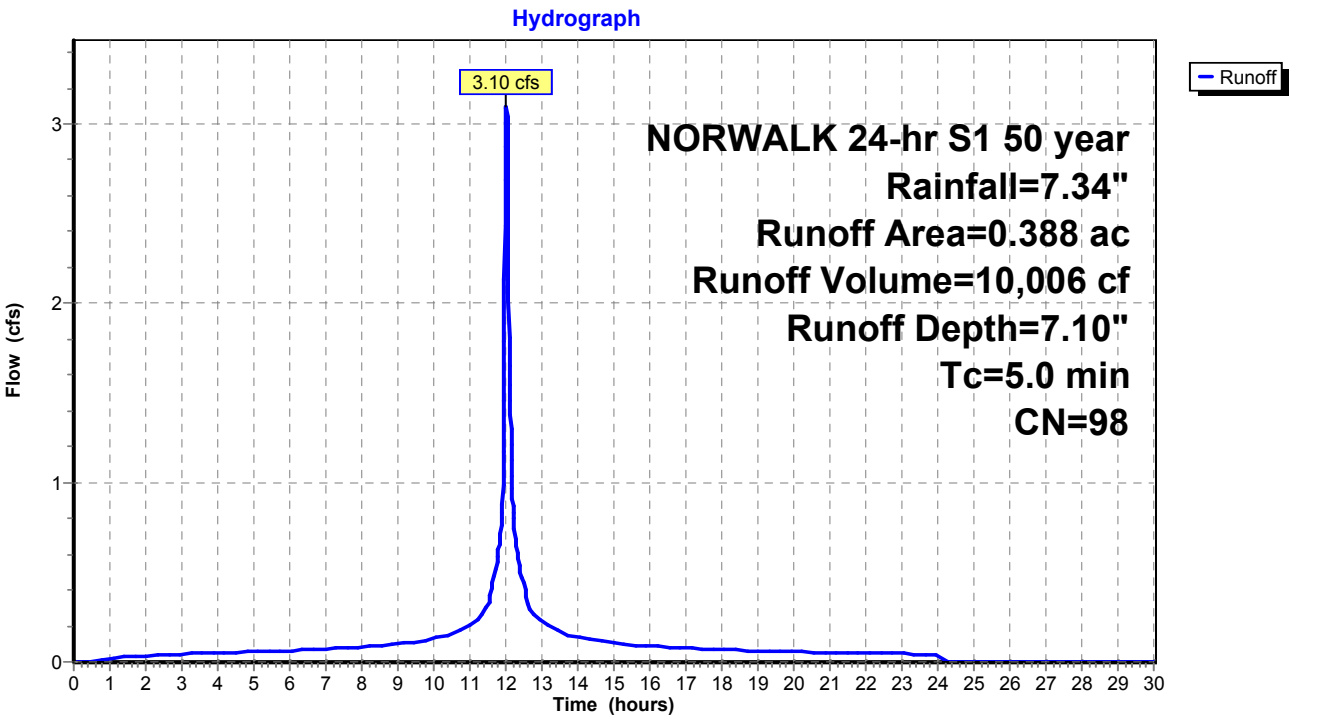
Runoff = 3.10 cfs @ 12.03 hrs, Volume= 10,006 cf, Depth= 7.10"
Routed to Pond P : ADS Stormtech

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.388	98	Paved roads w/curbs & sewers, HSG C
0.388		100.00% Impervious Area

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

Subcatchment 10FS: Area 10F



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 11S: Area 11

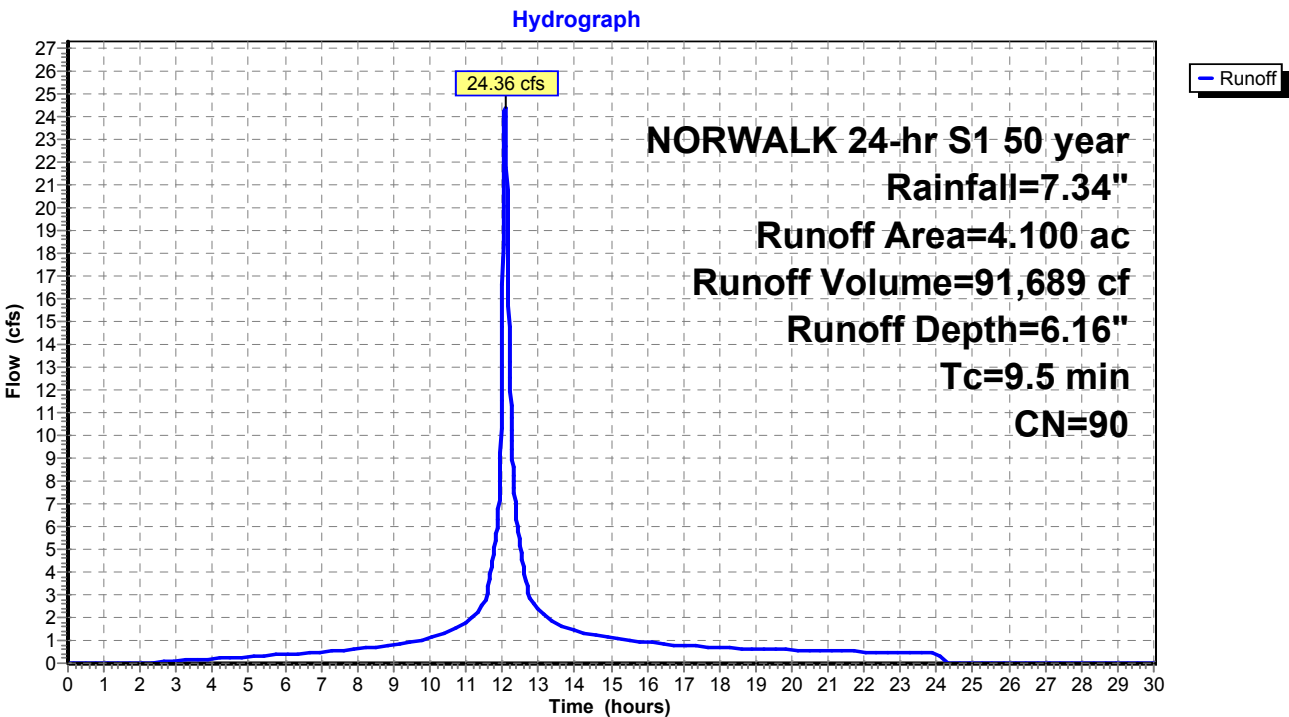
Runoff = 24.36 cfs @ 12.08 hrs, Volume= 91,689 cf, Depth= 6.16"
Routed to Pond 17P : DET 12 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
1.450	74	>75% Grass cover, Good, HSG C
2.650	98	Paved parking & roofs
4.100	90	Weighted Average
1.450		35.37% Pervious Area
2.650		64.63% Impervious Area

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

Subcatchment 11S: Area 11



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 12S: Area 12

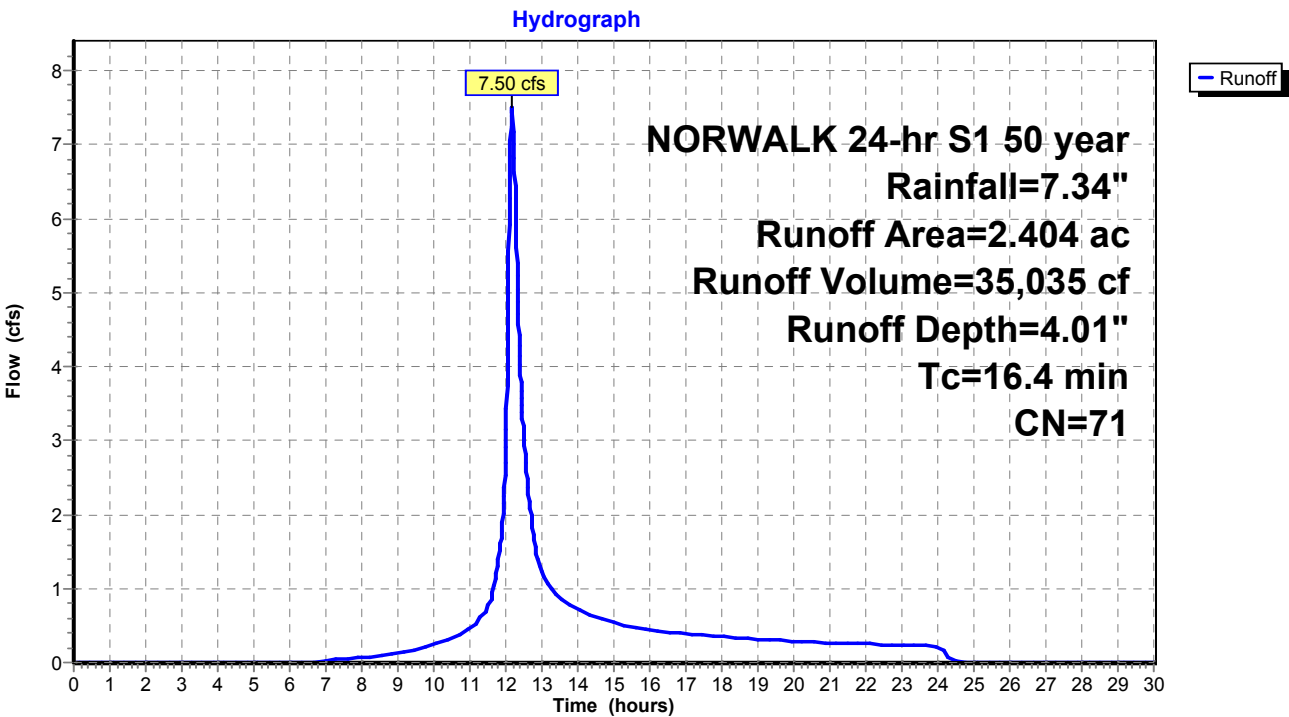
Runoff = 7.50 cfs @ 12.18 hrs, Volume= 35,035 cf, Depth= 4.01"
Routed to Pond 17P : DET 12 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
2.054	70	Woods, Good, HSG C
0.350	77	Woods, Good, HSG D
2.404	71	Weighted Average
2.404		100.00% Pervious Area

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

Subcatchment 12S: Area 12



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 13S: Area 13

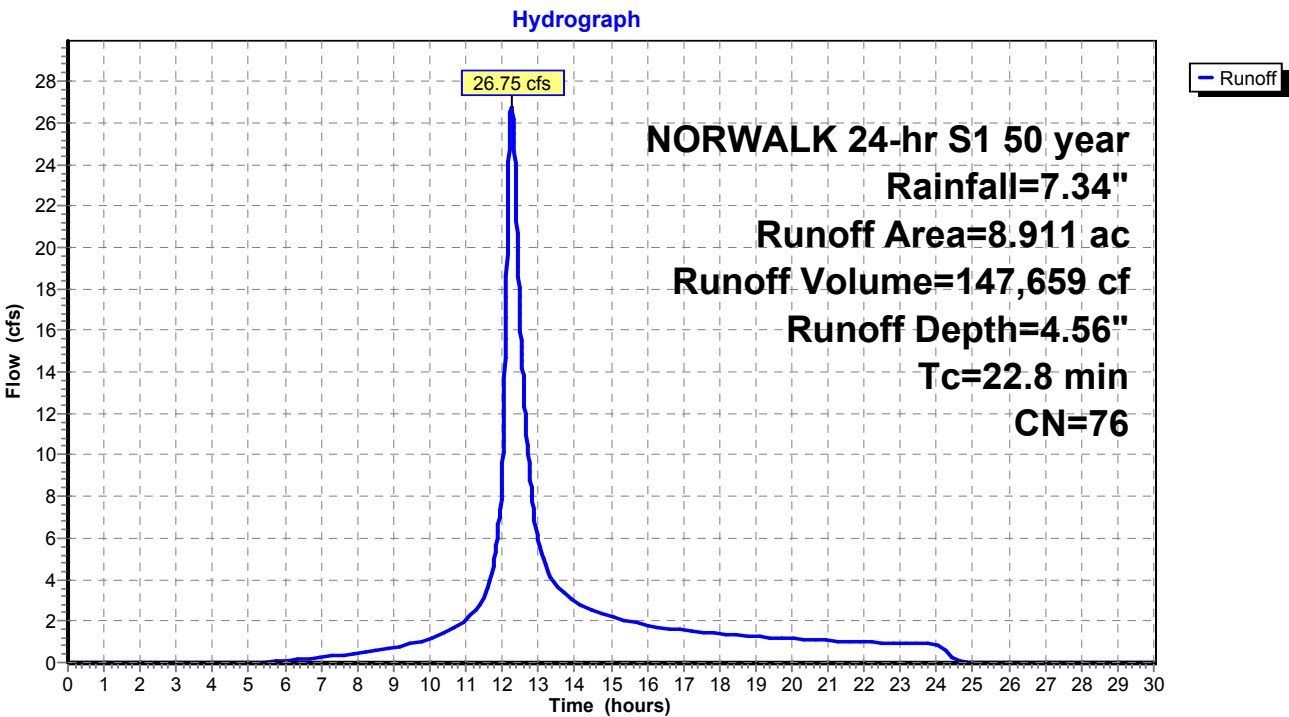
Runoff = 26.75 cfs @ 12.26 hrs, Volume= 147,659 cf, Depth= 4.56"
Routed to Pond 1P : RR Culvert 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
1.220	70	Woods, Good, HSG C
7.691	77	Woods, Good, HSG D
8.911	76	Weighted Average
8.911		100.00% Pervious Area

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

Subcatchment 13S: Area 13



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 14S: Area 14

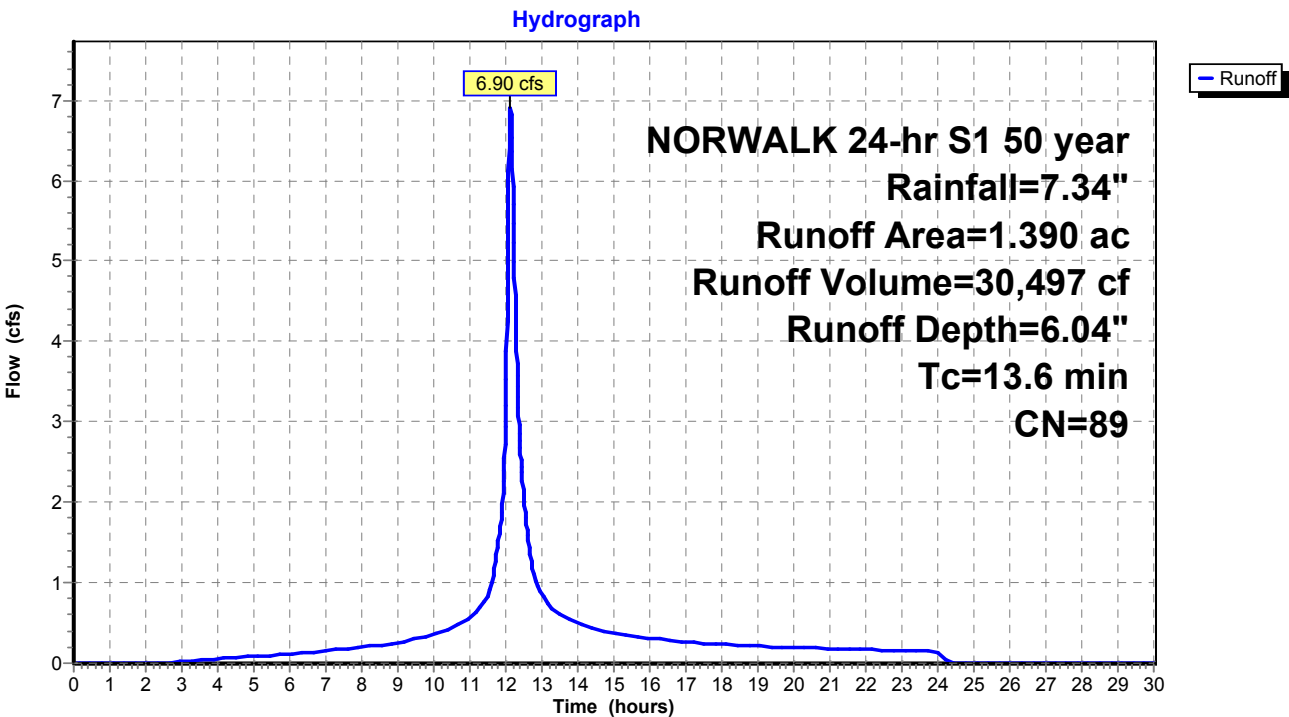
Runoff = 6.90 cfs @ 12.13 hrs, Volume= 30,497 cf, Depth= 6.04"
Routed to Pond 26P : DET 16 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.510	74	>75% Grass cover, Good, HSG C
0.880	98	Paved parking & roofs
1.390	89	Weighted Average
0.510		36.69% Pervious Area
0.880		63.31% Impervious Area

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

Subcatchment 14S: Area 14



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 15S: Area 15

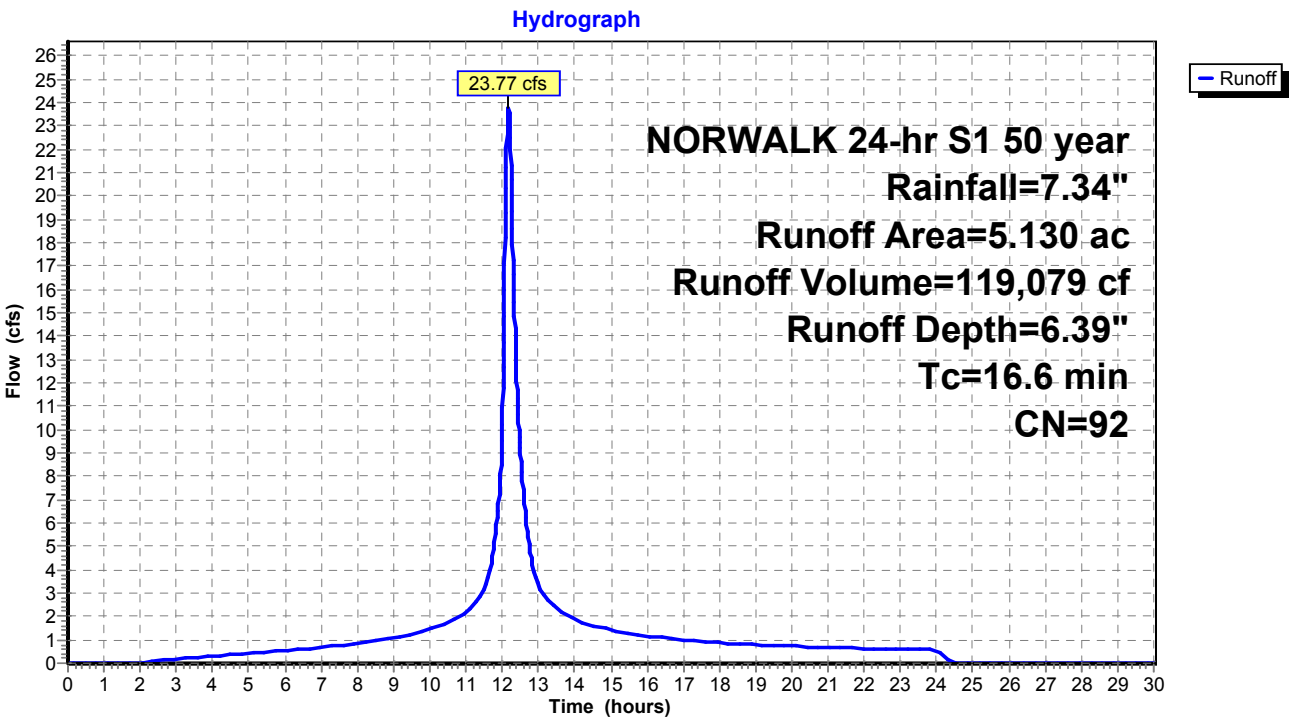
Runoff = 23.77 cfs @ 12.17 hrs, Volume= 119,079 cf, Depth= 6.39"
Routed to Pond 27P : DET 17 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
1.250	74	>75% Grass cover, Good, HSG C
3.880	98	Paved parking & roofs
5.130	92	Weighted Average
1.250		24.37% Pervious Area
3.880		75.63% Impervious Area

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

Subcatchment 15S: Area 15



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 16S: Area 16A

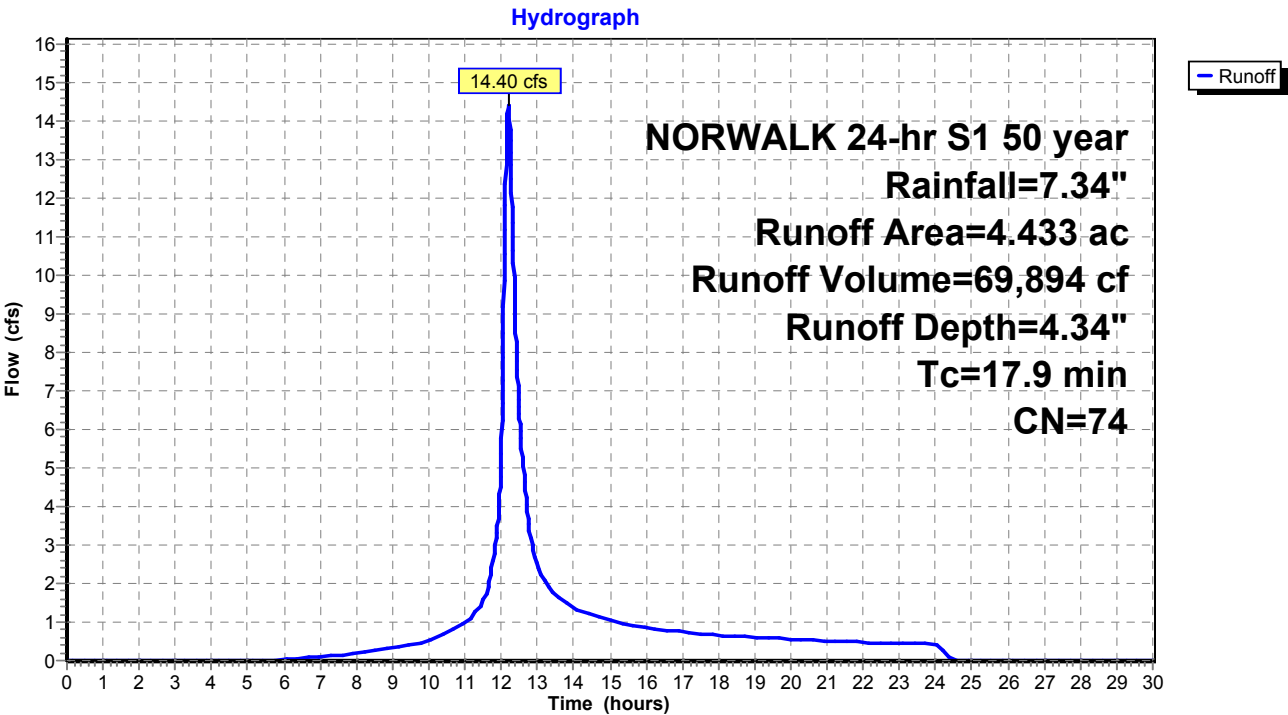
Runoff = 14.40 cfs @ 12.19 hrs, Volume= 69,894 cf, Depth= 4.34"
Routed to Pond 26P : DET 16 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
2.030	70	Woods, Good, HSG C
2.060	77	Woods, Good, HSG D
0.150	89	Gravel roads, HSG C
0.193	74	>75% Grass cover, Good, HSG C
4.433	74	Weighted Average
4.433		100.00% Pervious Area

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

Subcatchment 16S: Area 16A



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 17S: Area 17

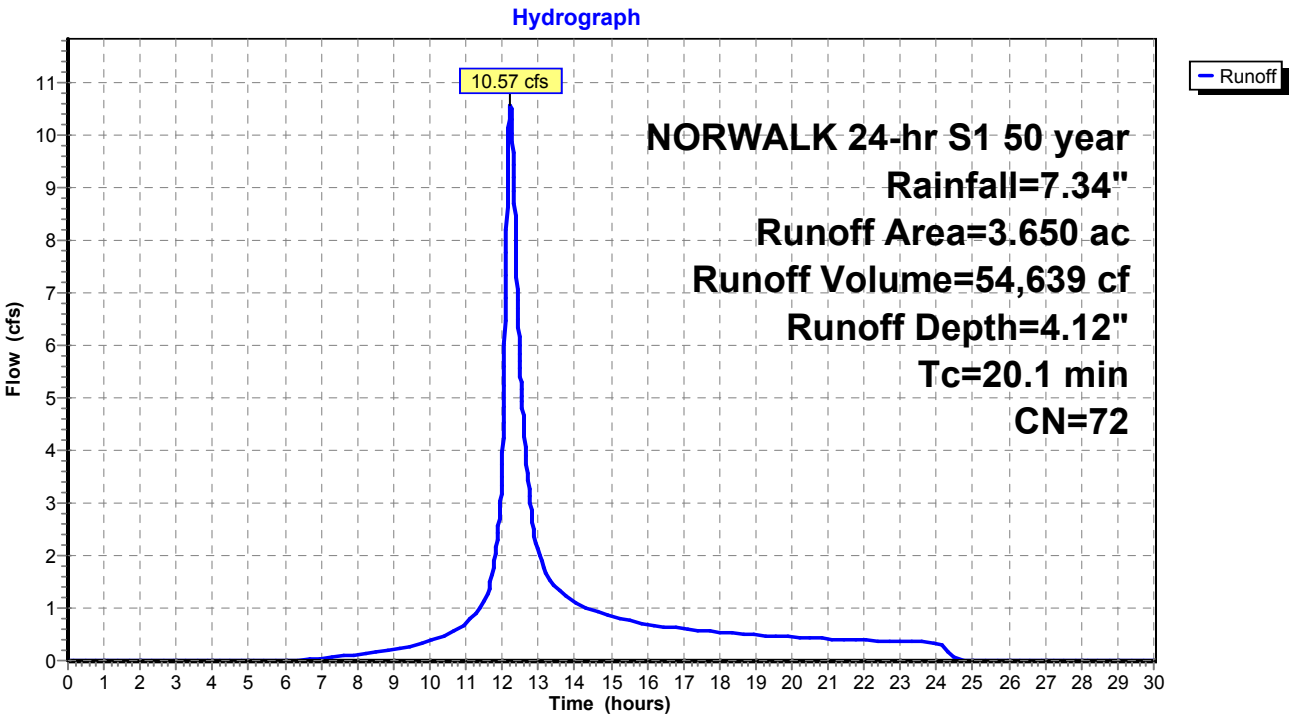
Runoff = 10.57 cfs @ 12.22 hrs, Volume= 54,639 cf, Depth= 4.12"
Routed to Pond 27P : DET 17 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
2.630	70	Woods, Good, HSG C
0.960	77	Woods, Good, HSG D
0.060	98	Paved parking & roofs
3.650	72	Weighted Average
3.590		98.36% Pervious Area
0.060		1.64% Impervious Area

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

Subcatchment 17S: Area 17



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 20S: Area 20

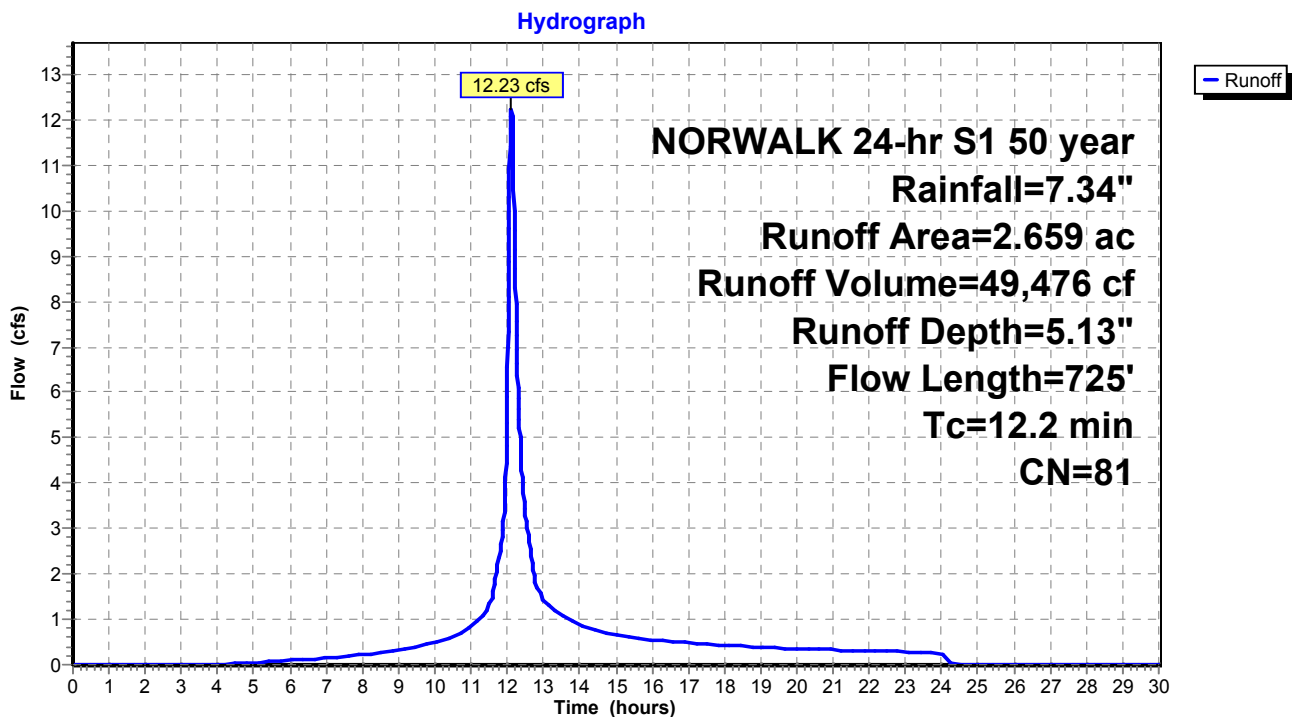
Runoff = 12.23 cfs @ 12.11 hrs, Volume= 49,476 cf, Depth= 5.13"
Routed to Pond 16P : MH-Q

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
1.030	98	Paved parking & roofs
1.629	70	Woods, Good, HSG C
2.659	81	Weighted Average
1.629		61.26% Pervious Area
1.030		38.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	125	0.2400	0.19		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.40"
1.2	600	0.0200	8.41	14.86	Pipe Channel, 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
12.2	725	Total			

Subcatchment 20S: Area 20



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 21S: Area 21

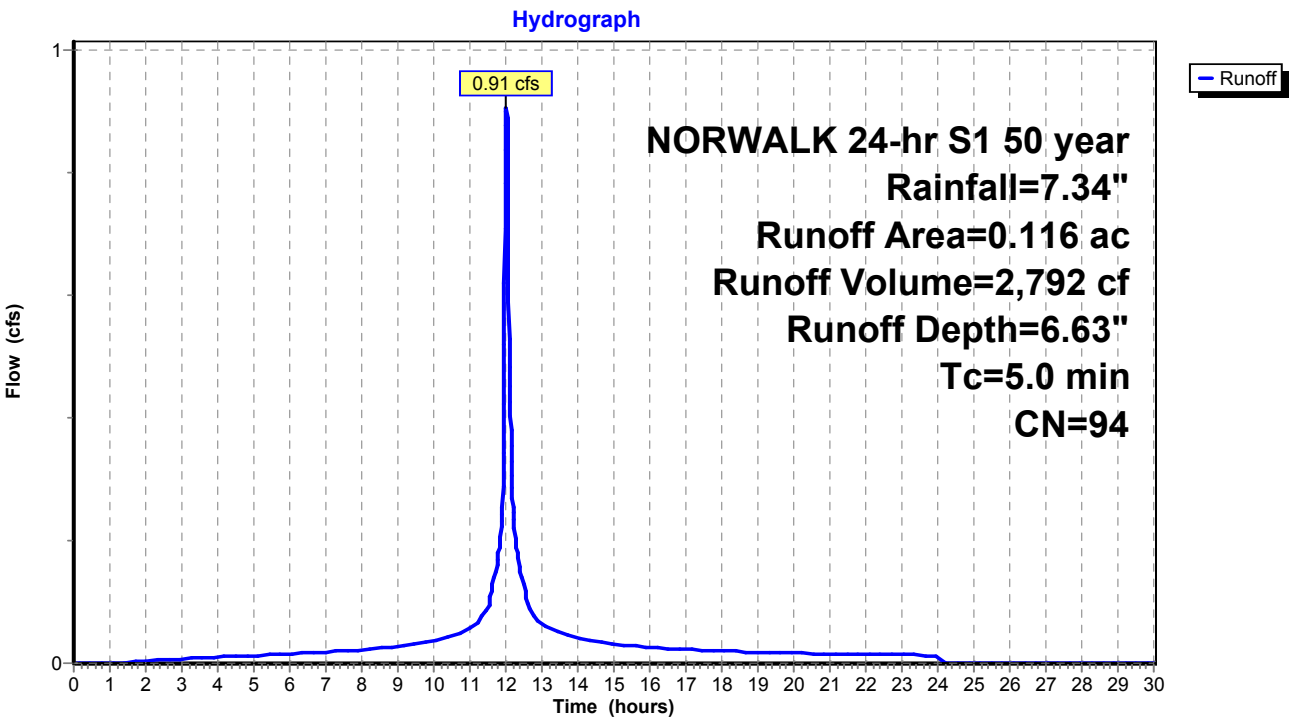
Runoff = 0.91 cfs @ 12.03 hrs, Volume= 2,792 cf, Depth= 6.63"
Routed to Pond 15P : MH-P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.020	74	>75% Grass cover, Good, HSG C
0.096	98	Paved parking & roofs
0.116	94	Weighted Average
0.020		17.24% Pervious Area
0.096		82.76% Impervious Area

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

Subcatchment 21S: Area 21



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 22S: Area 22

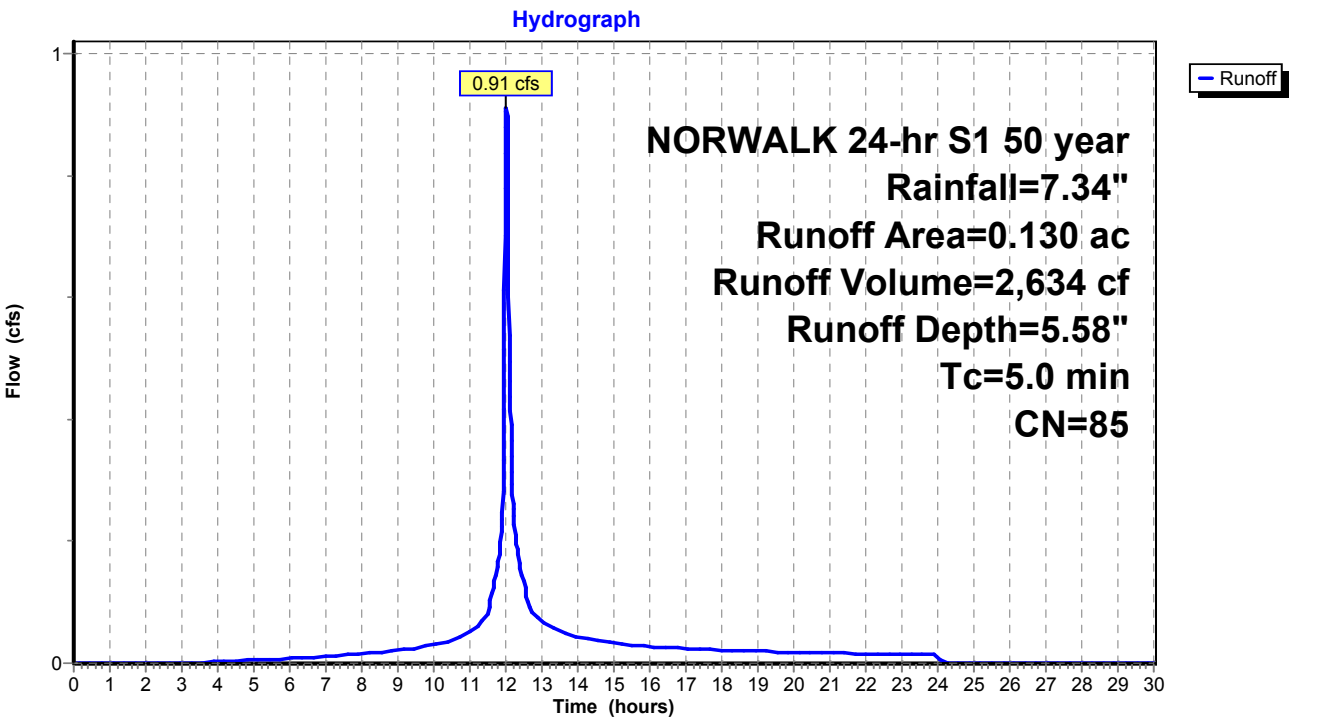
Runoff = 0.91 cfs @ 12.03 hrs, Volume= 2,634 cf, Depth= 5.58"
Routed to Pond 15P : MH-P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.068	74	>75% Grass cover, Good, HSG C
0.062	98	Paved parking & roofs
0.130	85	Weighted Average
0.068		52.31% Pervious Area
0.062		47.69% Impervious Area

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

Subcatchment 22S: Area 22



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 23S: Area 23

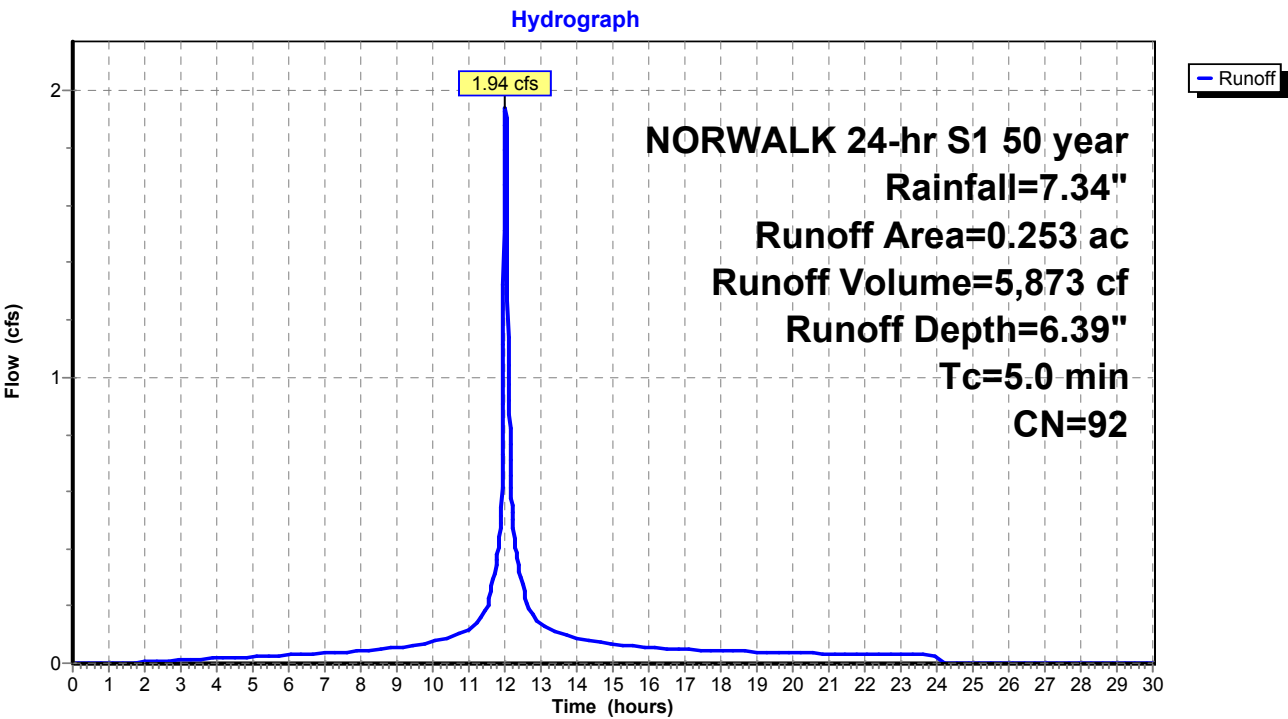
Runoff = 1.94 cfs @ 12.03 hrs, Volume= 5,873 cf, Depth= 6.39"
Routed to Pond 14P : MH-O

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.188	98	Paved parking & roofs
0.065	74	>75% Grass cover, Good, HSG C
0.253	92	Weighted Average
0.065		25.69% Pervious Area
0.188		74.31% Impervious Area

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

Subcatchment 23S: Area 23



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 24S: Area 24

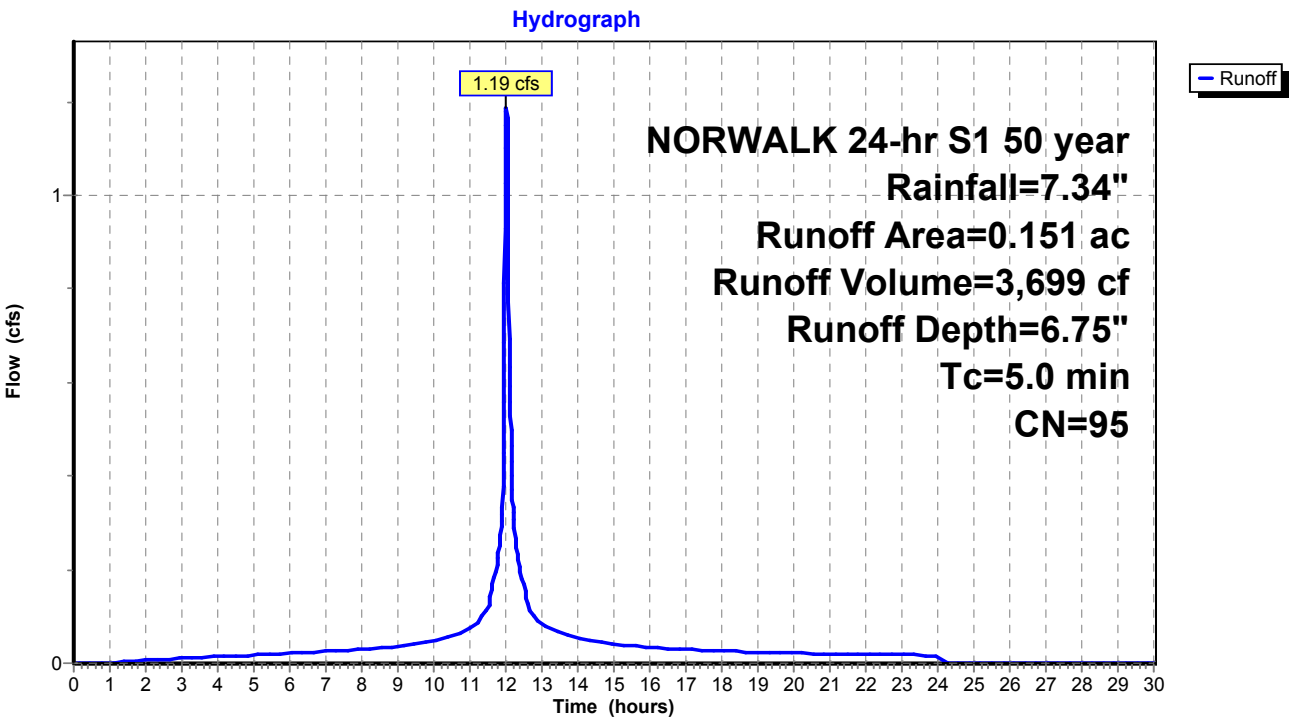
Runoff = 1.19 cfs @ 12.03 hrs, Volume= 3,699 cf, Depth= 6.75"
Routed to Pond 14P : MH-O

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.125	98	Paved parking & roofs
0.026	80	>75% Grass cover, Good, HSG D
0.151	95	Weighted Average
0.026		17.22% Pervious Area
0.125		82.78% Impervious Area

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

Subcatchment 24S: Area 24



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 25S: Area 25

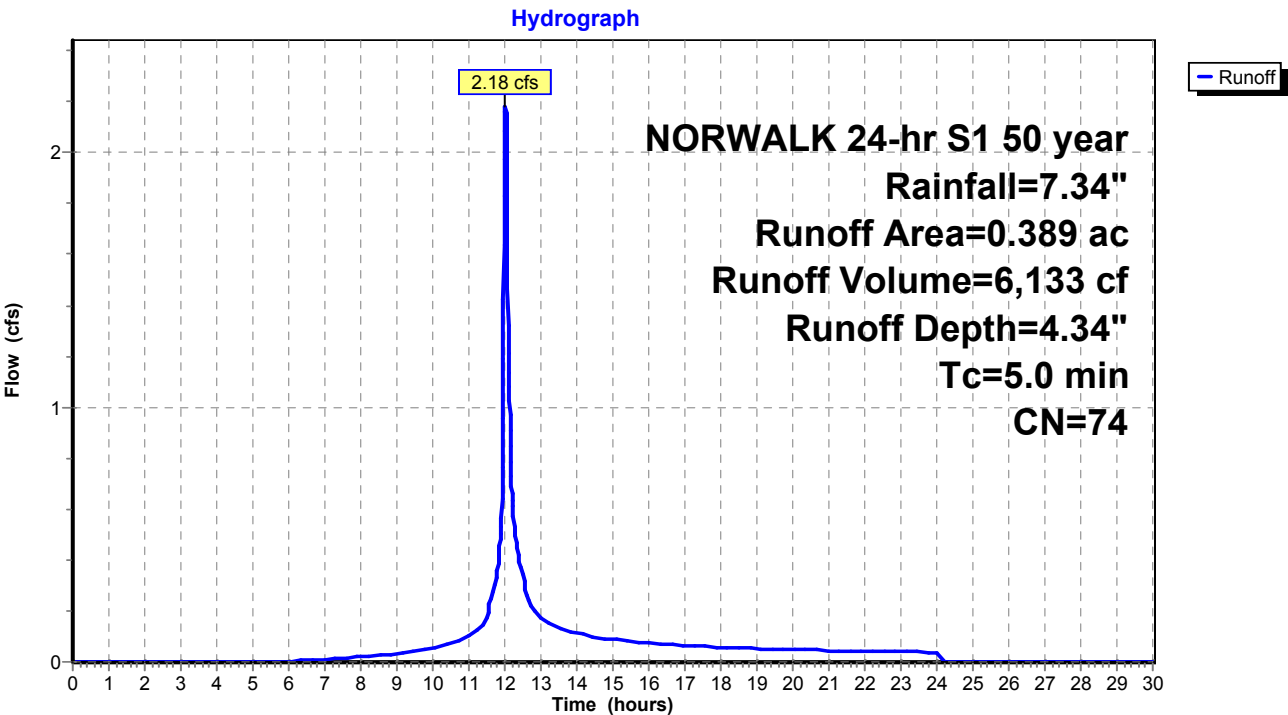
Runoff = 2.18 cfs @ 12.03 hrs, Volume= 6,133 cf, Depth= 4.34"
Routed to Pond 3P : DETENTION BASIN #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.389	74	>75% Grass cover, Good, HSG C
0.389		100.00% Pervious Area

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

Subcatchment 25S: Area 25



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 26S: Area 26

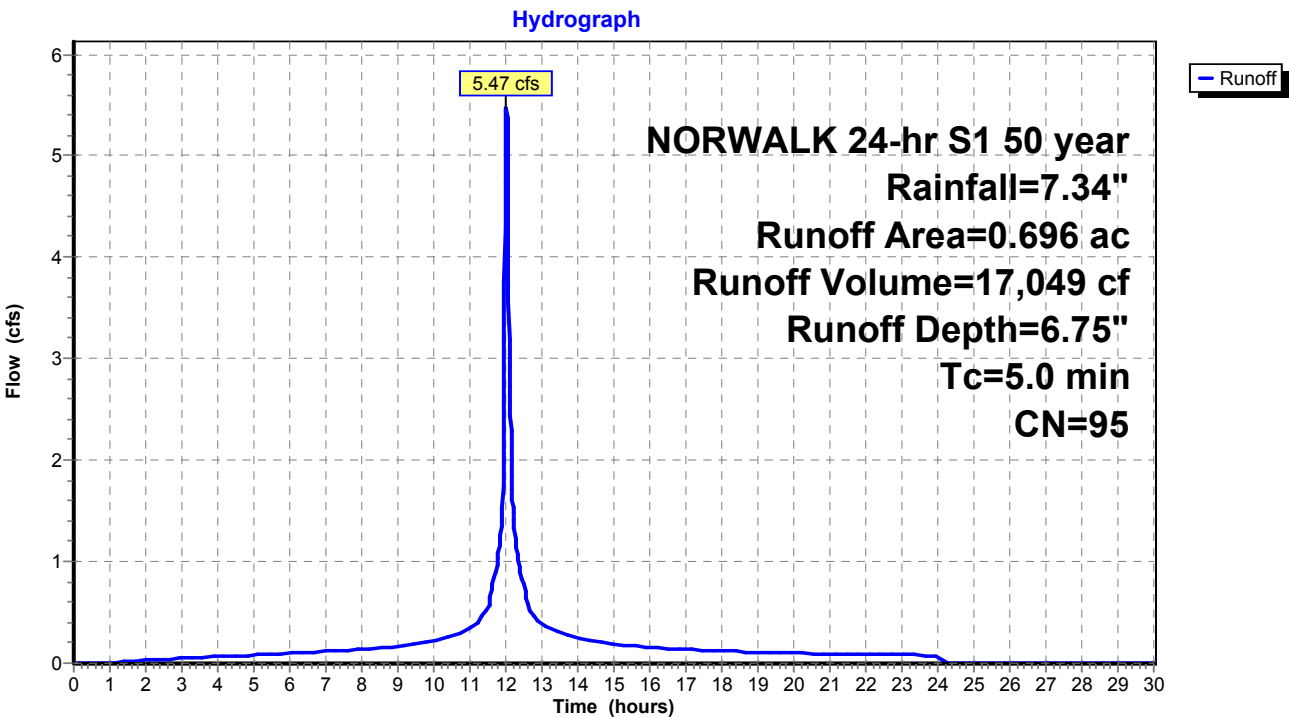
Runoff = 5.47 cfs @ 12.03 hrs, Volume= 17,049 cf, Depth= 6.75"
Routed to Pond 9P : MH-K

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.612	98	Paved parking & roofs
0.084	74	>75% Grass cover, Good, HSG C
0.696	95	Weighted Average
0.084		12.07% Pervious Area
0.612		87.93% Impervious Area

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

Subcatchment 26S: Area 26



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 27S: Area 27

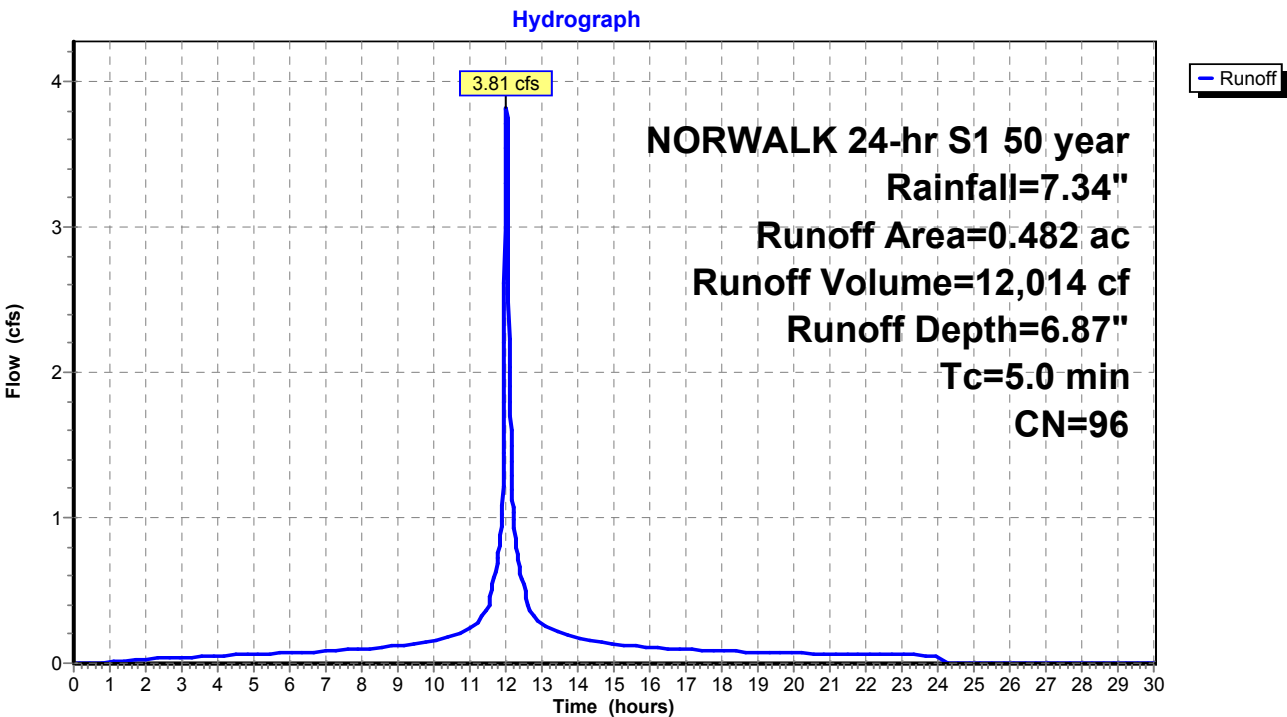
Runoff = 3.81 cfs @ 12.03 hrs, Volume= 12,014 cf, Depth= 6.87"
Routed to Pond 11P : Pipe Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.436	98	Paved parking & roofs
0.046	74	>75% Grass cover, Good, HSG C
0.482	96	Weighted Average
0.046		9.54% Pervious Area
0.436		90.46% Impervious Area

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

Subcatchment 27S: Area 27



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 28S: Area 28

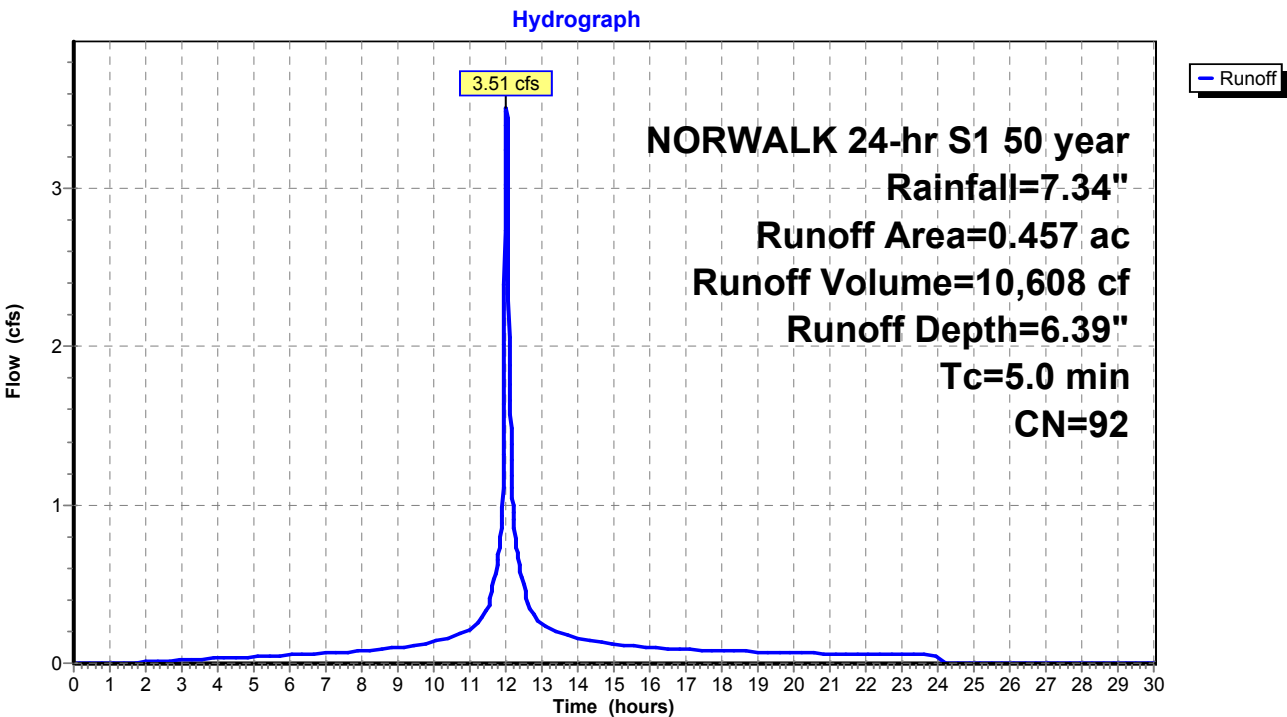
Runoff = 3.51 cfs @ 12.03 hrs, Volume= 10,608 cf, Depth= 6.39"
Routed to Pond 11P : Pipe Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.342	98	Paved parking & roofs
0.115	74	>75% Grass cover, Good, HSG C
0.457	92	Weighted Average
0.115		25.16% Pervious Area
0.342		74.84% Impervious Area

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

Subcatchment 28S: Area 28



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"
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Summary for Subcatchment 29S: Area 29

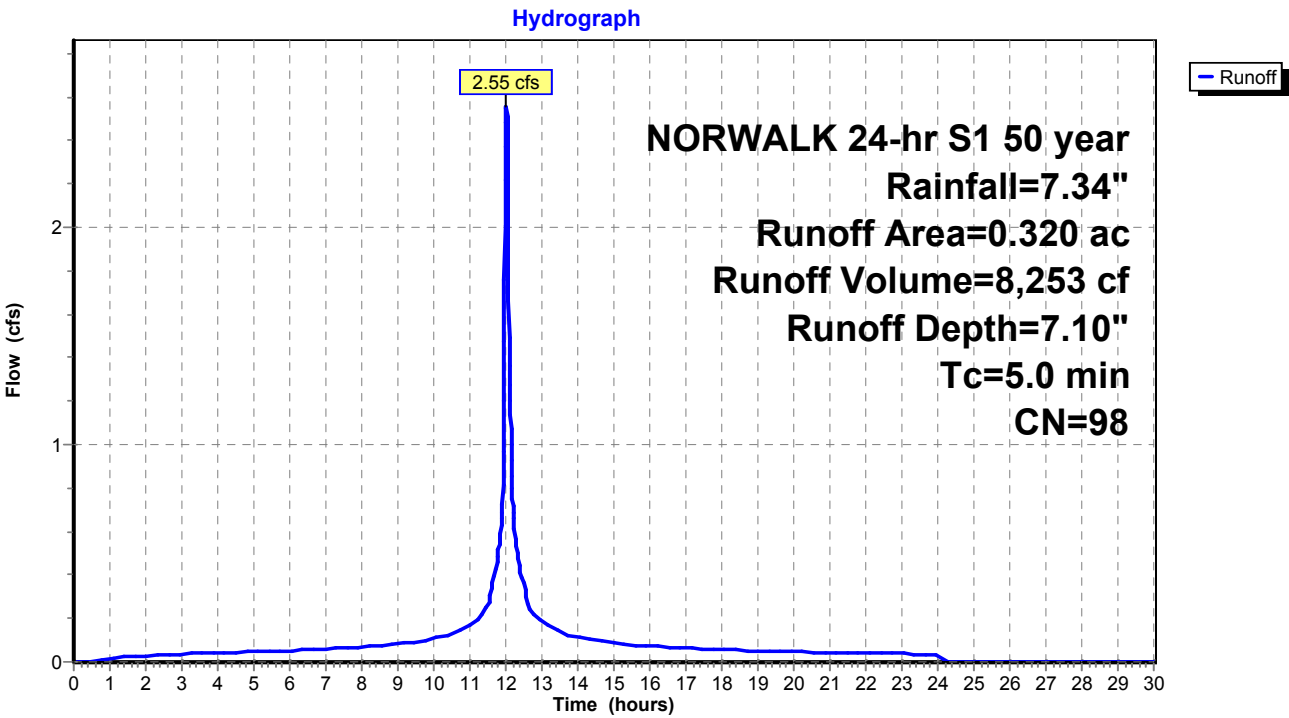
Runoff = 2.55 cfs @ 12.03 hrs, Volume= 8,253 cf, Depth= 7.10"
Routed to Pond 12P : MH-M

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.320	98	Paved parking & roofs
0.320		100.00% Impervious Area

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

Subcatchment 29S: Area 29



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 30S: Area 30

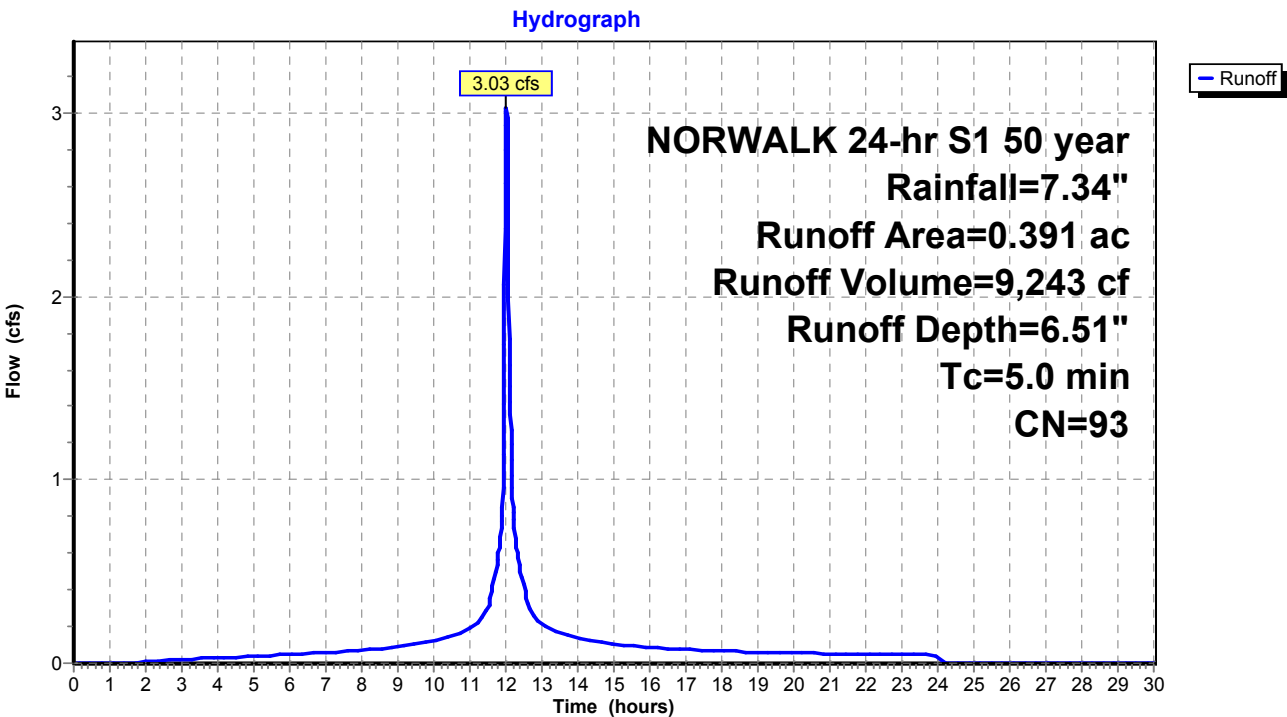
Runoff = 3.03 cfs @ 12.03 hrs, Volume= 9,243 cf, Depth= 6.51"
Routed to Pond 13P : MH-J

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.309	98	Paved parking & roofs
0.082	74	>75% Grass cover, Good, HSG C
0.391	93	Weighted Average
0.082		20.97% Pervious Area
0.309		79.03% Impervious Area

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

Subcatchment 30S: Area 30



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 52S: Area 1

Runoff = 23.87 cfs @ 12.52 hrs, Volume= 188,096 cf, Depth= 4.23"
Routed to Pond 21P : DET 1 Culvert

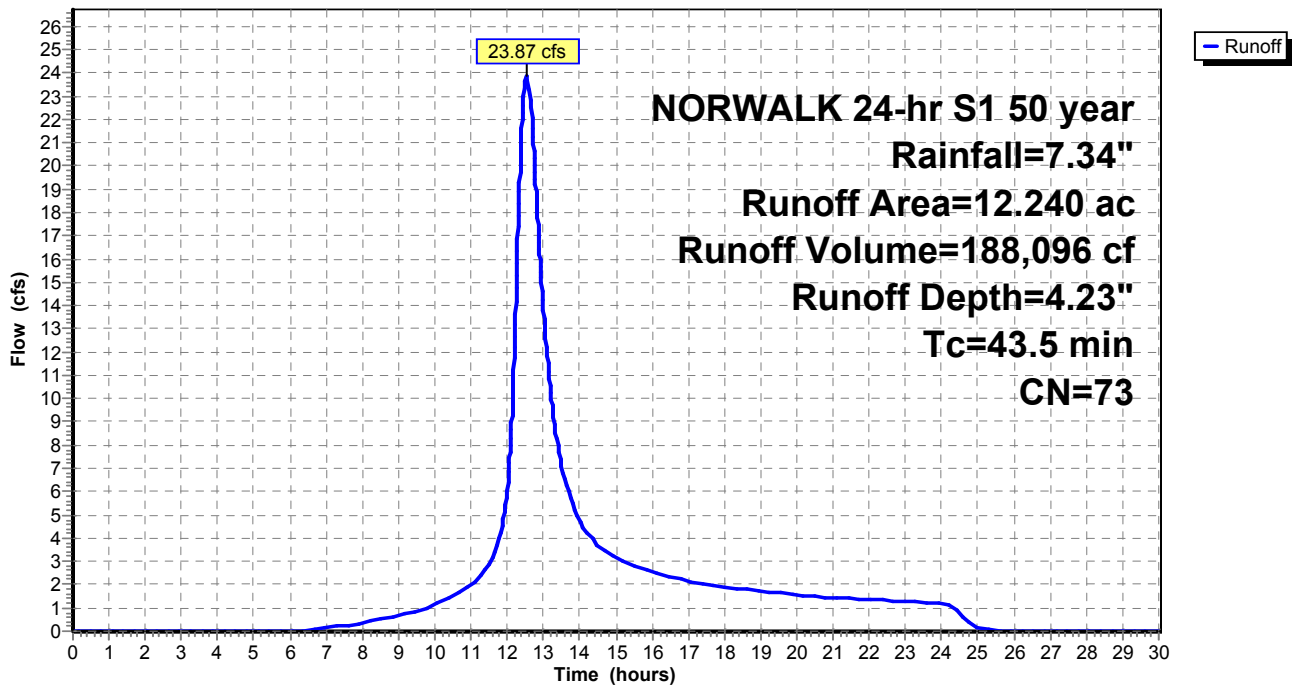
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
9.070	70	1/2 acre lots, 25% imp, HSG B
3.170	80	1/2 acre lots, 25% imp, HSG C
12.240	73	Weighted Average
9.180		75.00% Pervious Area
3.060		25.00% Impervious Area

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

Subcatchment 52S: Area 1

Hydrograph



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 53S: Area 2

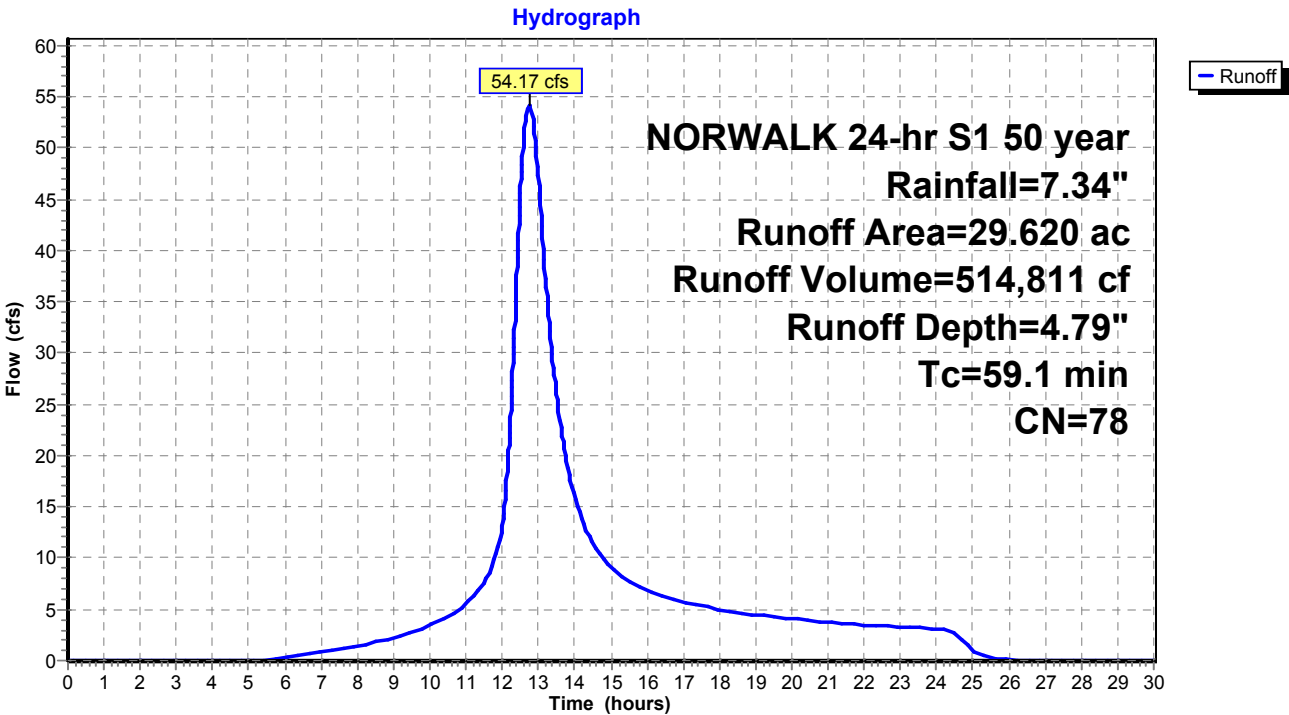
Runoff = 54.17 cfs @ 12.74 hrs, Volume= 514,811 cf, Depth= 4.79"
Routed to Pond 22P : DET 2 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
7.290	70	1/2 acre lots, 25% imp, HSG B
19.200	80	1/2 acre lots, 25% imp, HSG C
3.130	85	1/2 acre lots, 25% imp, HSG D
29.620	78	Weighted Average
22.215		75.00% Pervious Area
7.405		25.00% Impervious Area

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

Subcatchment 53S: Area 2



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 54S: Area 3

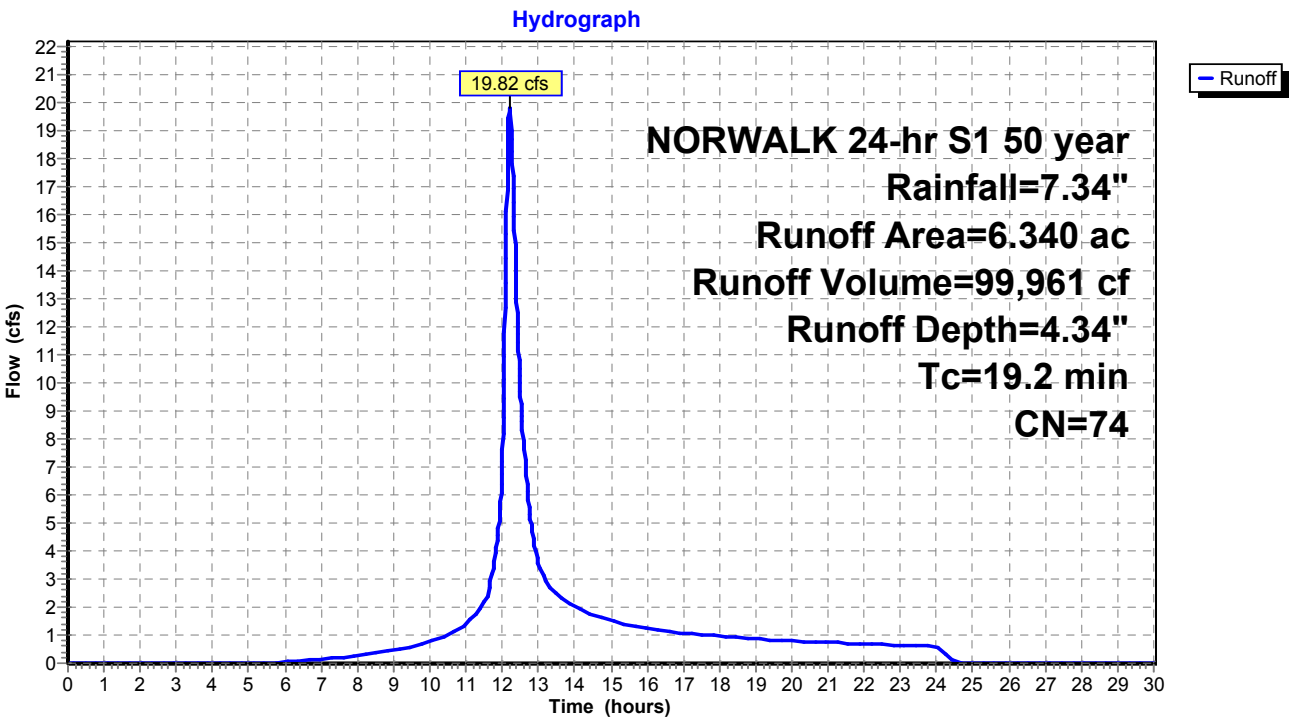
Runoff = 19.82 cfs @ 12.22 hrs, Volume= 99,961 cf, Depth= 4.34"
Routed to Pond 23P : DET 3 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
3.500	70	1/2 acre lots, 25% imp, HSG B
2.840	80	1/2 acre lots, 25% imp, HSG C
6.340	74	Weighted Average
4.755		75.00% Pervious Area
1.585		25.00% Impervious Area

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

Subcatchment 54S: Area 3



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"
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Summary for Subcatchment 56S: Area 35

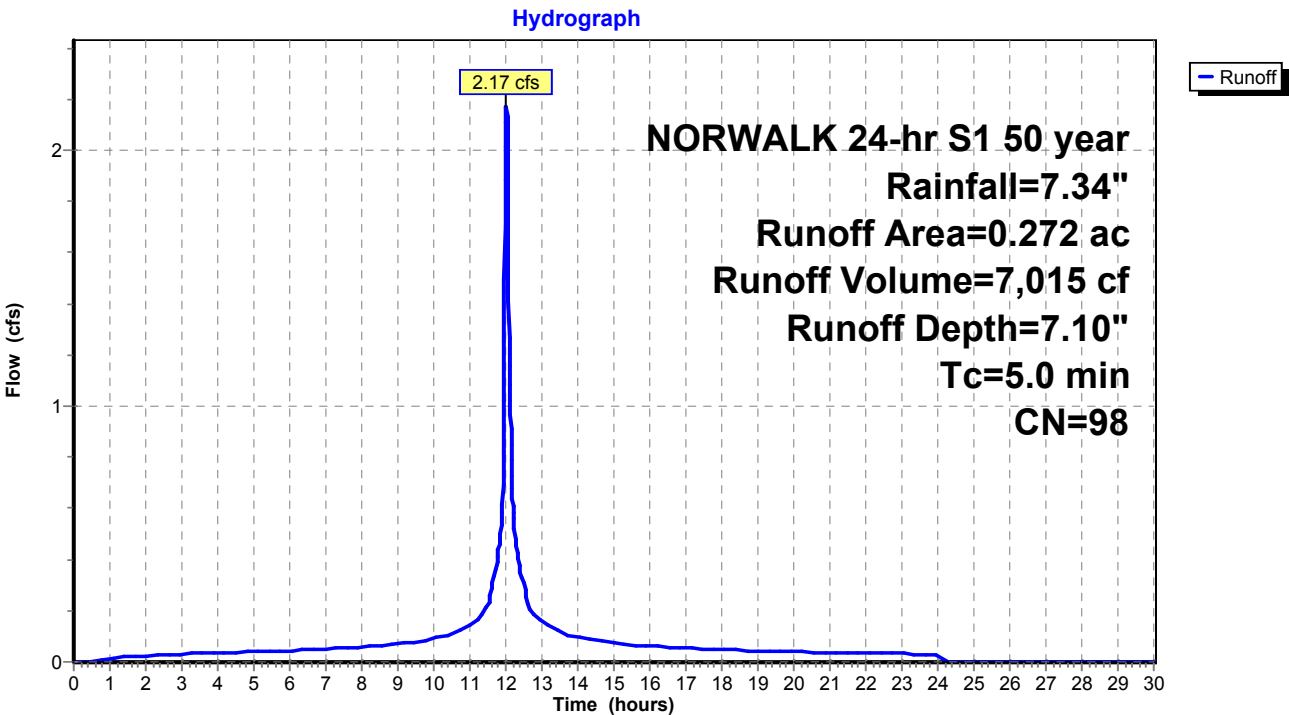
Runoff = 2.17 cfs @ 12.03 hrs, Volume= 7,015 cf, Depth= 7.10"
Routed to Pond 57P : CB-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.272	98	Paved parking & roofs
0.272		100.00% Impervious Area

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

Subcatchment 56S: Area 35



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 60S: Area 37

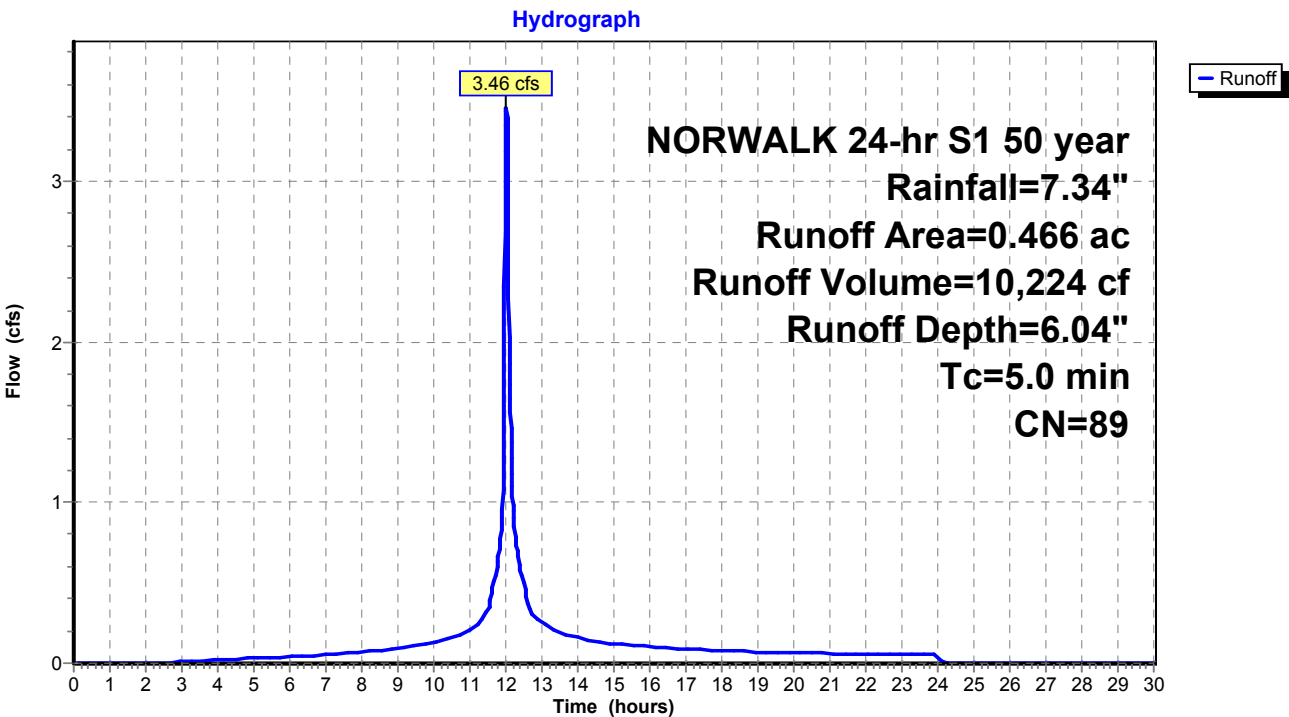
Runoff = 3.46 cfs @ 12.03 hrs, Volume= 10,224 cf, Depth= 6.04"
Routed to Pond 59P : CB-7

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.294	98	Paved parking & roofs
0.172	74	>75% Grass cover, Good, HSG C
0.466	89	Weighted Average
0.172		36.91% Pervious Area
0.294		63.09% Impervious Area

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

Subcatchment 60S: Area 37



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 62S: Area 38

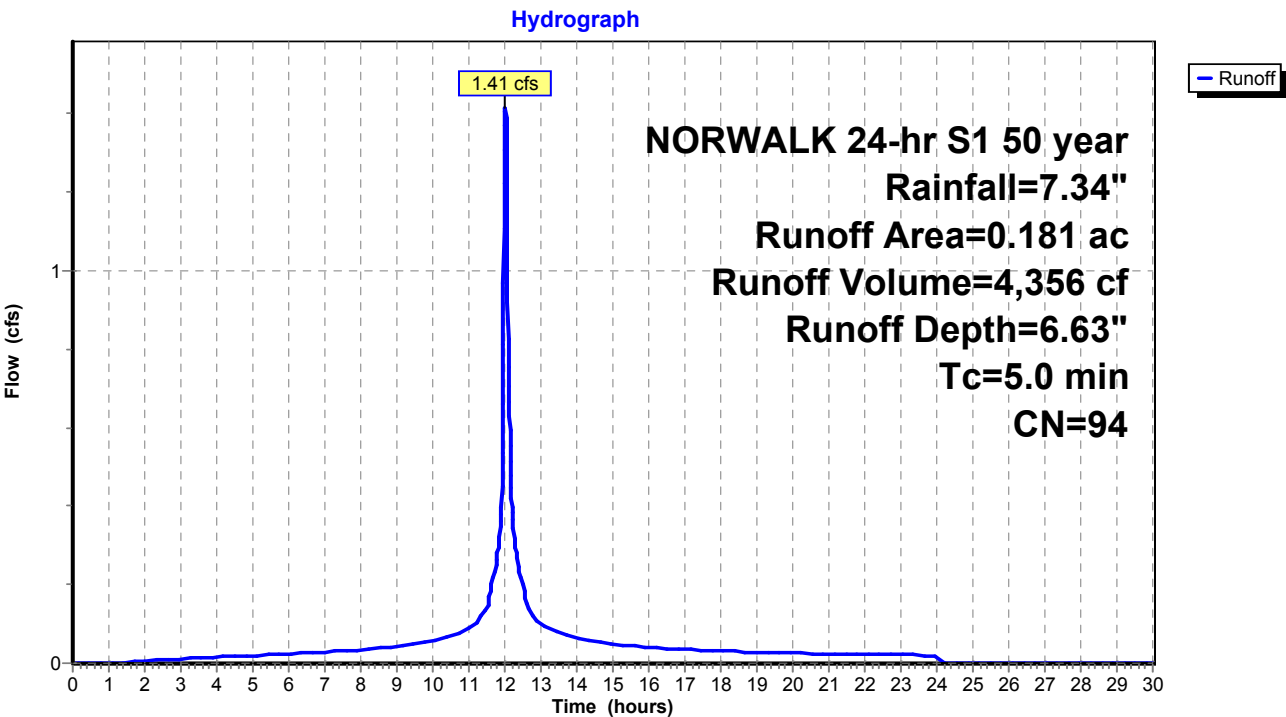
Runoff = 1.41 cfs @ 12.03 hrs, Volume= 4,356 cf, Depth= 6.63"
Routed to Pond 61P : CB-6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.149	98	Paved parking & roofs
0.032	74	>75% Grass cover, Good, HSG C
0.181	94	Weighted Average
0.032		17.68% Pervious Area
0.149		82.32% Impervious Area

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

Subcatchment 62S: Area 38



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 65S: Area 41

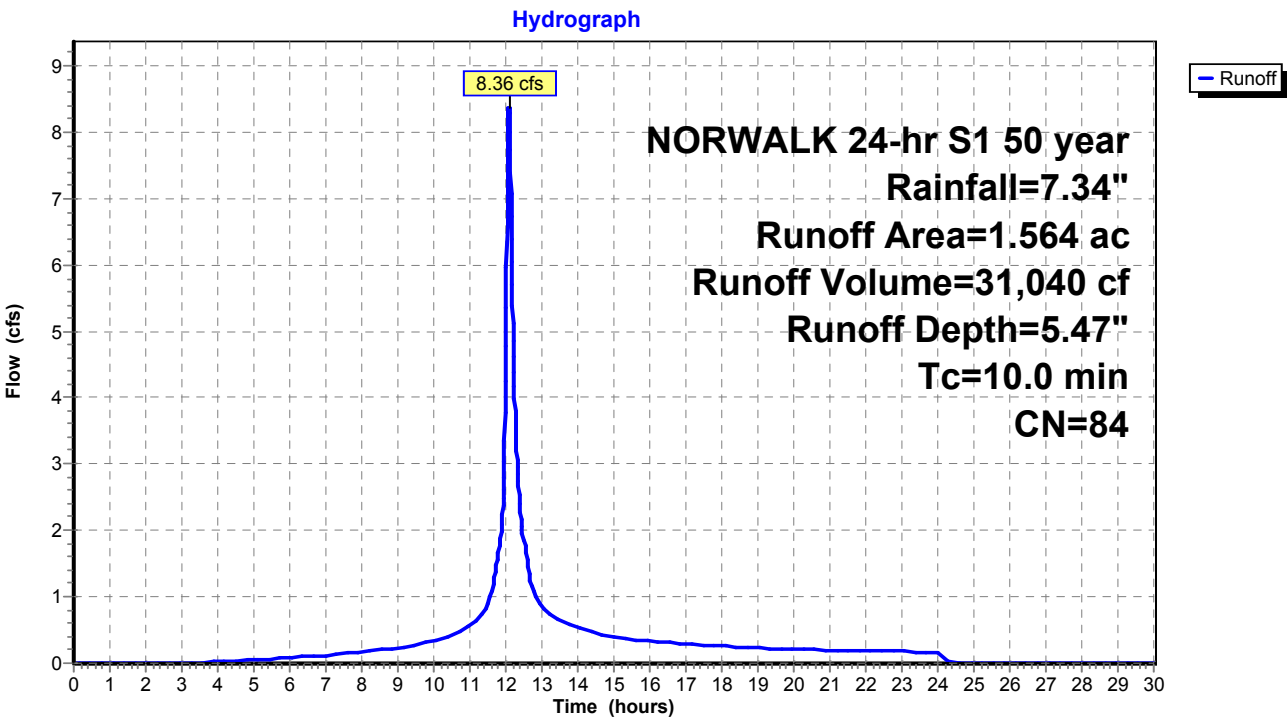
Runoff = 8.36 cfs @ 12.08 hrs, Volume= 31,040 cf, Depth= 5.47"
Routed to Pond 64P : YD

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.653	98	Paved parking & roofs
0.911	74	>75% Grass cover, Good, HSG C
1.564	84	Weighted Average
0.911		58.25% Pervious Area
0.653		41.75% Impervious Area

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

Subcatchment 65S: Area 41



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 68S: Area 36

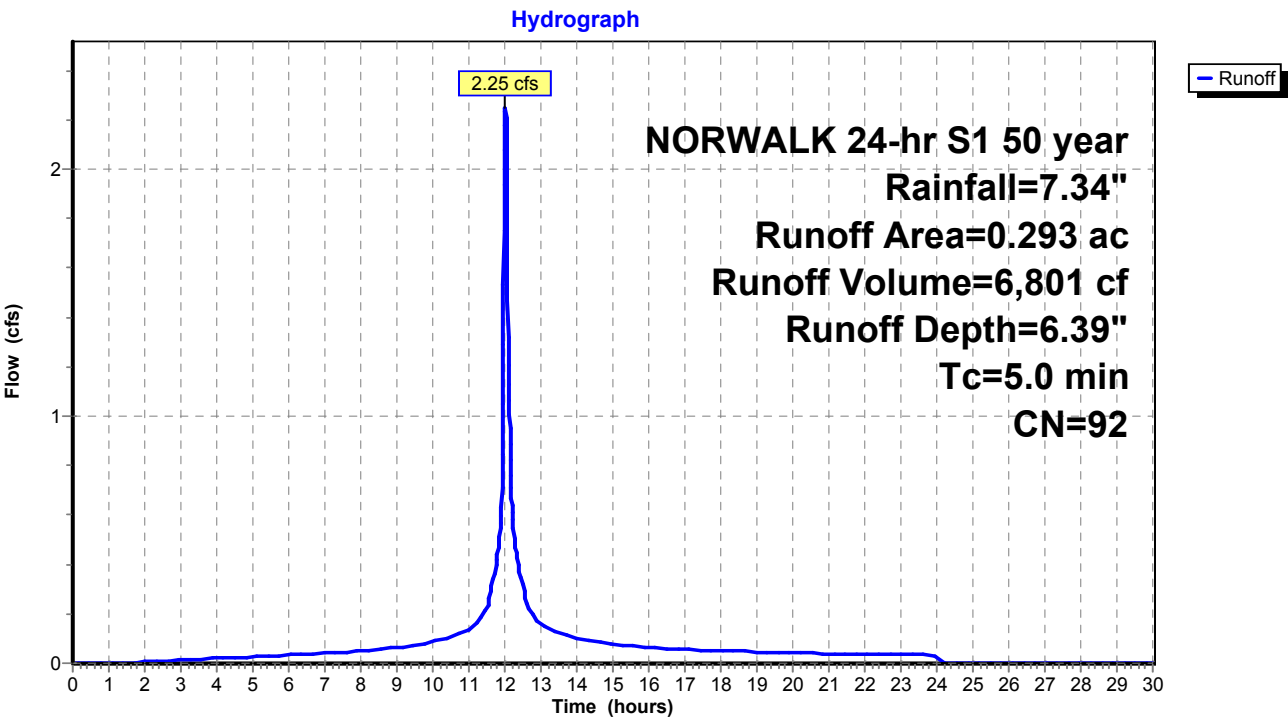
Runoff = 2.25 cfs @ 12.03 hrs, Volume= 6,801 cf, Depth= 6.39"
Routed to Pond 66P : CB-10

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.214	98	Paved parking & roofs
0.079	74	>75% Grass cover, Good, HSG C
0.293	92	Weighted Average
0.079		26.96% Pervious Area
0.214		73.04% Impervious Area

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

Subcatchment 68S: Area 36



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 69S: Area 40

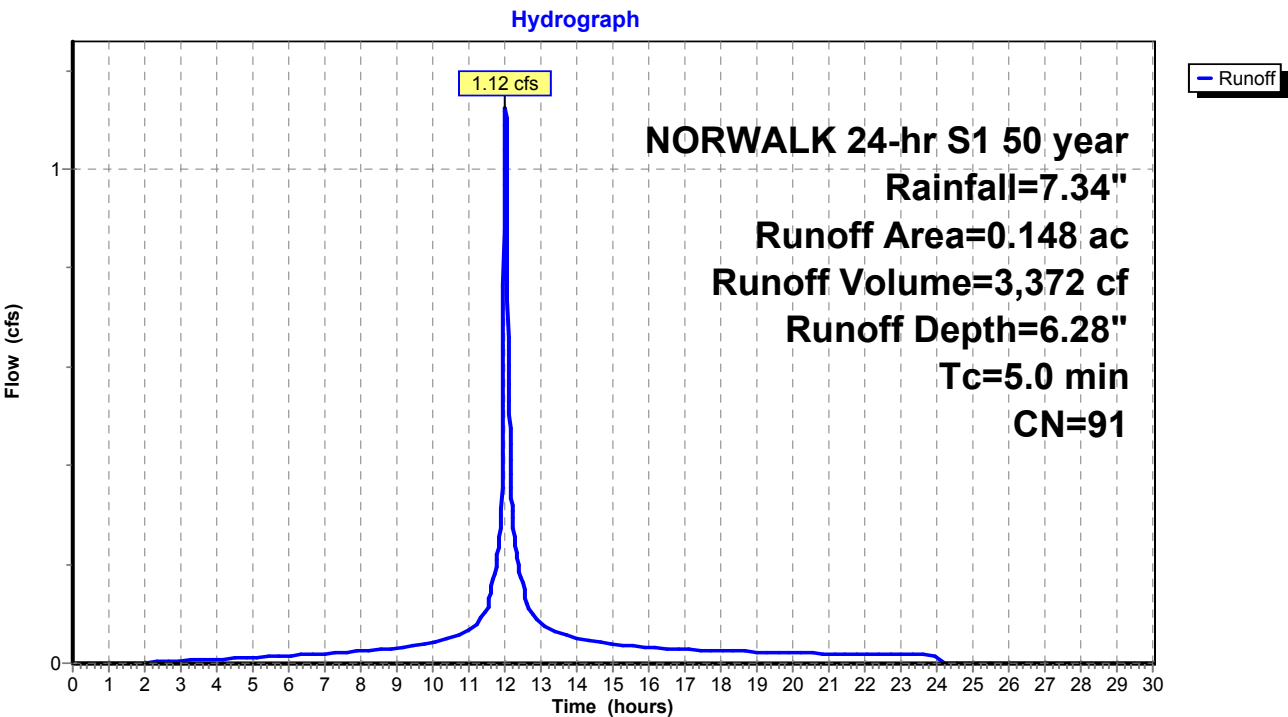
Runoff = 1.12 cfs @ 12.03 hrs, Volume= 3,372 cf, Depth= 6.28"
Routed to Pond 67P : CB-9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.103	98	Paved parking & roofs
0.045	74	>75% Grass cover, Good, HSG C
0.148	91	Weighted Average
0.045		30.41% Pervious Area
0.103		69.59% Impervious Area

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

Subcatchment 69S: Area 40



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 71S: Area 34

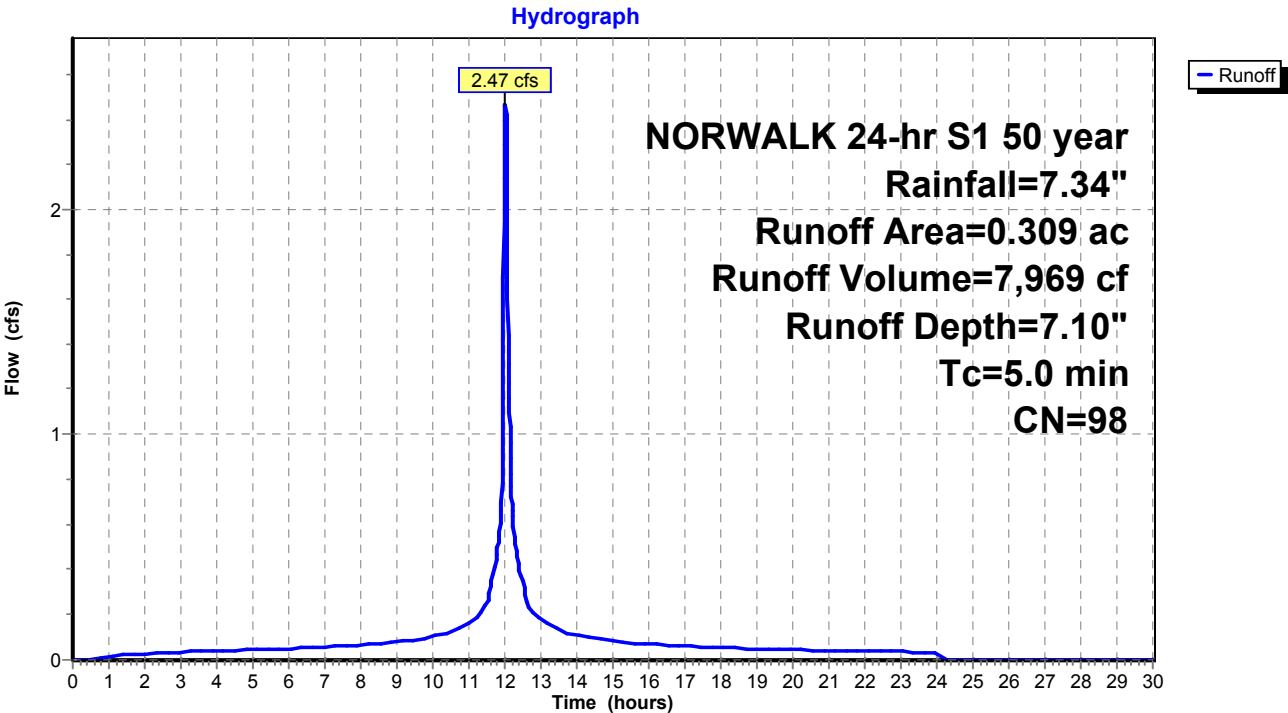
Runoff = 2.47 cfs @ 12.03 hrs, Volume= 7,969 cf, Depth= 7.10"
Routed to Pond 70P : CB-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.309	98	Paved parking & roofs
0.309		100.00% Impervious Area

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

Subcatchment 71S: Area 34



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 75S: Area 32

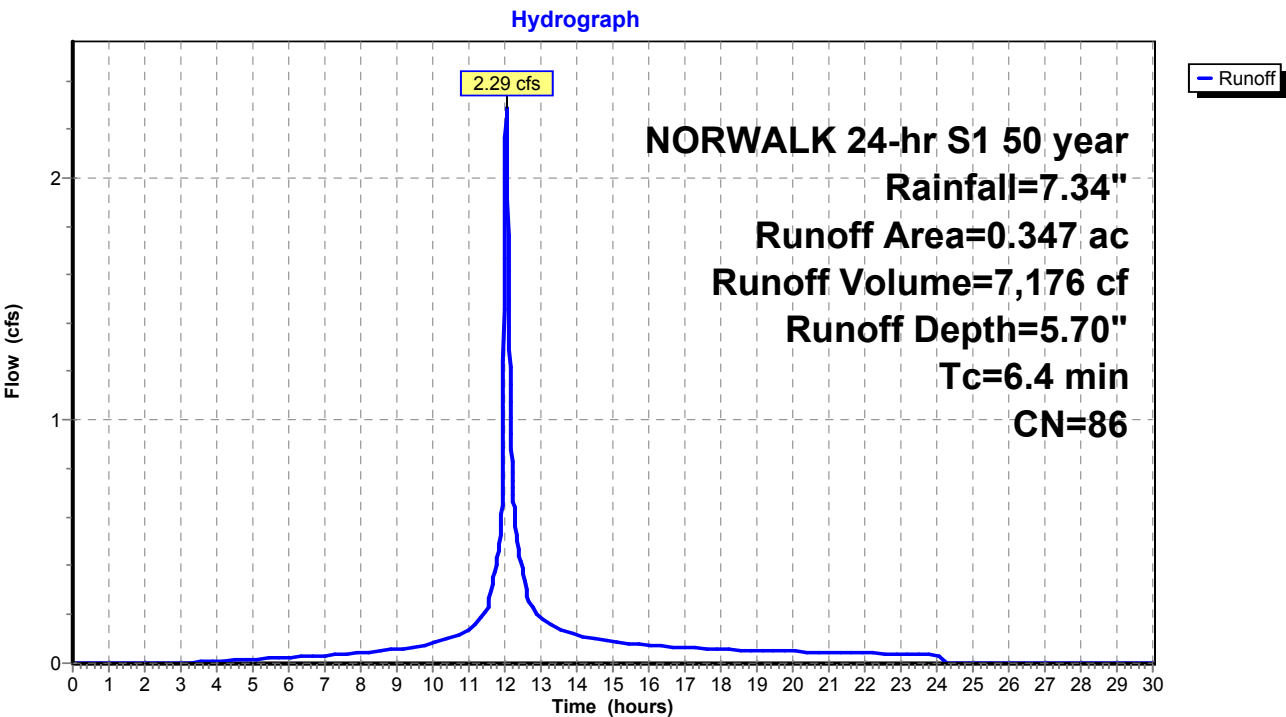
Runoff = 2.29 cfs @ 12.04 hrs, Volume= 7,176 cf, Depth= 5.70"
Routed to Pond 74P : CB-4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.196	98	Paved parking & roofs
0.151	70	Woods, Good, HSG C
0.347	86	Weighted Average
0.151		43.52% Pervious Area
0.196		56.48% Impervious Area

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

Subcatchment 75S: Area 32



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"
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Summary for Subcatchment 76S: Area 33

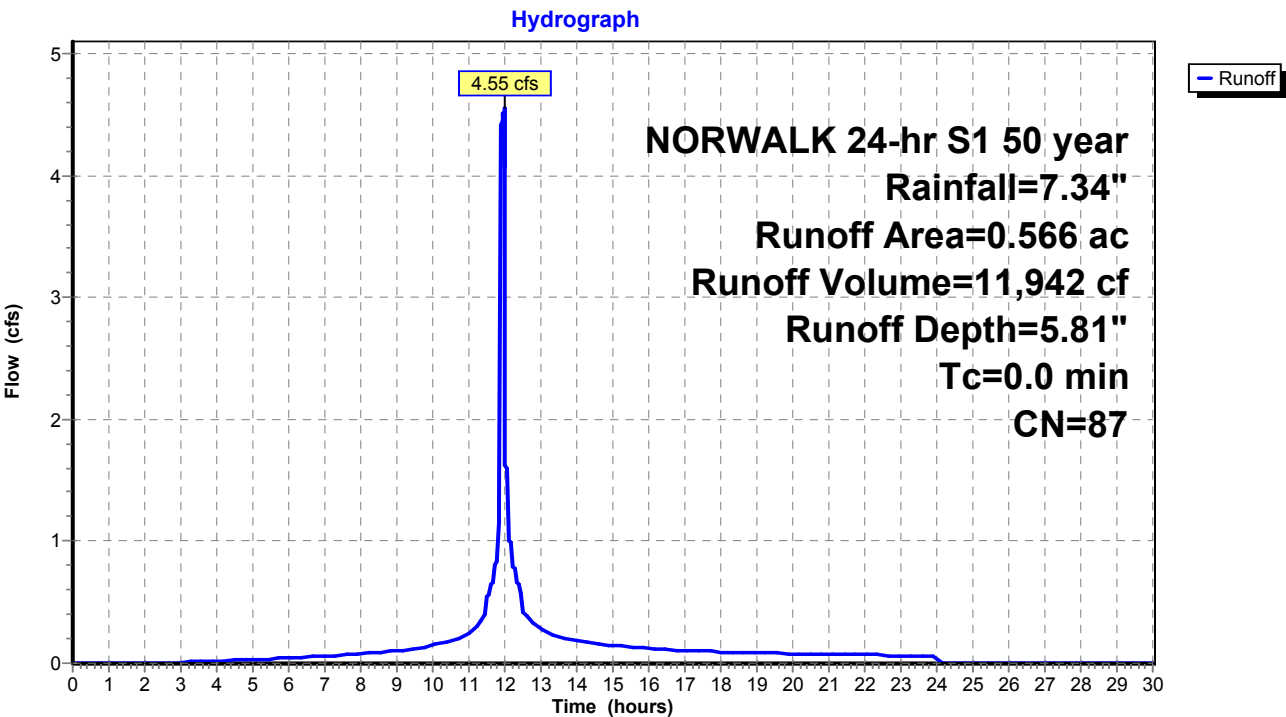
Runoff = 4.55 cfs @ 11.99 hrs, Volume= 11,942 cf, Depth= 5.81"
Routed to Pond 73P : CB-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.338	98	Paved parking & roofs
0.228	70	Woods, Good, HSG C
0.566	87	Weighted Average
0.228		40.28% Pervious Area
0.338		59.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.0					Direct Entry, 7

Subcatchment 76S: Area 33



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 78S: Area 39

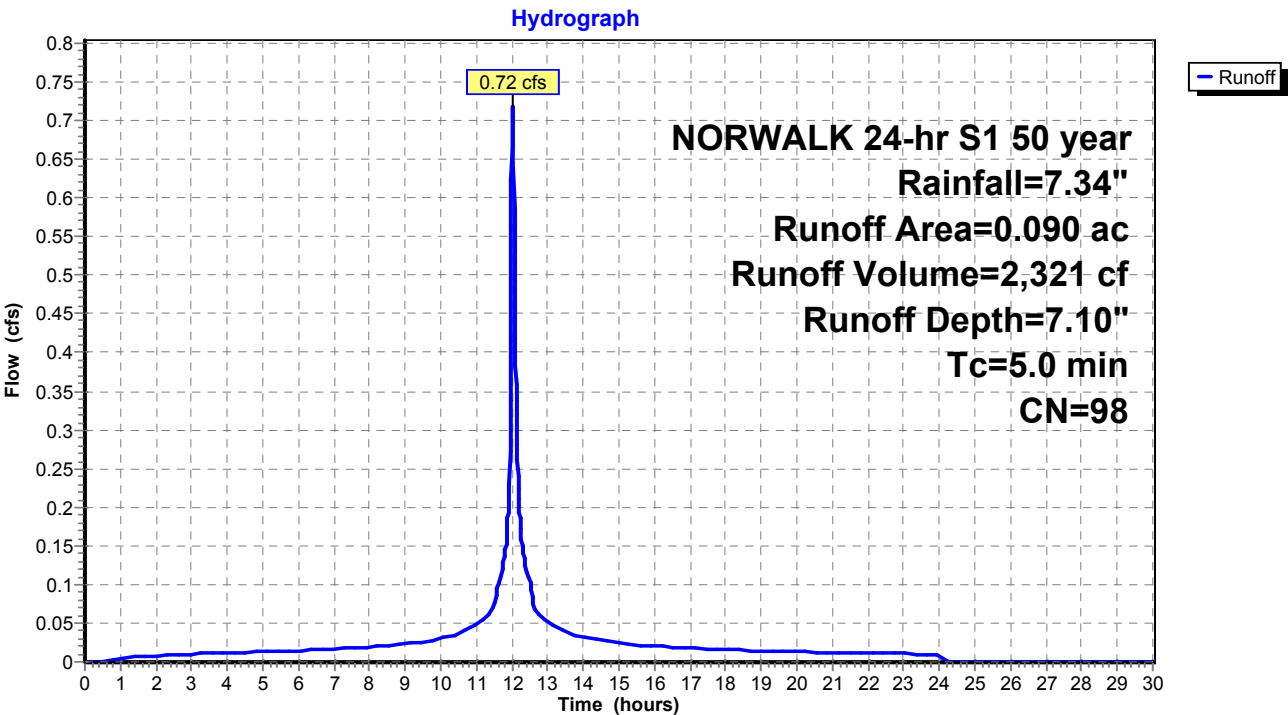
Runoff = 0.72 cfs @ 12.03 hrs, Volume= 2,321 cf, Depth= 7.10"
Routed to Pond 79P : CB-8

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.090	98	Paved parking & roofs
0.090		100.00% Impervious Area

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

Subcatchment 78S: Area 39



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 84S: Area 31

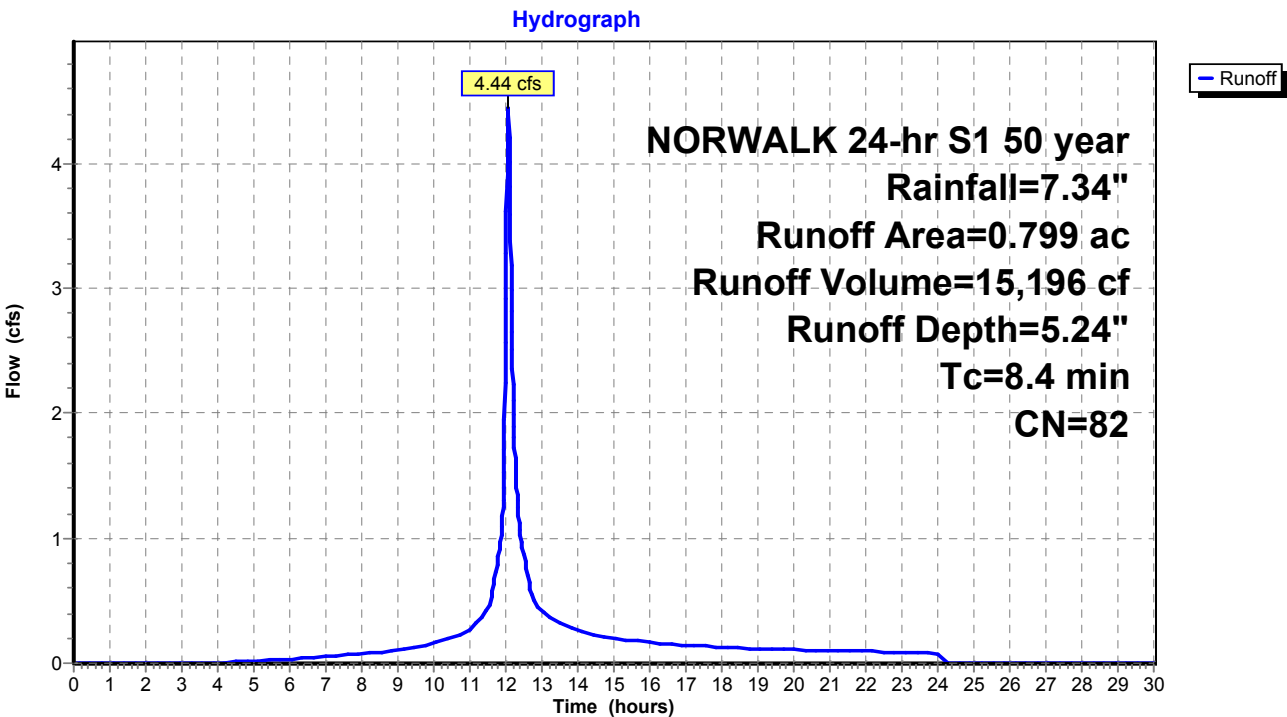
Runoff = 4.44 cfs @ 12.07 hrs, Volume= 15,196 cf, Depth= 5.24"
Routed to Pond 85P : CB-5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.337	98	Paved parking & roofs
0.462	70	Woods, Good, HSG C
0.799	82	Weighted Average
0.462		57.82% Pervious Area
0.337		42.18% Impervious Area

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

Subcatchment 84S: Area 31



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 100S: Area 16B

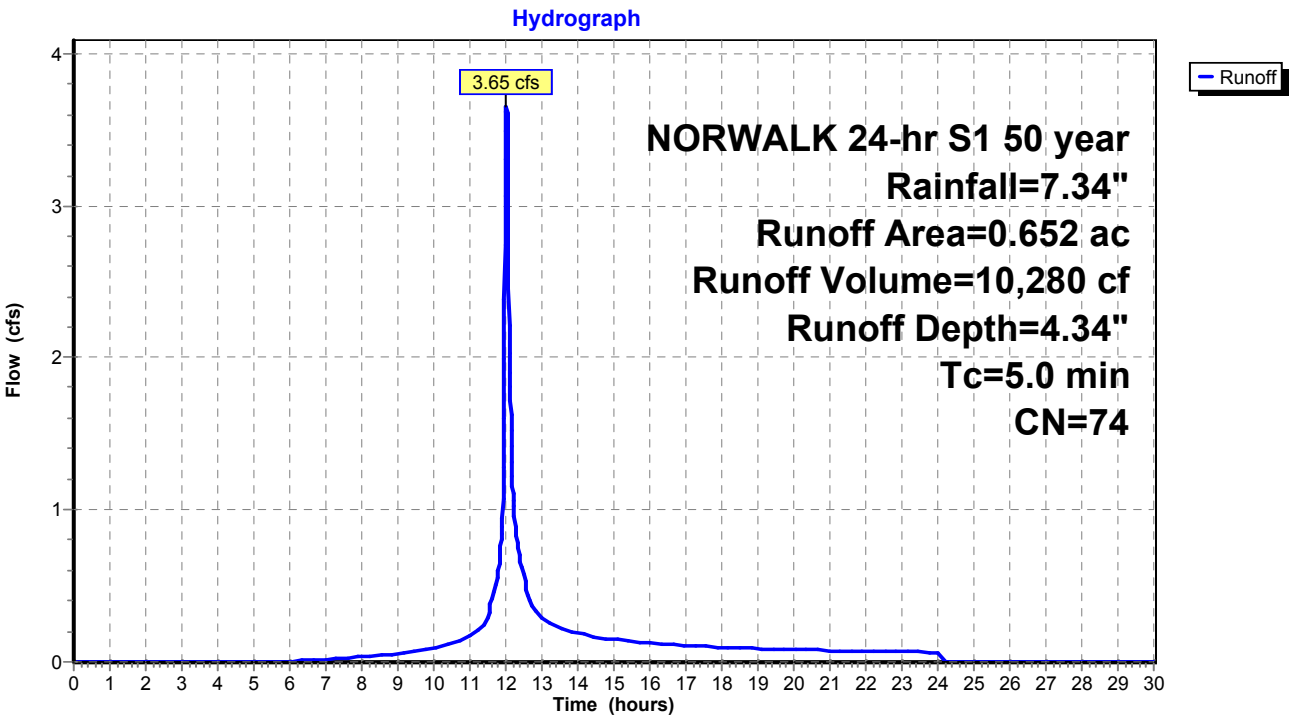
Runoff = 3.65 cfs @ 12.03 hrs, Volume= 10,280 cf, Depth= 4.34"
Routed to Pond 50P : DET BASIN #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.652	74	>75% Grass cover, Good, HSG C
0.652		100.00% Pervious Area

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

Subcatchment 100S: Area 16B



Existing Conditions

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Summary for Subcatchment 105S: Area 18

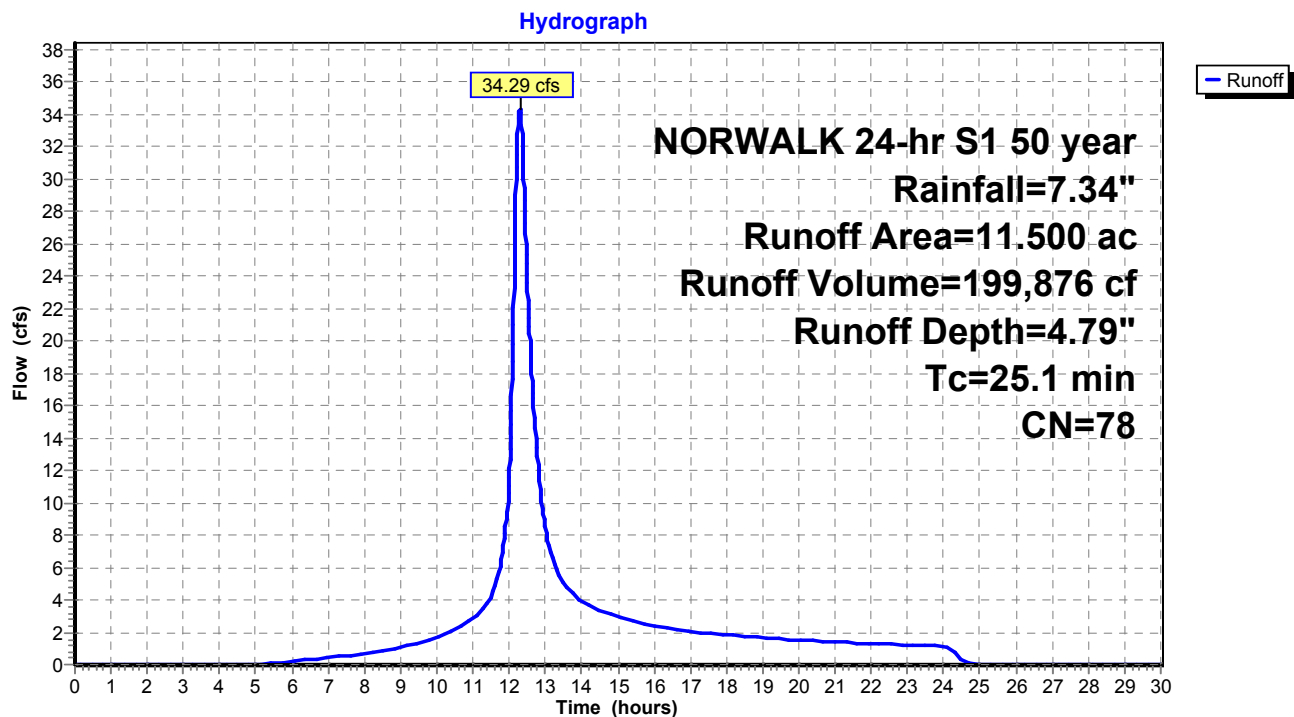
Runoff = 34.29 cfs @ 12.30 hrs, Volume= 199,876 cf, Depth= 4.79"
Routed to Pond 24P : RR Culvert 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.734	70	Woods, Good, HSG C
10.216	77	Woods, Good, HSG D
0.550	98	Paved parking, HSG C
11.500	78	Weighted Average
10.950		95.22% Pervious Area
0.550		4.78% Impervious Area

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

Subcatchment 105S: Area 18



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment BLDG: EX-BLDG

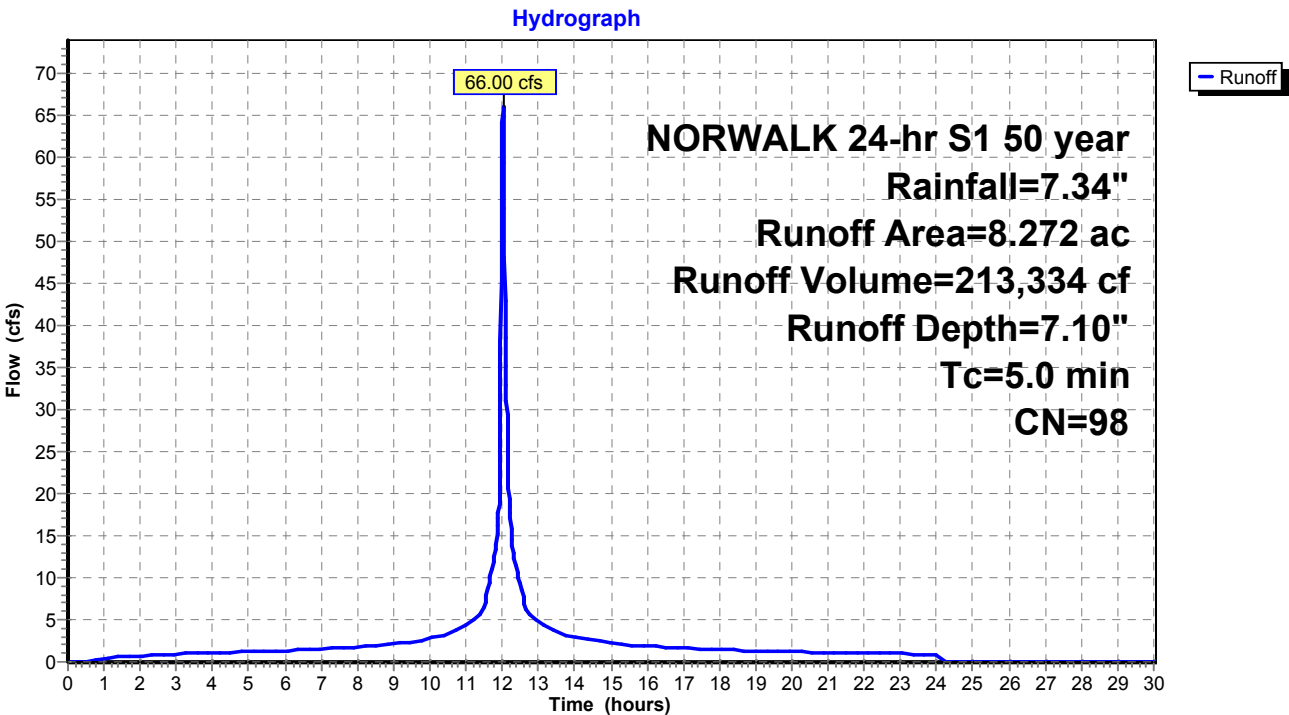
Runoff = 66.00 cfs @ 12.03 hrs, Volume= 213,334 cf, Depth= 7.10"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
8.272	98	Roofs, HSG B
8.272		100.00% Impervious Area

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

Subcatchment BLDG: EX-BLDG



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Pond 1P: RR Culvert 2

Inflow Area = 6,570,111 sf, 25.88% Impervious, Inflow Depth > 5.37" for 50 year event
Inflow = 285.78 cfs @ 12.23 hrs, Volume= 2,939,592 cf
Outflow = 285.78 cfs @ 12.23 hrs, Volume= 2,939,592 cf, Atten= 0%, Lag= 0.0 min
Primary = 35.32 cfs @ 12.23 hrs, Volume= 1,339,140 cf
Secondary = 250.45 cfs @ 12.23 hrs, Volume= 1,600,453 cf
Routed to Pond 24P : RR Culvert 3

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 14.13' @ 12.23 hrs

Device	Routing	Invert	Outlet Devices
#1	Secondary	13.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 3.00 4.00 5.00 Width (feet) 50.00 50.00 50.00 50.00 50.00 50.00
#2	Primary	9.50'	24.0" W x 36.0" H Box Culvert L= 135.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.50' / 9.50' S= 0.0000 '/' Cc= 0.900 n= 0.014, Flow Area= 6.00 sf

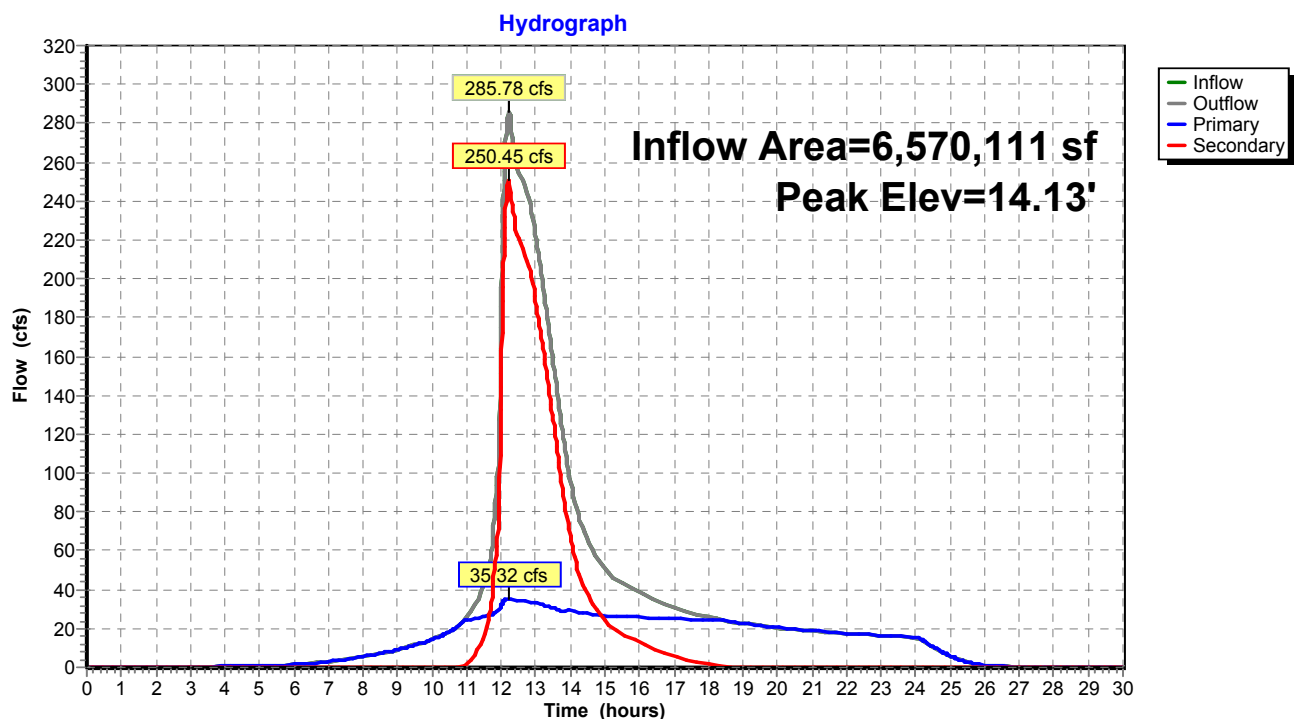
Primary OutFlow Max=35.32 cfs @ 12.23 hrs HW=14.13' (Free Discharge)

↑**2=Culvert** (Barrel Controls 35.32 cfs @ 5.89 fps)

Secondary OutFlow Max=250.27 cfs @ 12.23 hrs HW=14.13' (Free Discharge)

↑**1=Custom Weir/Orifice** (Weir Controls 250.27 cfs @ 4.43 fps)

Pond 1P: RR Culvert 2



Existing Conditions

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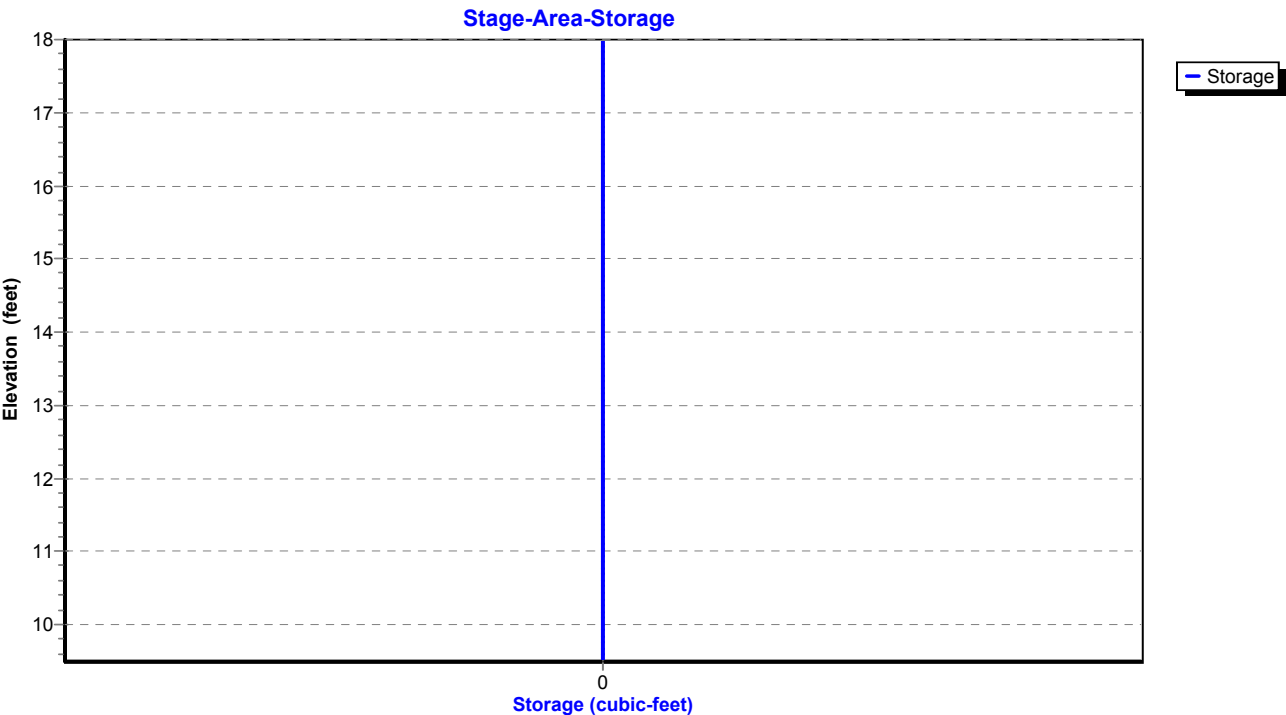
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Pond 1P: RR Culvert 2



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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Pond 2P: RR Culvert 1

Inflow Area = 3,416,890 sf, 54.57% Impervious, Inflow Depth = 5.81" for 50 year event
Inflow = 174.33 cfs @ 12.04 hrs, Volume= 1,653,470 cf
Outflow = 174.33 cfs @ 12.04 hrs, Volume= 1,653,470 cf, Atten= 0%, Lag= 0.0 min
Primary = 57.18 cfs @ 12.04 hrs, Volume= 1,199,665 cf
Secondary = 117.15 cfs @ 12.04 hrs, Volume= 453,805 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 30.48' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	25.00'	28.8" W x 28.8" H Box Culvert L= 123.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.00' / 23.60' S= 0.0114 '/' Cc= 0.900 n= 0.014, Flow Area= 5.76 sf
#2	Secondary	27.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 Width (feet) 6.00 6.00 6.00

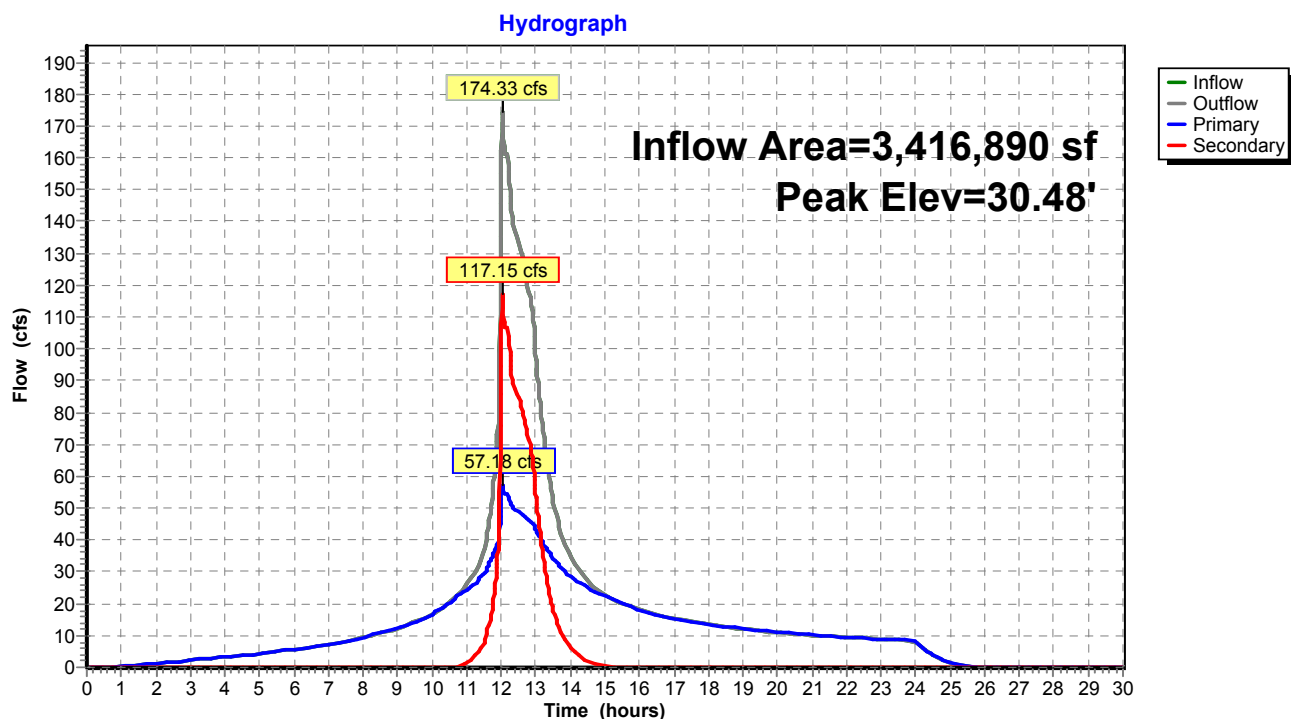
Primary OutFlow Max=57.17 cfs @ 12.04 hrs HW=30.48' (Free Discharge)

↑**1=Culvert** (Inlet Controls 57.17 cfs @ 9.92 fps)

Secondary OutFlow Max=117.09 cfs @ 12.04 hrs HW=30.48' (Free Discharge)

↑**2=Custom Weir/Orifice** (Orifice Controls 117.09 cfs @ 9.76 fps)

Pond 2P: RR Culvert 1



Existing Conditions

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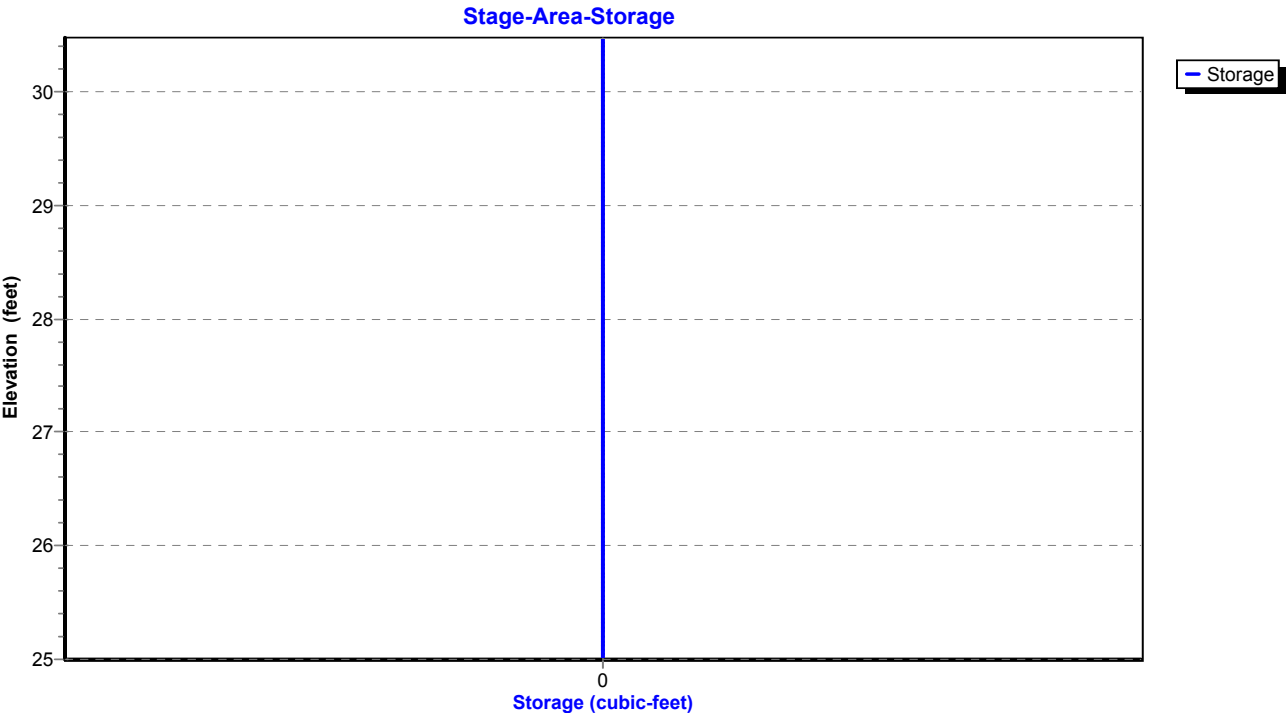
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Pond 2P: RR Culvert 1



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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Pond 3P: DETENTION BASIN #2

Inflow Area = 263,277 sf, 58.24% Impervious, Inflow Depth = 5.58" for 50 year event
Inflow = 33.56 cfs @ 12.03 hrs, Volume= 122,454 cf
Outflow = 9.05 cfs @ 12.37 hrs, Volume= 106,665 cf, Atten= 73%, Lag= 20.3 min
Primary = 9.05 cfs @ 12.37 hrs, Volume= 106,665 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 50.63' @ 12.37 hrs Surf.Area= 13,260 sf Storage= 51,596 cf

Plug-Flow detention time= 198.4 min calculated for 106,665 cf (87% of inflow)
Center-of-Mass det. time= 131.2 min (932.1 - 800.8)

Volume	Invert	Avail.Storage	Storage Description
#1	44.00'	56,637 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.00	2,637	0	0
46.00	6,000	8,637	8,637
48.00	8,500	14,500	23,137
50.00	12,000	20,500	43,637
51.00	14,000	13,000	56,637

Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	18.0" Round Culvert L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.00' / 30.00' S= 0.1750 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	47.00'	10.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	50.40'	16.2" x 55.4" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=9.02 cfs @ 12.37 hrs HW=50.63' (Free Discharge)

1=Culvert (Passes 9.02 cfs of 20.63 cfs potential flow)
2=Orifice/Grate (Orifice Controls 4.71 cfs @ 8.63 fps)
3=Orifice/Grate (Weir Controls 4.31 cfs @ 1.57 fps)

Existing Conditions

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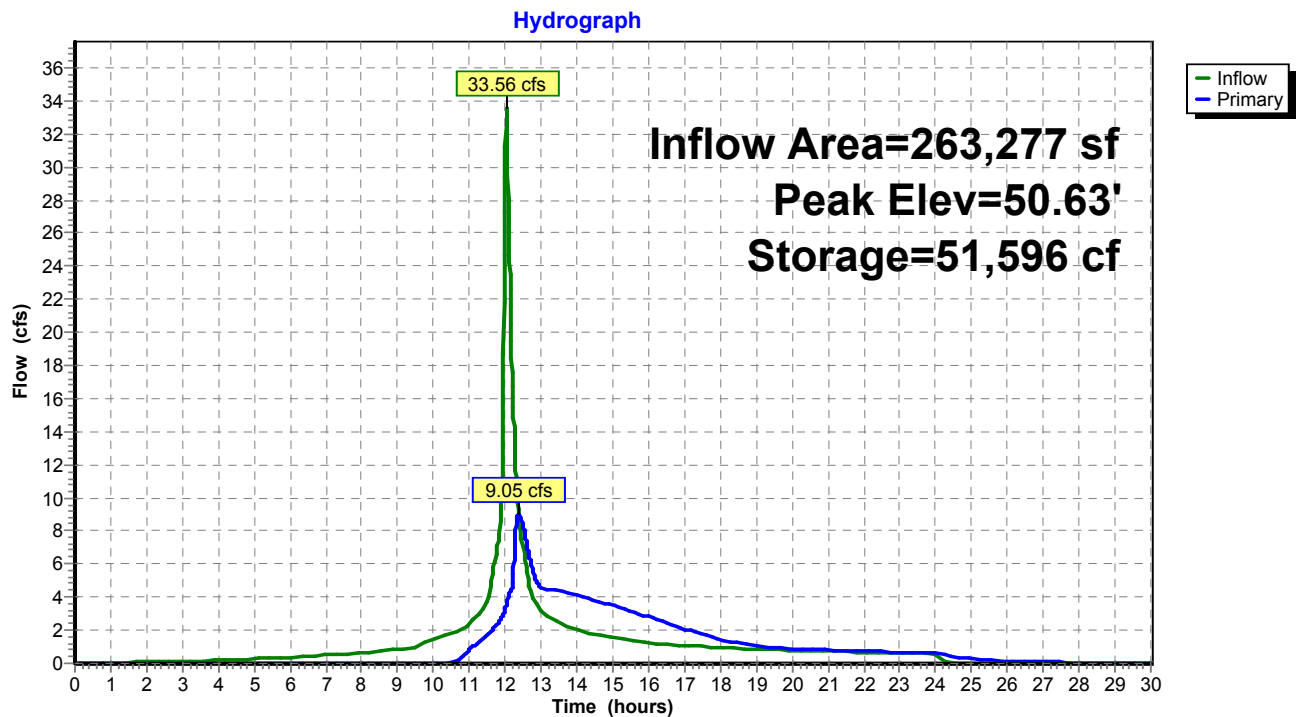
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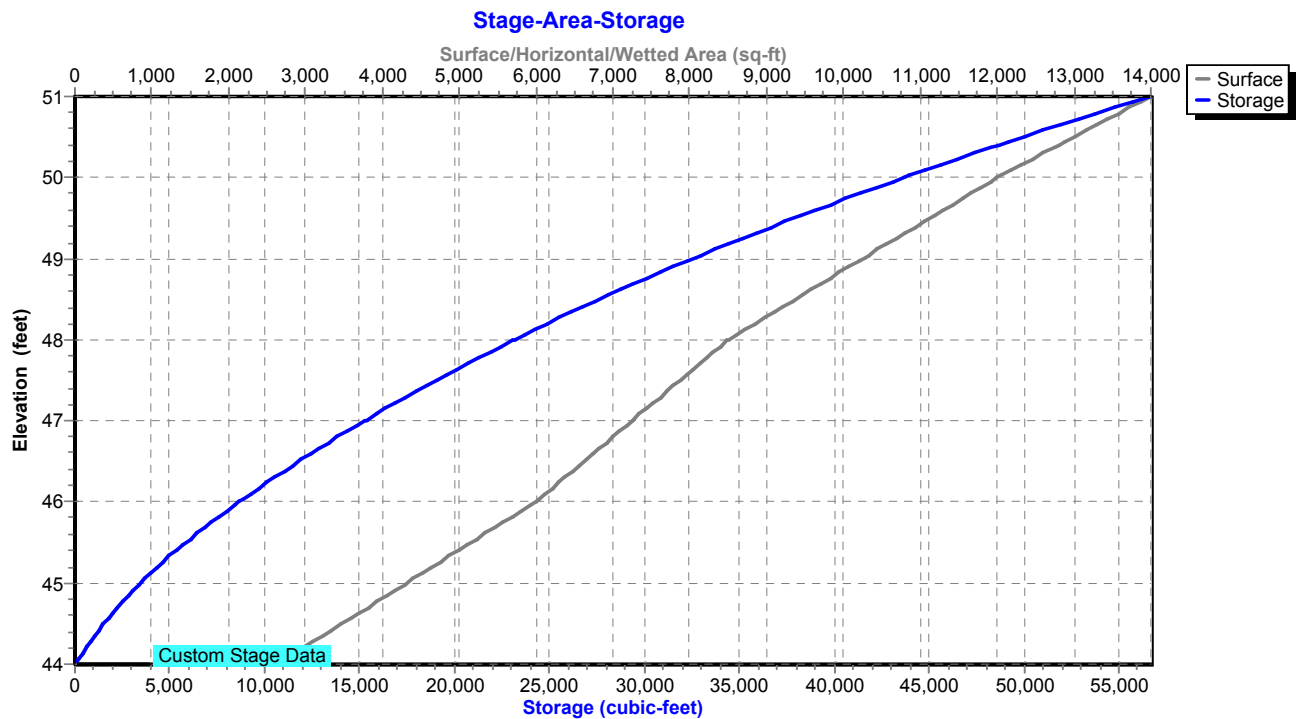
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Pond 3P: DETENTION BASIN #2



Pond 3P: DETENTION BASIN #2



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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Pond 5P: DET 5 Culvert

Inflow Area = 541,015 sf, 16.51% Impervious, Inflow Depth = 4.23" for 50 year event
 Inflow = 26.70 cfs @ 12.45 hrs, Volume= 190,862 cf
 Outflow = 21.38 cfs @ 12.66 hrs, Volume= 190,861 cf, Atten= 20%, Lag= 12.6 min
 Primary = 21.38 cfs @ 12.66 hrs, Volume= 190,861 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 81.27' @ 12.66 hrs Storage= 12,522 cf

Plug-Flow detention time= 6.6 min calculated for 190,861 cf (100% of inflow)

Center-of-Mass det. time= 6.6 min (881.0 - 874.5)

Volume	Invert	Avail.Storage	Storage Description
#1	78.00'	62,584 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
78.00	0	0
79.00	1,179	1,179
80.00	3,009	4,188
81.00	5,795	9,983
82.00	9,335	19,318
83.00	16,518	35,836
84.00	26,748	62,584

Device	Routing	Invert	Outlet Devices
#1	Primary	78.00'	24.0" Round Culvert L= 224.0' Ke= 0.600 Inlet / Outlet Invert= 78.00' / 72.40' S= 0.0250 ' / Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=21.38 cfs @ 12.66 hrs HW=81.27' (Free Discharge)↑ **1=Culvert** (Inlet Controls 21.38 cfs @ 6.80 fps)

Existing Conditions

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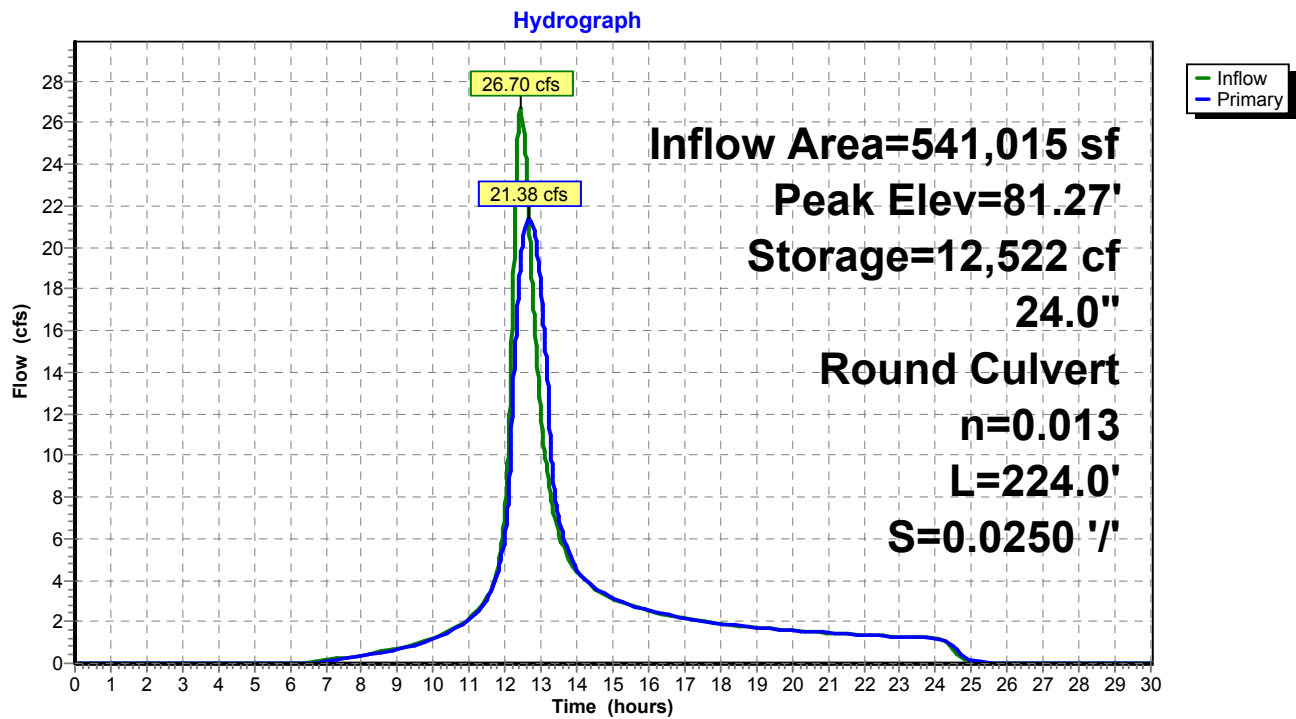
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NORWALK 24-hr S1 50 year Rainfall=7.34"

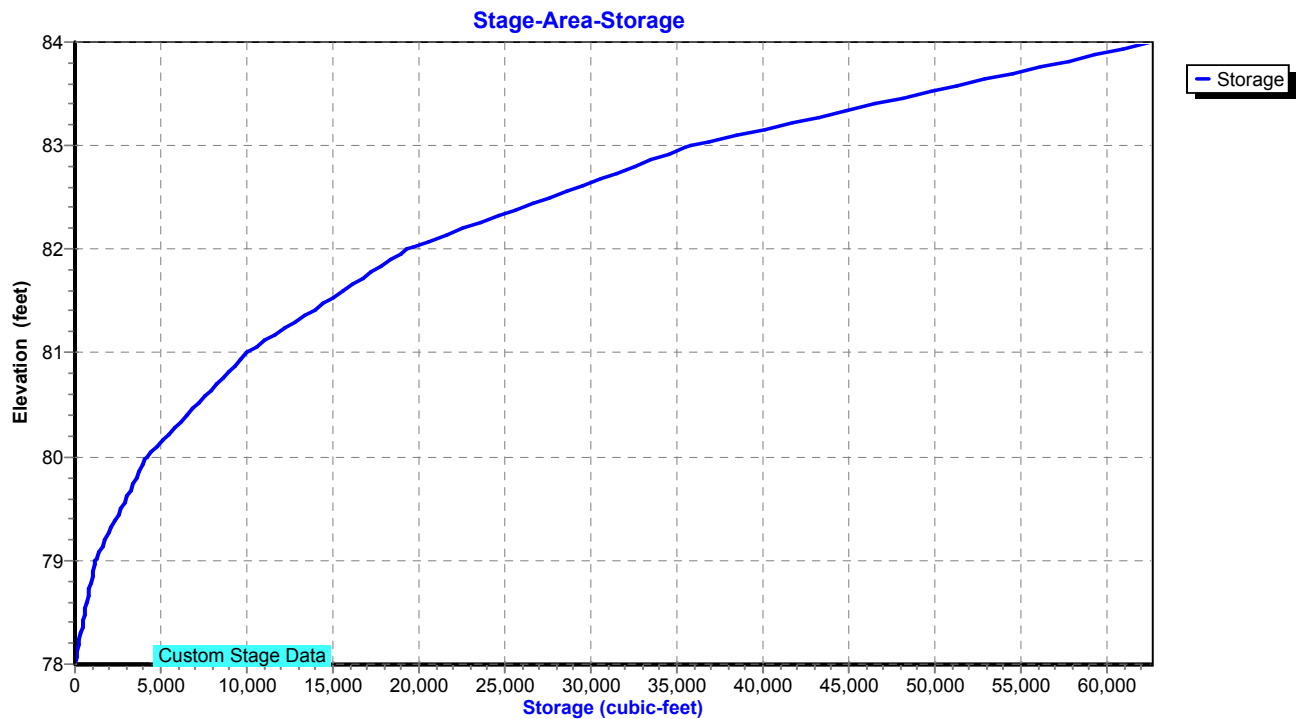
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Pond 5P: DET 5 Culvert



Pond 5P: DET 5 Culvert



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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Pond 6P: DET 6 Culvert

Inflow Area = 747,054 sf, 37.20% Impervious, Inflow Depth = 5.24" for 50 year event
 Inflow = 35.89 cfs @ 12.70 hrs, Volume= 326,174 cf
 Outflow = 34.79 cfs @ 12.78 hrs, Volume= 326,174 cf, Atten= 3%, Lag= 5.1 min
 Primary = 34.79 cfs @ 12.78 hrs, Volume= 326,174 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 92.22' @ 12.78 hrs Storage= 2,324 cf

Plug-Flow detention time= 0.5 min calculated for 326,065 cf (100% of inflow)

Center-of-Mass det. time= 0.5 min (863.6 - 863.1)

Volume	Invert	Avail.Storage	Storage Description
#1	88.50'	5,954 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
88.50	0	0
90.00	154	154
92.00	1,175	1,329
93.00	4,625	5,954

Device	Routing	Invert	Outlet Devices
#1	Primary	88.50'	30.0" Round Culvert L= 180.0' Ke= 0.600 Inlet / Outlet Invert= 88.50' / 86.00' S= 0.0139 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=34.79 cfs @ 12.78 hrs HW=92.22' (Free Discharge)
 ↑ **1=Culvert** (Inlet Controls 34.79 cfs @ 7.09 fps)

Existing Conditions

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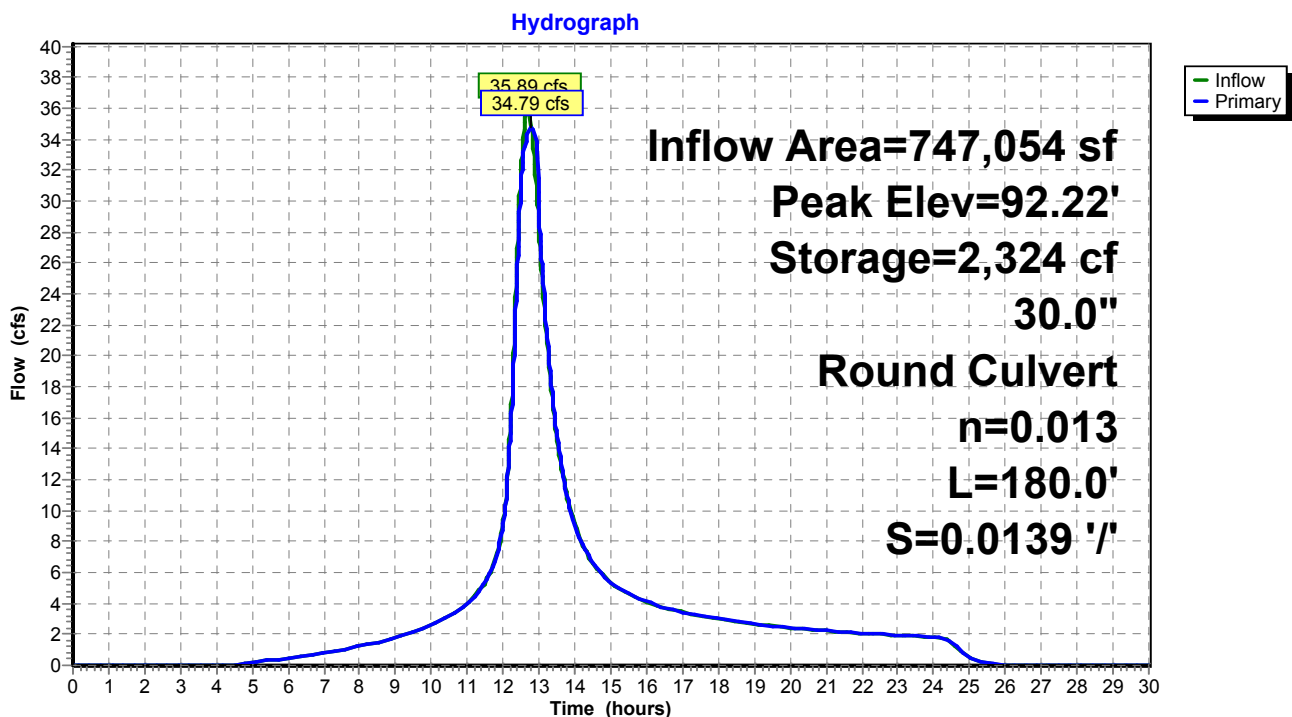
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NORWALK 24-hr S1 50 year Rainfall=7.34"

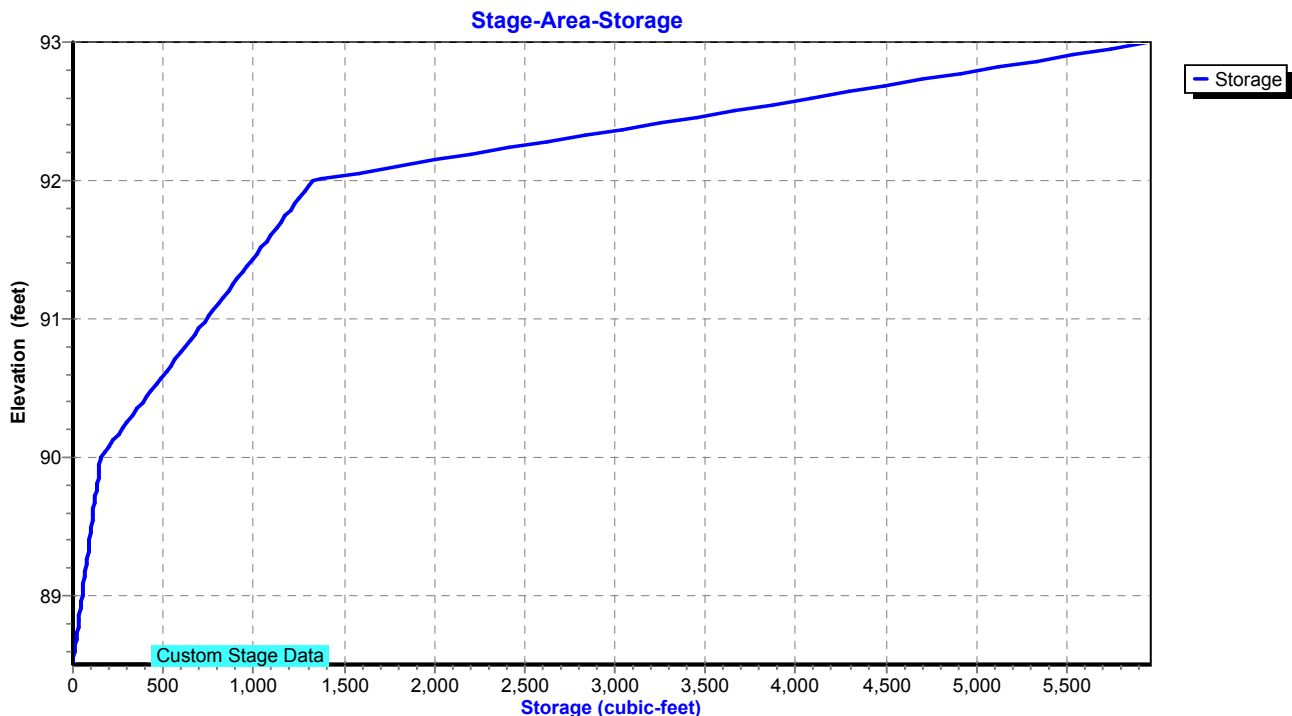
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Pond 6P: DET 6 Culvert



Pond 6P: DET 6 Culvert



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Pond 7P: DET 7 Culvert

Inflow Area = 64,033 sf, 0.00% Impervious, Inflow Depth = 5.13" for 50 year event
 Inflow = 4.93 cfs @ 12.26 hrs, Volume= 27,352 cf
 Outflow = 3.27 cfs @ 12.46 hrs, Volume= 27,352 cf, Atten= 34%, Lag= 12.2 min
 Primary = 3.27 cfs @ 12.46 hrs, Volume= 27,352 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 93.48' @ 12.46 hrs Storage= 2,887 cf

Plug-Flow detention time= 6.9 min calculated for 27,352 cf (100% of inflow)

Center-of-Mass det. time= 6.9 min (843.6 - 836.7)

Volume	Invert	Avail.Storage	Storage Description
#1	92.50'	5,874 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
92.50	0	0
93.00	103	103
94.00	5,771	5,874

Device	Routing	Invert	Outlet Devices
#1	Primary	92.50'	15.0" Round Culvert L= 202.0' Ke= 0.600 Inlet / Outlet Invert= 92.50' / 89.11' S= 0.0168 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=3.27 cfs @ 12.46 hrs HW=93.48' (Free Discharge)↑**1=Culvert** (Inlet Controls 3.27 cfs @ 3.16 fps)

Existing Conditions

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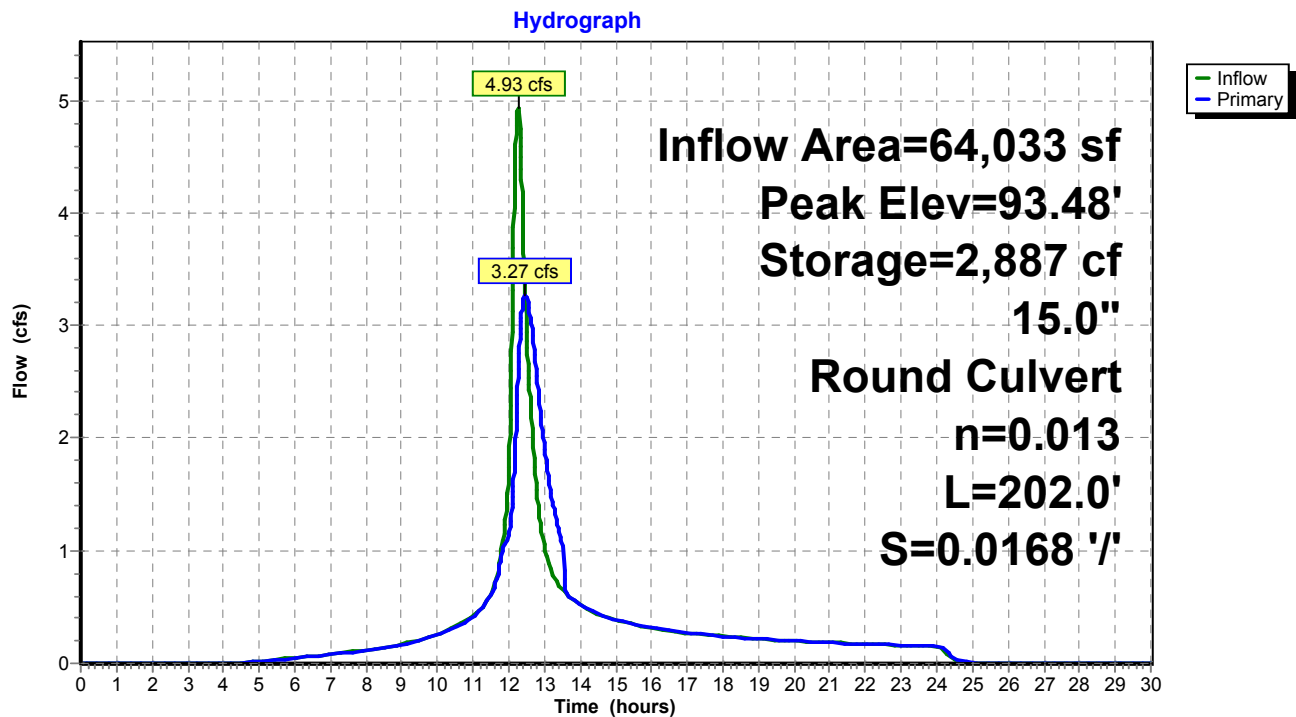
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NORWALK 24-hr S1 50 year Rainfall=7.34"

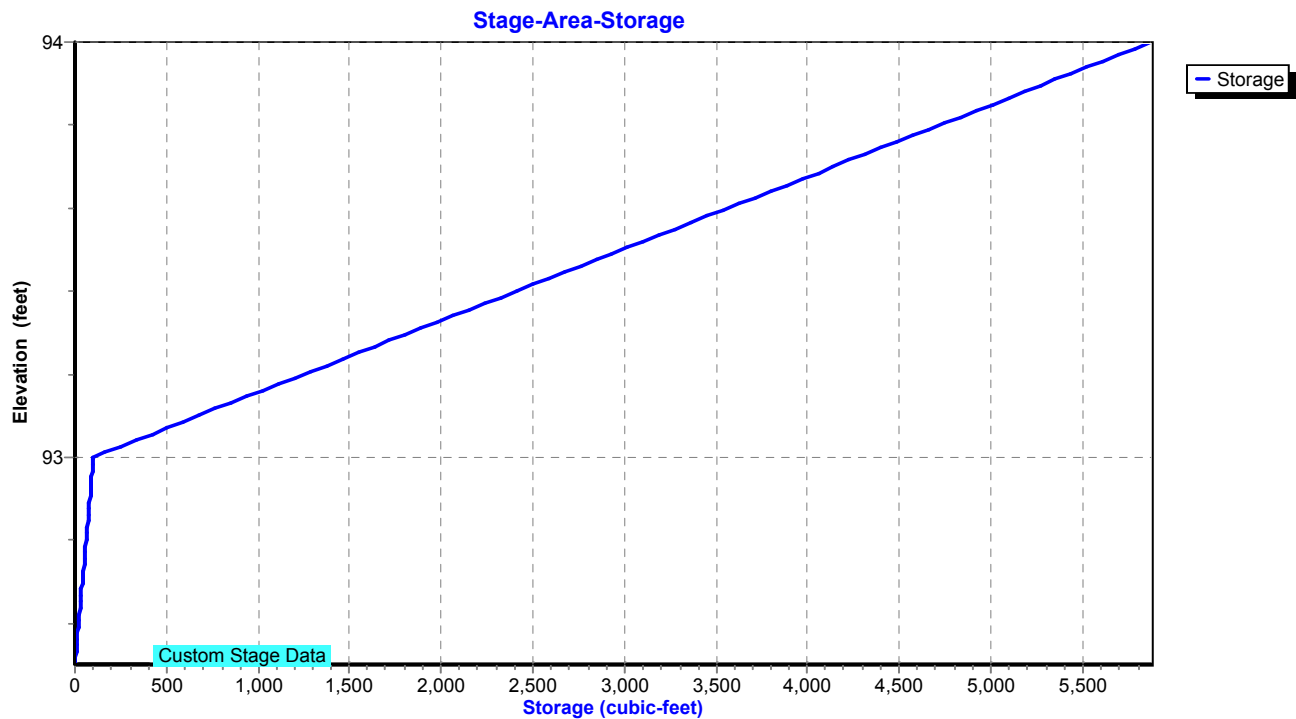
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Pond 7P: DET 7 Culvert



Pond 7P: DET 7 Culvert



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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Pond 8P: Comb. 5,6,7,8,9

Inflow Area = 1,584,277 sf, 30.02% Impervious, Inflow Depth = 4.99" for 50 year event
 Inflow = 70.33 cfs @ 12.69 hrs, Volume= 659,122 cf
 Outflow = 70.32 cfs @ 12.70 hrs, Volume= 659,122 cf, Atten= 0%, Lag= 0.6 min
 Primary = 70.32 cfs @ 12.70 hrs, Volume= 659,122 cf
 Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 72.45' @ 12.70 hrs Storage= 384 cf

Plug-Flow detention time= 0.0 min calculated for 658,902 cf (100% of inflow)

Center-of-Mass det. time= 0.0 min (861.1 - 861.1)

Volume	Invert	Avail.Storage	Storage Description
#1	68.40'	5,234 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.40	0	0
71.00	52	52
72.00	118	170
73.00	471	641
74.00	1,318	1,959
75.00	3,275	5,234

Device	Routing	Invert	Outlet Devices
#1	Primary	68.40'	42.0" Round Culvert L= 900.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 68.40' / 36.99' S= 0.0349 ' / S= 0.0349 ' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=70.33 cfs @ 12.70 hrs HW=72.45' (Free Discharge)↑ **1=Culvert** (Inlet Controls 70.33 cfs @ 7.31 fps)

Existing Conditions

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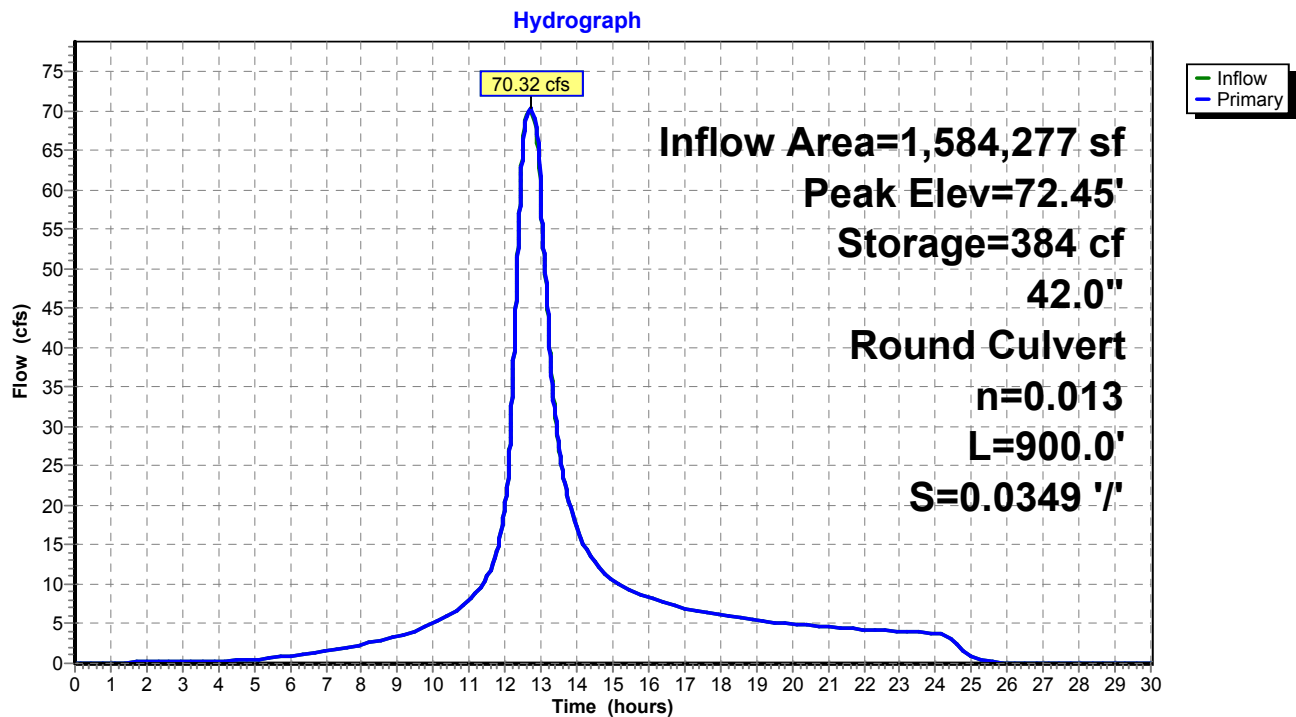
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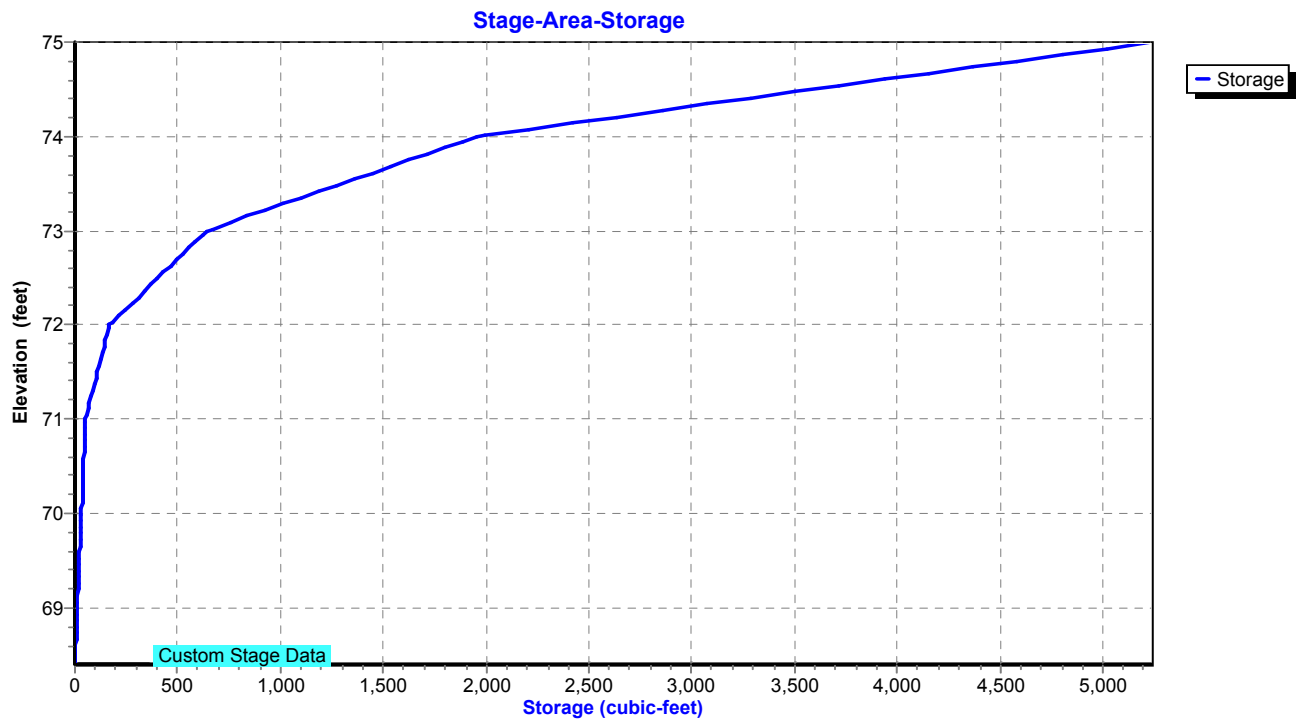
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Pond 8P: Comb. 5,6,7,8,9



Pond 8P: Comb. 5,6,7,8,9



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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Pond 9P: MH-K

Inflow Area = 246,332 sf, 62.25% Impervious, Inflow Depth = 5.67" for 50 year event
Inflow = 31.41 cfs @ 12.04 hrs, Volume= 116,321 cf
Outflow = 31.41 cfs @ 12.04 hrs, Volume= 116,321 cf, Atten= 0%, Lag= 0.0 min
Primary = 31.41 cfs @ 12.04 hrs, Volume= 116,321 cf
Routed to Pond 3P : DETENTION BASIN #2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 52.49' @ 12.04 hrs

Flood Elev= 51.80'

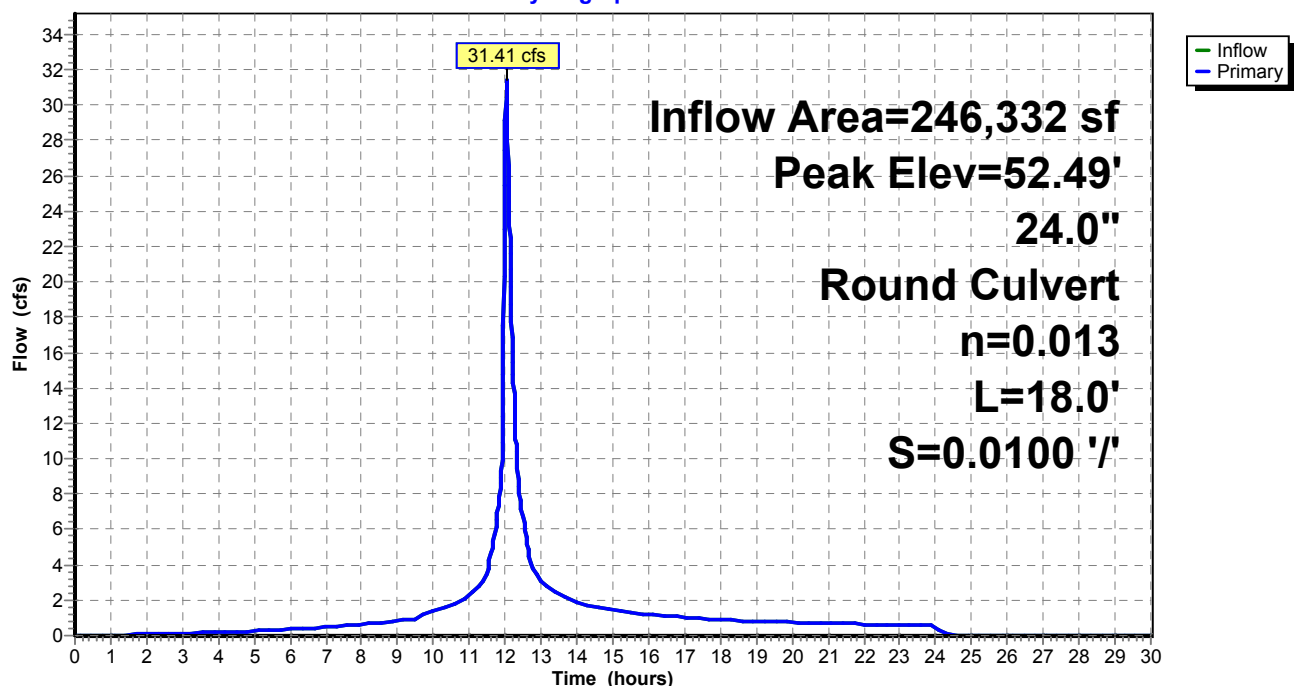
Device	Routing	Invert	Outlet Devices
#1	Primary	47.18'	24.0" Round Culvert L= 18.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.18' / 47.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=31.31 cfs @ 12.04 hrs HW=52.46' (Free Discharge)

↑1=Culvert (Inlet Controls 31.31 cfs @ 9.97 fps)

Pond 9P: MH-K

Hydrograph



Existing Conditions

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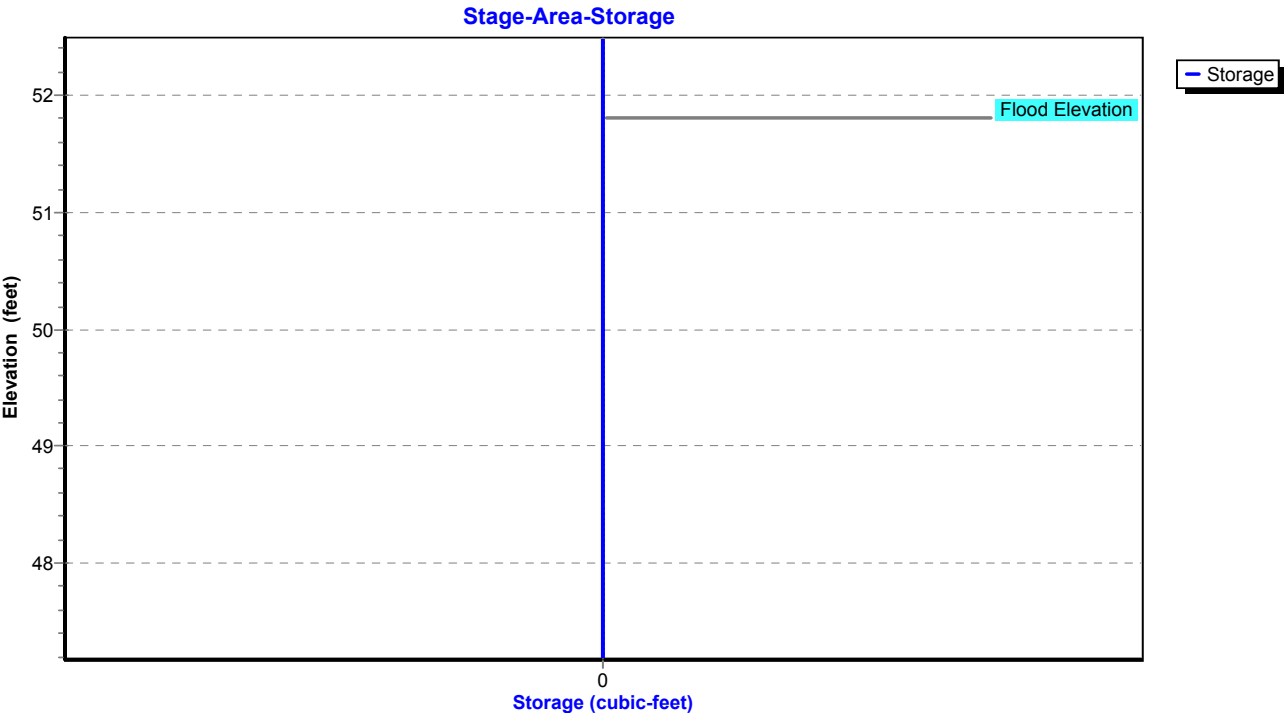
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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Pond 9P: MH-K



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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Pond 10P: MH-L

Inflow Area = 71,874 sf, 85.27% Impervious, Inflow Depth = 5.81" for 50 year event
Inflow = 12.87 cfs @ 12.03 hrs, Volume= 34,798 cf
Outflow = 12.87 cfs @ 12.03 hrs, Volume= 34,798 cf, Atten= 0%, Lag= 0.0 min
Primary = 12.87 cfs @ 12.03 hrs, Volume= 34,798 cf
Routed to Pond 9P : MH-K

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 51.65' @ 12.03 hrs

Flood Elev= 53.00'

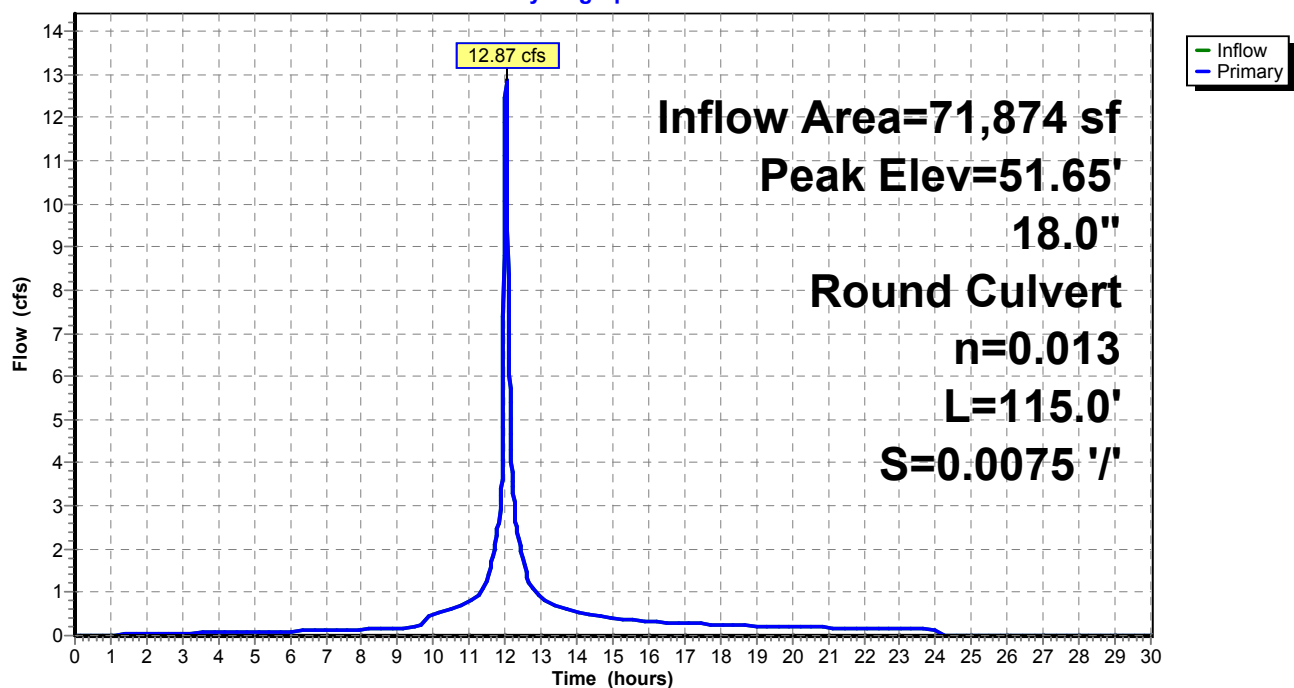
Device	Routing	Invert	Outlet Devices
#1	Primary	48.04'	18.0" Round Culvert L= 115.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.04' / 47.18' S= 0.0075 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=12.81 cfs @ 12.03 hrs HW=51.62' (Free Discharge)

↑1=Culvert (Barrel Controls 12.81 cfs @ 7.25 fps)

Pond 10P: MH-L

Hydrograph



Existing Conditions

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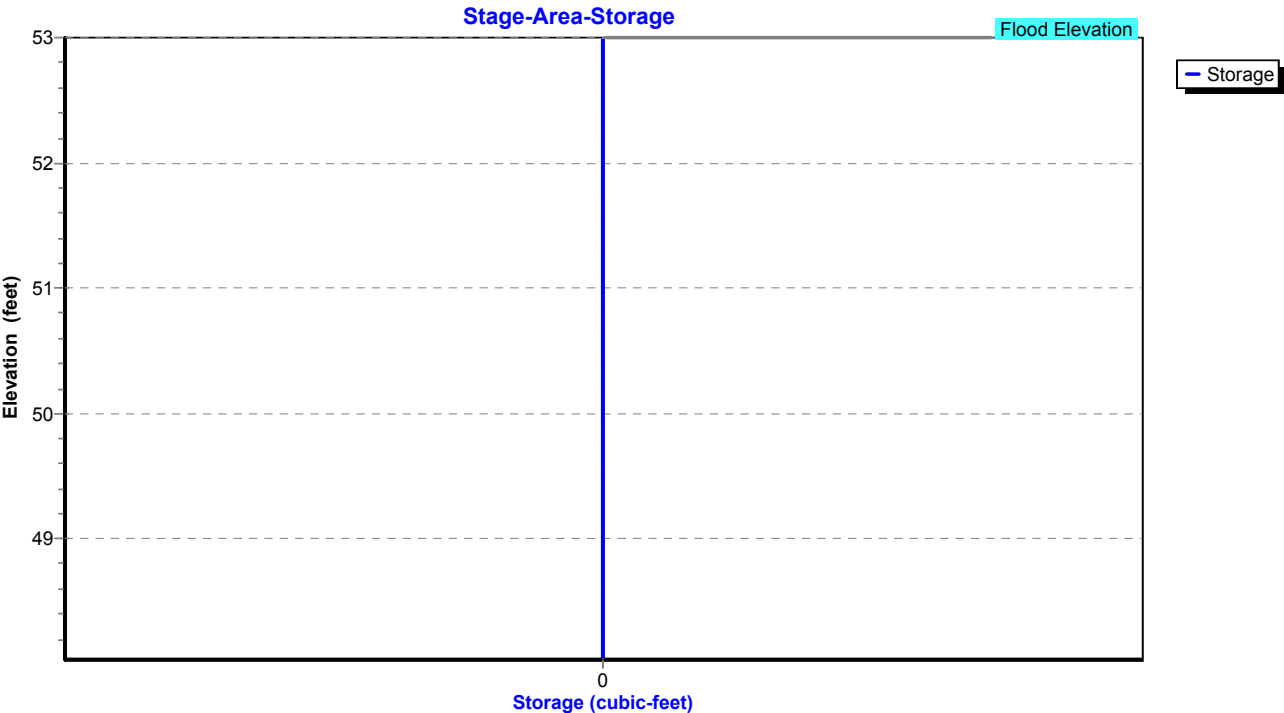
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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Pond 10P: MH-L



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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Pond 11P: Pipe Storage

Inflow Area = 40,903 sf, 82.85% Impervious, Inflow Depth = 6.64" for 50 year event
Inflow = 7.32 cfs @ 12.03 hrs, Volume= 22,622 cf
Outflow = 7.29 cfs @ 12.03 hrs, Volume= 17,303 cf, Atten= 0%, Lag= 0.0 min
Primary = 7.29 cfs @ 12.03 hrs, Volume= 17,303 cf
Routed to Pond 10P : MH-L

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 53.10' @ 12.03 hrs Storage= 0.081 af

Plug-Flow detention time= 153.6 min calculated for 17,303 cf (76% of inflow)

Center-of-Mass det. time= 47.8 min (813.8 - 766.0)

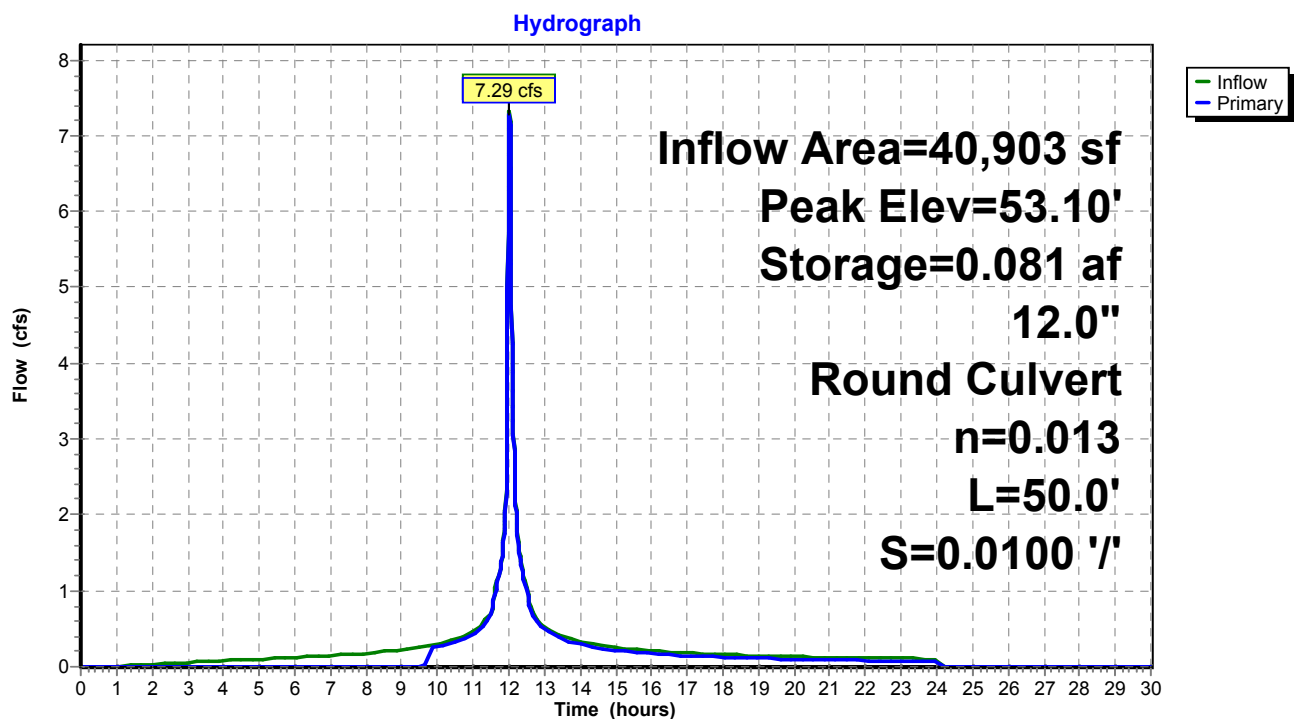
Volume	Invert	Avail.Storage	Storage Description
#1	45.50'	0.081 af	36.0" Round Pipe Storage x 2 L= 250.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.50'	12.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.50' / 48.00' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=7.26 cfs @ 12.03 hrs HW=53.07' (Free Discharge)

←1=Culvert (Barrel Controls 7.26 cfs @ 9.24 fps)

Pond 11P: Pipe Storage



Existing Conditions

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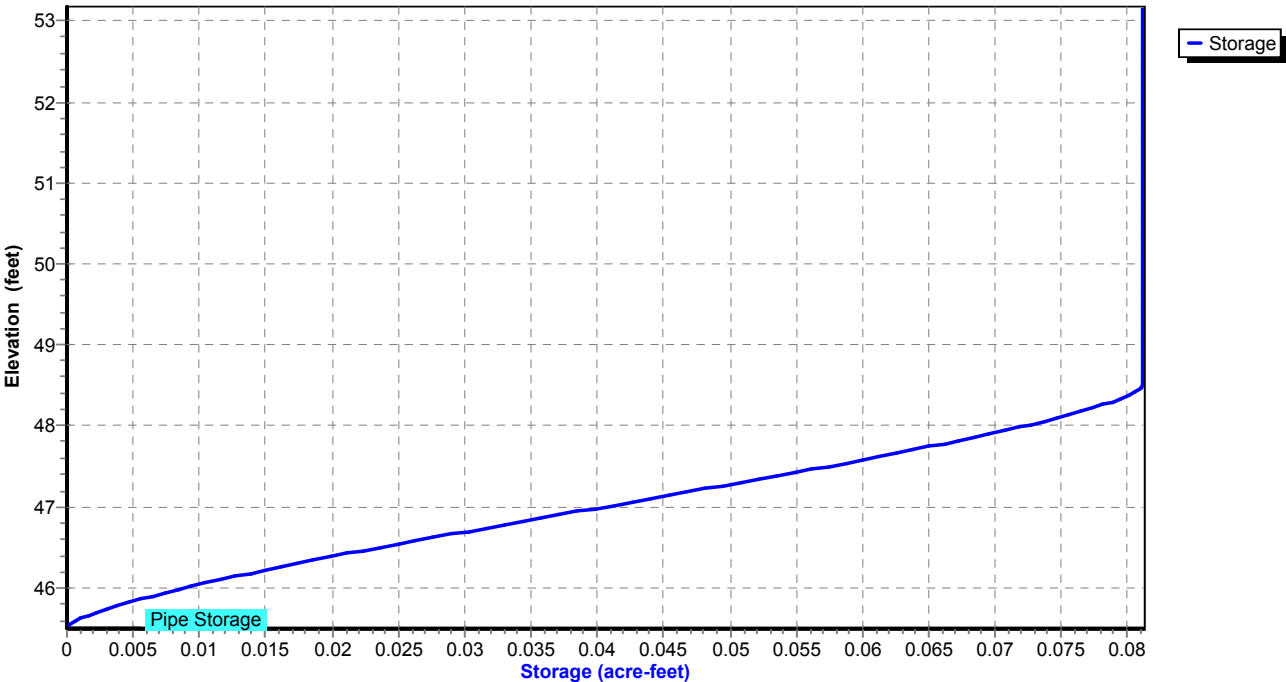
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Pond 11P: Pipe Storage

Stage-Area-Storage



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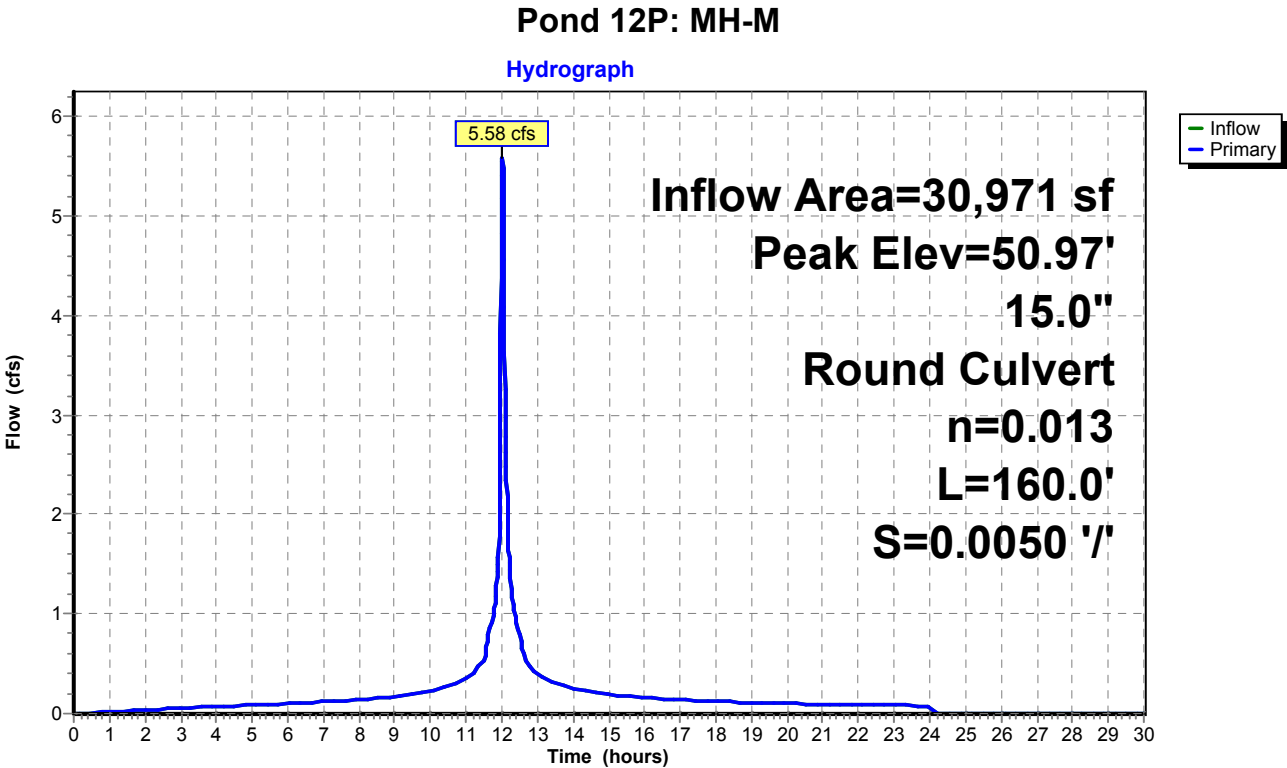
Summary for Pond 12P: MH-M

Inflow Area = 30,971 sf, 88.47% Impervious, Inflow Depth = 6.78" for 50 year event
Inflow = 5.58 cfs @ 12.03 hrs, Volume= 17,496 cf
Outflow = 5.58 cfs @ 12.03 hrs, Volume= 17,496 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.58 cfs @ 12.03 hrs, Volume= 17,496 cf
Routed to Pond 10P : MH-L

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 50.97' @ 12.03 hrs
Flood Elev= 54.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.84'	15.0" Round Culvert L= 160.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.84' / 48.04' S= 0.0050 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=5.56 cfs @ 12.03 hrs HW=50.96' (Free Discharge)
1=Culvert (Barrel Controls 5.56 cfs @ 4.53 fps)



Existing Conditions

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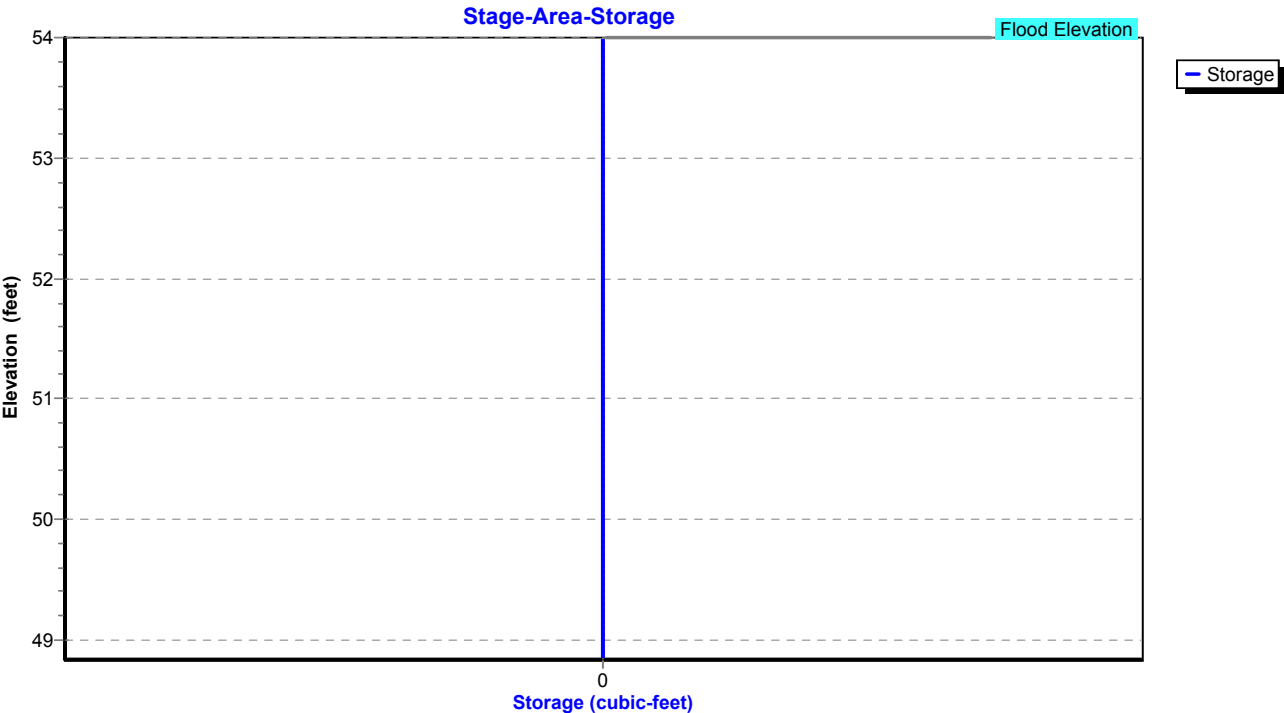
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Pond 12P: MH-M



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Summary for Pond 13P: MH-J

Inflow Area = 17,032 sf, 79.03% Impervious, Inflow Depth = 6.51" for 50 year event
Inflow = 3.03 cfs @ 12.03 hrs, Volume= 9,243 cf
Outflow = 3.03 cfs @ 12.03 hrs, Volume= 9,243 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.03 cfs @ 12.03 hrs, Volume= 9,243 cf
Routed to Pond 12P : MH-M

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 51.24' @ 12.03 hrs

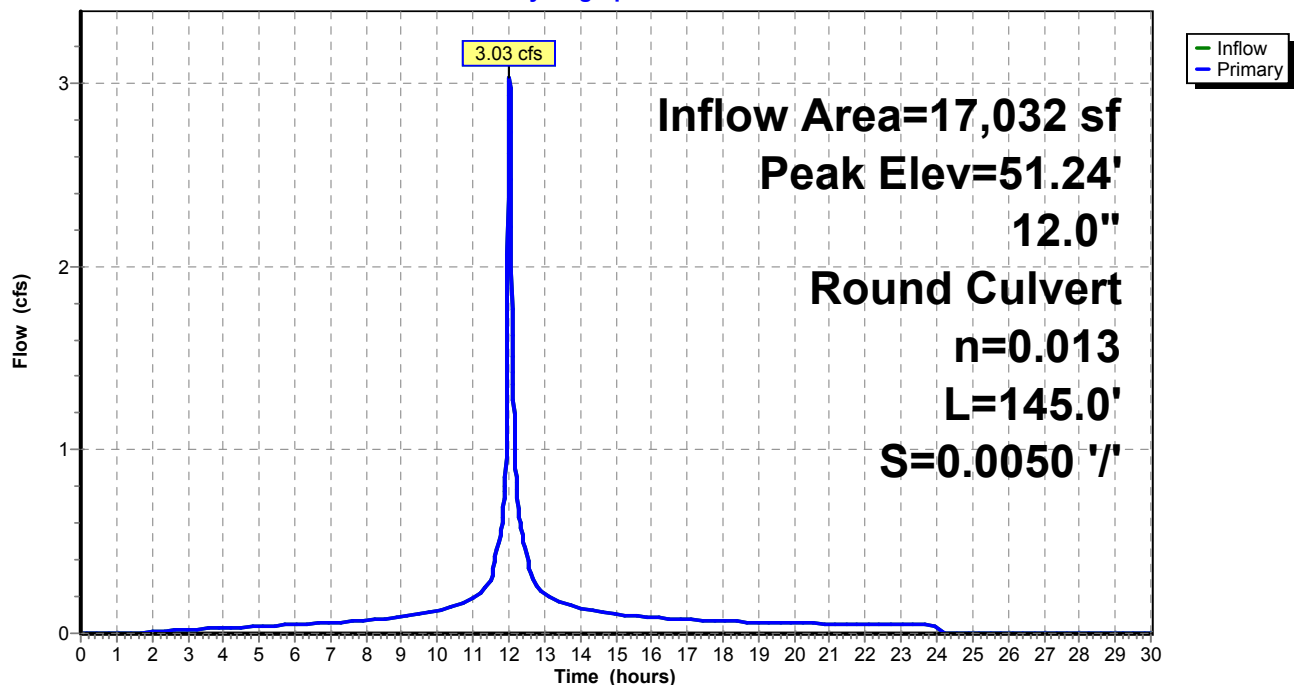
Device	Routing	Invert	Outlet Devices
#1	Primary	49.57'	12.0" Round Culvert L= 145.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.57' / 48.84' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=3.02 cfs @ 12.03 hrs HW=51.23' (Free Discharge)

↑1=Culvert (Barrel Controls 3.02 cfs @ 3.84 fps)

Pond 13P: MH-J

Hydrograph



Existing Conditions

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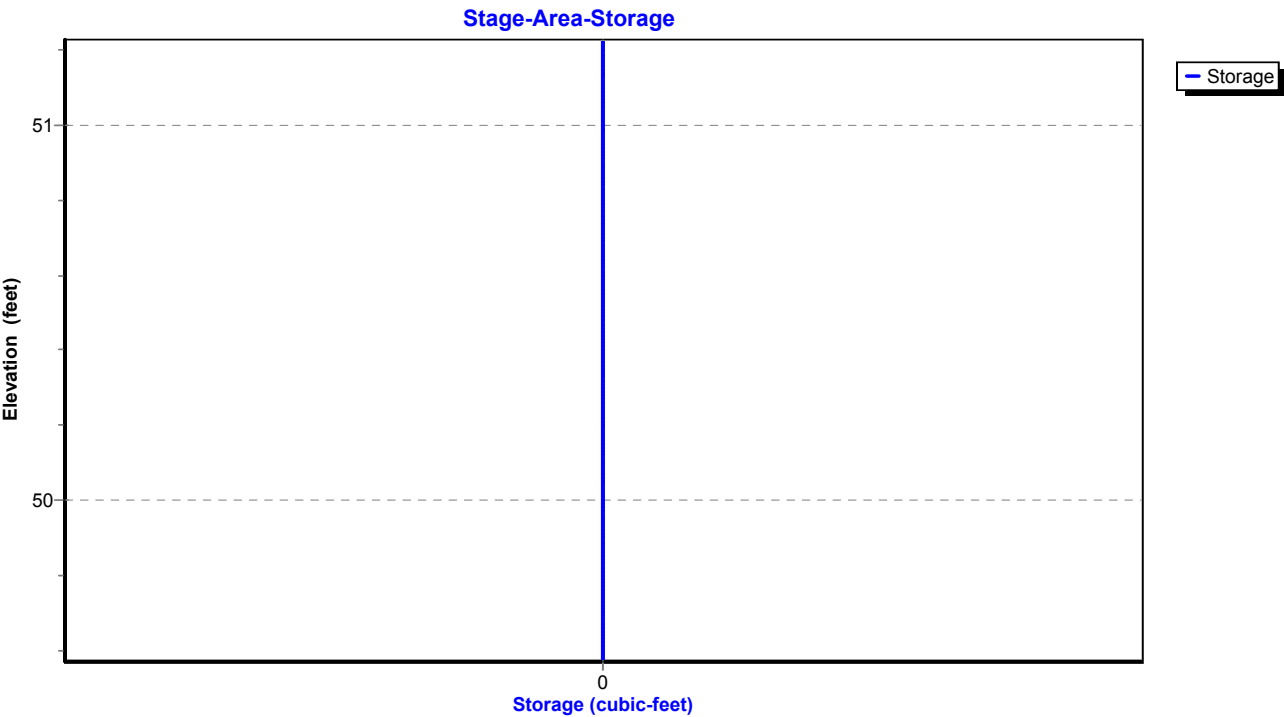
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Pond 13P: MH-J



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Summary for Pond 14P: MH-O

Inflow Area = 144,140 sf, 45.36% Impervious, Inflow Depth = 5.37" for 50 year event
Inflow = 14.73 cfs @ 12.10 hrs, Volume= 64,474 cf
Outflow = 14.73 cfs @ 12.10 hrs, Volume= 64,474 cf, Atten= 0%, Lag= 0.0 min
Primary = 14.73 cfs @ 12.10 hrs, Volume= 64,474 cf
Routed to Pond 9P : MH-K

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 51.88' @ 12.10 hrs

Flood Elev= 51.80'

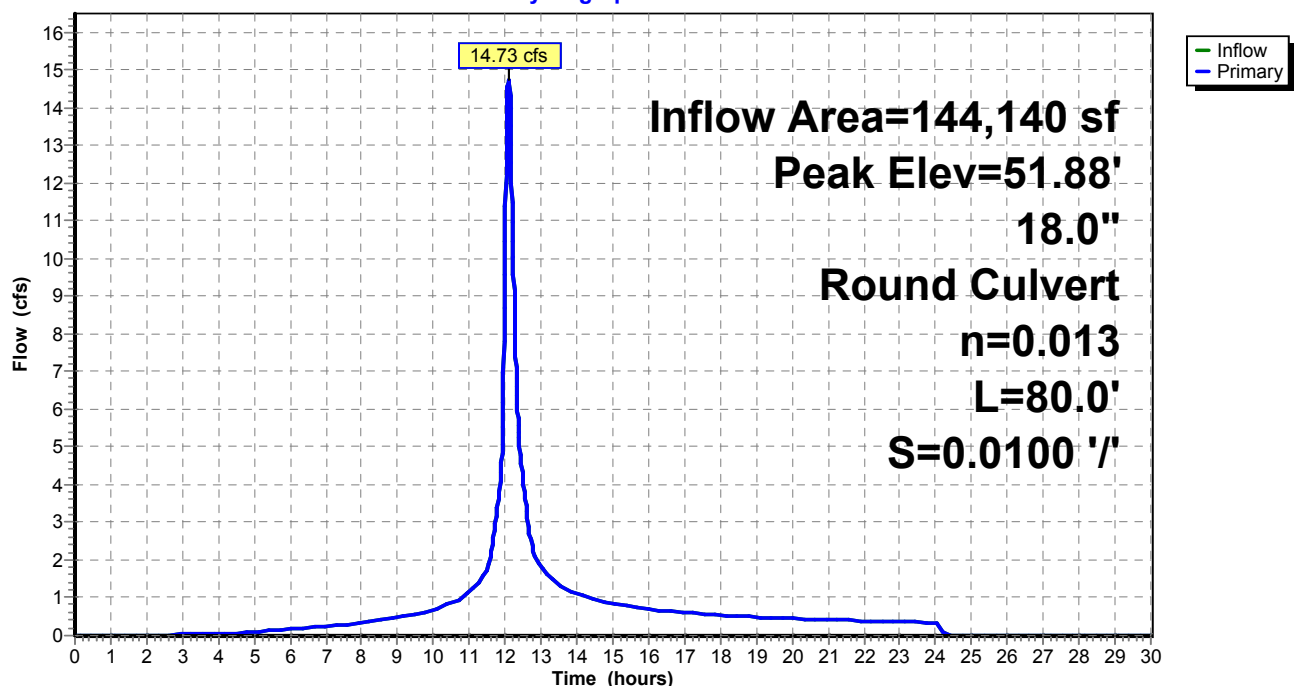
Device	Routing	Invert	Outlet Devices
#1	Primary	47.98'	18.0" Round Culvert L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.98' / 47.18' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=14.73 cfs @ 12.10 hrs HW=51.88' (Free Discharge)

↑1=Culvert (Barrel Controls 14.73 cfs @ 8.33 fps)

Pond 14P: MH-O

Hydrograph



Existing Conditions

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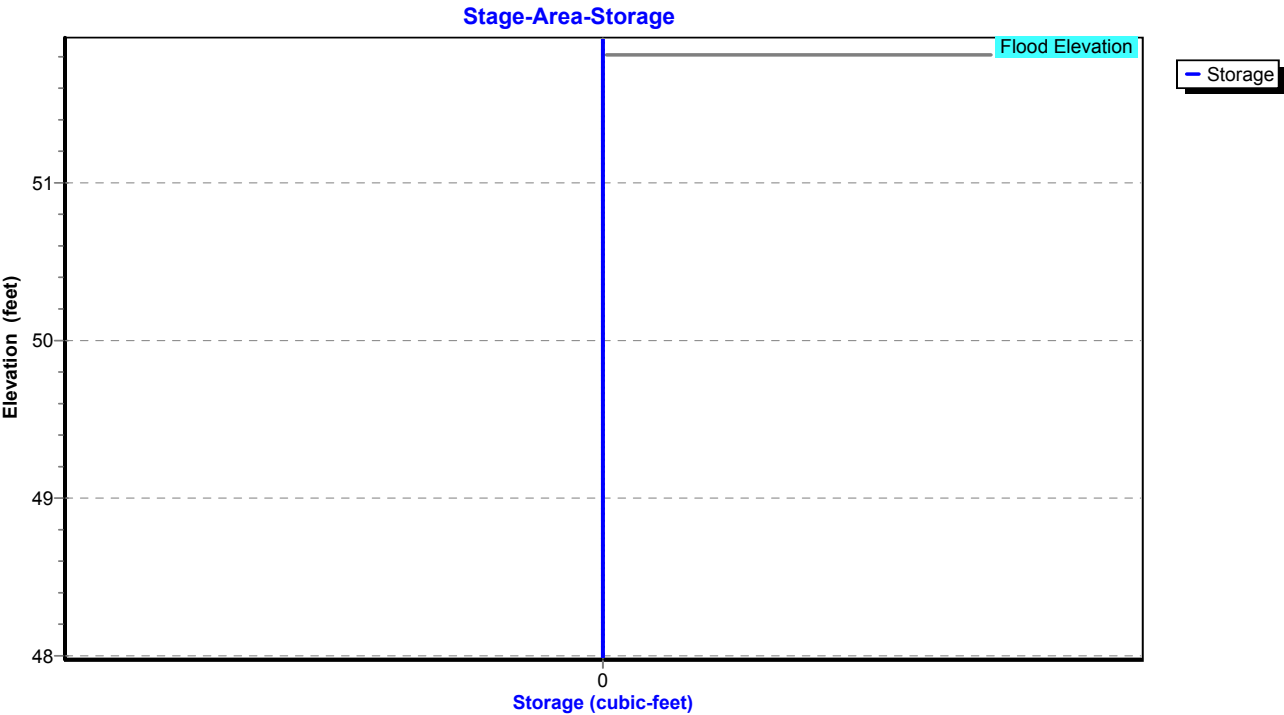
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Pond 14P: MH-O



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Summary for Pond 15P: MH-P

Inflow Area = 126,542 sf, 40.90% Impervious, Inflow Depth = 5.21" for 50 year event
Inflow = 13.12 cfs @ 12.11 hrs, Volume= 54,902 cf
Outflow = 13.12 cfs @ 12.11 hrs, Volume= 54,902 cf, Atten= 0%, Lag= 0.0 min
Primary = 13.12 cfs @ 12.11 hrs, Volume= 54,902 cf
Routed to Pond 14P : MH-O

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 53.35' @ 12.11 hrs

Flood Elev= 53.90'

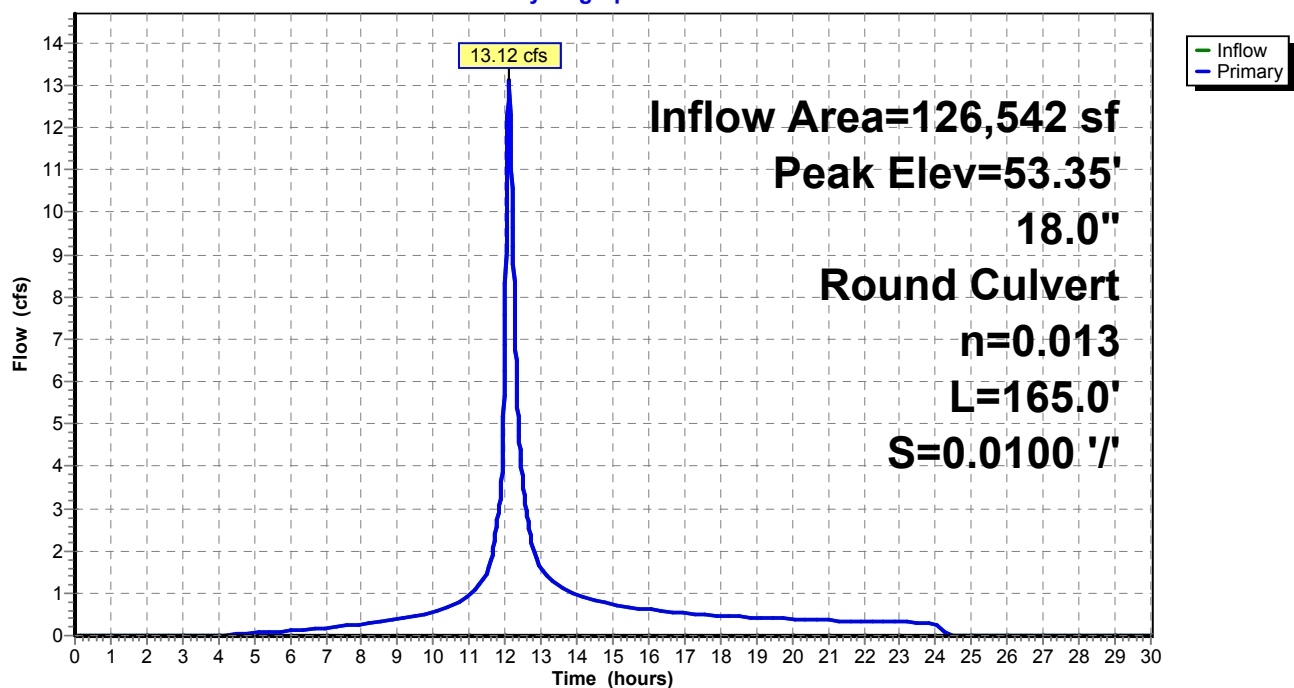
Device	Routing	Invert	Outlet Devices
#1	Primary	49.63'	18.0" Round Culvert L= 165.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.63' / 47.98' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=13.12 cfs @ 12.11 hrs HW=53.35' (Free Discharge)

↑1=Culvert (Barrel Controls 13.12 cfs @ 7.42 fps)

Pond 15P: MH-P

Hydrograph



Existing Conditions

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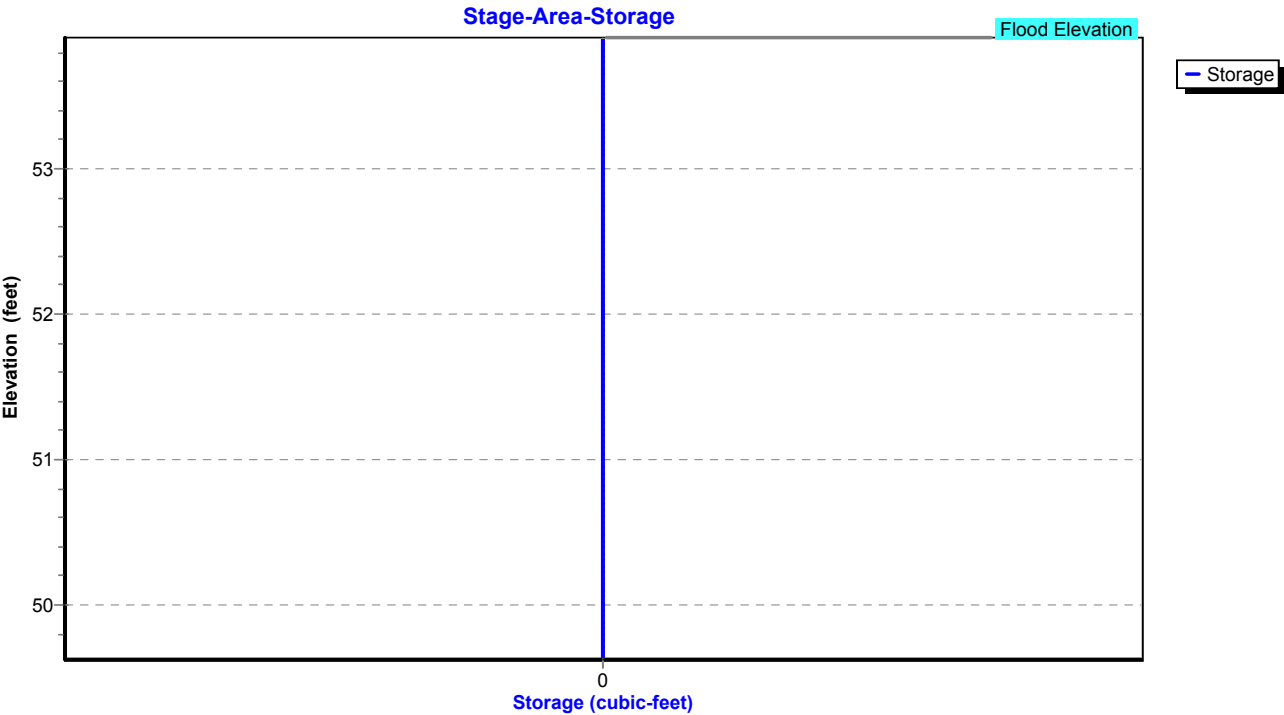
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Pond 15P: MH-P



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Summary for Pond 16P: MH-Q

Inflow Area = 115,826 sf, 38.74% Impervious, Inflow Depth = 5.13" for 50 year event
Inflow = 12.23 cfs @ 12.11 hrs, Volume= 49,476 cf
Outflow = 12.23 cfs @ 12.11 hrs, Volume= 49,476 cf, Atten= 0%, Lag= 0.0 min
Primary = 12.23 cfs @ 12.11 hrs, Volume= 49,476 cf
Routed to Pond 15P : MH-P

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 59.12' @ 12.11 hrs

Flood Elev= 55.90'

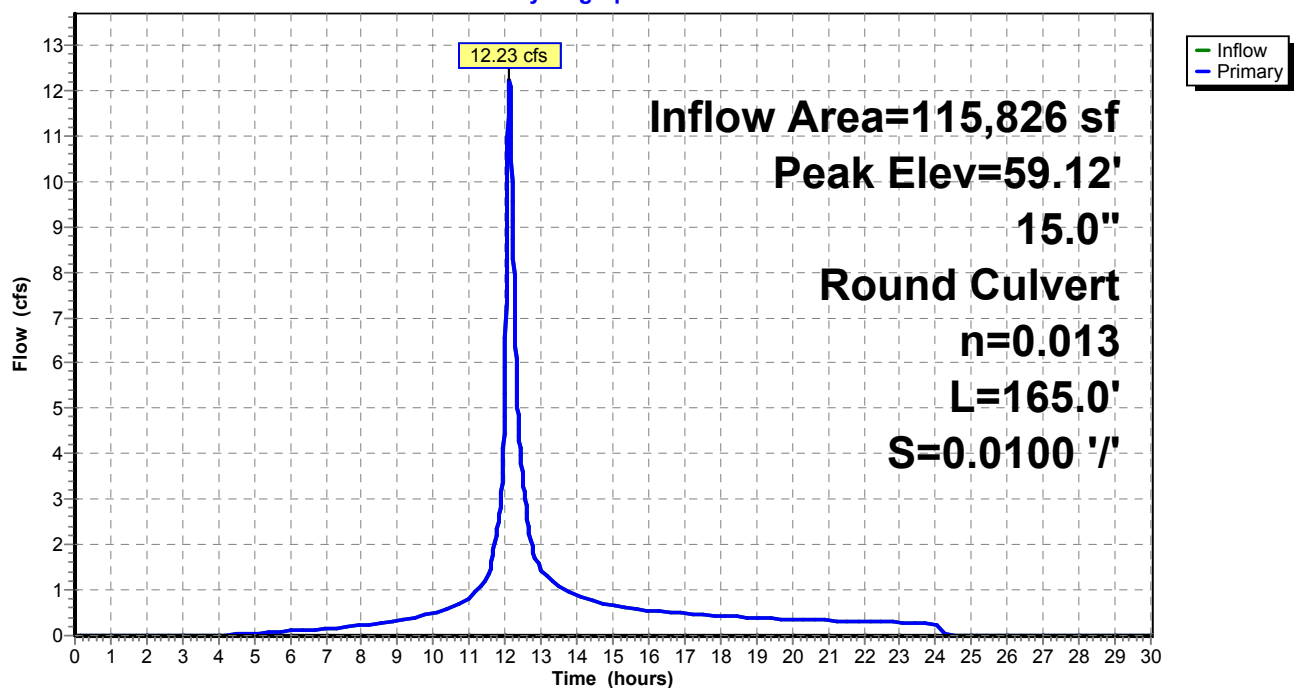
Device	Routing	Invert	Outlet Devices
#1	Primary	51.28'	15.0" Round Culvert L= 165.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 51.28' / 49.63' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=12.21 cfs @ 12.11 hrs HW=59.10' (Free Discharge)

↑1=Culvert (Barrel Controls 12.21 cfs @ 9.95 fps)

Pond 16P: MH-Q

Hydrograph



Existing Conditions

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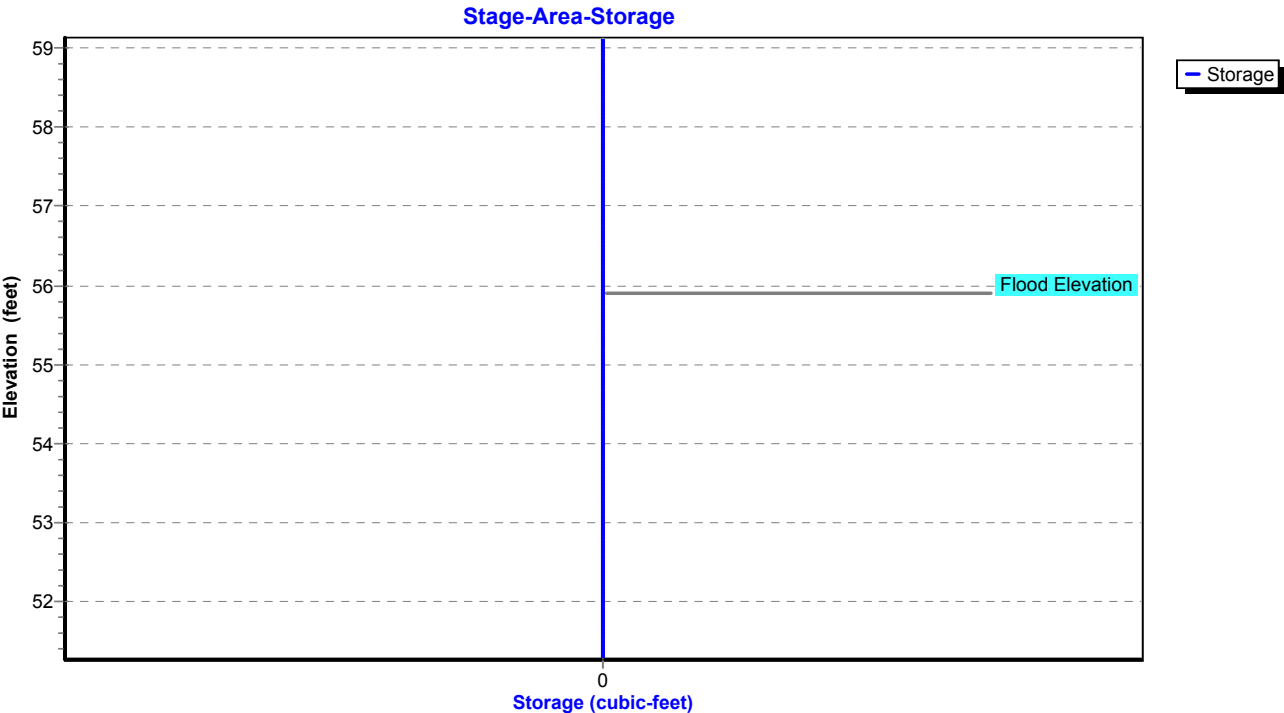
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Pond 16P: MH-Q



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Summary for Pond 17P: DET 12 Culvert

Inflow Area = 2,935,247 sf, 23.28% Impervious, Inflow Depth = 4.34" for 50 year event
 Inflow = 82.96 cfs @ 13.12 hrs, Volume= 1,062,284 cf
 Outflow = 82.81 cfs @ 13.17 hrs, Volume= 1,062,284 cf, Atten= 0%, Lag= 2.6 min
 Primary = 82.81 cfs @ 13.17 hrs, Volume= 1,062,284 cf
 Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 47.25' @ 13.17 hrs Surf.Area= 5,155 sf Storage= 7,978 cf

Plug-Flow detention time= 1.5 min calculated for 1,061,930 cf (100% of inflow)
 Center-of-Mass det. time= 1.6 min (907.0 - 905.5)

Volume	Invert	Avail.Storage	Storage Description
#1	43.80'	45,995 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
43.80	222	0	0
44.00	709	93	93
45.00	1,401	1,055	1,148
46.00	2,634	2,018	3,166
47.00	4,548	3,591	6,757
48.00	6,960	5,754	12,511
49.00	9,390	8,175	20,686
50.00	12,553	10,972	31,657
51.00	16,122	14,338	45,995

Device	Routing	Invert	Outlet Devices
#1	Primary	43.80'	54.0" Round Culvert L= 281.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 43.80' / 23.20' S= 0.0733 ' / Cc= 0.900 n= 0.013, Flow Area= 15.90 sf

Primary OutFlow Max=82.80 cfs @ 13.17 hrs HW=47.25' (Free Discharge)
 ↑**1=Culvert** (Inlet Controls 82.80 cfs @ 6.33 fps)

Existing Conditions

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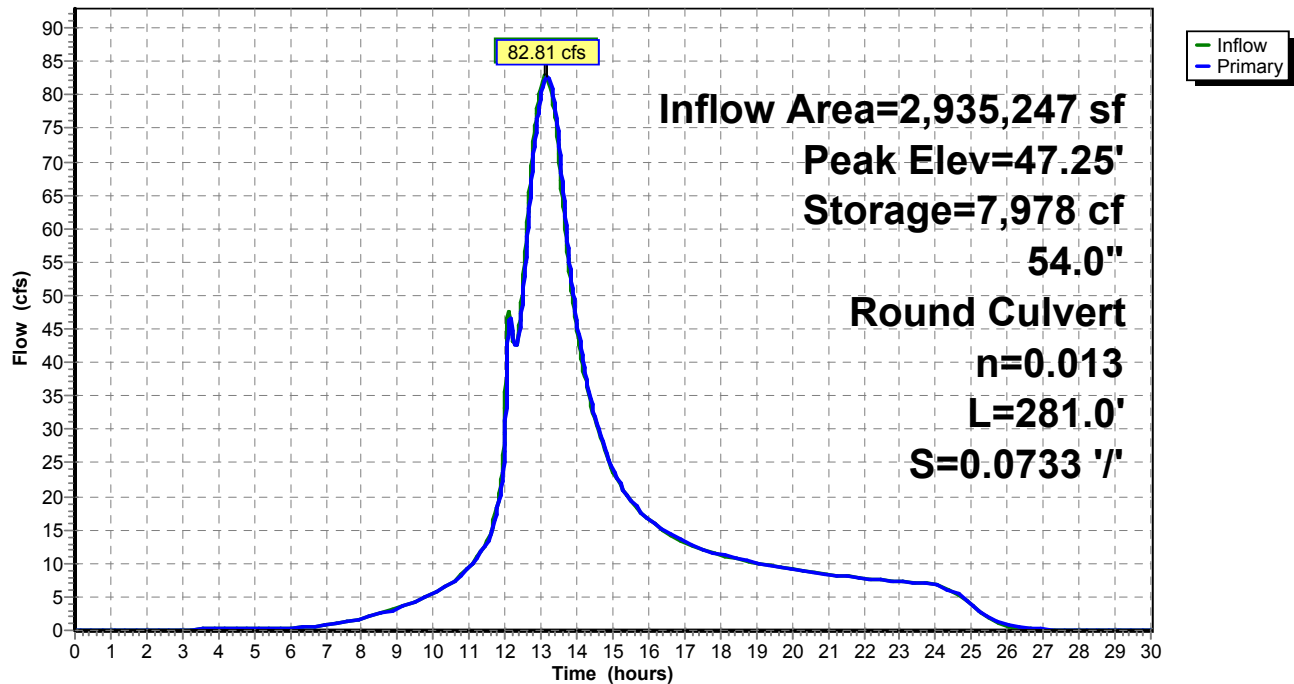
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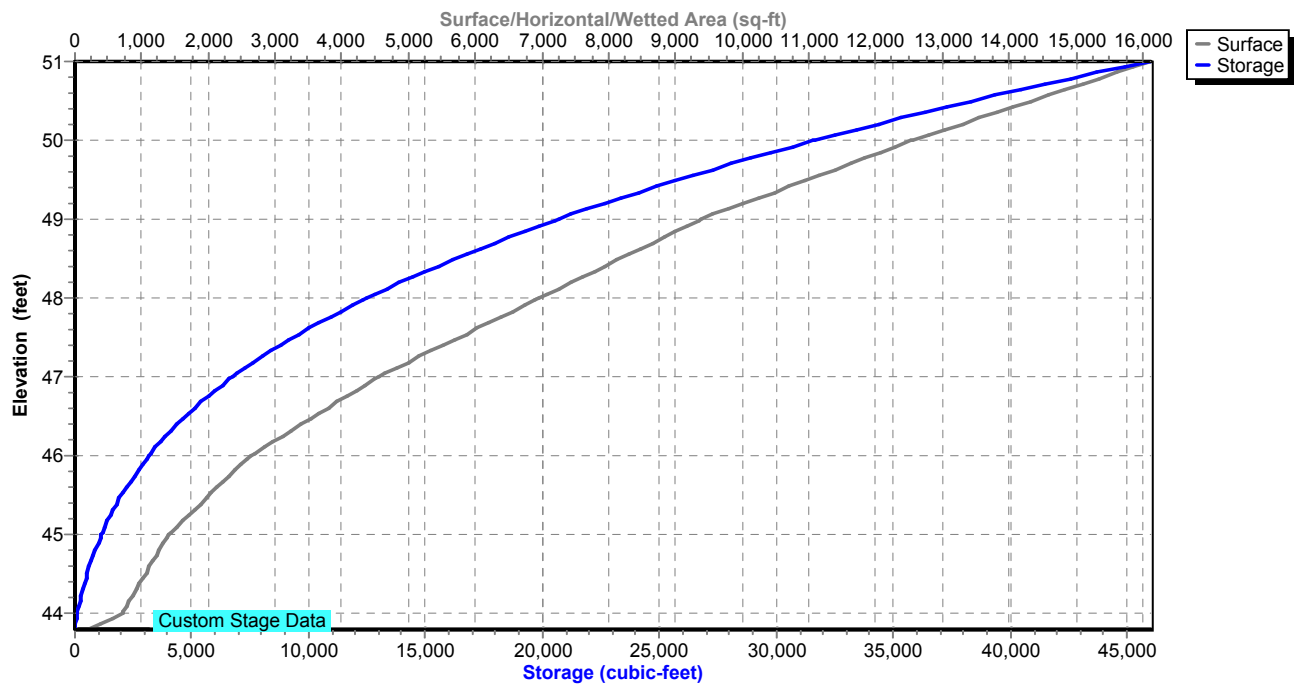
Pond 17P: DET 12 Culvert

Hydrograph



Pond 17P: DET 12 Culvert

Stage-Area-Storage



Existing Conditions

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Summary for Pond 18P: DET 4 Culvert

Inflow Area = 2,651,933 sf, 21.42% Impervious, Inflow Depth = 4.23" for 50 year event
 Inflow = 80.53 cfs @ 13.07 hrs, Volume= 935,560 cf
 Outflow = 79.72 cfs @ 13.13 hrs, Volume= 935,560 cf, Atten= 1%, Lag= 4.0 min
 Primary = 79.72 cfs @ 13.13 hrs, Volume= 935,560 cf
 Routed to Pond 17P : DET 12 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 68.99' @ 13.13 hrs Surf.Area= 1,997 sf Storage= 4,806 cf

Plug-Flow detention time= 0.3 min calculated for 935,249 cf (100% of inflow)
 Center-of-Mass det. time= 0.3 min (918.3 - 918.0)

Volume	Invert	Avail.Storage	Storage Description
#1	62.00'	13,716 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.00	10	0	0
65.00	292	453	453
66.00	695	494	947
67.00	1,049	872	1,819
68.00	1,488	1,269	3,087
69.00	2,004	1,746	4,833
70.00	2,550	2,277	7,110
71.00	3,178	2,864	9,974
72.00	4,305	3,742	13,716

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	36.0" Round Culvert L= 213.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 62.00' / 50.90' S= 0.0521 ' / S= 0.0521 ' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=79.72 cfs @ 13.13 hrs HW=68.99' (Free Discharge)
 ↑**1=Culvert** (Inlet Controls 79.72 cfs @ 11.28 hrs)

Existing Conditions

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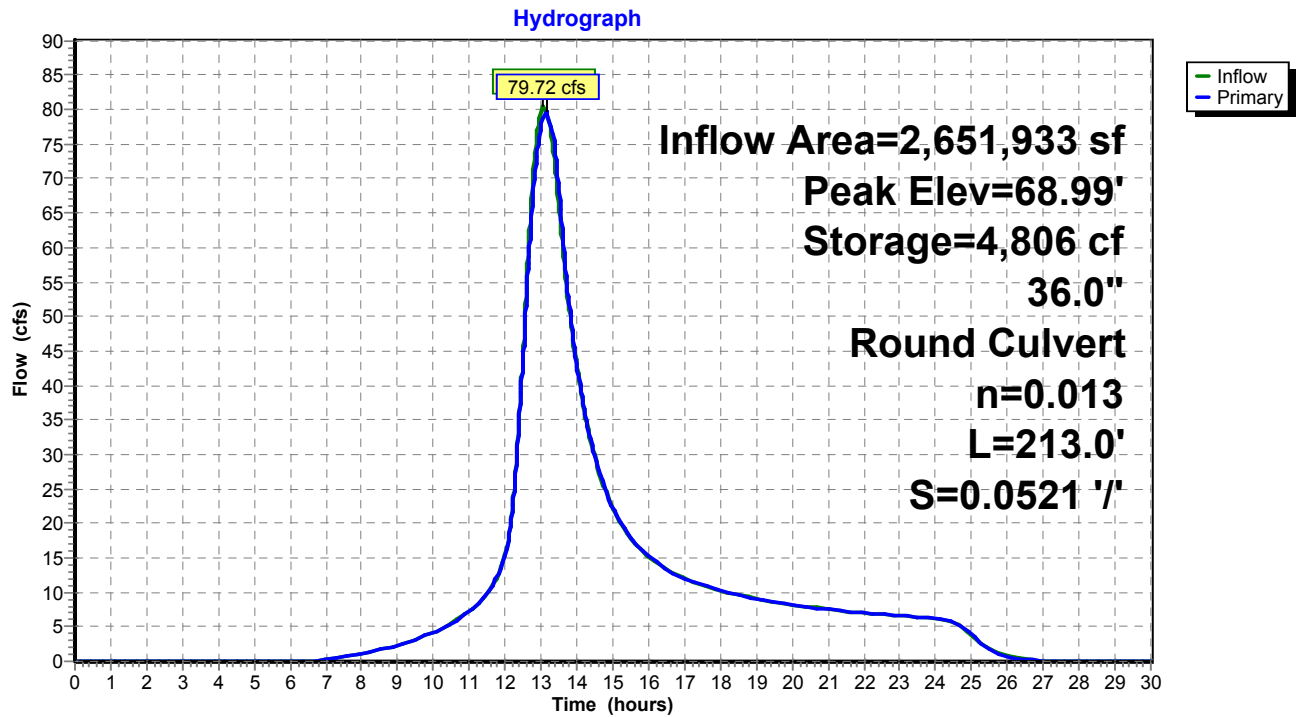
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NORWALK 24-hr S1 50 year Rainfall=7.34"

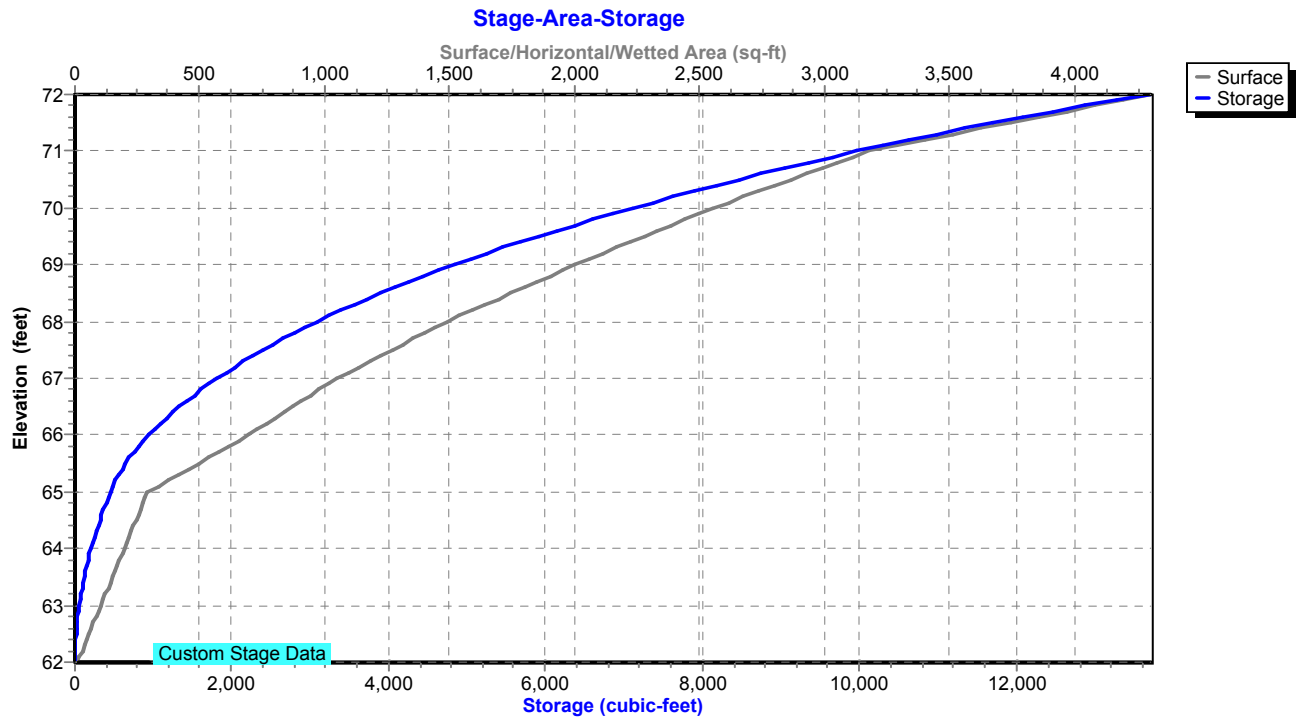
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Pond 18P: DET 4 Culvert



Pond 18P: DET 4 Culvert



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Summary for Pond 21P: DET 1 Culvert

Inflow Area = 533,174 sf, 25.00% Impervious, Inflow Depth = 4.23" for 50 year event
 Inflow = 23.87 cfs @ 12.52 hrs, Volume= 188,096 cf
 Outflow = 24.57 cfs @ 12.52 hrs, Volume= 188,096 cf, Atten= 0%, Lag= 0.0 min
 Primary = 24.57 cfs @ 12.52 hrs, Volume= 188,096 cf
 Routed to Pond 27P : DET 17 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 40.64' @ 12.52 hrs Surf.Area= 1,750 sf Storage= 1,591 cf

Plug-Flow detention time= 0.6 min calculated for 188,033 cf (100% of inflow)
 Center-of-Mass det. time= 0.7 min (881.6 - 881.0)

Volume	Invert	Avail.Storage	Storage Description
#1	37.00'	1,591 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
37.00	66	0	0
38.00	213	140	140
39.00	470	342	481
40.00	1,750	1,110	1,591

Device	Routing	Invert	Outlet Devices
#1	Primary	37.00'	24.0" Round Culvert L= 206.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 37.00' / 27.01' S= 0.0485 ' S= 0.0485 ' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=24.55 cfs @ 12.52 hrs HW=40.63' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 24.55 cfs @ 7.81 fps)

Existing Conditions

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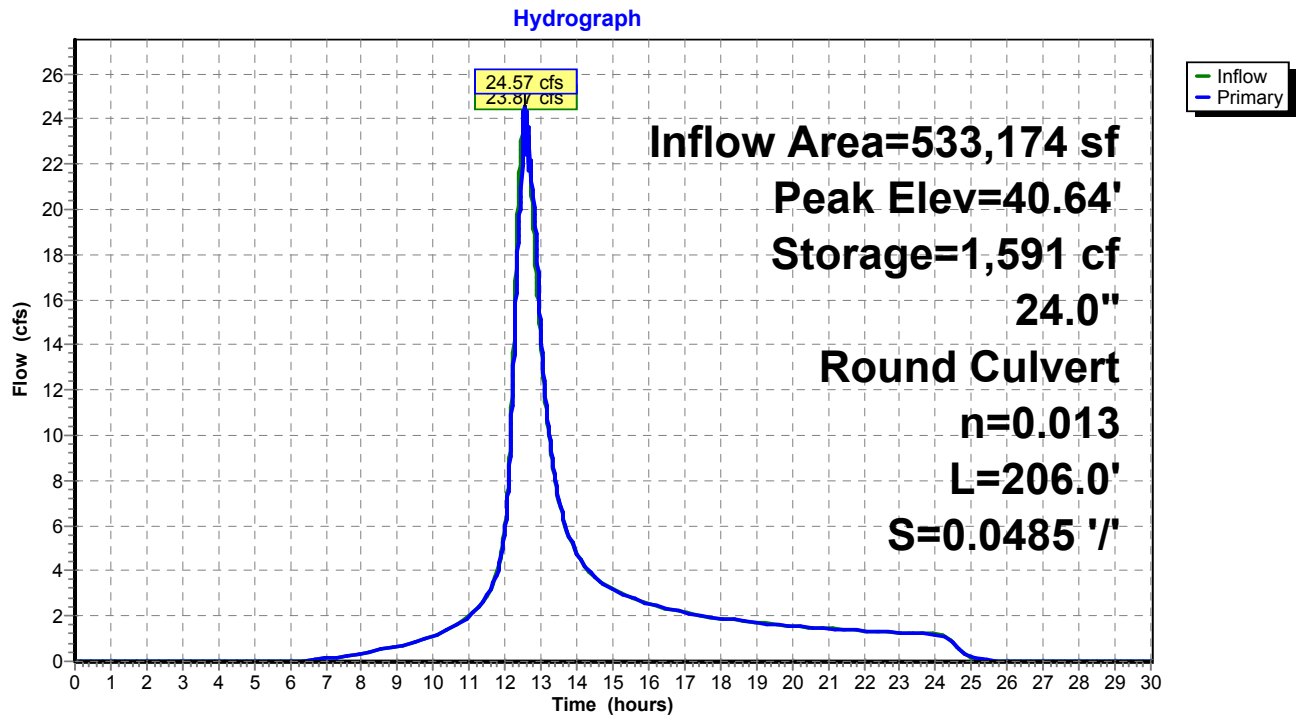
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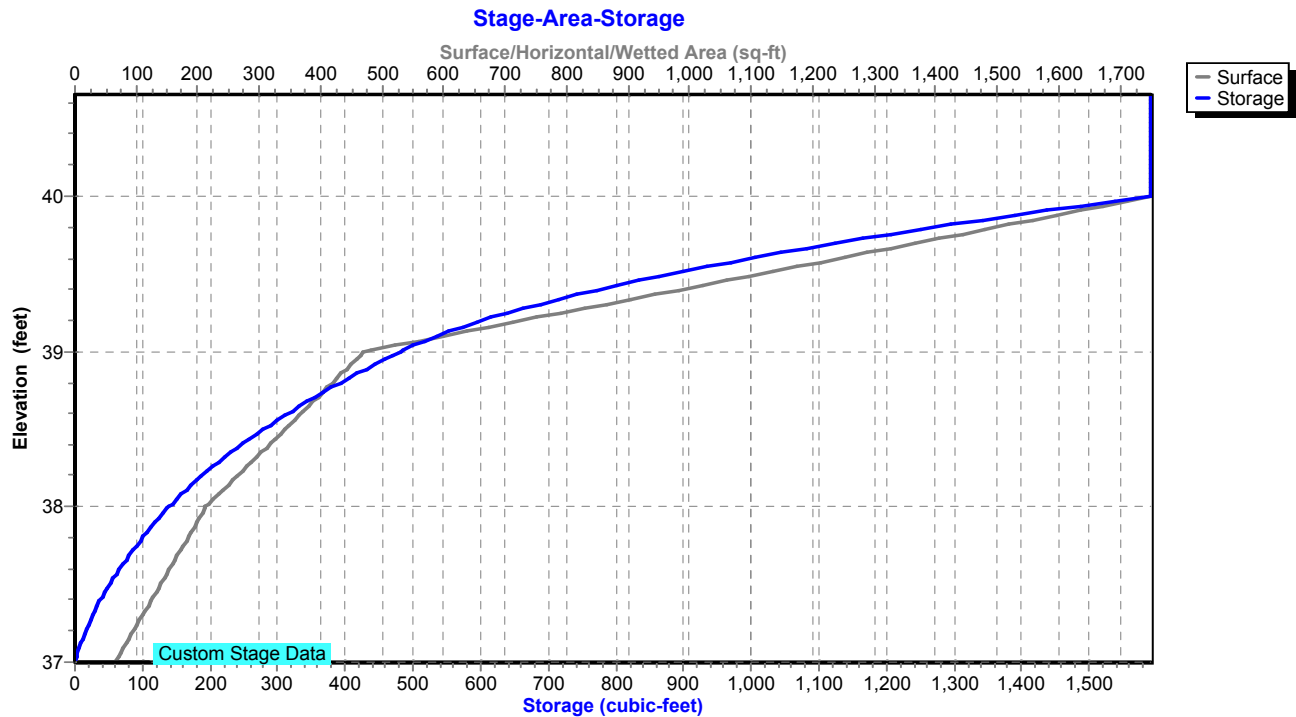
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Pond 21P: DET 1 Culvert



Pond 21P: DET 1 Culvert



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Summary for Pond 22P: DET 2 Culvert

Inflow Area = 1,290,247 sf, 25.00% Impervious, Inflow Depth = 4.79" for 50 year event
 Inflow = 54.17 cfs @ 12.74 hrs, Volume= 514,811 cf
 Outflow = 43.66 cfs @ 13.07 hrs, Volume= 514,811 cf, Atten= 19%, Lag= 19.8 min
 Primary = 43.66 cfs @ 13.07 hrs, Volume= 514,811 cf
 Routed to Pond 27P : DET 17 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 39.46' @ 13.07 hrs Surf.Area= 18,393 sf Storage= 35,833 cf

Plug-Flow detention time= 6.4 min calculated for 514,811 cf (100% of inflow)
 Center-of-Mass det. time= 6.3 min (886.5 - 880.2)

Volume	Invert	Avail.Storage	Storage Description
#1	34.80'	46,687 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.80	185	0	0
35.00	813	100	100
36.00	2,345	1,579	1,679
37.00	6,398	4,372	6,050
38.00	11,111	8,755	14,805
39.00	15,364	13,238	28,042
40.00	21,926	18,645	46,687

Device	Routing	Invert	Outlet Devices
#1	Primary	34.80'	30.0" Round Culvert L= 198.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.80' / 28.07' S= 0.0340 ' / Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=43.66 cfs @ 13.07 hrs HW=39.46' (Free Discharge)
 ↑**1=Culvert** (Inlet Controls 43.66 cfs @ 8.89 fps)

Existing Conditions

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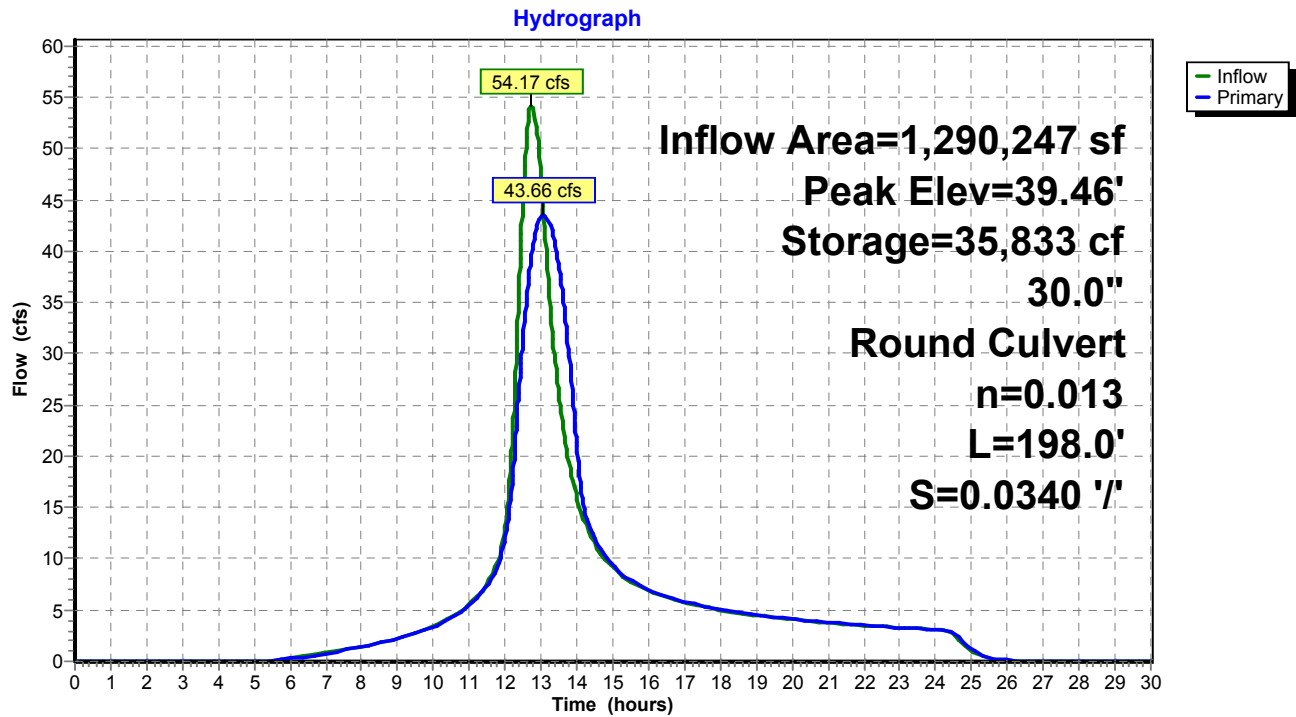
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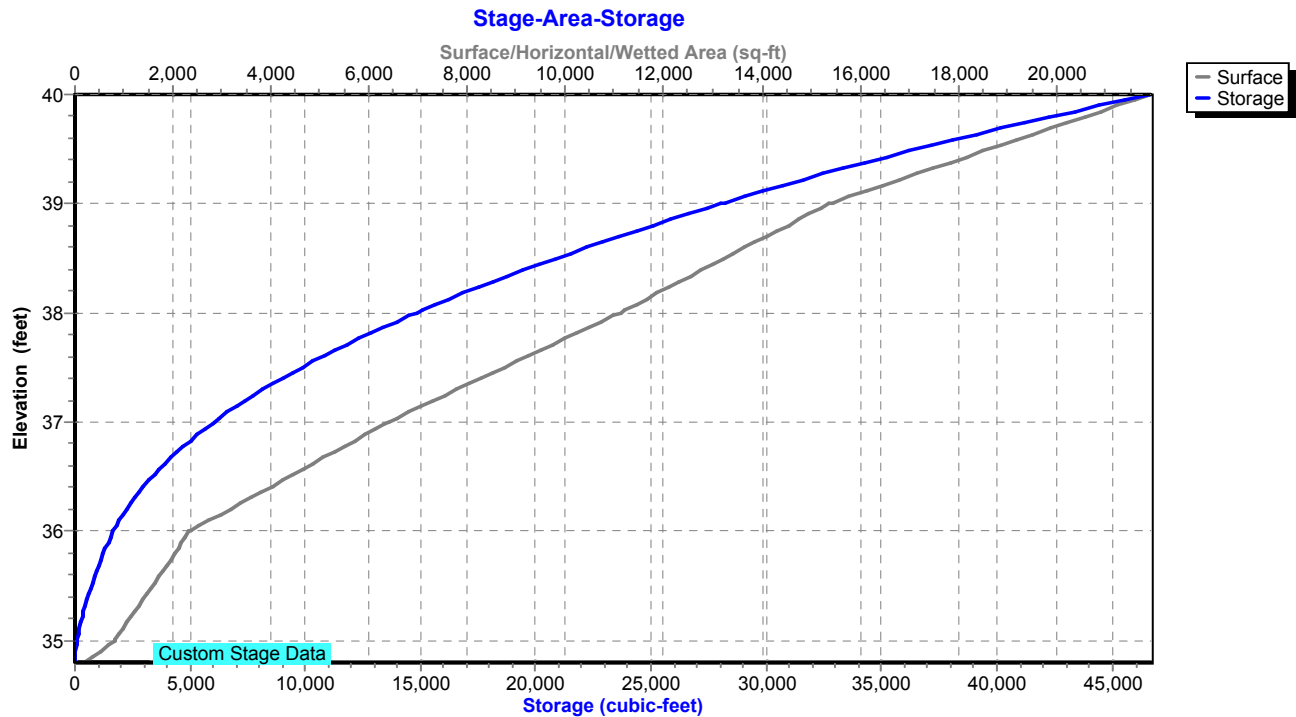
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Pond 22P: DET 2 Culvert



Pond 22P: DET 2 Culvert



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Summary for Pond 23P: DET 3 Culvert

Inflow Area = 276,170 sf, 25.00% Impervious, Inflow Depth = 4.34" for 50 year event
 Inflow = 19.82 cfs @ 12.22 hrs, Volume= 99,961 cf
 Outflow = 18.82 cfs @ 12.27 hrs, Volume= 99,961 cf, Atten= 5%, Lag= 3.0 min
 Primary = 18.82 cfs @ 12.27 hrs, Volume= 99,961 cf
 Routed to Pond 26P : DET 16 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 45.05' @ 12.27 hrs Surf.Area= 1,681 sf Storage= 1,605 cf

Plug-Flow detention time= 0.7 min calculated for 99,928 cf (100% of inflow)
 Center-of-Mass det. time= 0.7 min (856.2 - 855.5)

Volume	Invert	Avail.Storage	Storage Description
#1	42.50'	16,475 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
42.50	10	0	0
43.00	198	52	52
44.00	572	385	437
45.00	1,607	1,090	1,527
46.00	3,156	2,382	3,908
47.00	5,953	4,555	8,463
48.00	10,072	8,013	16,475

Device	Routing	Invert	Outlet Devices
#1	Primary	42.50'	24.0" Round Culvert L= 202.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 42.50' / 32.20' S= 0.0510 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=18.82 cfs @ 12.27 hrs HW=45.05' (Free Discharge)
 ↑ **1=Culvert** (Inlet Controls 18.82 cfs @ 5.99 fps)

Existing Conditions

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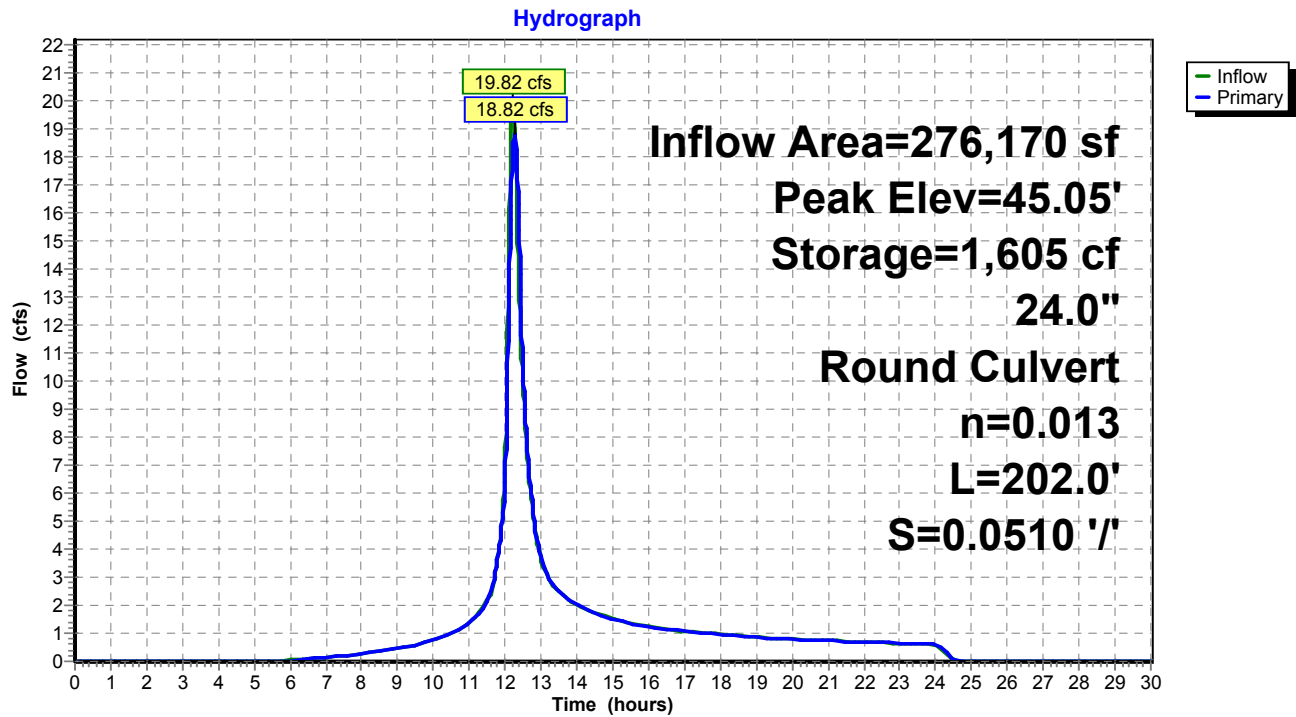
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NORWALK 24-hr S1 50 year Rainfall=7.34"

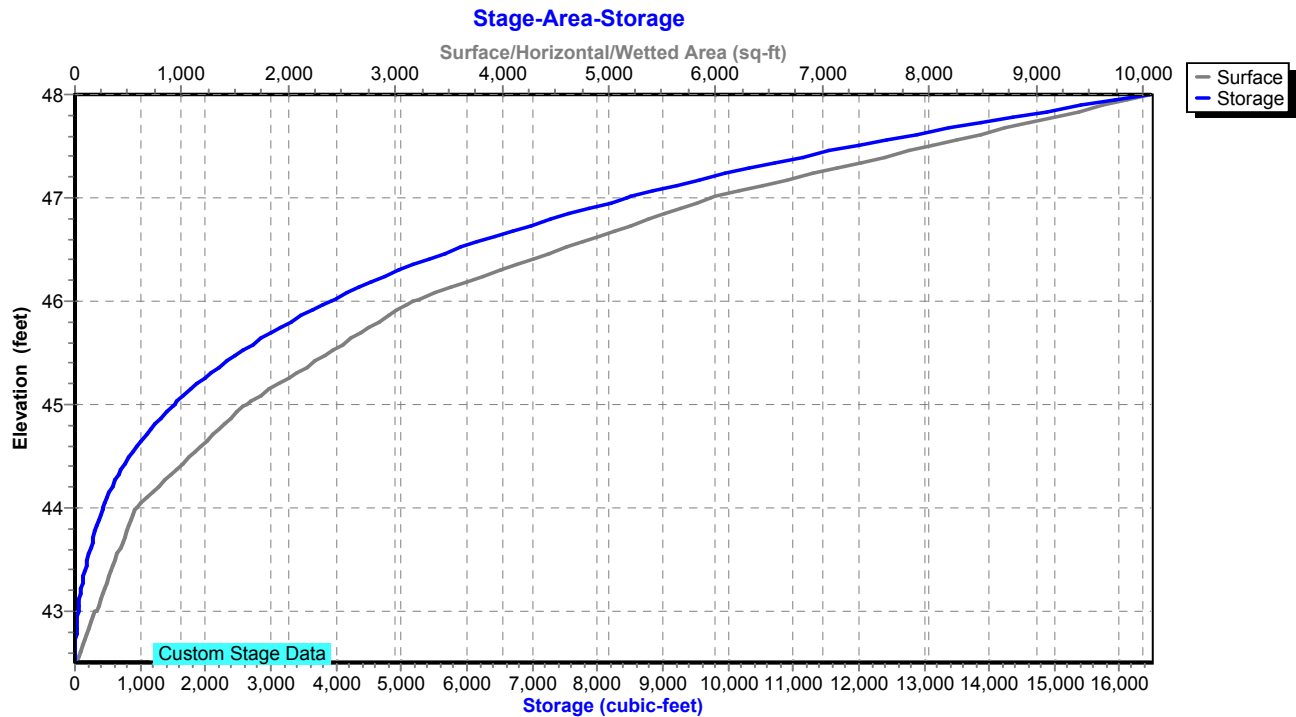
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Pond 23P: DET 3 Culvert



Pond 23P: DET 3 Culvert



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Summary for Pond 24P: RR Culvert 3

Inflow Area = 500,940 sf, 4.78% Impervious, Inflow Depth = 43.13" for 50 year event
 Inflow = 283.34 cfs @ 12.24 hrs, Volume= 1,800,329 cf
 Outflow = 58.61 cfs @ 14.15 hrs, Volume= 1,800,384 cf, Atten= 79%, Lag= 114.6 min
 Primary = 58.61 cfs @ 14.15 hrs, Volume= 1,800,384 cf

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 13.86' @ 14.15 hrs Storage= 1,066,992 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 207.1 min (1,001.0 - 793.9)

Volume	Invert	Avail.Storage	Storage Description
#1	8.10'	2,250,385 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
8.10	0	0
9.00	9	9
10.00	148	157
11.00	64,834	64,991
12.00	244,457	309,448
13.00	383,724	693,172
14.00	435,183	1,128,355
15.00	514,834	1,643,189
16.00	607,196	2,250,385

Device	Routing	Invert	Outlet Devices
#1	Primary	8.10'	30.0" W x 42.0" H Box Culvert L= 135.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 8.10' / 7.80' S= 0.0022 ' / Cc= 0.900 n= 0.019, Flow Area= 8.75 sf

Primary OutFlow Max=58.61 cfs @ 14.15 hrs HW=13.86' (Free Discharge)↑ **1=Culvert** (Barrel Controls 58.61 cfs @ 6.70 fps)

Existing Conditions

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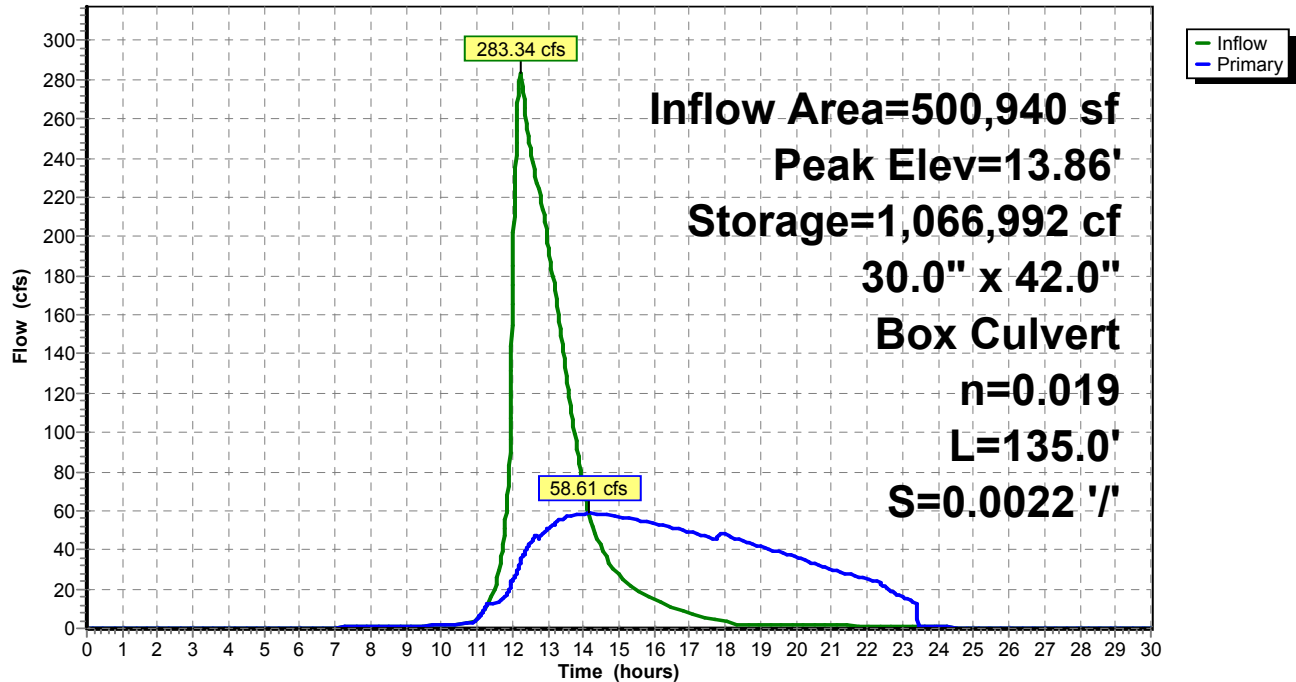
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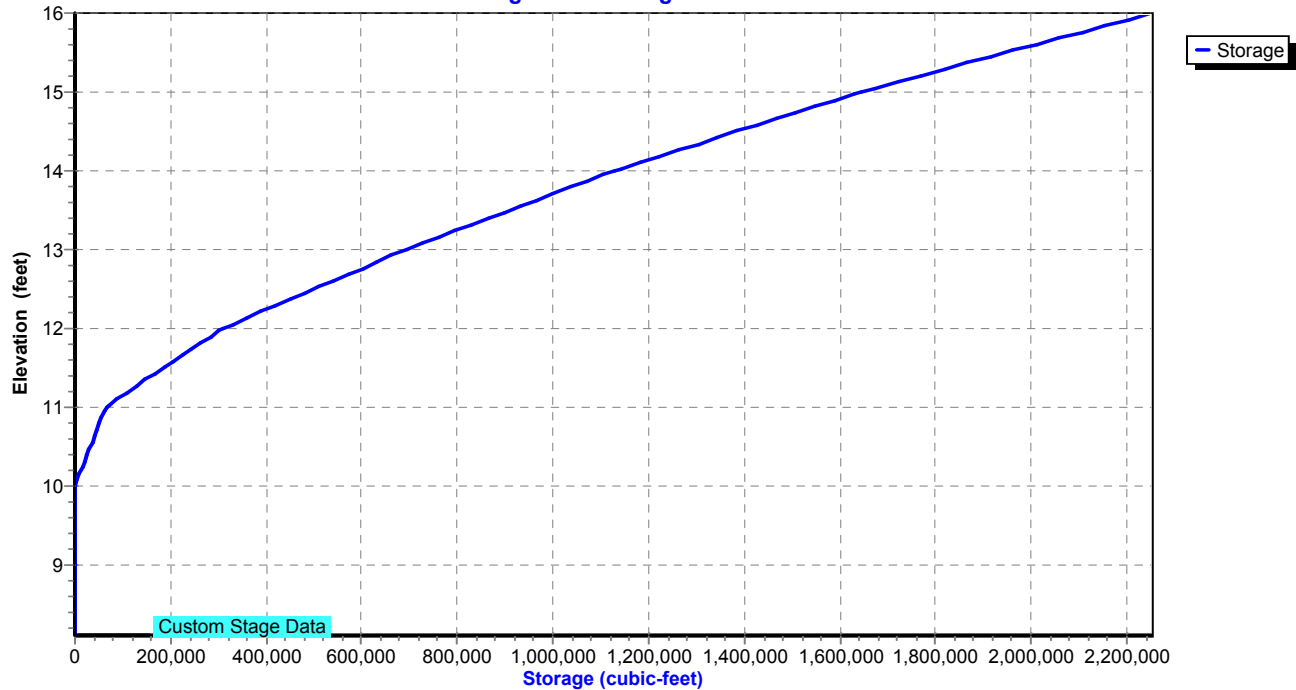
Pond 24P: RR Culvert 3

Hydrograph



Pond 24P: RR Culvert 3

Stage-Area-Storage



Existing Conditions

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Summary for Pond 26P: DET 16 Culvert

Inflow Area = 777,546 sf, 30.36% Impervious, Inflow Depth > 4.52" for 50 year event
Inflow = 43.85 cfs @ 12.23 hrs, Volume= 292,573 cf
Outflow = 43.84 cfs @ 12.23 hrs, Volume= 292,555 cf, Atten= 0%, Lag= 0.1 min
Primary = 43.84 cfs @ 12.23 hrs, Volume= 292,555 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 20.11' @ 12.23 hrs Surf.Area= 2,278 sf Storage= 2,642 cf

Plug-Flow detention time= 0.8 min calculated for 292,555 cf (100% of inflow)
Center-of-Mass det. time= 0.7 min (881.6 - 880.9)

Volume	Invert	Avail.Storage	Storage Description
#1	17.00'	11,069 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.00	76	0	0
18.00	323	200	200
19.00	1,002	663	862
20.00	2,073	1,538	2,400
21.00	3,912	2,993	5,392
22.00	7,442	5,677	11,069

Device	Routing	Invert	Outlet Devices
#1	Primary	15.10'	15.0" Round Culvert L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 15.10' / 11.30' S= 0.0691 ' S= 0.0691 ' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Primary	20.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 Width (feet) 200.00 200.00 200.00

Primary OutFlow Max=43.44 cfs @ 12.23 hrs HW=20.11' (Free Discharge)

1=Culvert (Inlet Controls 12.38 cfs @ 10.08 fps)

2=Custom Weir/Orifice (Weir Controls 31.06 cfs @ 1.39 fps)

Existing Conditions

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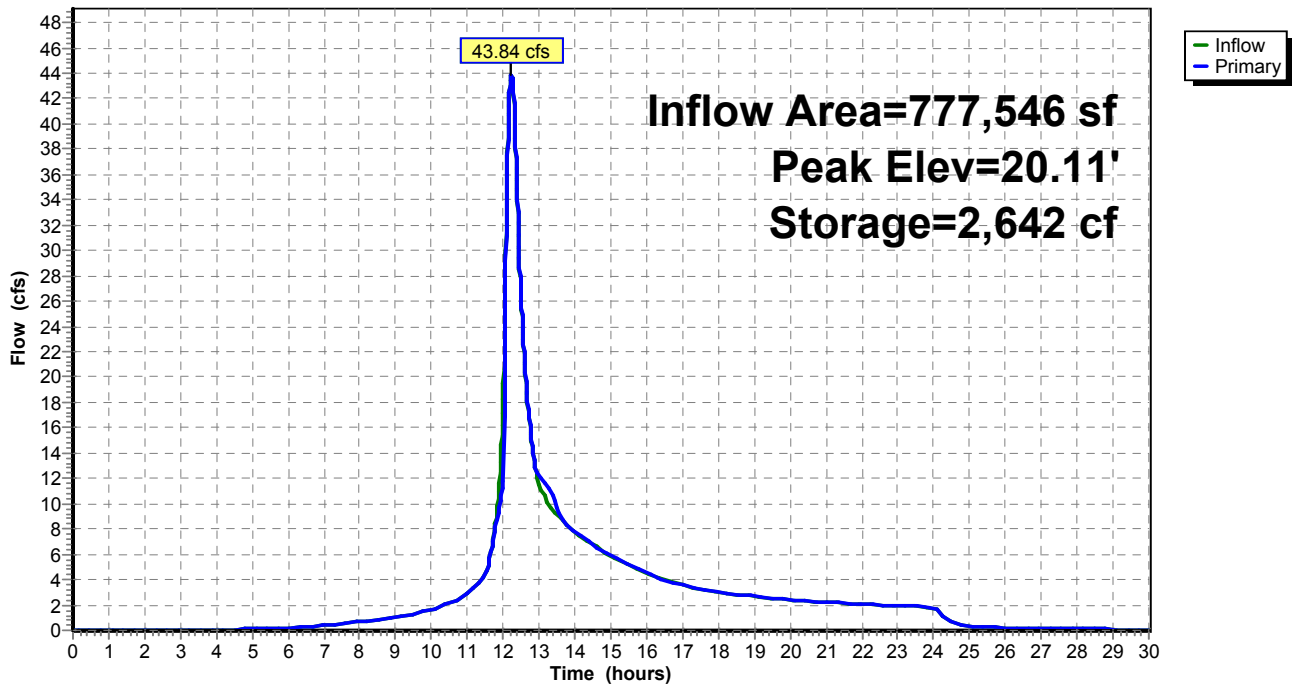
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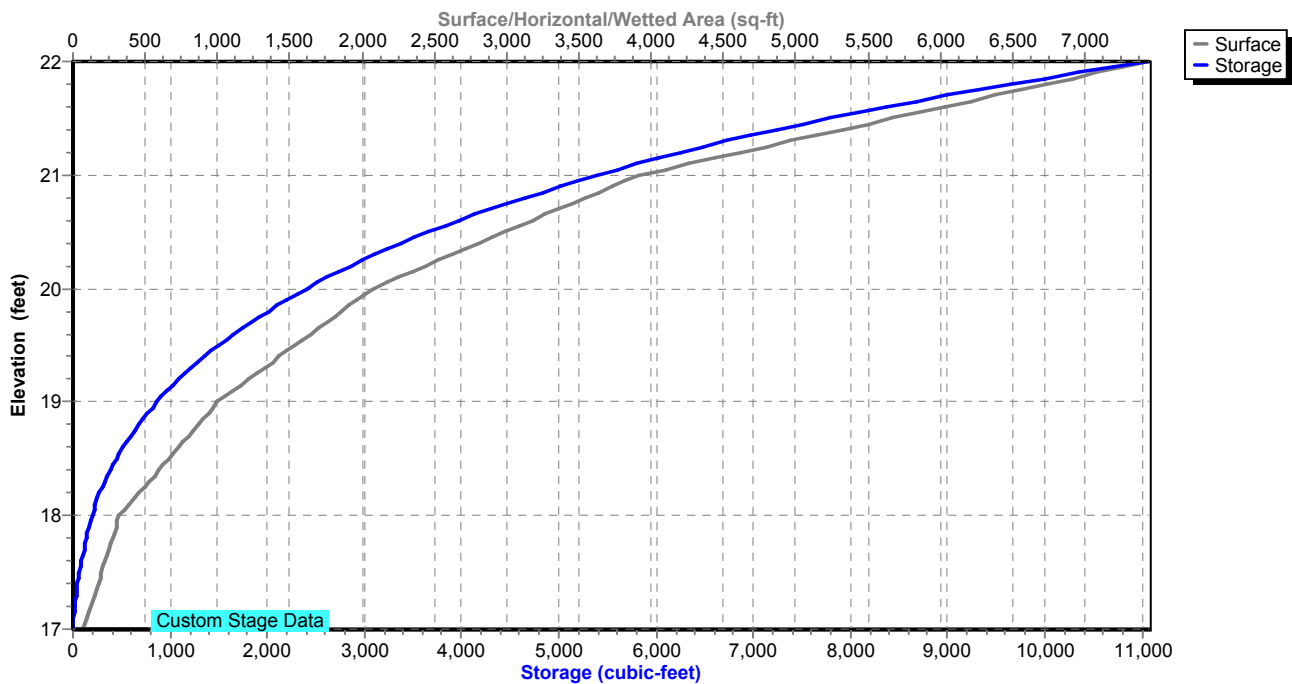
Pond 26P: DET 16 Culvert

Hydrograph



Pond 26P: DET 16 Culvert

Stage-Area-Storage



Existing Conditions

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Summary for Pond 27P: DET 17 Culvert

Inflow Area = 2,205,878 sf, 28.45% Impervious, Inflow Depth = 4.77" for 50 year event
Inflow = 71.25 cfs @ 12.60 hrs, Volume= 876,625 cf
Outflow = 70.56 cfs @ 12.62 hrs, Volume= 876,625 cf, Atten= 1%, Lag= 1.0 min
Primary = 70.56 cfs @ 12.62 hrs, Volume= 876,625 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 18.81' @ 12.62 hrs Surf.Area= 11,393 sf Storage= 11,088 cf

Plug-Flow detention time= 3.9 min calculated for 876,625 cf (100% of inflow)
Center-of-Mass det. time= 3.9 min (874.5 - 870.6)

Volume	Invert	Avail.Storage	Storage Description
#1	16.00'	13,420 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
16.00	340	0	0
17.00	2,203	1,272	1,272
18.00	4,950	3,577	4,848
18.55	8,311	3,647	8,495
19.00	13,580	4,925	13,420

Device	Routing	Invert	Outlet Devices
#1	Primary	15.30'	18.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 15.30' / 14.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Primary	18.55'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 3.00 Width (feet) 100.00 100.00 100.00 100.00

Primary OutFlow Max=70.35 cfs @ 12.62 hrs HW=18.81' (Free Discharge)

1=Culvert (Inlet Controls 14.14 cfs @ 8.00 fps)

2=Custom Weir/Orifice (Weir Controls 56.20 cfs @ 2.14 fps)

Existing Conditions

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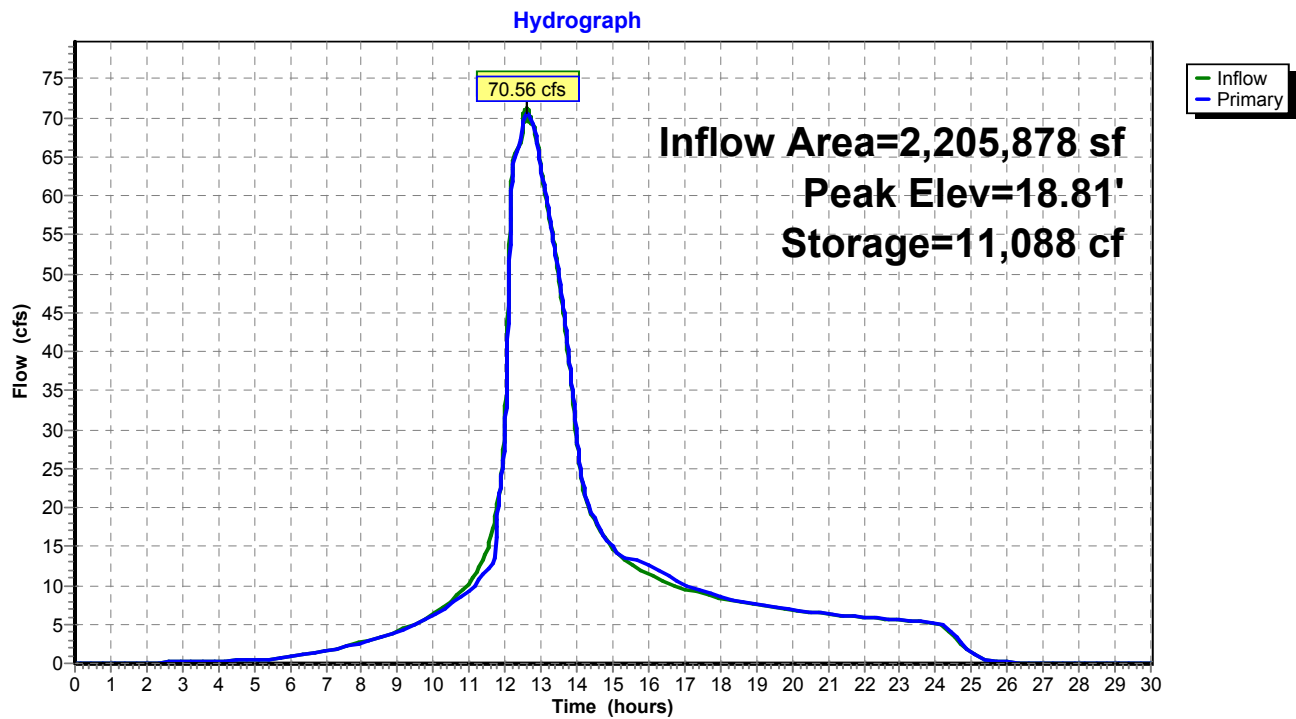
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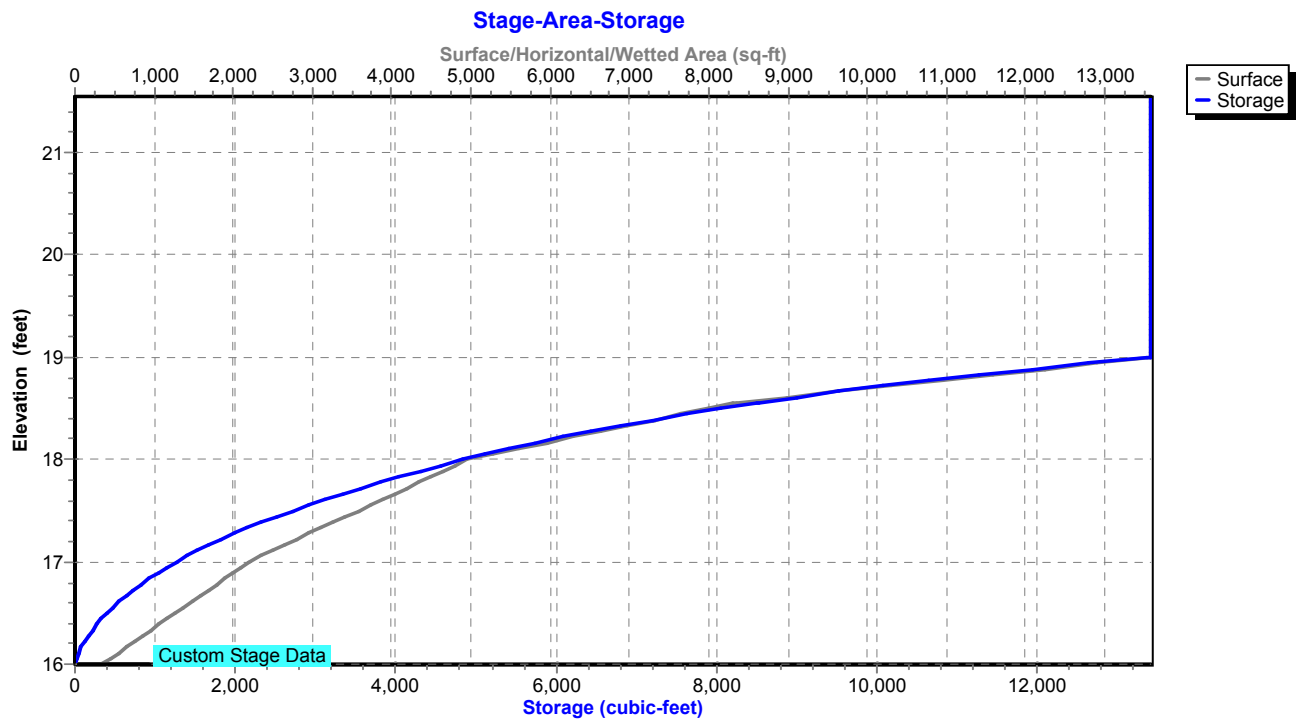
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Pond 27P: DET 17 Culvert



Pond 27P: DET 17 Culvert



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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Pond 50P: DET BASIN #1

Inflow Area = 247,726 sf, 51.96% Impervious, Inflow Depth = 5.70" for 50 year event
Inflow = 31.87 cfs @ 12.04 hrs, Volume= 117,693 cf
Outflow = 7.75 cfs @ 12.38 hrs, Volume= 92,221 cf, Atten= 76%, Lag= 20.2 min
Primary = 7.75 cfs @ 12.38 hrs, Volume= 92,221 cf
Routed to Pond 26P : DET 16 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 28.67' @ 12.38 hrs Surf.Area= 17,023 sf Storage= 55,735 cf

Plug-Flow detention time= 256.6 min calculated for 92,221 cf (78% of inflow)
Center-of-Mass det. time= 157.4 min (954.9 - 797.5)

Volume	Invert	Avail.Storage	Storage Description
#1	24.00'	61,441 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
24.00	5,941	0	0
26.00	12,000	17,941	17,941
28.00	15,000	27,000	44,941
29.00	18,000	16,500	61,441

Device	Routing	Invert	Outlet Devices
#1	Primary	24.00'	18.0" Round Culvert L= 120.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 24.00' / 20.00' S= 0.0333 ' / Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	26.50'	12.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	28.50'	16.2" x 55.4" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=7.73 cfs @ 12.38 hrs HW=28.67' (Free Discharge)

1=Culvert (Passes 7.73 cfs of 16.86 cfs potential flow)
2=Orifice/Grate (Orifice Controls 4.89 cfs @ 6.23 fps)
3=Orifice/Grate (Weir Controls 2.84 cfs @ 1.36 fps)

Existing Conditions

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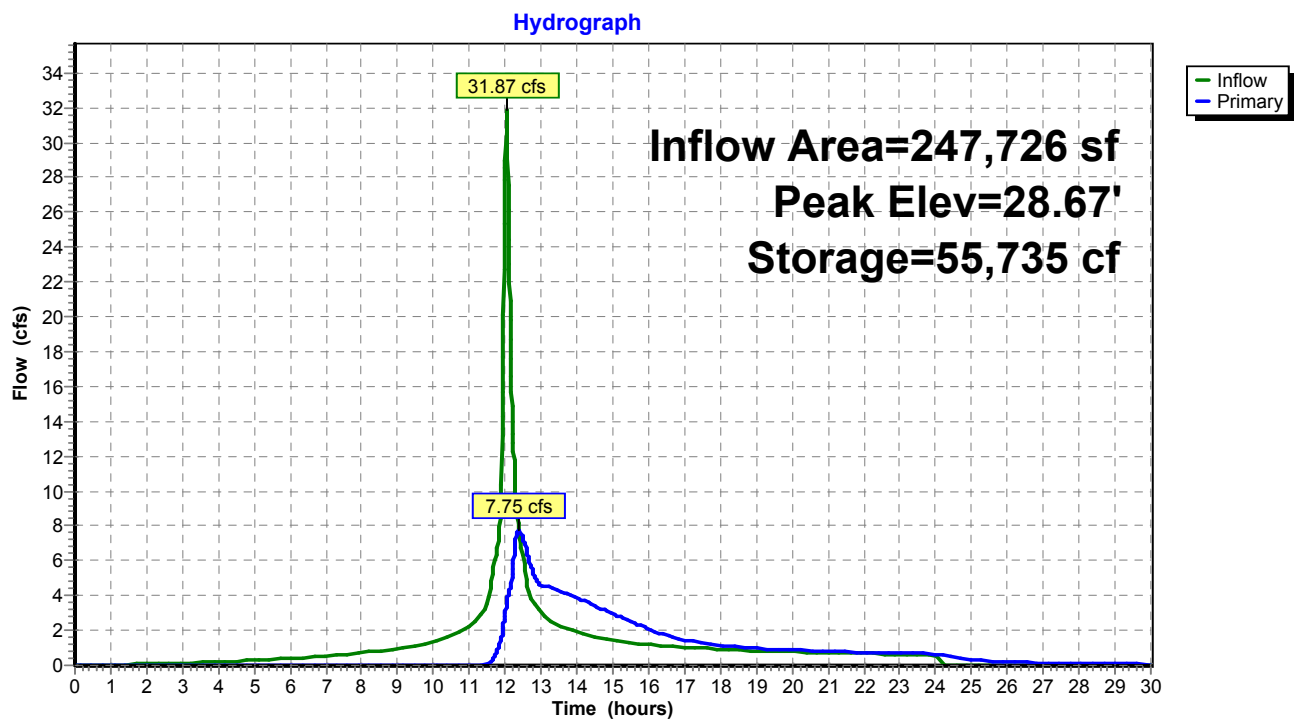
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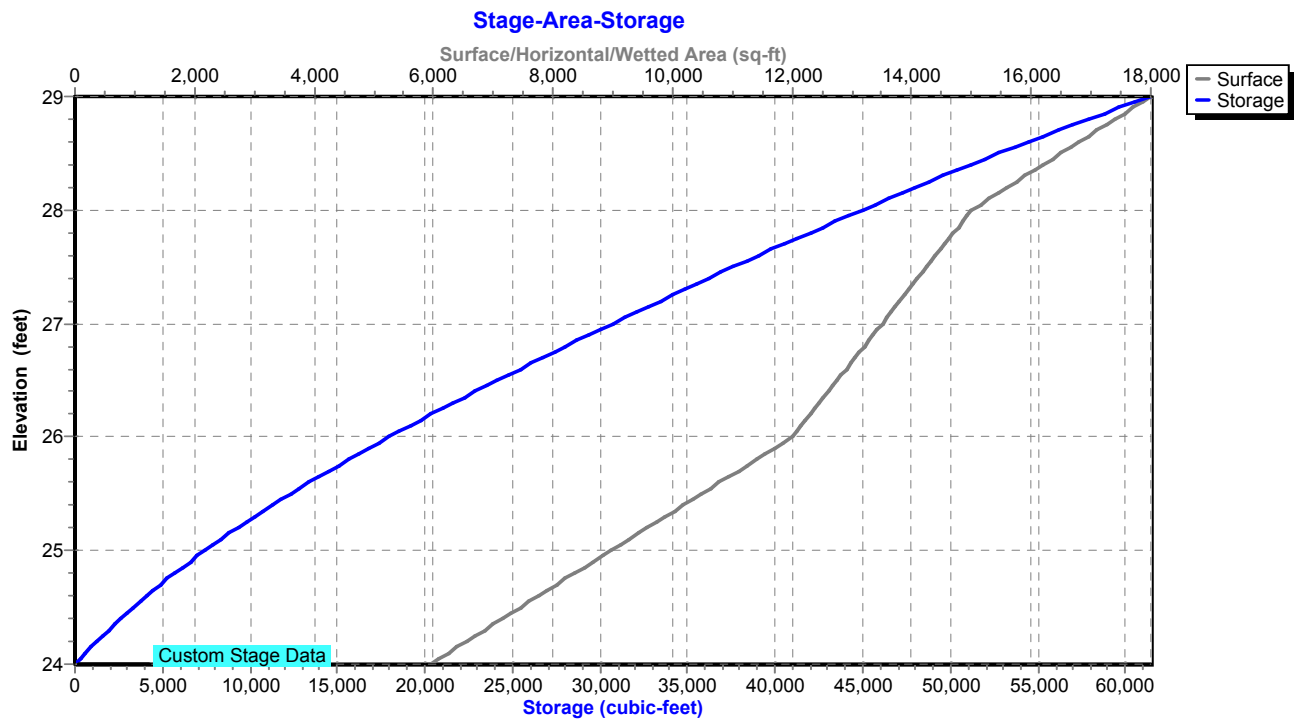
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Pond 50P: DET BASIN #1



Pond 50P: DET BASIN #1



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Summary for Pond 51P: Manhole

Inflow Area = 219,325 sf, 58.69% Impervious, Inflow Depth = 5.88" for 50 year event
Inflow = 28.31 cfs @ 12.04 hrs, Volume= 107,413 cf
Outflow = 28.31 cfs @ 12.04 hrs, Volume= 107,413 cf, Atten= 0%, Lag= 0.0 min
Primary = 28.31 cfs @ 12.04 hrs, Volume= 107,413 cf
Routed to Pond 50P : DET BASIN #1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 48.50' @ 12.04 hrs

Flood Elev= 51.00'

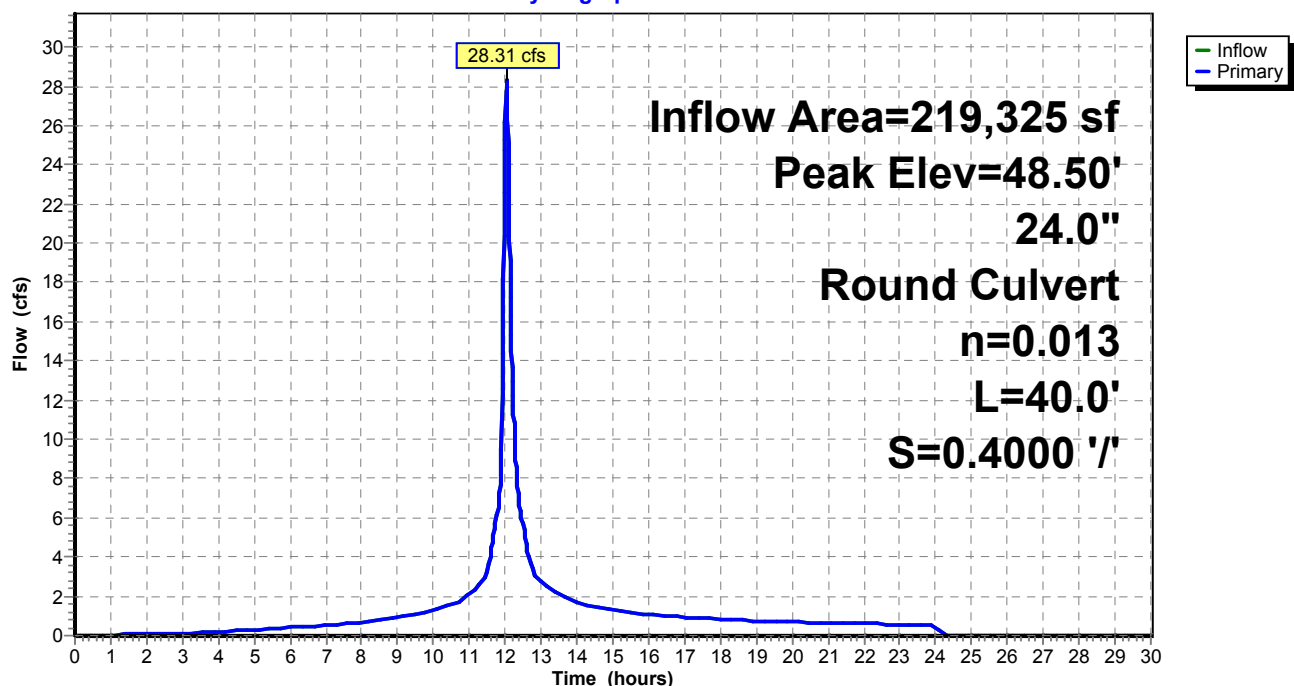
Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	24.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.00' / 28.00' S= 0.4000 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=28.28 cfs @ 12.04 hrs HW=48.49' (Free Discharge)

↑1=Culvert (Inlet Controls 28.28 cfs @ 9.00 fps)

Pond 51P: Manhole

Hydrograph



Existing Conditions

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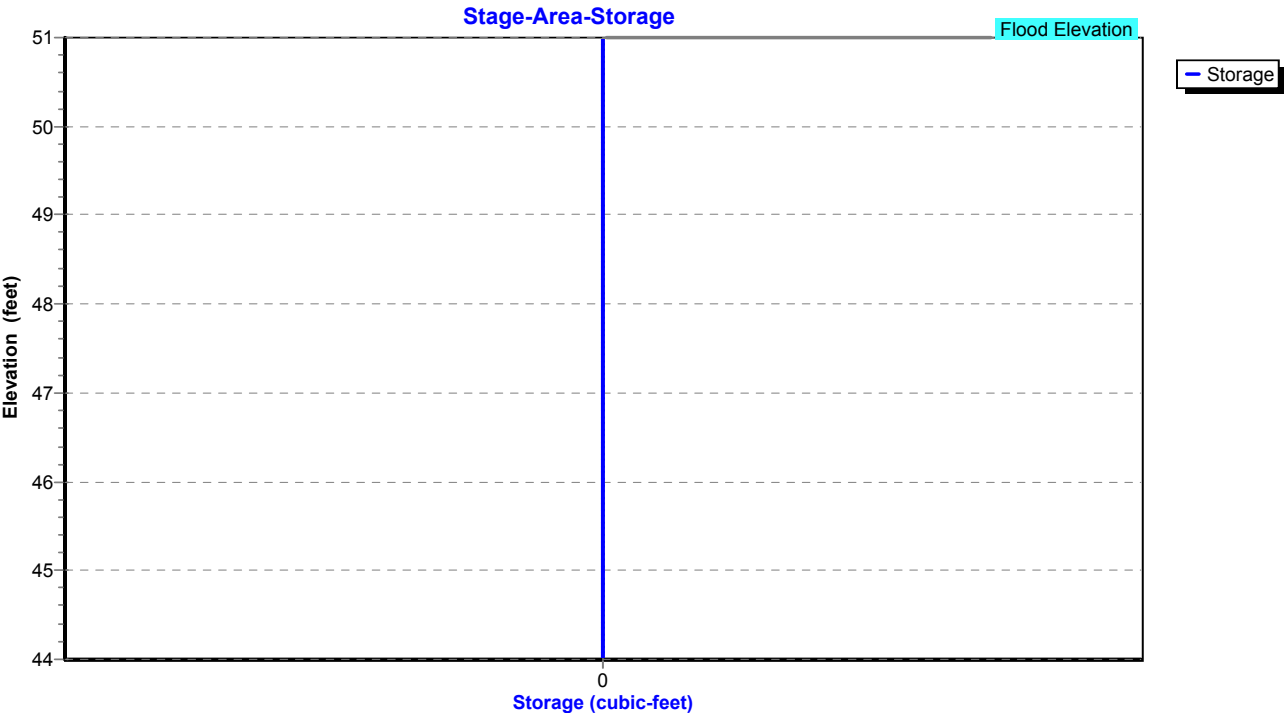
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Pond 51P: Manhole



Existing Conditions

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Summary for Pond 57P: CB-1

Inflow Area = 131,290 sf, 58.89% Impervious, Inflow Depth = 5.95" for 50 year event
Inflow = 17.85 cfs @ 12.04 hrs, Volume= 65,130 cf
Outflow = 17.85 cfs @ 12.04 hrs, Volume= 65,130 cf, Atten= 0%, Lag= 0.0 min
Primary = 17.85 cfs @ 12.04 hrs, Volume= 65,130 cf
Routed to Pond 51P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 46.88' @ 12.04 hrs

Flood Elev= 49.00'

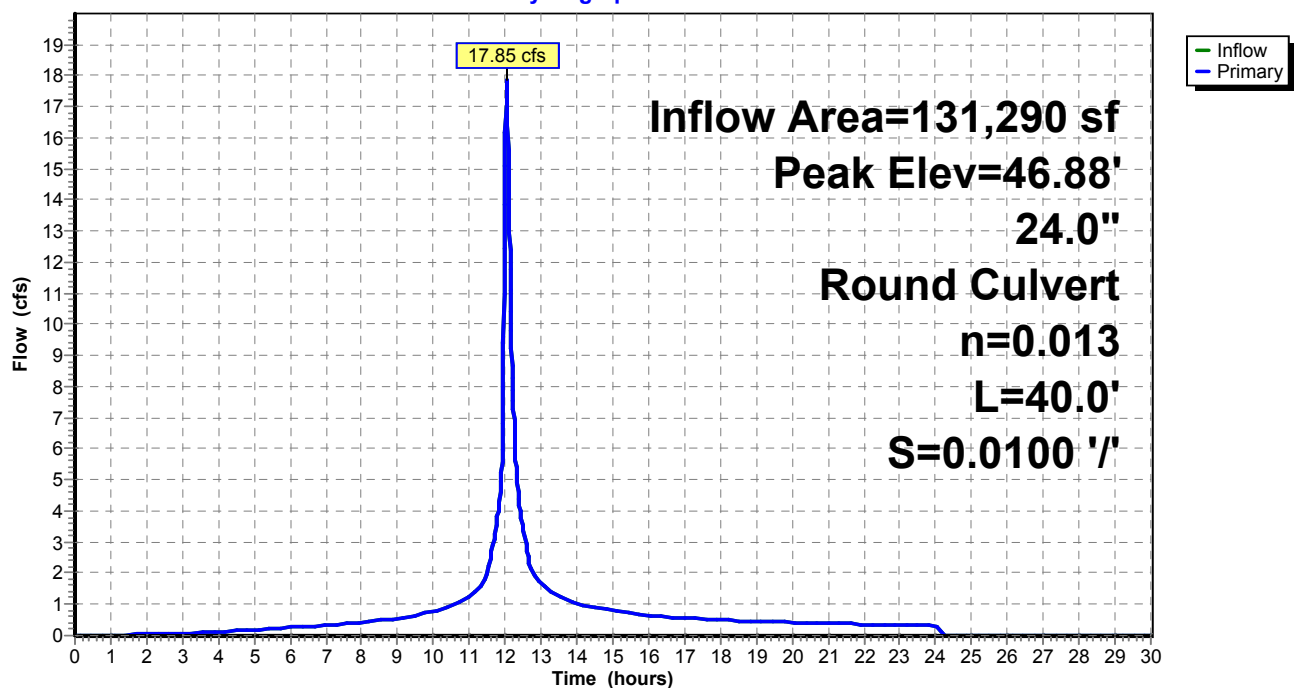
Device	Routing	Invert	Outlet Devices
#1	Primary	44.40'	24.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.40' / 44.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=17.84 cfs @ 12.04 hrs HW=46.87' (Free Discharge)

↑1=Culvert (Barrel Controls 17.84 cfs @ 5.87 fps)

Pond 57P: CB-1

Hydrograph



Existing Conditions

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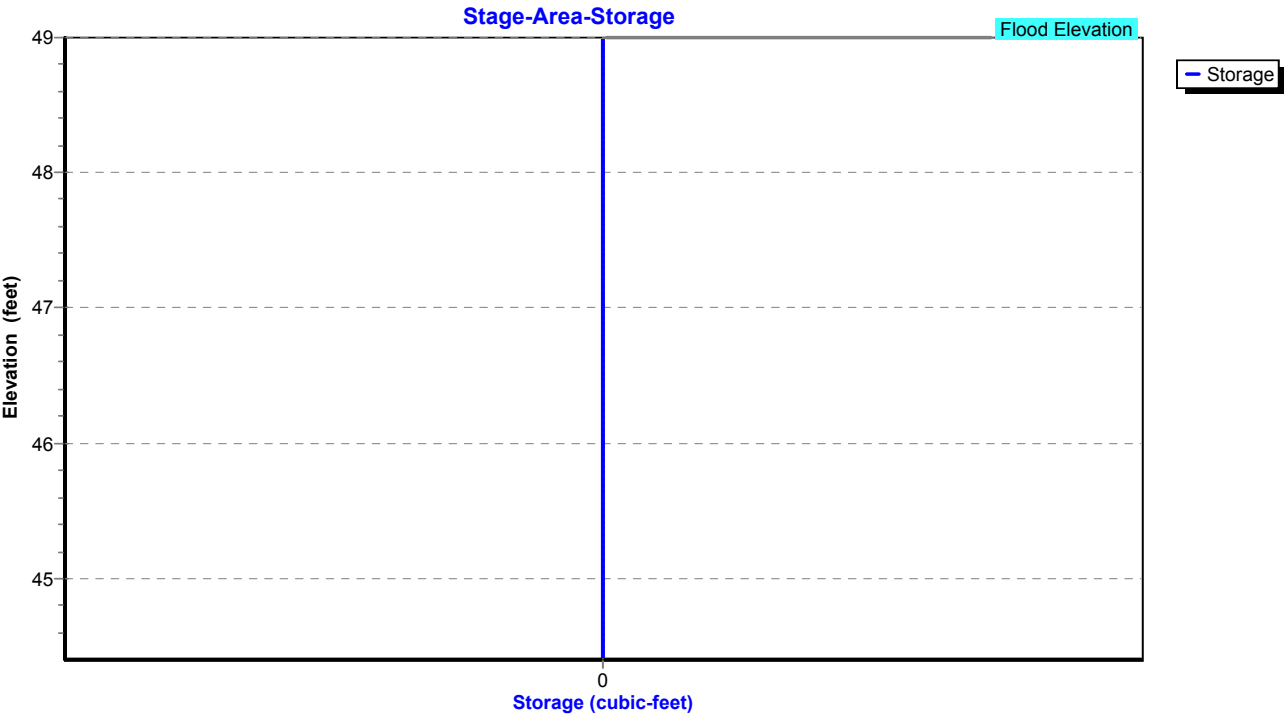
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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Pond 57P: CB-1



Existing Conditions

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Summary for Pond 58P: Manhole

Inflow Area = 119,442 sf, 54.81% Impervious, Inflow Depth = 5.84" for 50 year event
Inflow = 15.76 cfs @ 12.04 hrs, Volume= 58,115 cf
Outflow = 15.76 cfs @ 12.04 hrs, Volume= 58,115 cf, Atten= 0%, Lag= 0.0 min
Primary = 15.76 cfs @ 12.04 hrs, Volume= 58,115 cf
Routed to Pond 57P : CB-1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 49.08' @ 12.04 hrs

Flood Elev= 49.00'

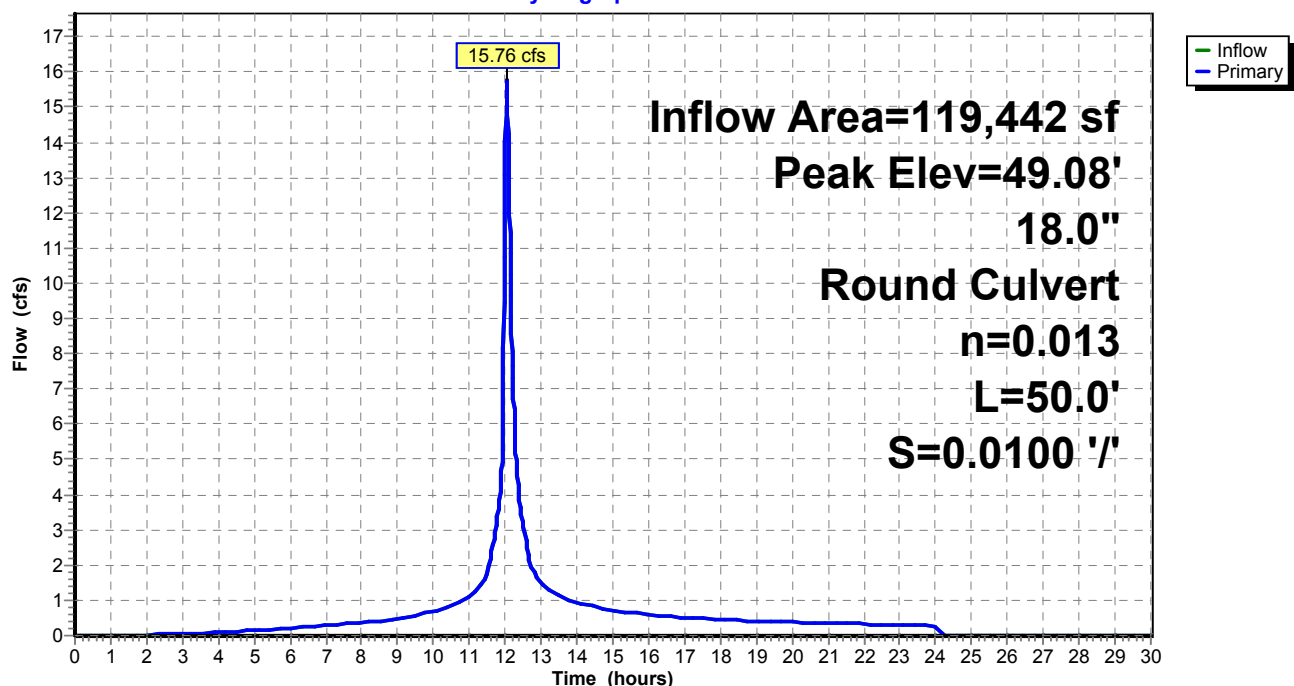
Device	Routing	Invert	Outlet Devices
#1	Primary	44.90'	18.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.90' / 44.40' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=15.73 cfs @ 12.04 hrs HW=49.07' (Free Discharge)

↑1=Culvert (Inlet Controls 15.73 cfs @ 8.90 fps)

Pond 58P: Manhole

Hydrograph



Existing Conditions

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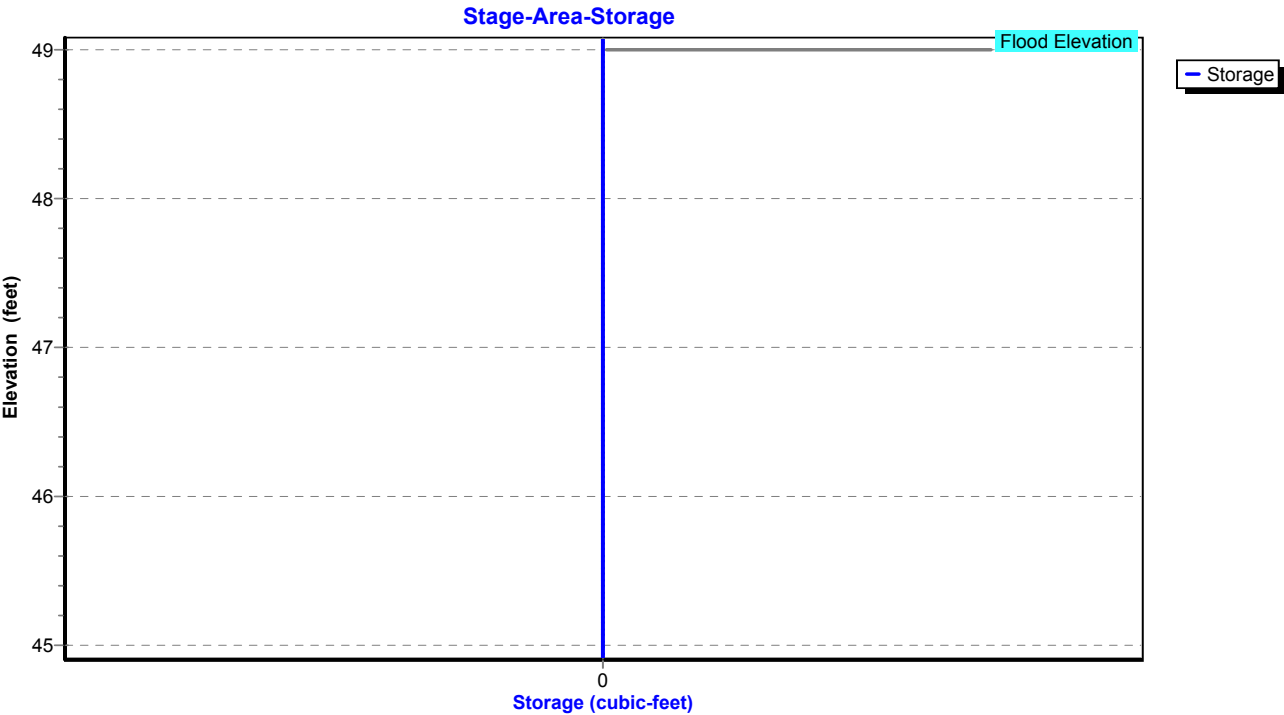
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Pond 58P: Manhole



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Summary for Pond 59P: CB-7

Inflow Area = 20,299 sf, 63.09% Impervious, Inflow Depth = 6.04" for 50 year event
Inflow = 3.46 cfs @ 12.03 hrs, Volume= 10,224 cf
Outflow = 3.46 cfs @ 12.03 hrs, Volume= 10,224 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.46 cfs @ 12.03 hrs, Volume= 10,224 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 46.74' @ 12.03 hrs

Flood Elev= 49.50'

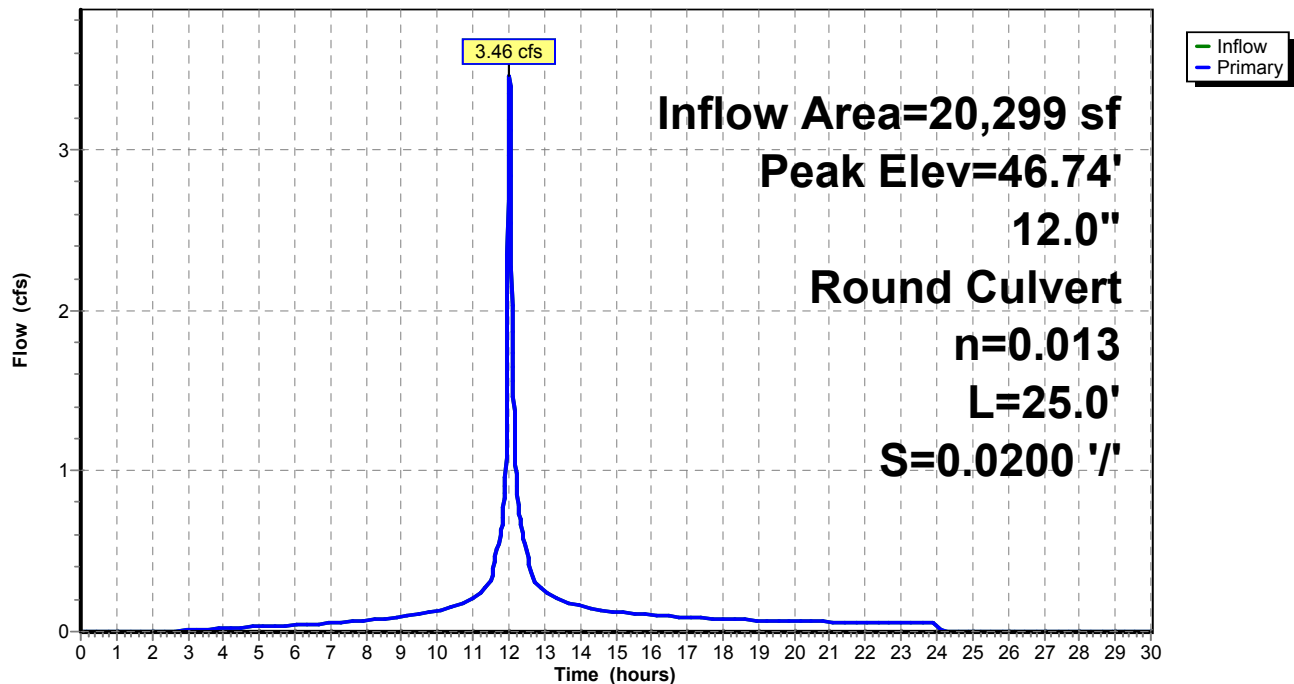
Device	Routing	Invert	Outlet Devices
#1	Primary	45.40'	12.0" Round Culvert L= 25.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.40' / 44.90' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=3.44 cfs @ 12.03 hrs HW=46.73' (Free Discharge)

↑1=Culvert (Inlet Controls 3.44 cfs @ 4.39 fps)

Pond 59P: CB-7

Hydrograph



Existing Conditions

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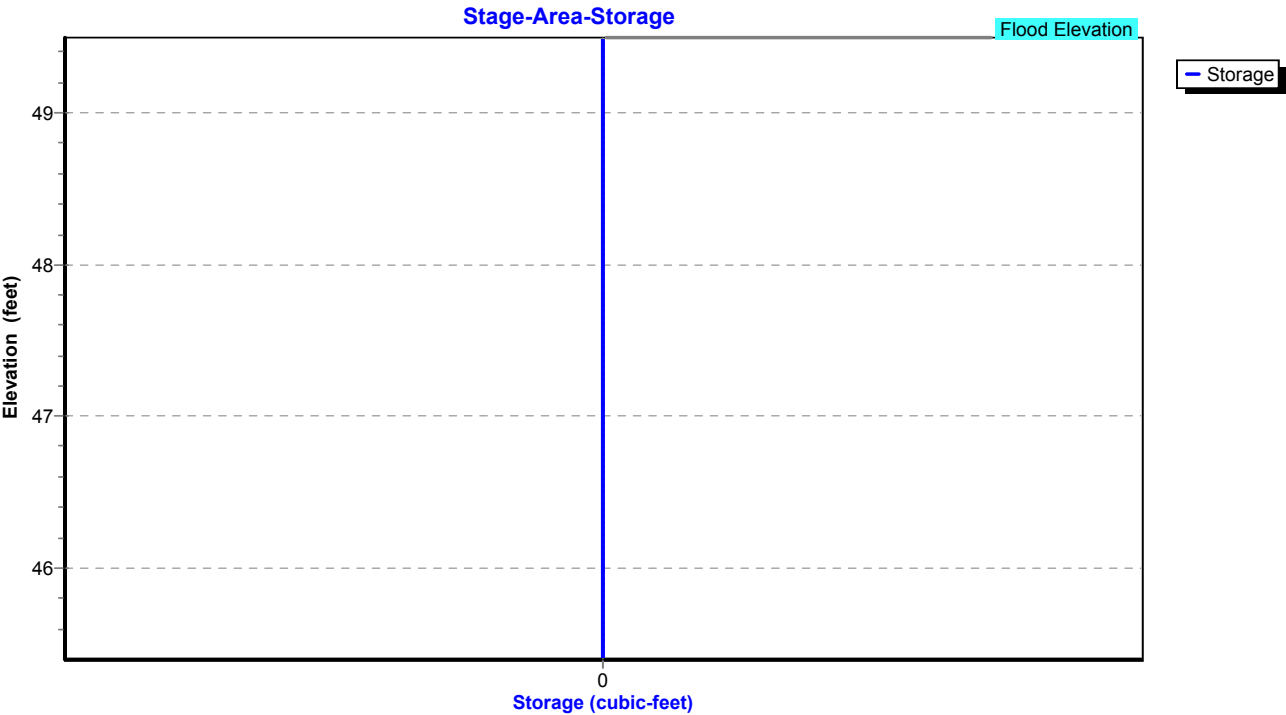
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Pond 59P: CB-7



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Summary for Pond 61P: CB-6

Inflow Area = 7,884 sf, 82.32% Impervious, Inflow Depth = 6.63" for 50 year event
Inflow = 1.41 cfs @ 12.03 hrs, Volume= 4,356 cf
Outflow = 1.41 cfs @ 12.03 hrs, Volume= 4,356 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.41 cfs @ 12.03 hrs, Volume= 4,356 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 45.77' @ 12.03 hrs

Flood Elev= 49.00'

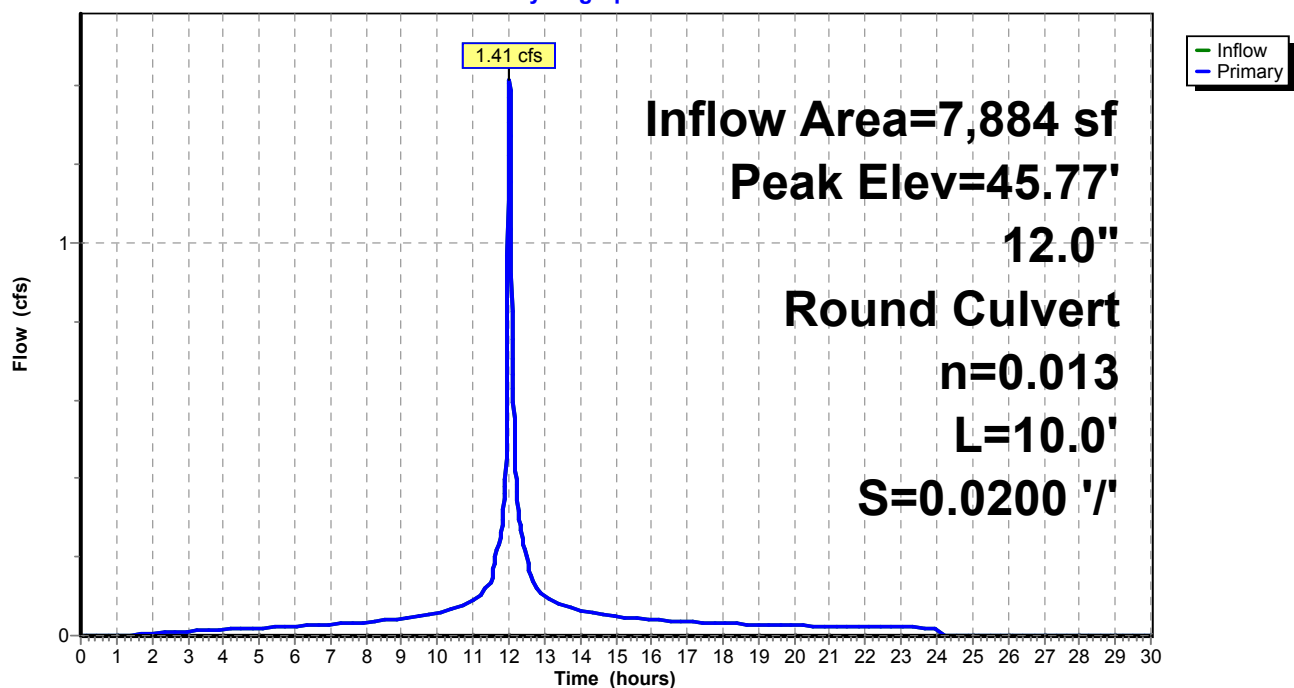
Device	Routing	Invert	Outlet Devices
#1	Primary	45.10'	12.0" Round Culvert L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.10' / 44.90' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.41 cfs @ 12.03 hrs HW=45.76' (Free Discharge)

↑1=Culvert (Barrel Controls 1.41 cfs @ 3.60 fps)

Pond 61P: CB-6

Hydrograph



Existing Conditions

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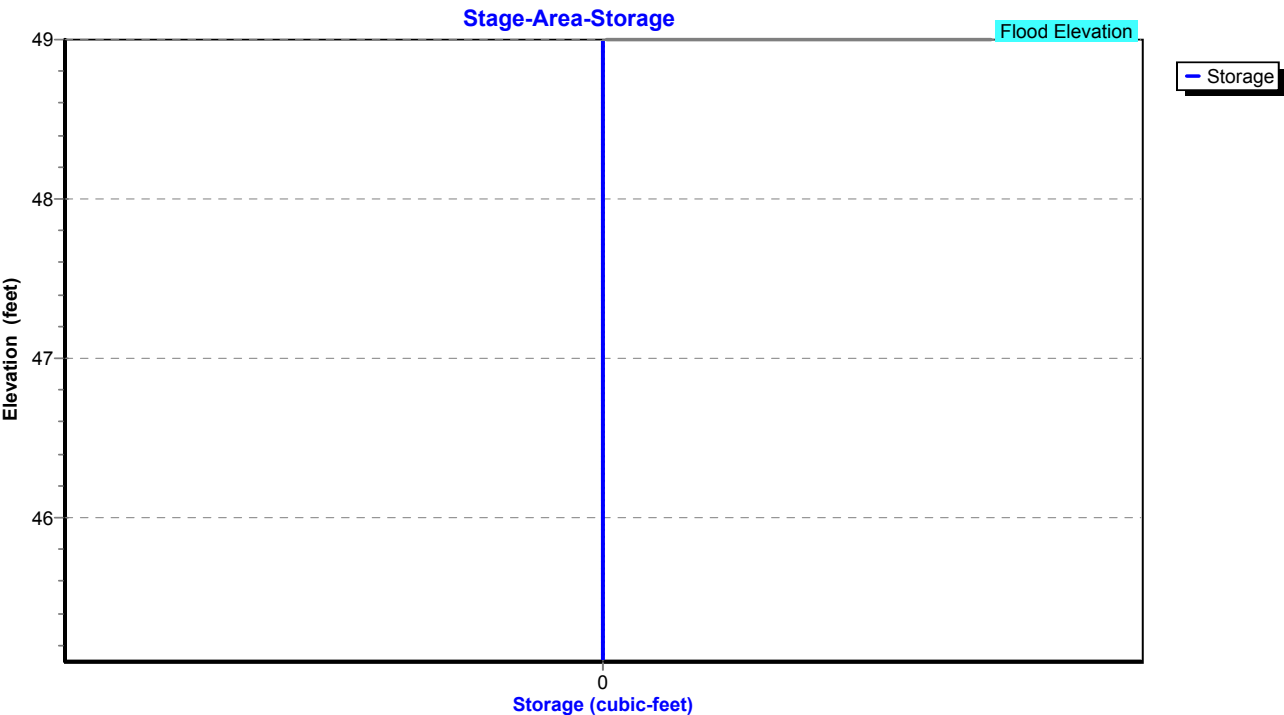
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Pond 61P: CB-6



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Summary for Pond 63P: Manhole

Inflow Area = 91,258 sf, 50.60% Impervious, Inflow Depth = 5.72" for 50 year event
Inflow = 11.31 cfs @ 12.06 hrs, Volume= 43,535 cf
Outflow = 11.31 cfs @ 12.06 hrs, Volume= 43,535 cf, Atten= 0%, Lag= 0.0 min
Primary = 11.31 cfs @ 12.06 hrs, Volume= 43,535 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 52.13' @ 12.06 hrs

Flood Elev= 51.00'

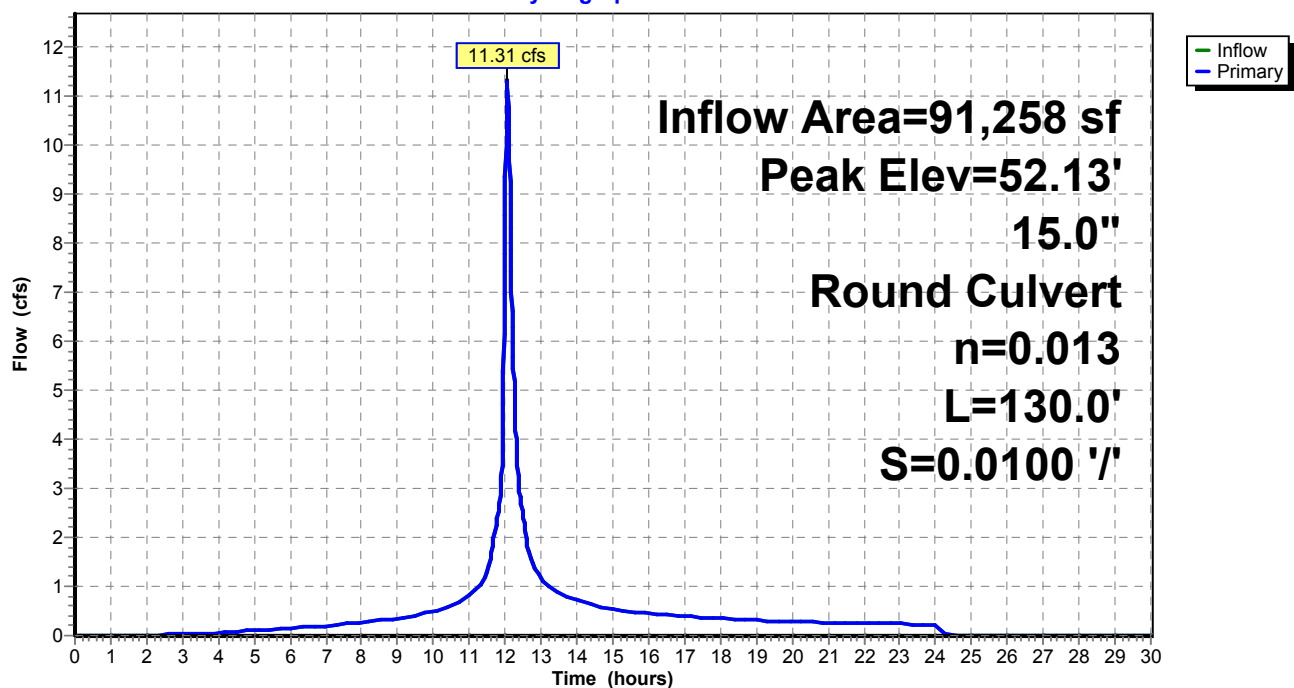
Device	Routing	Invert	Outlet Devices
#1	Primary	46.20'	15.0" Round Culvert L= 130.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.20' / 44.90' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=11.30 cfs @ 12.06 hrs HW=52.12' (Free Discharge)

↑1=Culvert (Barrel Controls 11.30 cfs @ 9.21 fps)

Pond 63P: Manhole

Hydrograph



Existing Conditions

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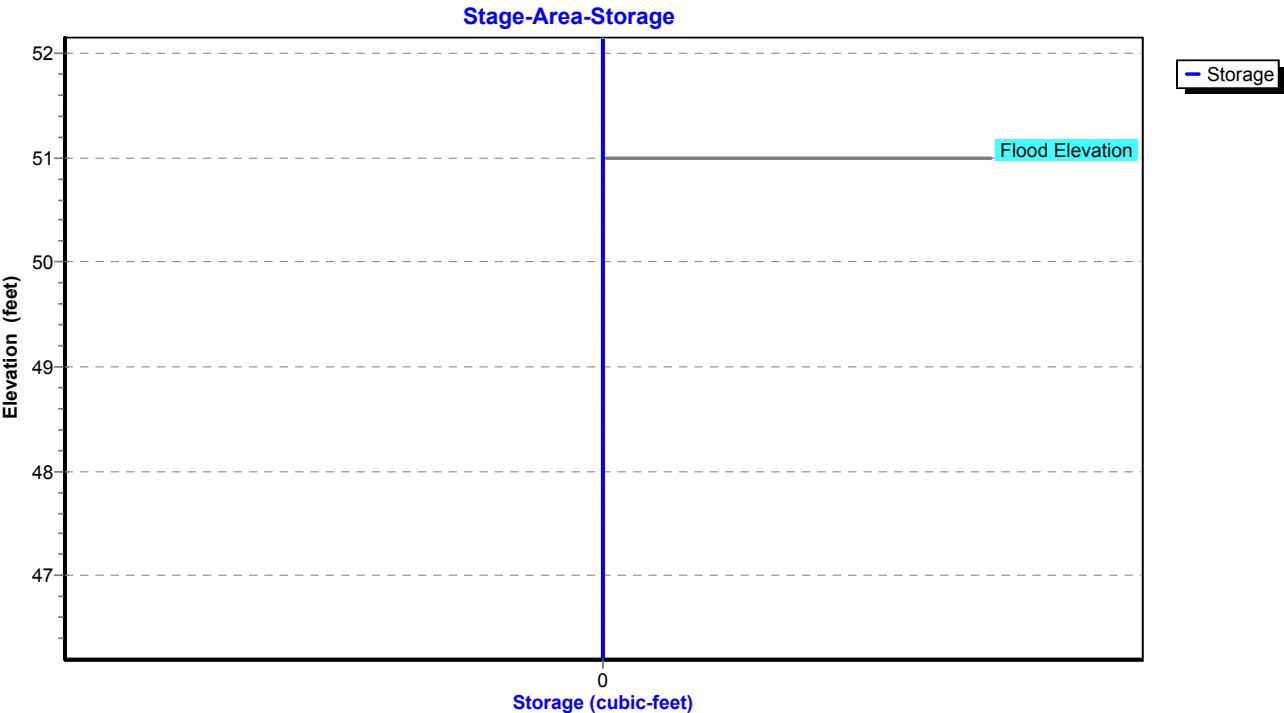
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Pond 63P: Manhole



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Summary for Pond 64P: YD

Inflow Area = 68,128 sf, 41.75% Impervious, Inflow Depth = 5.47" for 50 year event
Inflow = 8.36 cfs @ 12.08 hrs, Volume= 31,040 cf
Outflow = 8.36 cfs @ 12.08 hrs, Volume= 31,040 cf, Atten= 0%, Lag= 0.0 min
Primary = 8.36 cfs @ 12.08 hrs, Volume= 31,040 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 61.65' @ 12.08 hrs

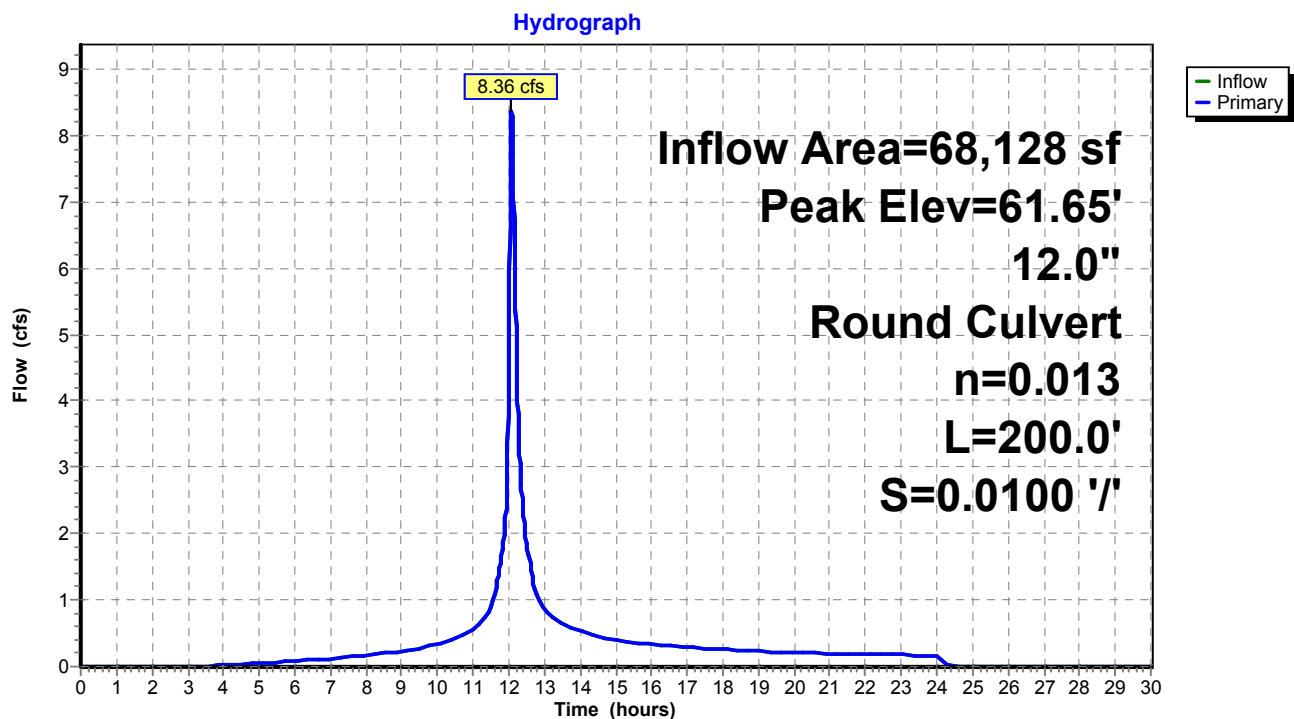
Flood Elev= 54.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.95'	12.0" Round Culvert L= 200.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.95' / 46.95' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=8.35 cfs @ 12.08 hrs HW=61.59' (Free Discharge)

↑1=Culvert (Barrel Controls 8.35 cfs @ 10.63 fps)

Pond 64P: YD



Existing Conditions

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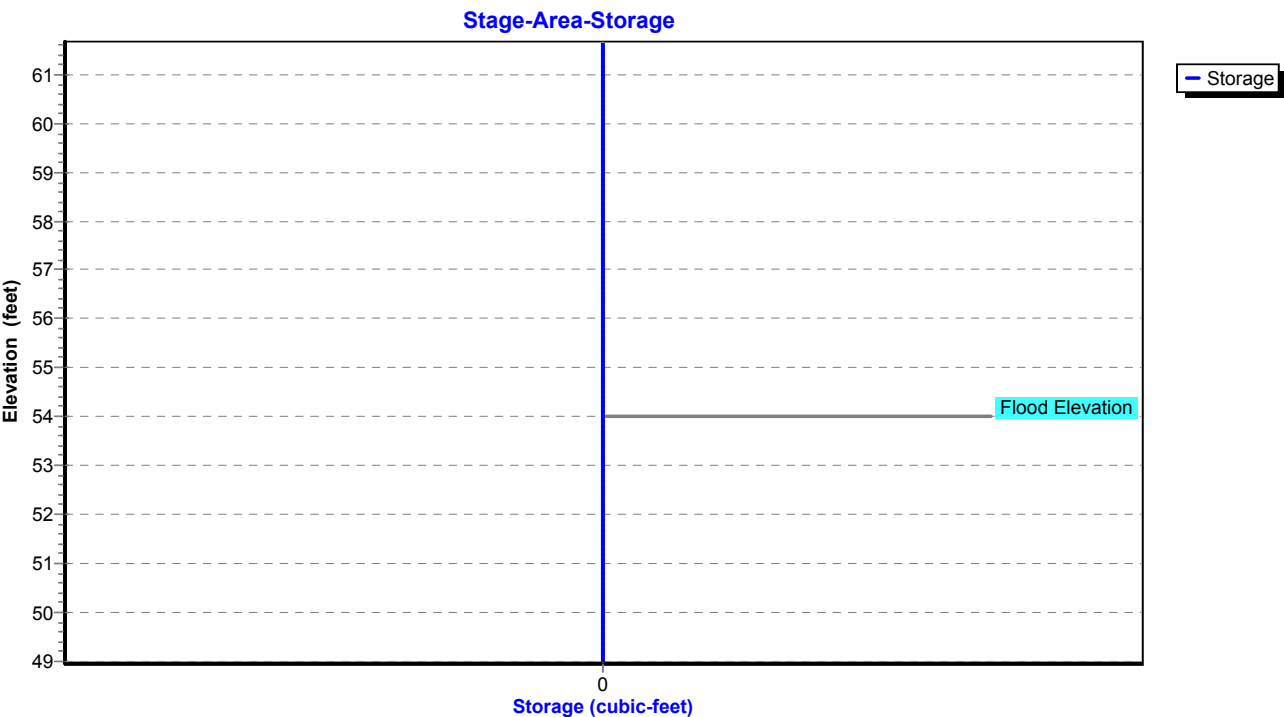
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Pond 64P: YD



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Summary for Pond 66P: CB-10

Inflow Area = 12,763 sf, 73.04% Impervious, Inflow Depth = 6.39" for 50 year event
Inflow = 2.25 cfs @ 12.03 hrs, Volume= 6,801 cf
Outflow = 2.25 cfs @ 12.03 hrs, Volume= 6,801 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.25 cfs @ 12.03 hrs, Volume= 6,801 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 48.40' @ 12.03 hrs

Flood Elev= 53.00'

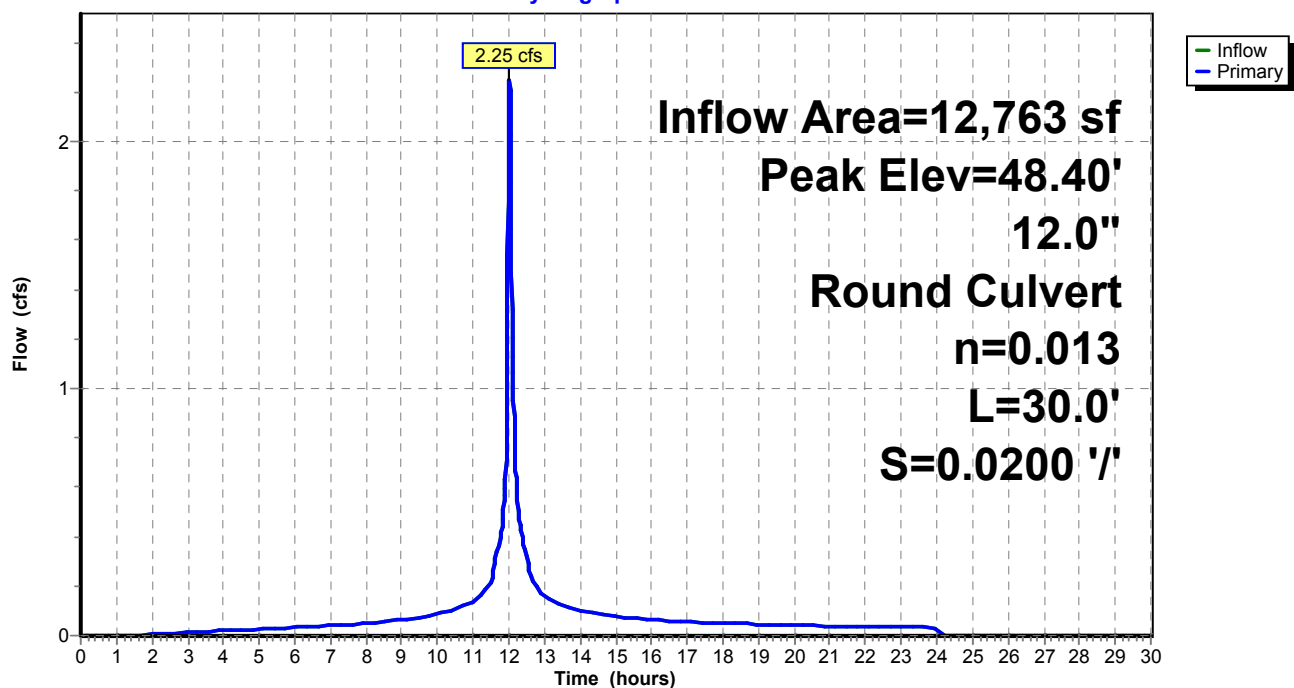
Device	Routing	Invert	Outlet Devices
#1	Primary	47.55'	12.0" Round Culvert L= 30.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.55' / 46.95' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=2.24 cfs @ 12.03 hrs HW=48.40' (Free Discharge)

↑1=Culvert (Inlet Controls 2.24 cfs @ 3.14 fps)

Pond 66P: CB-10

Hydrograph



Existing Conditions

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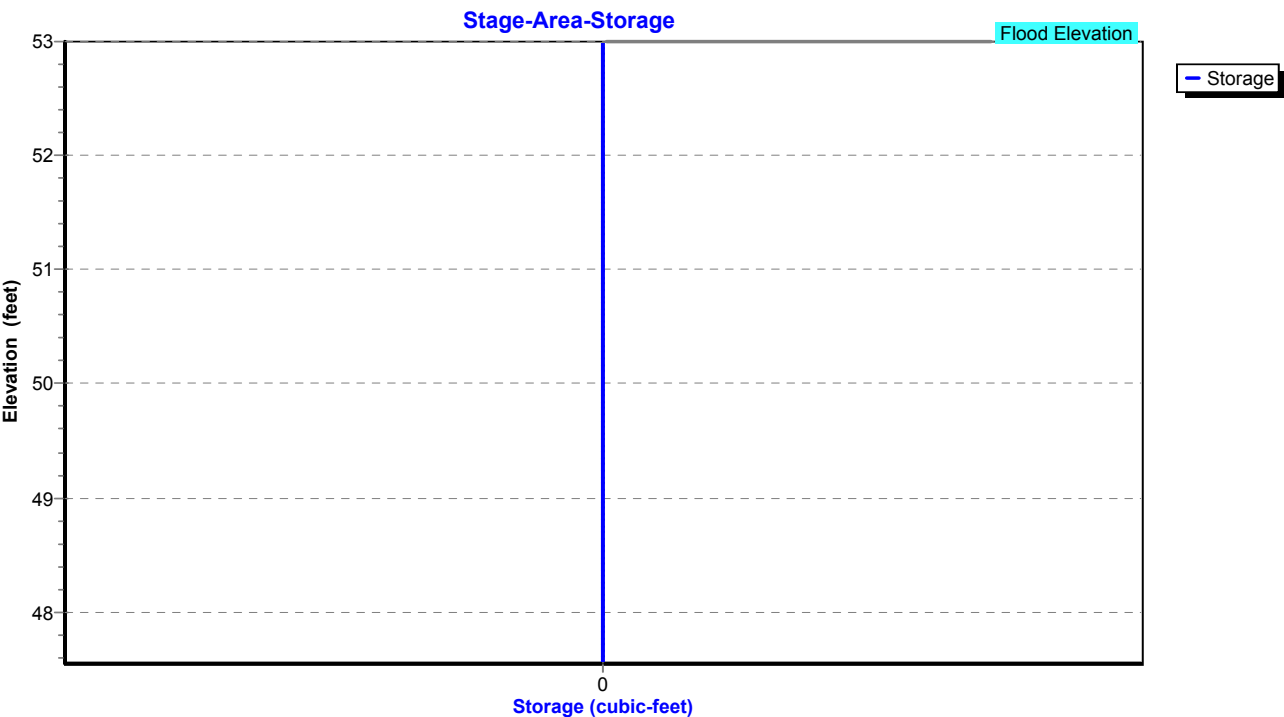
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Pond 66P: CB-10



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Summary for Pond 67P: CB-9

Inflow Area = 6,447 sf, 69.59% Impervious, Inflow Depth = 6.28" for 50 year event
Inflow = 1.12 cfs @ 12.03 hrs, Volume= 3,372 cf
Outflow = 1.12 cfs @ 12.03 hrs, Volume= 3,372 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.12 cfs @ 12.03 hrs, Volume= 3,372 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.73' @ 12.03 hrs

Flood Elev= 52.00'

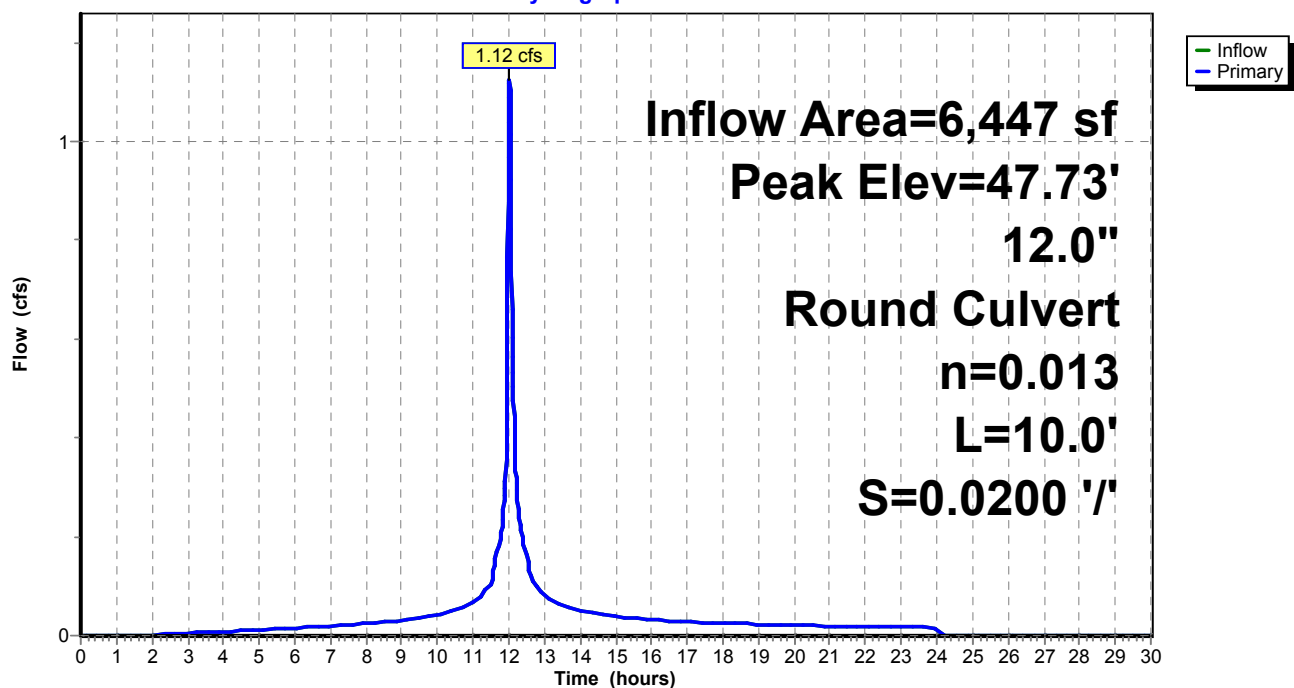
Device	Routing	Invert	Outlet Devices
#1	Primary	47.15'	12.0" Round Culvert L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.15' / 46.95' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.12 cfs @ 12.03 hrs HW=47.73' (Free Discharge)

↑1=Culvert (Barrel Controls 1.12 cfs @ 3.45 fps)

Pond 67P: CB-9

Hydrograph



Existing Conditions

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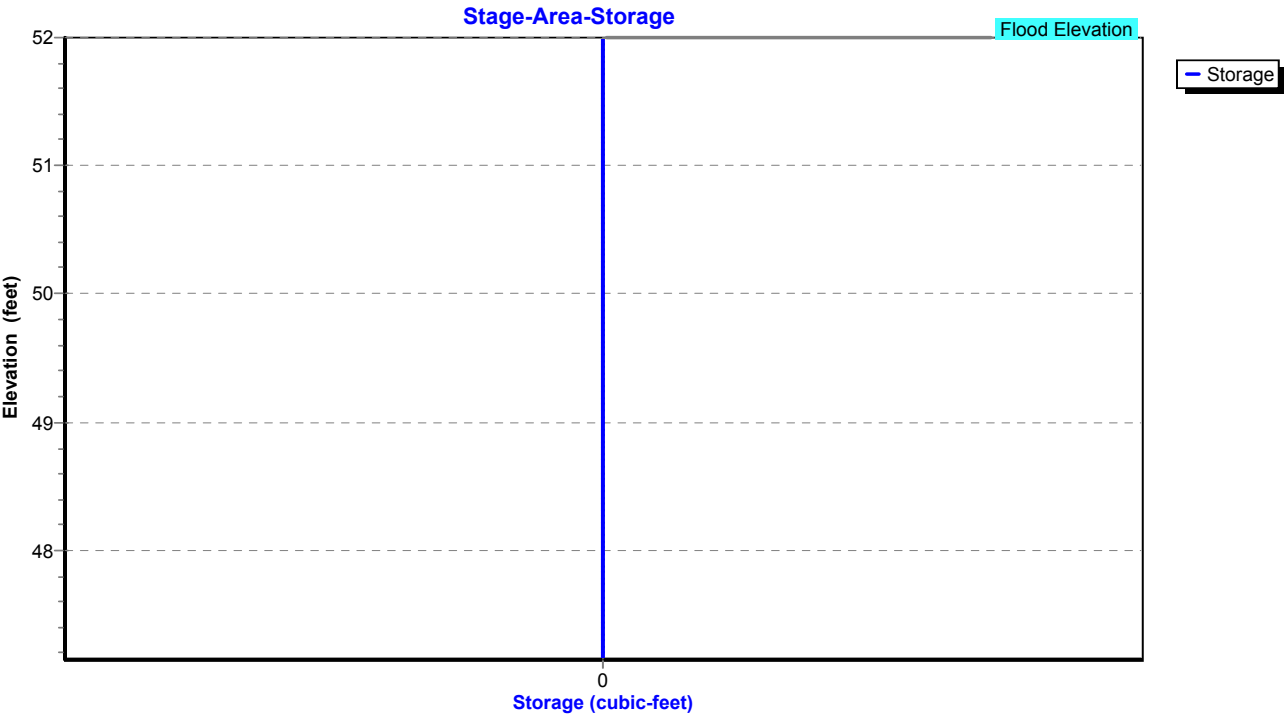
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Pond 67P: CB-9



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Summary for Pond 70P: CB-2

Inflow Area = 88,035 sf, 58.39% Impervious, Inflow Depth = 5.76" for 50 year event
Inflow = 10.93 cfs @ 11.99 hrs, Volume= 42,283 cf
Outflow = 10.93 cfs @ 11.99 hrs, Volume= 42,283 cf, Atten= 0%, Lag= 0.0 min
Primary = 10.93 cfs @ 11.99 hrs, Volume= 42,283 cf
Routed to Pond 51P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 52.12' @ 11.99 hrs

Flood Elev= 53.30'

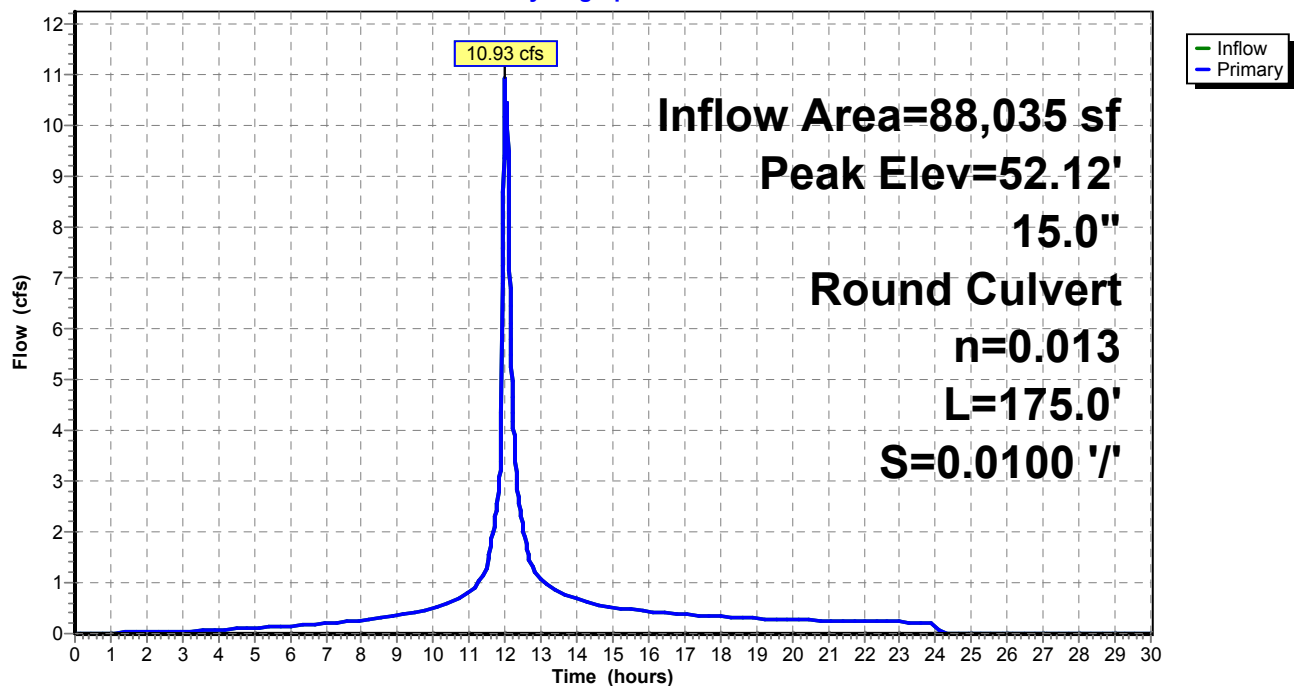
Device	Routing	Invert	Outlet Devices
#1	Primary	45.75'	15.0" Round Culvert L= 175.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.75' / 44.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=10.92 cfs @ 11.99 hrs HW=52.12' (Free Discharge)

↑1=Culvert (Barrel Controls 10.92 cfs @ 8.90 fps)

Pond 70P: CB-2

Hydrograph



Existing Conditions

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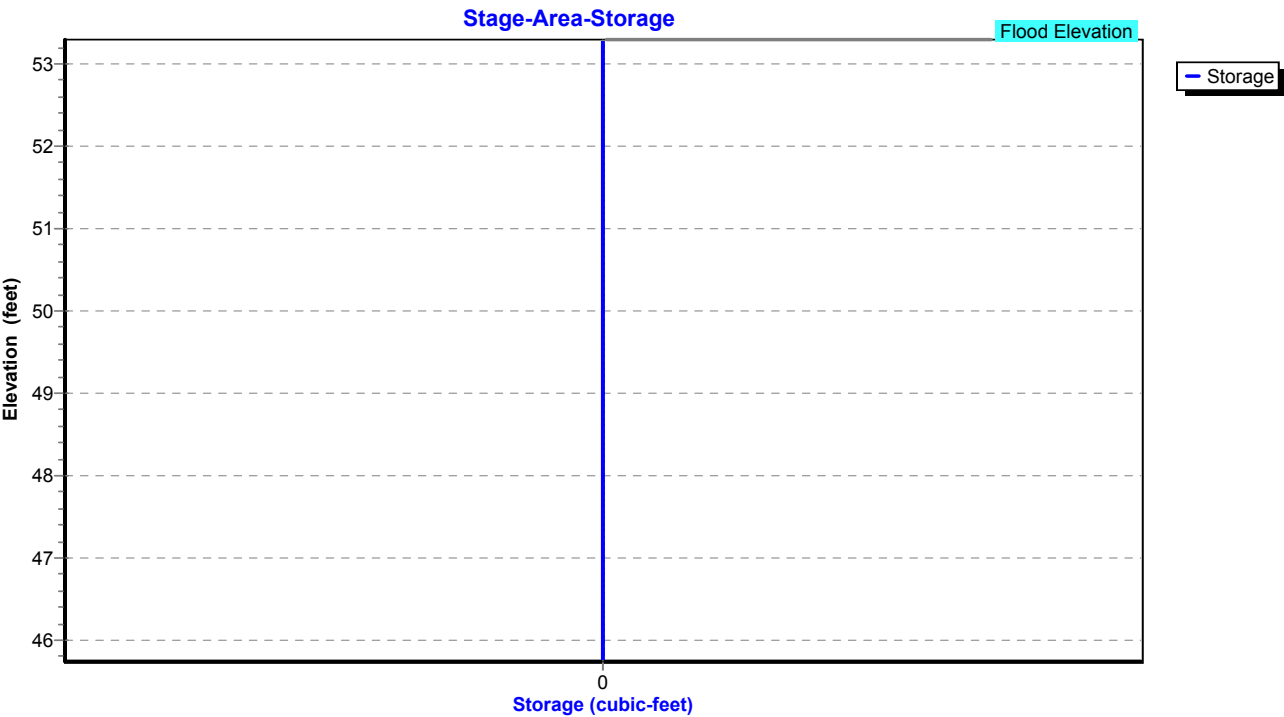
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Pond 70P: CB-2



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Summary for Pond 72P: Manhole

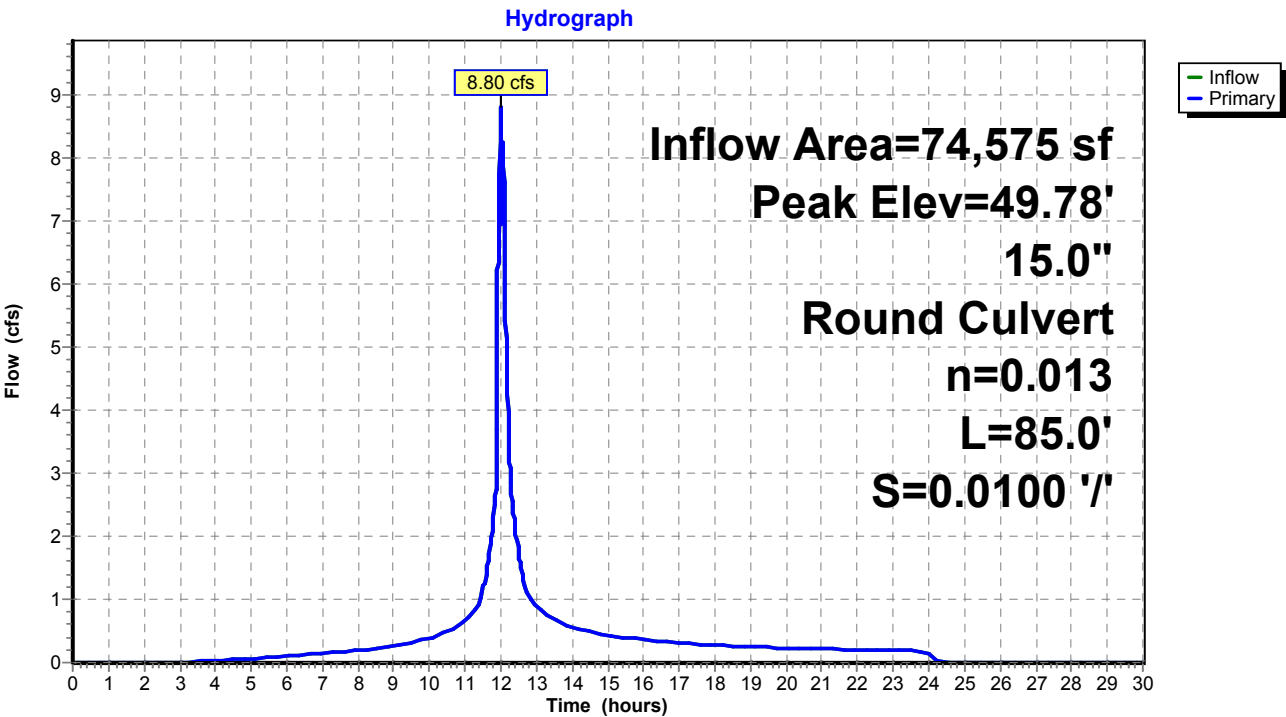
Inflow Area = 74,575 sf, 50.88% Impervious, Inflow Depth = 5.52" for 50 year event
Inflow = 8.80 cfs @ 11.99 hrs, Volume= 34,314 cf
Outflow = 8.80 cfs @ 11.99 hrs, Volume= 34,314 cf, Atten= 0%, Lag= 0.0 min
Primary = 8.80 cfs @ 11.99 hrs, Volume= 34,314 cf
Routed to Pond 70P : CB-2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 49.78' @ 11.99 hrs
Flood Elev= 54.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.60'	15.0" Round Culvert L= 85.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.60' / 45.75' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=8.72 cfs @ 11.99 hrs HW=49.73' (Free Discharge)
1=Culvert (Barrel Controls 8.72 cfs @ 7.11 fps)

Pond 72P: Manhole



Existing Conditions

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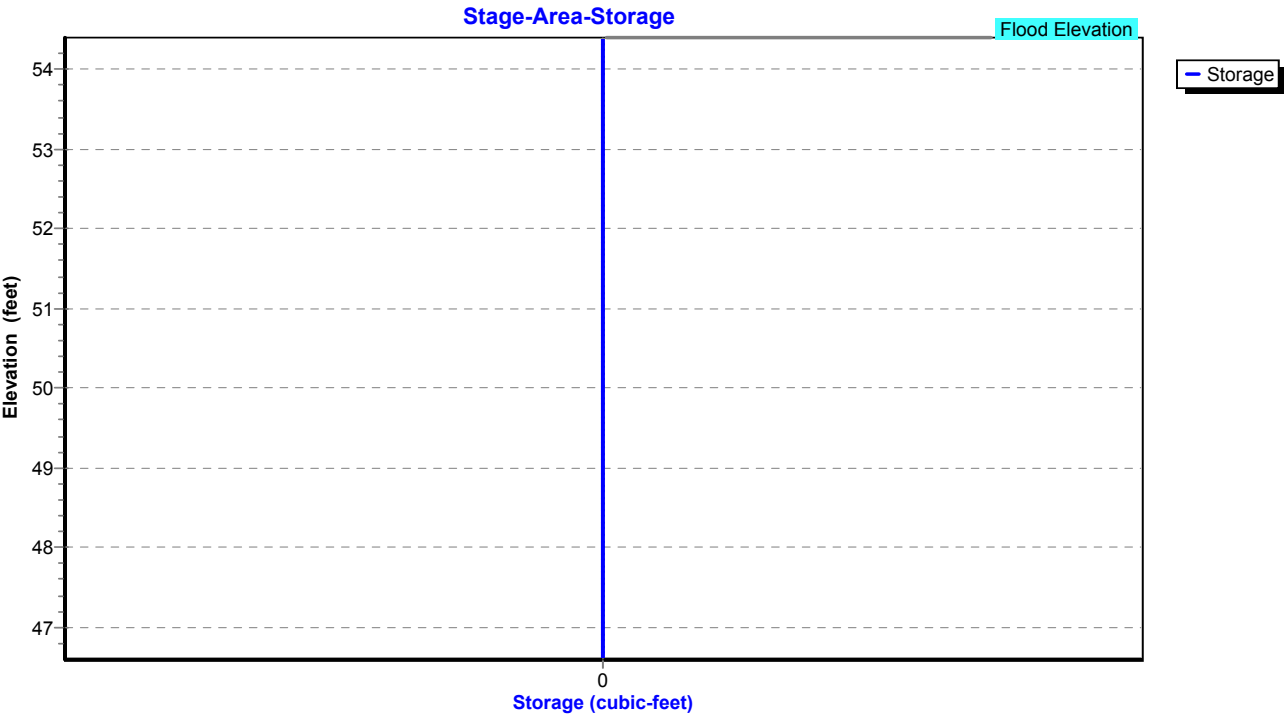
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Pond 72P: Manhole



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Summary for Pond 73P: CB-3

Inflow Area = 74,575 sf, 50.88% Impervious, Inflow Depth = 5.52" for 50 year event
Inflow = 8.80 cfs @ 11.99 hrs, Volume= 34,314 cf
Outflow = 8.80 cfs @ 11.99 hrs, Volume= 34,314 cf, Atten= 0%, Lag= 0.0 min
Primary = 8.80 cfs @ 11.99 hrs, Volume= 34,314 cf
Routed to Pond 72P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 51.10' @ 11.99 hrs

Flood Elev= 53.30'

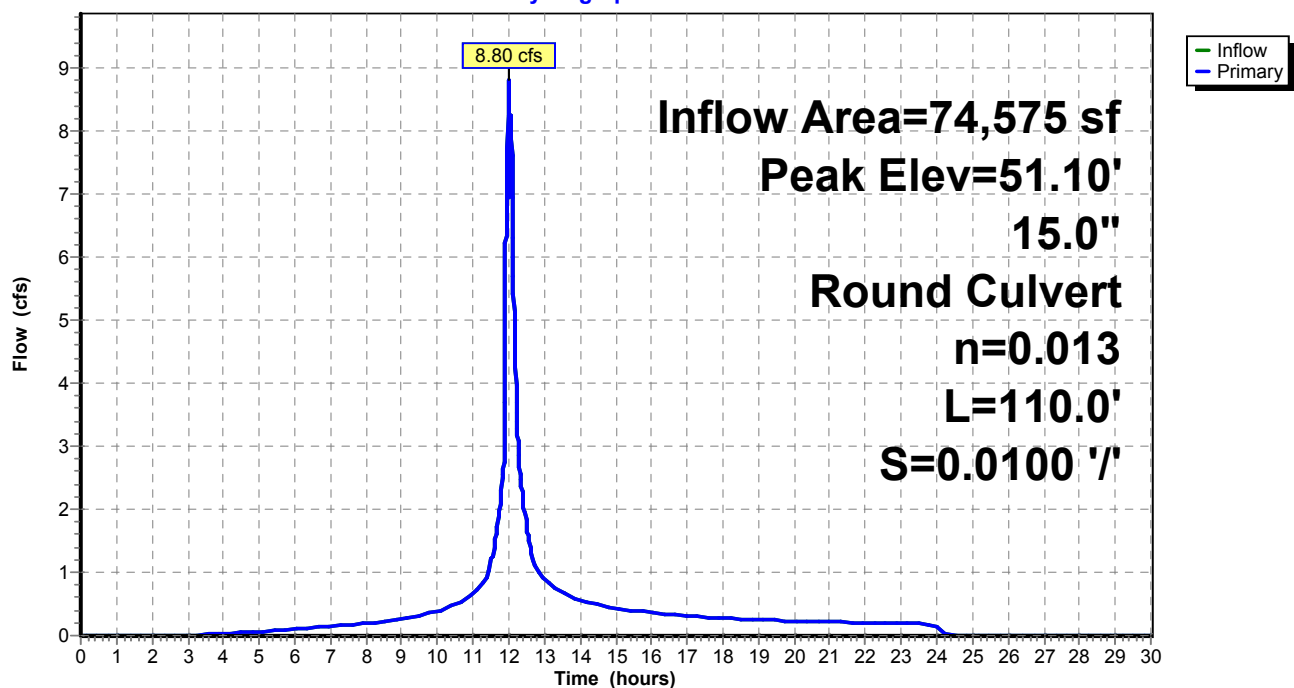
Device	Routing	Invert	Outlet Devices
#1	Primary	47.70'	15.0" Round Culvert L= 110.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.70' / 46.60' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=8.72 cfs @ 11.99 hrs HW=51.04' (Free Discharge)

↑1=Culvert (Barrel Controls 8.72 cfs @ 7.11 fps)

Pond 73P: CB-3

Hydrograph



Existing Conditions

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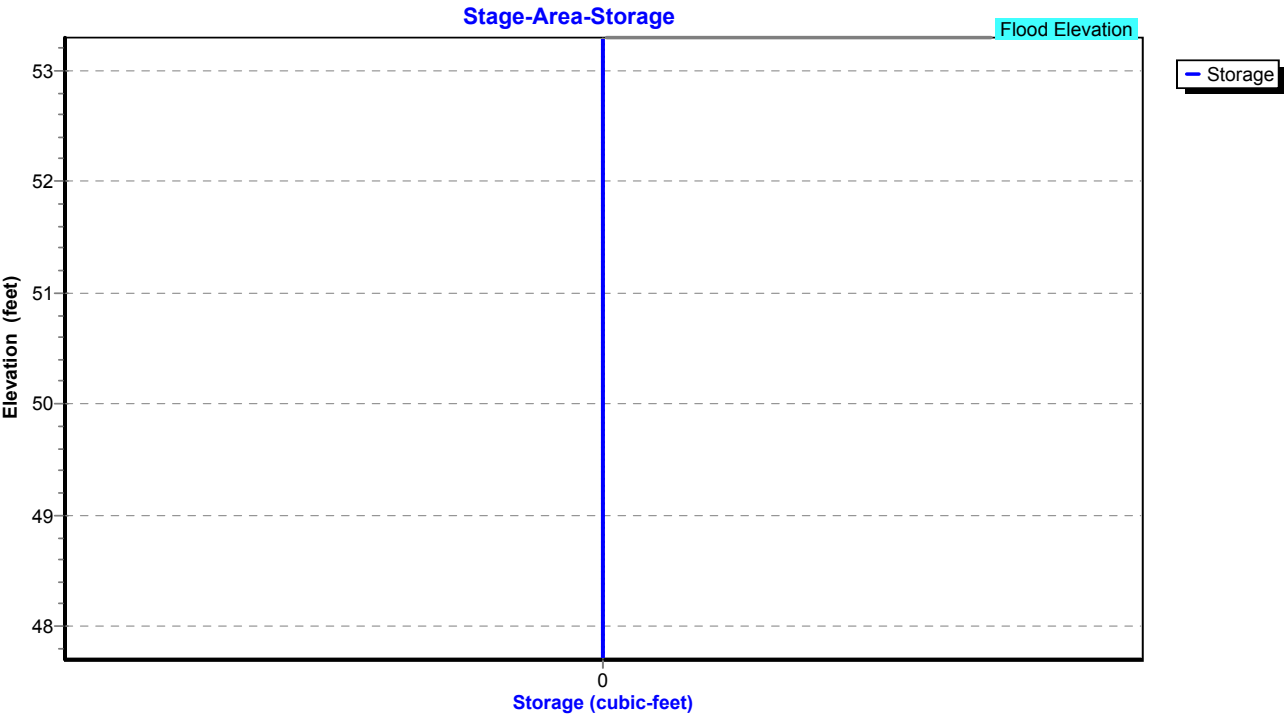
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Pond 73P: CB-3



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Summary for Pond 74P: CB-4

Inflow Area = 49,920 sf, 46.51% Impervious, Inflow Depth = 5.38" for 50 year event
Inflow = 6.62 cfs @ 12.06 hrs, Volume= 22,372 cf
Outflow = 6.62 cfs @ 12.06 hrs, Volume= 22,372 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.62 cfs @ 12.06 hrs, Volume= 22,372 cf
Routed to Pond 73P : CB-3

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 51.08' @ 12.06 hrs

Flood Elev= 53.70'

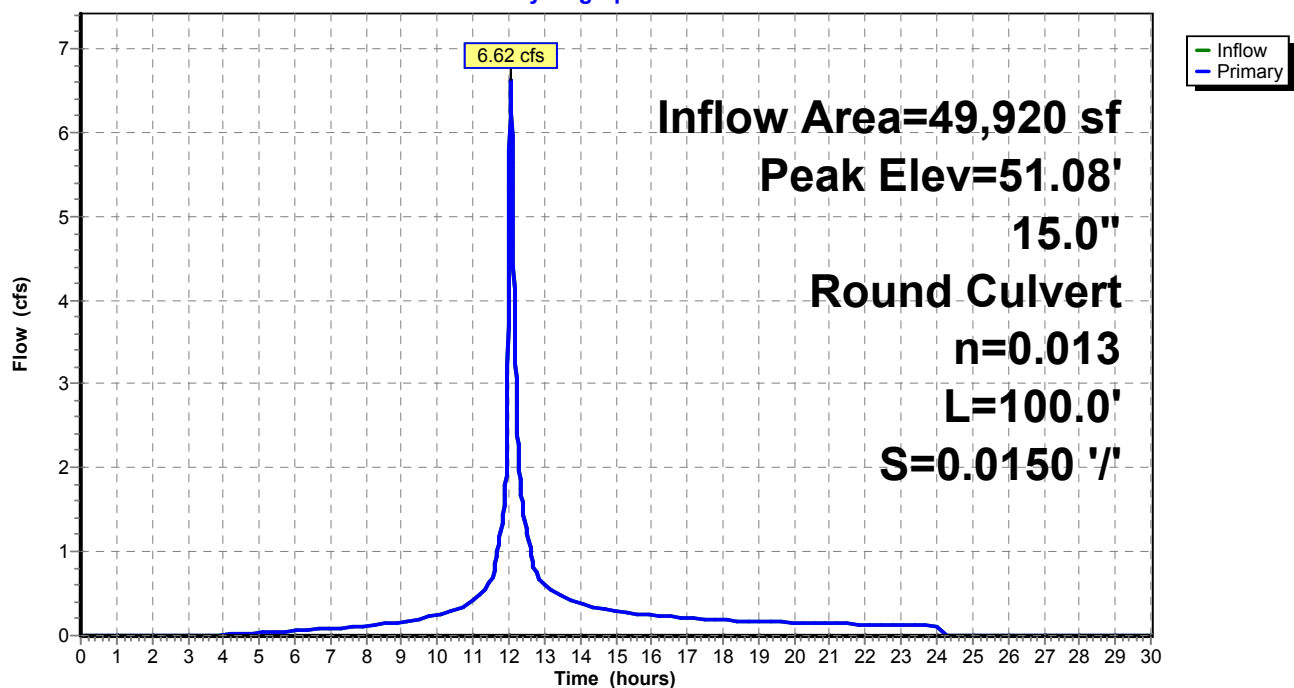
Device	Routing	Invert	Outlet Devices
#1	Primary	49.20'	15.0" Round Culvert L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.20' / 47.70' S= 0.0150 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=6.61 cfs @ 12.06 hrs HW=51.08' (Free Discharge)

↑1=Culvert (Inlet Controls 6.61 cfs @ 5.38 fps)

Pond 74P: CB-4

Hydrograph



Existing Conditions

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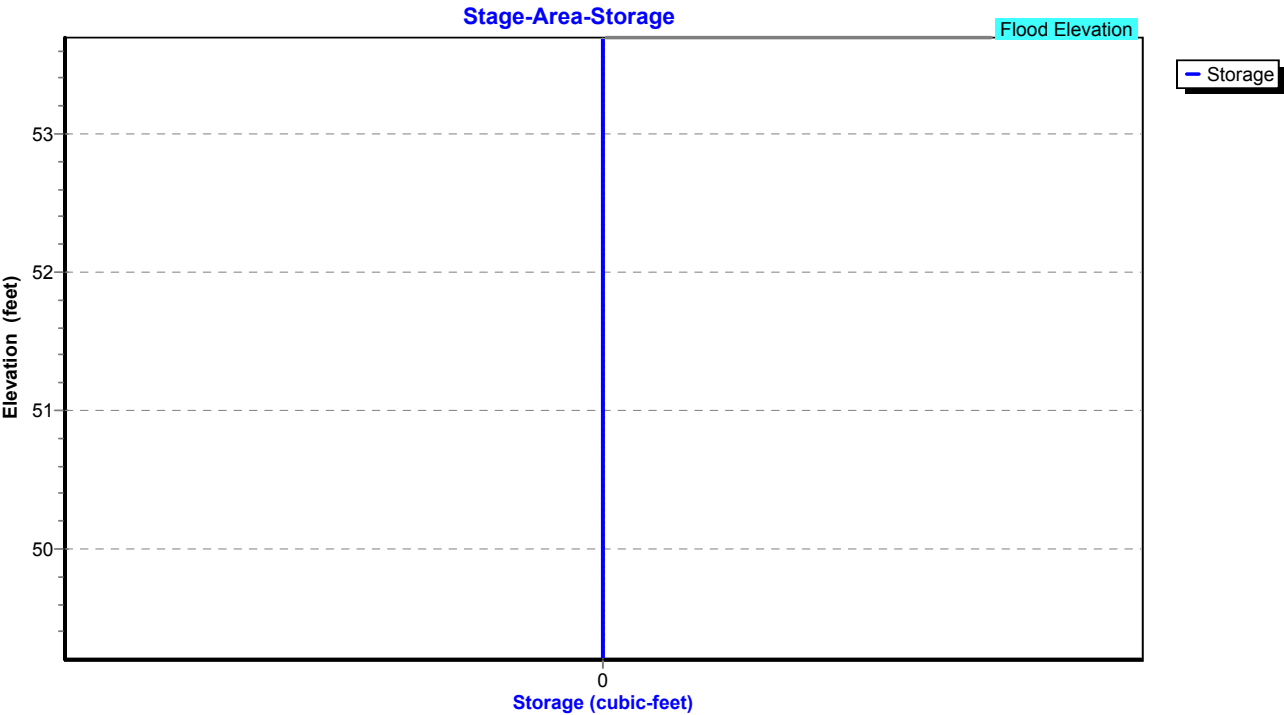
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Pond 74P: CB-4



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Summary for Pond 77P: Manhole

Inflow Area = 87,338 sf, 48.38% Impervious, Inflow Depth = 5.66" for 50 year event
Inflow = 10.73 cfs @ 12.06 hrs, Volume= 41,214 cf
Outflow = 10.73 cfs @ 12.06 hrs, Volume= 41,214 cf, Atten= 0%, Lag= 0.0 min
Primary = 10.73 cfs @ 12.06 hrs, Volume= 41,214 cf
Routed to Pond 63P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 51.31' @ 12.06 hrs

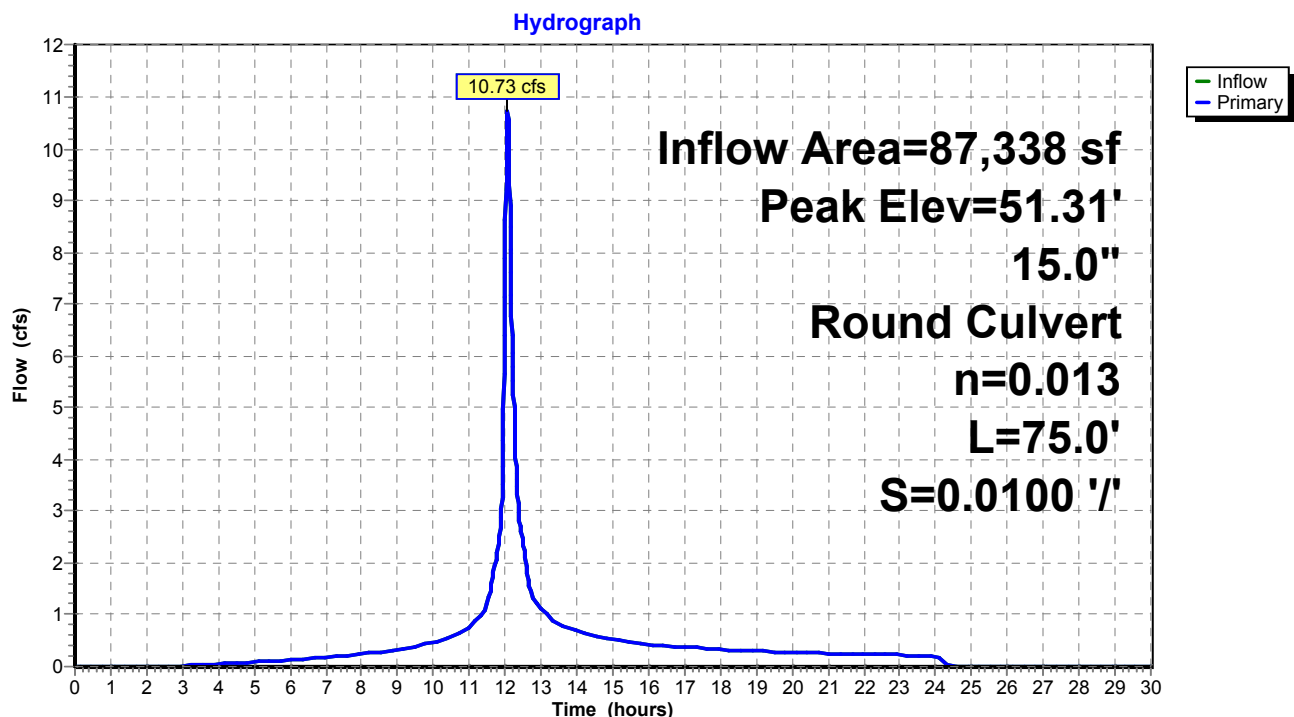
Flood Elev= 52.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.95'	15.0" Round Culvert L= 75.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.95' / 46.20' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=10.71 cfs @ 12.06 hrs HW=51.30' (Free Discharge)

↑1=Culvert (Barrel Controls 10.71 cfs @ 8.73 fps)

Pond 77P: Manhole



Existing Conditions

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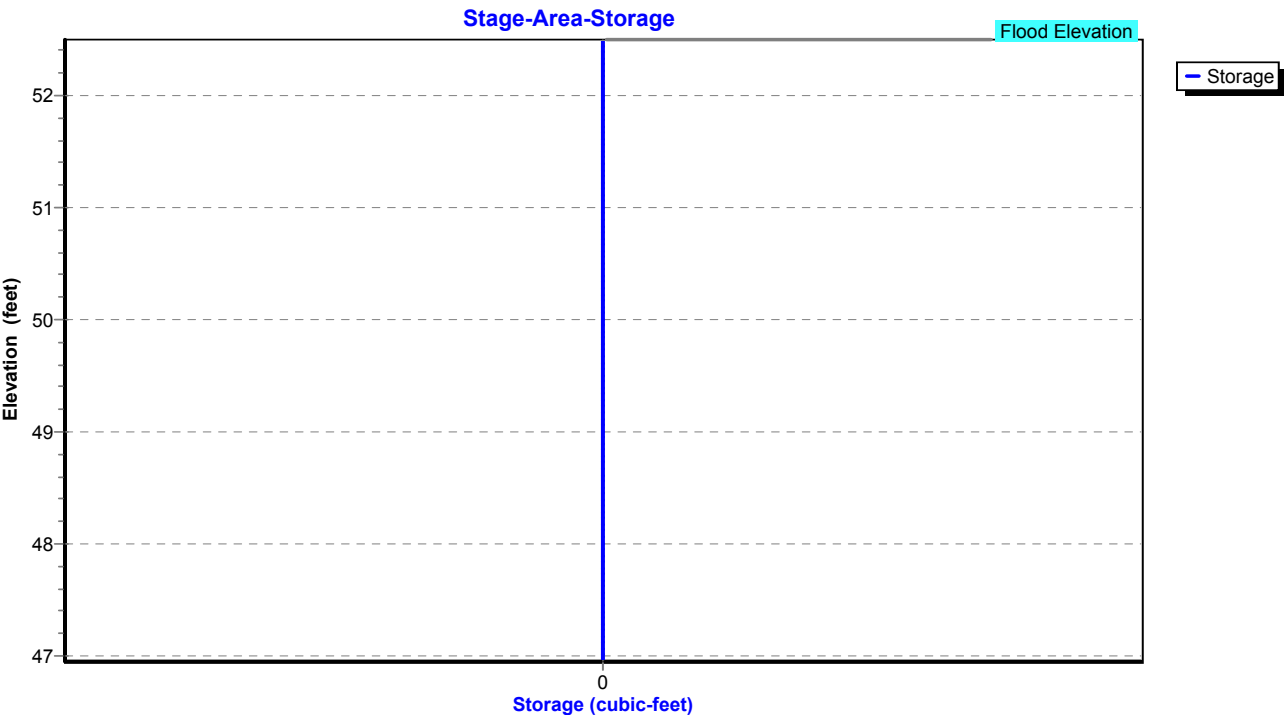
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Pond 77P: Manhole



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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Pond 79P: CB-8

Inflow Area = 3,920 sf, 100.00% Impervious, Inflow Depth = 7.10" for 50 year event
Inflow = 0.72 cfs @ 12.03 hrs, Volume= 2,321 cf
Outflow = 0.72 cfs @ 12.03 hrs, Volume= 2,321 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.72 cfs @ 12.03 hrs, Volume= 2,321 cf
Routed to Pond 63P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.63' @ 12.03 hrs

Flood Elev= 52.50'

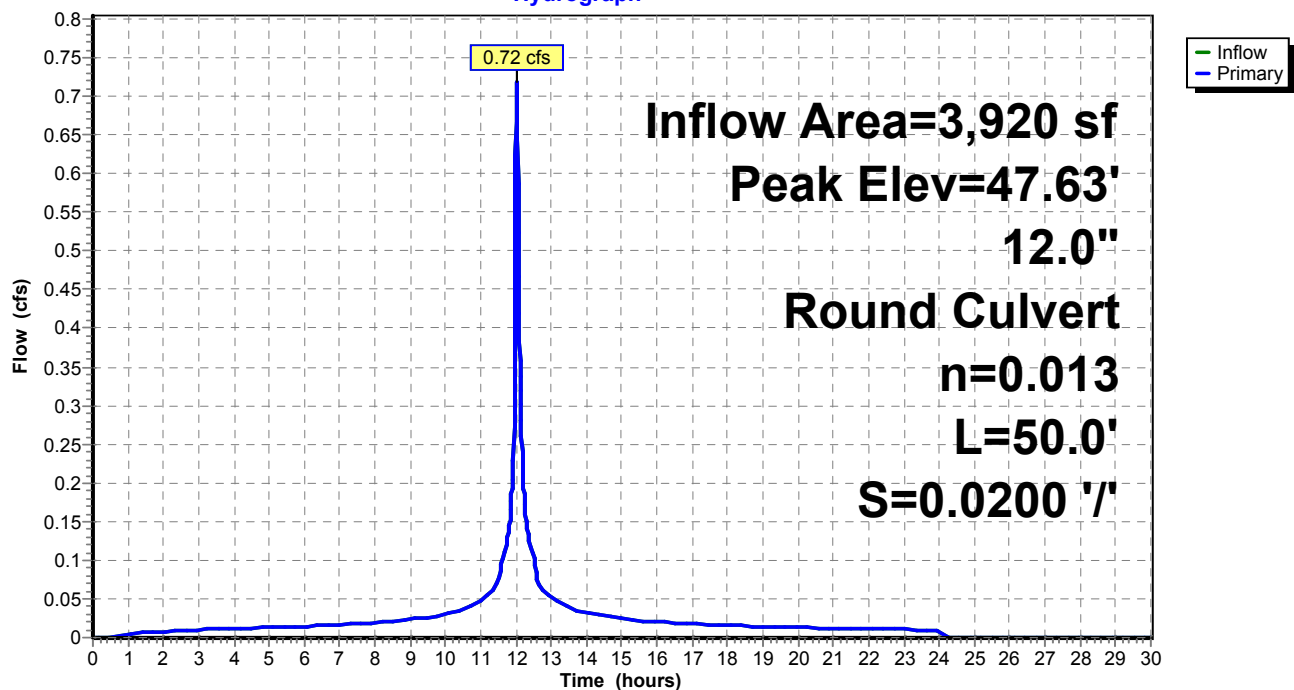
Device	Routing	Invert	Outlet Devices
#1	Primary	47.20'	12.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.20' / 46.20' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.71 cfs @ 12.03 hrs HW=47.63' (Free Discharge)

↑1=Culvert (Inlet Controls 0.71 cfs @ 2.23 fps)

Pond 79P: CB-8

Hydrograph



Existing Conditions

Prepared by Tighe & Bond

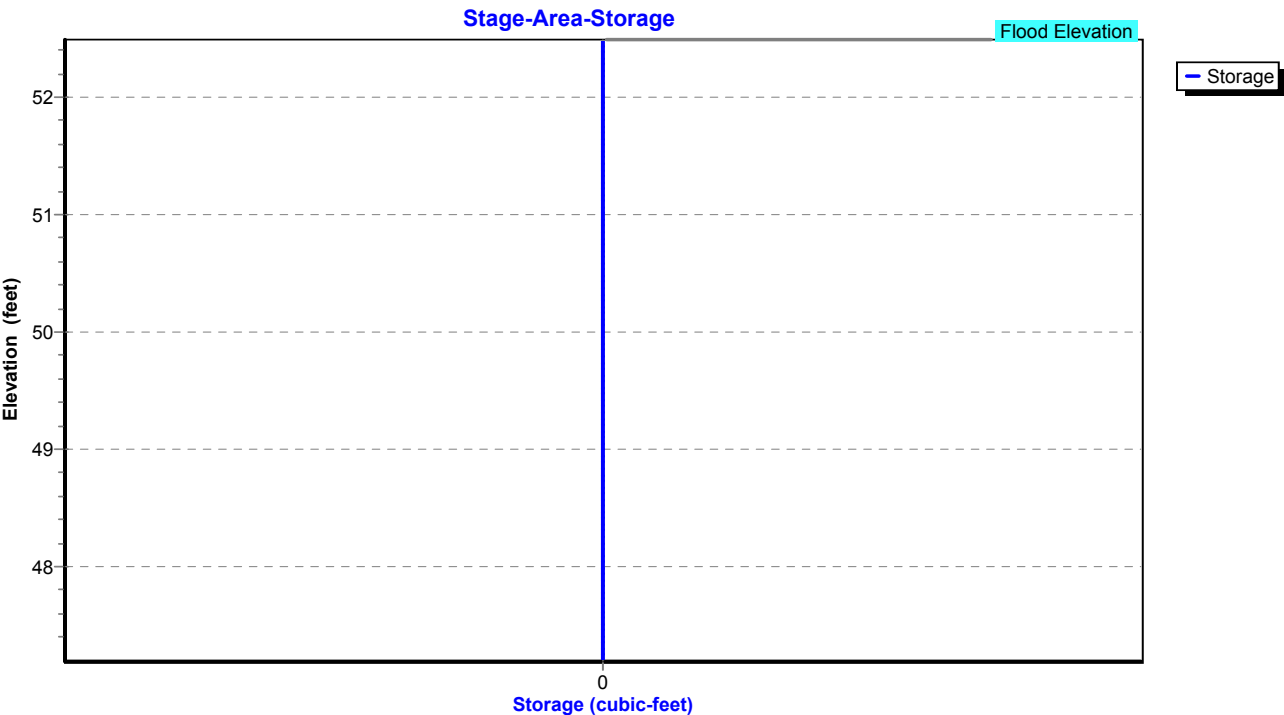
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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Pond 79P: CB-8



Existing Conditions

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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Pond 85P: CB-5

Inflow Area = 34,804 sf, 42.18% Impervious, Inflow Depth = 5.24" for 50 year event
Inflow = 4.44 cfs @ 12.07 hrs, Volume= 15,196 cf
Outflow = 4.44 cfs @ 12.07 hrs, Volume= 15,196 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.44 cfs @ 12.07 hrs, Volume= 15,196 cf
Routed to Pond 74P : CB-4

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 52.50' @ 12.07 hrs

Flood Elev= 53.30'

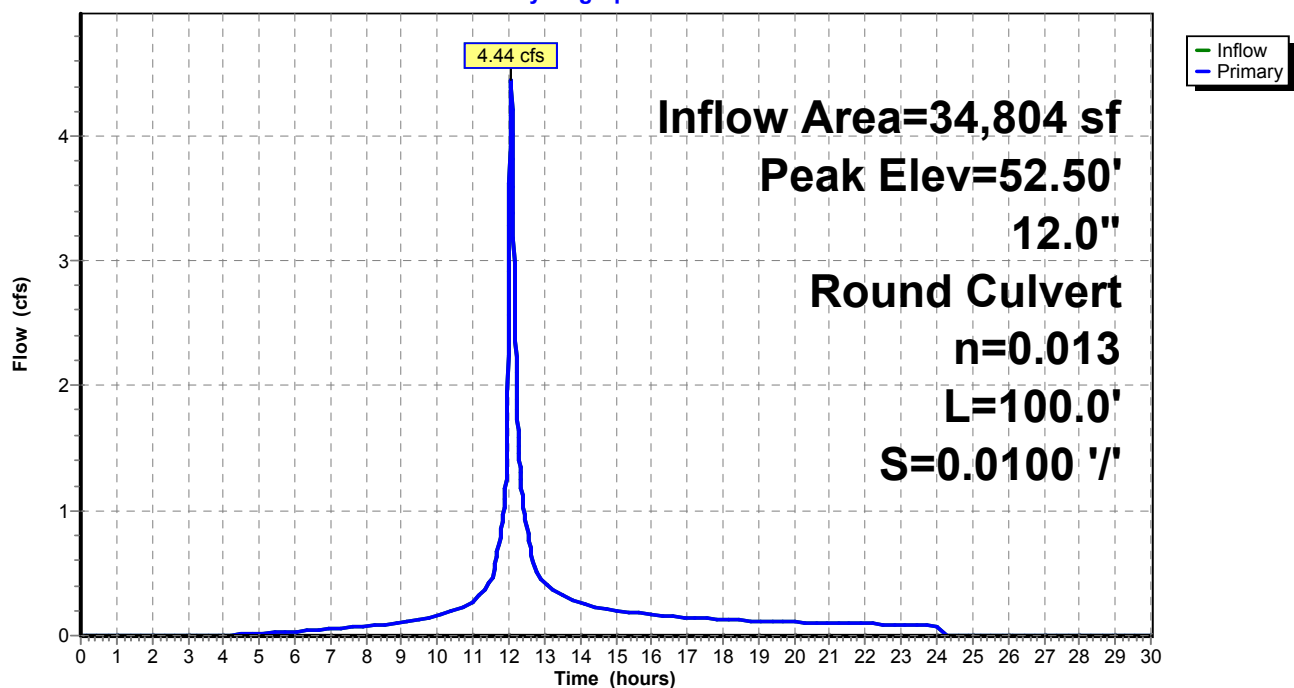
Device	Routing	Invert	Outlet Devices
#1	Primary	50.20'	12.0" Round Culvert L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 50.20' / 49.20' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=4.43 cfs @ 12.07 hrs HW=52.49' (Free Discharge)

↑1=Culvert (Barrel Controls 4.43 cfs @ 5.64 fps)

Pond 85P: CB-5

Hydrograph



Existing Conditions

Prepared by Tighe & Bond

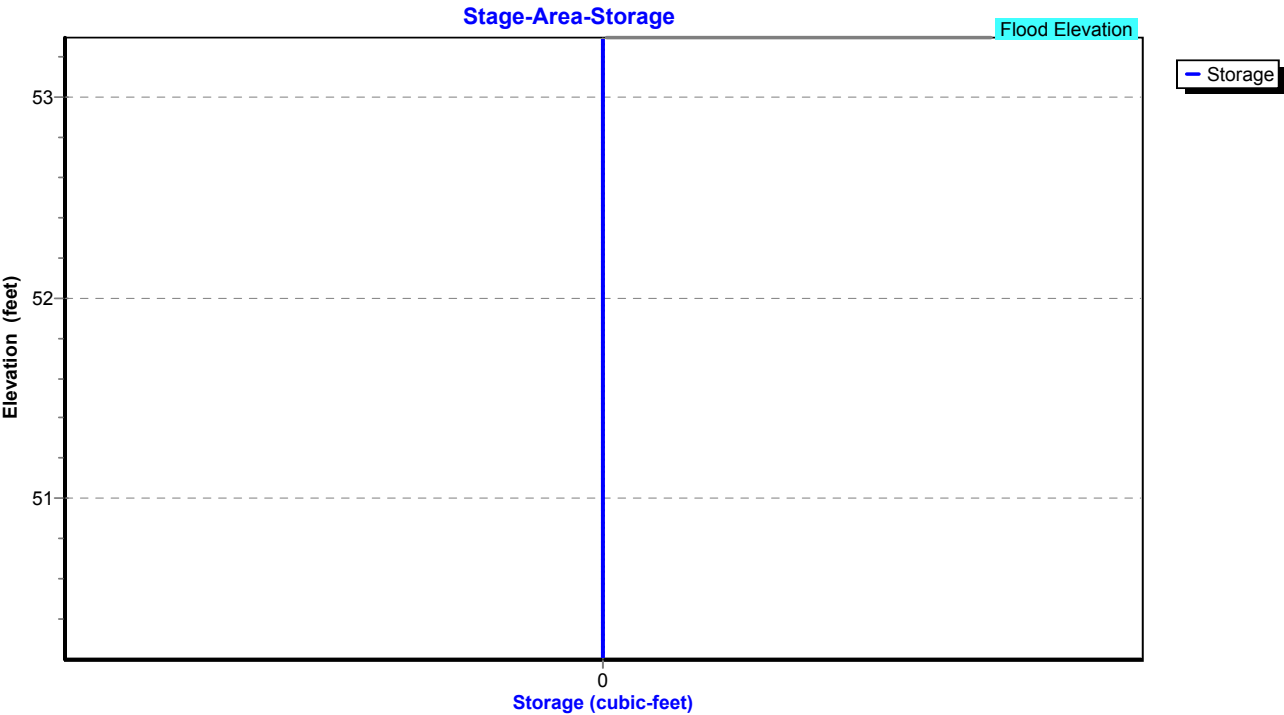
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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Pond 85P: CB-5



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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Pond P: ADS Stormtech

Inflow Area = 16,901 sf, 100.00% Impervious, Inflow Depth = 7.10" for 50 year event
Inflow = 3.10 cfs @ 12.03 hrs, Volume= 10,006 cf
Outflow = 1.87 cfs @ 12.09 hrs, Volume= 10,007 cf, Atten= 40%, Lag= 3.8 min
Primary = 1.87 cfs @ 12.09 hrs, Volume= 10,007 cf
Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 54.49' @ 12.09 hrs Surf.Area= 749 sf Storage= 1,477 cf

Plug-Flow detention time= 17.7 min calculated for 10,004 cf (100% of inflow)
Center-of-Mass det. time= 17.8 min (759.8 - 742.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	51.34'	764 cf	15.75'W x 46.34'L x 3.75'H Field A 2,737 cf Overall - 827 cf Embedded = 1,910 cf x 40.0% Voids
#2A	51.84'	827 cf	ADS_StormTech SC-740 +Cap x 18 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 18 Chambers in 3 Rows
#3	51.34'	114 cf	5.00'D x 5.80'H OCS
		1,705 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	51.34'	12.0" Round Culvert L= 4.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 51.34' / 51.30' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	51.34'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	54.30'	5.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=1.85 cfs @ 12.09 hrs HW=54.49' (Free Discharge)

1=Culvert (Passes 1.85 cfs of 6.15 cfs potential flow)

2=Orifice/Grate (Orifice Controls 0.73 cfs @ 8.31 fps)

3=Broad-Crested Rectangular Weir (Weir Controls 1.12 cfs @ 1.21 fps)

Existing Conditions

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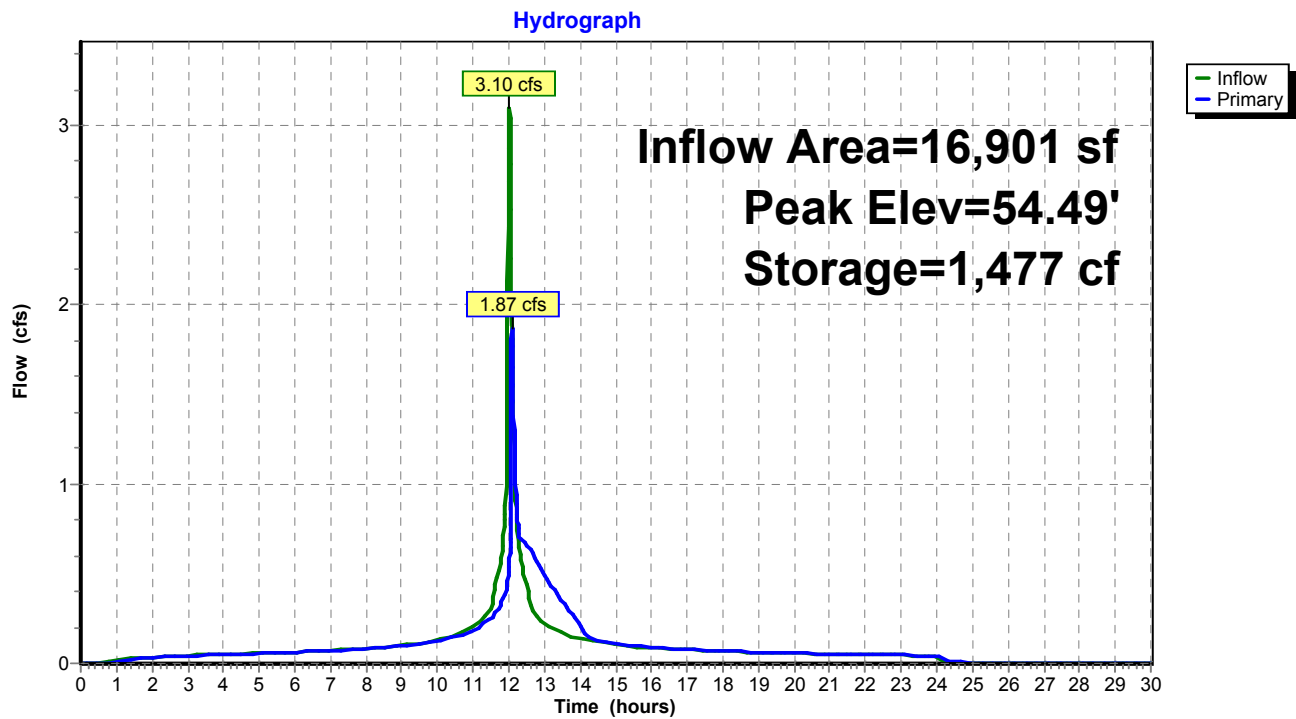
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NORWALK 24-hr S1 50 year Rainfall=7.34"

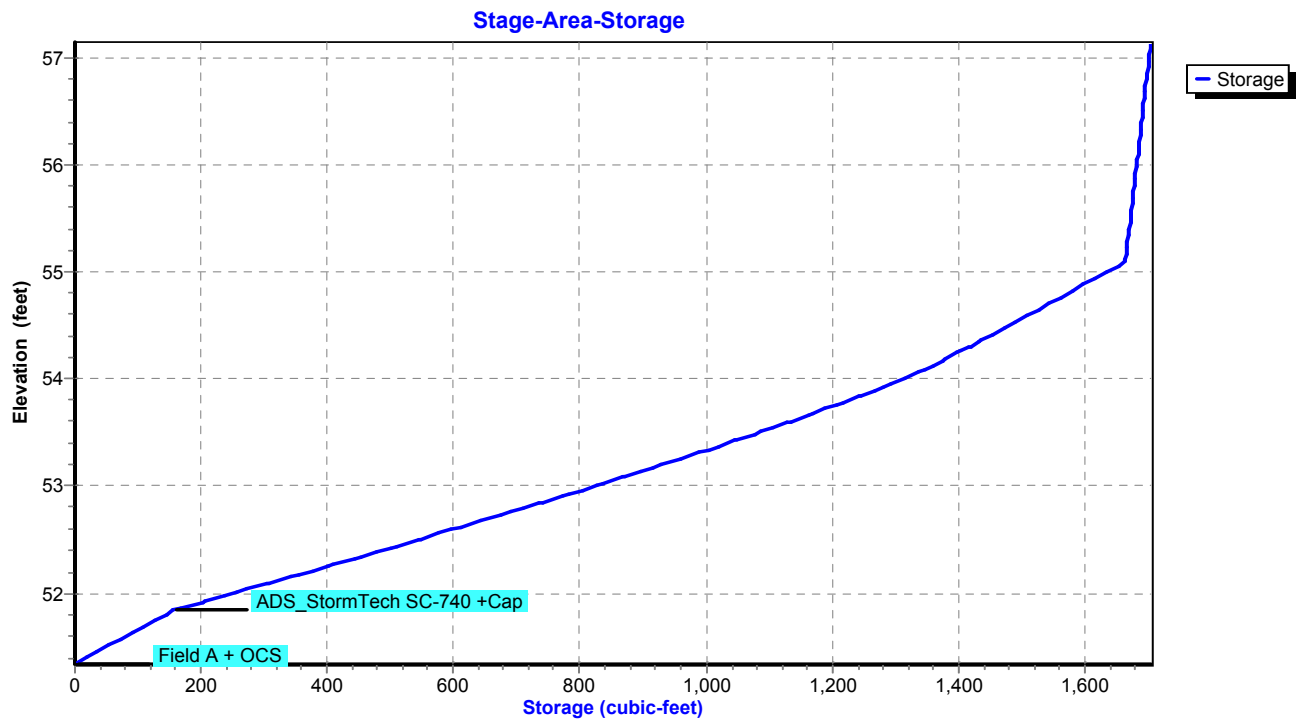
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Pond P: ADS Stormtech



Pond P: ADS Stormtech



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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 4S: Area 4

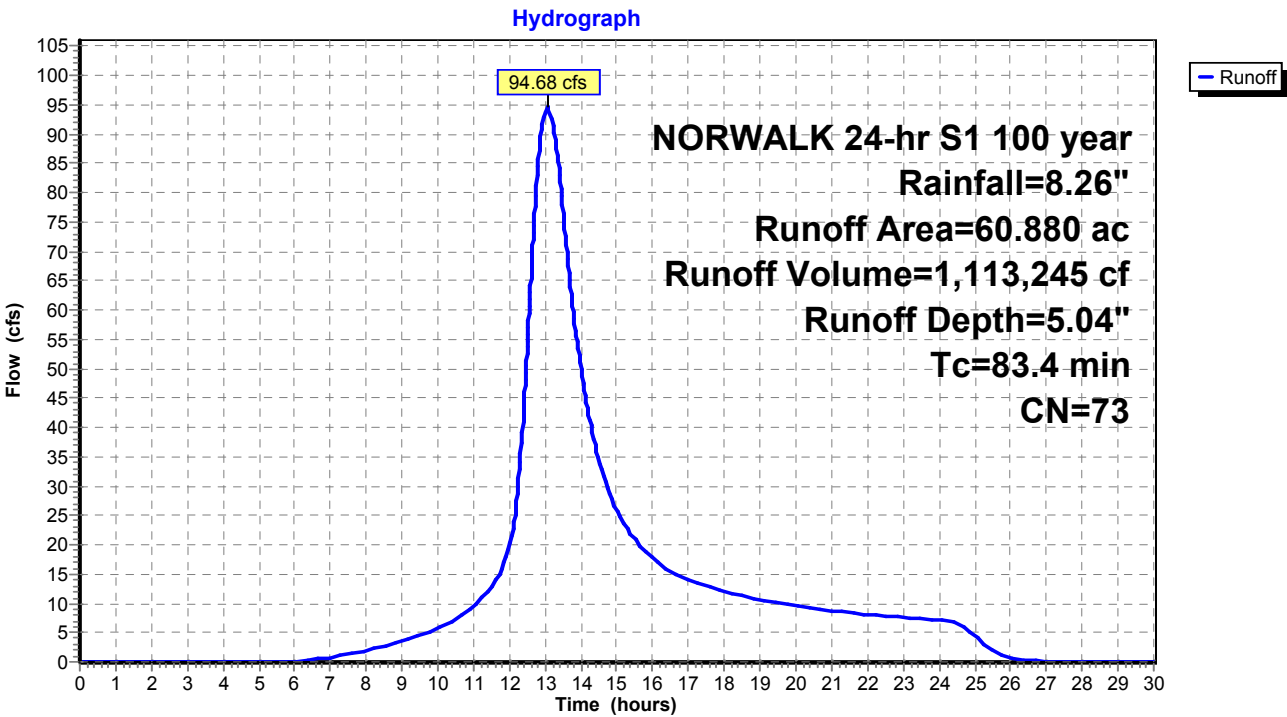
Runoff = 94.68 cfs @ 13.07 hrs, Volume= 1,113,245 cf, Depth= 5.04"
Routed to Pond 18P : DET 4 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
8.210	61	>75% Grass cover, Good, HSG B
0.140	74	>75% Grass cover, Good, HSG C
0.380	80	>75% Grass cover, Good, HSG D
25.920	70	1/2 acre lots, 25% imp, HSG B
22.630	80	1/2 acre lots, 25% imp, HSG C
3.600	85	1/2 acre lots, 25% imp, HSG D
60.880	73	Weighted Average
47.842		78.58% Pervious Area
13.037		21.42% Impervious Area

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

Subcatchment 4S: Area 4



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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 5S: Area 5

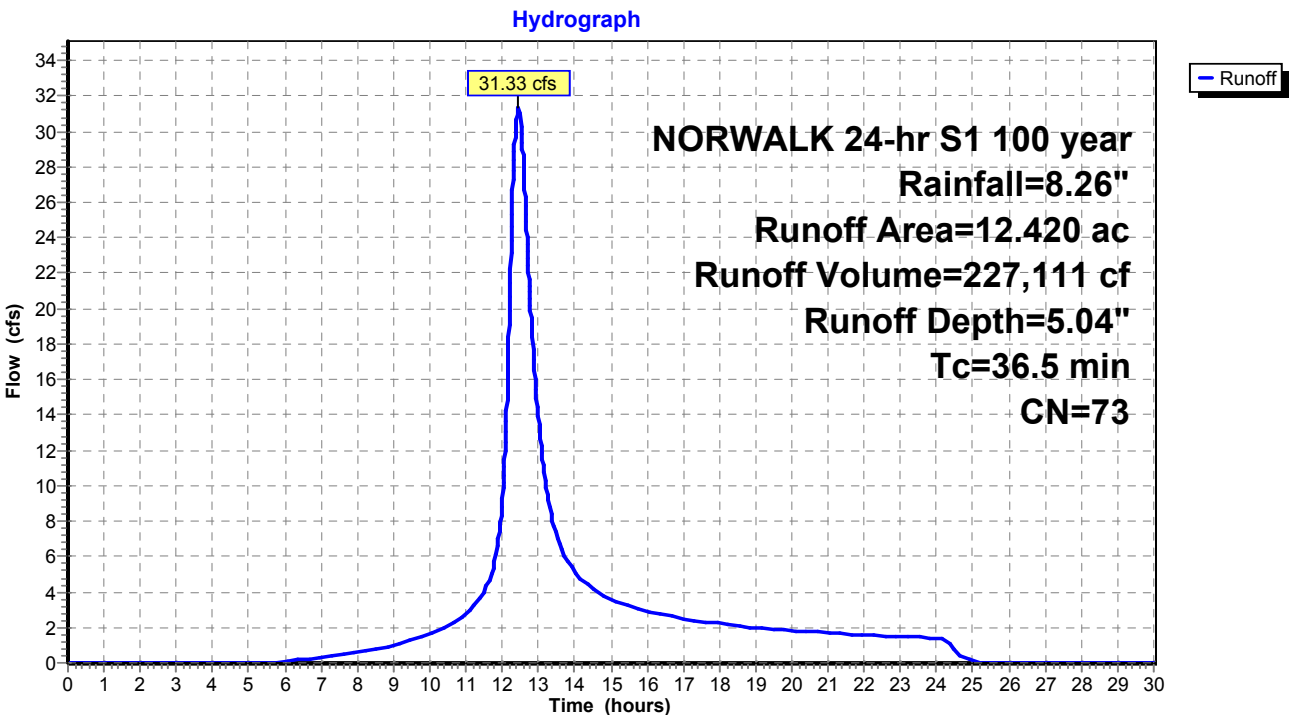
Runoff = 31.33 cfs @ 12.45 hrs, Volume= 227,111 cf, Depth= 5.04"
Routed to Pond 5P : DET 5 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
4.770	61	>75% Grass cover, Good, HSG B
5.210	74	>75% Grass cover, Good, HSG C
0.390	80	>75% Grass cover, Good, HSG D
2.050	98	Paved parking & roofs
12.420	73	Weighted Average
10.370		83.49% Pervious Area
2.050		16.51% Impervious Area

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

Subcatchment 5S: Area 5



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"
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Summary for Subcatchment 6S: Area 6

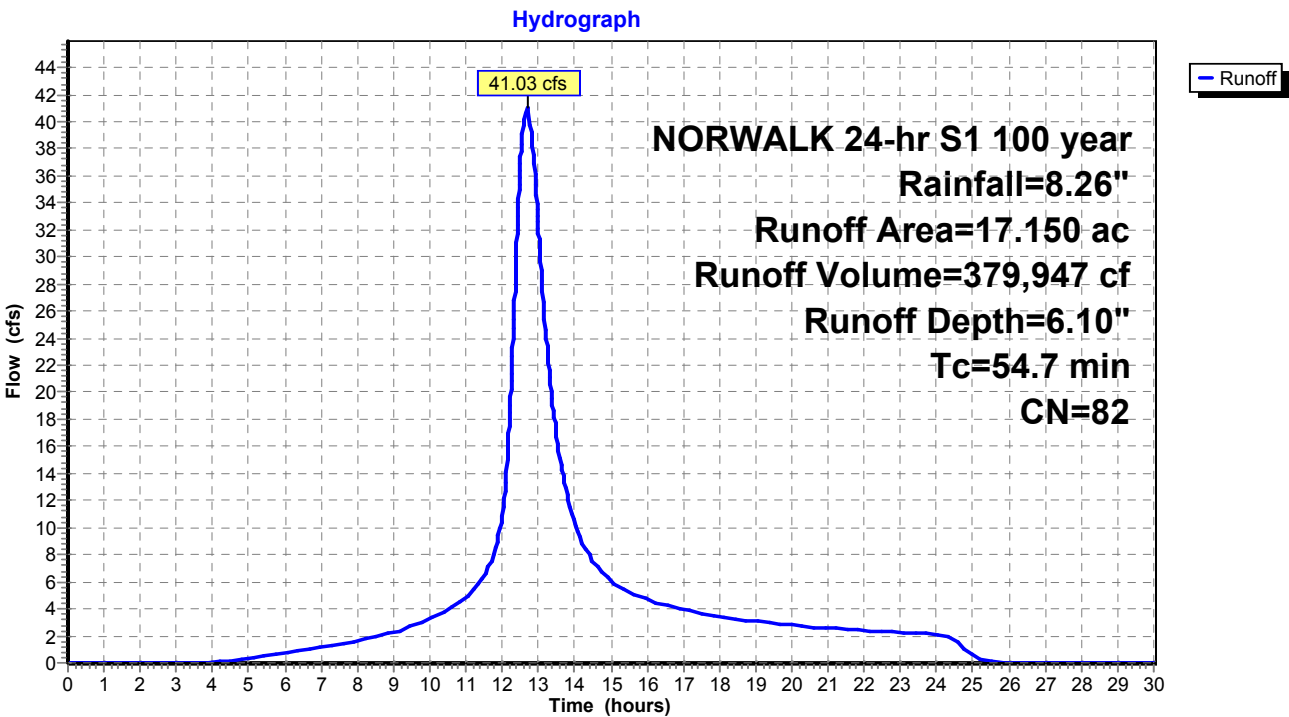
Runoff = 41.03 cfs @ 12.70 hrs, Volume= 379,947 cf, Depth= 6.10"
Routed to Pond 6P : DET 6 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
9.290	71	Meadow, non-grazed, HSG C
5.410	98	Paved parking & roofs
1.480	77	Woods, Good, HSG D
0.970	98	Paved parking & roofs
17.150	82	Weighted Average
10.770		62.80% Pervious Area
6.380		37.20% Impervious Area

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

Subcatchment 6S: Area 6



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 7S: Area 7

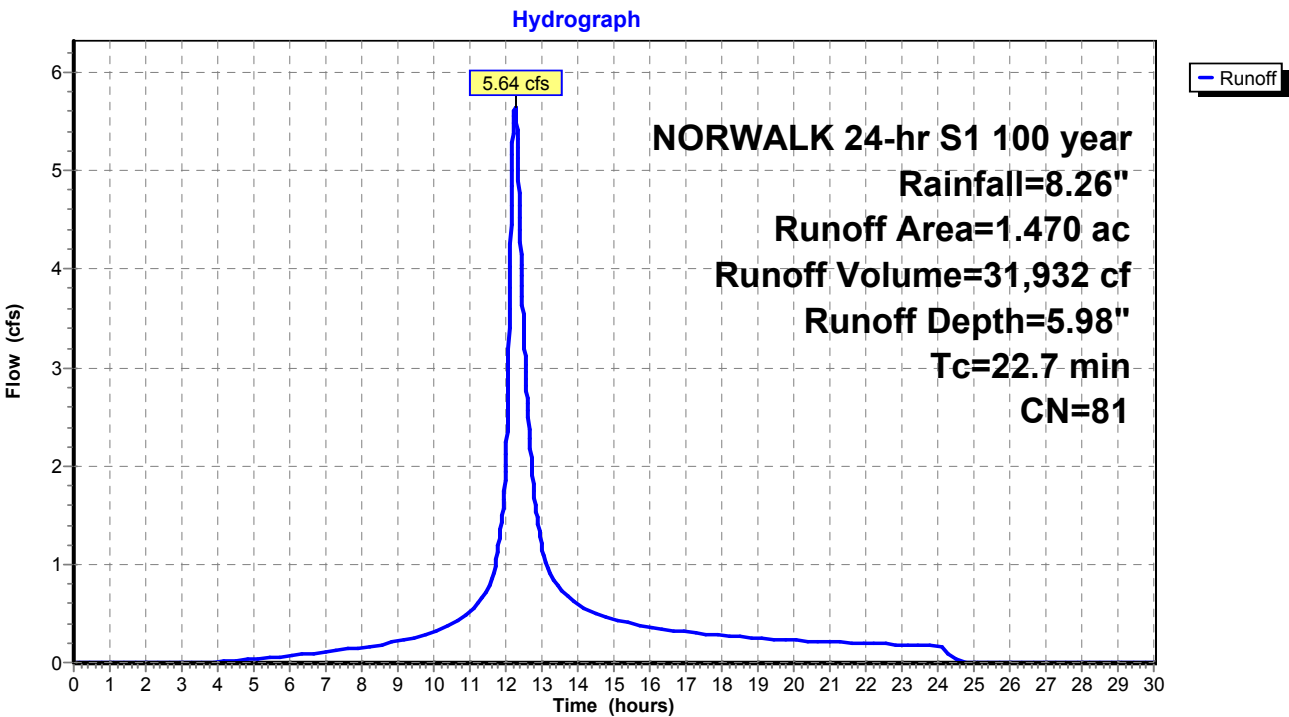
Runoff = 5.64 cfs @ 12.25 hrs, Volume= 31,932 cf, Depth= 5.98"
Routed to Pond 7P : DET 7 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.890	79	50-75% Grass cover, Fair, HSG C
0.580	84	50-75% Grass cover, Fair, HSG D
1.470	81	Weighted Average
1.470		100.00% Pervious Area

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

Subcatchment 7S: Area 7



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 8S: Area 8

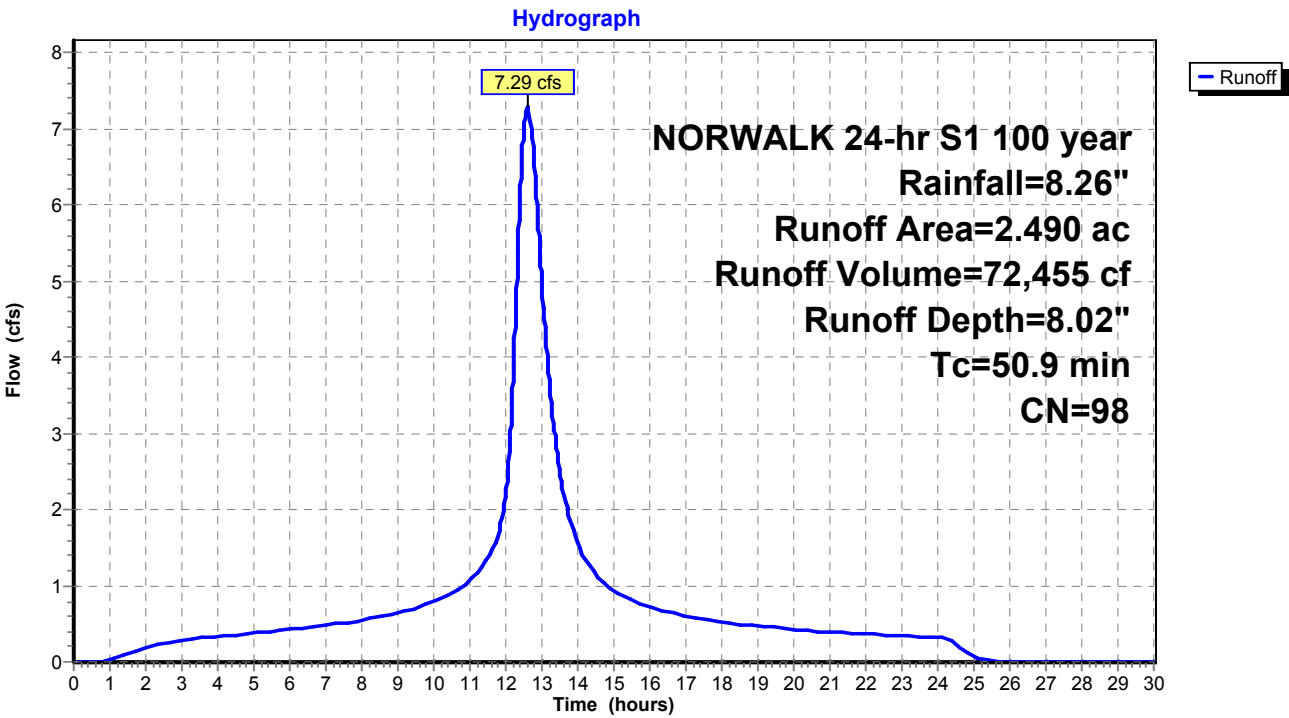
Runoff = 7.29 cfs @ 12.61 hrs, Volume= 72,455 cf, Depth= 8.02"
Routed to Pond 8P : Comb. 5,6,7,8,9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
2.490	98	Paved parking & roofs
2.490		100.00% Impervious Area

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

Subcatchment 8S: Area 8



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 9S: Area 9

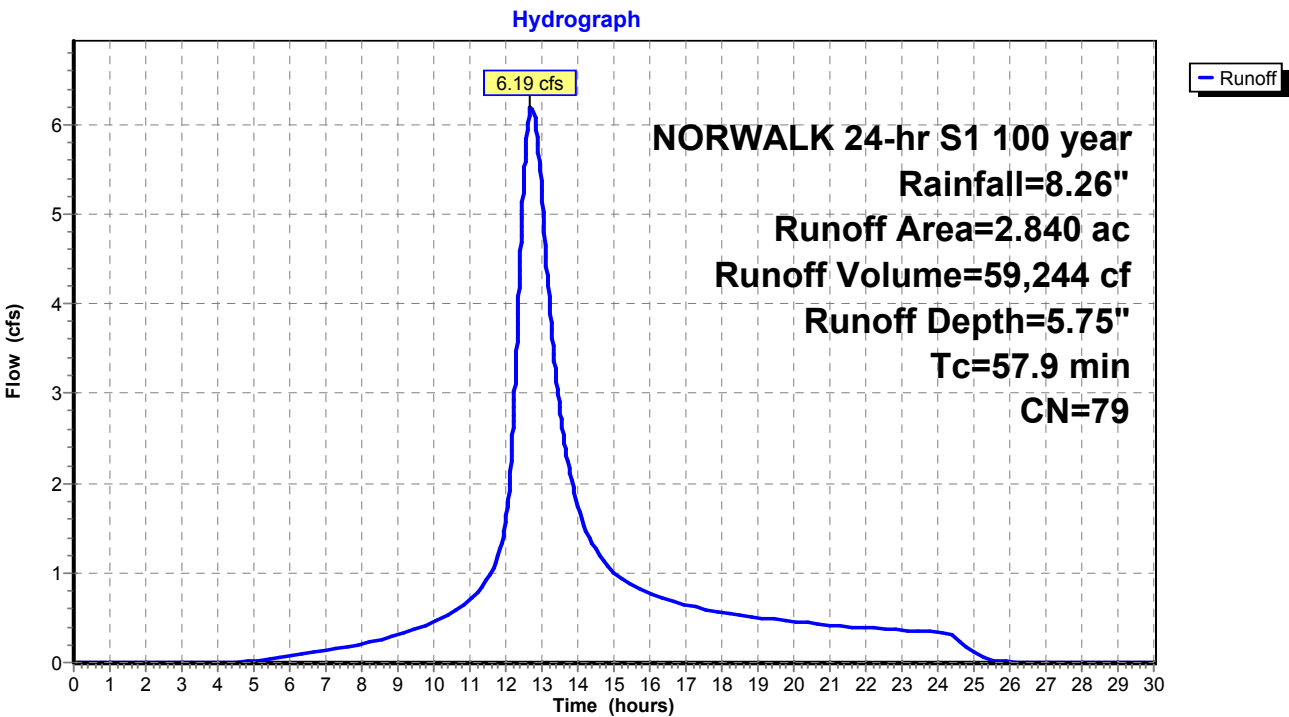
Runoff = 6.19 cfs @ 12.68 hrs, Volume= 59,244 cf, Depth= 5.75"
Routed to Pond 8P : Comb. 5,6,7,8,9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.530	74	>75% Grass cover, Good, HSG C
2.310	80	>75% Grass cover, Good, HSG D
2.840	79	Weighted Average
2.840		100.00% Pervious Area

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

Subcatchment 9S: Area 9



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 10AS: Area 10A

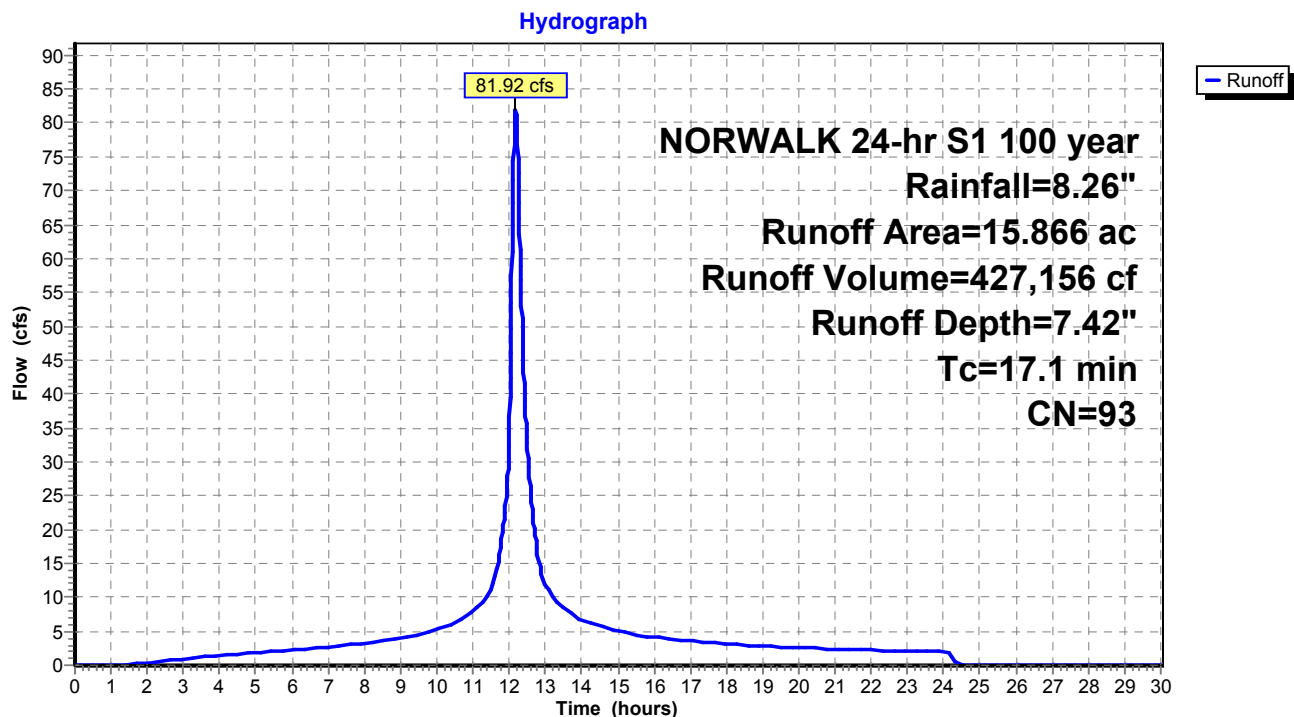
Runoff = 81.92 cfs @ 12.18 hrs, Volume= 427,156 cf, Depth= 7.42"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
3.905	79	50-75% Grass cover, Fair, HSG C
11.961	98	Paved roads w/curbs & sewers, HSG C
15.866	93	Weighted Average
3.905		24.61% Pervious Area
11.961		75.39% Impervious Area

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

Subcatchment 10AS: Area 10A



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 10BS: Area 10B

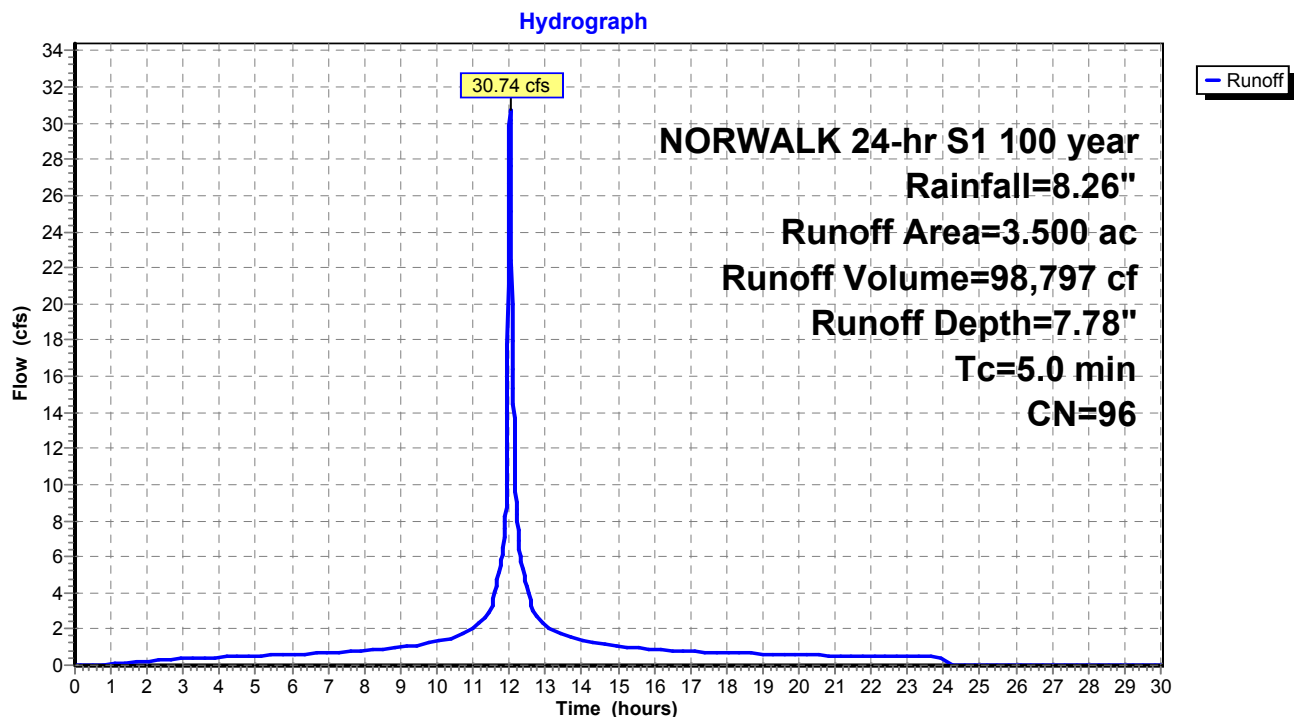
Runoff = 30.74 cfs @ 12.03 hrs, Volume= 98,797 cf, Depth= 7.78"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
3.308	98	Paved parking & roofs
0.192	61	>75% Grass cover, Good, HSG B
3.500	96	Weighted Average
0.192		5.49% Pervious Area
3.308		94.51% Impervious Area

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

Subcatchment 10BS: Area 10B



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 10CS: Area 10C

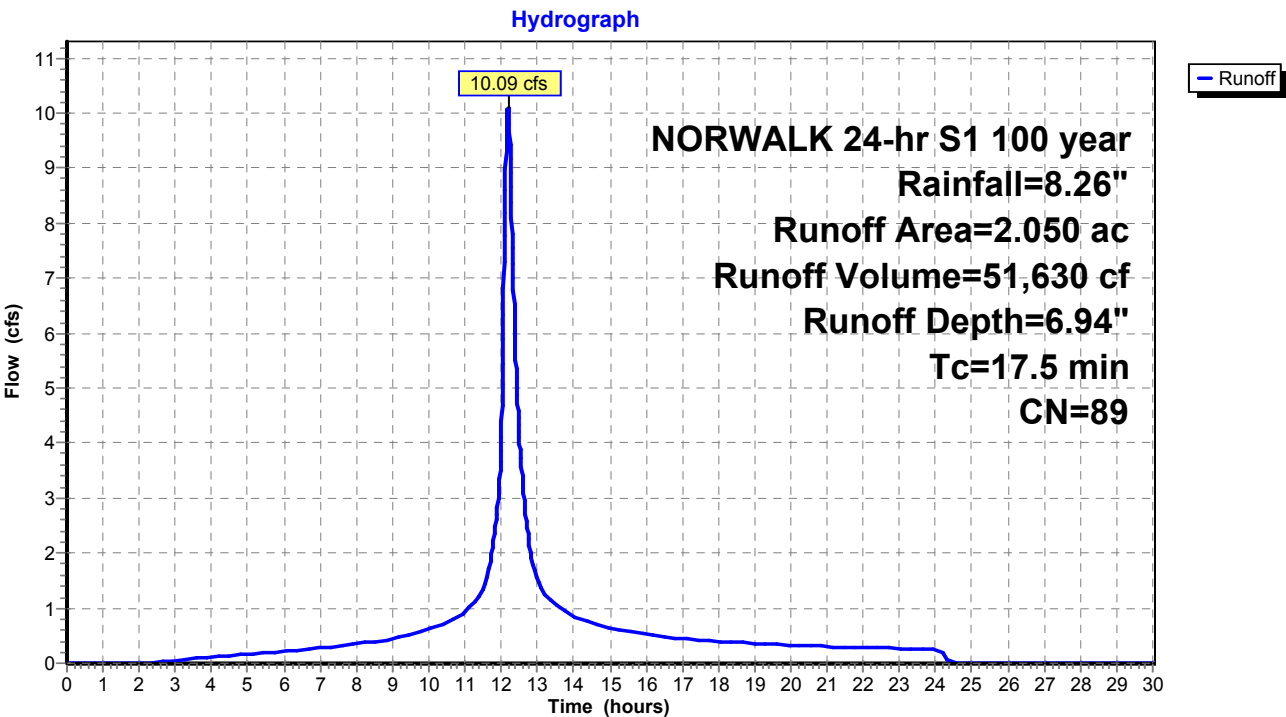
Runoff = 10.09 cfs @ 12.19 hrs, Volume= 51,630 cf, Depth= 6.94"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
1.526	98	Paved parking & roofs
0.524	61	>75% Grass cover, Good, HSG B
2.050	89	Weighted Average
0.524		25.56% Pervious Area
1.526		74.44% Impervious Area

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

Subcatchment 10CS: Area 10C



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 10DS: Area 10D

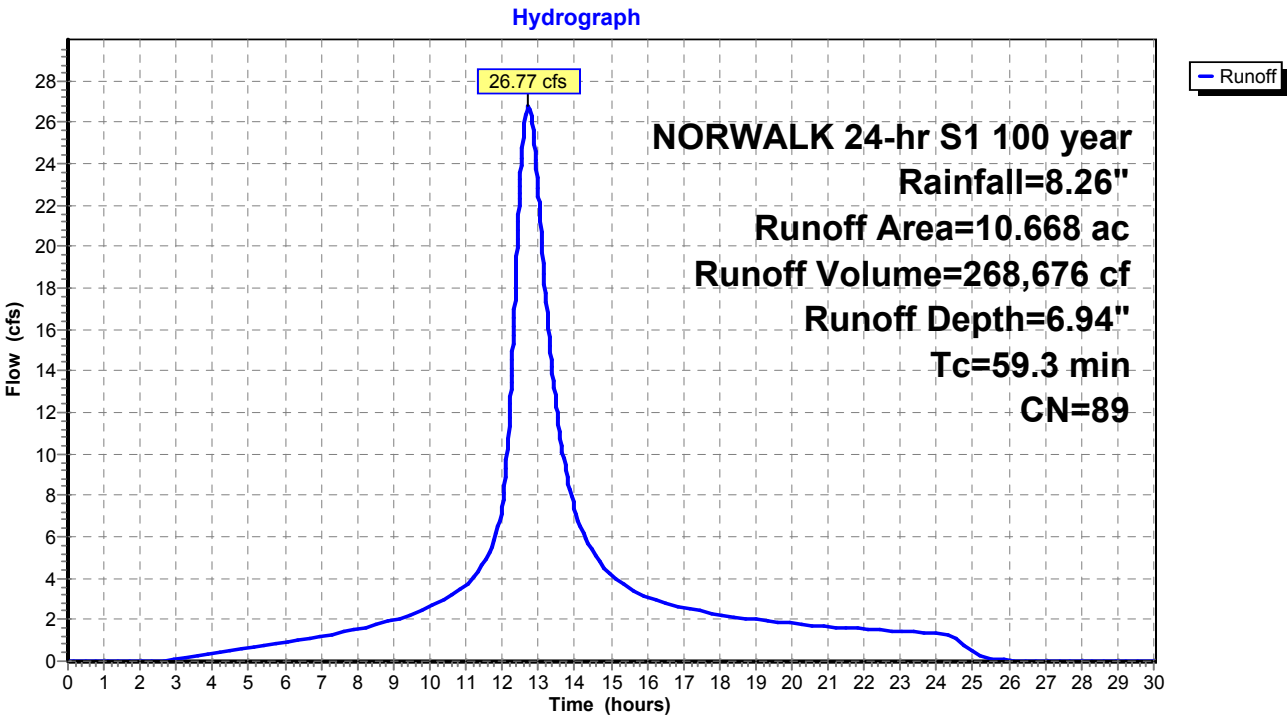
Runoff = 26.77 cfs @ 12.72 hrs, Volume= 268,676 cf, Depth= 6.94"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
5.033	79	50-75% Grass cover, Fair, HSG C
5.635	98	Paved parking, HSG C
10.668	89	Weighted Average
5.033		47.18% Pervious Area
5.635		52.82% Impervious Area

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

Subcatchment 10DS: Area 10D



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 10ES: Area 10E

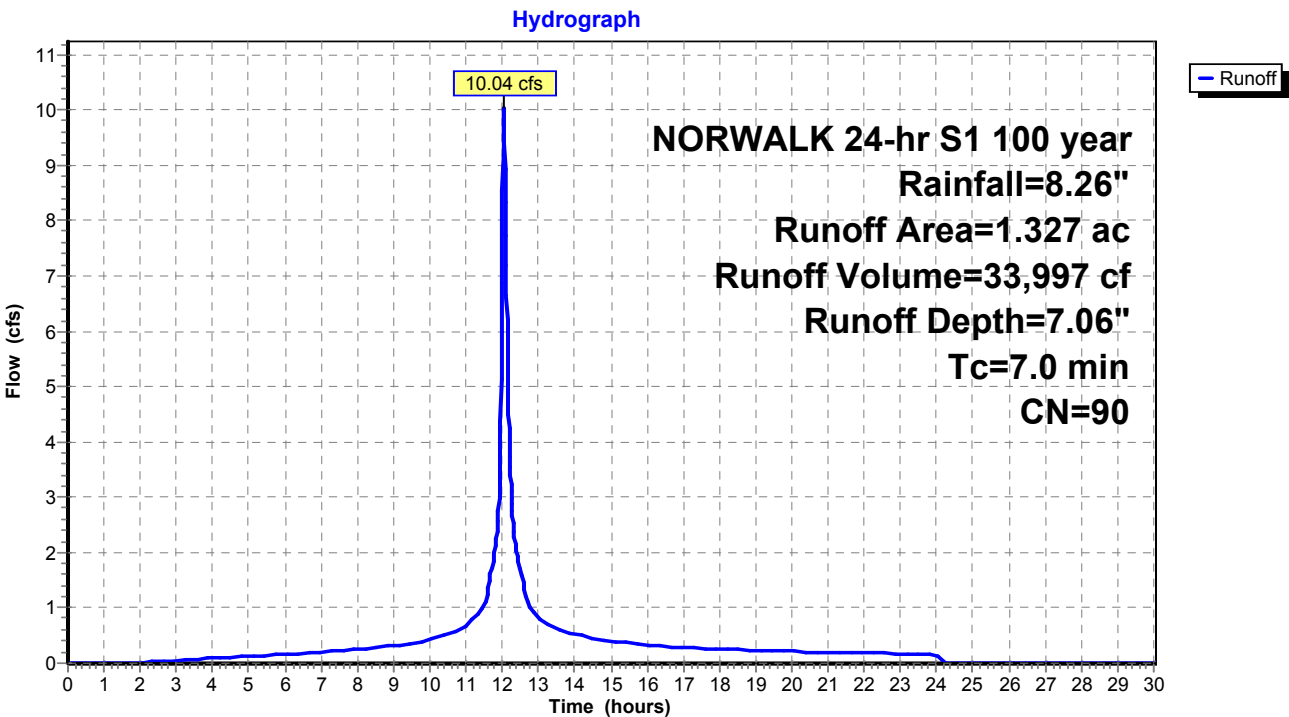
Runoff = 10.04 cfs @ 12.05 hrs, Volume= 33,997 cf, Depth= 7.06"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.798	98	Paved parking, HSG C
0.529	79	50-75% Grass cover, Fair, HSG C
1.327	90	Weighted Average
0.529		39.86% Pervious Area
0.798		60.14% Impervious Area

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

Subcatchment 10ES: Area 10E



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 10FS: Area 10F

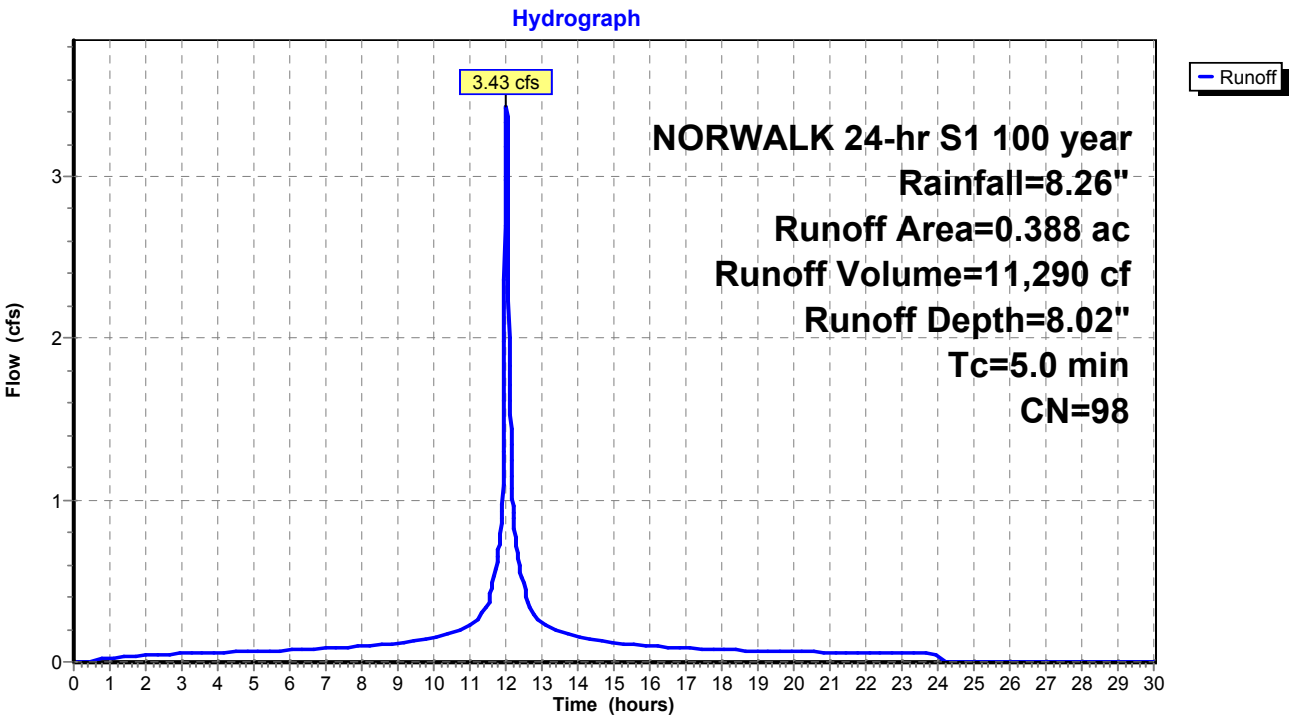
Runoff = 3.43 cfs @ 12.03 hrs, Volume= 11,290 cf, Depth= 8.02"
Routed to Pond P : ADS Stormtech

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.388	98	Paved roads w/curbs & sewers, HSG C
0.388		100.00% Impervious Area

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

Subcatchment 10FS: Area 10F



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 11S: Area 11

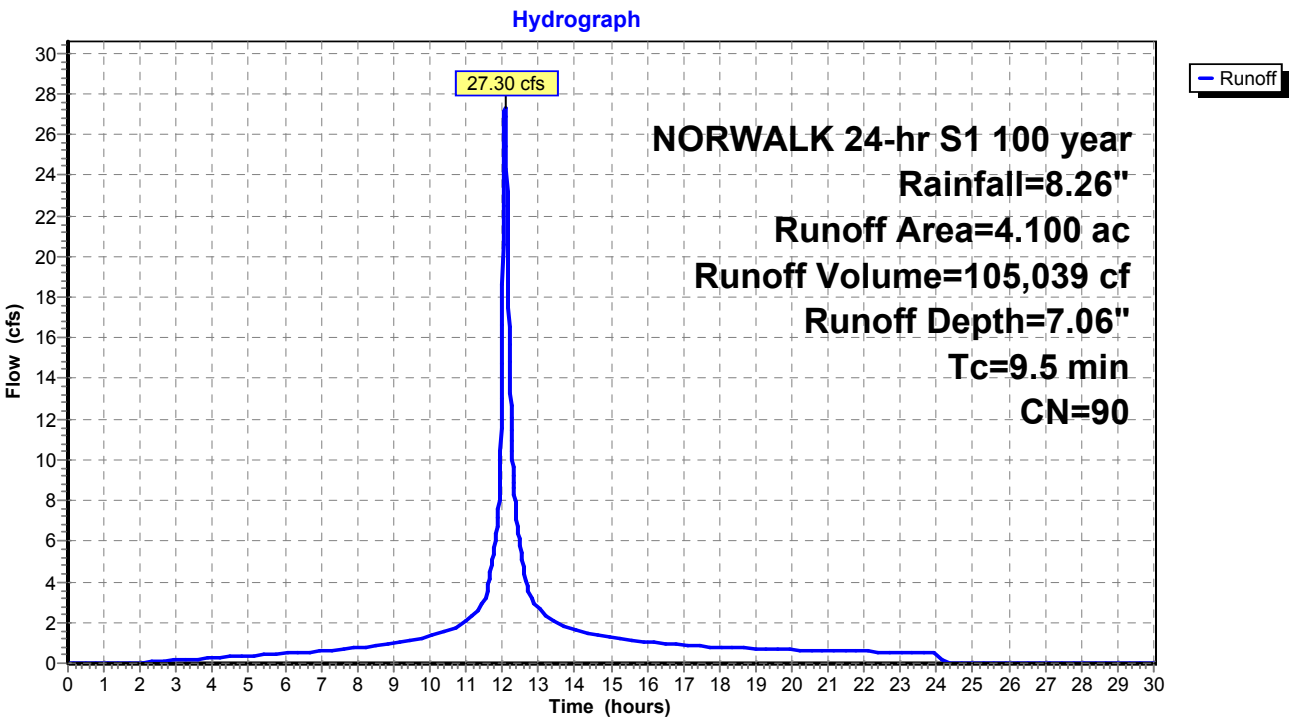
Runoff = 27.30 cfs @ 12.08 hrs, Volume= 105,039 cf, Depth= 7.06"
Routed to Pond 17P : DET 12 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
1.450	74	>75% Grass cover, Good, HSG C
2.650	98	Paved parking & roofs
4.100	90	Weighted Average
1.450		35.37% Pervious Area
2.650		64.63% Impervious Area

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

Subcatchment 11S: Area 11



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 12S: Area 12

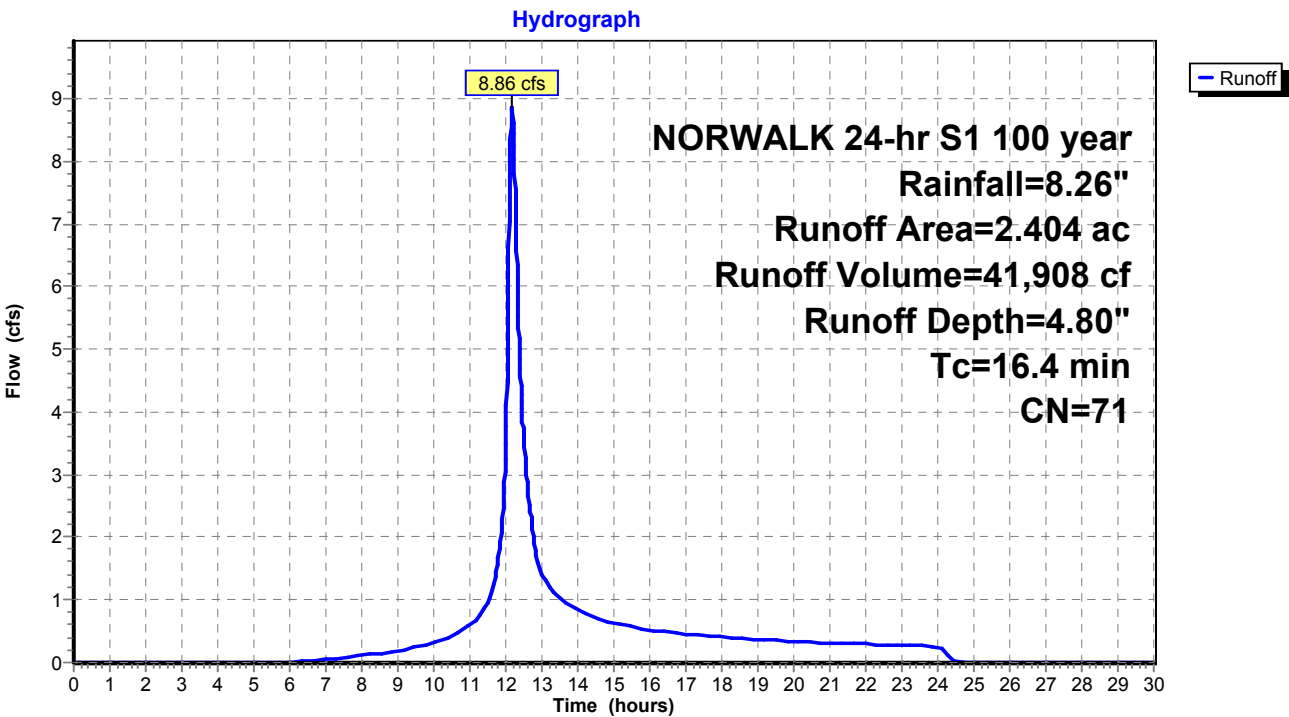
Runoff = 8.86 cfs @ 12.17 hrs, Volume= 41,908 cf, Depth= 4.80"
Routed to Pond 17P : DET 12 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
2.054	70	Woods, Good, HSG C
0.350	77	Woods, Good, HSG D
2.404	71	Weighted Average
2.404		100.00% Pervious Area

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

Subcatchment 12S: Area 12



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 13S: Area 13

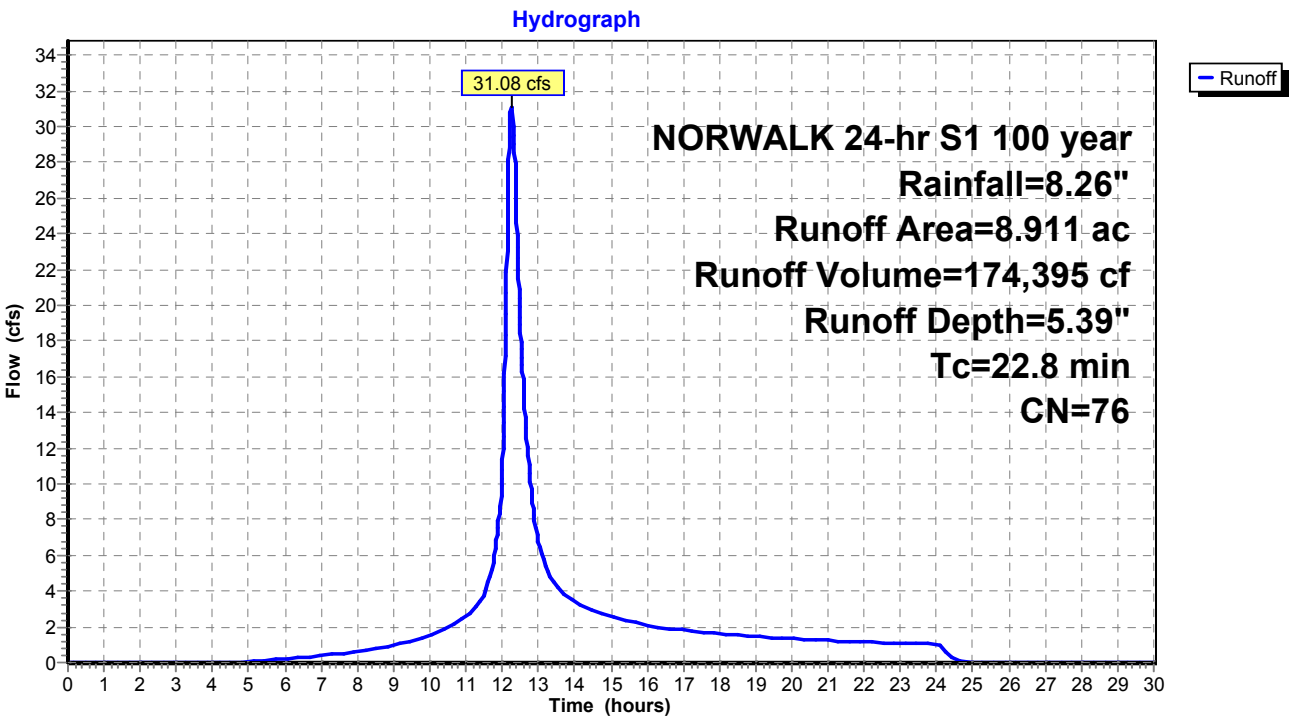
Runoff = 31.08 cfs @ 12.26 hrs, Volume= 174,395 cf, Depth= 5.39"
Routed to Pond 1P : RR Culvert 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
1.220	70	Woods, Good, HSG C
7.691	77	Woods, Good, HSG D
8.911	76	Weighted Average
8.911		100.00% Pervious Area

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

Subcatchment 13S: Area 13



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 14S: Area 14

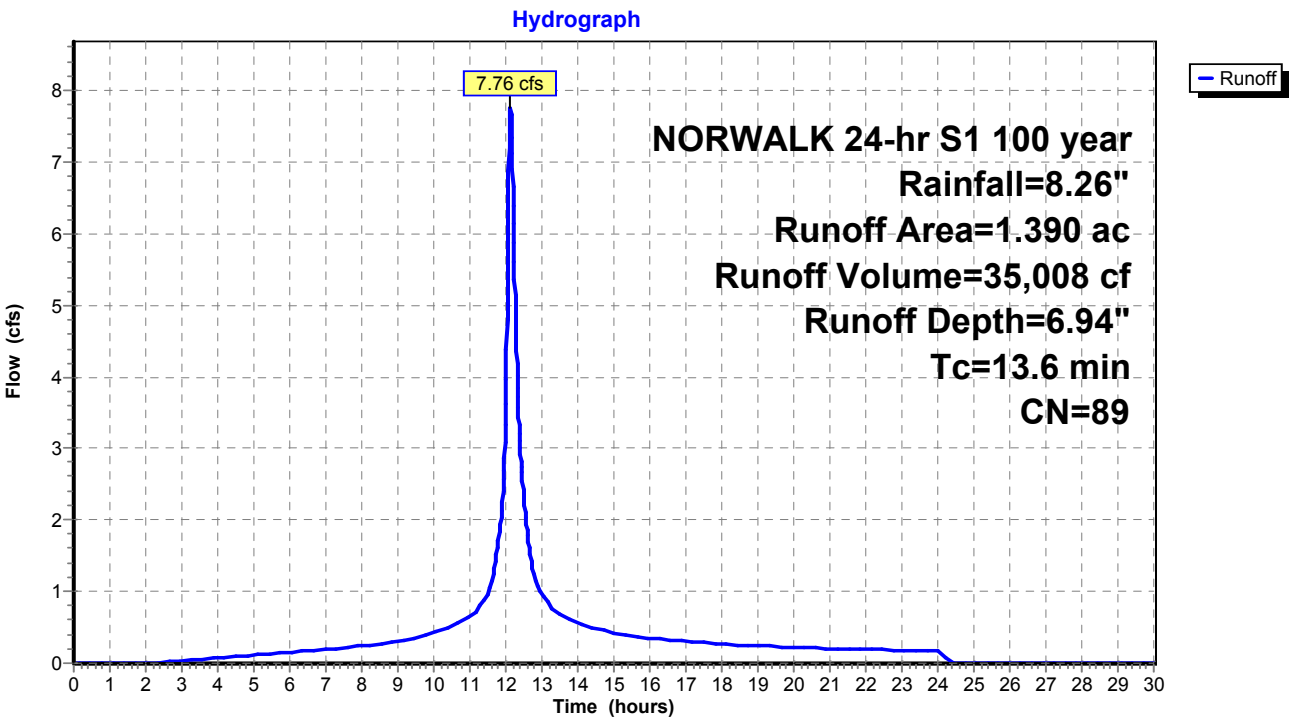
Runoff = 7.76 cfs @ 12.13 hrs, Volume= 35,008 cf, Depth= 6.94"
Routed to Pond 26P : DET 16 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.510	74	>75% Grass cover, Good, HSG C
0.880	98	Paved parking & roofs
1.390	89	Weighted Average
0.510		36.69% Pervious Area
0.880		63.31% Impervious Area

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

Subcatchment 14S: Area 14



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 15S: Area 15

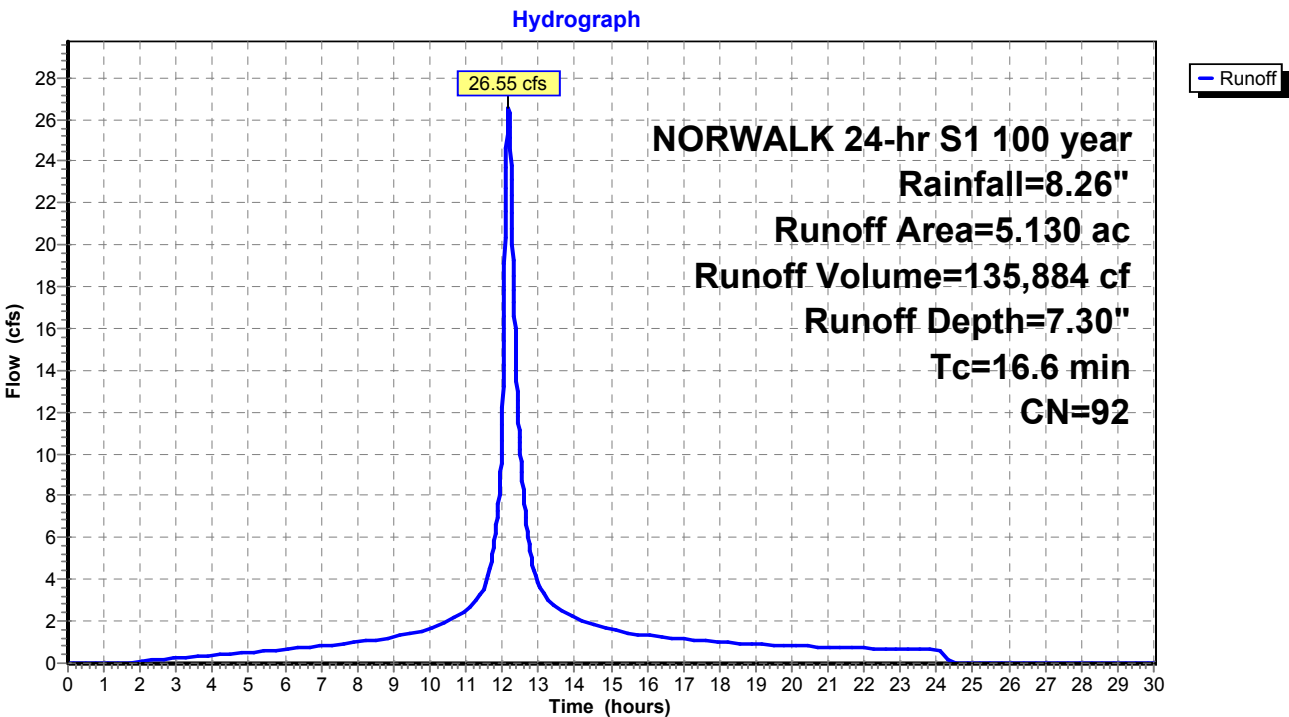
Runoff = 26.55 cfs @ 12.17 hrs, Volume= 135,884 cf, Depth= 7.30"
Routed to Pond 27P : DET 17 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
1.250	74	>75% Grass cover, Good, HSG C
3.880	98	Paved parking & roofs
5.130	92	Weighted Average
1.250		24.37% Pervious Area
3.880		75.63% Impervious Area

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

Subcatchment 15S: Area 15



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 16S: Area 16A

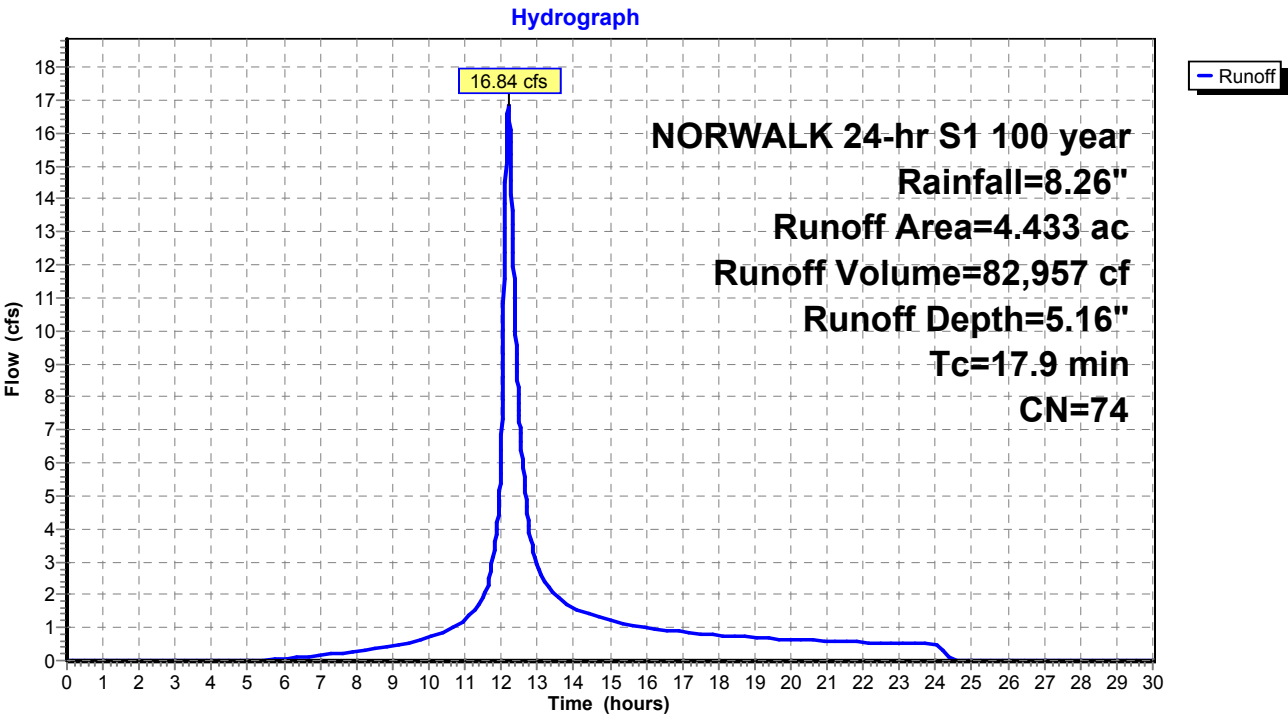
Runoff = 16.84 cfs @ 12.19 hrs, Volume= 82,957 cf, Depth= 5.16"
Routed to Pond 26P : DET 16 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
2.030	70	Woods, Good, HSG C
2.060	77	Woods, Good, HSG D
0.150	89	Gravel roads, HSG C
0.193	74	>75% Grass cover, Good, HSG C
4.433	74	Weighted Average
4.433		100.00% Pervious Area

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

Subcatchment 16S: Area 16A



Existing Conditions

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Summary for Subcatchment 17S: Area 17

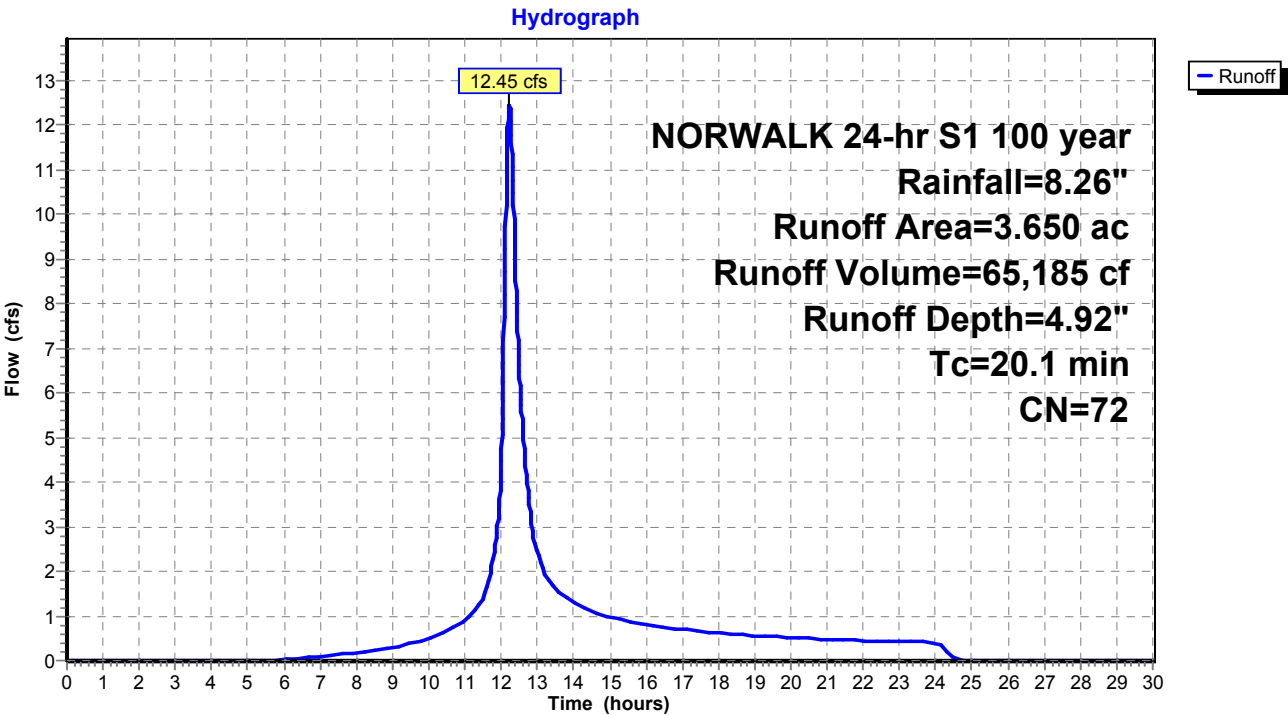
Runoff = 12.45 cfs @ 12.22 hrs, Volume= 65,185 cf, Depth= 4.92"
Routed to Pond 27P : DET 17 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
2.630	70	Woods, Good, HSG C
0.960	77	Woods, Good, HSG D
0.060	98	Paved parking & roofs
3.650	72	Weighted Average
3.590		98.36% Pervious Area
0.060		1.64% Impervious Area

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

Subcatchment 17S: Area 17



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 20S: Area 20

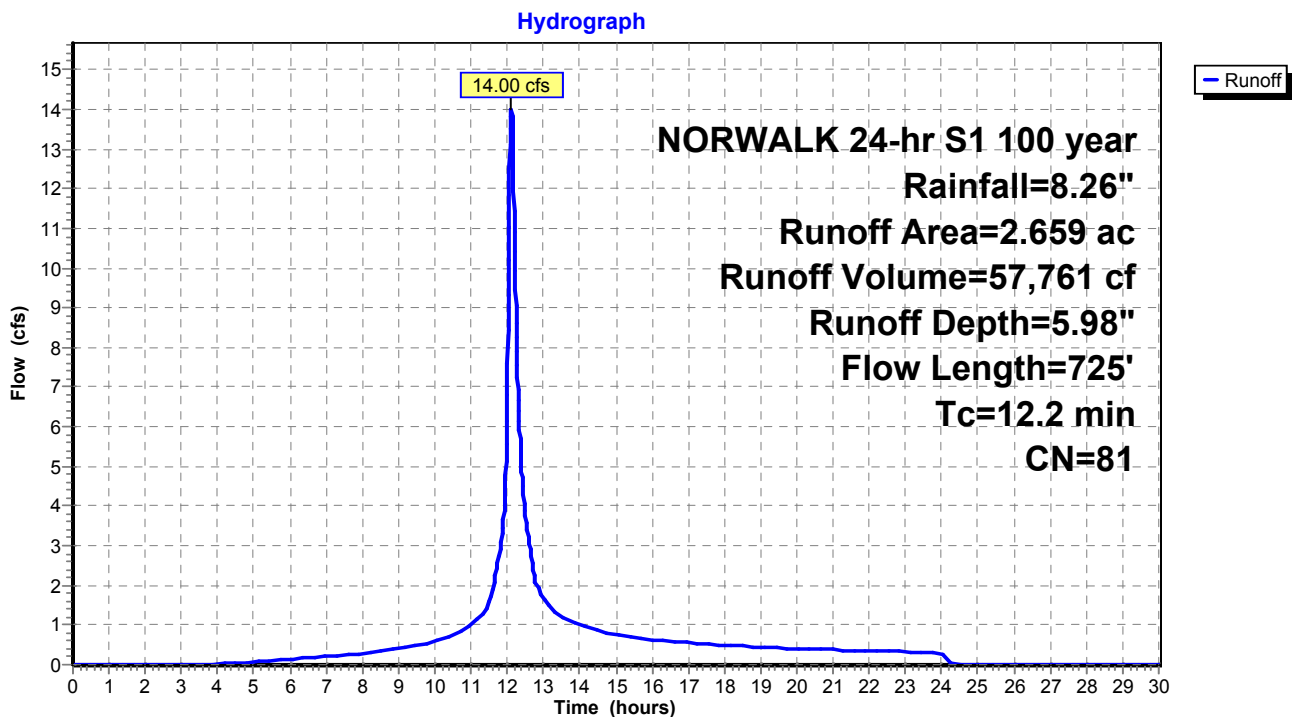
Runoff = 14.00 cfs @ 12.11 hrs, Volume= 57,761 cf, Depth= 5.98"
Routed to Pond 16P : MH-Q

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
1.030	98	Paved parking & roofs
1.629	70	Woods, Good, HSG C
2.659	81	Weighted Average
1.629		61.26% Pervious Area
1.030		38.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	125	0.2400	0.19		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.40"
1.2	600	0.0200	8.41	14.86	Pipe Channel, 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
12.2	725	Total			

Subcatchment 20S: Area 20



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 21S: Area 21

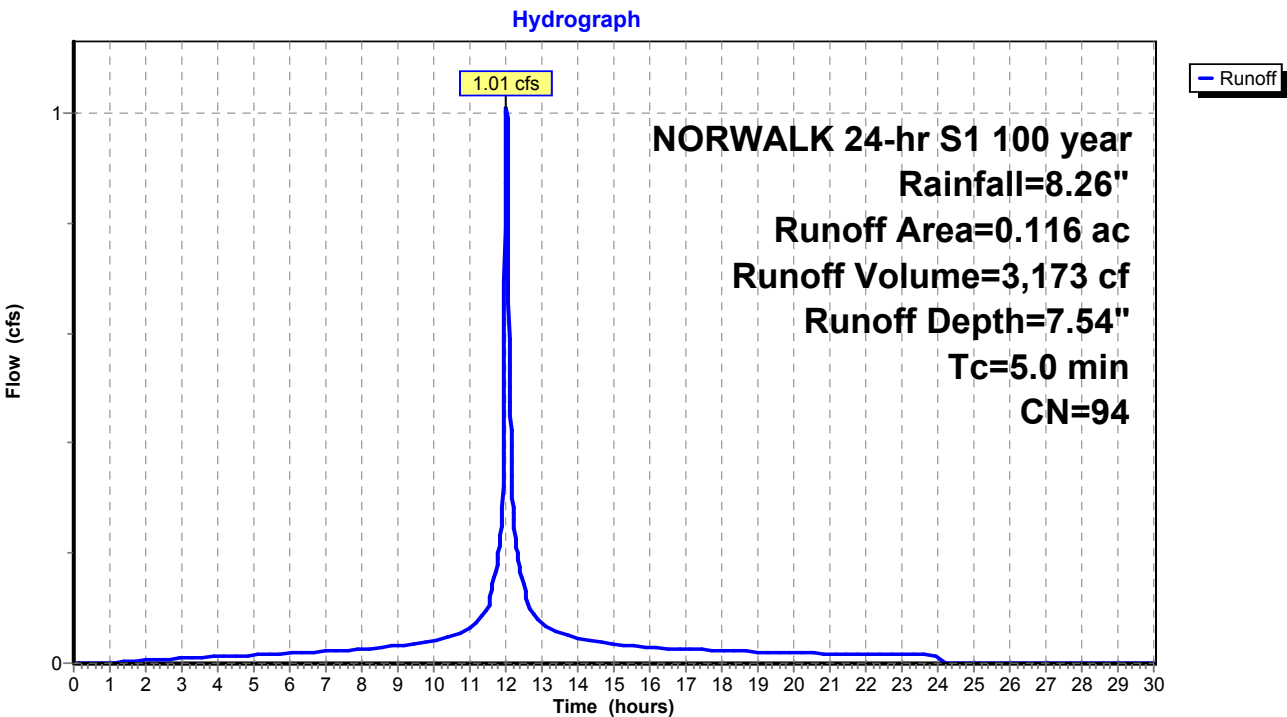
Runoff = 1.01 cfs @ 12.03 hrs, Volume= 3,173 cf, Depth= 7.54"
Routed to Pond 15P : MH-P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.020	74	>75% Grass cover, Good, HSG C
0.096	98	Paved parking & roofs
0.116	94	Weighted Average
0.020		17.24% Pervious Area
0.096		82.76% Impervious Area

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

Subcatchment 21S: Area 21



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 22S: Area 22

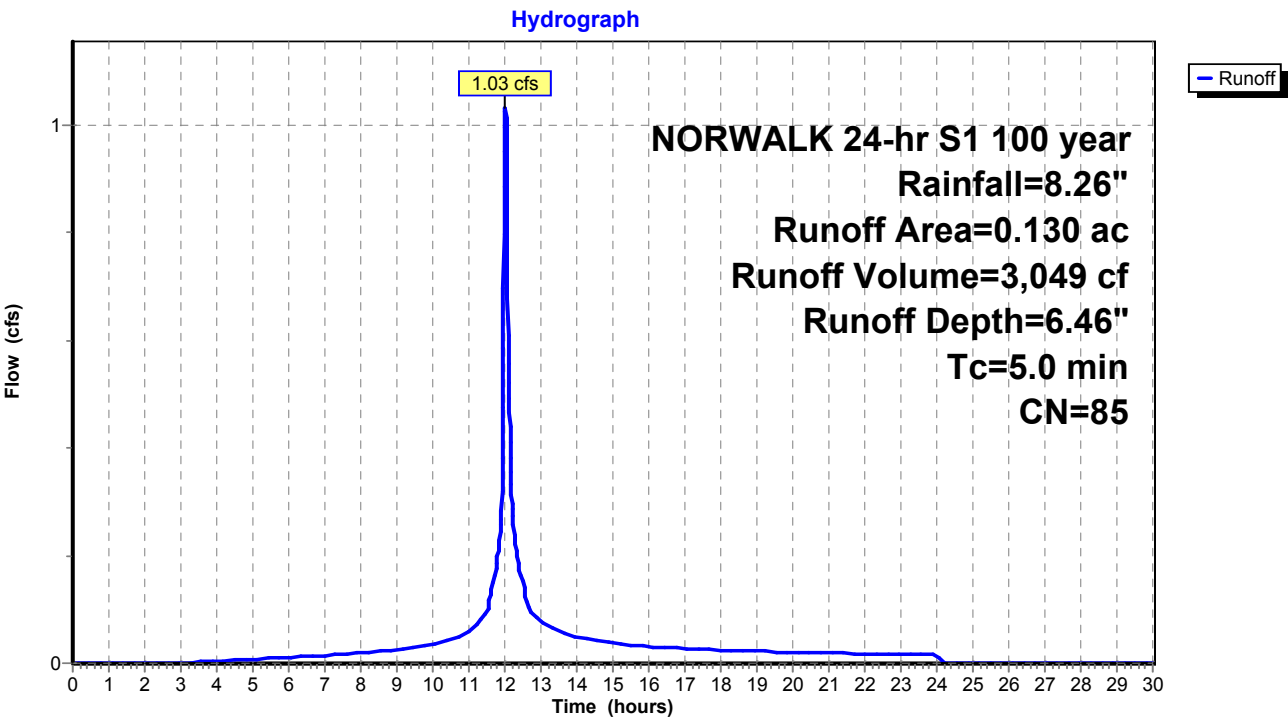
Runoff = 1.03 cfs @ 12.03 hrs, Volume= 3,049 cf, Depth= 6.46"
Routed to Pond 15P : MH-P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.068	74	>75% Grass cover, Good, HSG C
0.062	98	Paved parking & roofs
0.130	85	Weighted Average
0.068		52.31% Pervious Area
0.062		47.69% Impervious Area

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

Subcatchment 22S: Area 22



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 23S: Area 23

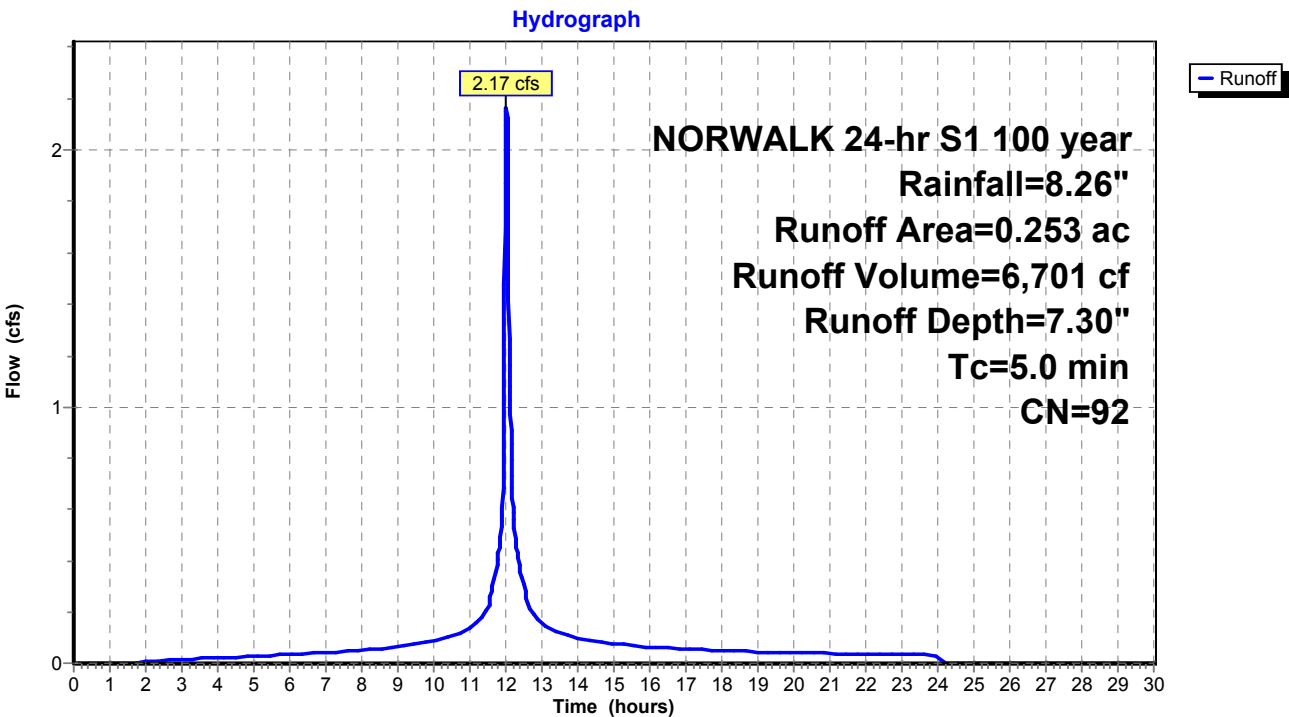
Runoff = 2.17 cfs @ 12.03 hrs, Volume= 6,701 cf, Depth= 7.30"
Routed to Pond 14P : MH-O

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.188	98	Paved parking & roofs
0.065	74	>75% Grass cover, Good, HSG C
0.253	92	Weighted Average
0.065		25.69% Pervious Area
0.188		74.31% Impervious Area

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

Subcatchment 23S: Area 23



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 24S: Area 24

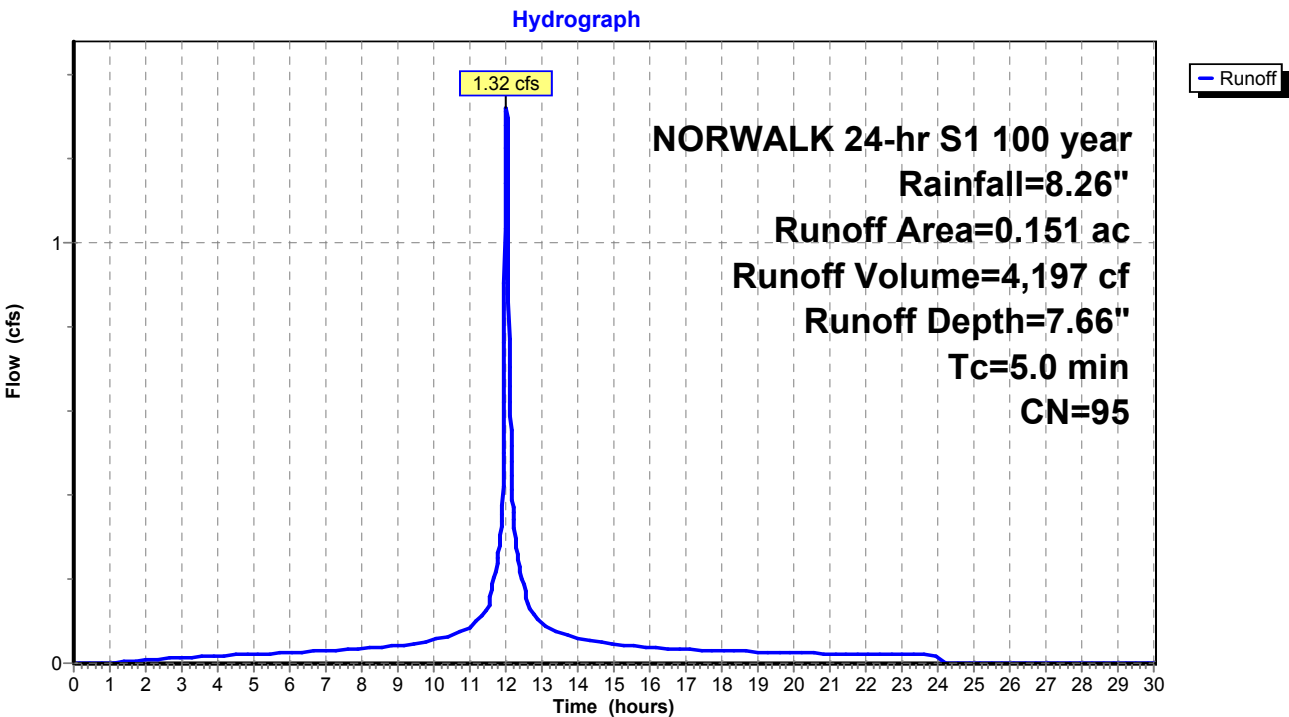
Runoff = 1.32 cfs @ 12.03 hrs, Volume= 4,197 cf, Depth= 7.66"
Routed to Pond 14P : MH-O

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.125	98	Paved parking & roofs
0.026	80	>75% Grass cover, Good, HSG D
0.151	95	Weighted Average
0.026		17.22% Pervious Area
0.125		82.78% Impervious Area

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

Subcatchment 24S: Area 24



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 25S: Area 25

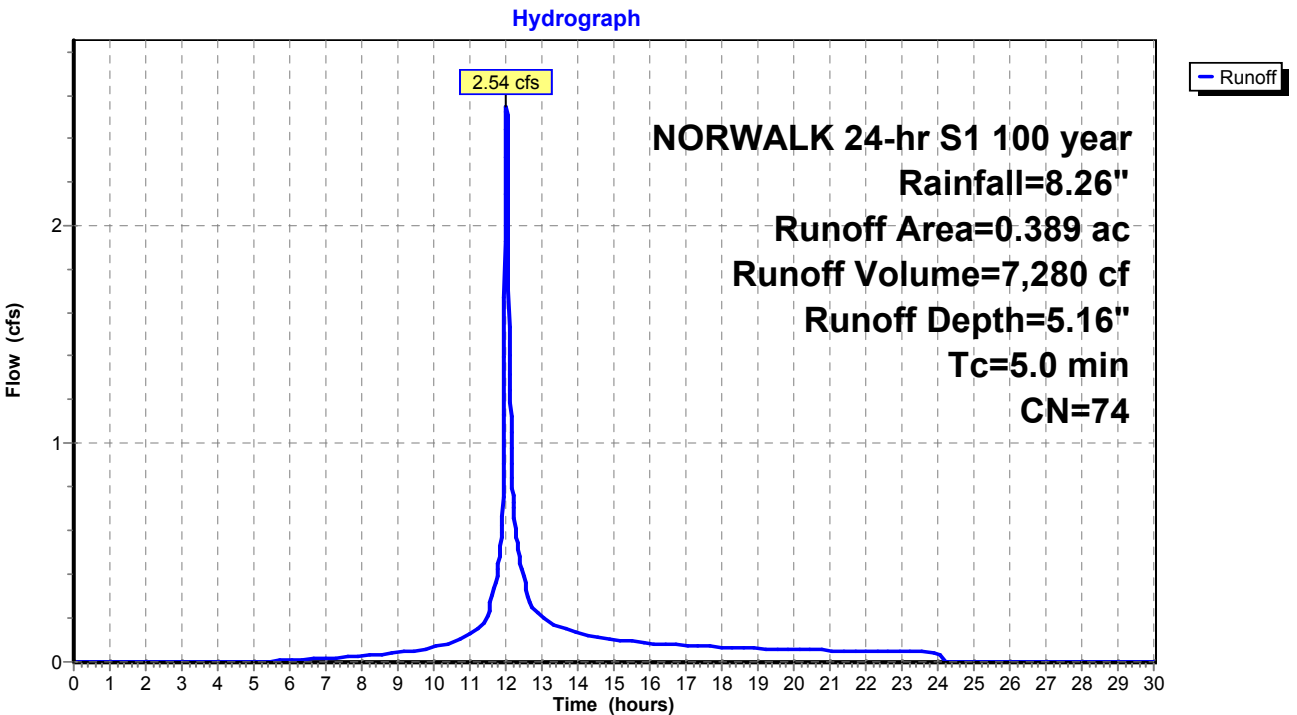
Runoff = 2.54 cfs @ 12.03 hrs, Volume= 7,280 cf, Depth= 5.16"
Routed to Pond 3P : DETENTION BASIN #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.389	74	>75% Grass cover, Good, HSG C
0.389		100.00% Pervious Area

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

Subcatchment 25S: Area 25



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 26S: Area 26

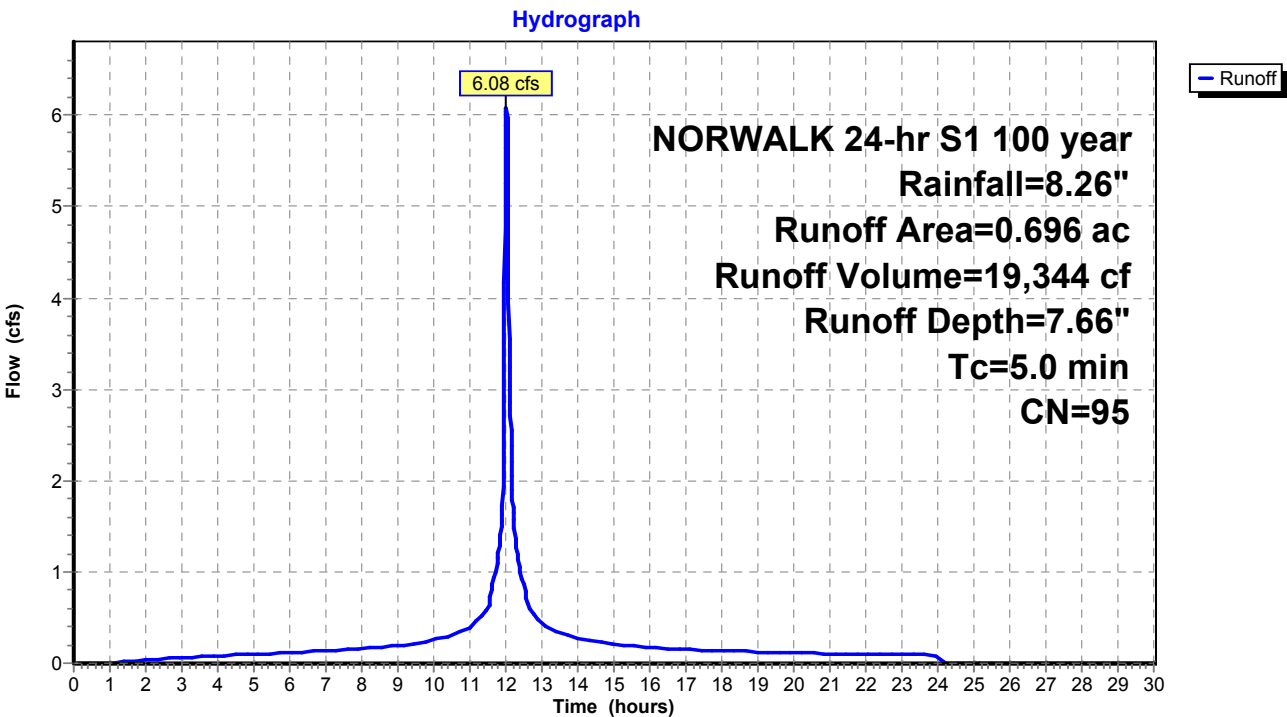
Runoff = 6.08 cfs @ 12.03 hrs, Volume= 19,344 cf, Depth= 7.66"
Routed to Pond 9P : MH-K

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.612	98	Paved parking & roofs
0.084	74	>75% Grass cover, Good, HSG C
0.696	95	Weighted Average
0.084		12.07% Pervious Area
0.612		87.93% Impervious Area

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

Subcatchment 26S: Area 26



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 27S: Area 27

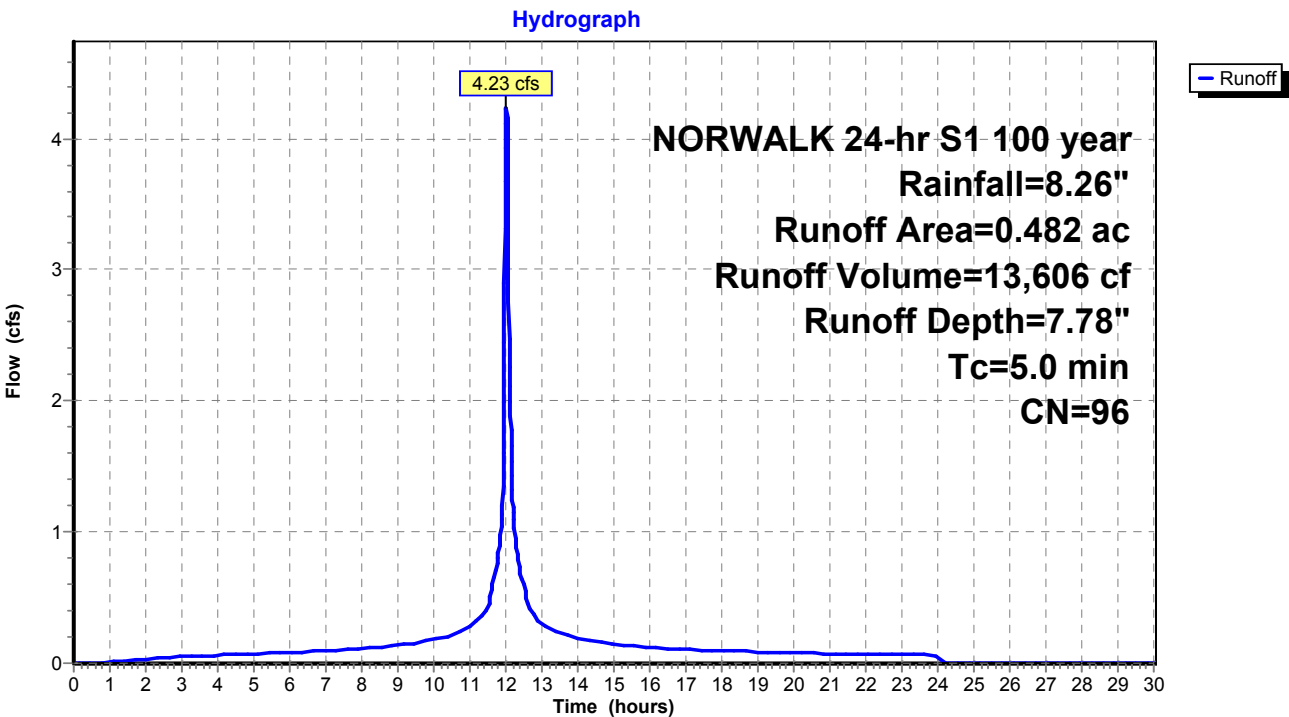
Runoff = 4.23 cfs @ 12.03 hrs, Volume= 13,606 cf, Depth= 7.78"
Routed to Pond 11P : Pipe Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.436	98	Paved parking & roofs
0.046	74	>75% Grass cover, Good, HSG C
0.482	96	Weighted Average
0.046		9.54% Pervious Area
0.436		90.46% Impervious Area

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

Subcatchment 27S: Area 27



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 28S: Area 28

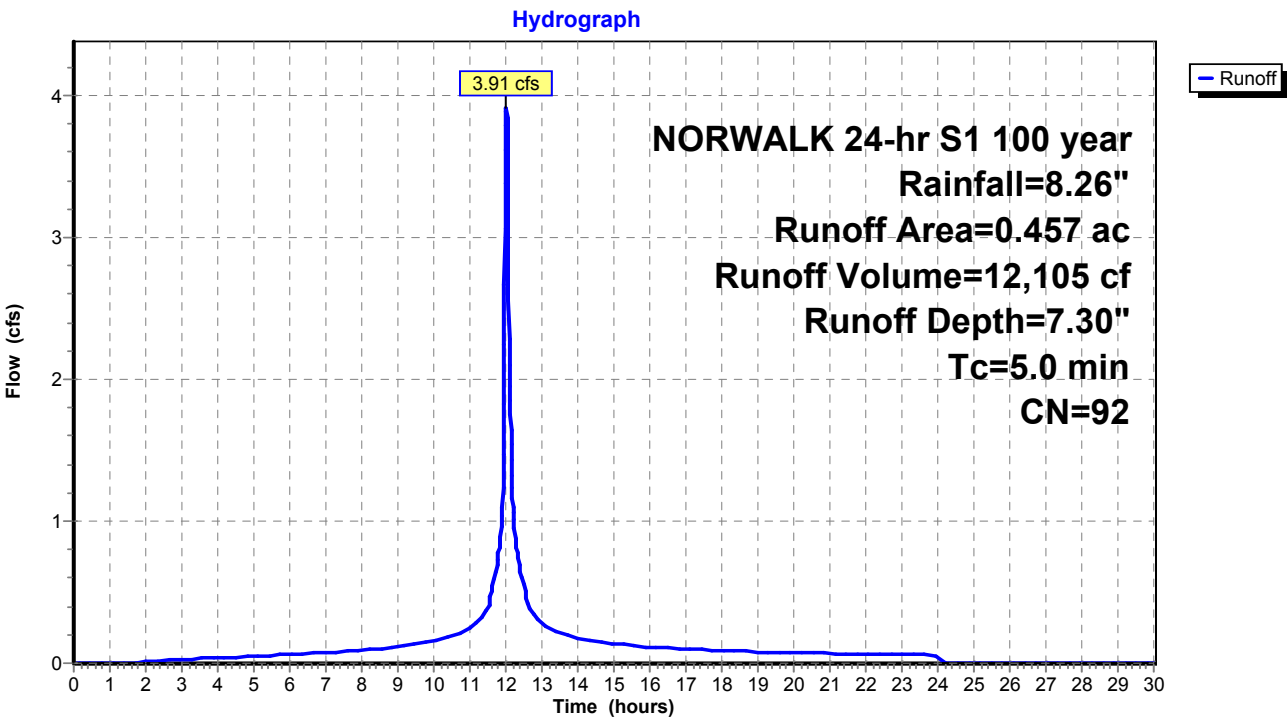
Runoff = 3.91 cfs @ 12.03 hrs, Volume= 12,105 cf, Depth= 7.30"
Routed to Pond 11P : Pipe Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.342	98	Paved parking & roofs
0.115	74	>75% Grass cover, Good, HSG C
0.457	92	Weighted Average
0.115		25.16% Pervious Area
0.342		74.84% Impervious Area

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

Subcatchment 28S: Area 28



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 29S: Area 29

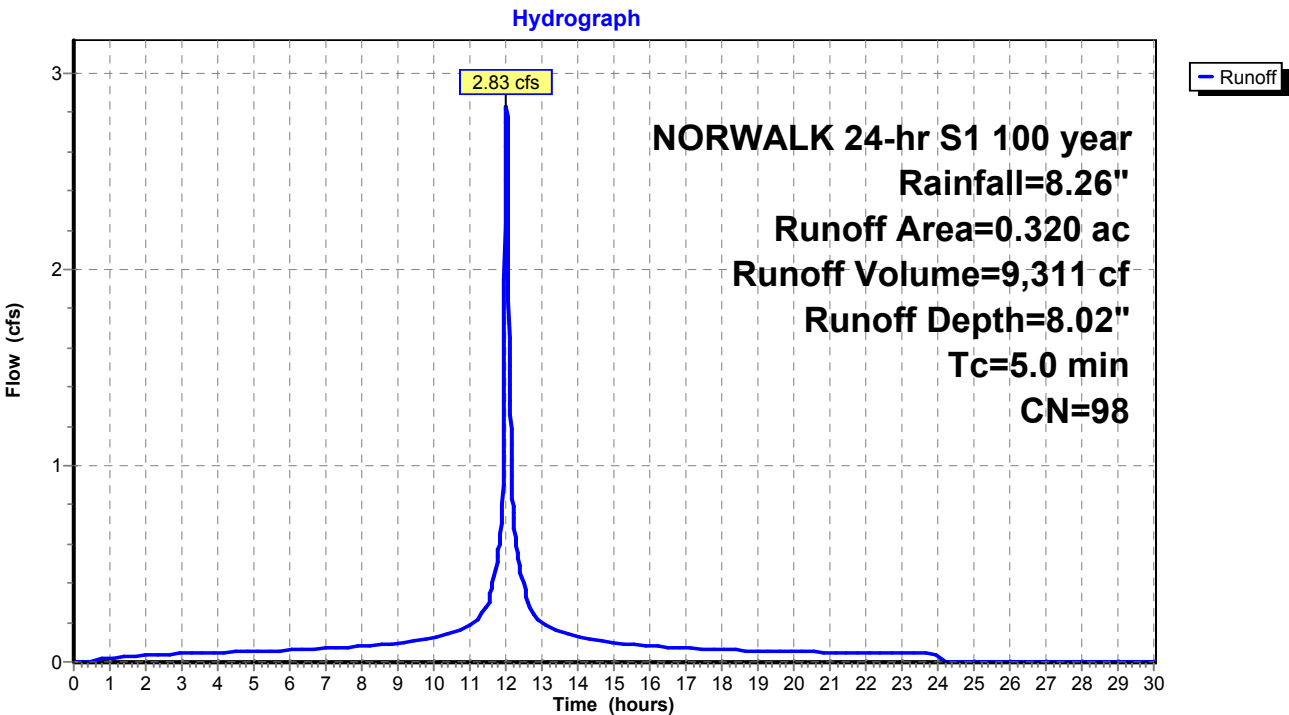
Runoff = 2.83 cfs @ 12.03 hrs, Volume= 9,311 cf, Depth= 8.02"
Routed to Pond 12P : MH-M

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.320	98	Paved parking & roofs
0.320		100.00% Impervious Area

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

Subcatchment 29S: Area 29



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 30S: Area 30

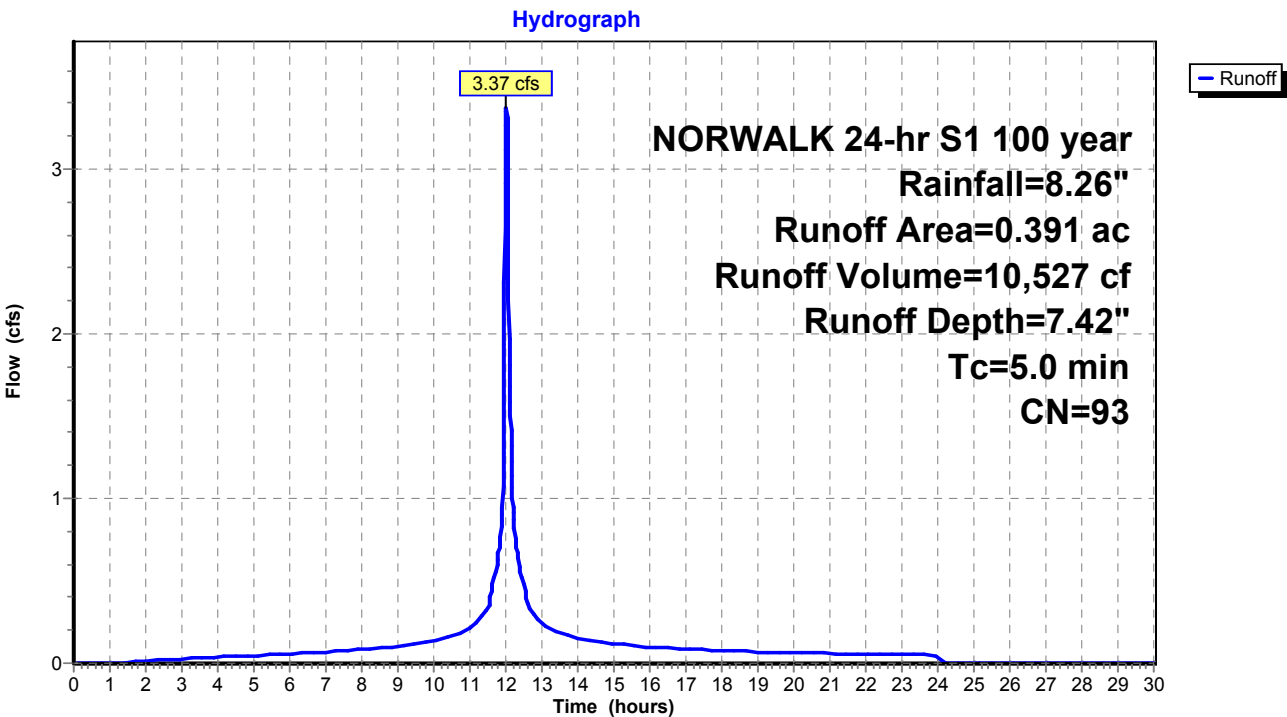
Runoff = 3.37 cfs @ 12.03 hrs, Volume= 10,527 cf, Depth= 7.42"
Routed to Pond 13P : MH-J

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.309	98	Paved parking & roofs
0.082	74	>75% Grass cover, Good, HSG C
0.391	93	Weighted Average
0.082		20.97% Pervious Area
0.309		79.03% Impervious Area

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

Subcatchment 30S: Area 30



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 52S: Area 1

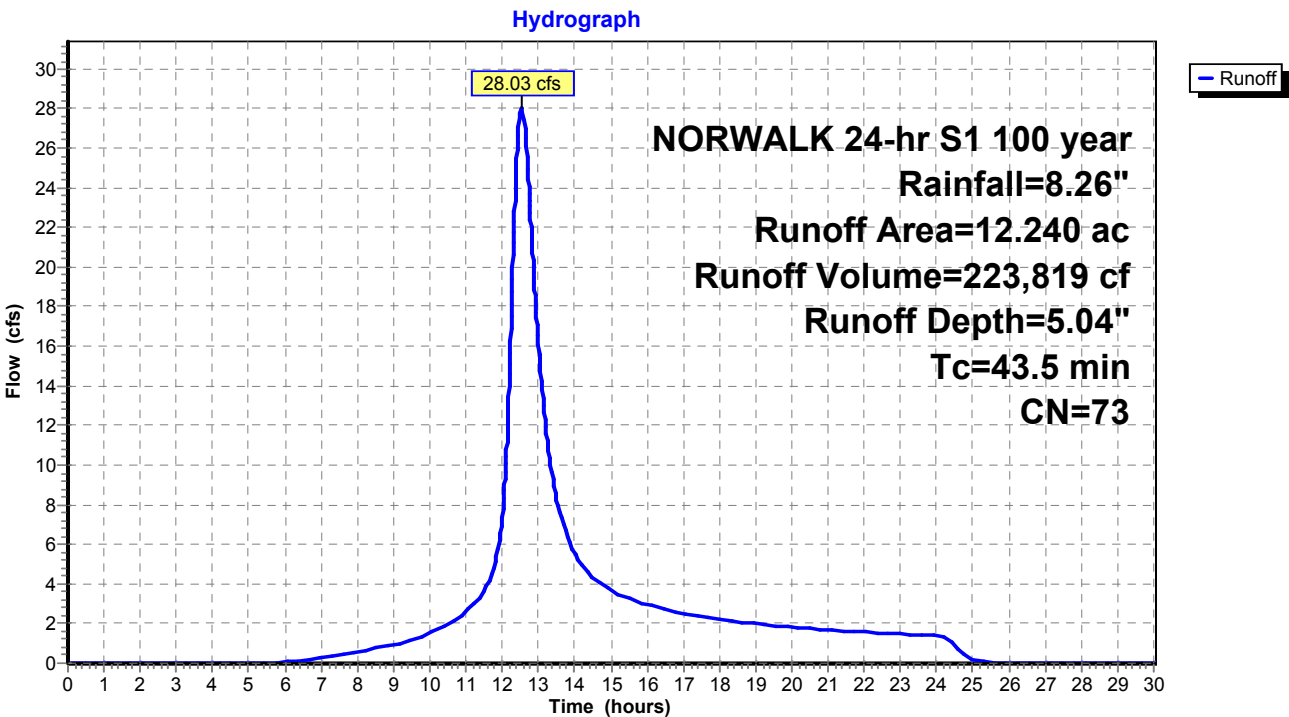
Runoff = 28.03 cfs @ 12.52 hrs, Volume= 223,819 cf, Depth= 5.04"
Routed to Pond 21P : DET 1 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
9.070	70	1/2 acre lots, 25% imp, HSG B
3.170	80	1/2 acre lots, 25% imp, HSG C
12.240	73	Weighted Average
9.180		75.00% Pervious Area
3.060		25.00% Impervious Area

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

Subcatchment 52S: Area 1



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 53S: Area 2

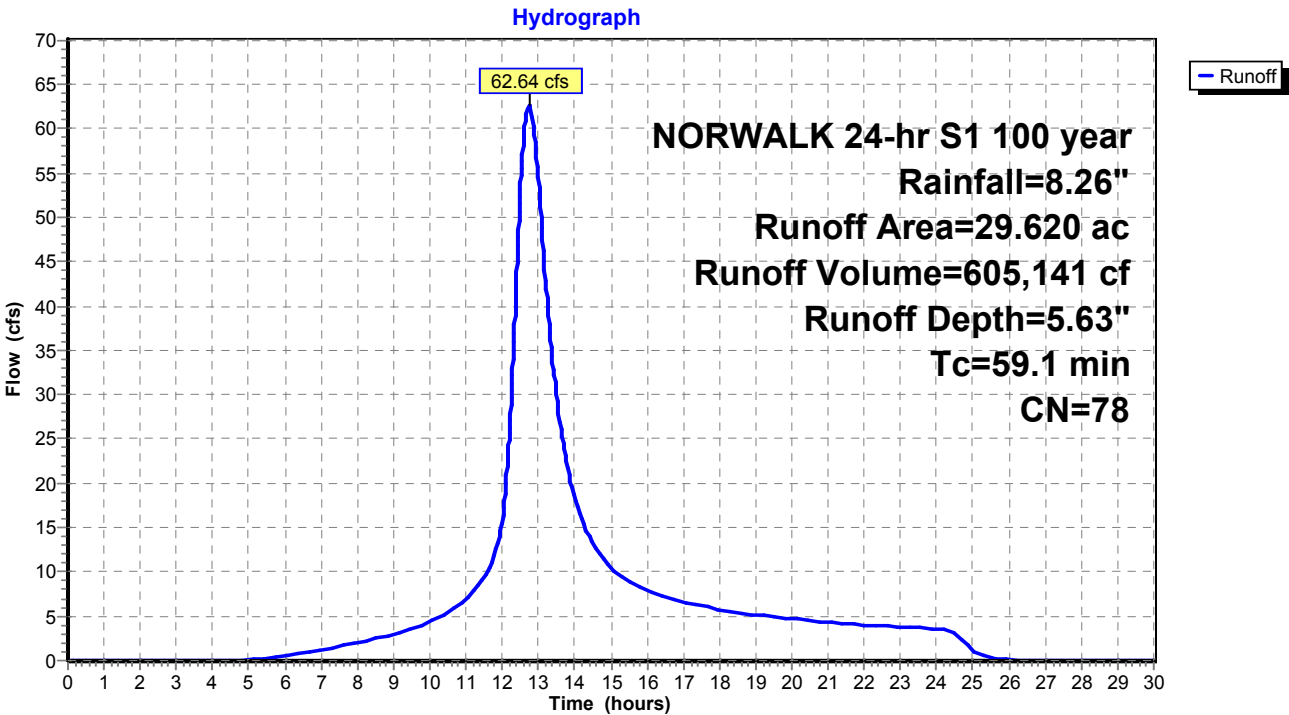
Runoff = 62.64 cfs @ 12.74 hrs, Volume= 605,141 cf, Depth= 5.63"
Routed to Pond 22P : DET 2 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
7.290	70	1/2 acre lots, 25% imp, HSG B
19.200	80	1/2 acre lots, 25% imp, HSG C
3.130	85	1/2 acre lots, 25% imp, HSG D
29.620	78	Weighted Average
22.215		75.00% Pervious Area
7.405		25.00% Impervious Area

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

Subcatchment 53S: Area 2



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 54S: Area 3

Runoff = 23.17 cfs @ 12.22 hrs, Volume= 118,644 cf, Depth= 5.16"
Routed to Pond 23P : DET 3 Culvert

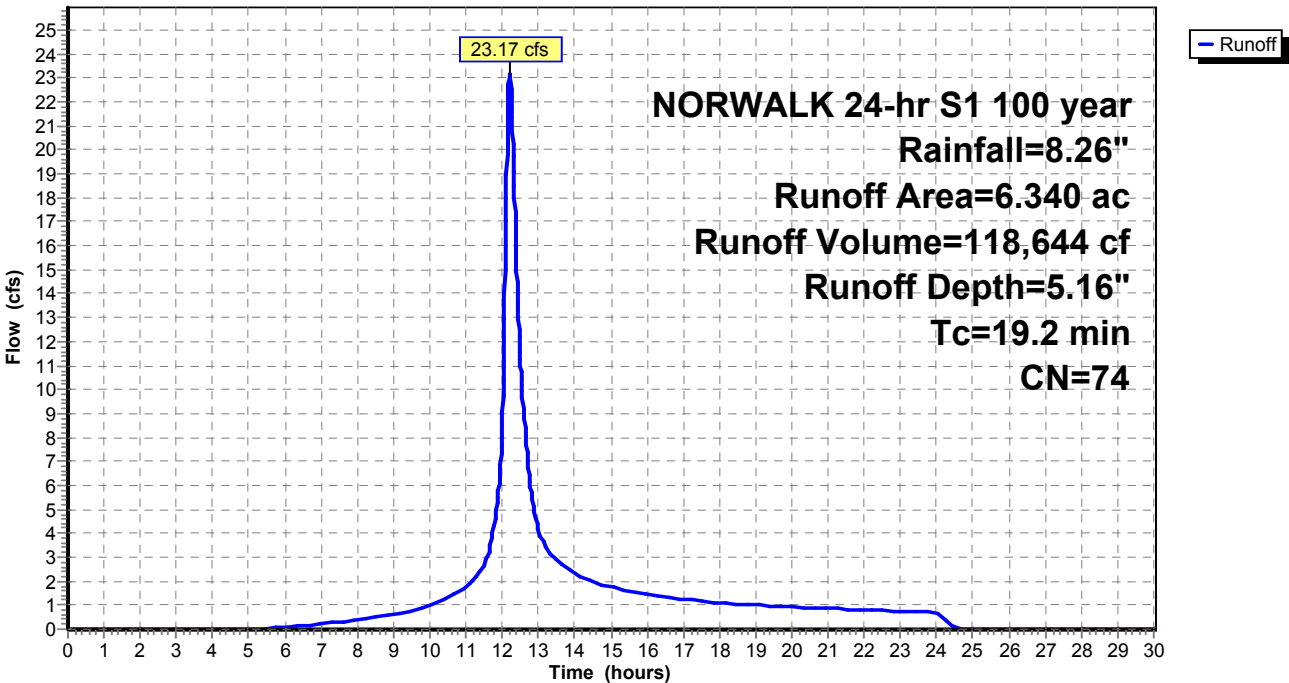
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
3.500	70	1/2 acre lots, 25% imp, HSG B
2.840	80	1/2 acre lots, 25% imp, HSG C
6.340	74	Weighted Average
4.755		75.00% Pervious Area
1.585		25.00% Impervious Area

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

Subcatchment 54S: Area 3

Hydrograph



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 56S: Area 35

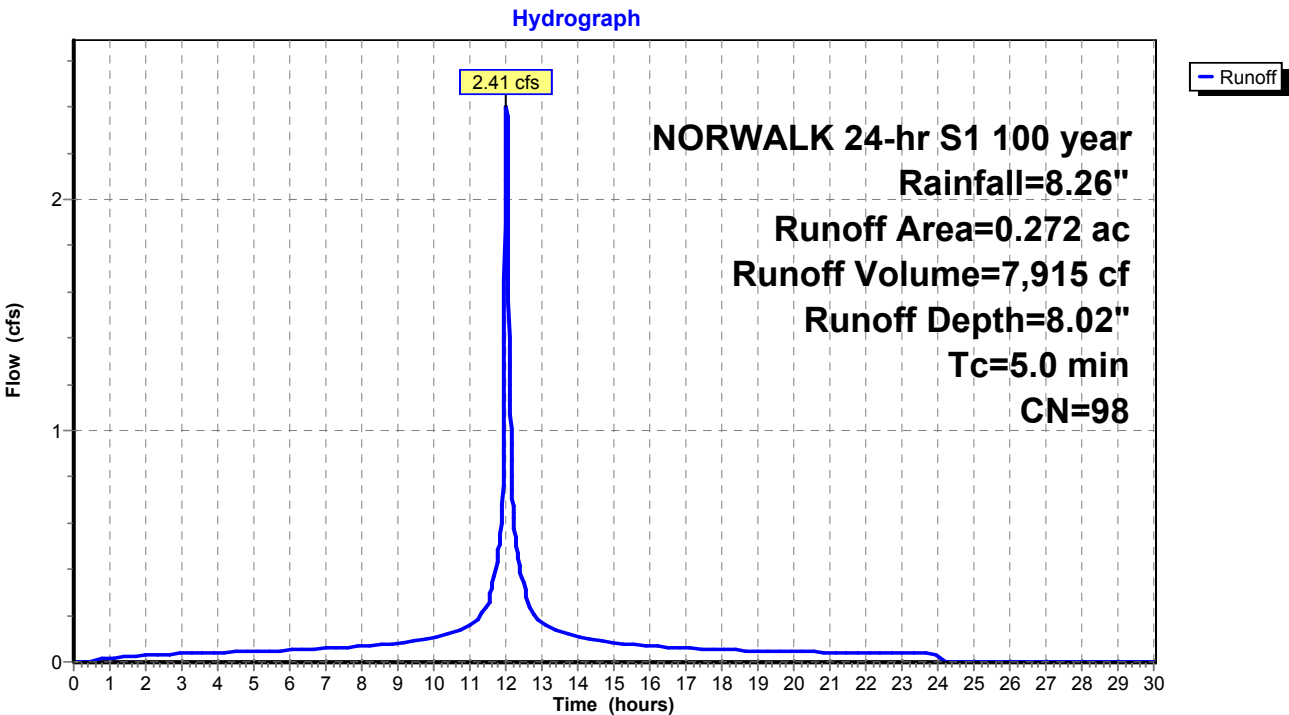
Runoff = 2.41 cfs @ 12.03 hrs, Volume= 7,915 cf, Depth= 8.02"
Routed to Pond 57P : CB-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.272	98	Paved parking & roofs
0.272		100.00% Impervious Area

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

Subcatchment 56S: Area 35



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 60S: Area 37

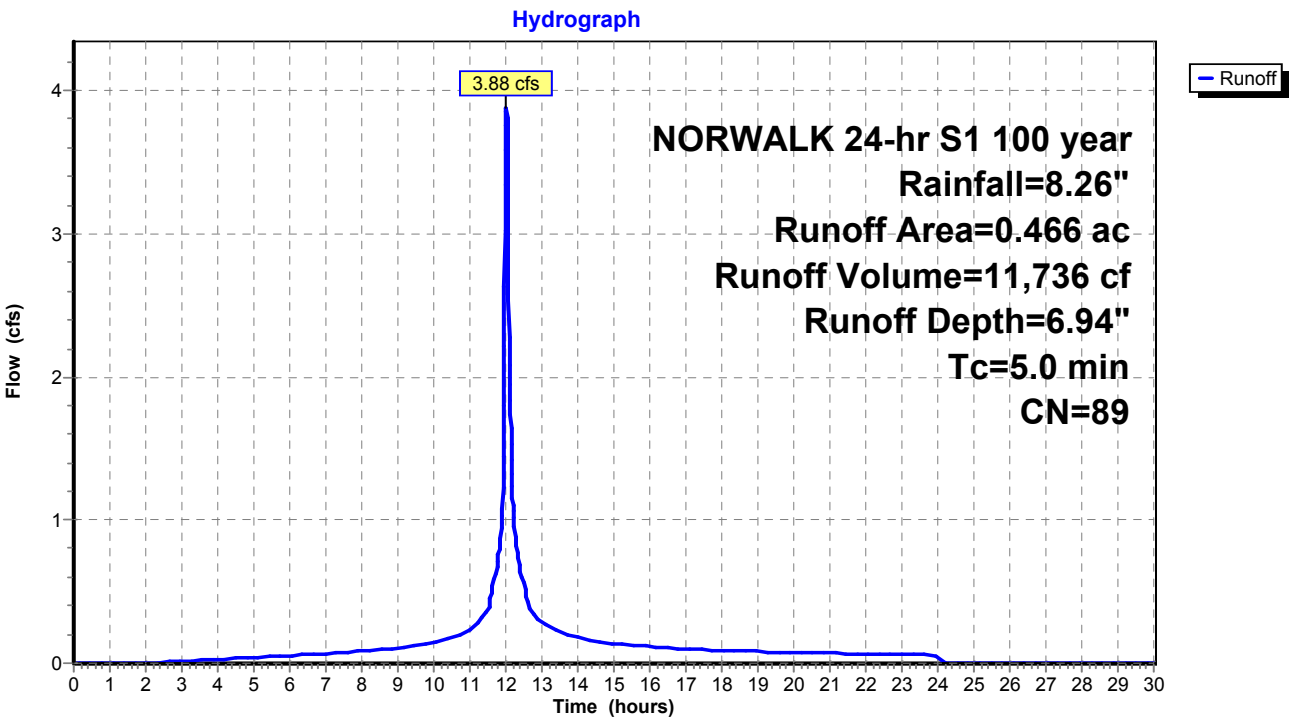
Runoff = 3.88 cfs @ 12.03 hrs, Volume= 11,736 cf, Depth= 6.94"
Routed to Pond 59P : CB-7

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.294	98	Paved parking & roofs
0.172	74	>75% Grass cover, Good, HSG C
0.466	89	Weighted Average
0.172		36.91% Pervious Area
0.294		63.09% Impervious Area

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

Subcatchment 60S: Area 37



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 62S: Area 38

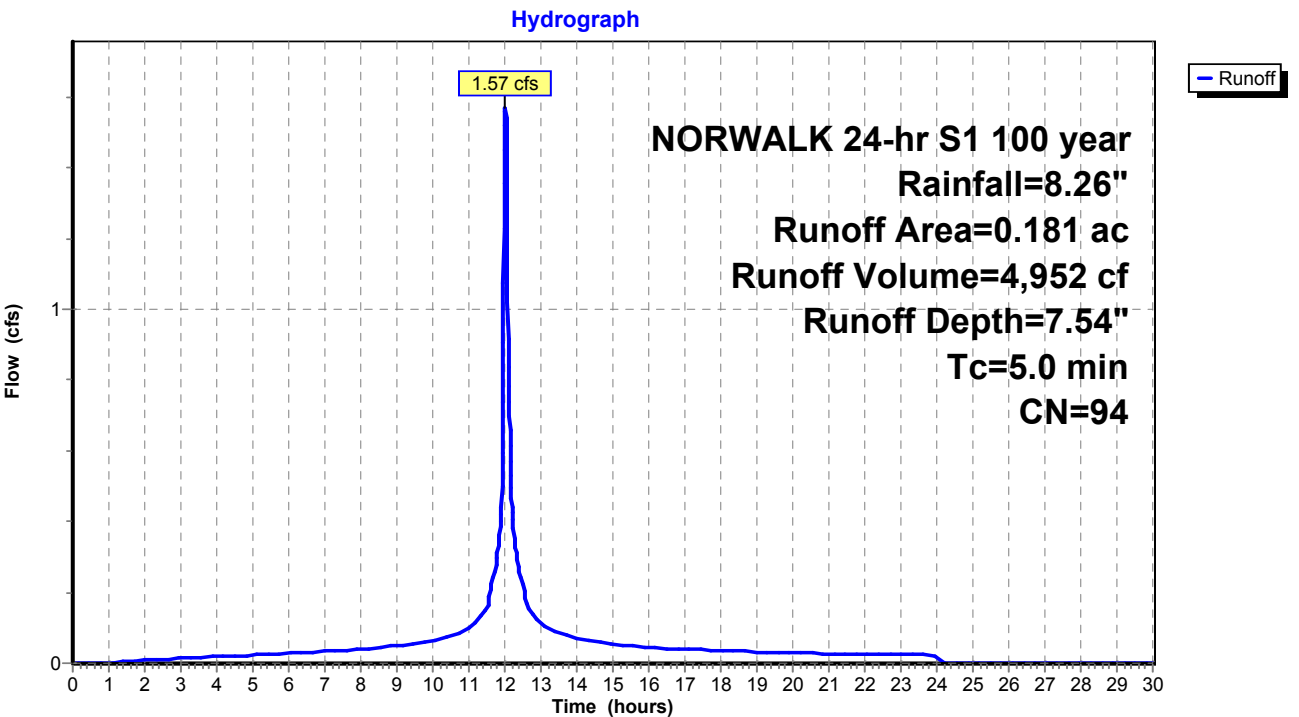
Runoff = 1.57 cfs @ 12.03 hrs, Volume= 4,952 cf, Depth= 7.54"
Routed to Pond 61P : CB-6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.149	98	Paved parking & roofs
0.032	74	>75% Grass cover, Good, HSG C
0.181	94	Weighted Average
0.032		17.68% Pervious Area
0.149		82.32% Impervious Area

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

Subcatchment 62S: Area 38



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 65S: Area 41

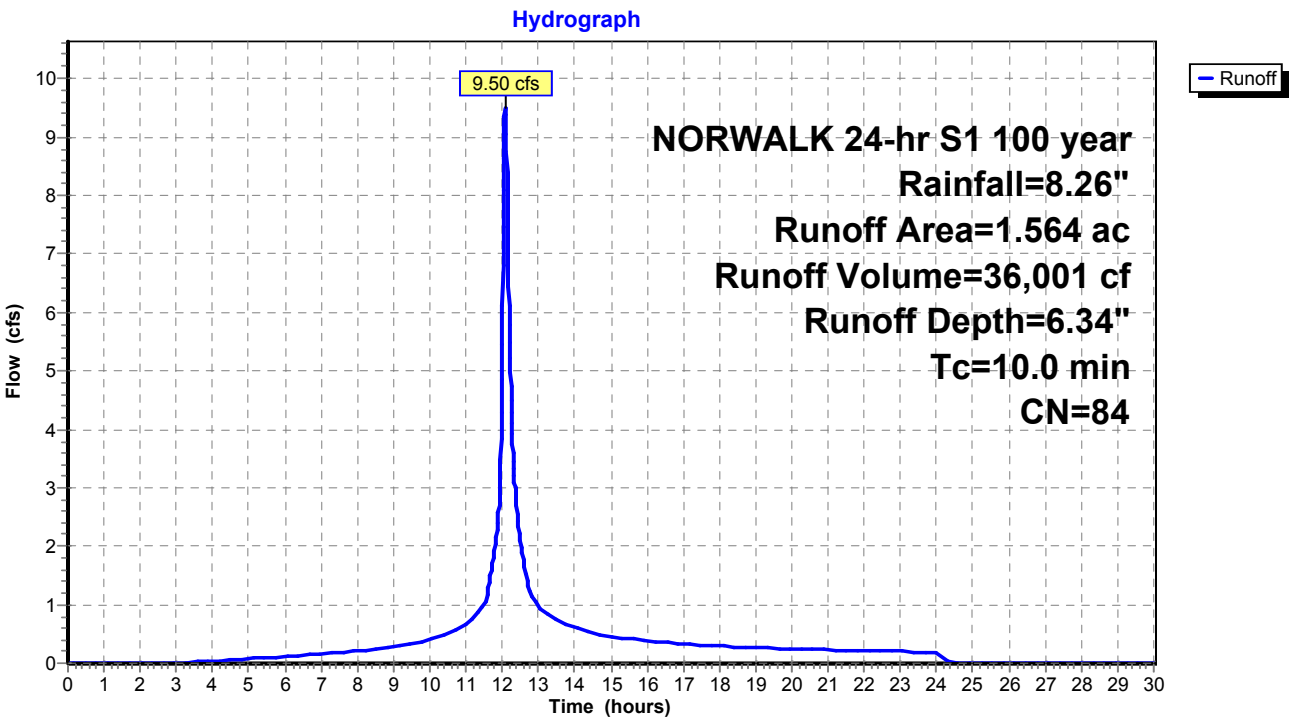
Runoff = 9.50 cfs @ 12.08 hrs, Volume= 36,001 cf, Depth= 6.34"
Routed to Pond 64P : YD

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.653	98	Paved parking & roofs
0.911	74	>75% Grass cover, Good, HSG C
1.564	84	Weighted Average
0.911		58.25% Pervious Area
0.653		41.75% Impervious Area

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

Subcatchment 65S: Area 41



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 68S: Area 36

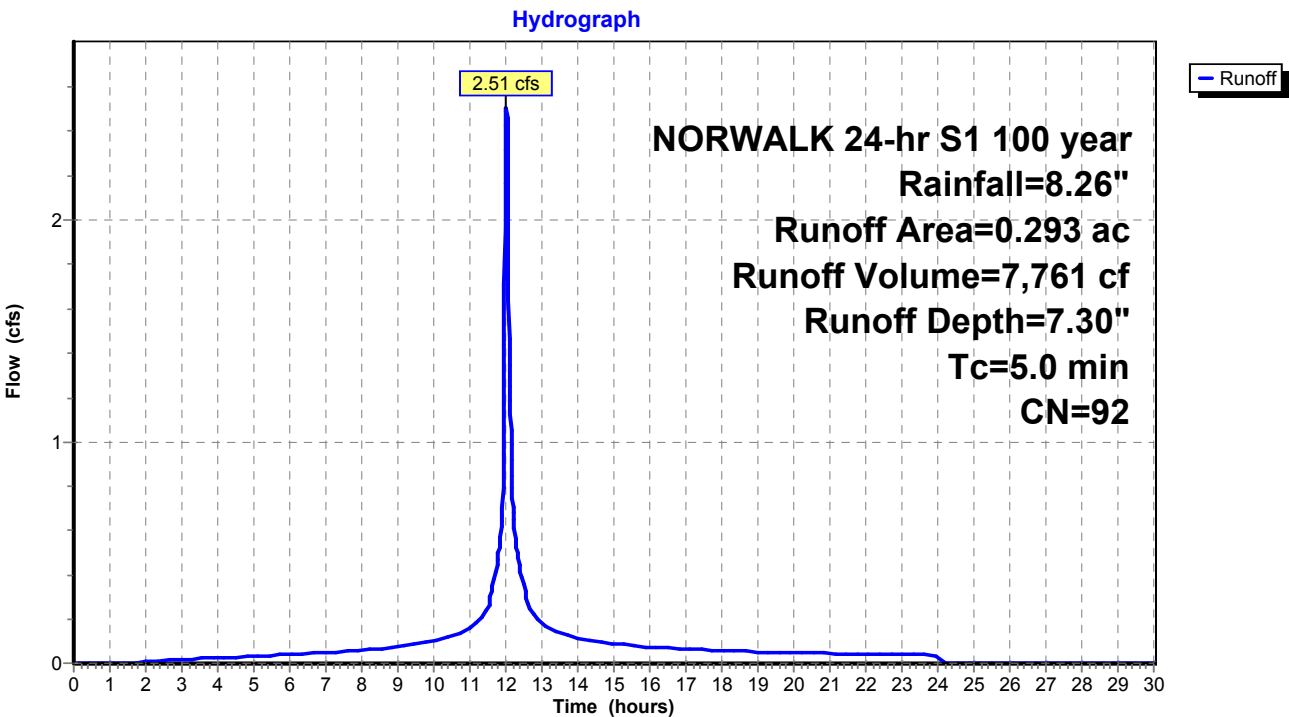
Runoff = 2.51 cfs @ 12.03 hrs, Volume= 7,761 cf, Depth= 7.30"
Routed to Pond 66P : CB-10

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.214	98	Paved parking & roofs
0.079	74	>75% Grass cover, Good, HSG C
0.293	92	Weighted Average
0.079		26.96% Pervious Area
0.214		73.04% Impervious Area

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

Subcatchment 68S: Area 36



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 69S: Area 40

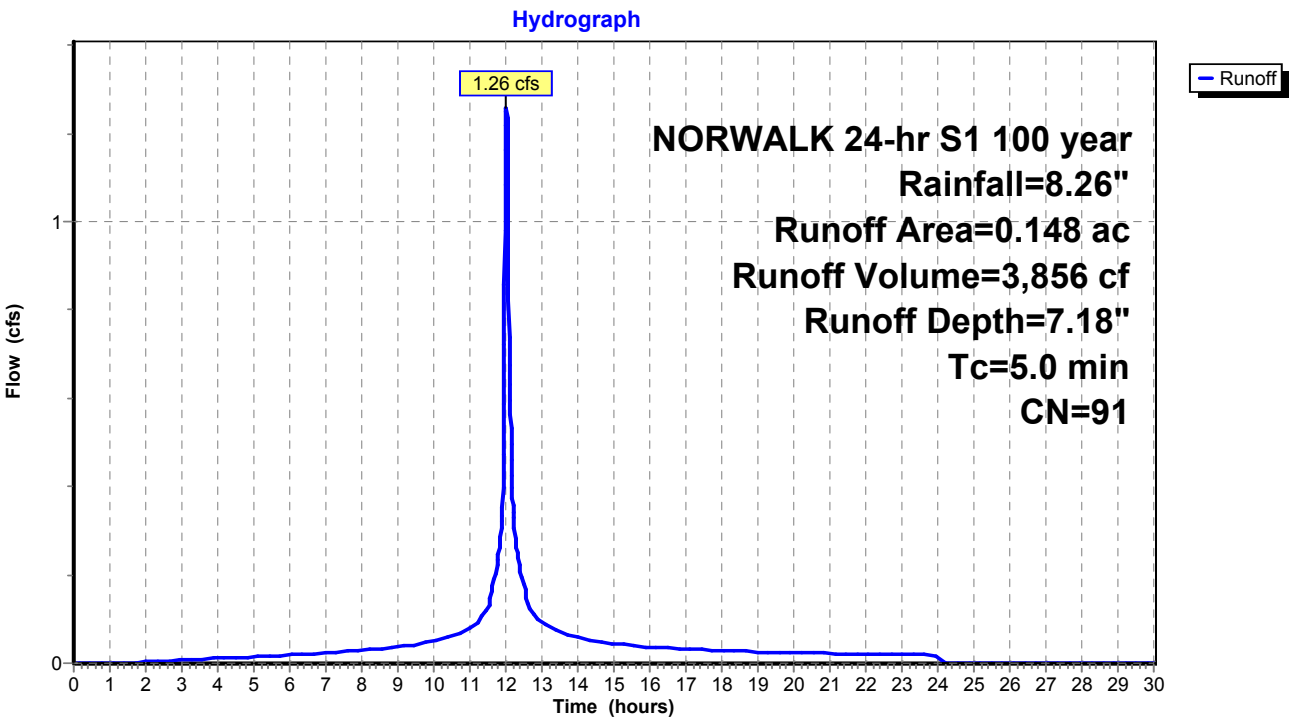
Runoff = 1.26 cfs @ 12.03 hrs, Volume= 3,856 cf, Depth= 7.18"
Routed to Pond 67P : CB-9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.103	98	Paved parking & roofs
0.045	74	>75% Grass cover, Good, HSG C
0.148	91	Weighted Average
0.045		30.41% Pervious Area
0.103		69.59% Impervious Area

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

Subcatchment 69S: Area 40



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 71S: Area 34

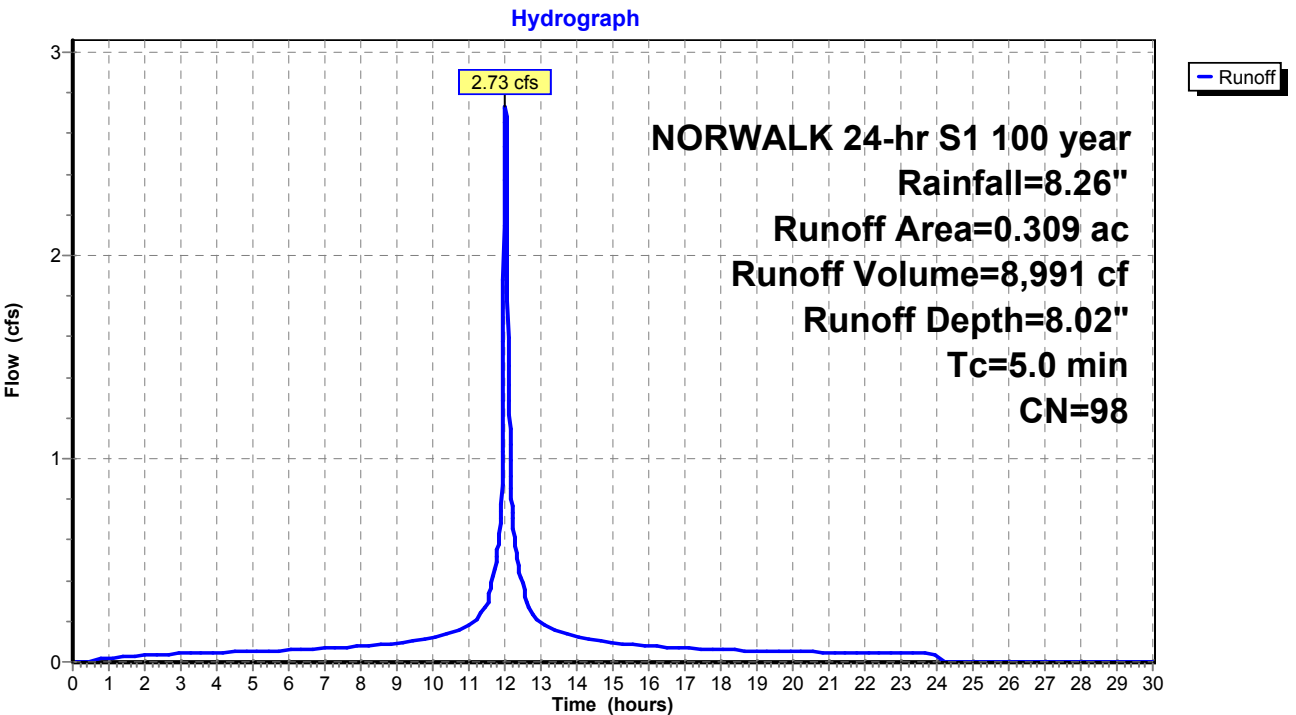
Runoff = 2.73 cfs @ 12.03 hrs, Volume= 8,991 cf, Depth= 8.02"
Routed to Pond 70P : CB-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.309	98	Paved parking & roofs
0.309		100.00% Impervious Area

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

Subcatchment 71S: Area 34



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 75S: Area 32

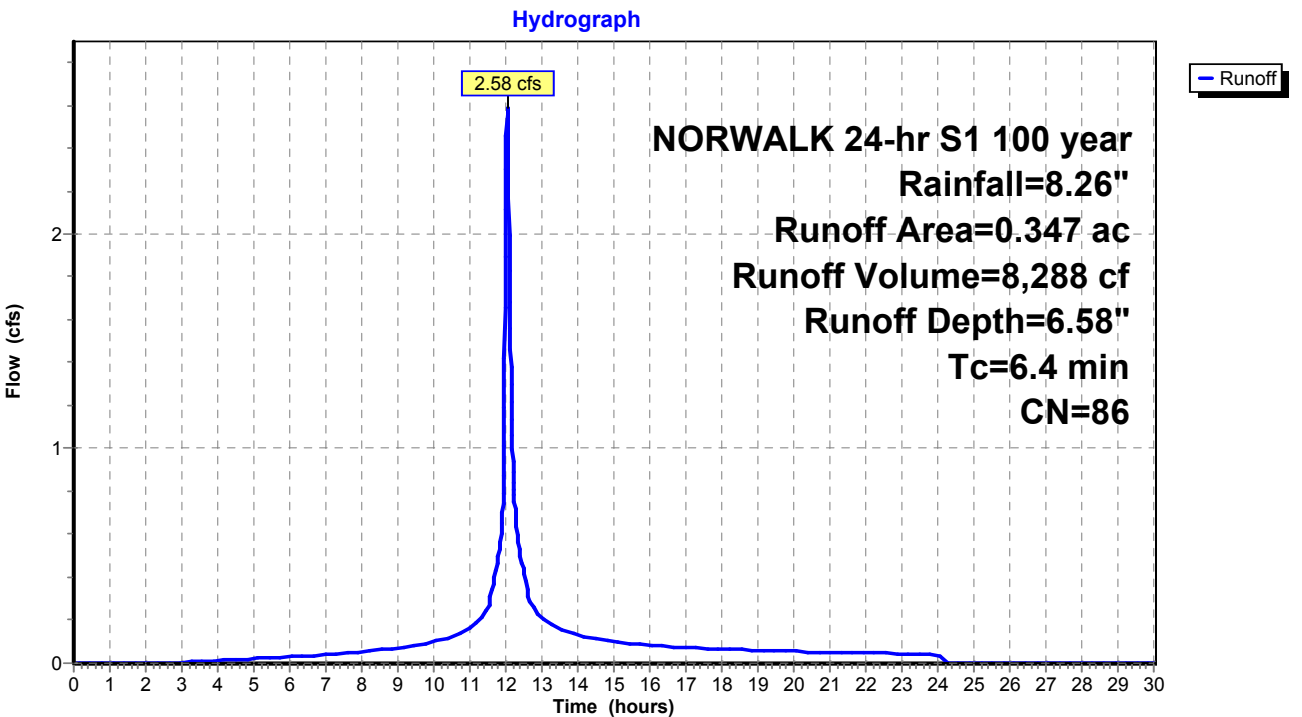
Runoff = 2.58 cfs @ 12.04 hrs, Volume= 8,288 cf, Depth= 6.58"
Routed to Pond 74P : CB-4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.196	98	Paved parking & roofs
0.151	70	Woods, Good, HSG C
0.347	86	Weighted Average
0.151		43.52% Pervious Area
0.196		56.48% Impervious Area

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

Subcatchment 75S: Area 32



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 76S: Area 33

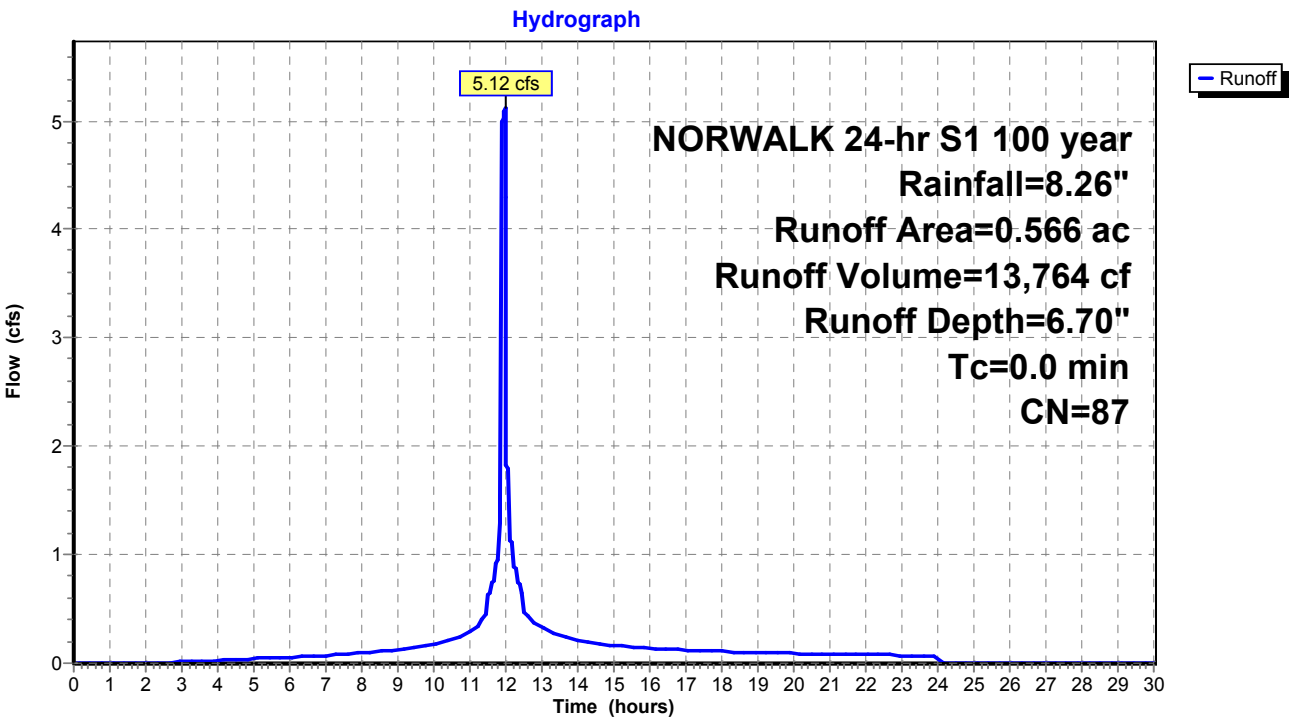
Runoff = 5.12 cfs @ 11.99 hrs, Volume= 13,764 cf, Depth= 6.70"
Routed to Pond 73P : CB-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.338	98	Paved parking & roofs
0.228	70	Woods, Good, HSG C
0.566	87	Weighted Average
0.228		40.28% Pervious Area
0.338		59.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.0					Direct Entry, 7

Subcatchment 76S: Area 33



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 78S: Area 39

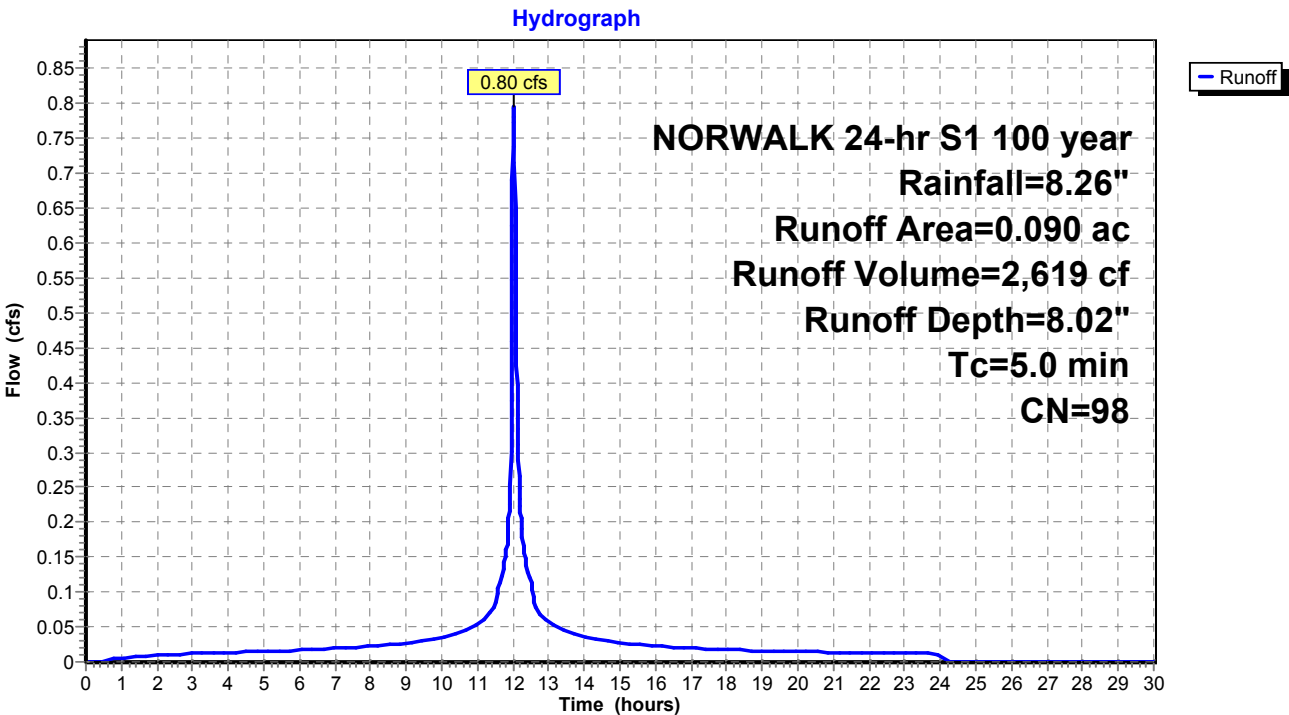
Runoff = 0.80 cfs @ 12.03 hrs, Volume= 2,619 cf, Depth= 8.02"
Routed to Pond 79P : CB-8

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.090	98	Paved parking & roofs
0.090		100.00% Impervious Area

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

Subcatchment 78S: Area 39



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 84S: Area 31

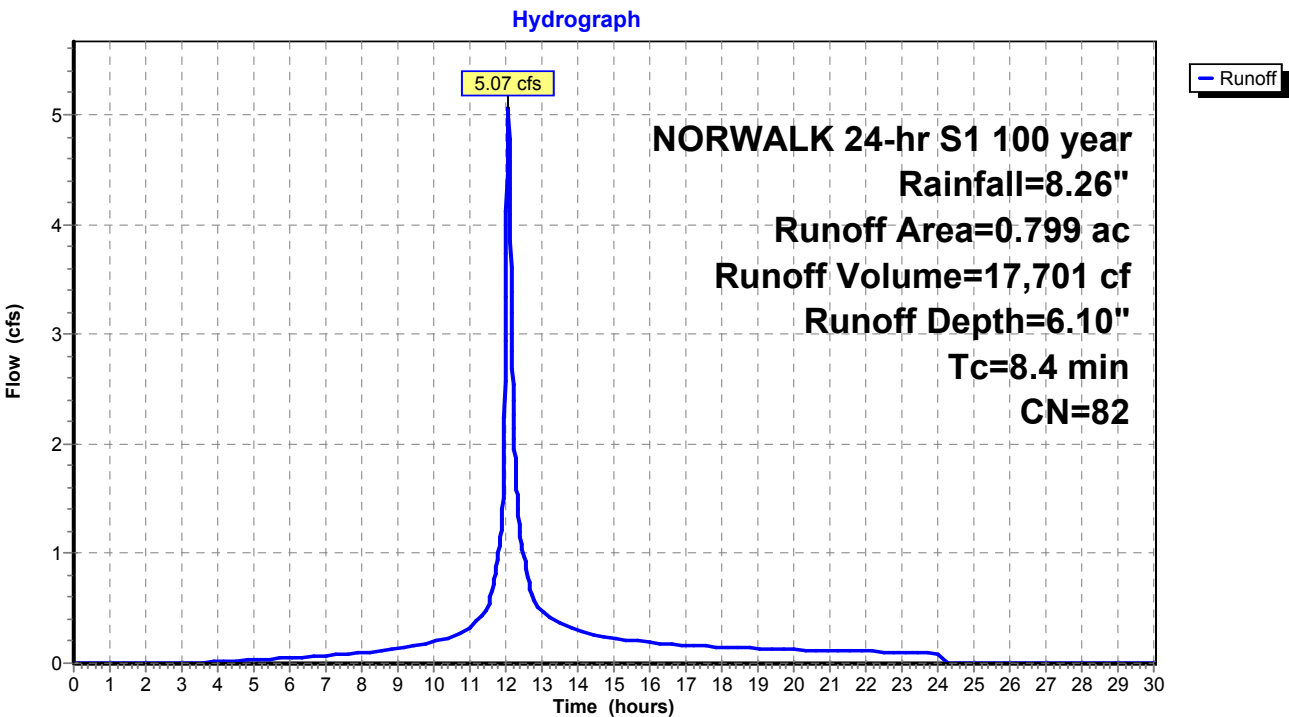
Runoff = 5.07 cfs @ 12.07 hrs, Volume= 17,701 cf, Depth= 6.10"
Routed to Pond 85P : CB-5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.337	98	Paved parking & roofs
0.462	70	Woods, Good, HSG C
0.799	82	Weighted Average
0.462		57.82% Pervious Area
0.337		42.18% Impervious Area

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

Subcatchment 84S: Area 31



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 100S: Area 16B

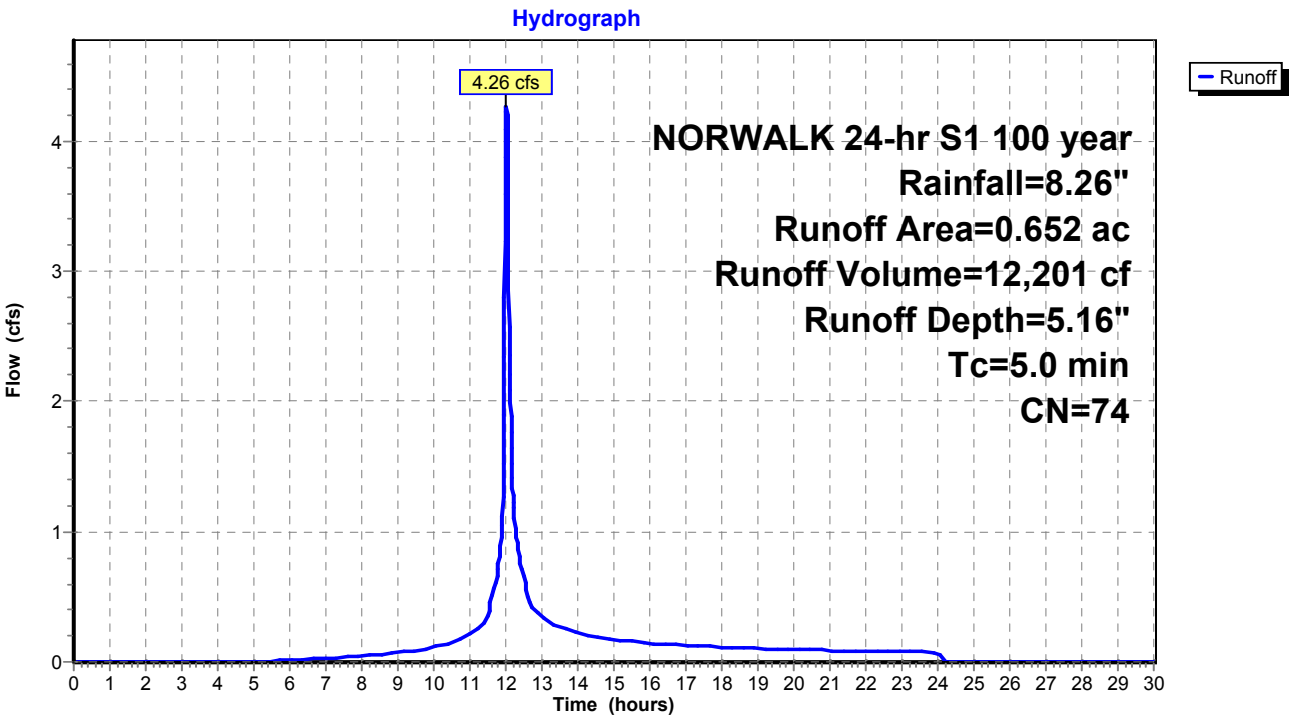
Runoff = 4.26 cfs @ 12.03 hrs, Volume= 12,201 cf, Depth= 5.16"
Routed to Pond 50P : DET BASIN #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.652	74	>75% Grass cover, Good, HSG C
0.652		100.00% Pervious Area

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

Subcatchment 100S: Area 16B



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 105S: Area 18

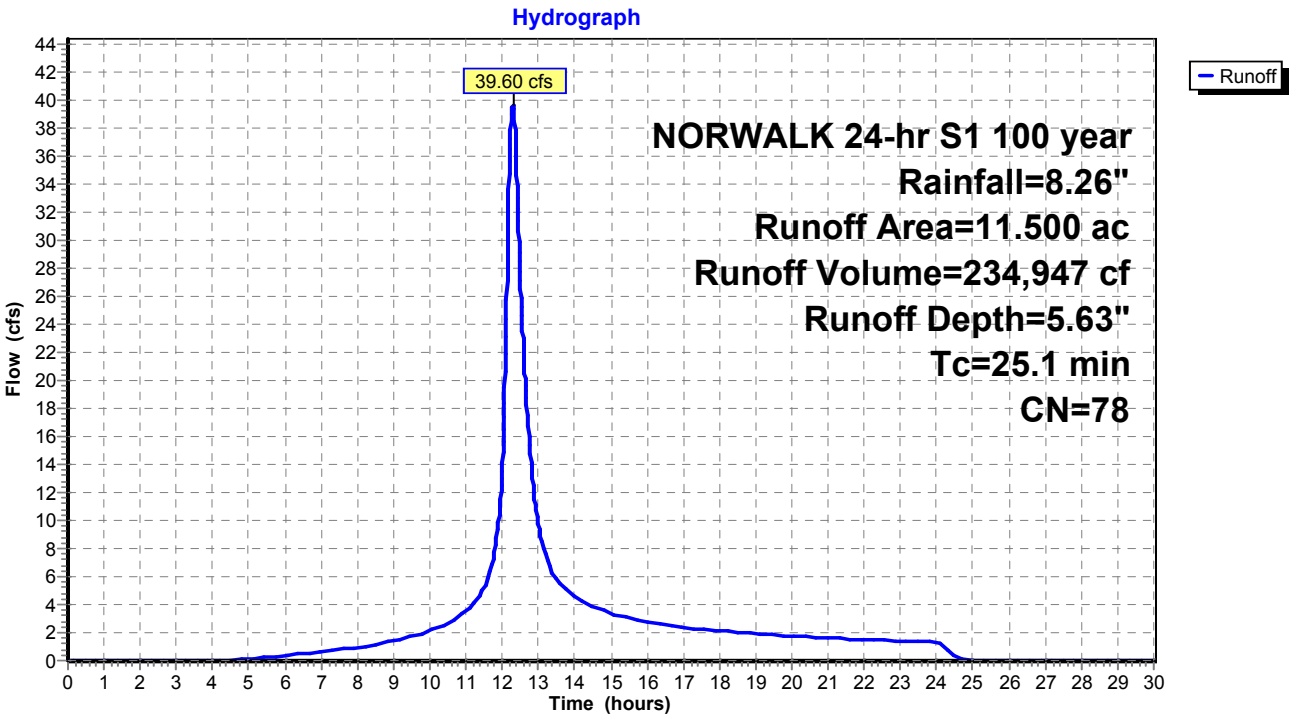
Runoff = 39.60 cfs @ 12.30 hrs, Volume= 234,947 cf, Depth= 5.63"
Routed to Pond 24P : RR Culvert 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.734	70	Woods, Good, HSG C
10.216	77	Woods, Good, HSG D
0.550	98	Paved parking, HSG C
11.500	78	Weighted Average
10.950		95.22% Pervious Area
0.550		4.78% Impervious Area

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

Subcatchment 105S: Area 18



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment BLDG: EX-BLDG

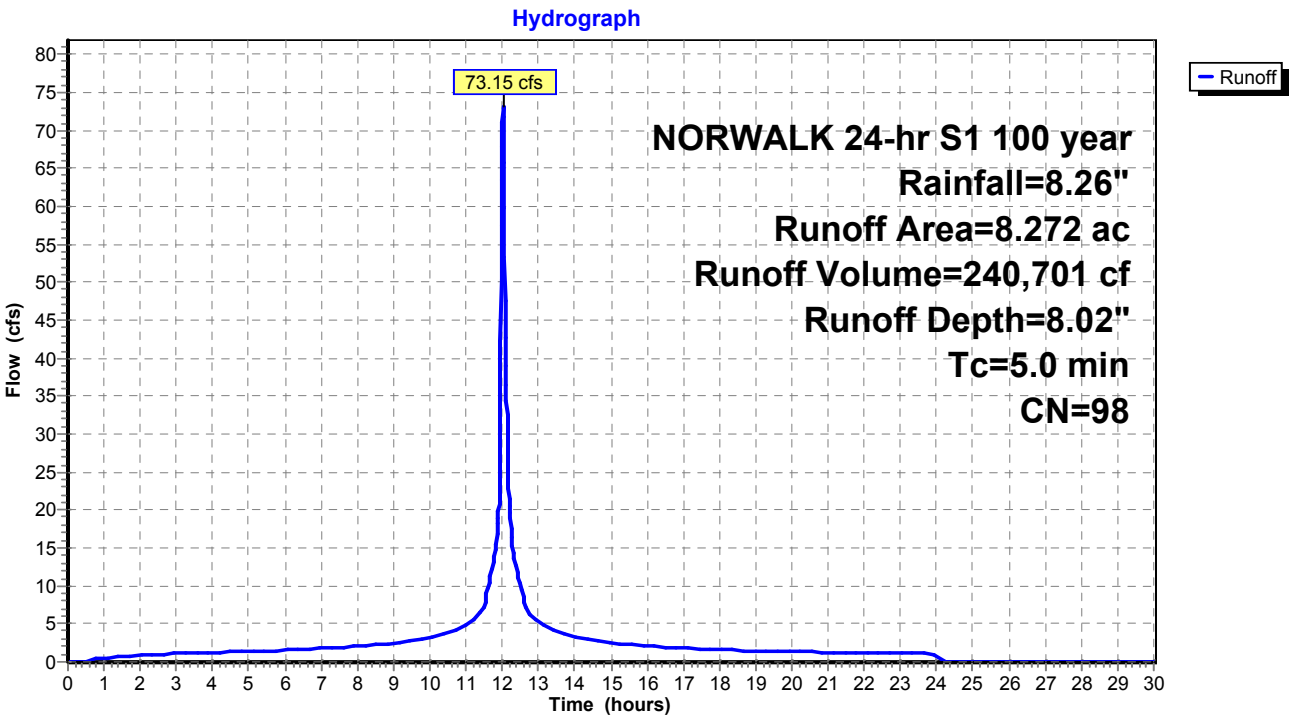
Runoff = 73.15 cfs @ 12.03 hrs, Volume= 240,701 cf, Depth= 8.02"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
8.272	98	Roofs, HSG B
8.272		100.00% Impervious Area

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

Subcatchment BLDG: EX-BLDG



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Pond 1P: RR Culvert 2

Inflow Area = 6,570,111 sf, 25.88% Impervious, Inflow Depth > 6.39" for 100 year event
Inflow = 343.99 cfs @ 12.22 hrs, Volume= 3,495,923 cf
Outflow = 343.99 cfs @ 12.22 hrs, Volume= 3,495,923 cf, Atten= 0%, Lag= 0.0 min
Primary = 37.06 cfs @ 12.22 hrs, Volume= 1,475,464 cf
Secondary = 306.93 cfs @ 12.22 hrs, Volume= 2,020,459 cf
Routed to Pond 24P : RR Culvert 3

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 14.30' @ 12.22 hrs

Device	Routing	Invert	Outlet Devices
#1	Secondary	13.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 3.00 4.00 5.00 Width (feet) 50.00 50.00 50.00 50.00 50.00 50.00
#2	Primary	9.50'	24.0" W x 36.0" H Box Culvert L= 135.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.50' / 9.50' S= 0.0000 ' / Cc= 0.900 n= 0.014, Flow Area= 6.00 sf

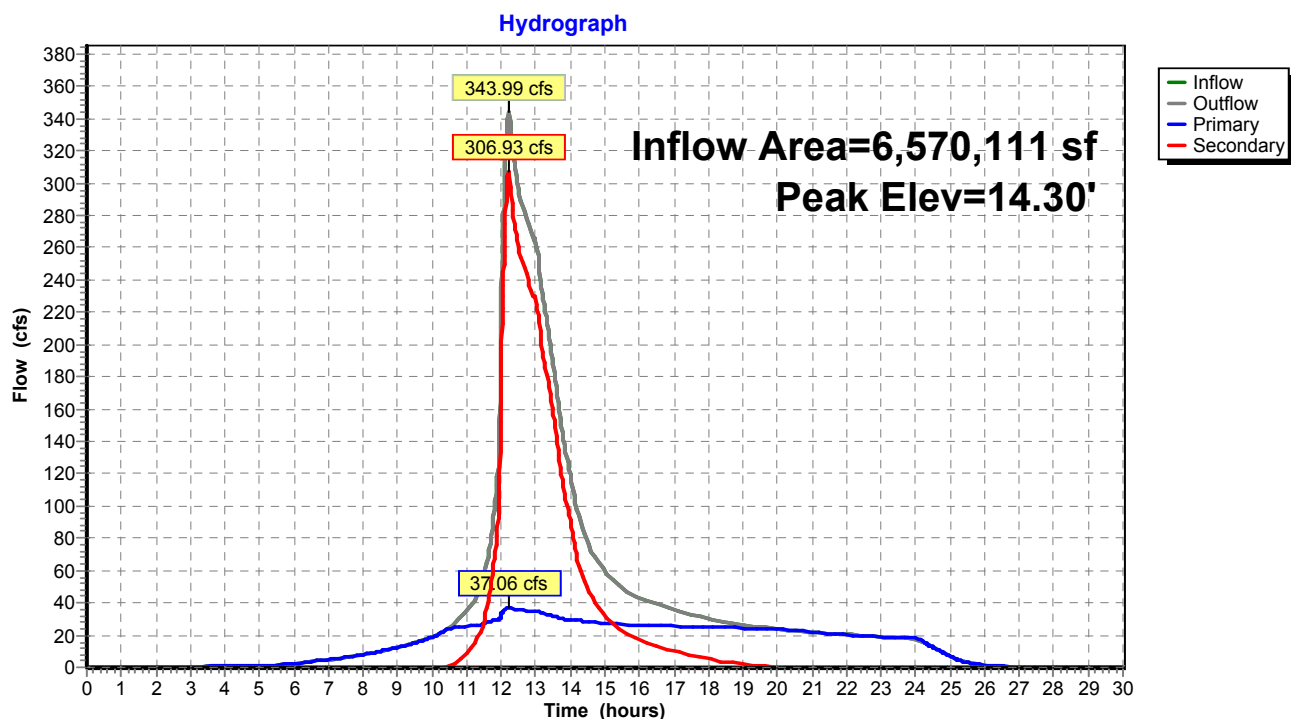
Primary OutFlow Max=37.06 cfs @ 12.22 hrs HW=14.30' (Free Discharge)

↑**2=Culvert** (Barrel Controls 37.06 cfs @ 6.18 fps)

Secondary OutFlow Max=306.73 cfs @ 12.22 hrs HW=14.30' (Free Discharge)

↑**1=Custom Weir/Orifice** (Weir Controls 306.73 cfs @ 4.74 fps)

Pond 1P: RR Culvert 2



Existing Conditions

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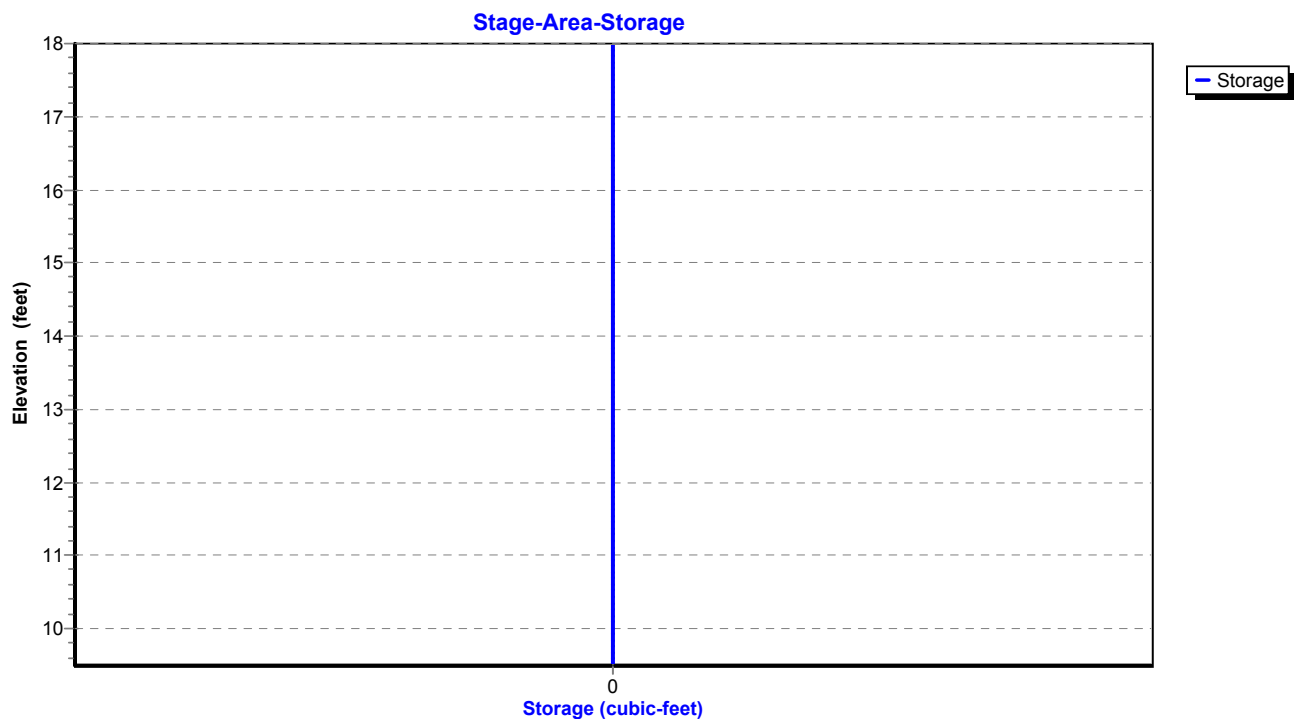
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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Pond 1P: RR Culvert 2



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Pond 2P: RR Culvert 1

Inflow Area = 3,416,890 sf, 54.57% Impervious, Inflow Depth = 6.68" for 100 year event
Inflow = 195.77 cfs @ 12.04 hrs, Volume= 1,902,933 cf
Outflow = 195.77 cfs @ 12.04 hrs, Volume= 1,902,933 cf, Atten= 0%, Lag= 0.0 min
Primary = 61.96 cfs @ 12.04 hrs, Volume= 1,345,885 cf
Secondary = 133.81 cfs @ 12.04 hrs, Volume= 557,047 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 31.22' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	25.00'	28.8" W x 28.8" H Box Culvert L= 123.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.00' / 23.60' S= 0.0114 '/' Cc= 0.900 n= 0.014, Flow Area= 5.76 sf
#2	Secondary	27.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 Width (feet) 6.00 6.00 6.00

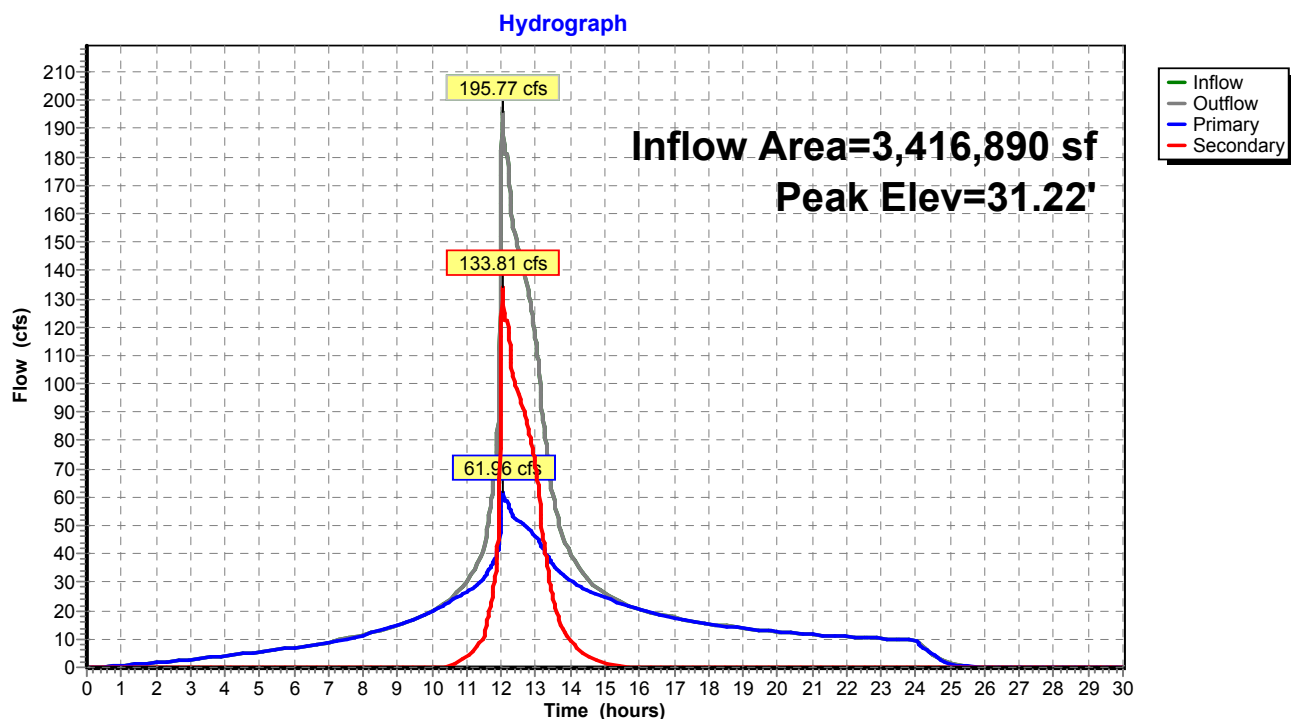
Primary OutFlow Max=61.92 cfs @ 12.04 hrs HW=31.21' (Free Discharge)

↑**1=Culvert** (Inlet Controls 61.92 cfs @ 10.75 fps)

Secondary OutFlow Max=133.65 cfs @ 12.04 hrs HW=31.21' (Free Discharge)

↑**2=Custom Weir/Orifice** (Orifice Controls 133.65 cfs @ 11.14 fps)

Pond 2P: RR Culvert 1



Existing Conditions

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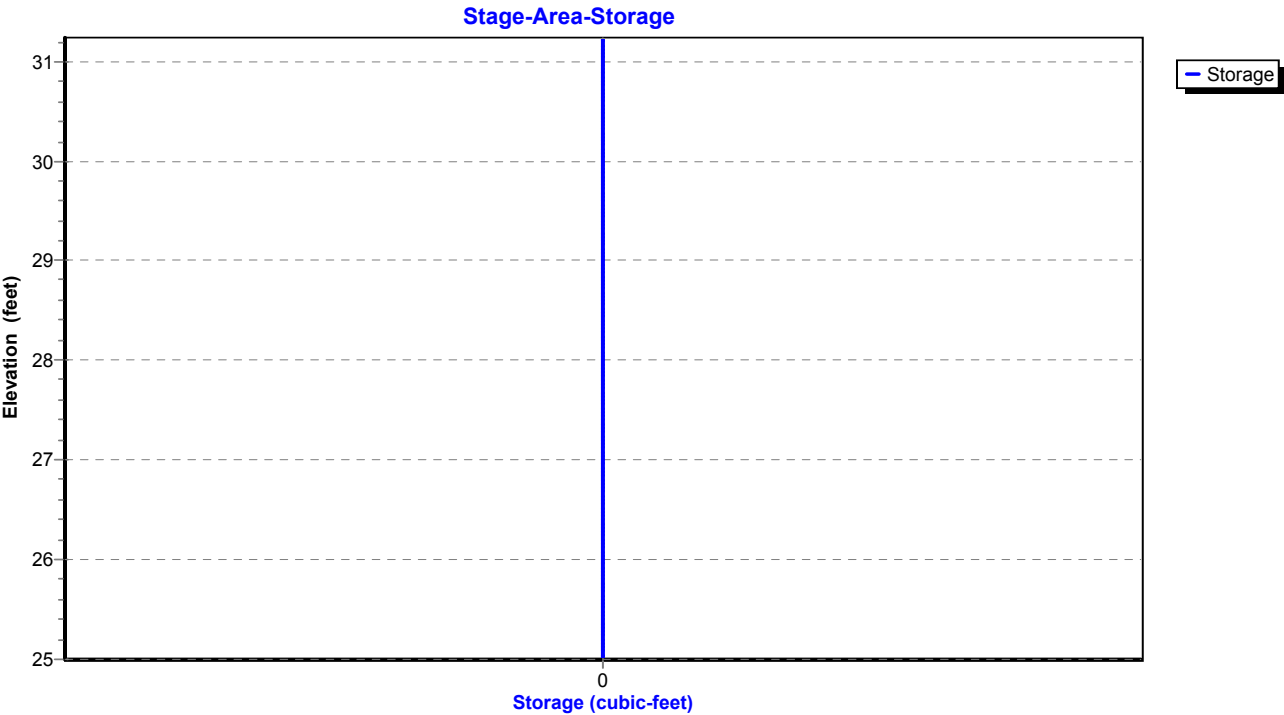
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Pond 2P: RR Culvert 1



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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Pond 3P: DETENTION BASIN #2

Inflow Area = 263,277 sf, 58.24% Impervious, Inflow Depth = 6.53" for 100 year event
Inflow = 37.82 cfs @ 12.03 hrs, Volume= 143,174 cf
Outflow = 14.55 cfs @ 12.26 hrs, Volume= 127,372 cf, Atten= 62%, Lag= 13.8 min
Primary = 14.55 cfs @ 12.26 hrs, Volume= 127,372 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 50.80' @ 12.26 hrs Surf.Area= 13,591 sf Storage= 53,817 cf

Plug-Flow detention time= 182.9 min calculated for 127,329 cf (89% of inflow)
Center-of-Mass det. time= 123.1 min (922.3 - 799.1)

Volume	Invert	Avail.Storage	Storage Description
#1	44.00'	56,637 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.00	2,637	0	0
46.00	6,000	8,637	8,637
48.00	8,500	14,500	23,137
50.00	12,000	20,500	43,637
51.00	14,000	13,000	56,637

Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	18.0" Round Culvert L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.00' / 30.00' S= 0.1750 ' / Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	47.00'	10.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	50.40'	16.2" x 55.4" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=14.53 cfs @ 12.26 hrs HW=50.80' (Free Discharge)

1=Culvert (Passes 14.53 cfs of 20.92 cfs potential flow)
2=Orifice/Grate (Orifice Controls 4.83 cfs @ 8.85 fps)
3=Orifice/Grate (Weir Controls 9.71 cfs @ 2.06 fps)

Existing Conditions

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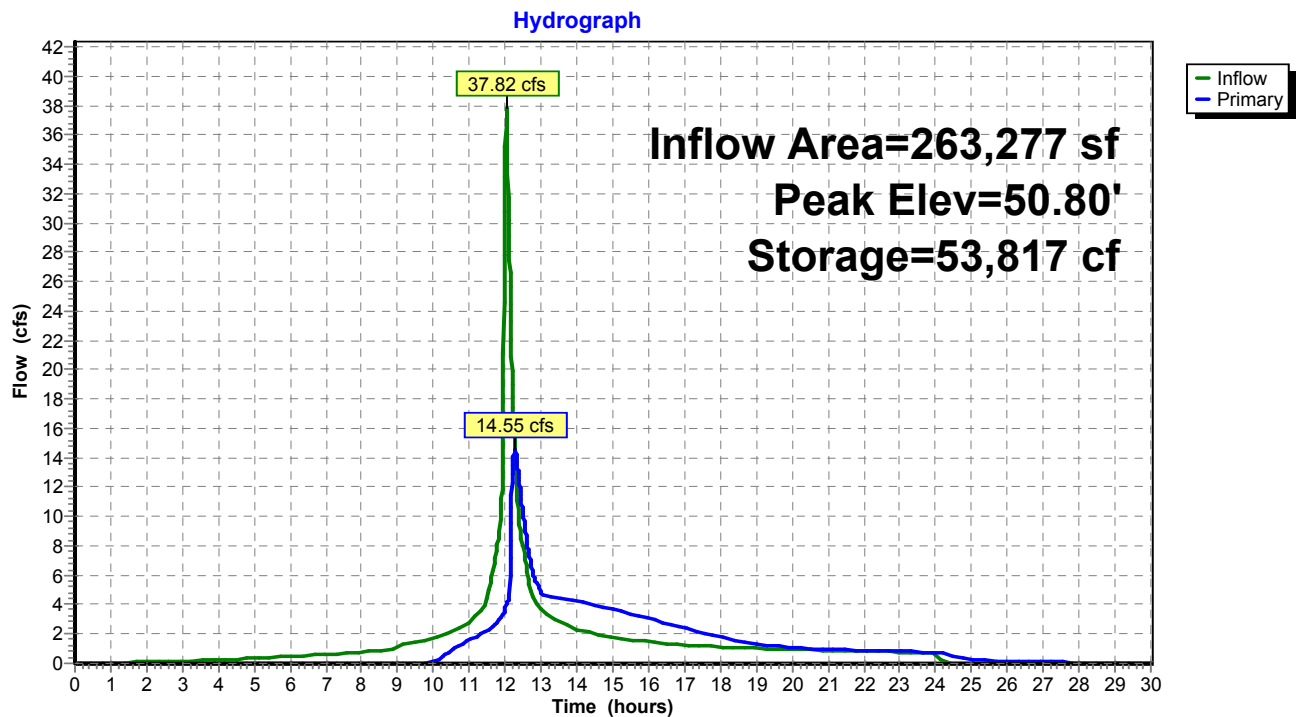
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NORWALK 24-hr S1 100 year Rainfall=8.26"

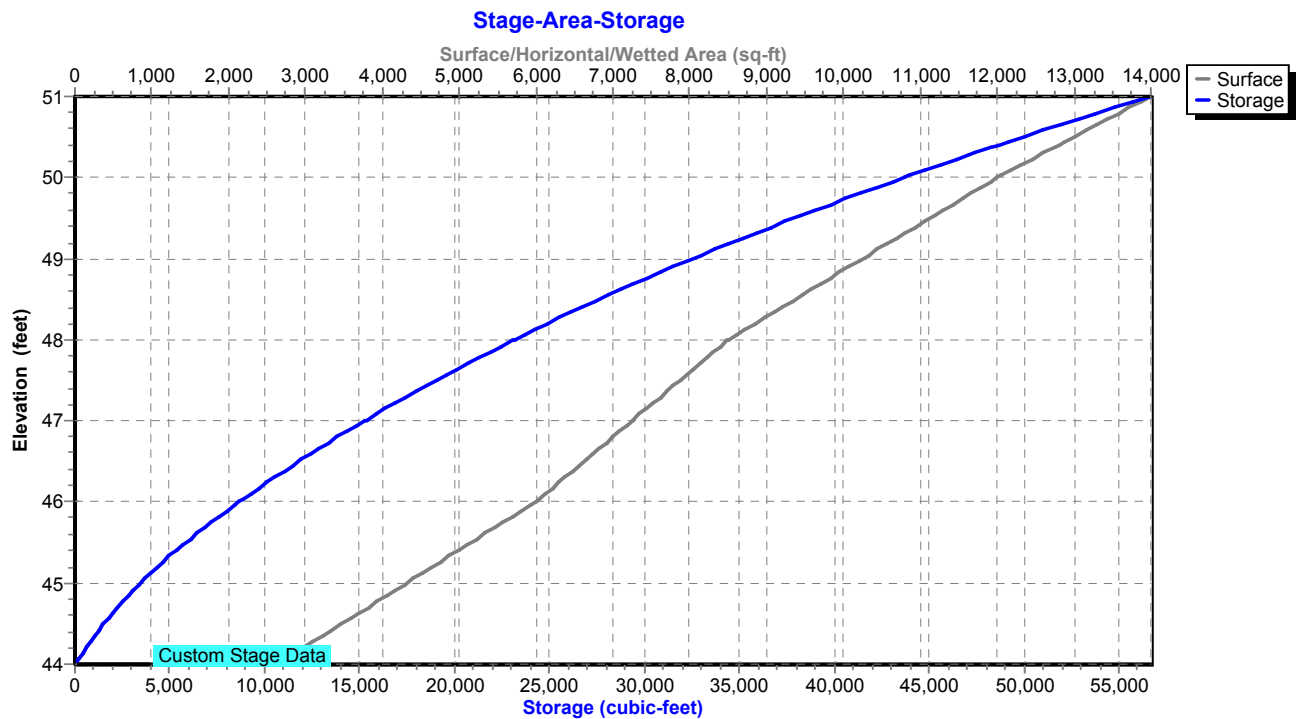
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Pond 3P: DETENTION BASIN #2



Pond 3P: DETENTION BASIN #2



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Pond 5P: DET 5 Culvert

Inflow Area = 541,015 sf, 16.51% Impervious, Inflow Depth = 5.04" for 100 year event
 Inflow = 31.33 cfs @ 12.45 hrs, Volume= 227,111 cf
 Outflow = 23.65 cfs @ 12.69 hrs, Volume= 227,110 cf, Atten= 25%, Lag= 14.5 min
 Primary = 23.65 cfs @ 12.69 hrs, Volume= 227,110 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 81.78' @ 12.69 hrs Storage= 17,276 cf

Plug-Flow detention time= 7.1 min calculated for 227,110 cf (100% of inflow)

Center-of-Mass det. time= 7.0 min (875.5 - 868.5)

Volume	Invert	Avail.Storage	Storage Description
#1	78.00'	62,584 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
78.00	0	0
79.00	1,179	1,179
80.00	3,009	4,188
81.00	5,795	9,983
82.00	9,335	19,318
83.00	16,518	35,836
84.00	26,748	62,584

Device	Routing	Invert	Outlet Devices
#1	Primary	78.00'	24.0" Round Culvert L= 224.0' Ke= 0.600 Inlet / Outlet Invert= 78.00' / 72.40' S= 0.0250 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=23.65 cfs @ 12.69 hrs HW=81.78' (Free Discharge)↑**1=Culvert** (Inlet Controls 23.65 cfs @ 7.53 fps)

Existing Conditions

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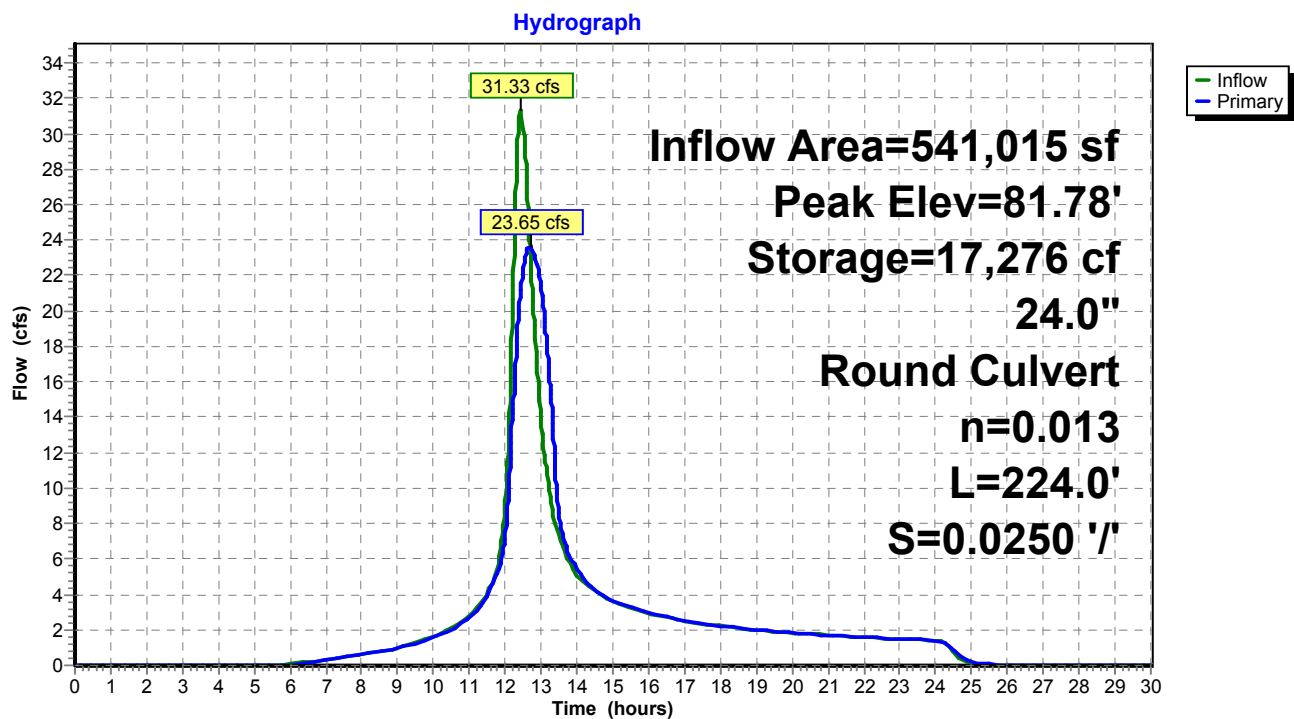
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NORWALK 24-hr S1 100 year Rainfall=8.26"

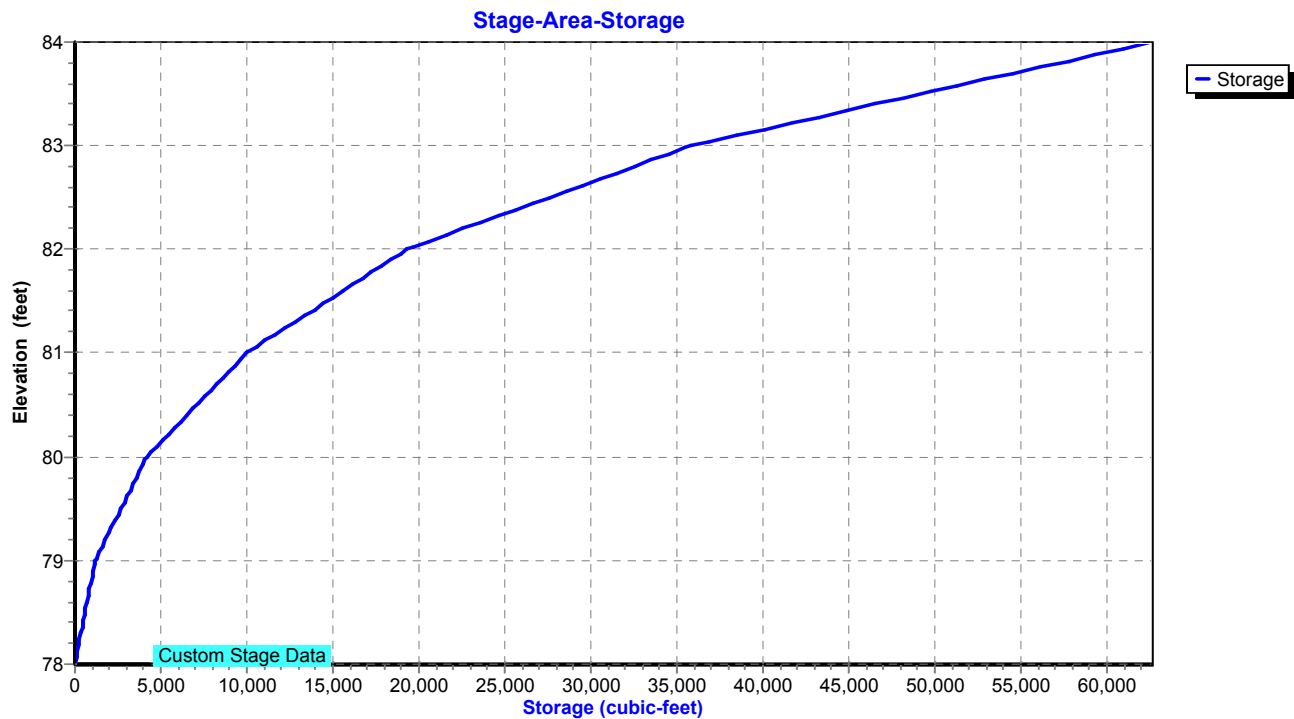
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Pond 5P: DET 5 Culvert



Pond 5P: DET 5 Culvert



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Summary for Pond 6P: DET 6 Culvert

Inflow Area = 747,054 sf, 37.20% Impervious, Inflow Depth = 6.10" for 100 year event
 Inflow = 41.03 cfs @ 12.70 hrs, Volume= 379,947 cf
 Outflow = 38.84 cfs @ 12.82 hrs, Volume= 379,947 cf, Atten= 5%, Lag= 7.5 min
 Primary = 38.84 cfs @ 12.82 hrs, Volume= 379,947 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 92.82' @ 12.82 hrs Storage= 5,136 cf

Plug-Flow detention time= 0.7 min calculated for 379,821 cf (100% of inflow)

Center-of-Mass det. time= 0.7 min (858.6 - 857.9)

Volume	Invert	Avail.Storage	Storage Description
#1	88.50'	5,954 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
88.50	0	0
90.00	154	154
92.00	1,175	1,329
93.00	4,625	5,954

Device	Routing	Invert	Outlet Devices
#1	Primary	88.50'	30.0" Round Culvert L= 180.0' Ke= 0.600 Inlet / Outlet Invert= 88.50' / 86.00' S= 0.0139 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=38.84 cfs @ 12.82 hrs HW=92.82' (Free Discharge)↑ **1=Culvert** (Inlet Controls 38.84 cfs @ 7.91 fps)

Existing Conditions

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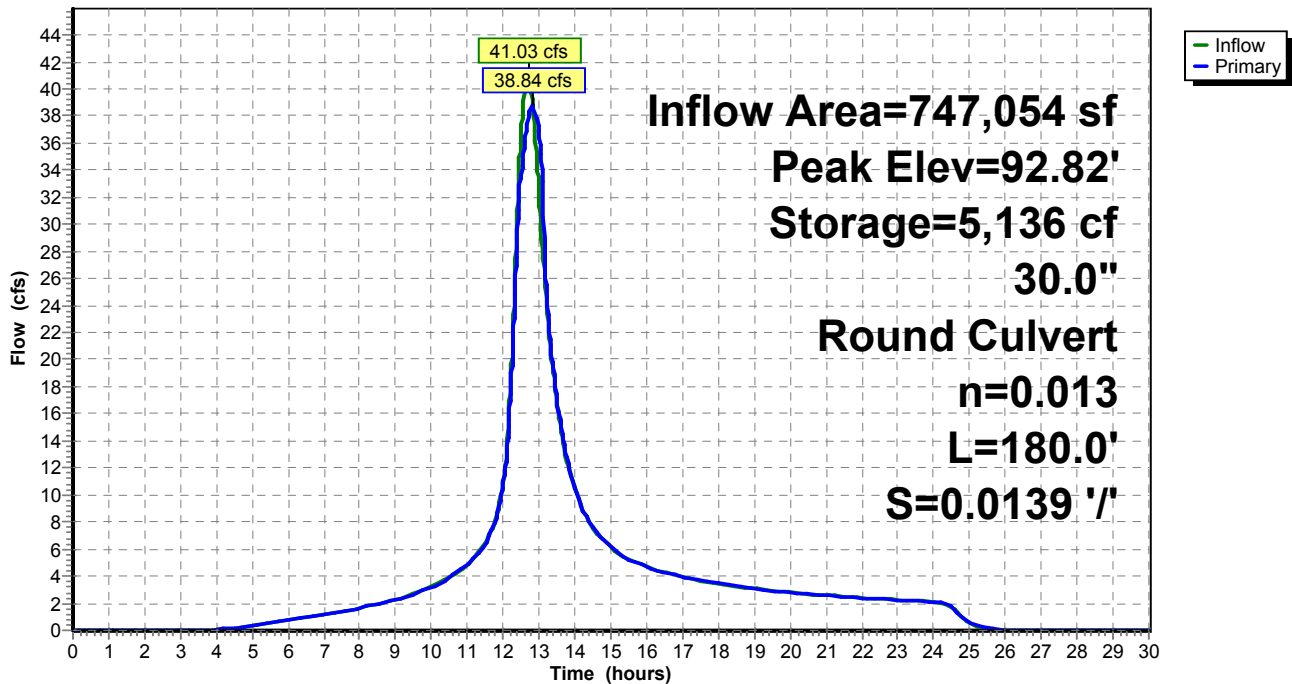
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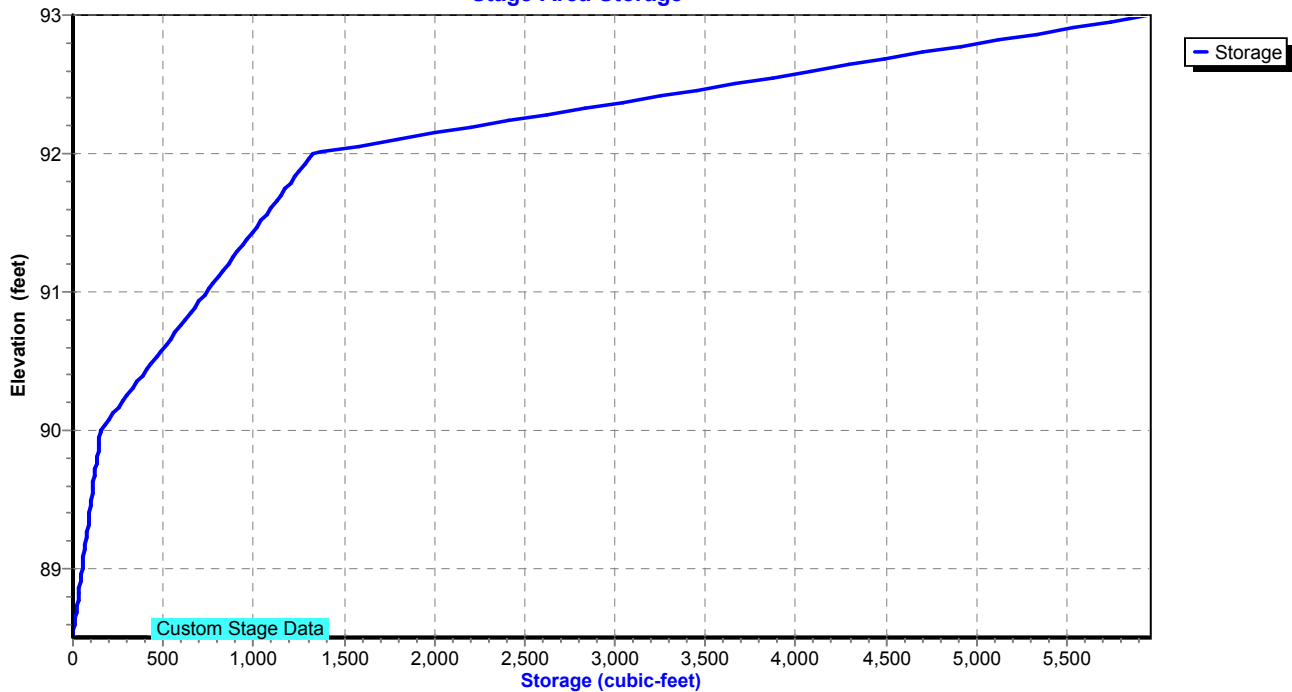
Pond 6P: DET 6 Culvert

Hydrograph



Pond 6P: DET 6 Culvert

Stage-Area-Storage



Existing Conditions

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Summary for Pond 7P: DET 7 Culvert

Inflow Area = 64,033 sf, 0.00% Impervious, Inflow Depth = 5.98" for 100 year event
 Inflow = 5.64 cfs @ 12.25 hrs, Volume= 31,932 cf
 Outflow = 3.73 cfs @ 12.46 hrs, Volume= 31,932 cf, Atten= 34%, Lag= 12.3 min
 Primary = 3.73 cfs @ 12.46 hrs, Volume= 31,932 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 93.58' @ 12.46 hrs Storage= 3,442 cf

Plug-Flow detention time= 7.2 min calculated for 31,932 cf (100% of inflow)

Center-of-Mass det. time= 7.1 min (838.6 - 831.5)

Volume	Invert	Avail.Storage	Storage Description
#1	92.50'	5,874 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
92.50	0	0
93.00	103	103
94.00	5,771	5,874

Device	Routing	Invert	Outlet Devices
#1	Primary	92.50'	15.0" Round Culvert L= 202.0' Ke= 0.600 Inlet / Outlet Invert= 92.50' / 89.11' S= 0.0168 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=3.73 cfs @ 12.46 hrs HW=93.58' (Free Discharge)↑ **1=Culvert** (Inlet Controls 3.73 cfs @ 3.31 fps)

Existing Conditions

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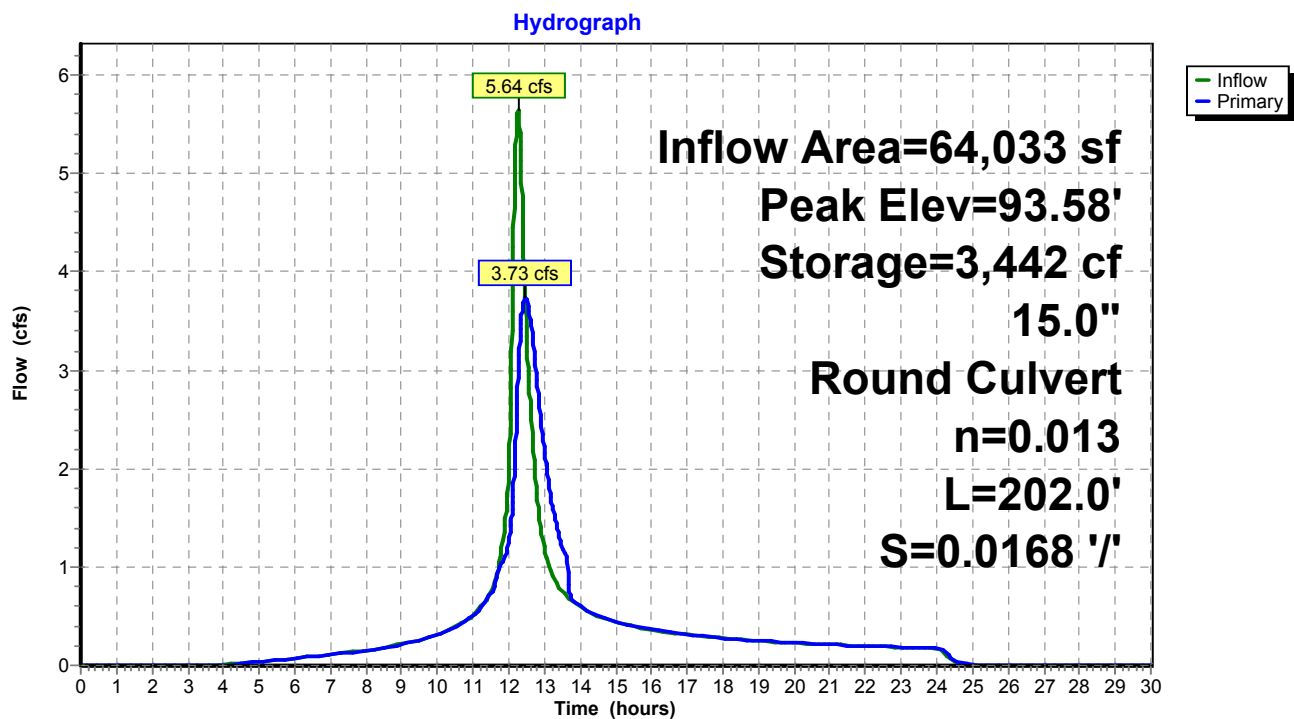
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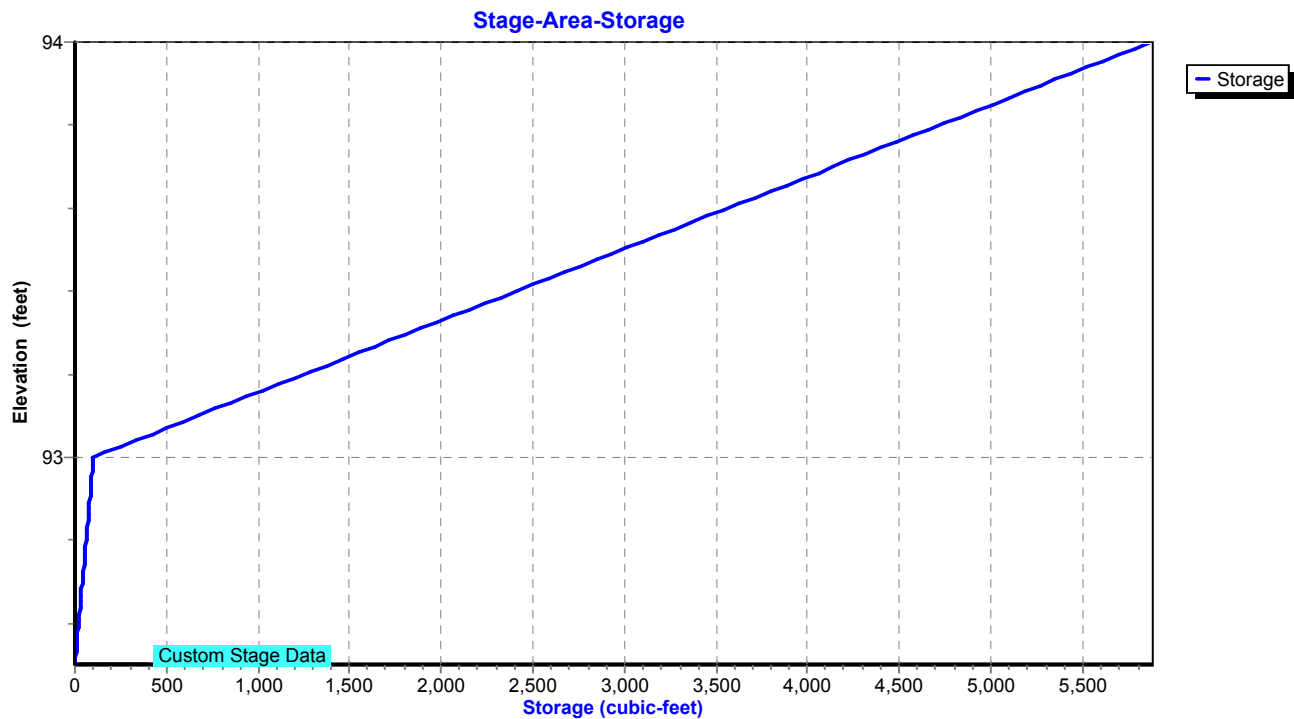
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Pond 7P: DET 7 Culvert



Pond 7P: DET 7 Culvert



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Summary for Pond 8P: Comb. 5,6,7,8,9

Inflow Area = 1,584,277 sf, 30.02% Impervious, Inflow Depth = 5.84" for 100 year event
 Inflow = 78.16 cfs @ 12.73 hrs, Volume= 770,688 cf
 Outflow = 78.15 cfs @ 12.74 hrs, Volume= 770,688 cf, Atten= 0%, Lag= 0.6 min
 Primary = 78.15 cfs @ 12.74 hrs, Volume= 770,688 cf
 Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 73.00' @ 12.74 hrs Storage= 639 cf

Plug-Flow detention time= 0.1 min calculated for 770,688 cf (100% of inflow)
 Center-of-Mass det. time= 0.1 min (856.6 - 856.5)

Volume	Invert	Avail.Storage	Storage Description
#1	68.40'	5,234 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.40	0	0
71.00	52	52
72.00	118	170
73.00	471	641
74.00	1,318	1,959
75.00	3,275	5,234

Device	Routing	Invert	Outlet Devices
#1	Primary	68.40'	42.0" Round Culvert L= 900.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 68.40' / 36.99' S= 0.0349 ' / Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=78.15 cfs @ 12.74 hrs HW=73.00' (Free Discharge)

↑**1=Culvert** (Inlet Controls 78.15 cfs @ 8.12 fps)

Existing Conditions

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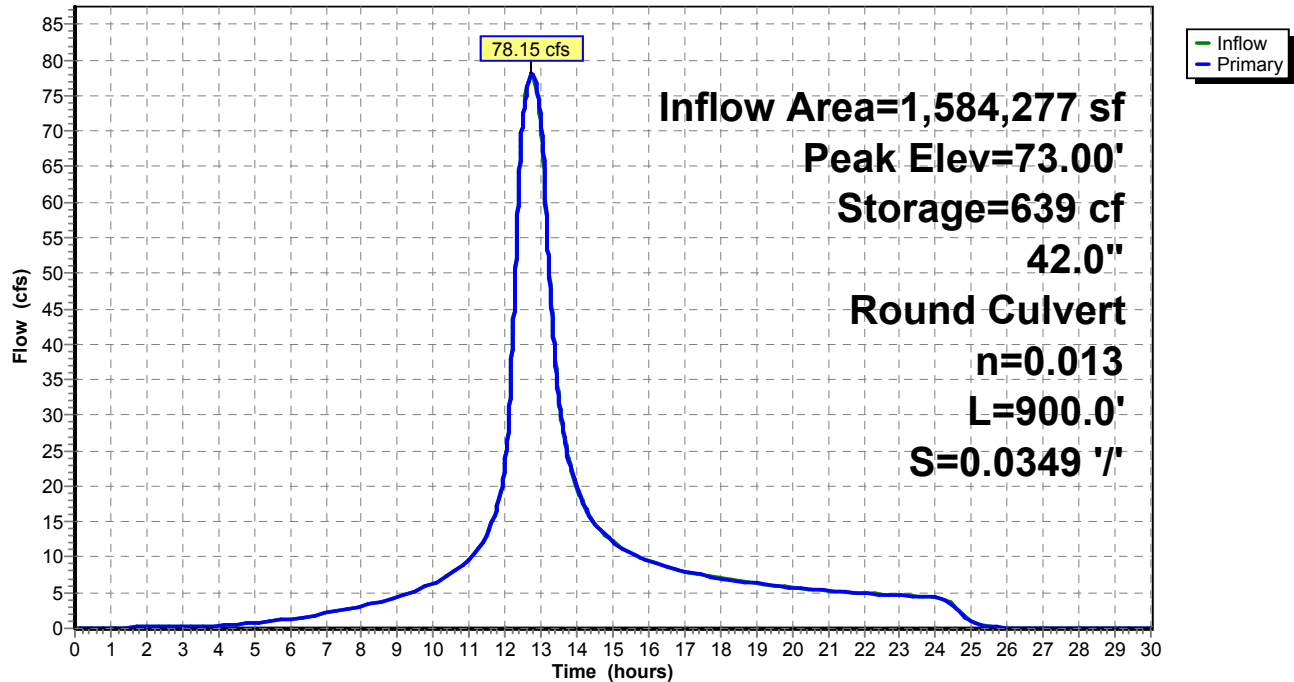
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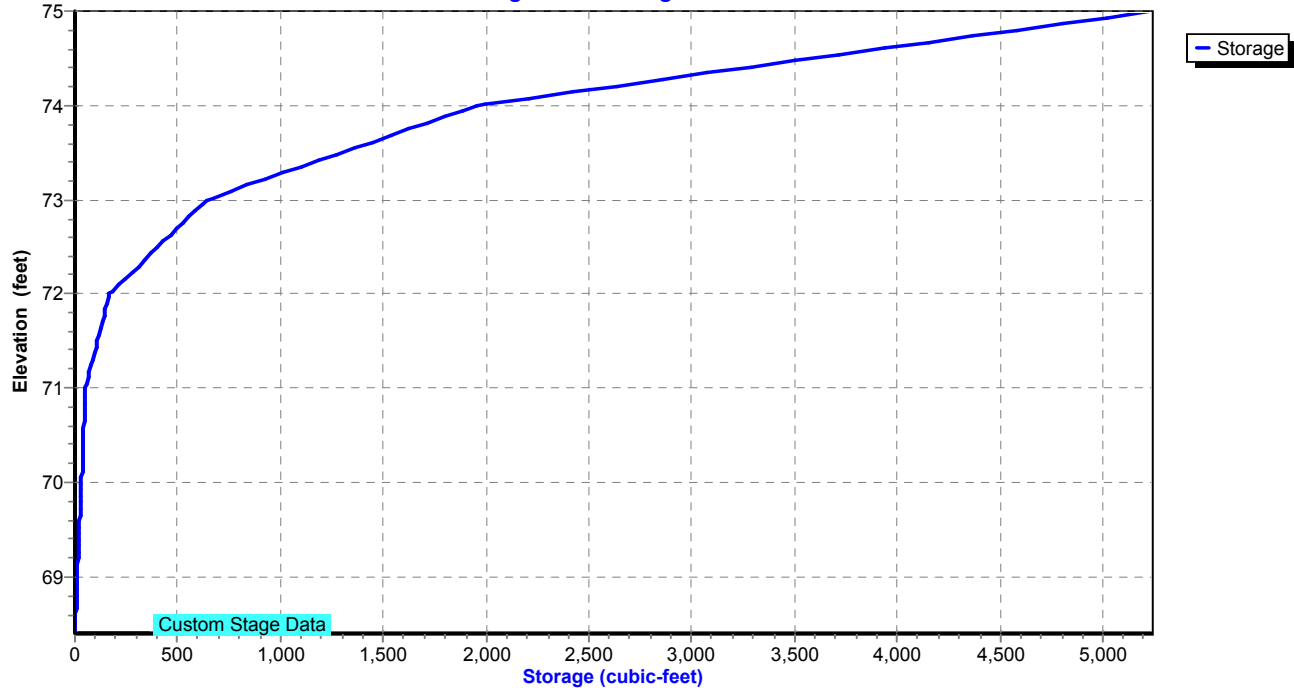
Pond 8P: Comb. 5,6,7,8,9

Hydrograph



Pond 8P: Comb. 5,6,7,8,9

Stage-Area-Storage



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Summary for Pond 9P: MH-K

Inflow Area = 246,332 sf, 62.25% Impervious, Inflow Depth = 6.62" for 100 year event
Inflow = 35.31 cfs @ 12.04 hrs, Volume= 135,894 cf
Outflow = 35.31 cfs @ 12.04 hrs, Volume= 135,894 cf, Atten= 0%, Lag= 0.0 min
Primary = 35.31 cfs @ 12.04 hrs, Volume= 135,894 cf
Routed to Pond 3P : DETENTION BASIN #2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 53.63' @ 12.04 hrs

Flood Elev= 51.80'

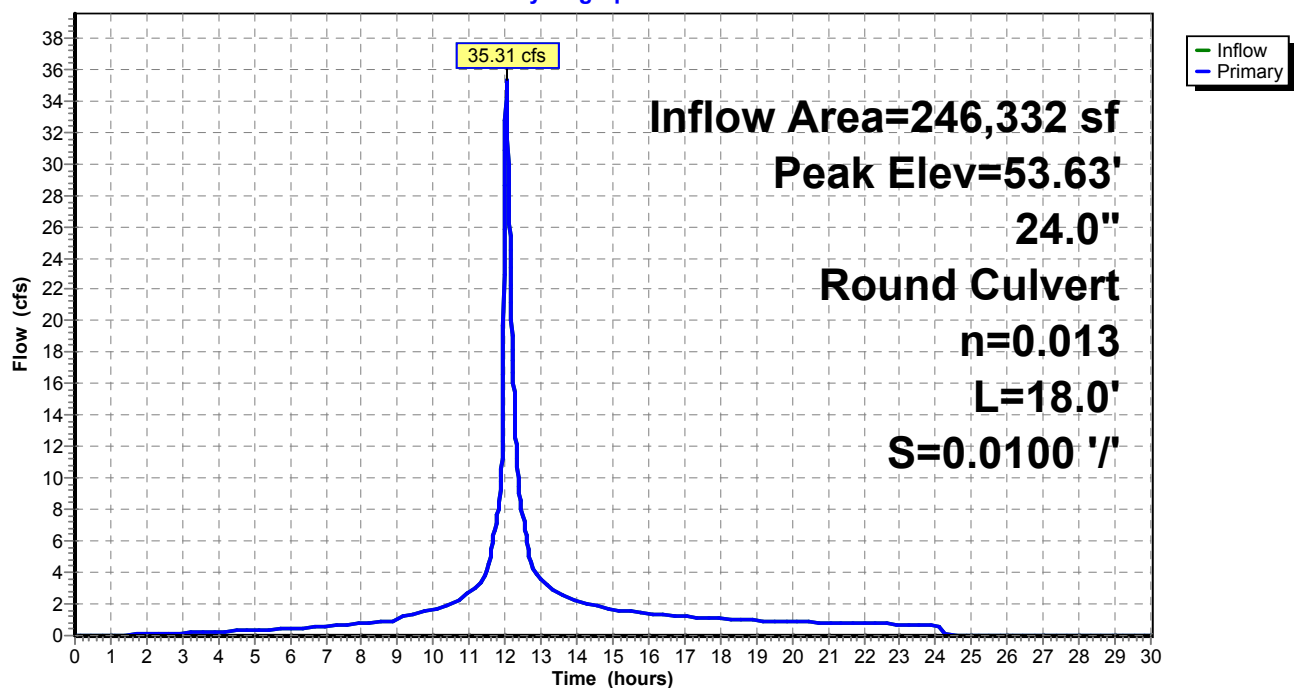
Device	Routing	Invert	Outlet Devices
#1	Primary	47.18'	24.0" Round Culvert L= 18.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.18' / 47.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=35.20 cfs @ 12.04 hrs HW=53.59' (Free Discharge)

↑1=Culvert (Inlet Controls 35.20 cfs @ 11.20 hrs)

Pond 9P: MH-K

Hydrograph



Existing Conditions

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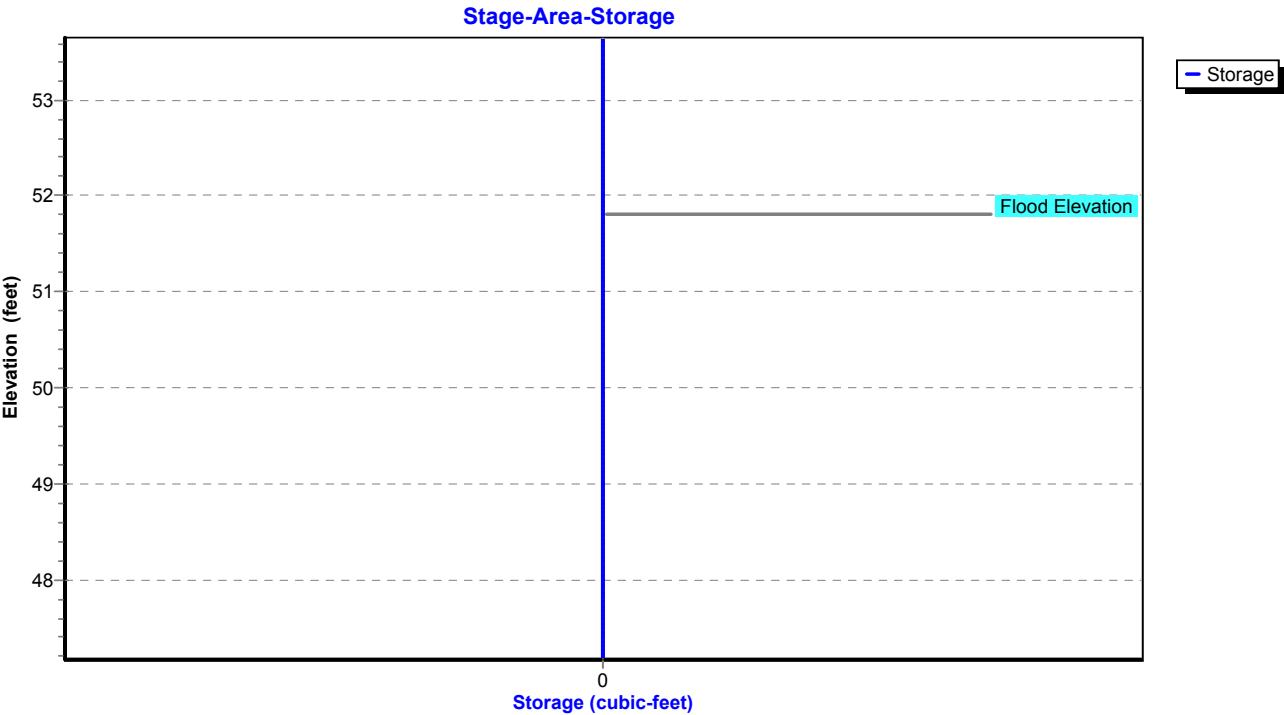
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Pond 9P: MH-K



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Summary for Pond 10P: MH-L

Inflow Area = 71,874 sf, 85.27% Impervious, Inflow Depth = 6.96" for 100 year event
Inflow = 14.35 cfs @ 12.03 hrs, Volume= 41,670 cf
Outflow = 14.35 cfs @ 12.03 hrs, Volume= 41,670 cf, Atten= 0%, Lag= 0.0 min
Primary = 14.35 cfs @ 12.03 hrs, Volume= 41,670 cf
Routed to Pond 9P : MH-K

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 52.37' @ 12.03 hrs

Flood Elev= 53.00'

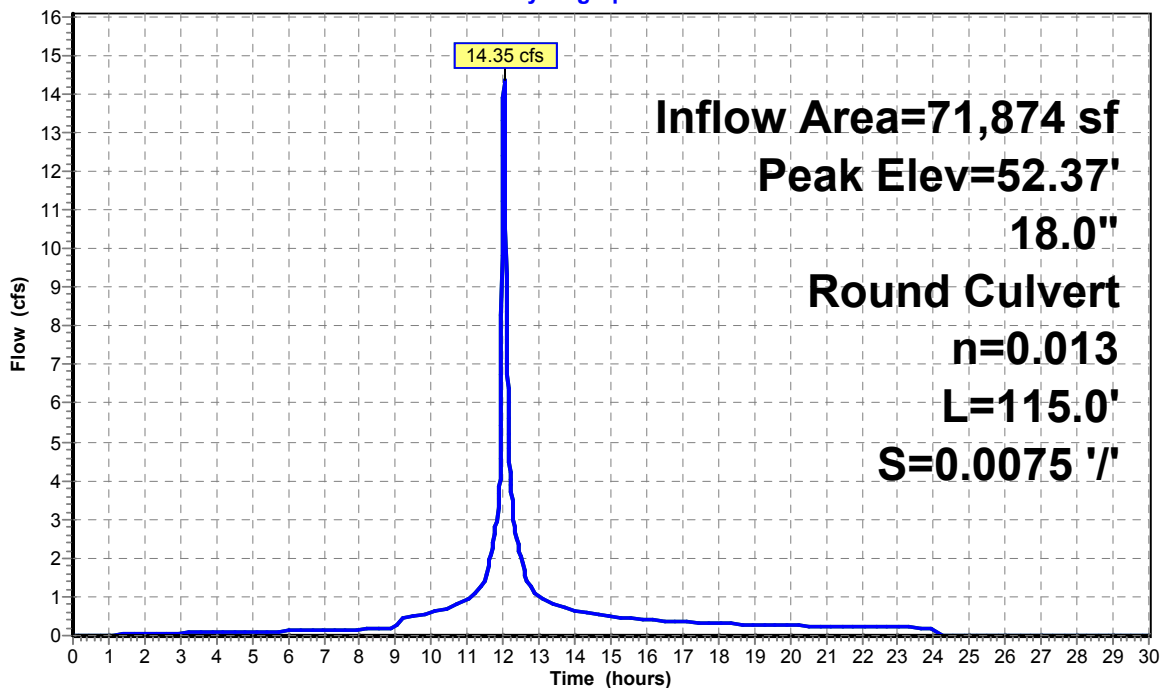
Device	Routing	Invert	Outlet Devices
#1	Primary	48.04'	18.0" Round Culvert L= 115.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.04' / 47.18' S= 0.0075 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=14.29 cfs @ 12.03 hrs HW=52.34' (Free Discharge)

↑1=Culvert (Barrel Controls 14.29 cfs @ 8.09 fps)

Pond 10P: MH-L

Hydrograph



Existing Conditions

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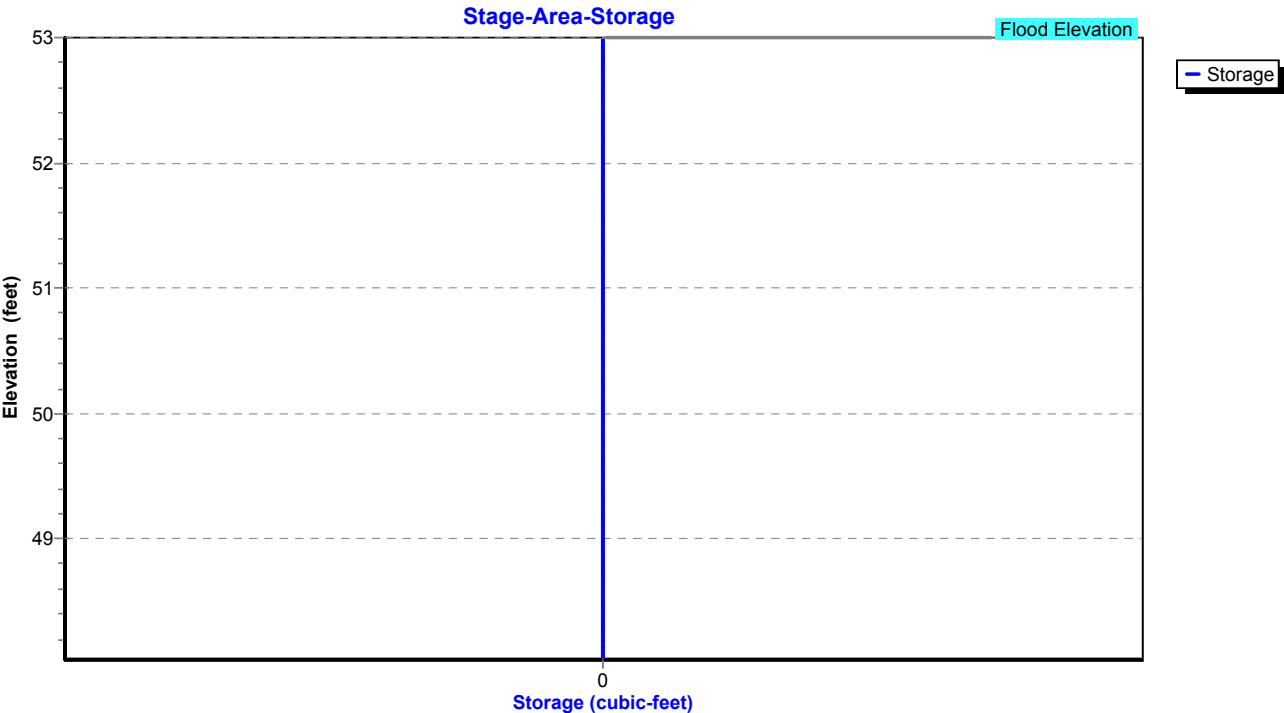
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Pond 10P: MH-L



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Summary for Pond 11P: Pipe Storage

Inflow Area = 40,903 sf, 82.85% Impervious, Inflow Depth = 7.54" for 100 year event
Inflow = 8.15 cfs @ 12.03 hrs, Volume= 25,711 cf
Outflow = 8.14 cfs @ 12.03 hrs, Volume= 21,832 cf, Atten= 0%, Lag= 0.0 min
Primary = 8.14 cfs @ 12.03 hrs, Volume= 21,832 cf
Routed to Pond 10P : MH-L

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 54.12' @ 12.03 hrs Storage= 0.081 af

Plug-Flow detention time= 138.7 min calculated for 21,832 cf (85% of inflow)

Center-of-Mass det. time= 59.6 min (822.5 - 762.9)

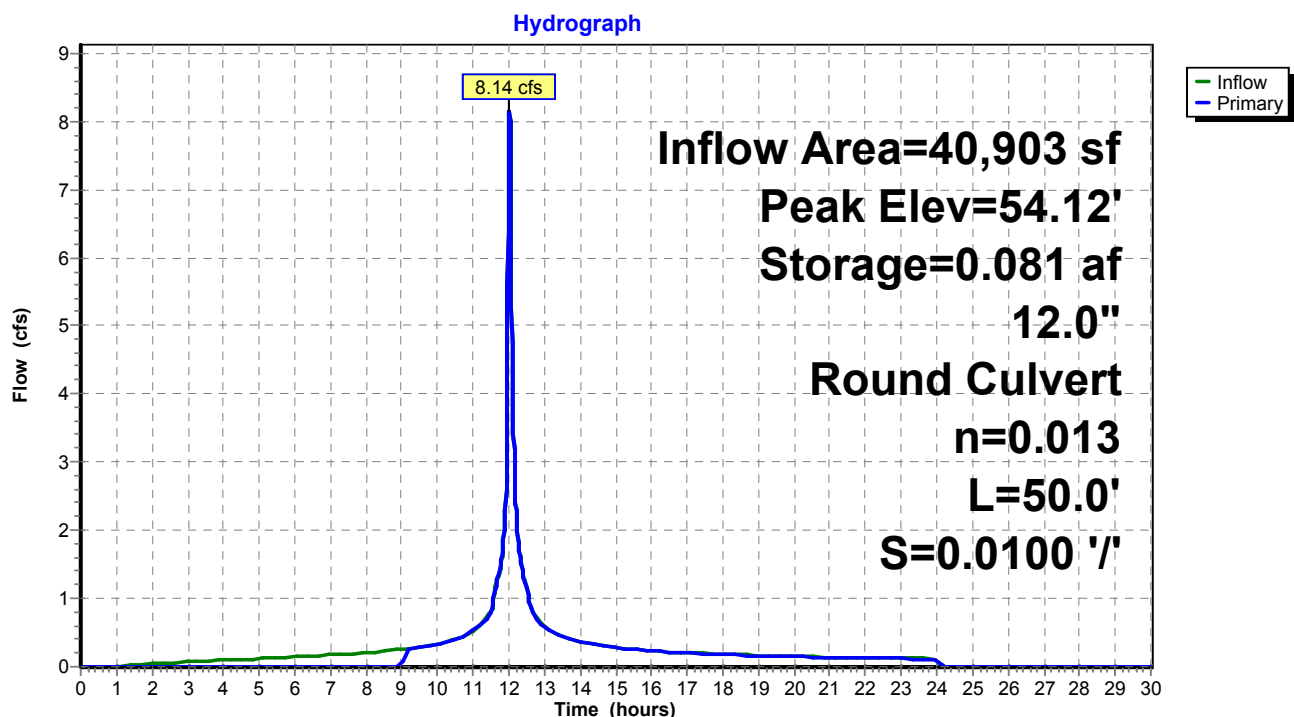
Volume	Invert	Avail.Storage	Storage Description
#1	45.50'	0.081 af	36.0" Round Pipe Storage x 2 L= 250.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.50'	12.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.50' / 48.00' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=8.11 cfs @ 12.03 hrs HW=54.08' (Free Discharge)

←1=Culvert (Barrel Controls 8.11 cfs @ 10.32 fps)

Pond 11P: Pipe Storage



Existing Conditions

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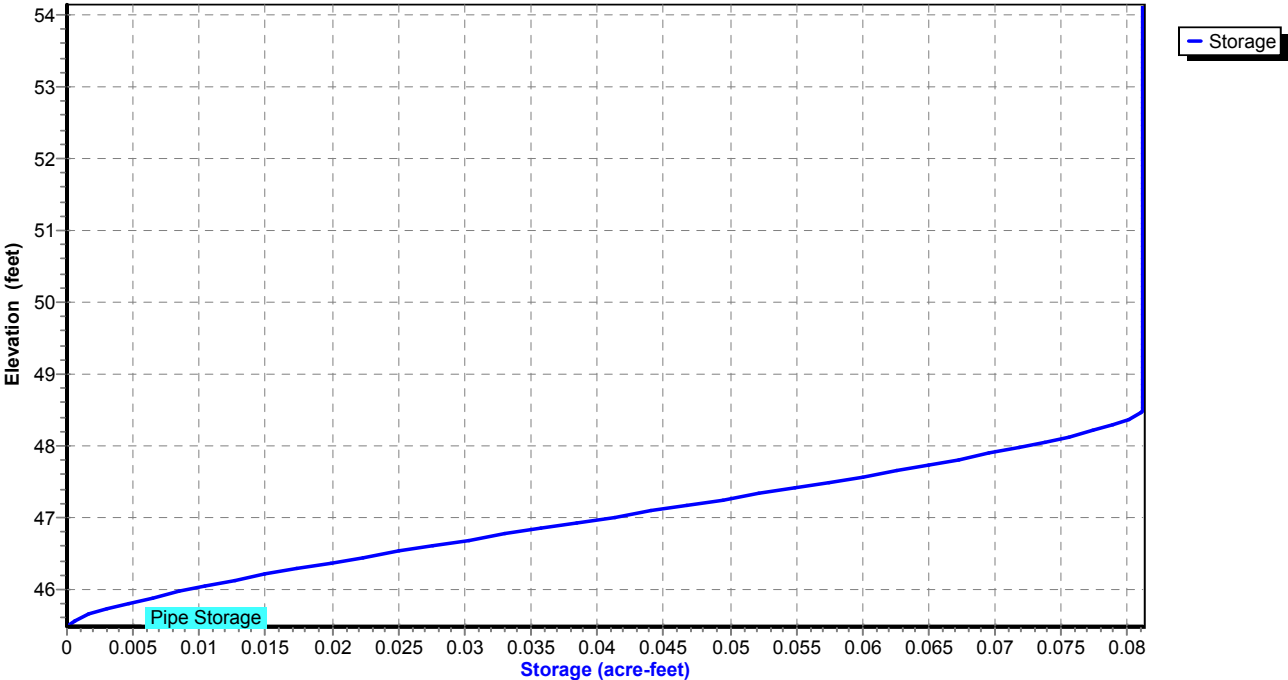
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Pond 11P: Pipe Storage

Stage-Area-Storage



Existing Conditions

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Summary for Pond 12P: MH-M

Inflow Area = 30,971 sf, 88.47% Impervious, Inflow Depth = 7.69" for 100 year event
Inflow = 6.20 cfs @ 12.03 hrs, Volume= 19,838 cf
Outflow = 6.20 cfs @ 12.03 hrs, Volume= 19,838 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.20 cfs @ 12.03 hrs, Volume= 19,838 cf
Routed to Pond 10P : MH-L

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 51.37' @ 12.03 hrs

Flood Elev= 54.00'

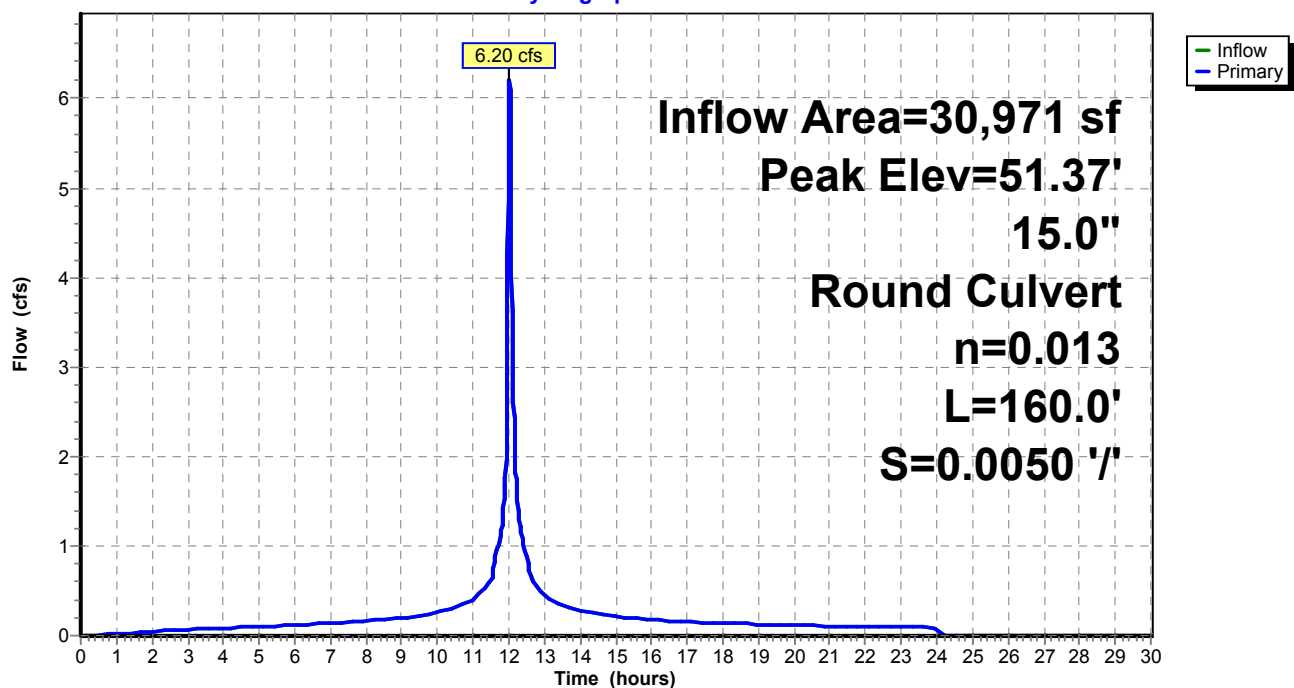
Device	Routing	Invert	Outlet Devices
#1	Primary	48.84'	15.0" Round Culvert L= 160.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.84' / 48.04' S= 0.0050 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=6.18 cfs @ 12.03 hrs HW=51.35' (Free Discharge)

↑1=Culvert (Barrel Controls 6.18 cfs @ 5.04 fps)

Pond 12P: MH-M

Hydrograph



Existing Conditions

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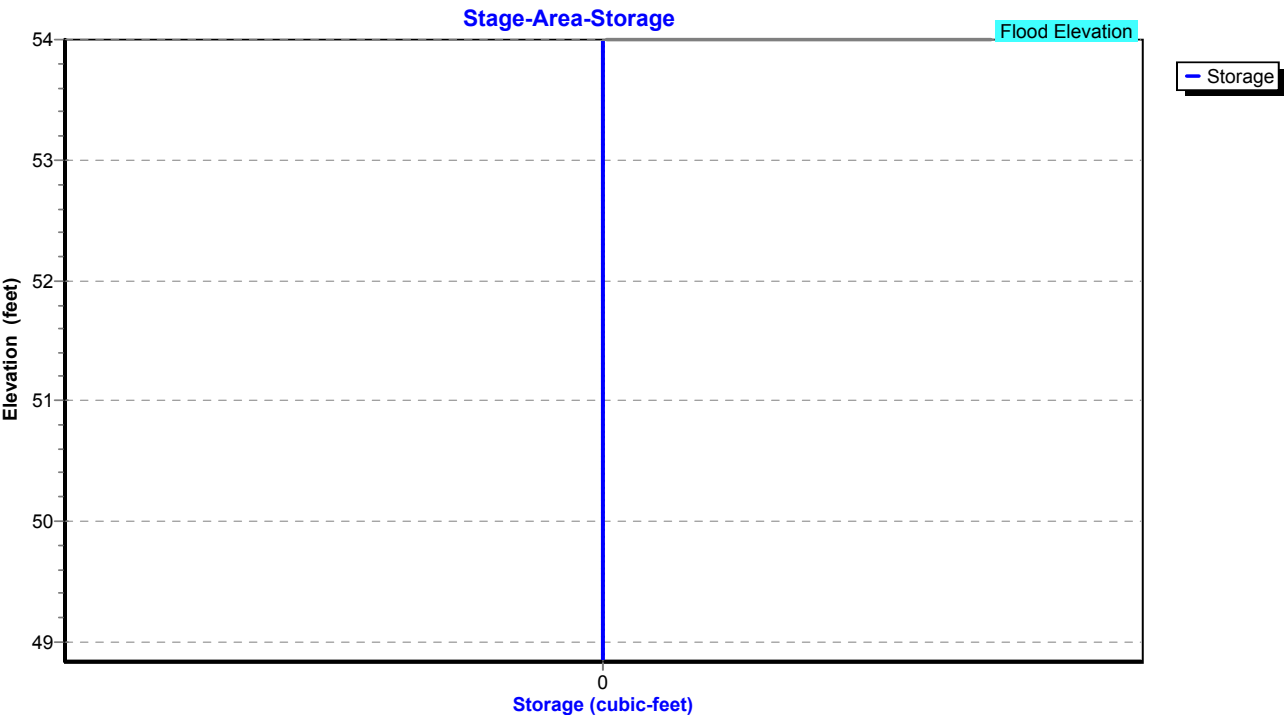
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Pond 12P: MH-M



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Summary for Pond 13P: MH-J

Inflow Area = 17,032 sf, 79.03% Impervious, Inflow Depth = 7.42" for 100 year event
Inflow = 3.37 cfs @ 12.03 hrs, Volume= 10,527 cf
Outflow = 3.37 cfs @ 12.03 hrs, Volume= 10,527 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.37 cfs @ 12.03 hrs, Volume= 10,527 cf
Routed to Pond 12P : MH-M

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 51.58' @ 12.03 hrs

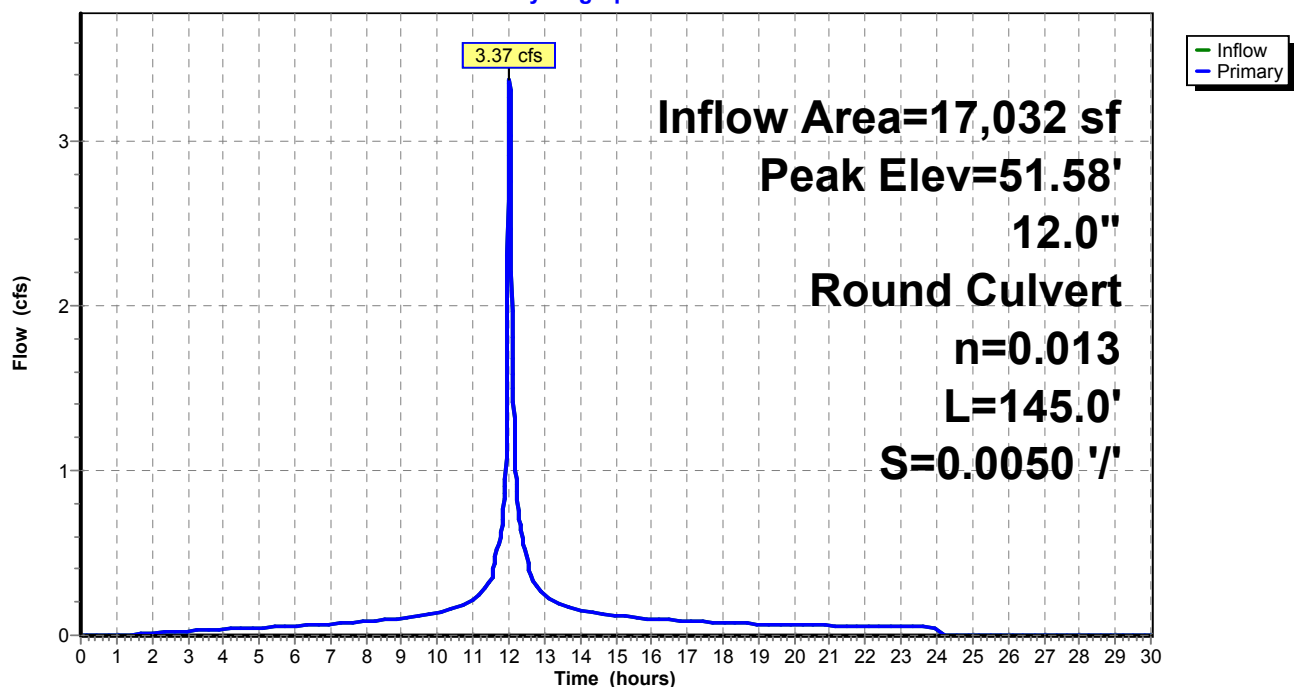
Device	Routing	Invert	Outlet Devices
#1	Primary	49.57'	12.0" Round Culvert L= 145.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.57' / 48.84' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=3.36 cfs @ 12.03 hrs HW=51.56' (Free Discharge)

↑1=Culvert (Barrel Controls 3.36 cfs @ 4.28 fps)

Pond 13P: MH-J

Hydrograph



Existing Conditions

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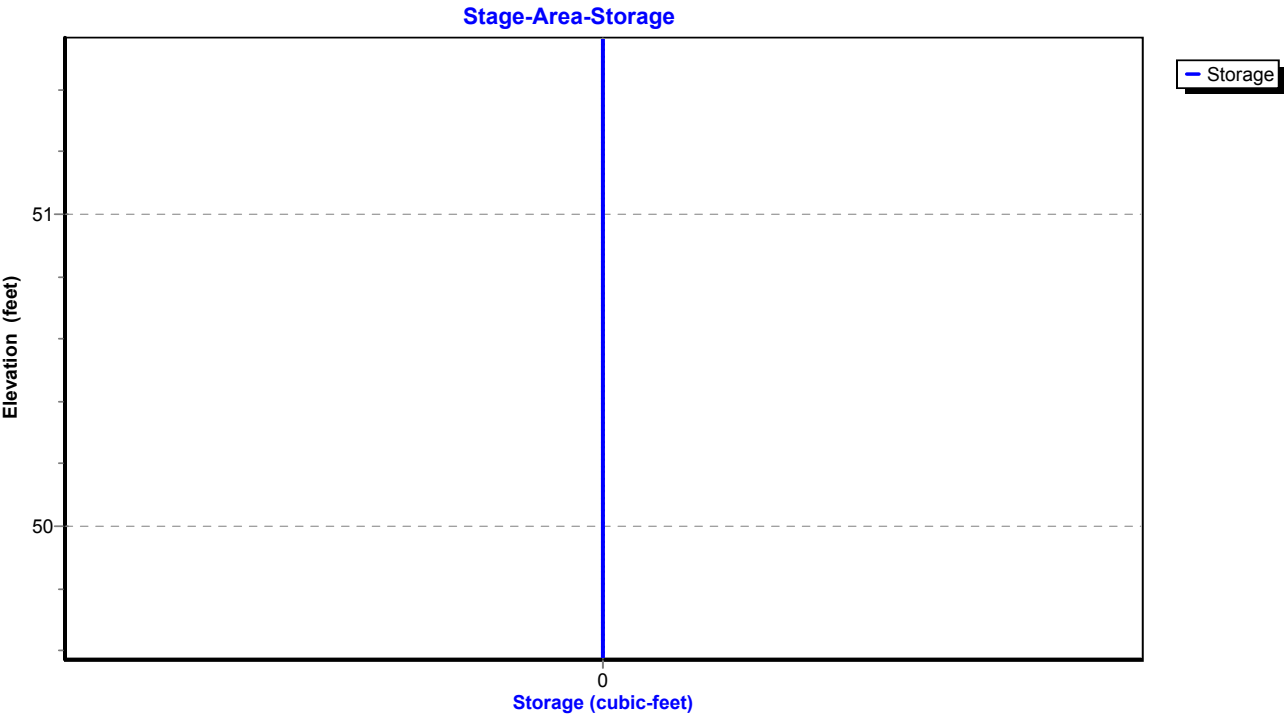
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Pond 13P: MH-J



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Summary for Pond 14P: MH-O

Inflow Area = 144,140 sf, 45.36% Impervious, Inflow Depth = 6.23" for 100 year event
Inflow = 16.80 cfs @ 12.10 hrs, Volume= 74,881 cf
Outflow = 16.80 cfs @ 12.10 hrs, Volume= 74,881 cf, Atten= 0%, Lag= 0.0 min
Primary = 16.80 cfs @ 12.10 hrs, Volume= 74,881 cf
Routed to Pond 9P : MH-K

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 52.84' @ 12.10 hrs

Flood Elev= 51.80'

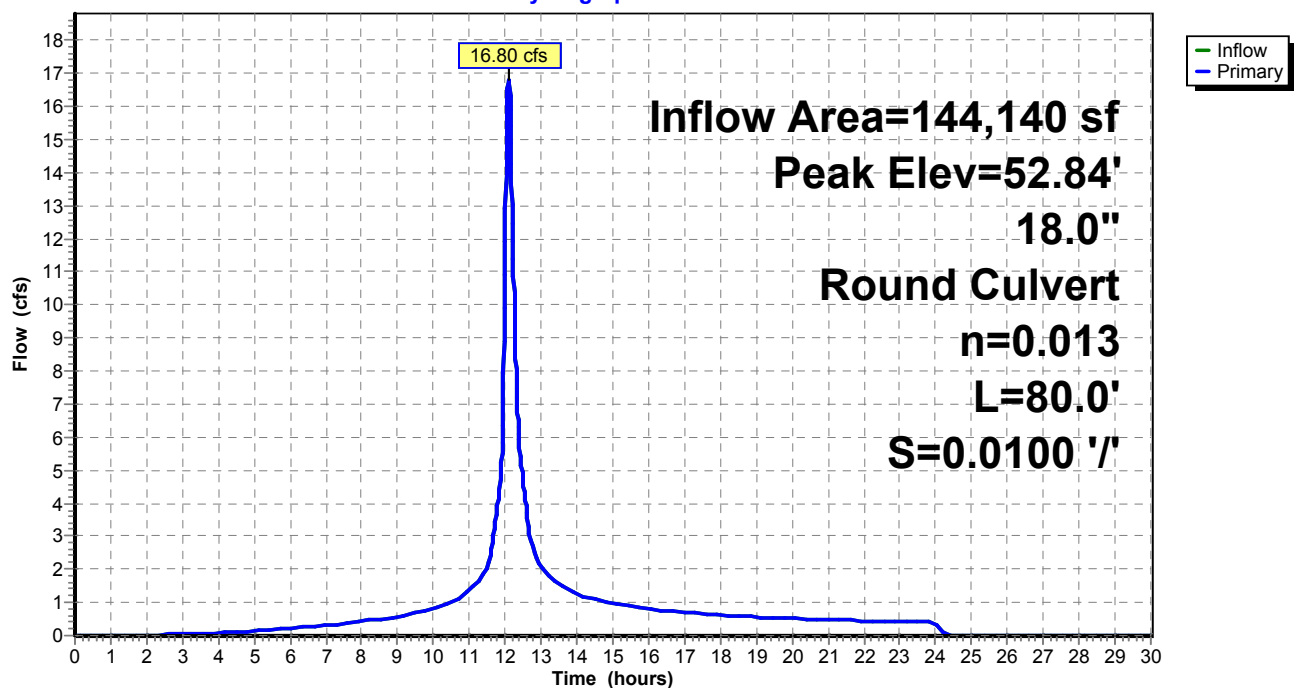
Device	Routing	Invert	Outlet Devices
#1	Primary	47.98'	18.0" Round Culvert L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.98' / 47.18' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=16.79 cfs @ 12.10 hrs HW=52.84' (Free Discharge)

↑1=Culvert (Barrel Controls 16.79 cfs @ 9.50 fps)

Pond 14P: MH-O

Hydrograph



Existing Conditions

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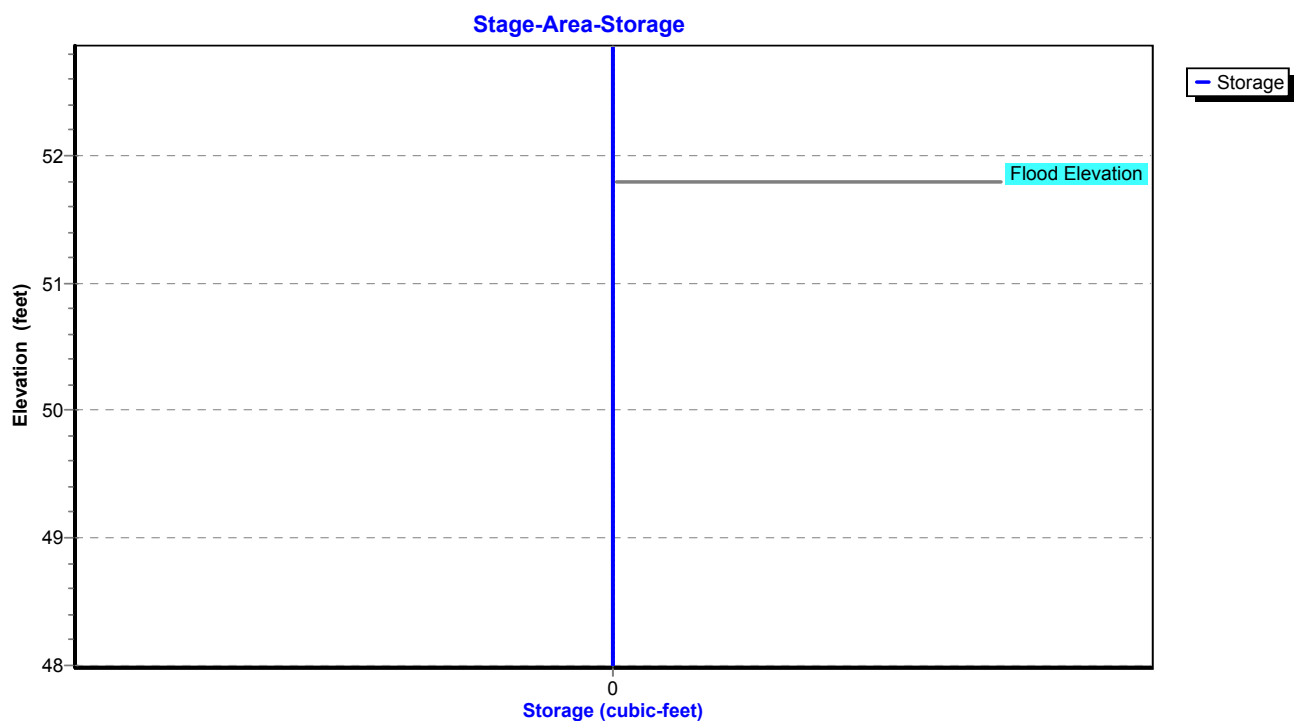
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Pond 14P: MH-O



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Summary for Pond 15P: MH-P

Inflow Area = 126,542 sf, 40.90% Impervious, Inflow Depth = 6.07" for 100 year event
Inflow = 15.01 cfs @ 12.11 hrs, Volume= 63,983 cf
Outflow = 15.01 cfs @ 12.11 hrs, Volume= 63,983 cf, Atten= 0%, Lag= 0.0 min
Primary = 15.01 cfs @ 12.11 hrs, Volume= 63,983 cf
Routed to Pond 14P : MH-O

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 54.54' @ 12.11 hrs

Flood Elev= 53.90'

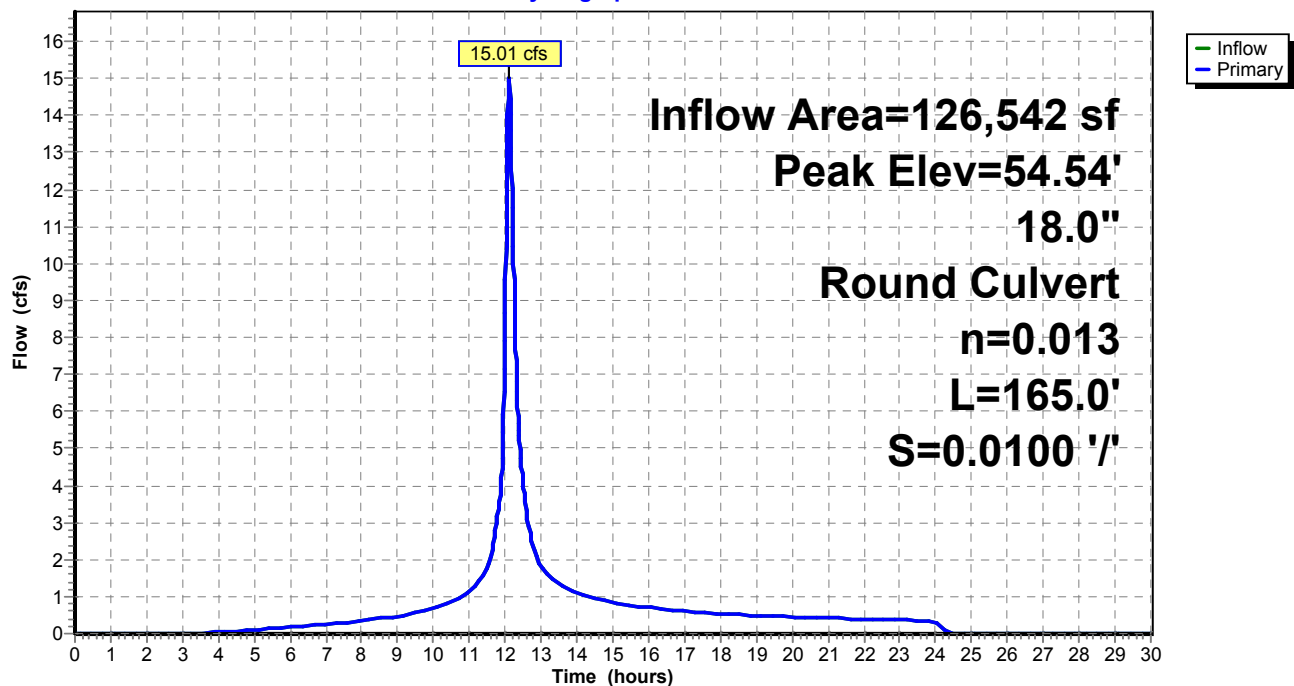
Device	Routing	Invert	Outlet Devices
#1	Primary	49.63'	18.0" Round Culvert L= 165.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.63' / 47.98' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=15.00 cfs @ 12.11 hrs HW=54.54' (Free Discharge)

↑1=Culvert (Barrel Controls 15.00 cfs @ 8.49 fps)

Pond 15P: MH-P

Hydrograph



Existing Conditions

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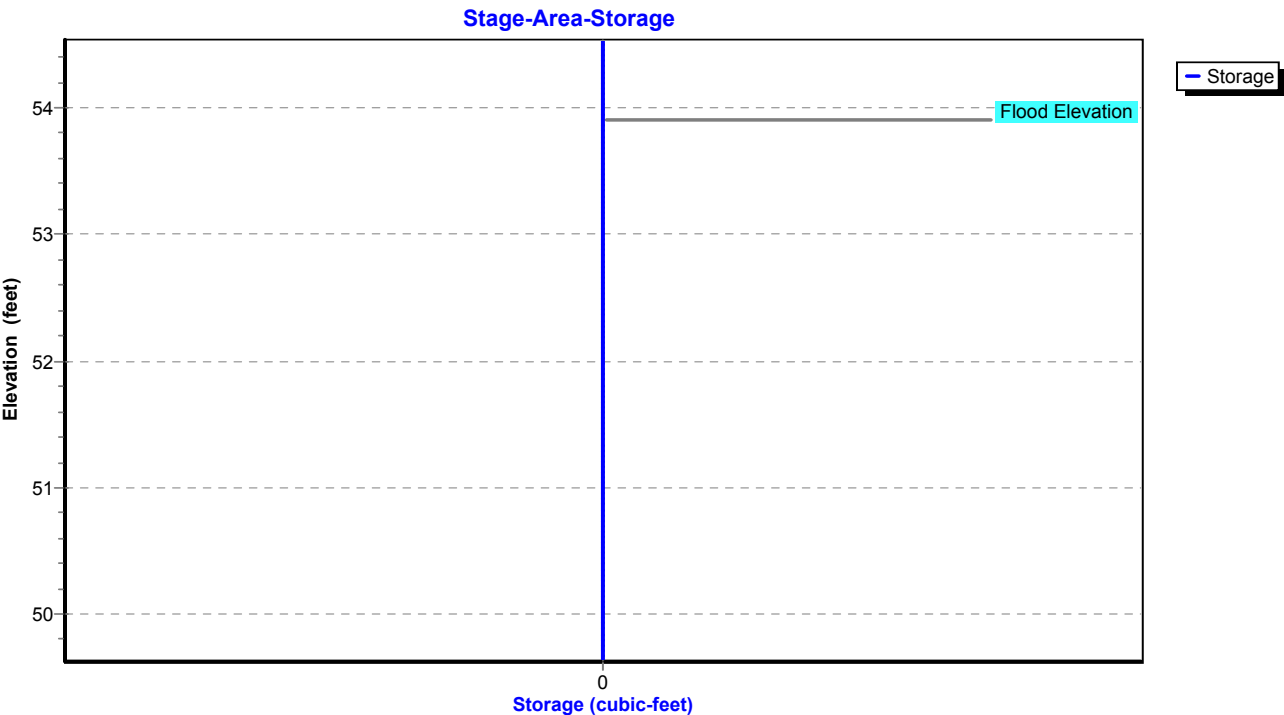
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Pond 15P: MH-P



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Summary for Pond 16P: MH-Q

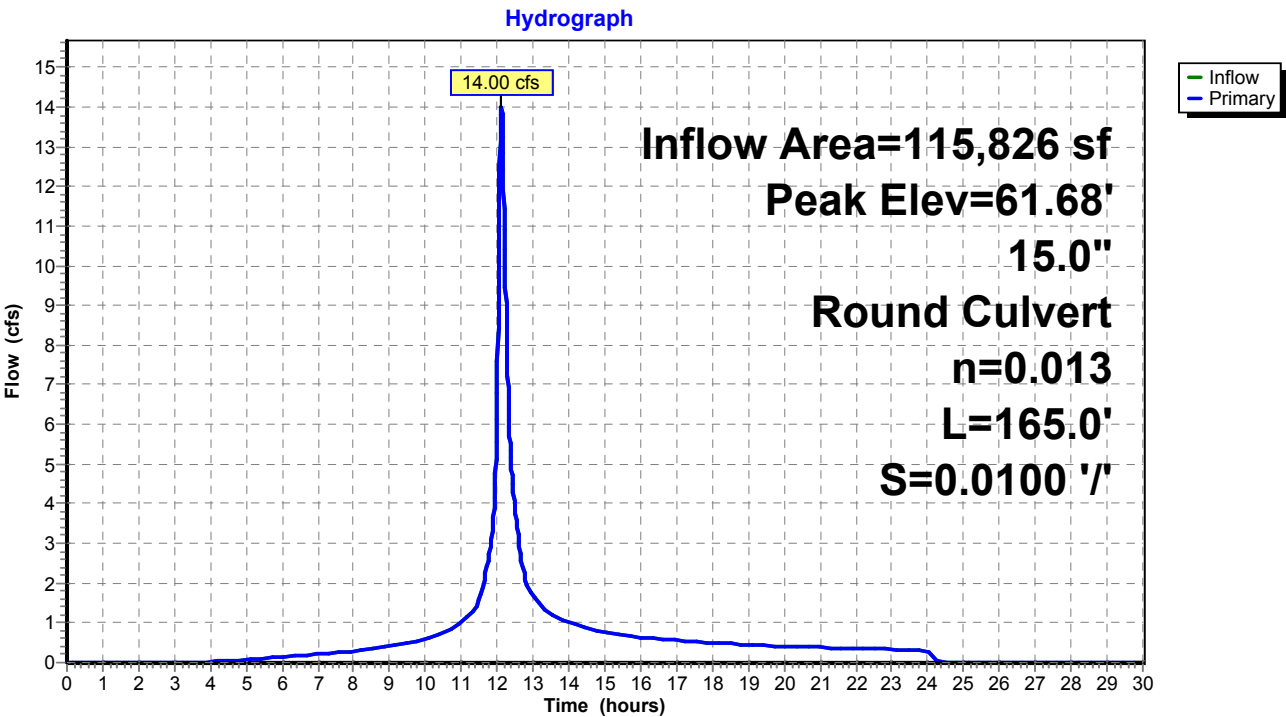
Inflow Area = 115,826 sf, 38.74% Impervious, Inflow Depth = 5.98" for 100 year event
Inflow = 14.00 cfs @ 12.11 hrs, Volume= 57,761 cf
Outflow = 14.00 cfs @ 12.11 hrs, Volume= 57,761 cf, Atten= 0%, Lag= 0.0 min
Primary = 14.00 cfs @ 12.11 hrs, Volume= 57,761 cf
Routed to Pond 15P : MH-P

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 61.68' @ 12.11 hrs
Flood Elev= 55.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.28'	15.0" Round Culvert L= 165.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 51.28' / 49.63' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=13.98 cfs @ 12.11 hrs HW=61.66' (Free Discharge)
1=Culvert (Barrel Controls 13.98 cfs @ 11.39 fps)

Pond 16P: MH-Q



Existing Conditions

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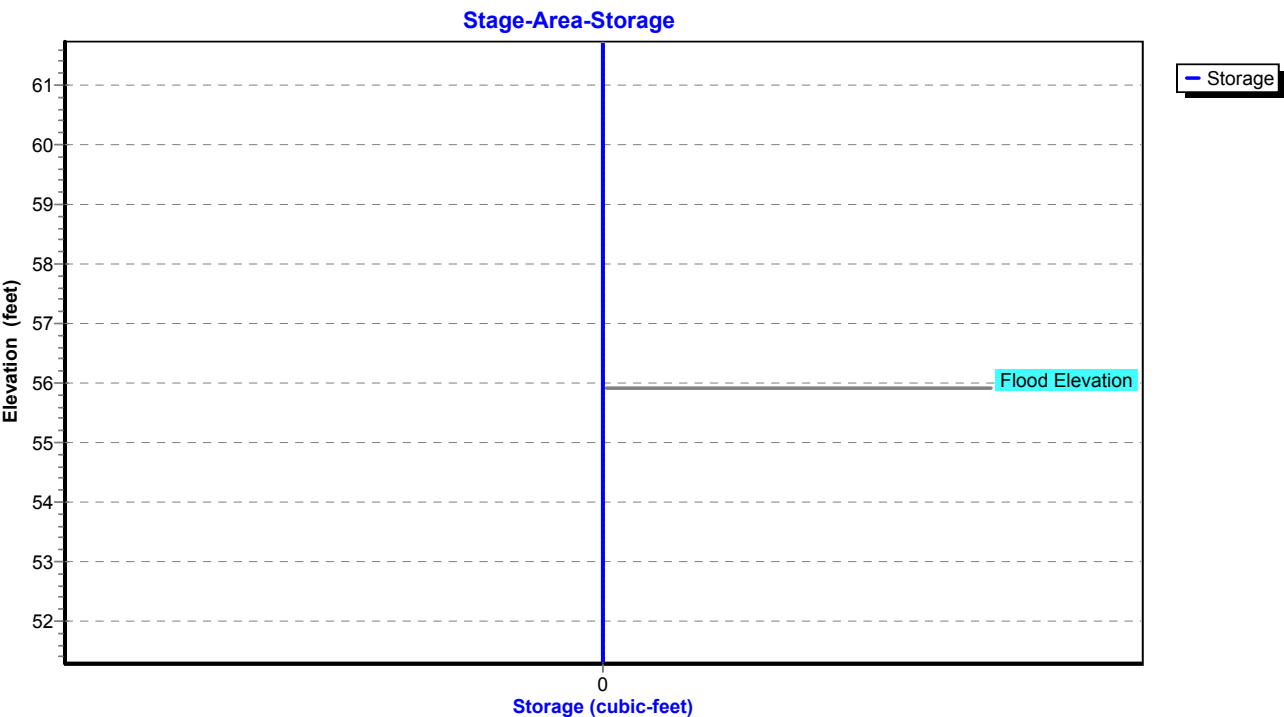
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Pond 16P: MH-Q



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Summary for Pond 17P: DET 12 Culvert

Inflow Area = 2,935,247 sf, 23.28% Impervious, Inflow Depth = 5.15" for 100 year event
 Inflow = 96.35 cfs @ 13.16 hrs, Volume= 1,260,192 cf
 Outflow = 96.13 cfs @ 13.21 hrs, Volume= 1,260,192 cf, Atten= 0%, Lag= 2.9 min
 Primary = 96.13 cfs @ 13.21 hrs, Volume= 1,260,192 cf
 Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 47.63' @ 13.21 hrs Surf.Area= 6,069 sf Storage= 10,104 cf

Plug-Flow detention time= 1.6 min calculated for 1,260,192 cf (100% of inflow)
 Center-of-Mass det. time= 1.6 min (901.7 - 900.2)

Volume	Invert	Avail.Storage	Storage Description
#1	43.80'	45,995 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
43.80	222	0	0
44.00	709	93	93
45.00	1,401	1,055	1,148
46.00	2,634	2,018	3,166
47.00	4,548	3,591	6,757
48.00	6,960	5,754	12,511
49.00	9,390	8,175	20,686
50.00	12,553	10,972	31,657
51.00	16,122	14,338	45,995

Device	Routing	Invert	Outlet Devices
#1	Primary	43.80'	54.0" Round Culvert L= 281.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 43.80' / 23.20' S= 0.0733 ' / Cc= 0.900 n= 0.013, Flow Area= 15.90 sf

Primary OutFlow Max=96.13 cfs @ 13.21 hrs HW=47.63' (Free Discharge)

↑**1=Culvert** (Inlet Controls 96.13 cfs @ 6.66 fps)

Existing Conditions

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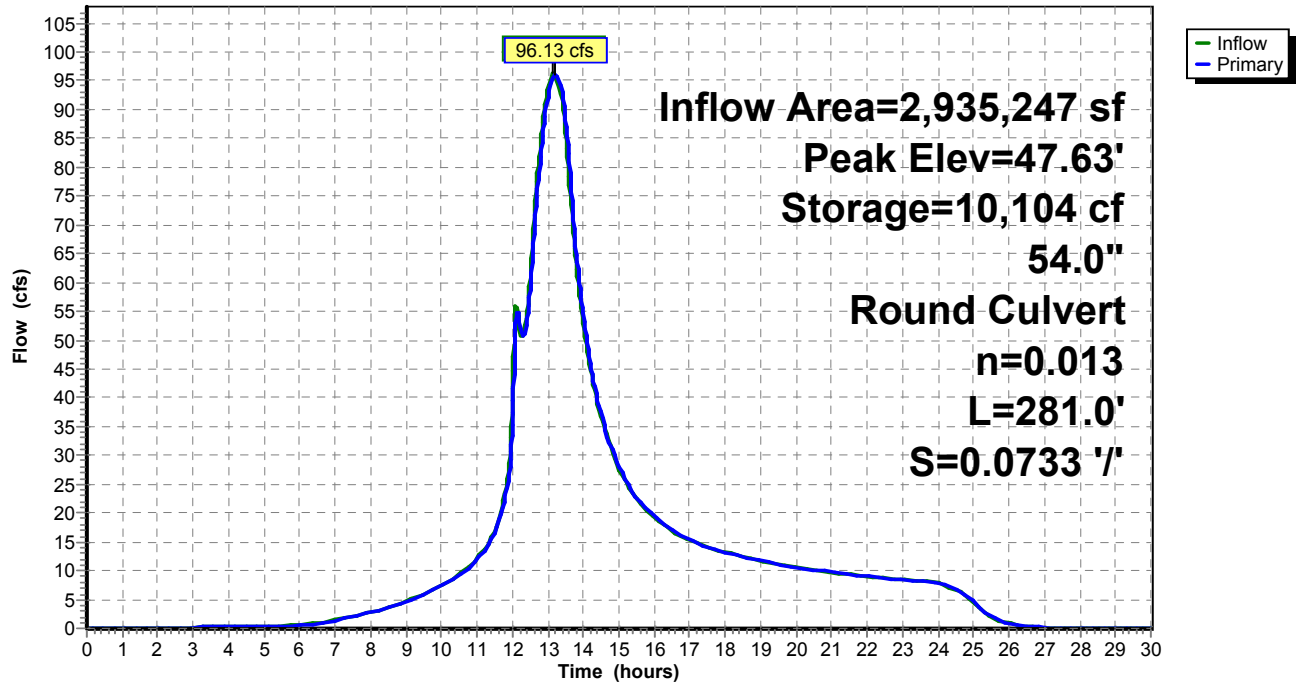
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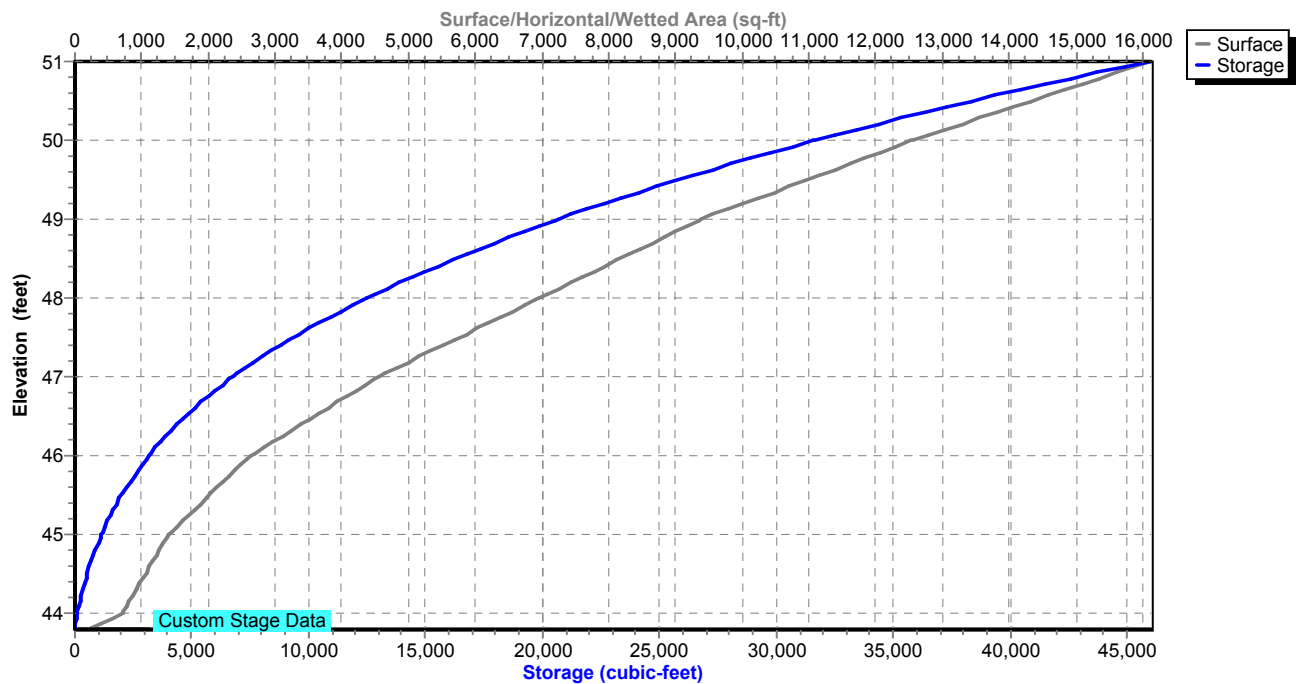
Pond 17P: DET 12 Culvert

Hydrograph



Pond 17P: DET 12 Culvert

Stage-Area-Storage



Existing Conditions

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Summary for Pond 18P: DET 4 Culvert

Inflow Area = 2,651,933 sf, 21.42% Impervious, Inflow Depth = 5.04" for 100 year event
 Inflow = 94.68 cfs @ 13.07 hrs, Volume= 1,113,245 cf
 Outflow = 92.74 cfs @ 13.18 hrs, Volume= 1,113,245 cf, Atten= 2%, Lag= 6.6 min
 Primary = 92.74 cfs @ 13.18 hrs, Volume= 1,113,245 cf
 Routed to Pond 17P : DET 12 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 70.93' @ 13.18 hrs Surf.Area= 3,131 sf Storage= 9,738 cf

Plug-Flow detention time= 0.5 min calculated for 1,112,874 cf (100% of inflow)
 Center-of-Mass det. time= 0.5 min (912.6 - 912.1)

Volume	Invert	Avail.Storage	Storage Description
#1	62.00'	13,716 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.00	10	0	0
65.00	292	453	453
66.00	695	494	947
67.00	1,049	872	1,819
68.00	1,488	1,269	3,087
69.00	2,004	1,746	4,833
70.00	2,550	2,277	7,110
71.00	3,178	2,864	9,974
72.00	4,305	3,742	13,716

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	36.0" Round Culvert L= 213.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 62.00' / 50.90' S= 0.0521 ' / Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=92.74 cfs @ 13.18 hrs HW=70.92' (Free Discharge)
 ↑**1=Culvert** (Inlet Controls 92.74 cfs @ 13.12 hrs)

Existing Conditions

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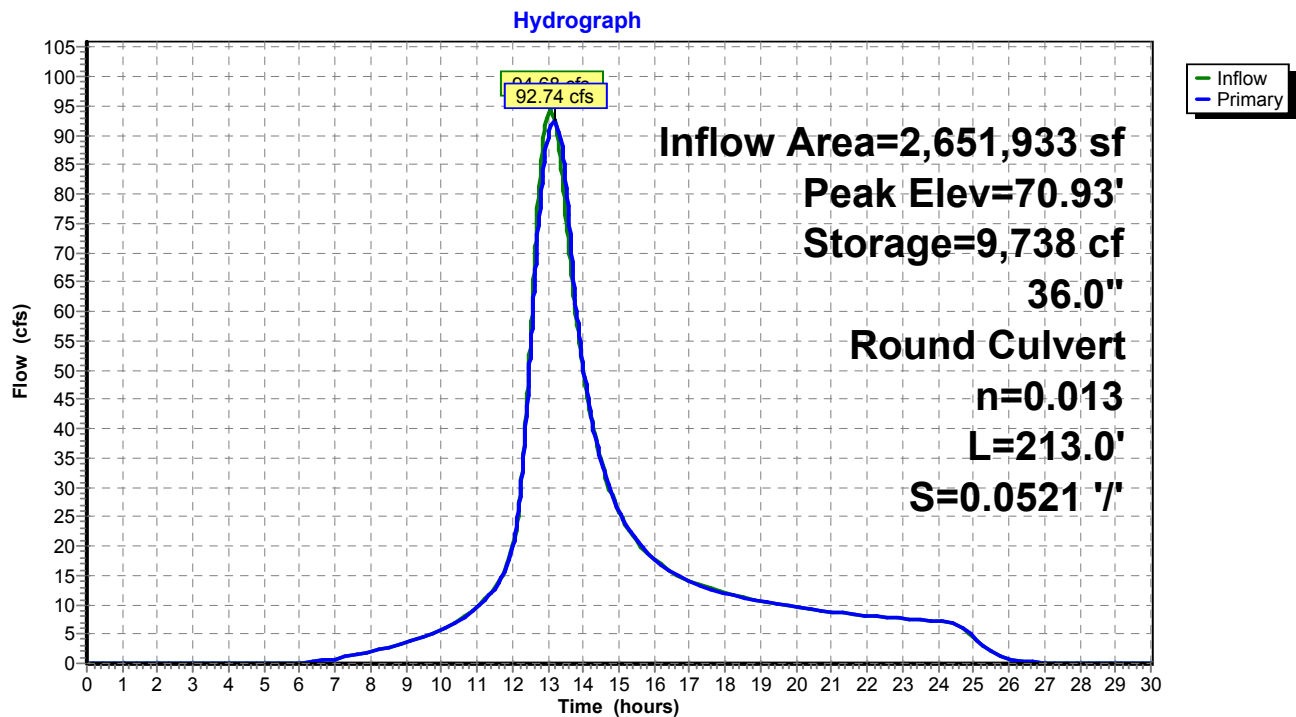
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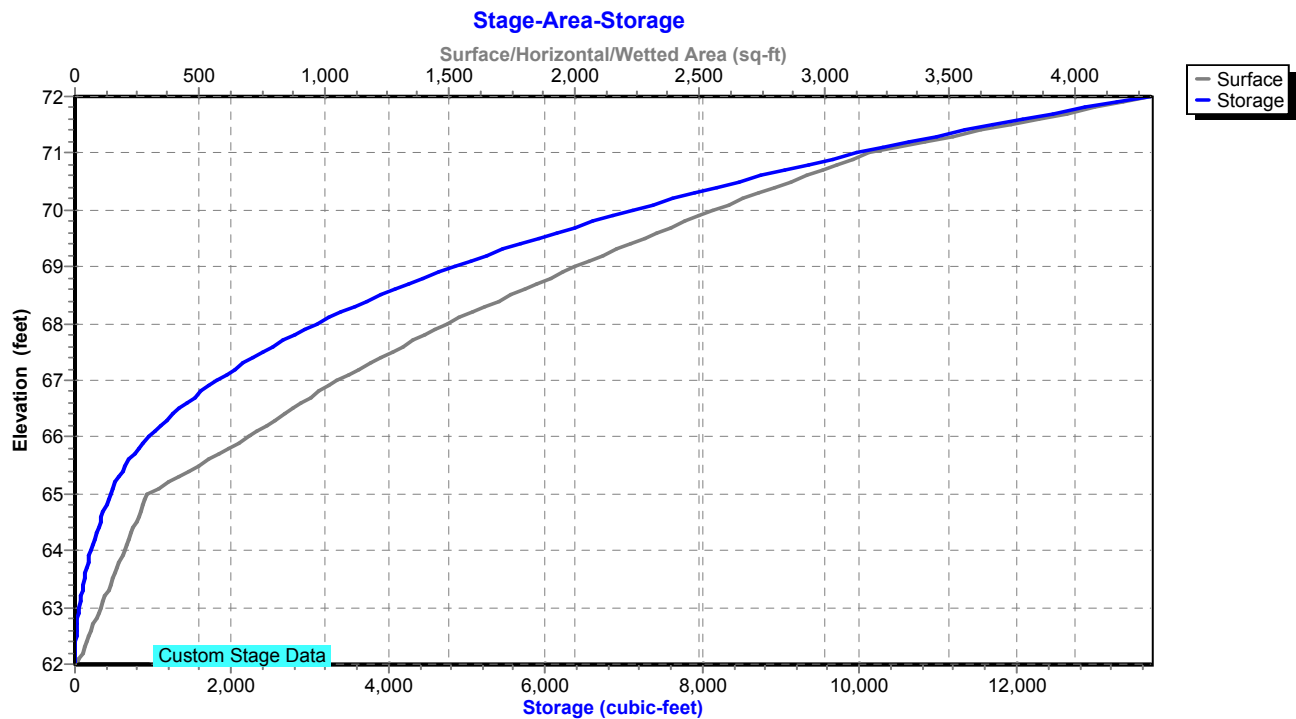
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Pond 18P: DET 4 Culvert



Pond 18P: DET 4 Culvert



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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Pond 21P: DET 1 Culvert

Inflow Area = 533,174 sf, 25.00% Impervious, Inflow Depth = 5.04" for 100 year event
 Inflow = 28.03 cfs @ 12.52 hrs, Volume= 223,819 cf
 Outflow = 28.03 cfs @ 12.53 hrs, Volume= 223,819 cf, Atten= 0%, Lag= 0.3 min
 Primary = 28.03 cfs @ 12.53 hrs, Volume= 223,819 cf
 Routed to Pond 27P : DET 17 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 41.43' @ 12.53 hrs Surf.Area= 1,750 sf Storage= 1,591 cf

Plug-Flow detention time= 0.6 min calculated for 223,745 cf (100% of inflow)
 Center-of-Mass det. time= 0.6 min (875.7 - 875.0)

Volume	Invert	Avail.Storage	Storage Description
#1	37.00'	1,591 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
37.00	66	0	0
38.00	213	140	140
39.00	470	342	481
40.00	1,750	1,110	1,591

Device	Routing	Invert	Outlet Devices
#1	Primary	37.00'	24.0" Round Culvert L= 206.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 37.00' / 27.01' S= 0.0485 ' S= 0.0485 ' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=28.02 cfs @ 12.53 hrs HW=41.43' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 28.02 cfs @ 8.92 fps)

Existing Conditions

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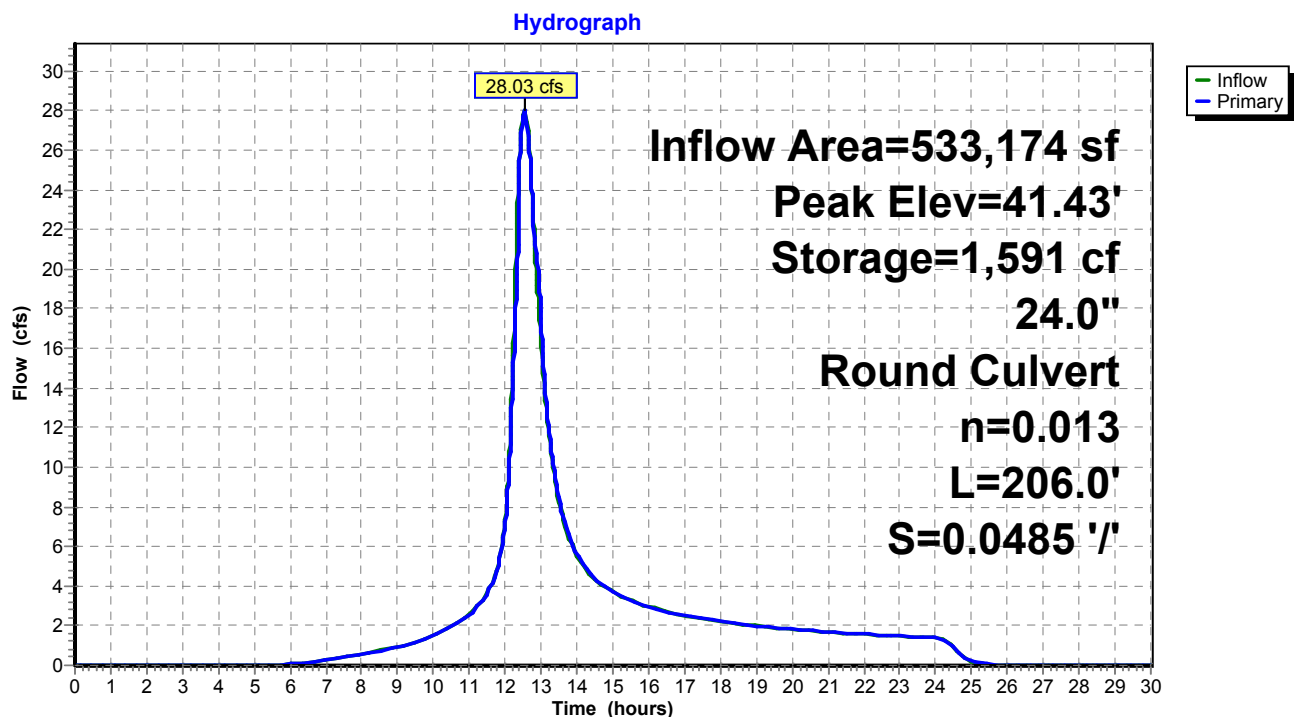
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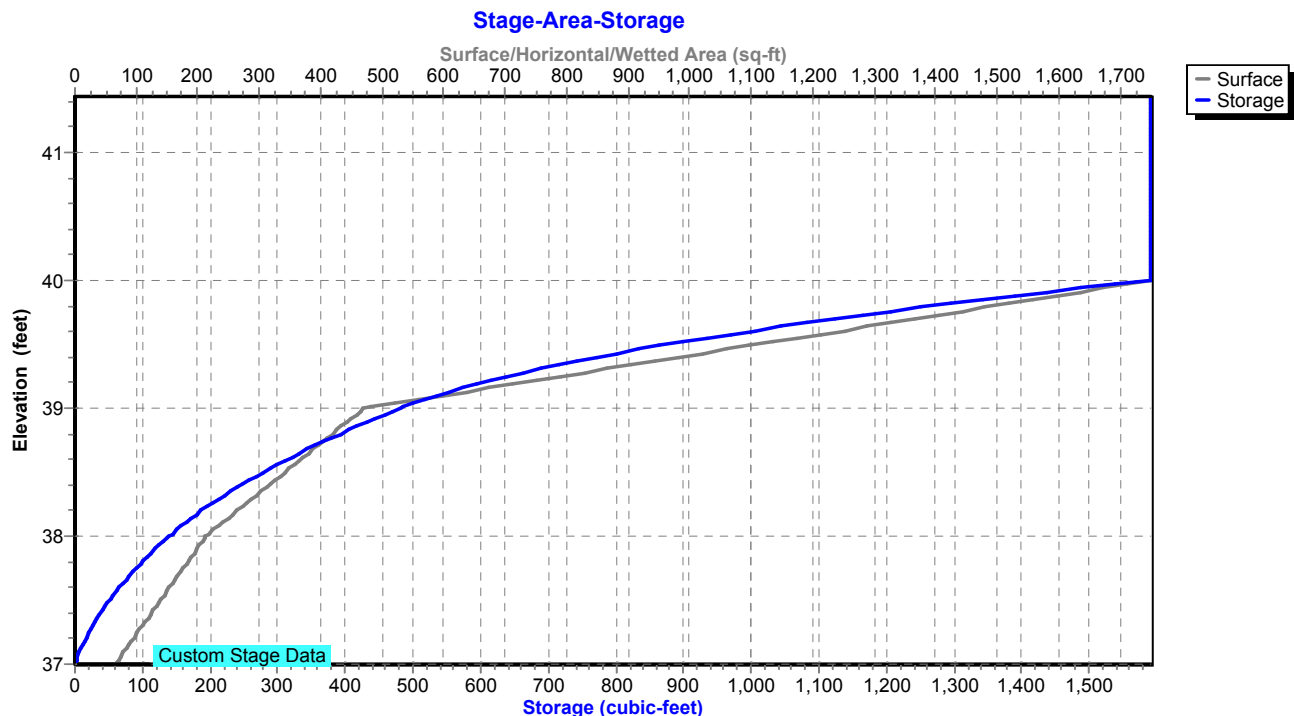
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Pond 21P: DET 1 Culvert



Pond 21P: DET 1 Culvert



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Summary for Pond 22P: DET 2 Culvert

Inflow Area = 1,290,247 sf, 25.00% Impervious, Inflow Depth = 5.63" for 100 year event
 Inflow = 62.64 cfs @ 12.74 hrs, Volume= 605,141 cf
 Outflow = 63.23 cfs @ 12.97 hrs, Volume= 605,141 cf, Atten= 0%, Lag= 13.9 min
 Primary = 63.23 cfs @ 12.97 hrs, Volume= 605,141 cf
 Routed to Pond 27P : DET 17 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 43.21' @ 12.97 hrs Surf.Area= 21,926 sf Storage= 46,687 cf

Plug-Flow detention time= 7.3 min calculated for 605,141 cf (100% of inflow)
 Center-of-Mass det. time= 7.3 min (881.9 - 874.6)

Volume	Invert	Avail.Storage	Storage Description
#1	34.80'	46,687 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.80	185	0	0
35.00	813	100	100
36.00	2,345	1,579	1,679
37.00	6,398	4,372	6,050
38.00	11,111	8,755	14,805
39.00	15,364	13,238	28,042
40.00	21,926	18,645	46,687

Device	Routing	Invert	Outlet Devices
#1	Primary	34.80'	30.0" Round Culvert L= 198.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.80' / 28.07' S= 0.0340 ' / S= 0.0340 ' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=63.00 cfs @ 12.97 hrs HW=43.15' (Free Discharge)
 ↑ **1=Culvert** (Inlet Controls 63.00 cfs @ 12.83 fps)

Existing Conditions

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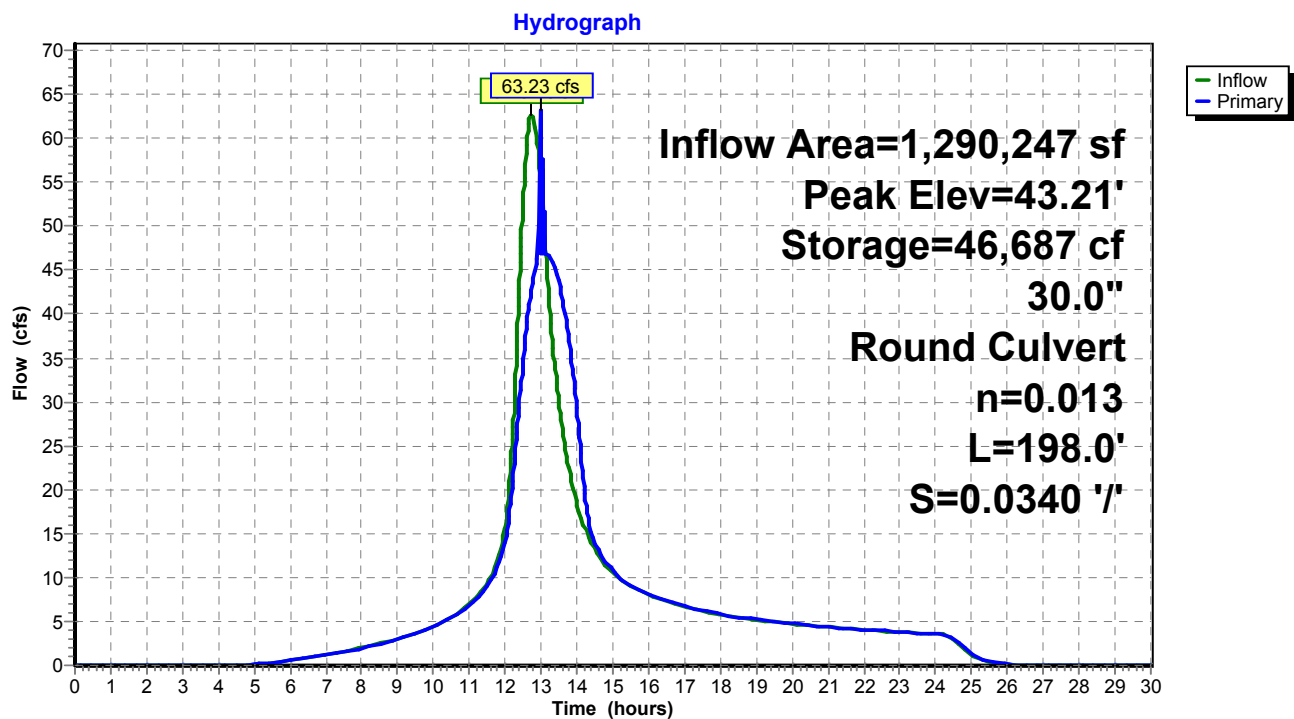
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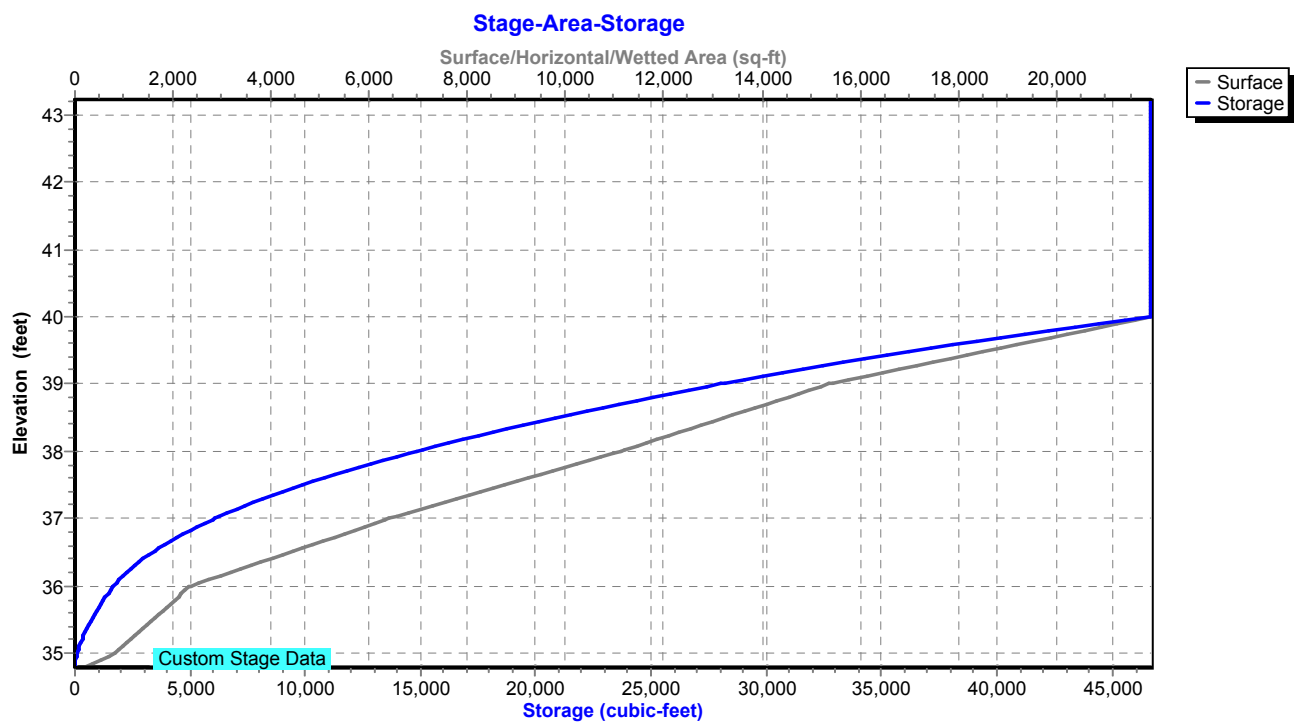
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Pond 22P: DET 2 Culvert



Pond 22P: DET 2 Culvert



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Summary for Pond 23P: DET 3 Culvert

Inflow Area = 276,170 sf, 25.00% Impervious, Inflow Depth = 5.16" for 100 year event
 Inflow = 23.17 cfs @ 12.22 hrs, Volume= 118,644 cf
 Outflow = 21.27 cfs @ 12.28 hrs, Volume= 118,644 cf, Atten= 8%, Lag= 3.9 min
 Primary = 21.27 cfs @ 12.28 hrs, Volume= 118,644 cf
 Routed to Pond 26P : DET 16 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 45.48' @ 12.28 hrs Surf.Area= 2,348 sf Storage= 2,472 cf

Plug-Flow detention time= 0.8 min calculated for 118,605 cf (100% of inflow)
 Center-of-Mass det. time= 0.8 min (850.4 - 849.6)

Volume	Invert	Avail.Storage	Storage Description
#1	42.50'	16,475 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
42.50	10	0	0
43.00	198	52	52
44.00	572	385	437
45.00	1,607	1,090	1,527
46.00	3,156	2,382	3,908
47.00	5,953	4,555	8,463
48.00	10,072	8,013	16,475

Device	Routing	Invert	Outlet Devices
#1	Primary	42.50'	24.0" Round Culvert L= 202.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 42.50' / 32.20' S= 0.0510 ' /' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=21.27 cfs @ 12.28 hrs HW=45.48' (Free Discharge)
 ↑ **1=Culvert** (Inlet Controls 21.27 cfs @ 6.77 fps)

Existing Conditions

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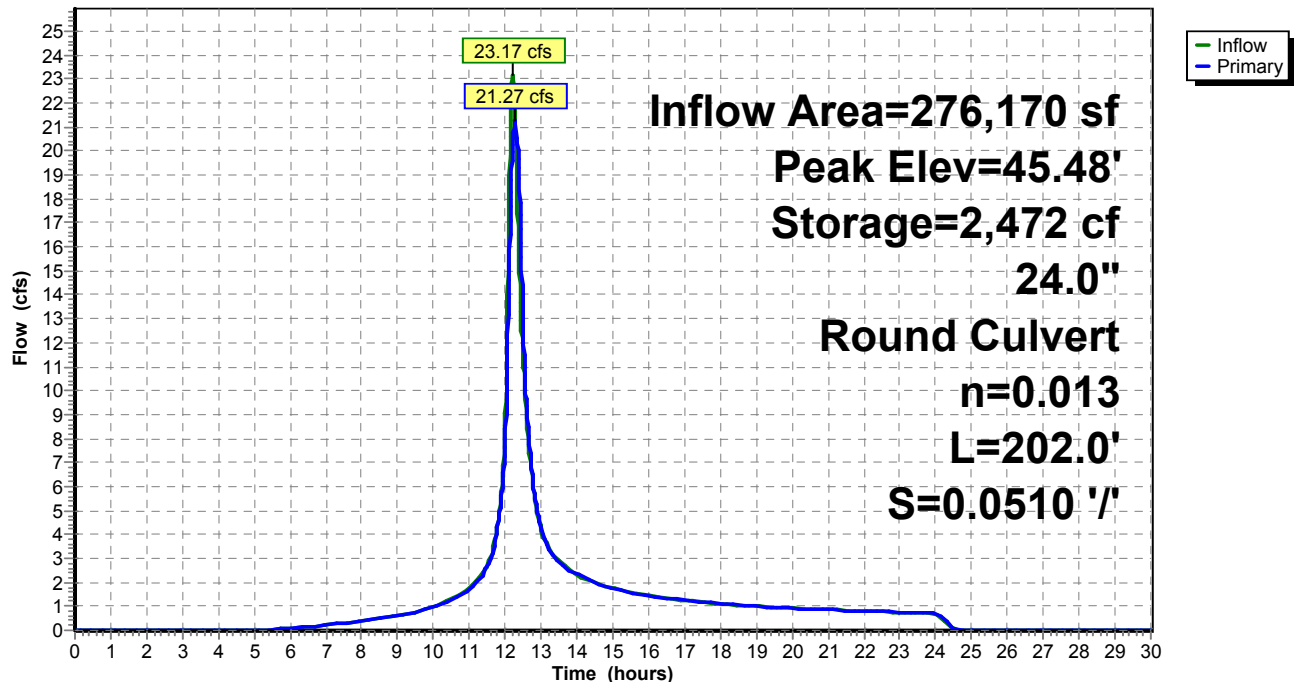
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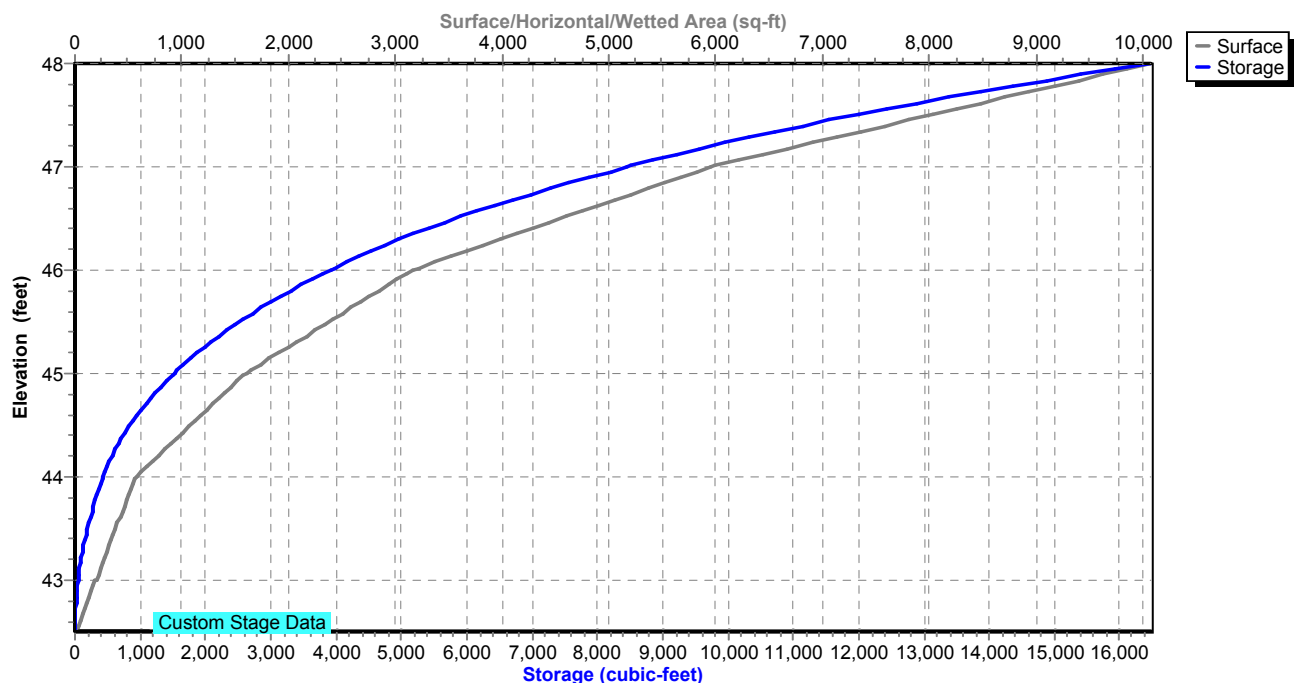
Pond 23P: DET 3 Culvert

Hydrograph



Pond 23P: DET 3 Culvert

Stage-Area-Storage



Existing Conditions

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Summary for Pond 24P: RR Culvert 3

Inflow Area = 500,940 sf, 4.78% Impervious, Inflow Depth = 54.03" for 100 year event
 Inflow = 344.20 cfs @ 12.23 hrs, Volume= 2,255,405 cf
 Outflow = 64.79 cfs @ 14.29 hrs, Volume= 2,255,457 cf, Atten= 81%, Lag= 123.7 min
 Primary = 64.79 cfs @ 14.29 hrs, Volume= 2,255,457 cf

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 14.43' @ 14.29 hrs Storage= 1,348,201 cf

Plug-Flow detention time= 237.7 min calculated for 2,254,705 cf (100% of inflow)
 Center-of-Mass det. time= 237.6 min (1,034.8 - 797.1)

Volume	Invert	Avail.Storage	Storage Description
#1	8.10'	2,250,385 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
8.10	0	0
9.00	9	9
10.00	148	157
11.00	64,834	64,991
12.00	244,457	309,448
13.00	383,724	693,172
14.00	435,183	1,128,355
15.00	514,834	1,643,189
16.00	607,196	2,250,385

Device	Routing	Invert	Outlet Devices
#1	Primary	8.10'	30.0" W x 42.0" H Box Culvert L= 135.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 8.10' / 7.80' S= 0.0022 ' / Cc= 0.900 n= 0.019, Flow Area= 8.75 sf

Primary OutFlow Max=64.79 cfs @ 14.29 hrs HW=14.43' (Free Discharge)

↑ **1=Culvert** (Barrel Controls 64.79 cfs @ 7.40 fps)

Existing Conditions

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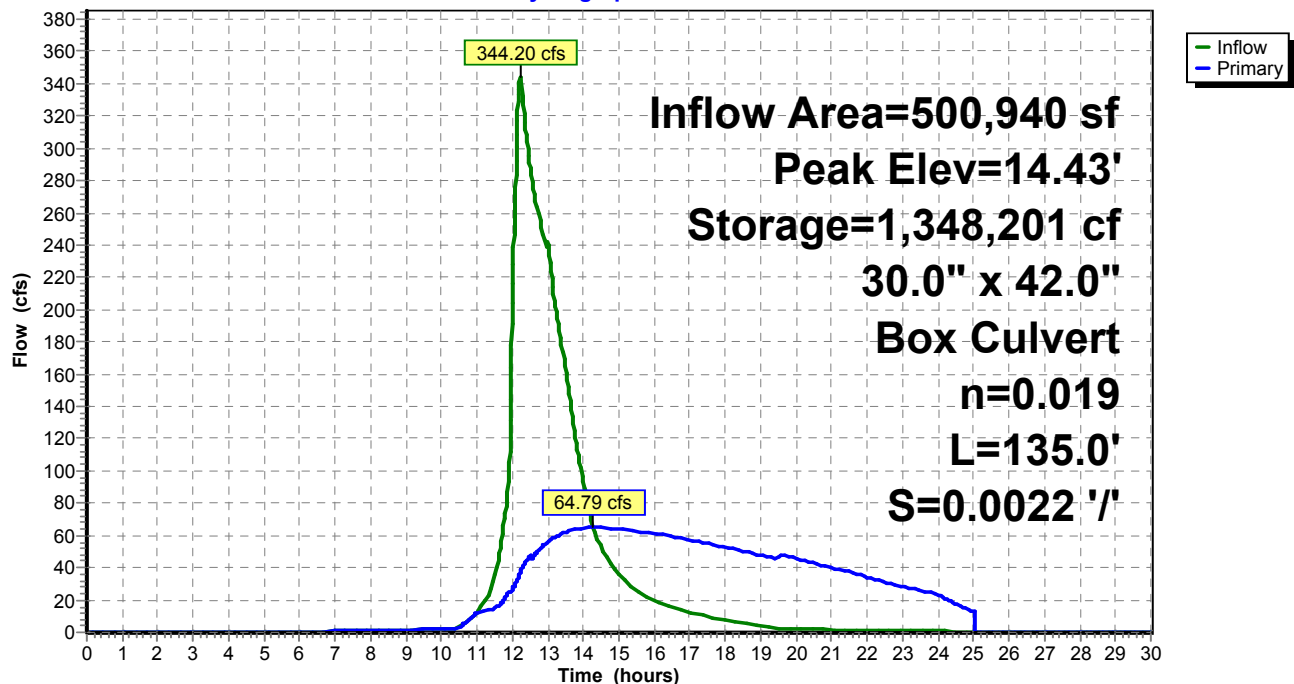
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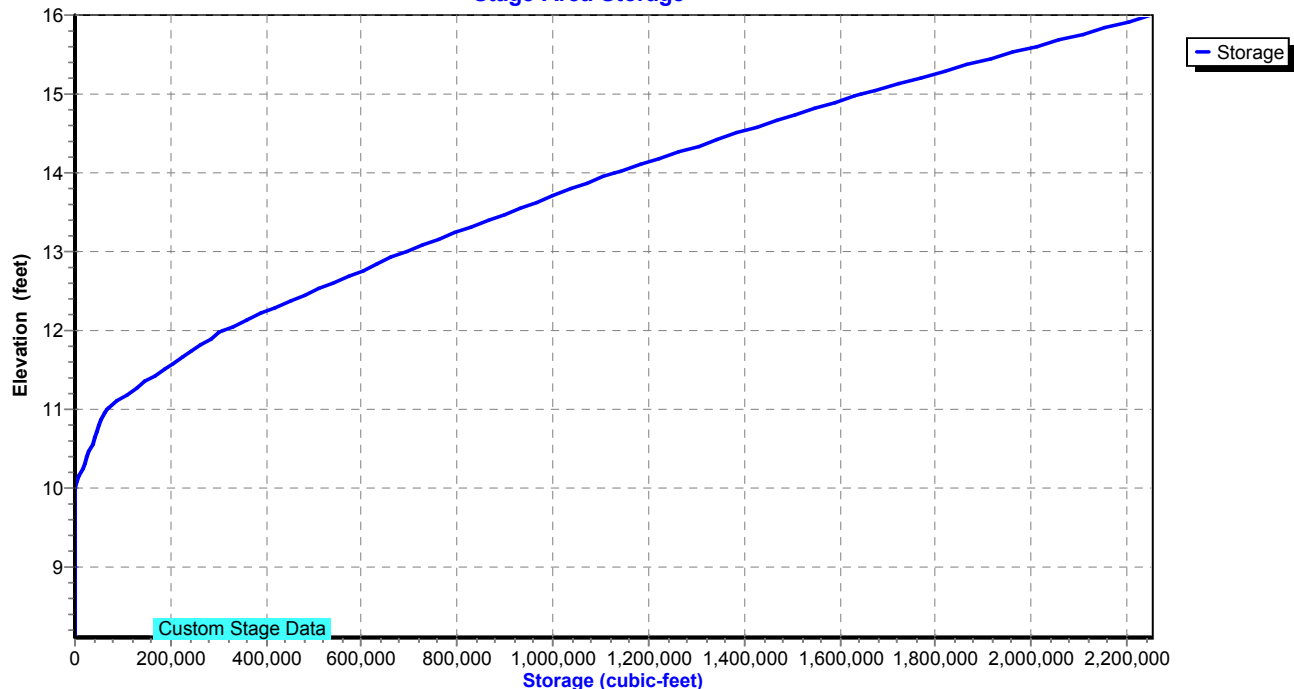
Pond 24P: RR Culvert 3

Hydrograph



Pond 24P: RR Culvert 3

Stage-Area-Storage



Existing Conditions

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Summary for Pond 26P: DET 16 Culvert

Inflow Area = 777,546 sf, 30.36% Impervious, Inflow Depth > 5.35" for 100 year event
 Inflow = 56.55 cfs @ 12.21 hrs, Volume= 346,893 cf
 Outflow = 56.54 cfs @ 12.21 hrs, Volume= 346,887 cf, Atten= 0%, Lag= 0.1 min
 Primary = 56.54 cfs @ 12.21 hrs, Volume= 346,887 cf
 Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 20.14' @ 12.21 hrs Surf.Area= 2,331 sf Storage= 2,709 cf

Plug-Flow detention time= 0.7 min calculated for 346,887 cf (100% of inflow)
 Center-of-Mass det. time= 0.7 min (873.6 - 872.9)

Volume	Invert	Avail.Storage	Storage Description
#1	17.00'	11,069 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.00	76	0	0
18.00	323	200	200
19.00	1,002	663	862
20.00	2,073	1,538	2,400
21.00	3,912	2,993	5,392
22.00	7,442	5,677	11,069

Device	Routing	Invert	Outlet Devices
#1	Primary	15.10'	15.0" Round Culvert L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 15.10' / 11.30' S= 0.0691 ' S= 0.0691 ' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Primary	20.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 Width (feet) 200.00 200.00 200.00

Primary OutFlow Max=56.18 cfs @ 12.21 hrs HW=20.14' (Free Discharge)

1=Culvert (Inlet Controls 12.42 cfs @ 10.12 fps)
 2=Custom Weir/Orifice (Weir Controls 43.76 cfs @ 1.56 fps)

Existing Conditions

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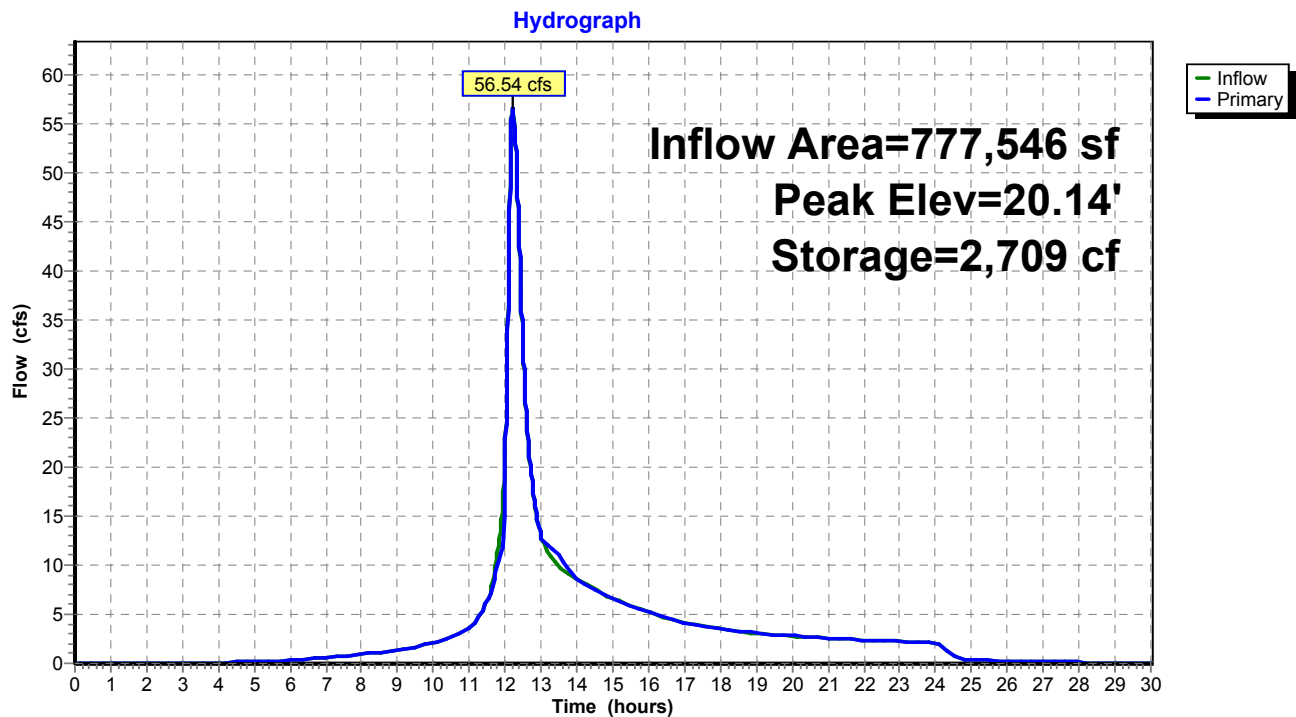
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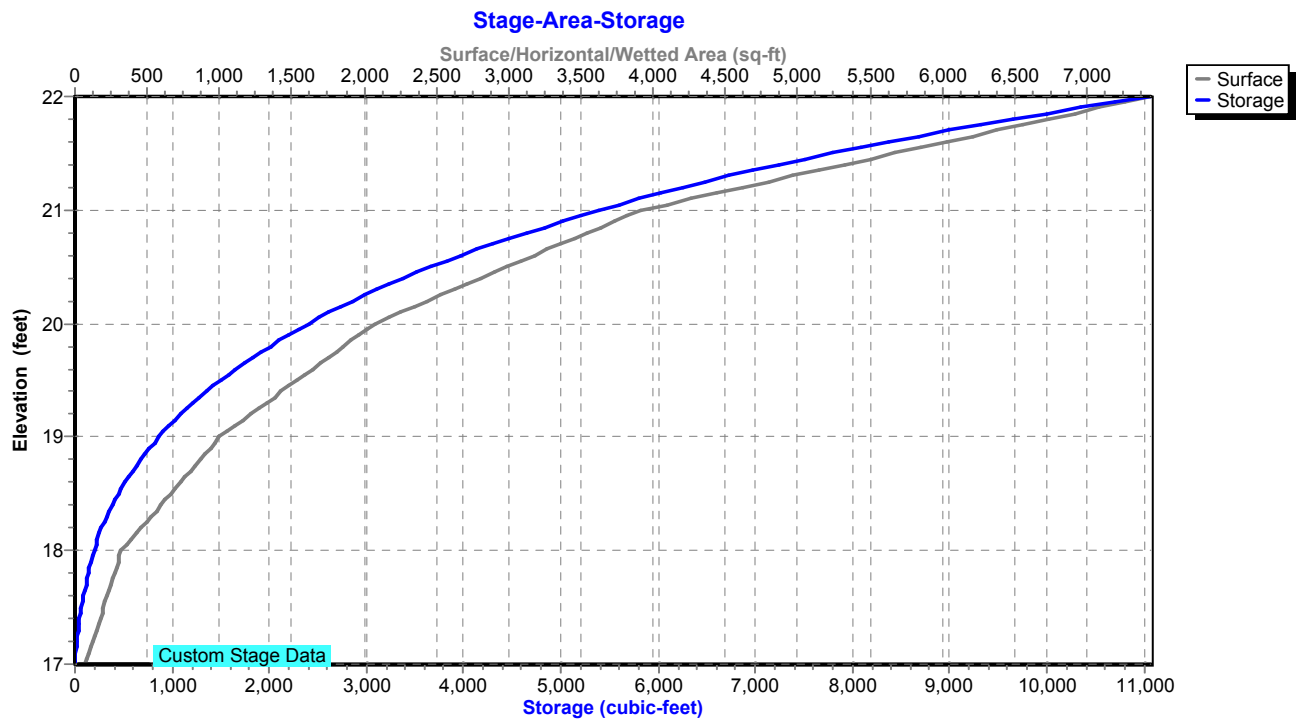
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Pond 26P: DET 16 Culvert



Pond 26P: DET 16 Culvert



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Pond 27P: DET 17 Culvert

Inflow Area = 2,205,878 sf, 28.45% Impervious, Inflow Depth = 5.60" for 100 year event
Inflow = 88.18 cfs @ 12.97 hrs, Volume= 1,030,029 cf
Outflow = 79.77 cfs @ 12.98 hrs, Volume= 1,030,029 cf, Atten= 10%, Lag= 0.9 min
Primary = 79.77 cfs @ 12.98 hrs, Volume= 1,030,029 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 18.84' @ 12.98 hrs Surf.Area= 11,721 sf Storage= 11,412 cf

Plug-Flow detention time= 4.0 min calculated for 1,029,685 cf (100% of inflow)
Center-of-Mass det. time= 4.0 min (870.1 - 866.1)

Volume	Invert	Avail.Storage	Storage Description
#1	16.00'	13,420 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
16.00	340	0	0
17.00	2,203	1,272	1,272
18.00	4,950	3,577	4,848
18.55	8,311	3,647	8,495
19.00	13,580	4,925	13,420

Device	Routing	Invert	Outlet Devices
#1	Primary	15.30'	18.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 15.30' / 14.90' S= 0.0100 ' / Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Primary	18.55'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 3.00 Width (feet) 100.00 100.00 100.00 100.00

Primary OutFlow Max=79.40 cfs @ 12.98 hrs HW=18.84' (Free Discharge)

1=Culvert (Inlet Controls 14.21 cfs @ 8.04 fps)

2=Custom Weir/Orifice (Weir Controls 65.19 cfs @ 2.24 fps)

Existing Conditions

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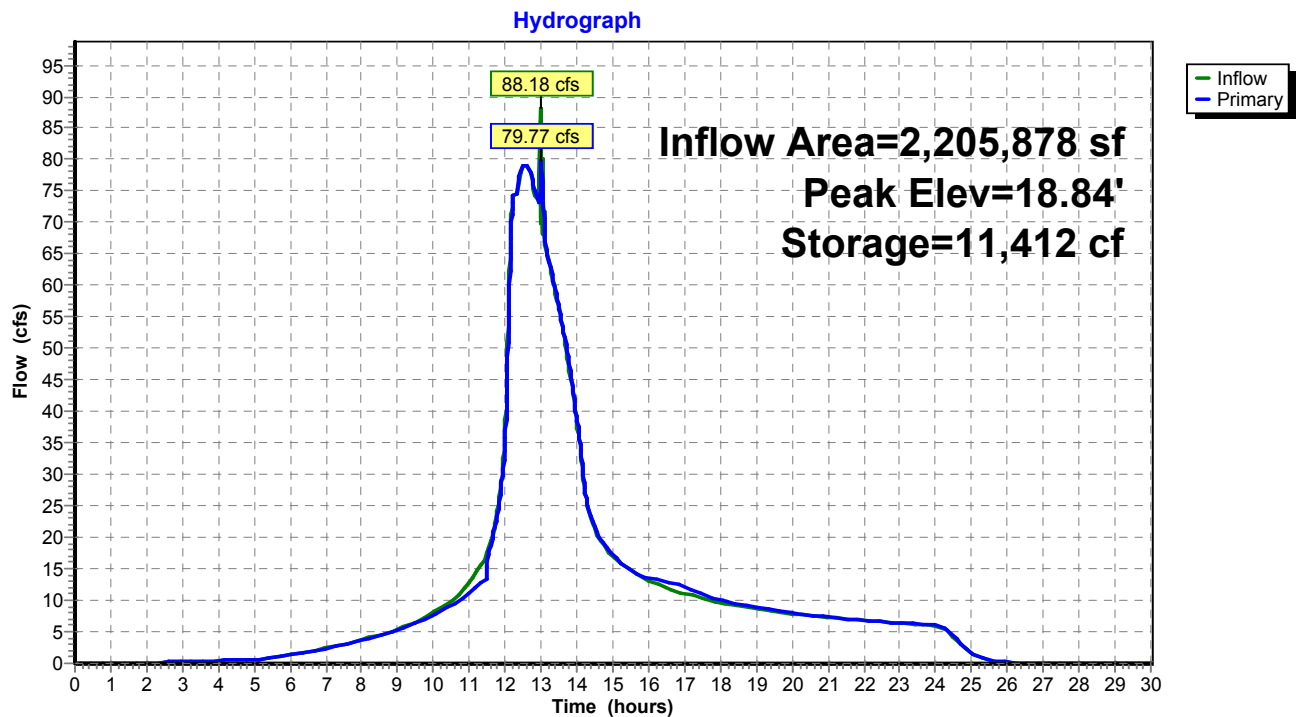
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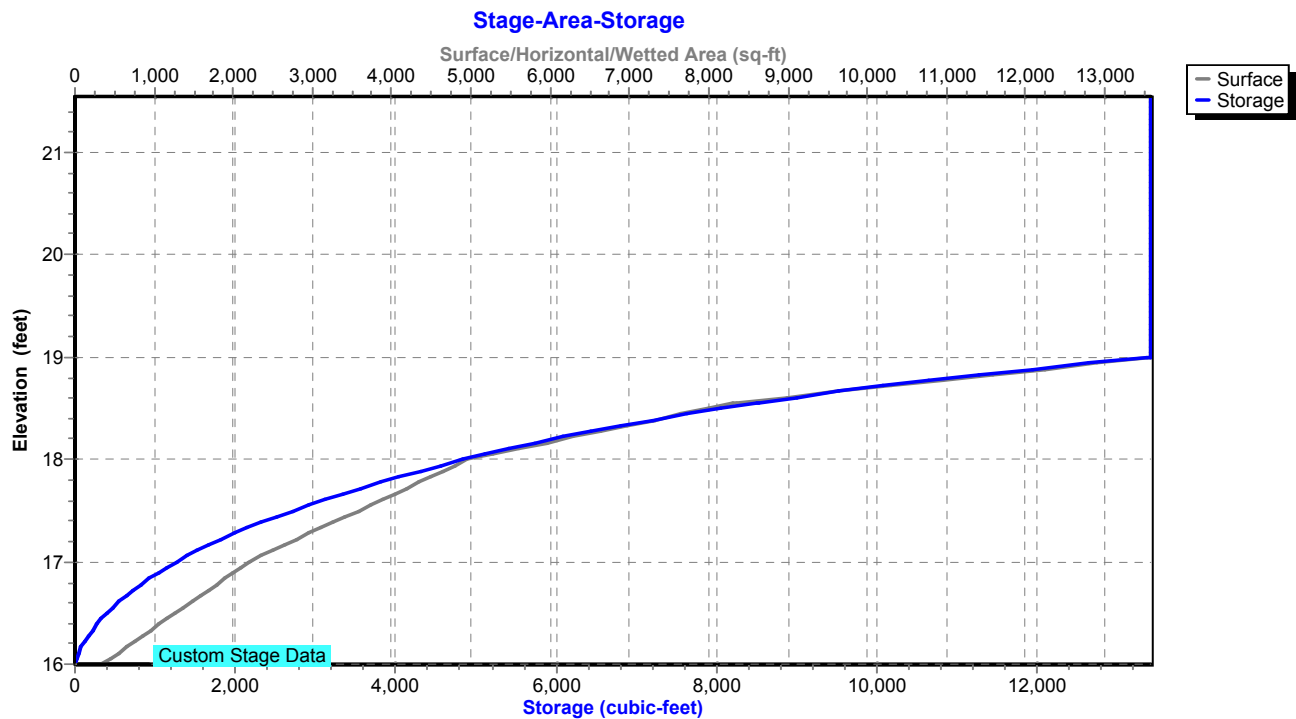
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Pond 27P: DET 17 Culvert



Pond 27P: DET 17 Culvert



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Pond 50P: DET BASIN #1

Inflow Area = 247,726 sf, 51.96% Impervious, Inflow Depth = 6.58" for 100 year event
Inflow = 36.04 cfs @ 12.04 hrs, Volume= 135,786 cf
Outflow = 13.36 cfs @ 12.24 hrs, Volume= 110,284 cf, Atten= 63%, Lag= 12.0 min
Primary = 13.36 cfs @ 12.24 hrs, Volume= 110,284 cf
Routed to Pond 26P : DET 16 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 28.85' @ 12.24 hrs Surf.Area= 17,561 sf Storage= 58,839 cf

Plug-Flow detention time= 237.3 min calculated for 110,247 cf (81% of inflow)
Center-of-Mass det. time= 146.7 min (940.3 - 793.5)

Volume	Invert	Avail.Storage	Storage Description
#1	24.00'	61,441 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
24.00	5,941	0	0
26.00	12,000	17,941	17,941
28.00	15,000	27,000	44,941
29.00	18,000	16,500	61,441

Device	Routing	Invert	Outlet Devices
#1	Primary	24.00'	18.0" Round Culvert L= 120.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 24.00' / 20.00' S= 0.0333 ' S= 0.0333 ' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	26.50'	12.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	28.50'	16.2" x 55.4" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=13.36 cfs @ 12.24 hrs HW=28.85' (Free Discharge)

1=Culvert (Passes 13.36 cfs of 17.24 cfs potential flow)
2=Orifice/Grate (Orifice Controls 5.15 cfs @ 6.56 fps)
3=Orifice/Grate (Weir Controls 8.21 cfs @ 1.94 fps)

Existing Conditions

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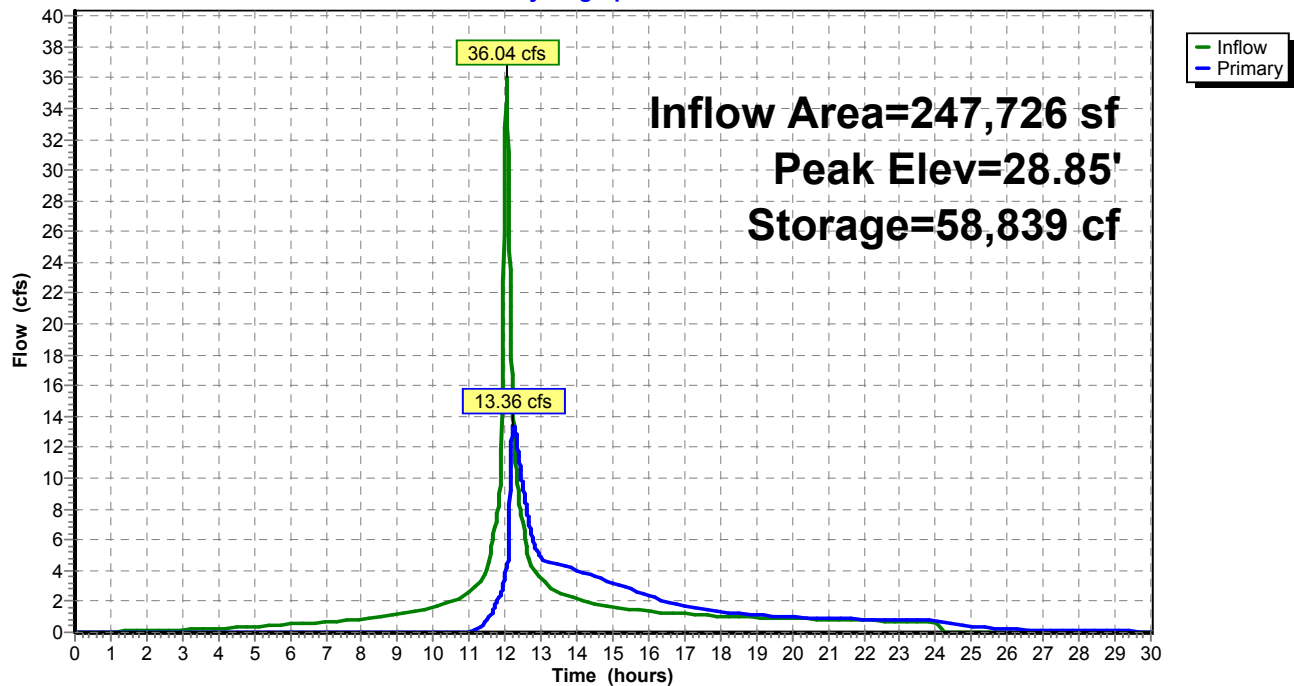
NORWALK 24-hr S1 100 year Rainfall=8.26"

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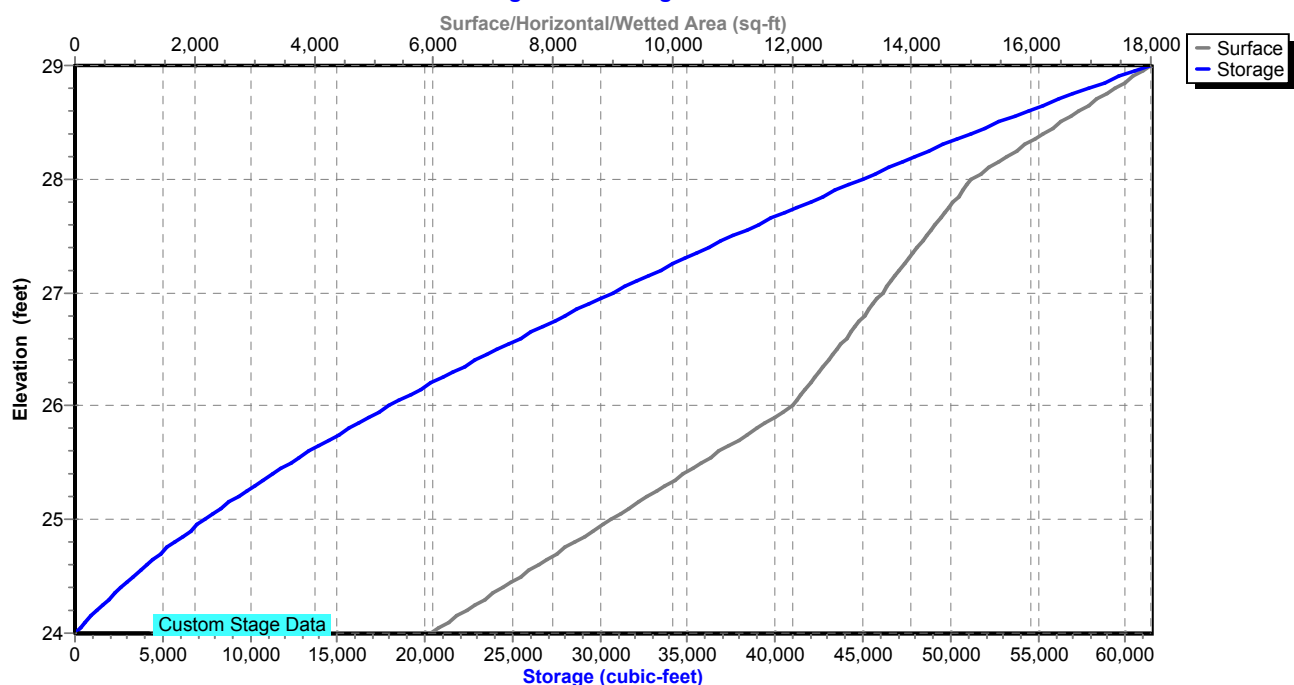
Pond 50P: DET BASIN #1

Hydrograph



Pond 50P: DET BASIN #1

Stage-Area-Storage



Existing Conditions

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Summary for Pond 51P: Manhole

Inflow Area = 219,325 sf, 58.69% Impervious, Inflow Depth = 6.76" for 100 year event
Inflow = 31.89 cfs @ 12.04 hrs, Volume= 123,585 cf
Outflow = 31.89 cfs @ 12.04 hrs, Volume= 123,585 cf, Atten= 0%, Lag= 0.0 min
Primary = 31.89 cfs @ 12.04 hrs, Volume= 123,585 cf
Routed to Pond 50P : DET BASIN #1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 49.44' @ 12.04 hrs

Flood Elev= 51.00'

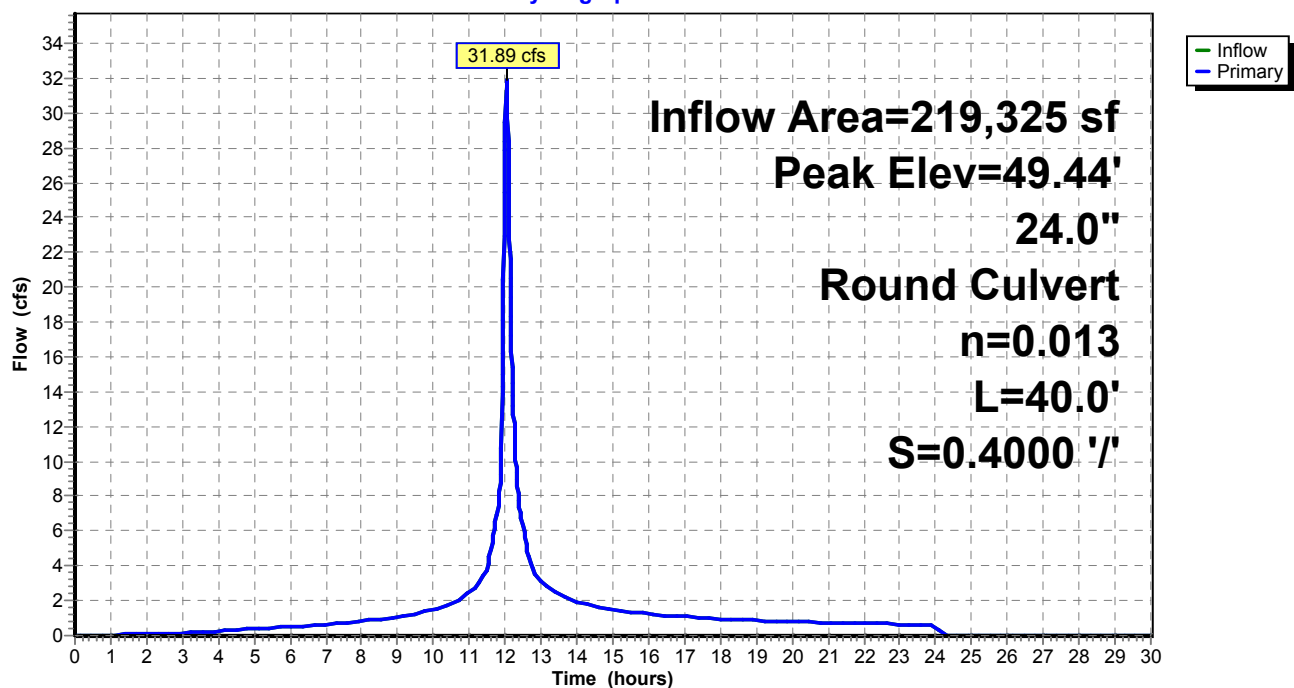
Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	24.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.00' / 28.00' S= 0.4000 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=31.85 cfs @ 12.04 hrs HW=49.43' (Free Discharge)

↑1=Culvert (Inlet Controls 31.85 cfs @ 10.14 hrs)

Pond 51P: Manhole

Hydrograph



Existing Conditions

Prepared by Tighe & Bond

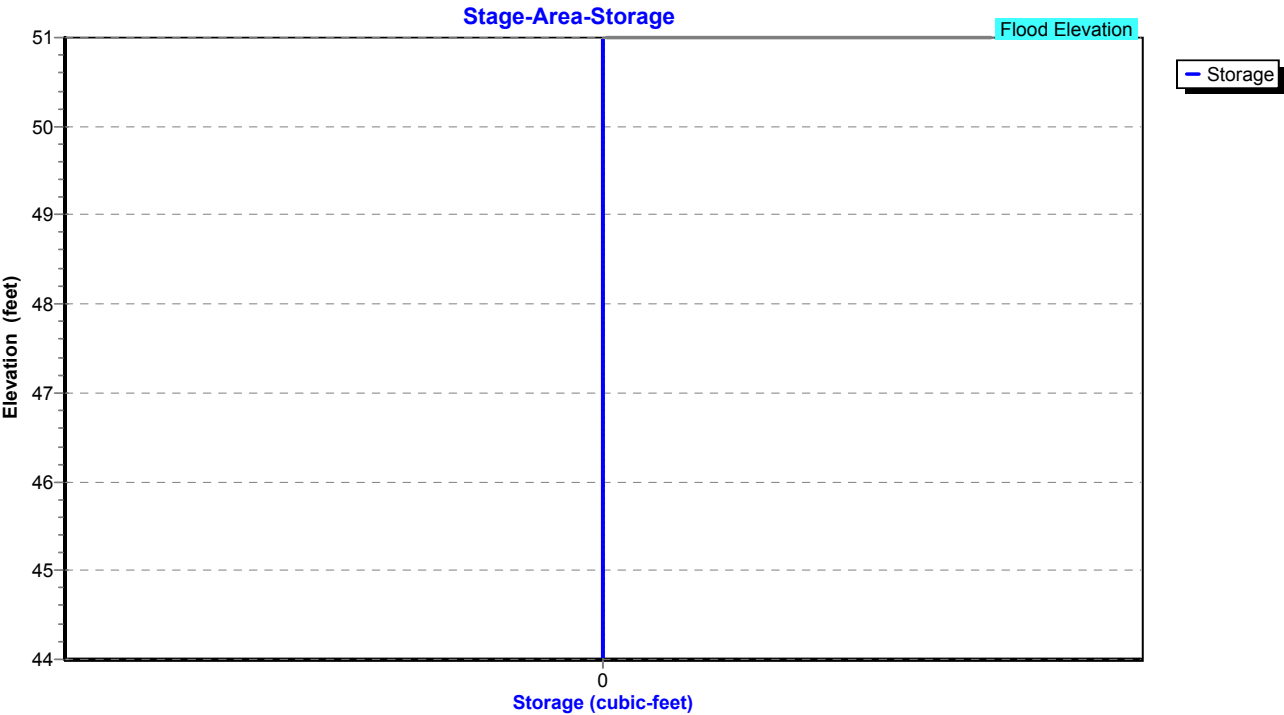
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Pond 51P: Manhole



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Summary for Pond 57P: CB-1

Inflow Area = 131,290 sf, 58.89% Impervious, Inflow Depth = 6.84" for 100 year event
Inflow = 20.07 cfs @ 12.04 hrs, Volume= 74,840 cf
Outflow = 20.07 cfs @ 12.04 hrs, Volume= 74,840 cf, Atten= 0%, Lag= 0.0 min
Primary = 20.07 cfs @ 12.04 hrs, Volume= 74,840 cf
Routed to Pond 51P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.27' @ 12.04 hrs

Flood Elev= 49.00'

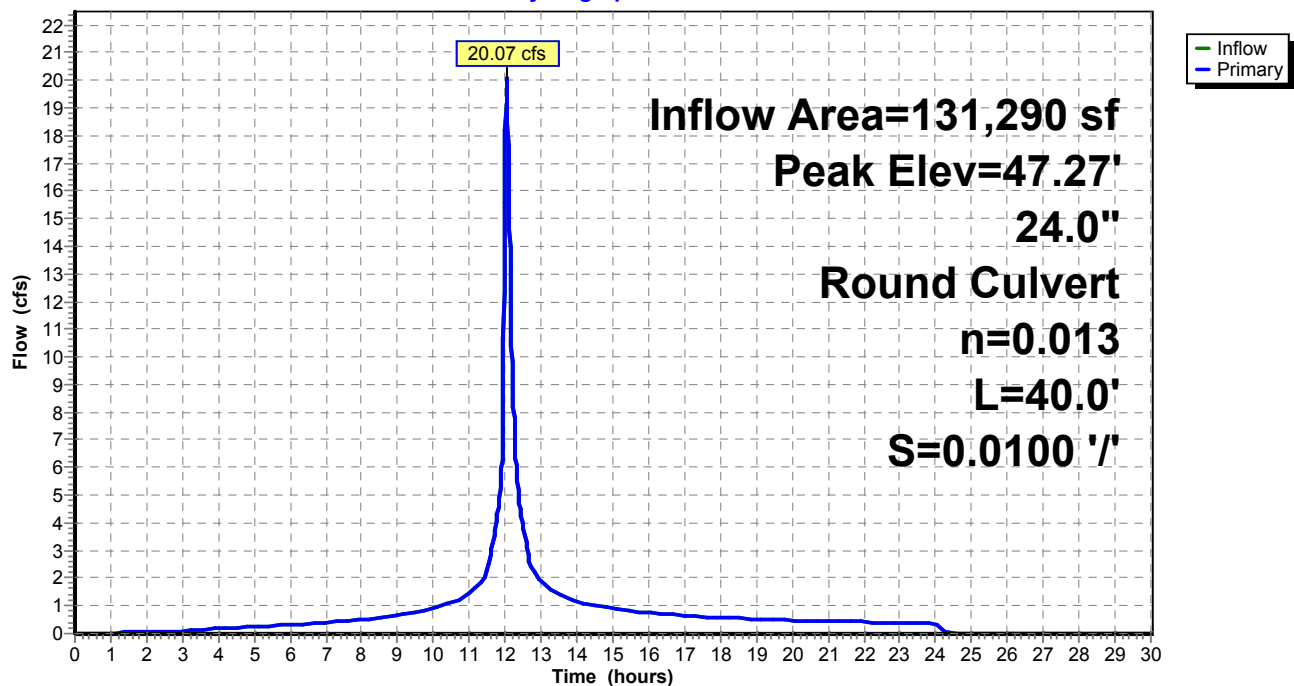
Device	Routing	Invert	Outlet Devices
#1	Primary	44.40'	24.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.40' / 44.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=20.06 cfs @ 12.04 hrs HW=47.27' (Free Discharge)

↑1=Culvert (Barrel Controls 20.06 cfs @ 6.39 fps)

Pond 57P: CB-1

Hydrograph



Existing Conditions

Prepared by Tighe & Bond

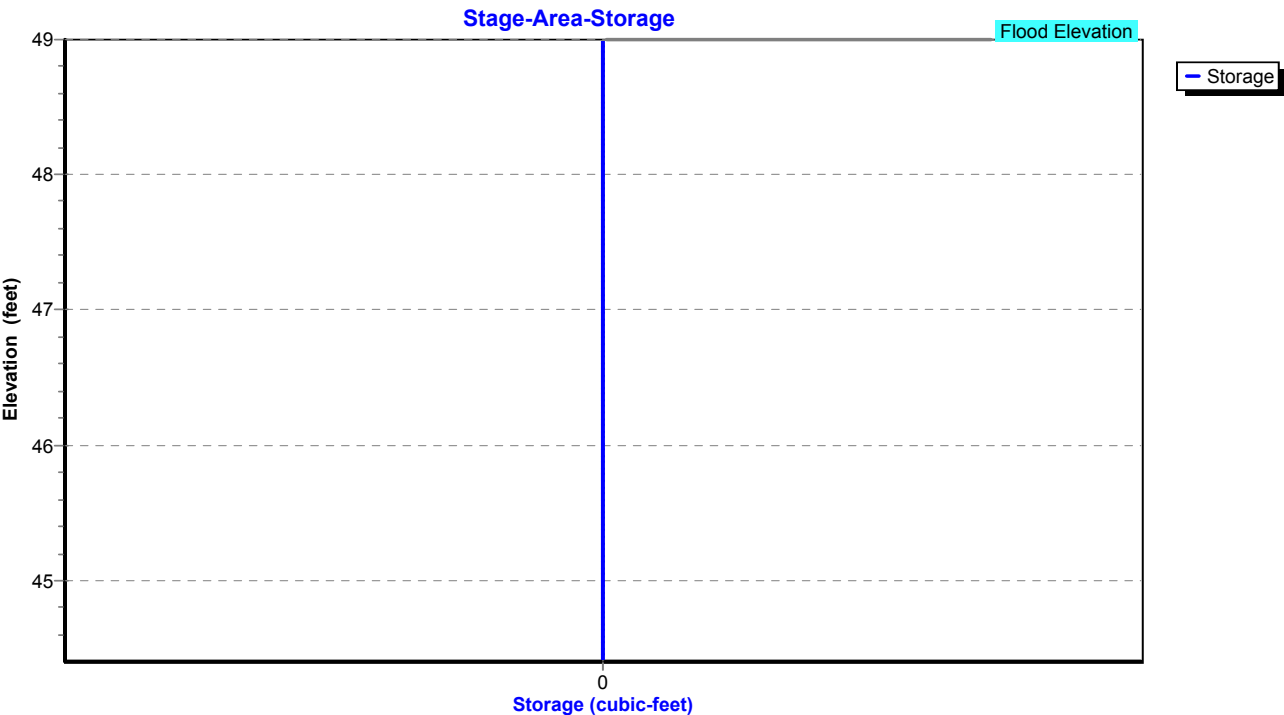
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Pond 57P: CB-1



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Summary for Pond 58P: Manhole

Inflow Area = 119,442 sf, 54.81% Impervious, Inflow Depth = 6.72" for 100 year event
Inflow = 17.76 cfs @ 12.04 hrs, Volume= 66,925 cf
Outflow = 17.76 cfs @ 12.04 hrs, Volume= 66,925 cf, Atten= 0%, Lag= 0.0 min
Primary = 17.76 cfs @ 12.04 hrs, Volume= 66,925 cf
Routed to Pond 57P : CB-1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.01' @ 12.04 hrs

Flood Elev= 49.00'

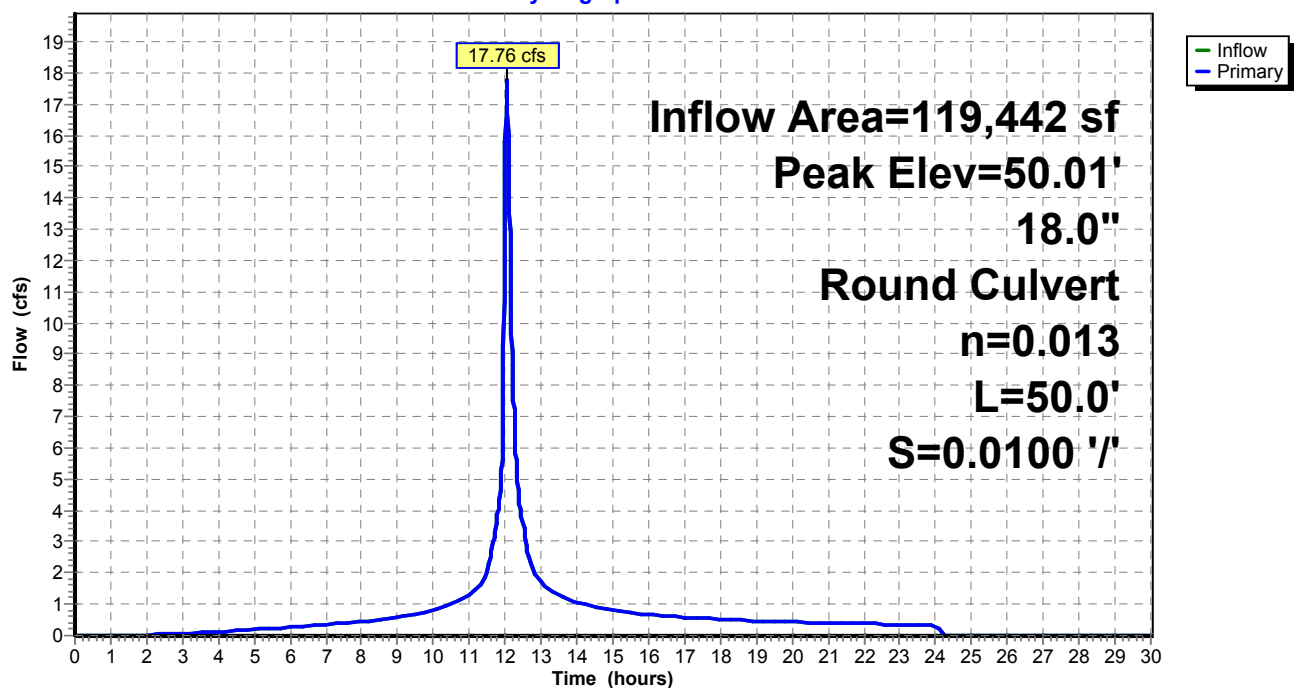
Device	Routing	Invert	Outlet Devices
#1	Primary	44.90'	18.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.90' / 44.40' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=17.73 cfs @ 12.04 hrs HW=49.99' (Free Discharge)

↑1=Culvert (Inlet Controls 17.73 cfs @ 10.03 hrs)

Pond 58P: Manhole

Hydrograph



Existing Conditions

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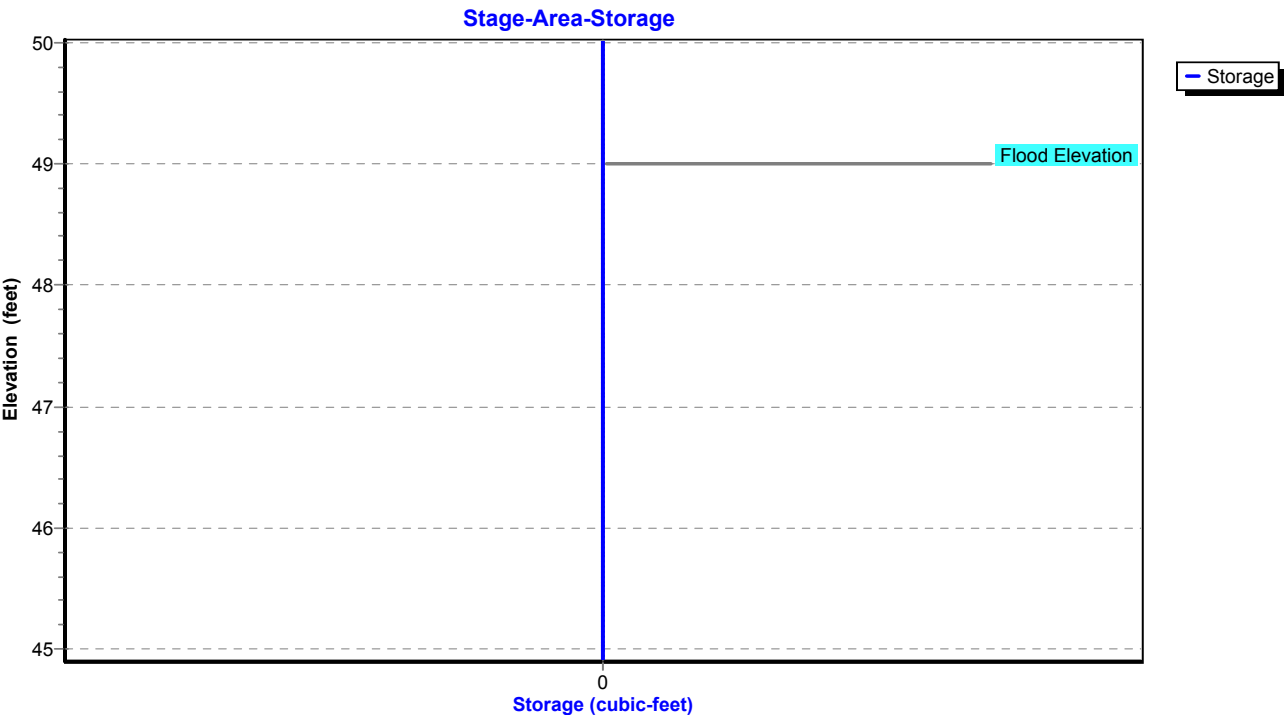
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Pond 58P: Manhole



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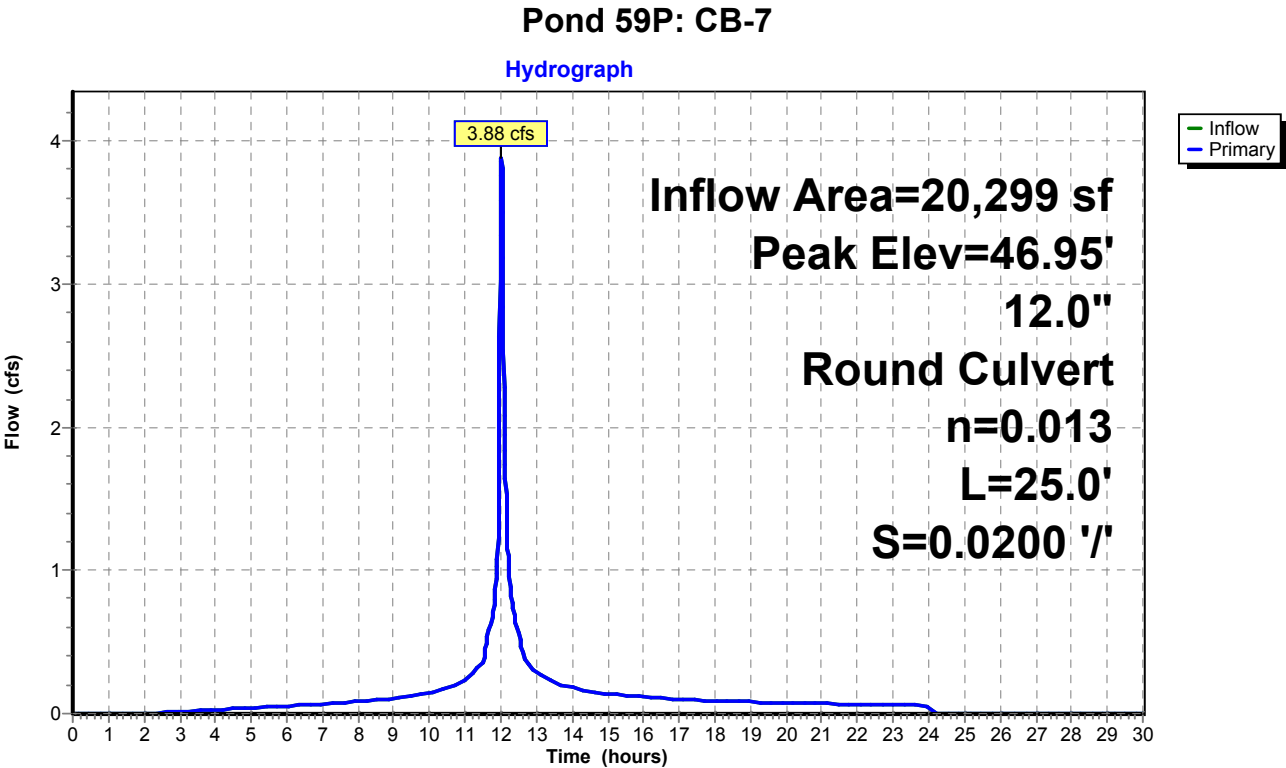
Summary for Pond 59P: CB-7

Inflow Area = 20,299 sf, 63.09% Impervious, Inflow Depth = 6.94" for 100 year event
Inflow = 3.88 cfs @ 12.03 hrs, Volume= 11,736 cf
Outflow = 3.88 cfs @ 12.03 hrs, Volume= 11,736 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.88 cfs @ 12.03 hrs, Volume= 11,736 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 46.95' @ 12.03 hrs
Flood Elev= 49.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	45.40'	12.0" Round Culvert L= 25.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.40' / 44.90' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=3.87 cfs @ 12.03 hrs HW=46.94' (Free Discharge)
↑1=Culvert (Inlet Controls 3.87 cfs @ 4.92 fps)



Existing Conditions

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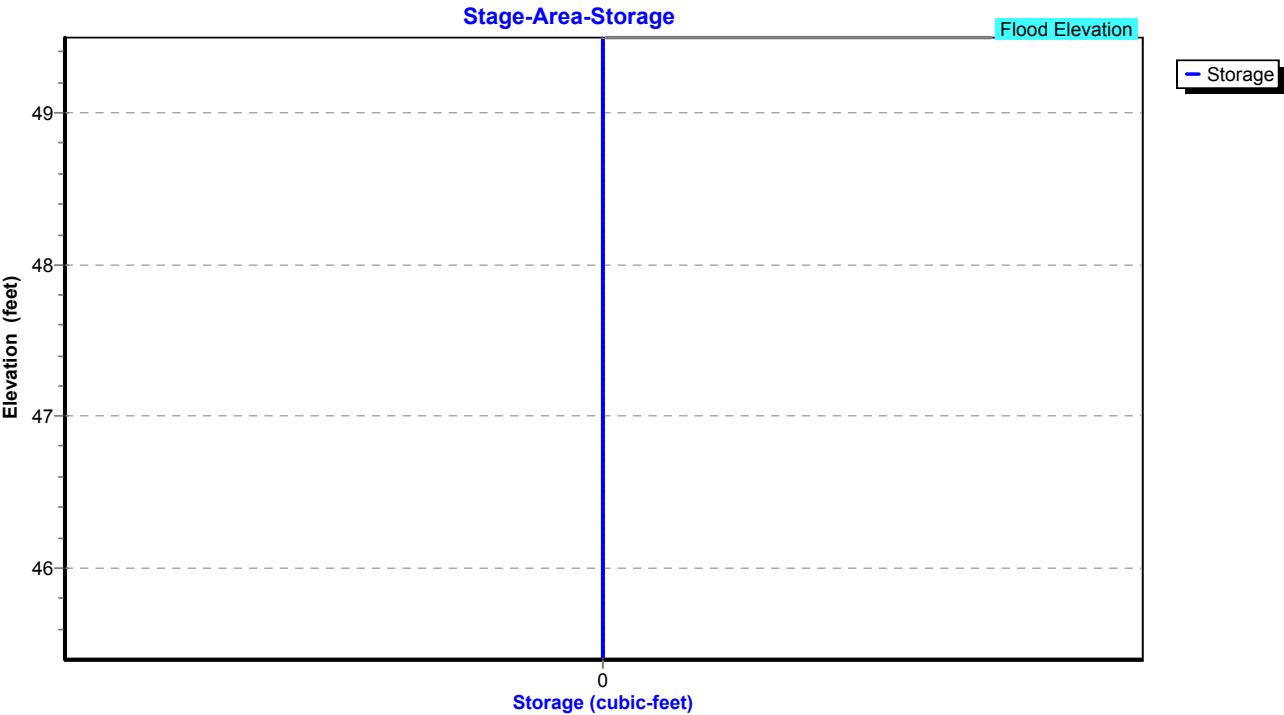
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Pond 59P: CB-7



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Summary for Pond 61P: CB-6

Inflow Area = 7,884 sf, 82.32% Impervious, Inflow Depth = 7.54" for 100 year event
Inflow = 1.57 cfs @ 12.03 hrs, Volume= 4,952 cf
Outflow = 1.57 cfs @ 12.03 hrs, Volume= 4,952 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.57 cfs @ 12.03 hrs, Volume= 4,952 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 45.81' @ 12.03 hrs

Flood Elev= 49.00'

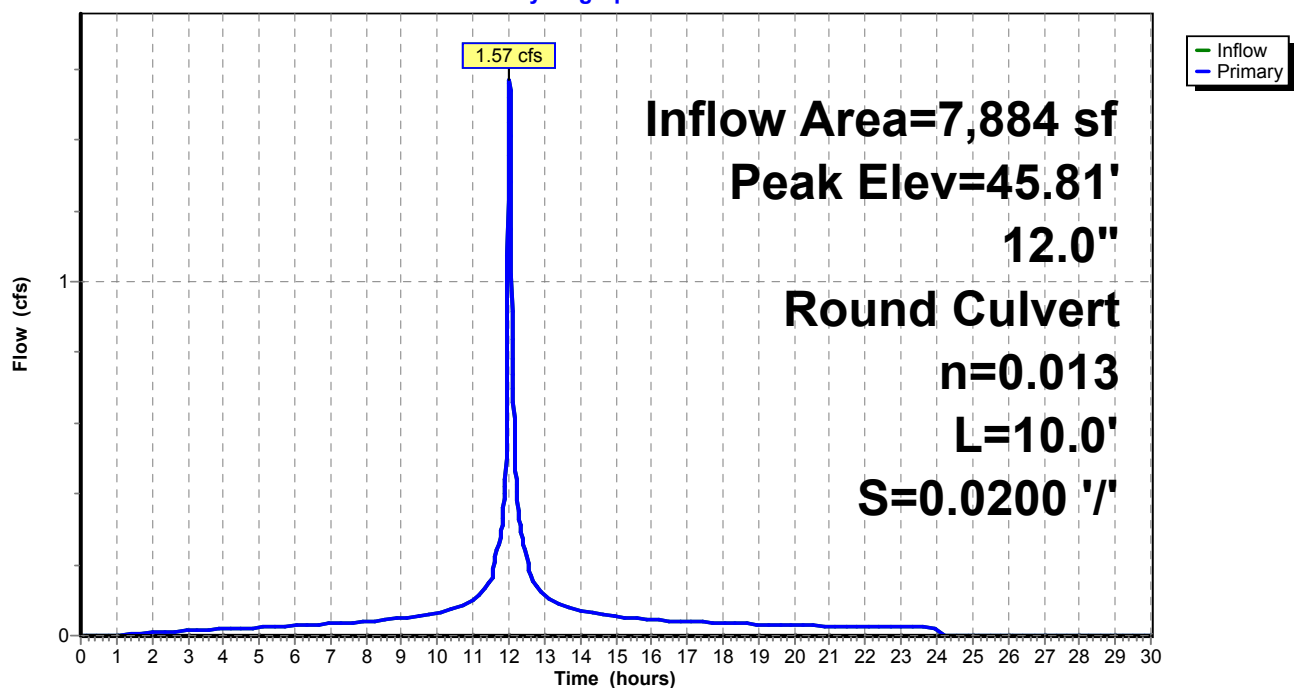
Device	Routing	Invert	Outlet Devices
#1	Primary	45.10'	12.0" Round Culvert L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.10' / 44.90' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.57 cfs @ 12.03 hrs HW=45.81' (Free Discharge)

↑1=Culvert (Barrel Controls 1.57 cfs @ 3.68 fps)

Pond 61P: CB-6

Hydrograph



Existing Conditions

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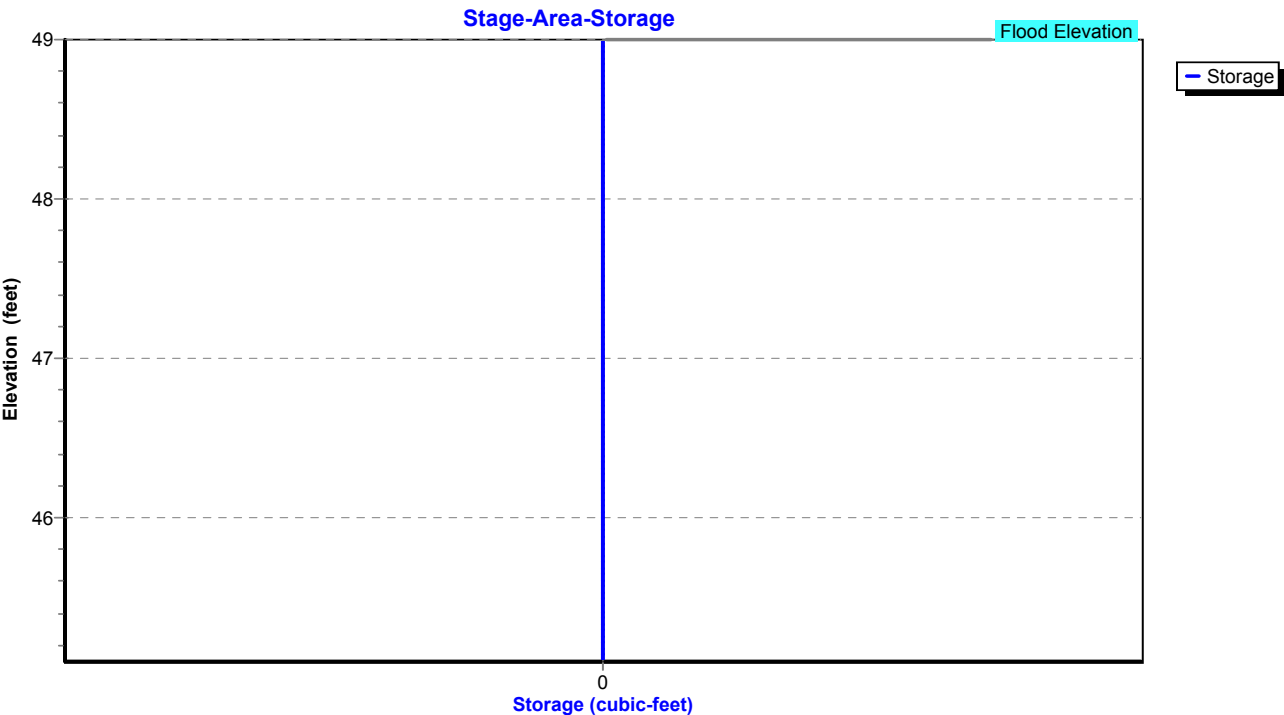
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Pond 61P: CB-6



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Summary for Pond 63P: Manhole

Inflow Area = 91,258 sf, 50.60% Impervious, Inflow Depth = 6.61" for 100 year event
Inflow = 12.79 cfs @ 12.06 hrs, Volume= 50,237 cf
Outflow = 12.79 cfs @ 12.06 hrs, Volume= 50,237 cf, Atten= 0%, Lag= 0.0 min
Primary = 12.79 cfs @ 12.06 hrs, Volume= 50,237 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 53.79' @ 12.06 hrs

Flood Elev= 51.00'

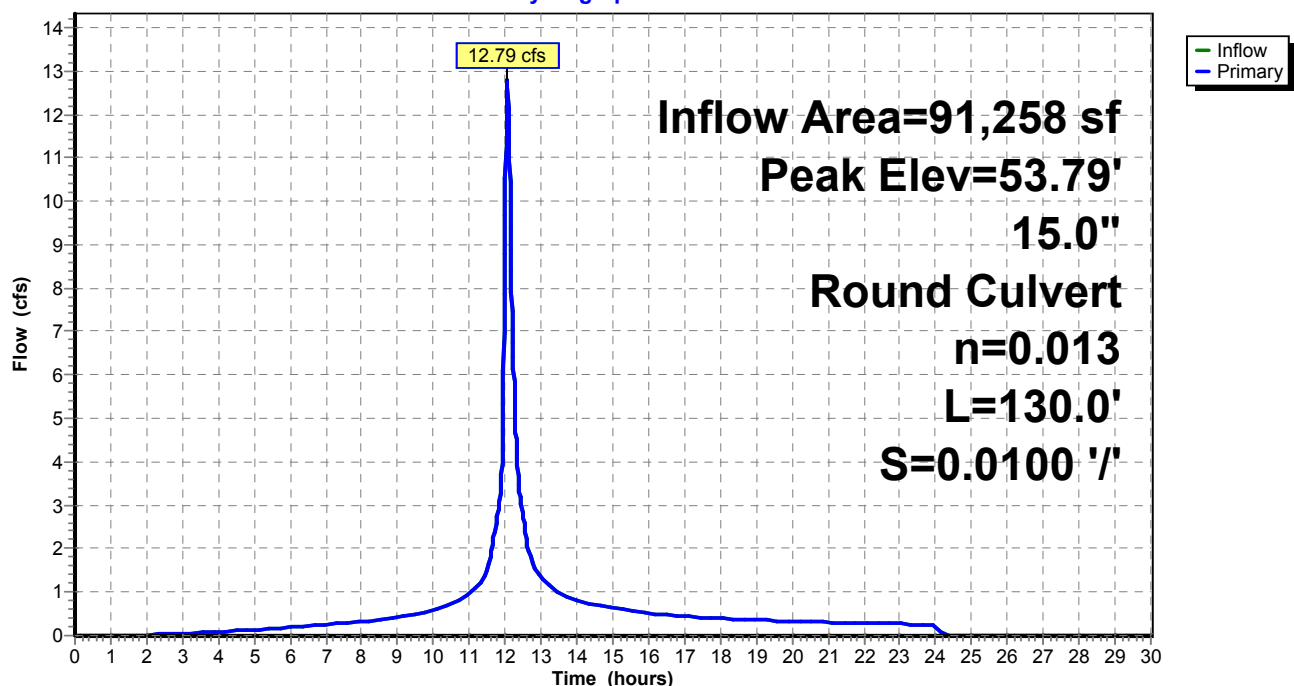
Device	Routing	Invert	Outlet Devices
#1	Primary	46.20'	15.0" Round Culvert L= 130.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.20' / 44.90' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=12.78 cfs @ 12.06 hrs HW=53.78' (Free Discharge)

↑1=Culvert (Barrel Controls 12.78 cfs @ 10.41 fps)

Pond 63P: Manhole

Hydrograph



Existing Conditions

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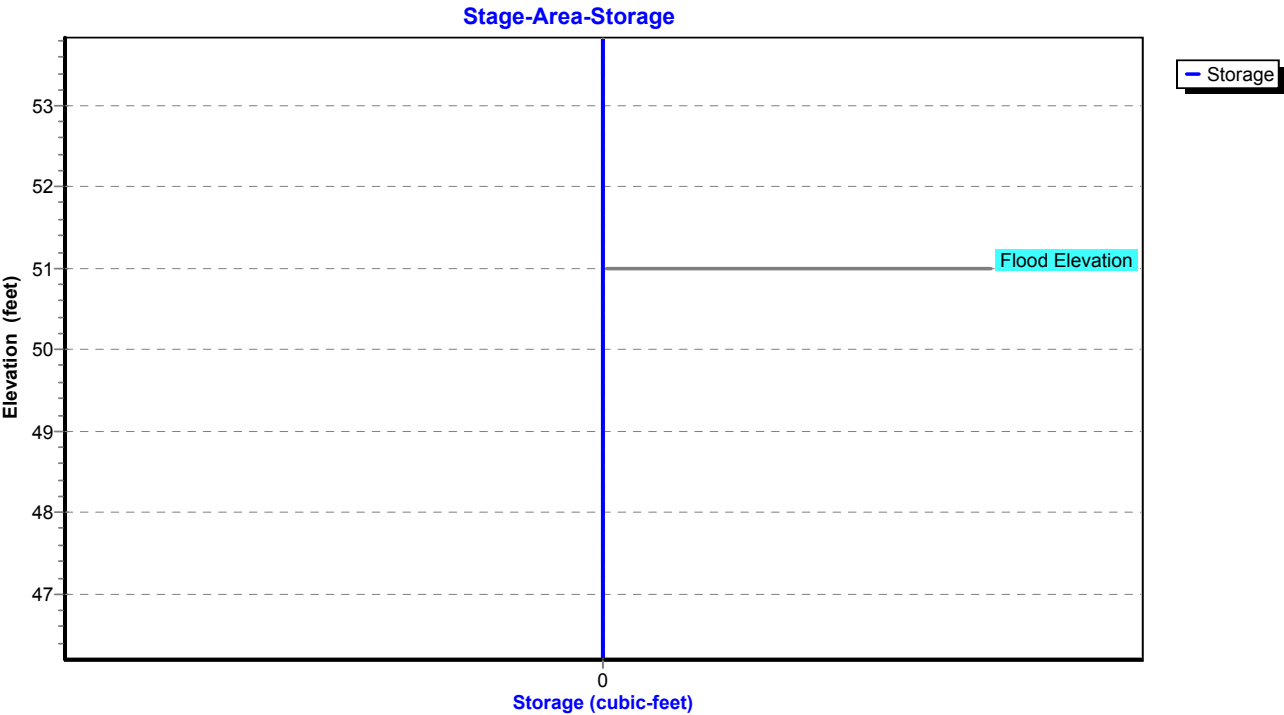
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Pond 63P: Manhole



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Summary for Pond 64P: YD

Inflow Area = 68,128 sf, 41.75% Impervious, Inflow Depth = 6.34" for 100 year event
Inflow = 9.50 cfs @ 12.08 hrs, Volume= 36,001 cf
Outflow = 9.50 cfs @ 12.08 hrs, Volume= 36,001 cf, Atten= 0%, Lag= 0.0 min
Primary = 9.50 cfs @ 12.08 hrs, Volume= 36,001 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 65.63' @ 12.08 hrs

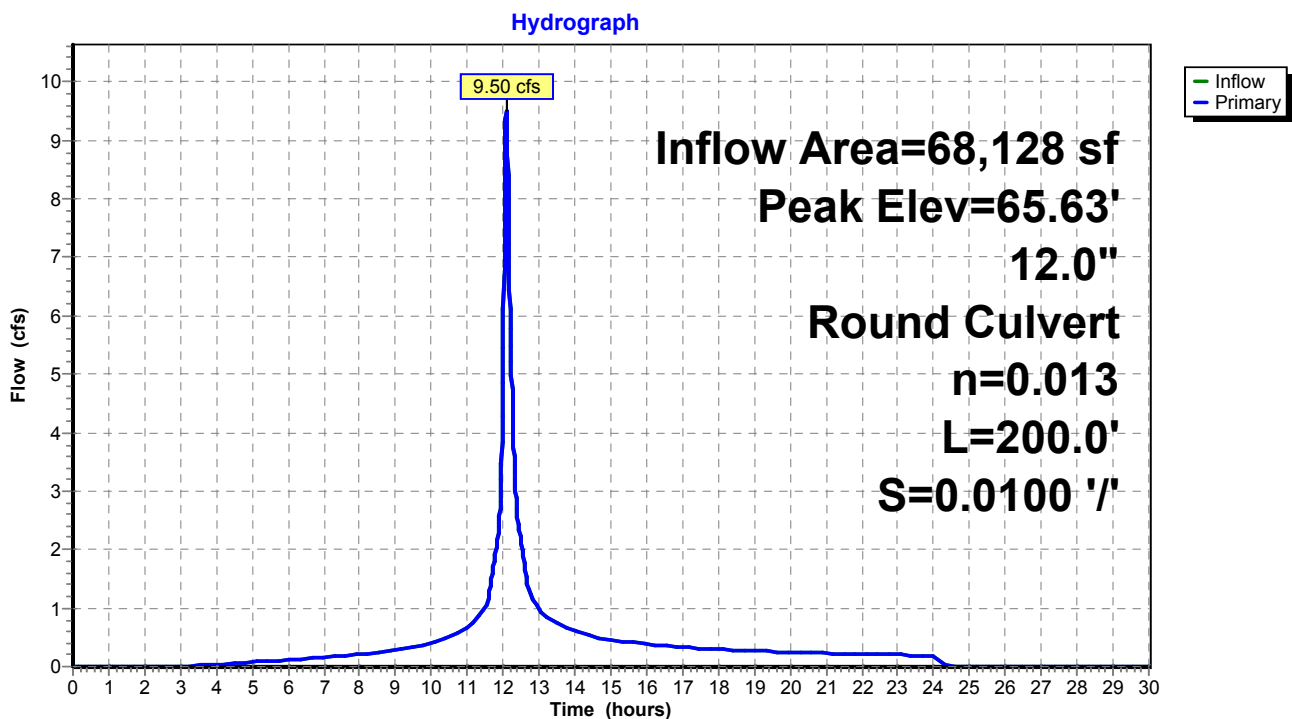
Flood Elev= 54.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.95'	12.0" Round Culvert L= 200.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.95' / 46.95' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=9.48 cfs @ 12.08 hrs HW=65.56' (Free Discharge)

↑1=Culvert (Barrel Controls 9.48 cfs @ 12.07 fps)

Pond 64P: YD



Existing Conditions

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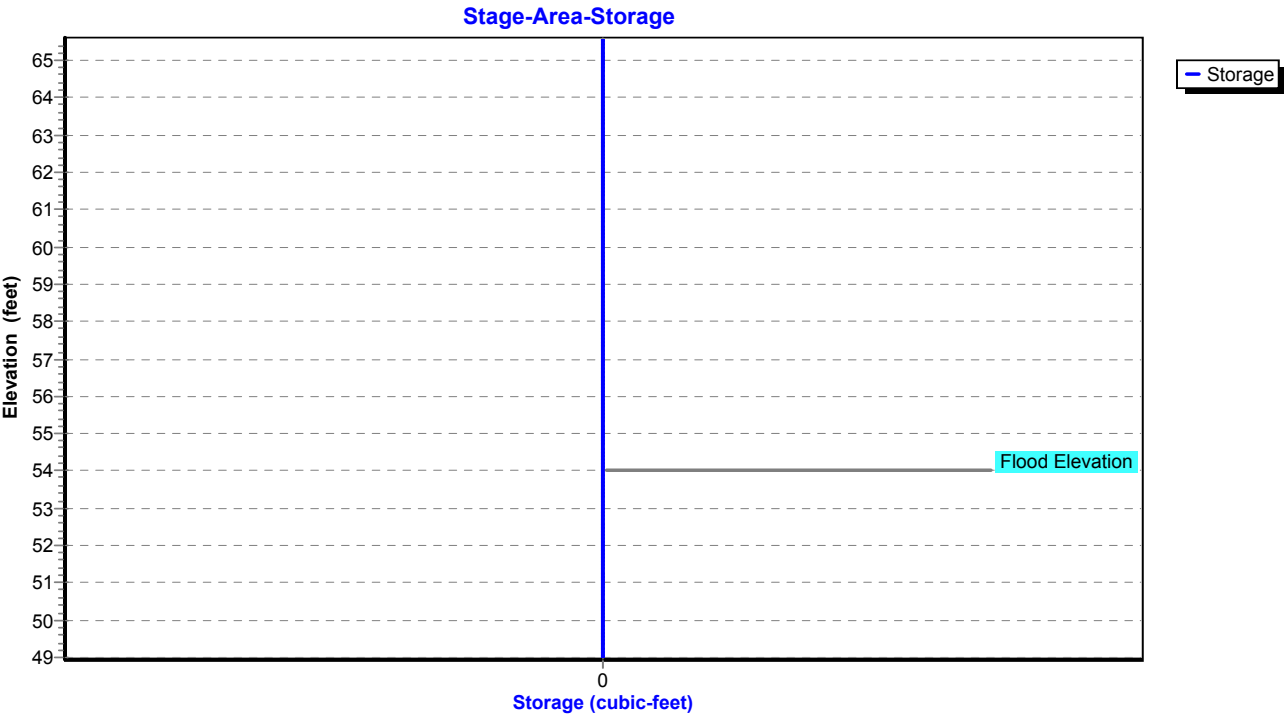
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Pond 64P: YD



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Summary for Pond 66P: CB-10

Inflow Area = 12,763 sf, 73.04% Impervious, Inflow Depth = 7.30" for 100 year event
Inflow = 2.51 cfs @ 12.03 hrs, Volume= 7,761 cf
Outflow = 2.51 cfs @ 12.03 hrs, Volume= 7,761 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.51 cfs @ 12.03 hrs, Volume= 7,761 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 48.48' @ 12.03 hrs

Flood Elev= 53.00'

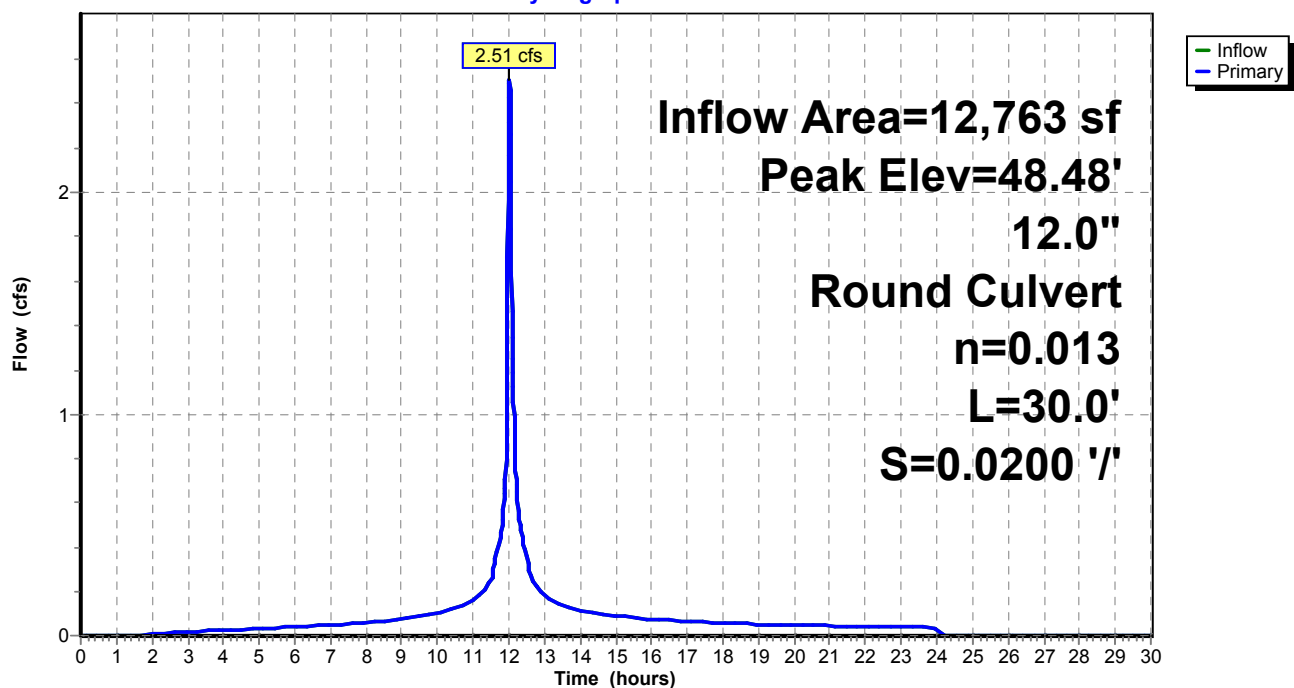
Device	Routing	Invert	Outlet Devices
#1	Primary	47.55'	12.0" Round Culvert L= 30.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.55' / 46.95' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=2.50 cfs @ 12.03 hrs HW=48.48' (Free Discharge)

↑1=Culvert (Inlet Controls 2.50 cfs @ 3.28 fps)

Pond 66P: CB-10

Hydrograph



Existing Conditions

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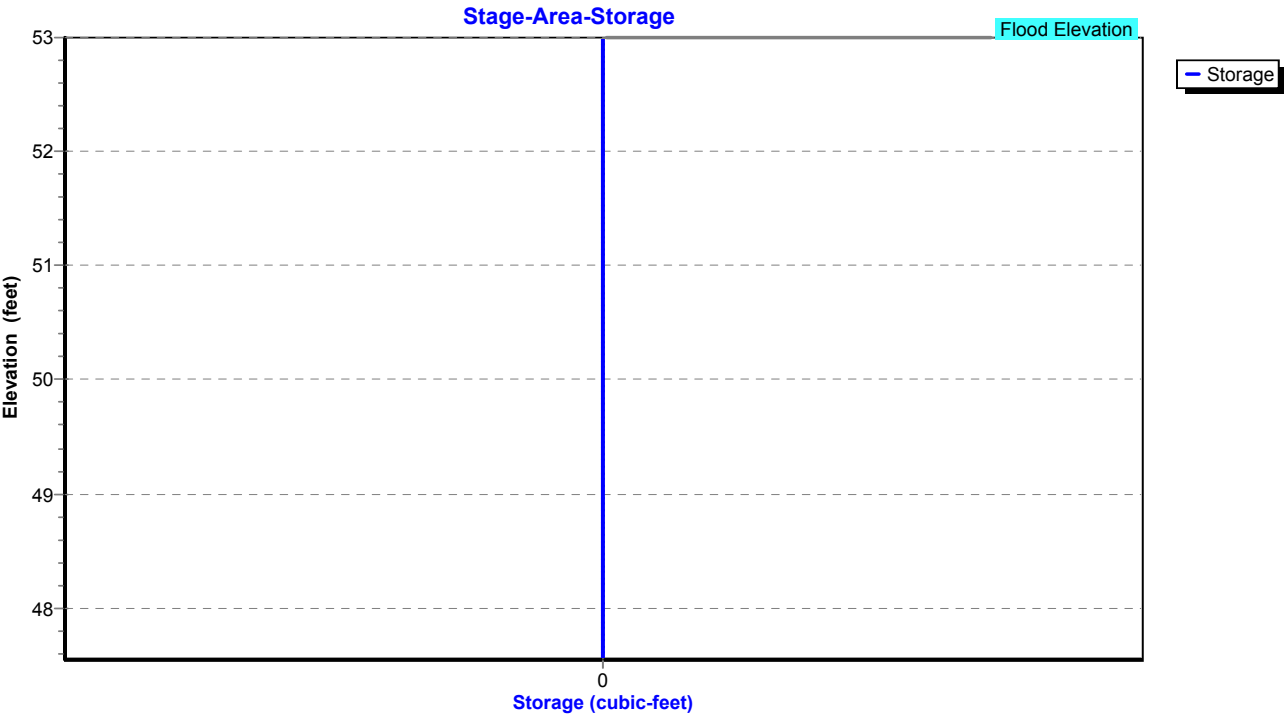
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Pond 66P: CB-10



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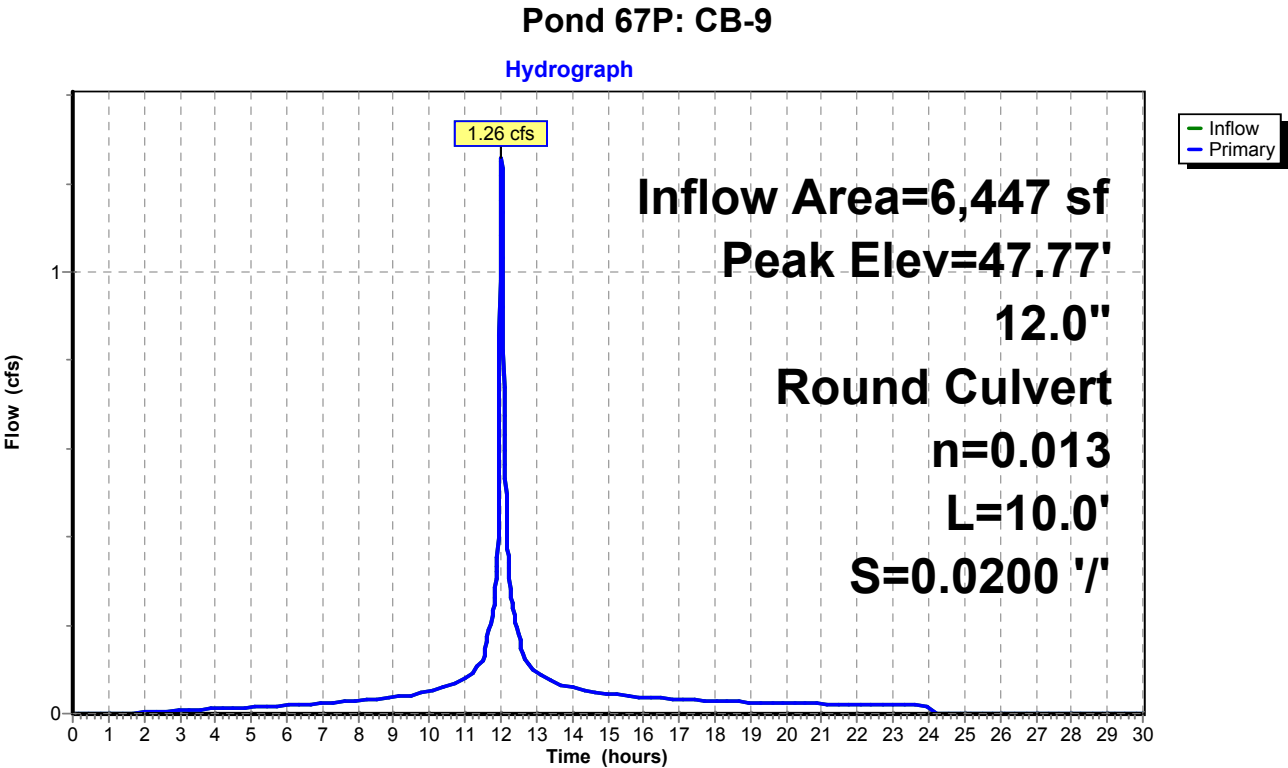
Summary for Pond 67P: CB-9

Inflow Area = 6,447 sf, 69.59% Impervious, Inflow Depth = 7.18" for 100 year event
Inflow = 1.26 cfs @ 12.03 hrs, Volume= 3,856 cf
Outflow = 1.26 cfs @ 12.03 hrs, Volume= 3,856 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.26 cfs @ 12.03 hrs, Volume= 3,856 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 47.77' @ 12.03 hrs
Flood Elev= 52.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.15'	12.0" Round Culvert L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.15' / 46.95' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.25 cfs @ 12.03 hrs HW=47.77' (Free Discharge)
1=Culvert (Barrel Controls 1.25 cfs @ 3.52 fps)



Existing Conditions

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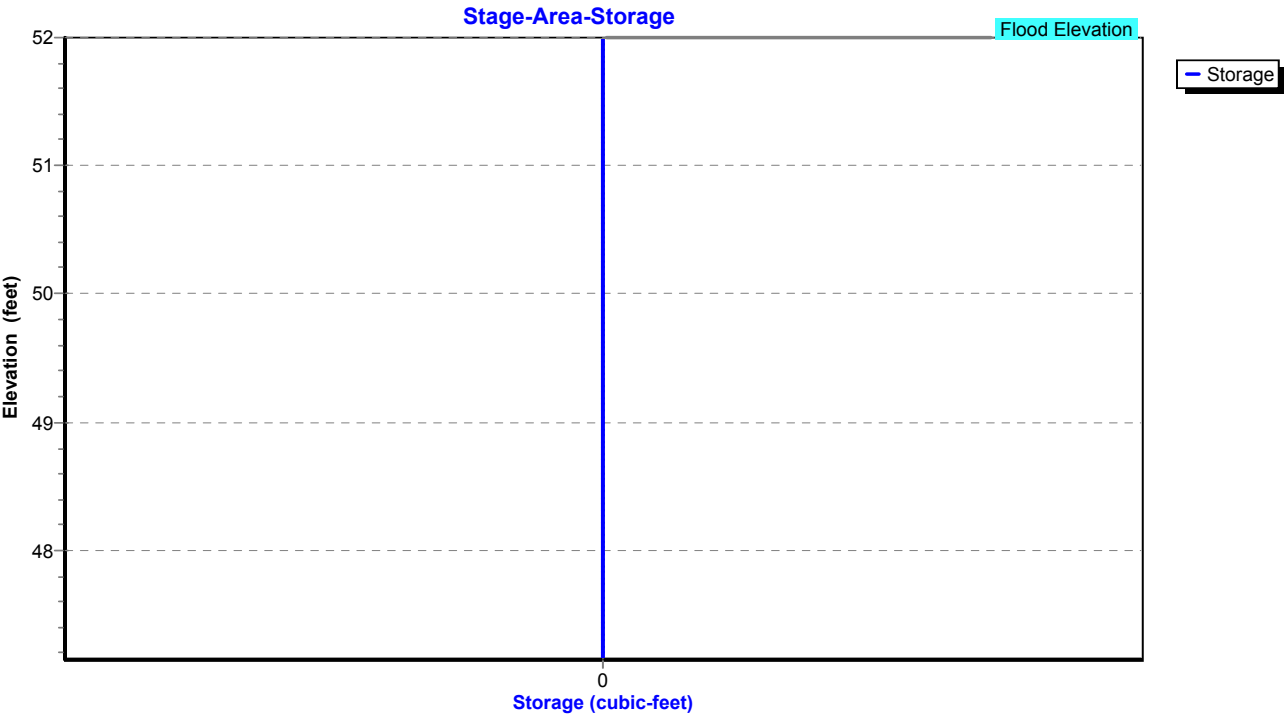
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Pond 67P: CB-9



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Summary for Pond 70P: CB-2

Inflow Area = 88,035 sf, 58.39% Impervious, Inflow Depth = 6.64" for 100 year event
Inflow = 12.33 cfs @ 11.99 hrs, Volume= 48,745 cf
Outflow = 12.33 cfs @ 11.99 hrs, Volume= 48,745 cf, Atten= 0%, Lag= 0.0 min
Primary = 12.33 cfs @ 11.99 hrs, Volume= 48,745 cf
Routed to Pond 51P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 54.00' @ 11.99 hrs

Flood Elev= 53.30'

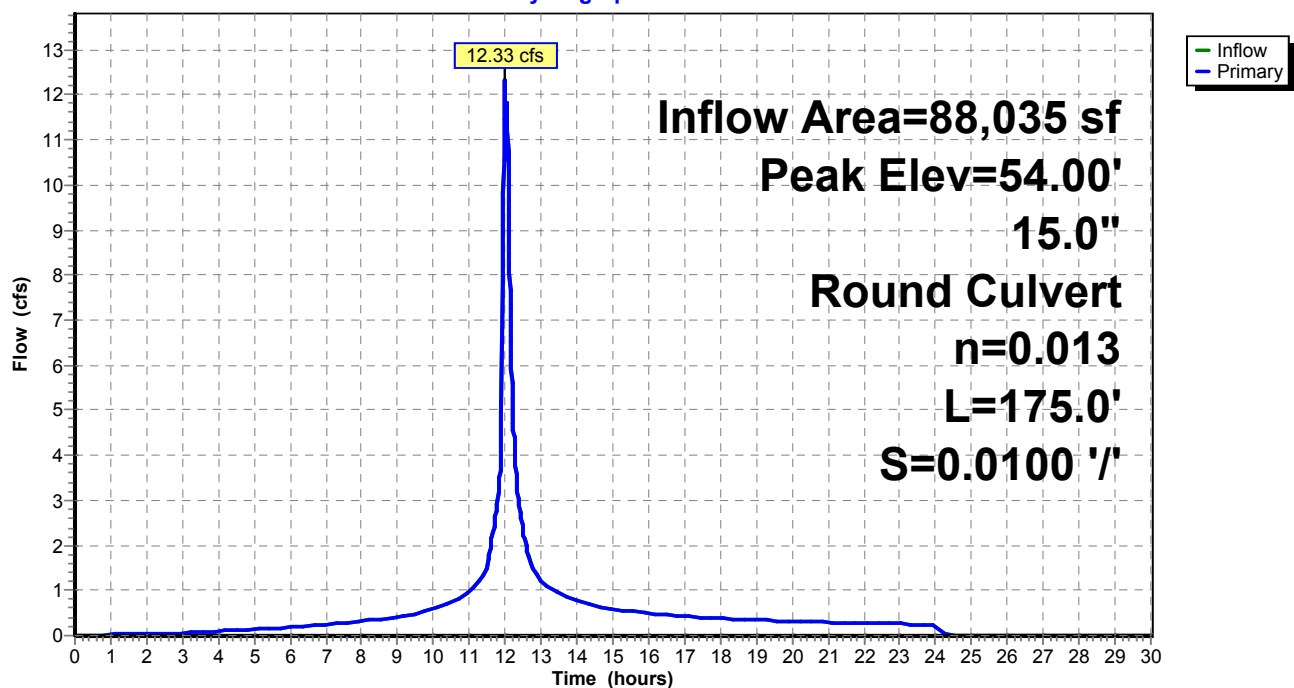
Device	Routing	Invert	Outlet Devices
#1	Primary	45.75'	15.0" Round Culvert L= 175.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.75' / 44.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=12.33 cfs @ 11.99 hrs HW=53.99' (Free Discharge)

↑1=Culvert (Barrel Controls 12.33 cfs @ 10.04 fps)

Pond 70P: CB-2

Hydrograph



Existing Conditions

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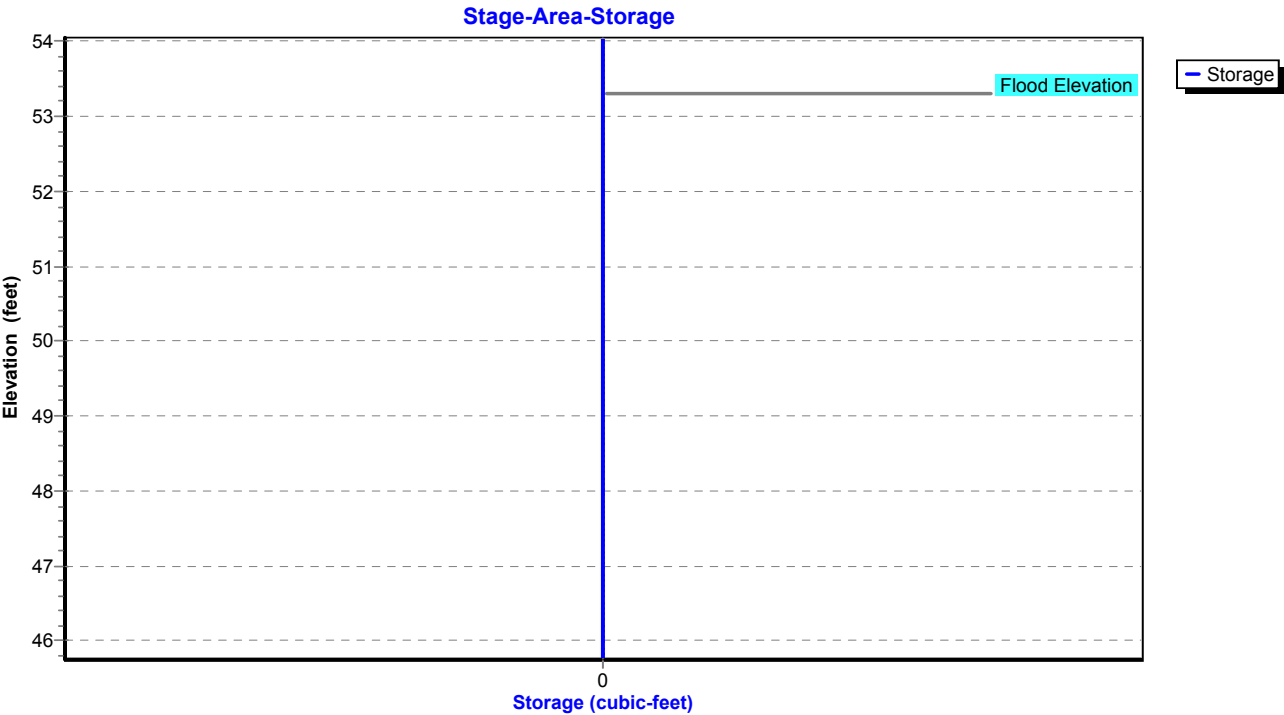
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Pond 70P: CB-2



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Summary for Pond 72P: Manhole

Inflow Area = 74,575 sf, 50.88% Impervious, Inflow Depth = 6.40" for 100 year event
Inflow = 9.97 cfs @ 11.99 hrs, Volume= 39,753 cf
Outflow = 9.97 cfs @ 11.99 hrs, Volume= 39,753 cf, Atten= 0%, Lag= 0.0 min
Primary = 9.97 cfs @ 11.99 hrs, Volume= 39,753 cf
Routed to Pond 70P : CB-2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.57' @ 11.99 hrs

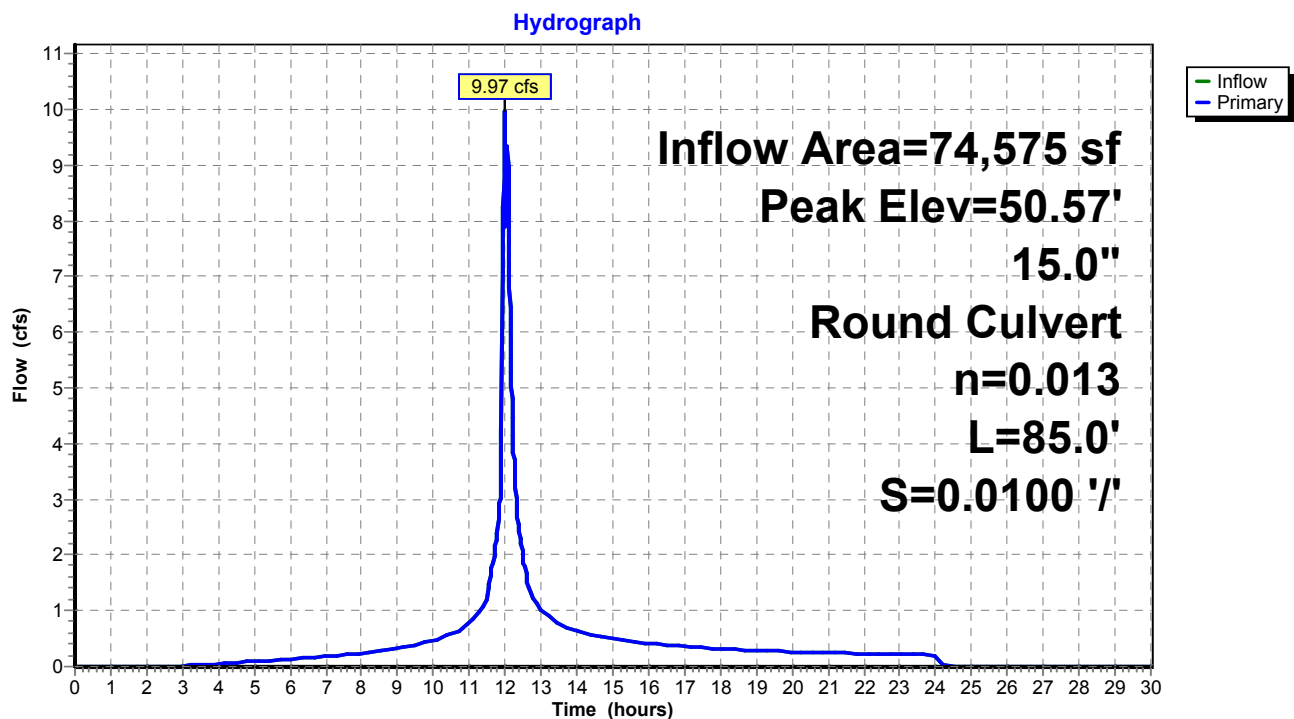
Flood Elev= 54.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.60'	15.0" Round Culvert L= 85.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.60' / 45.75' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=9.89 cfs @ 11.99 hrs HW=50.51' (Free Discharge)

↑1=Culvert (Barrel Controls 9.89 cfs @ 8.06 fps)

Pond 72P: Manhole



Existing Conditions

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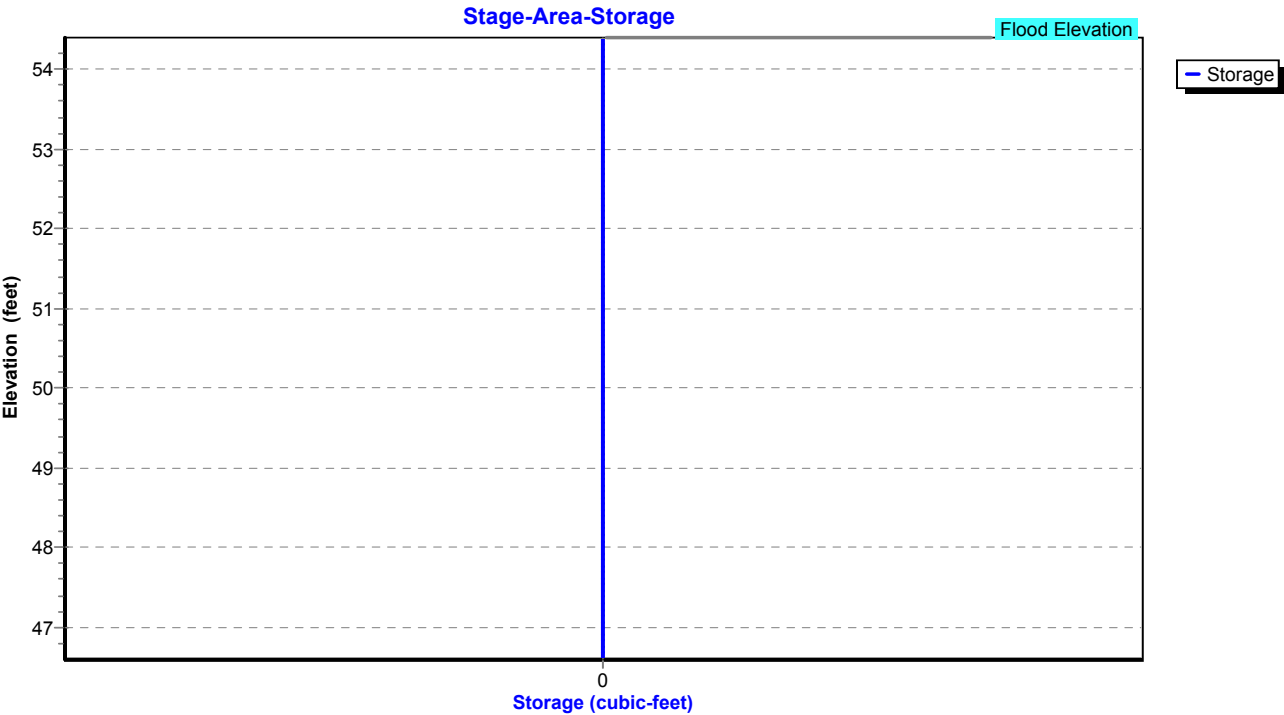
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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Pond 72P: Manhole



Existing Conditions

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Summary for Pond 73P: CB-3

Inflow Area = 74,575 sf, 50.88% Impervious, Inflow Depth = 6.40" for 100 year event
Inflow = 9.97 cfs @ 11.99 hrs, Volume= 39,753 cf
Outflow = 9.97 cfs @ 11.99 hrs, Volume= 39,753 cf, Atten= 0%, Lag= 0.0 min
Primary = 9.97 cfs @ 11.99 hrs, Volume= 39,753 cf
Routed to Pond 72P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 52.02' @ 11.99 hrs

Flood Elev= 53.30'

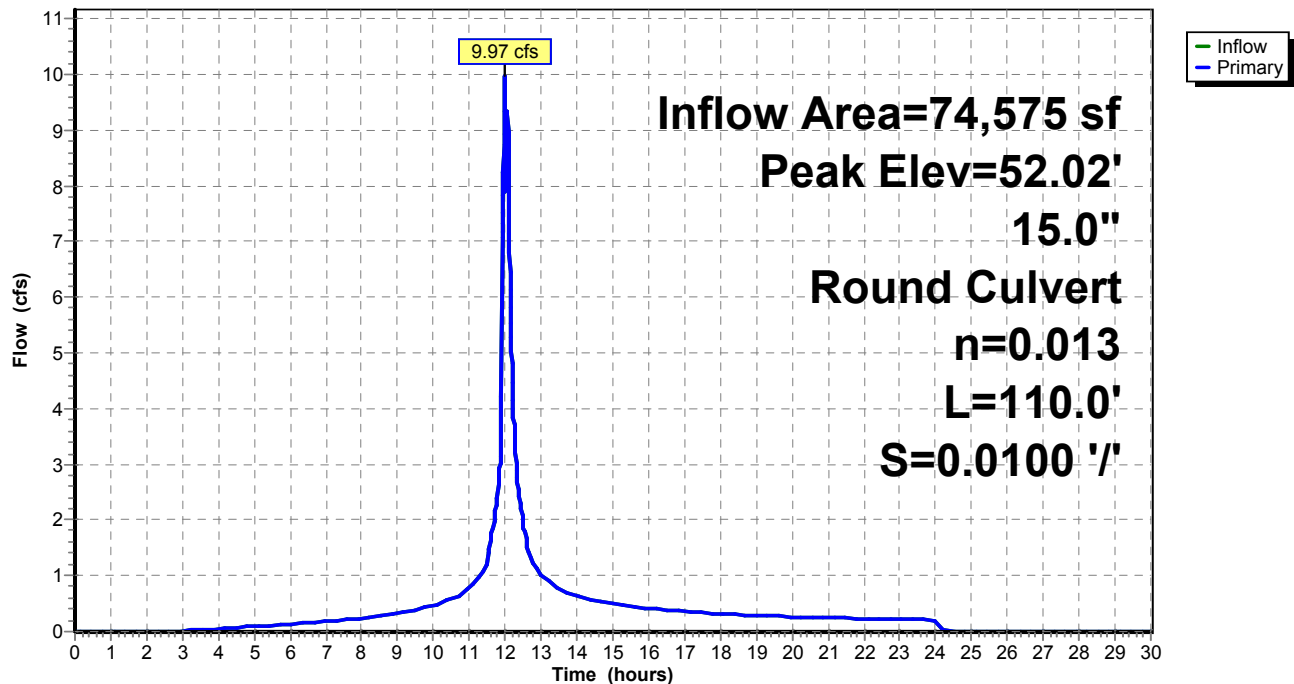
Device	Routing	Invert	Outlet Devices
#1	Primary	47.70'	15.0" Round Culvert L= 110.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.70' / 46.60' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=9.89 cfs @ 11.99 hrs HW=51.95' (Free Discharge)

↑1=Culvert (Barrel Controls 9.89 cfs @ 8.06 fps)

Pond 73P: CB-3

Hydrograph



Existing Conditions

Prepared by Tighe & Bond

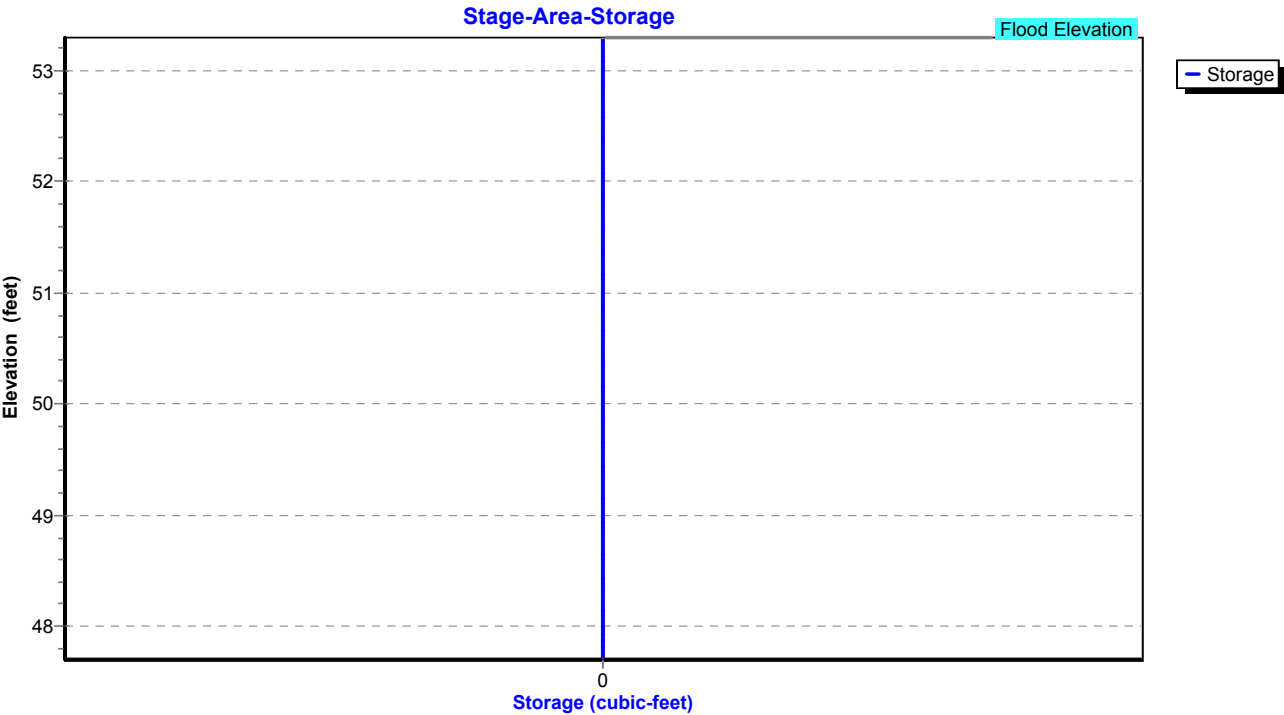
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Pond 73P: CB-3



Existing Conditions

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Summary for Pond 74P: CB-4

Inflow Area = 49,920 sf, 46.51% Impervious, Inflow Depth = 6.25" for 100 year event
Inflow = 7.53 cfs @ 12.06 hrs, Volume= 25,989 cf
Outflow = 7.53 cfs @ 12.06 hrs, Volume= 25,989 cf, Atten= 0%, Lag= 0.0 min
Primary = 7.53 cfs @ 12.06 hrs, Volume= 25,989 cf
Routed to Pond 73P : CB-3

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 51.45' @ 12.06 hrs

Flood Elev= 53.70'

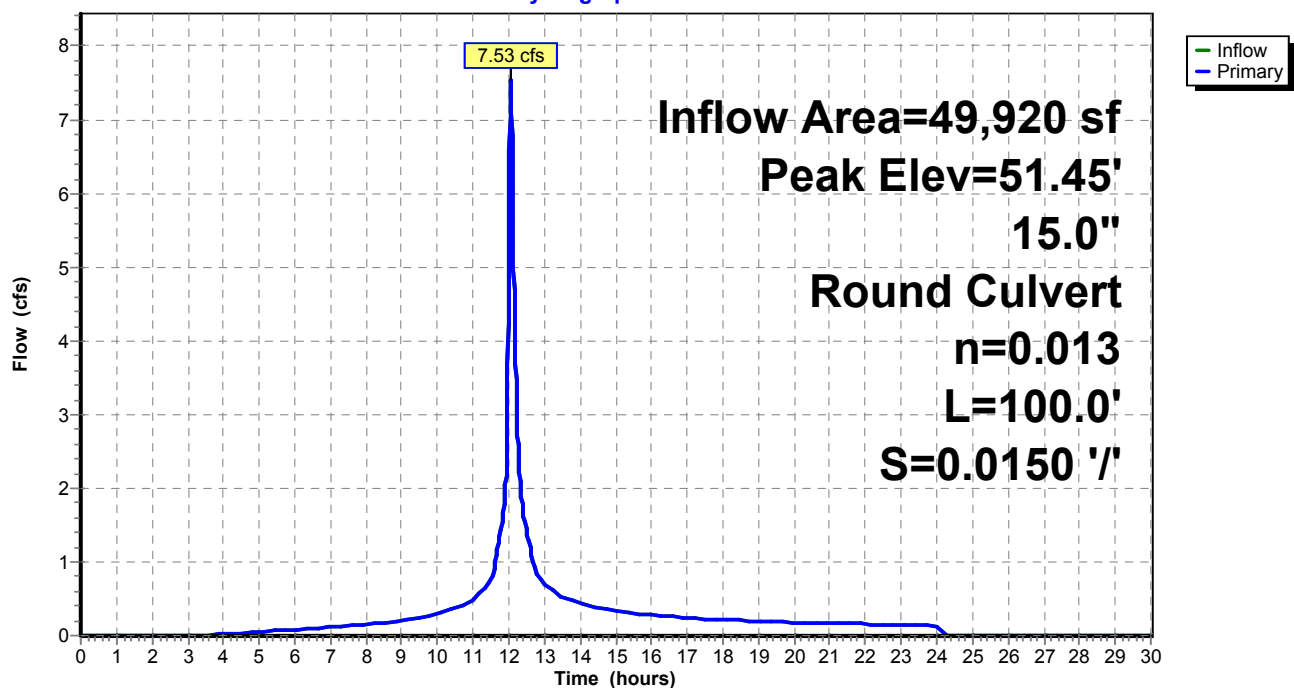
Device	Routing	Invert	Outlet Devices
#1	Primary	49.20'	15.0" Round Culvert L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.20' / 47.70' S= 0.0150 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=7.52 cfs @ 12.06 hrs HW=51.44' (Free Discharge)

↑1=Culvert (Inlet Controls 7.52 cfs @ 6.13 fps)

Pond 74P: CB-4

Hydrograph



Existing Conditions

Prepared by Tighe & Bond

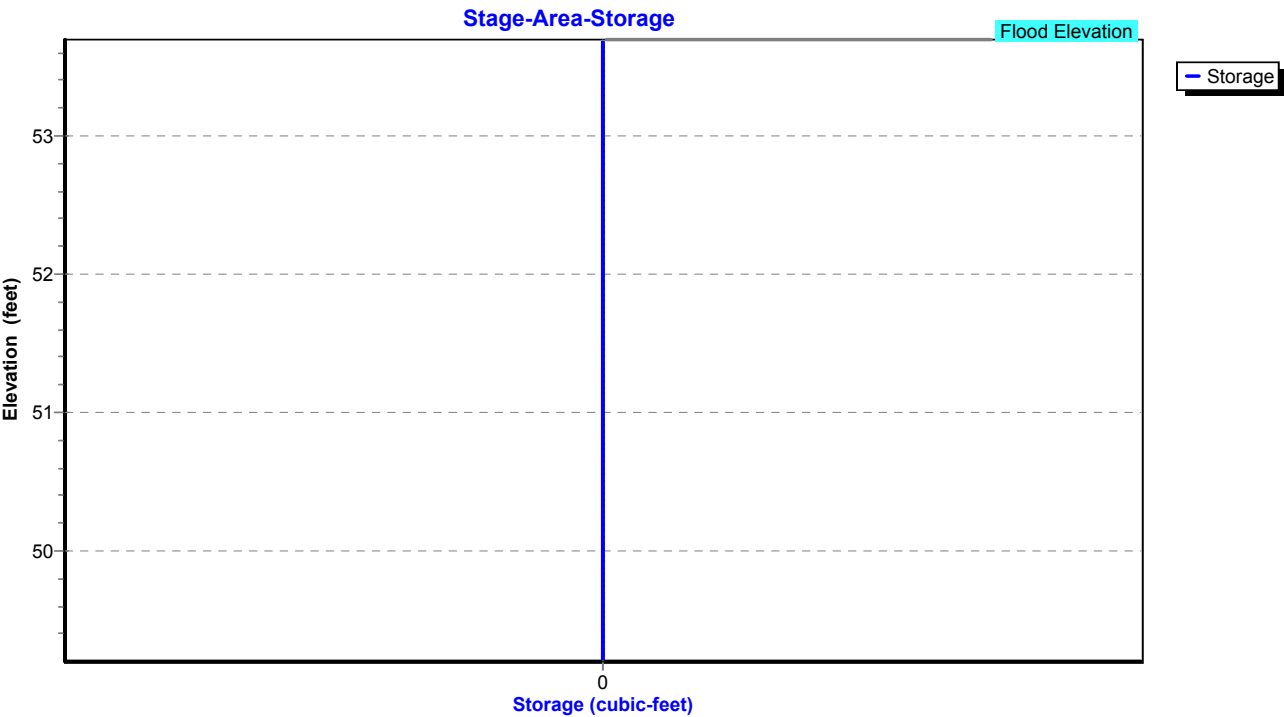
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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Pond 74P: CB-4



Existing Conditions

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Pond 77P: Manhole

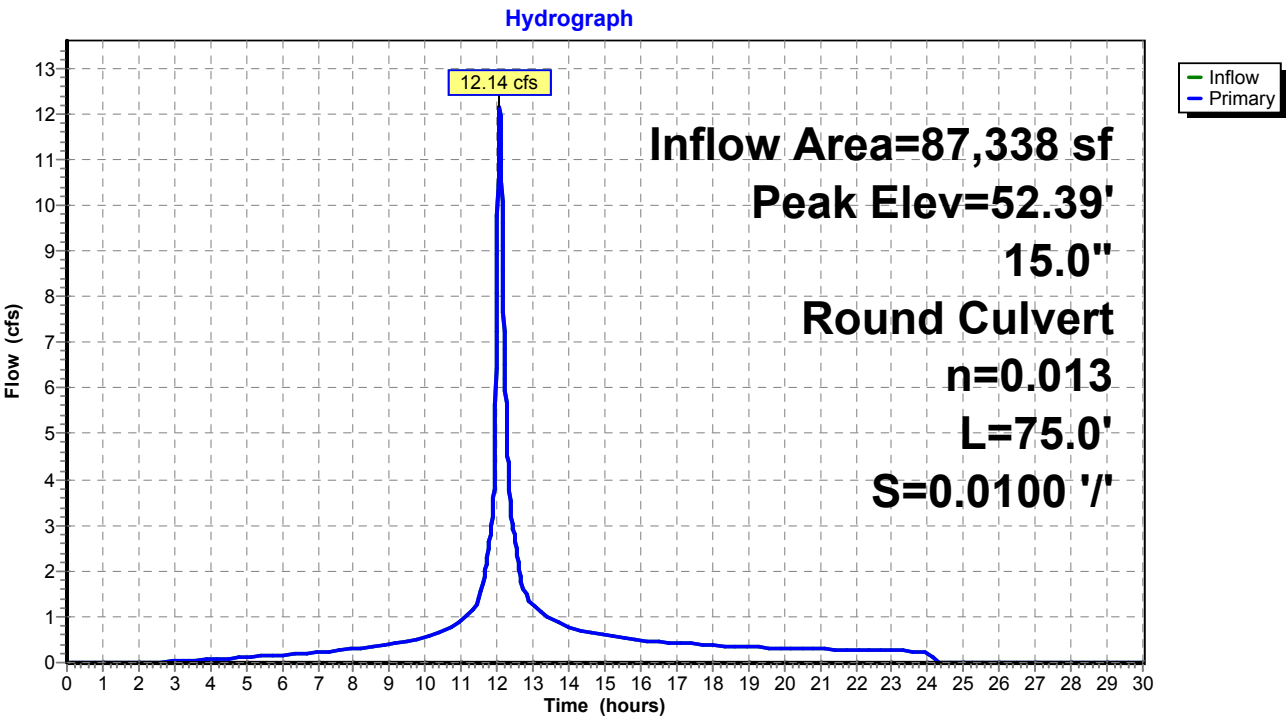
Inflow Area = 87,338 sf, 48.38% Impervious, Inflow Depth = 6.54" for 100 year event
Inflow = 12.14 cfs @ 12.06 hrs, Volume= 47,618 cf
Outflow = 12.14 cfs @ 12.06 hrs, Volume= 47,618 cf, Atten= 0%, Lag= 0.0 min
Primary = 12.14 cfs @ 12.06 hrs, Volume= 47,618 cf
Routed to Pond 63P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 52.39' @ 12.06 hrs
Flood Elev= 52.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.95'	15.0" Round Culvert L= 75.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.95' / 46.20' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=12.13 cfs @ 12.06 hrs HW=52.38' (Free Discharge)
1=Culvert (Barrel Controls 12.13 cfs @ 9.88 fps)

Pond 77P: Manhole



Existing Conditions

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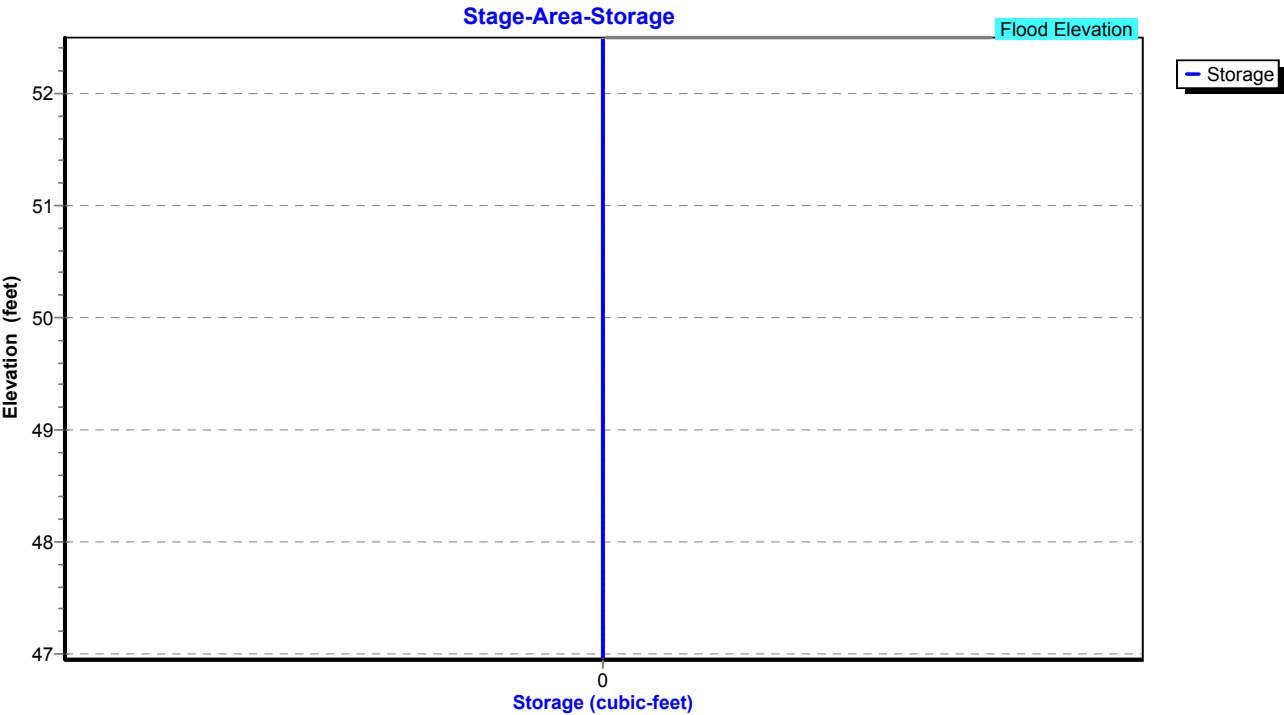
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Pond 77P: Manhole



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Summary for Pond 79P: CB-8

Inflow Area = 3,920 sf, 100.00% Impervious, Inflow Depth = 8.02" for 100 year event
Inflow = 0.80 cfs @ 12.03 hrs, Volume= 2,619 cf
Outflow = 0.80 cfs @ 12.03 hrs, Volume= 2,619 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.80 cfs @ 12.03 hrs, Volume= 2,619 cf
Routed to Pond 63P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.65' @ 12.03 hrs

Flood Elev= 52.50'

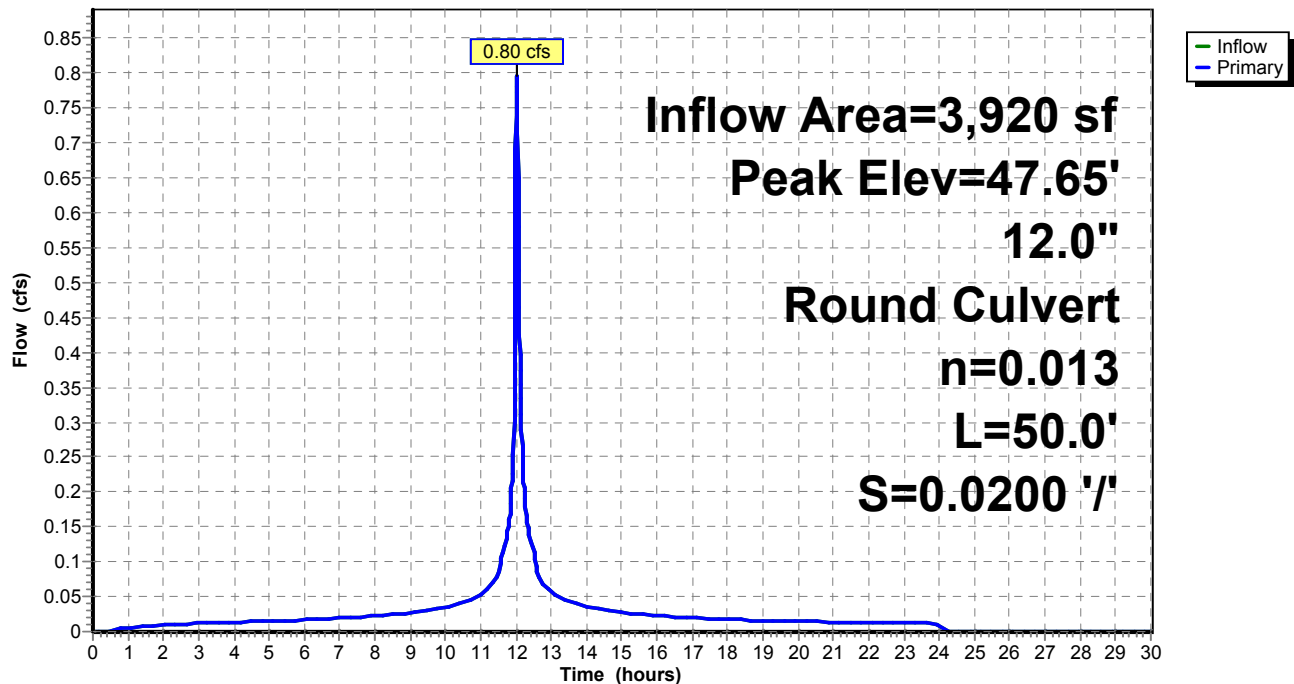
Device	Routing	Invert	Outlet Devices
#1	Primary	47.20'	12.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.20' / 46.20' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.79 cfs @ 12.03 hrs HW=47.65' (Free Discharge)

↑1=Culvert (Inlet Controls 0.79 cfs @ 2.29 fps)

Pond 79P: CB-8

Hydrograph



Existing Conditions

Prepared by Tighe & Bond

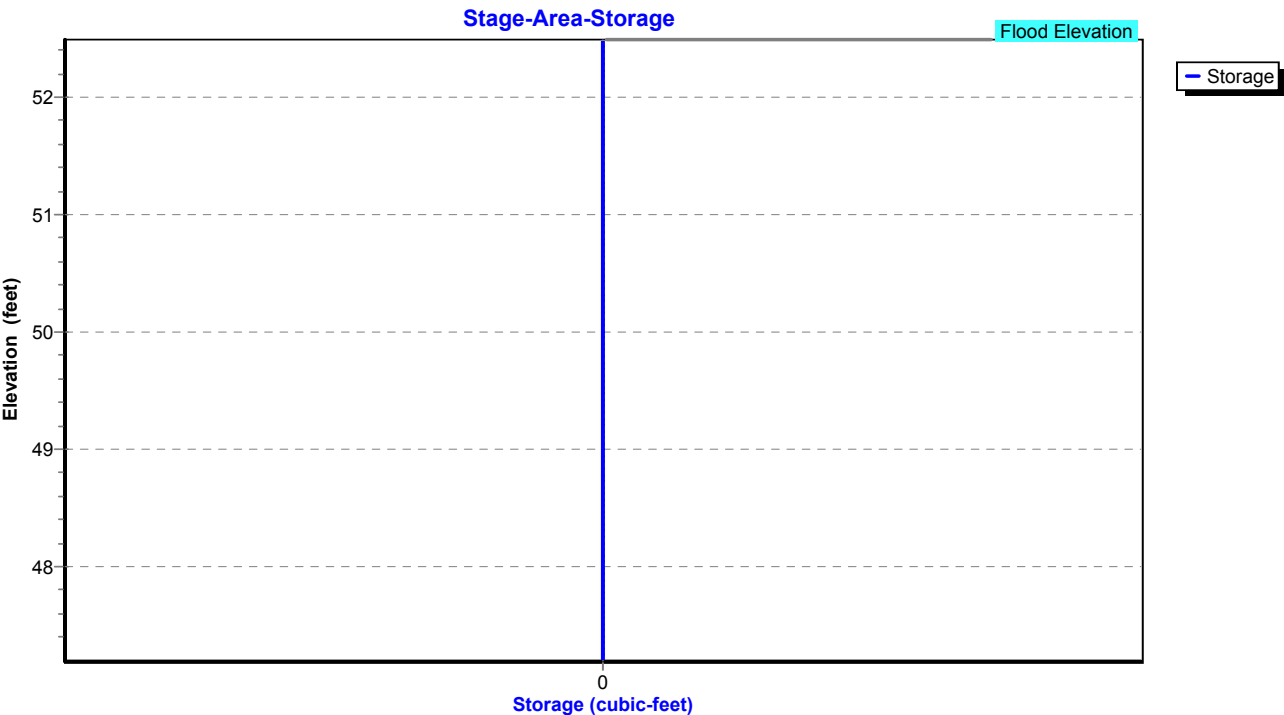
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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Pond 79P: CB-8



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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Pond 85P: CB-5

Inflow Area = 34,804 sf, 42.18% Impervious, Inflow Depth = 6.10" for 100 year event
Inflow = 5.07 cfs @ 12.07 hrs, Volume= 17,701 cf
Outflow = 5.07 cfs @ 12.07 hrs, Volume= 17,701 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.07 cfs @ 12.07 hrs, Volume= 17,701 cf
Routed to Pond 74P : CB-4

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 53.20' @ 12.07 hrs

Flood Elev= 53.30'

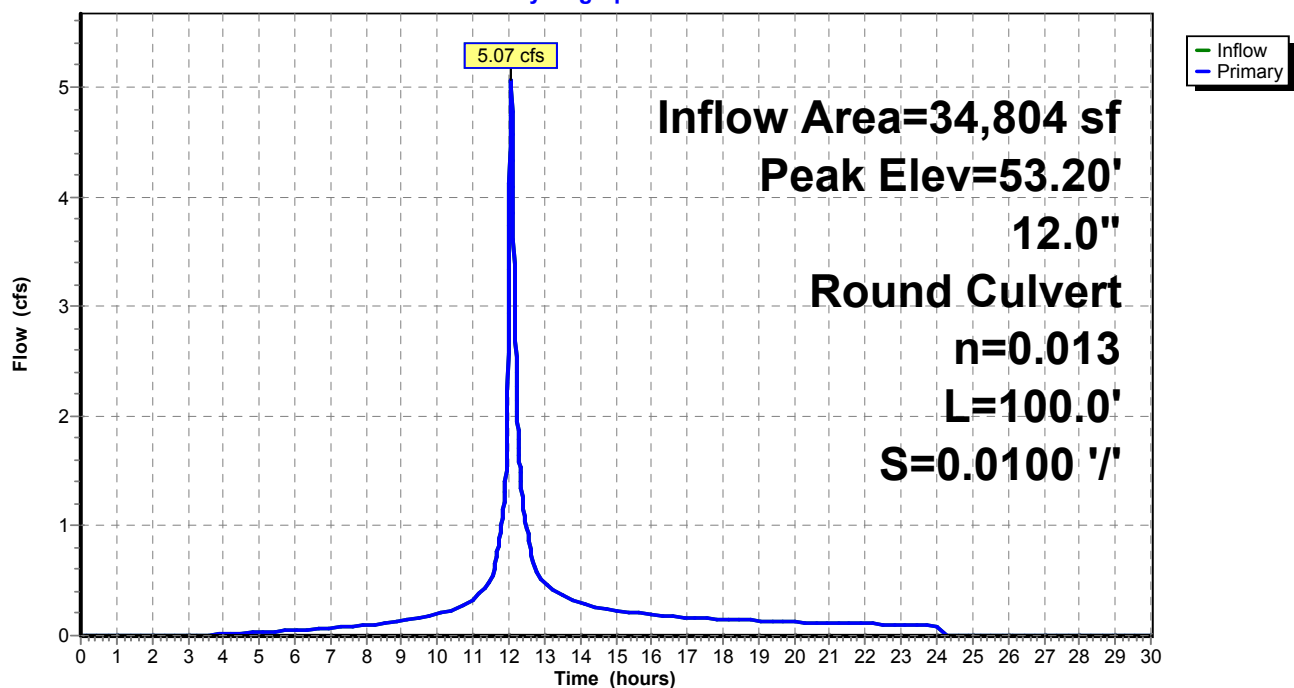
Device	Routing	Invert	Outlet Devices
#1	Primary	50.20'	12.0" Round Culvert L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 50.20' / 49.20' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=5.06 cfs @ 12.07 hrs HW=53.19' (Free Discharge)

↑1=Culvert (Barrel Controls 5.06 cfs @ 6.44 fps)

Pond 85P: CB-5

Hydrograph



Existing Conditions

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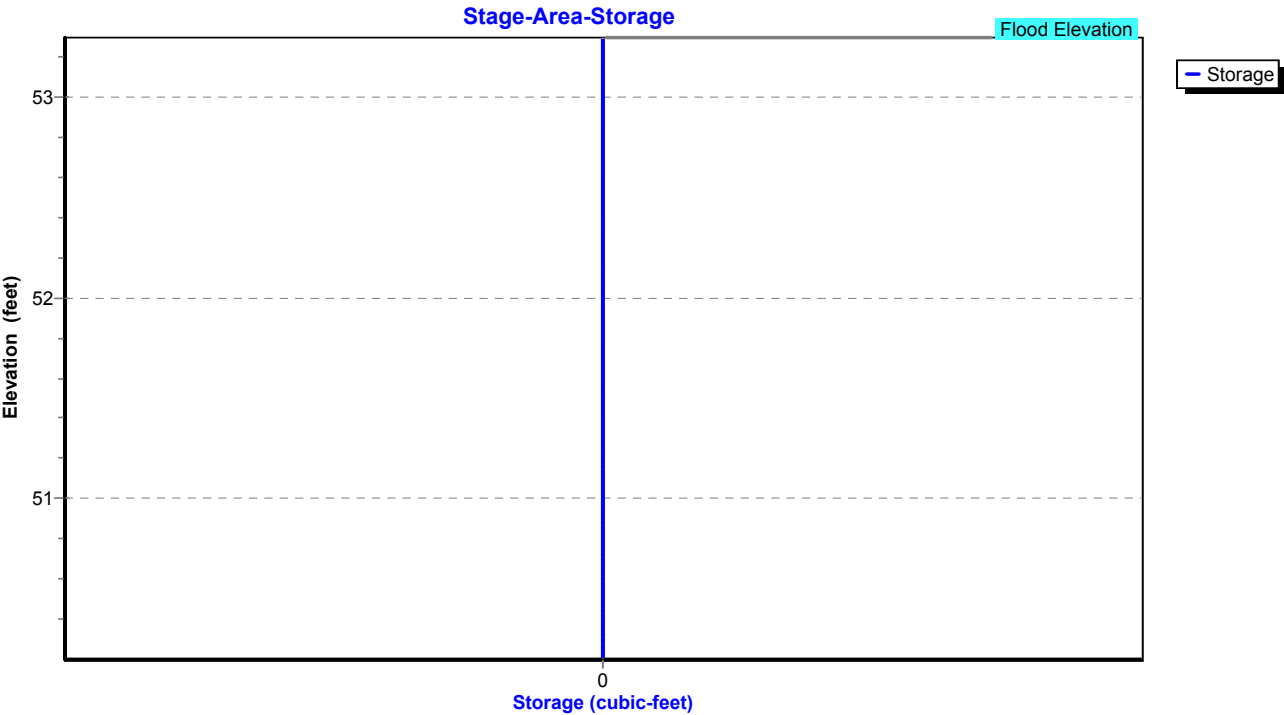
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Pond 85P: CB-5



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Summary for Pond P: ADS Stormtech

Inflow Area = 16,901 sf, 100.00% Impervious, Inflow Depth = 8.02" for 100 year event
Inflow = 3.43 cfs @ 12.03 hrs, Volume= 11,290 cf
Outflow = 2.77 cfs @ 12.06 hrs, Volume= 11,288 cf, Atten= 19%, Lag= 2.3 min
Primary = 2.77 cfs @ 12.06 hrs, Volume= 11,288 cf
Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 54.57' @ 12.06 hrs Surf.Area= 749 sf Storage= 1,503 cf

Plug-Flow detention time= 17.3 min calculated for 11,284 cf (100% of inflow)

Center-of-Mass det. time= 17.2 min (757.5 - 740.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	51.34'	764 cf	15.75'W x 46.34'L x 3.75'H Field A 2,737 cf Overall - 827 cf Embedded = 1,910 cf x 40.0% Voids
#2A	51.84'	827 cf	ADS_StormTech SC-740 +Cap x 18 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 18 Chambers in 3 Rows
#3	51.34'	114 cf	5.00'D x 5.80'H OCS
		1,705 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	51.34'	12.0" Round Culvert L= 4.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 51.34' / 51.30' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	51.34'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	54.30'	5.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=2.68 cfs @ 12.06 hrs HW=54.57' (Free Discharge)

1=Culvert (Passes 2.68 cfs of 6.24 cfs potential flow)

2=Orifice/Grate (Orifice Controls 0.73 cfs @ 8.42 fps)

3=Broad-Crested Rectangular Weir (Weir Controls 1.95 cfs @ 1.46 fps)

Existing Conditions

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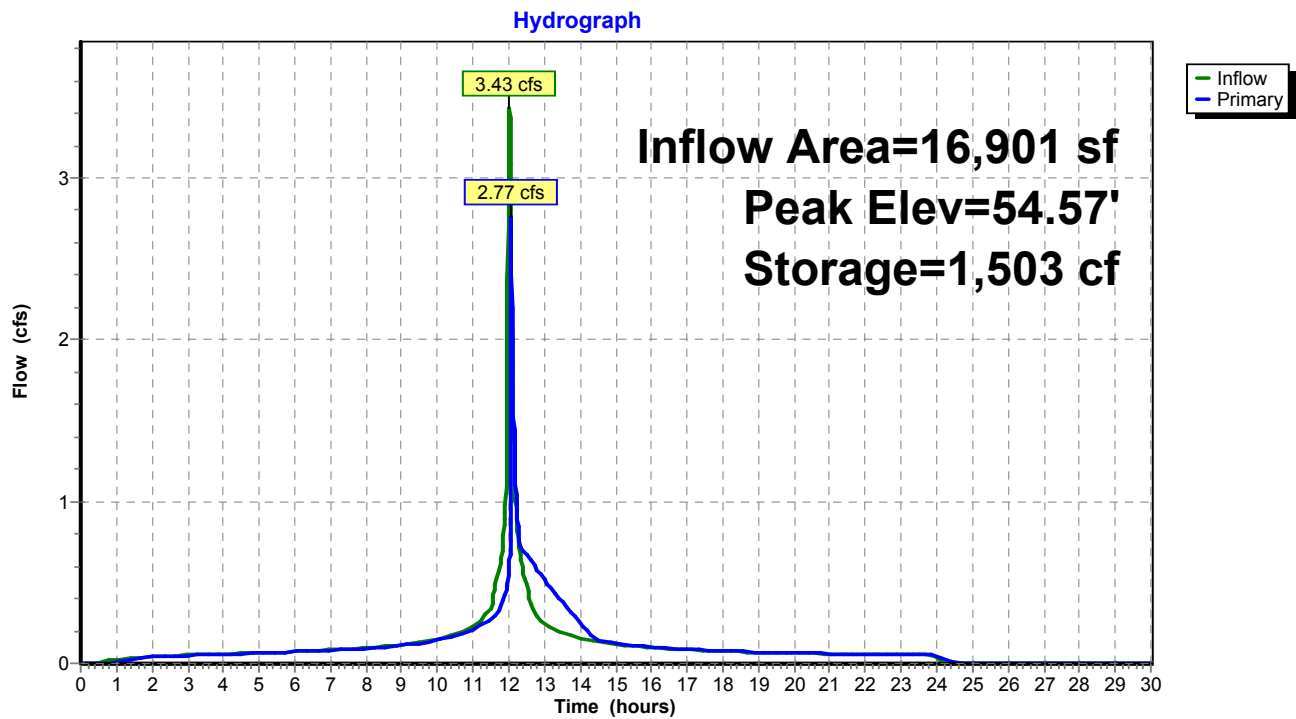
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NORWALK 24-hr S1 100 year Rainfall=8.26"

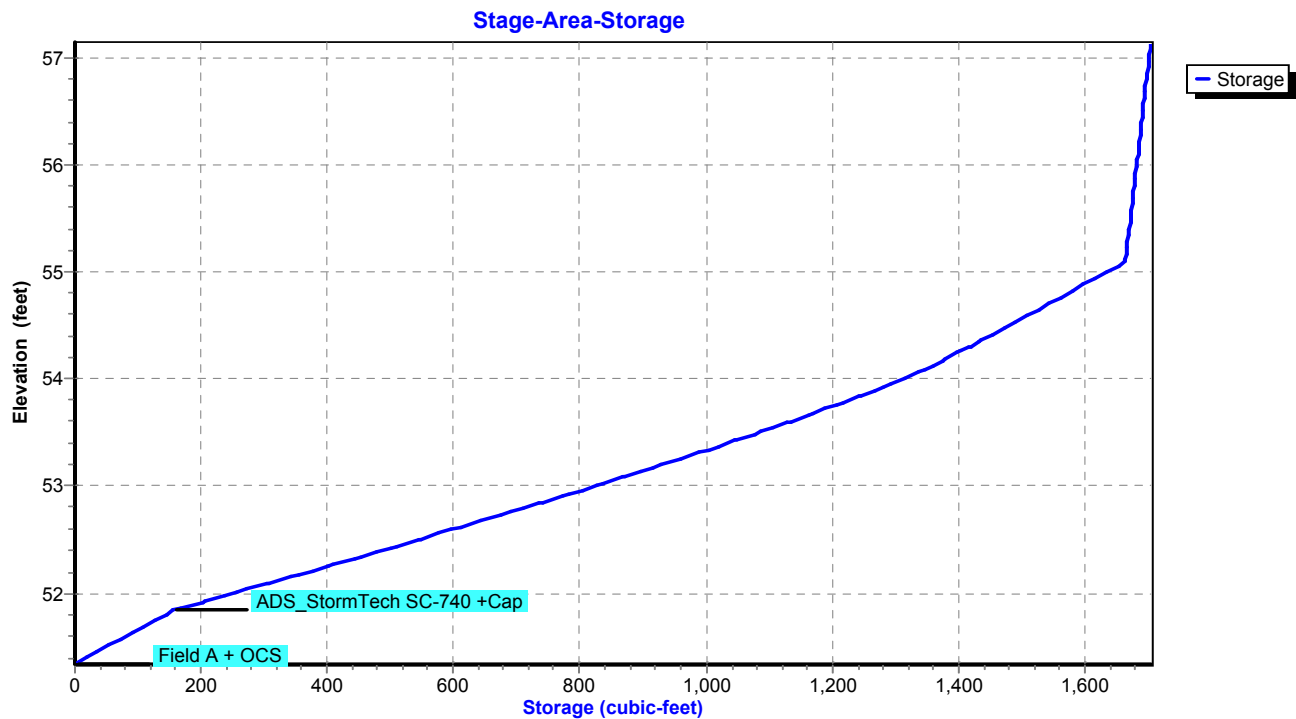
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Pond P: ADS Stormtech



Pond P: ADS Stormtech



APPENDIX D

LEGEND

WATERSHED BOUNDARY



EXISTING PIPE SYSTEM



WATERSHED CATCHMENT AREA
IMPACTED BY PROJECT



Tighe&Bond

1000 Bridgeport Avenue
Suite 320
Shelton, CT 06484
(203) 712-1100

THE AUTO
COLLECTIVE

Norwalk, CT

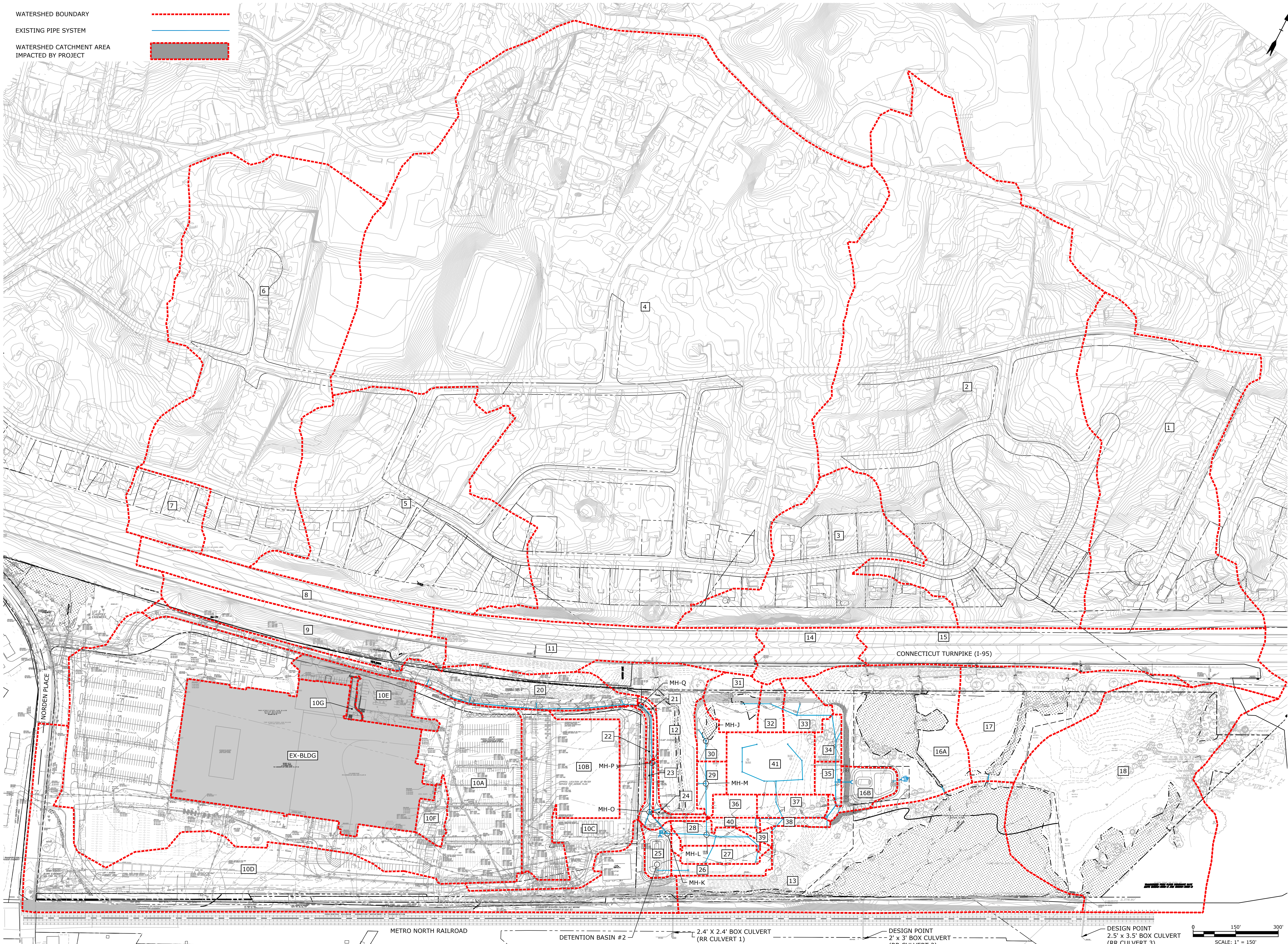
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PROJECT NO:	AS128-001	
DATE:	01/13/2025	
FILE:	AS128-01-PR-WM.dwg	
DRAWN BY:	ZNH	
CHECKED:	EWL	
APPROVED:	JWB	

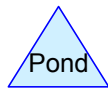
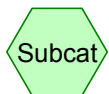
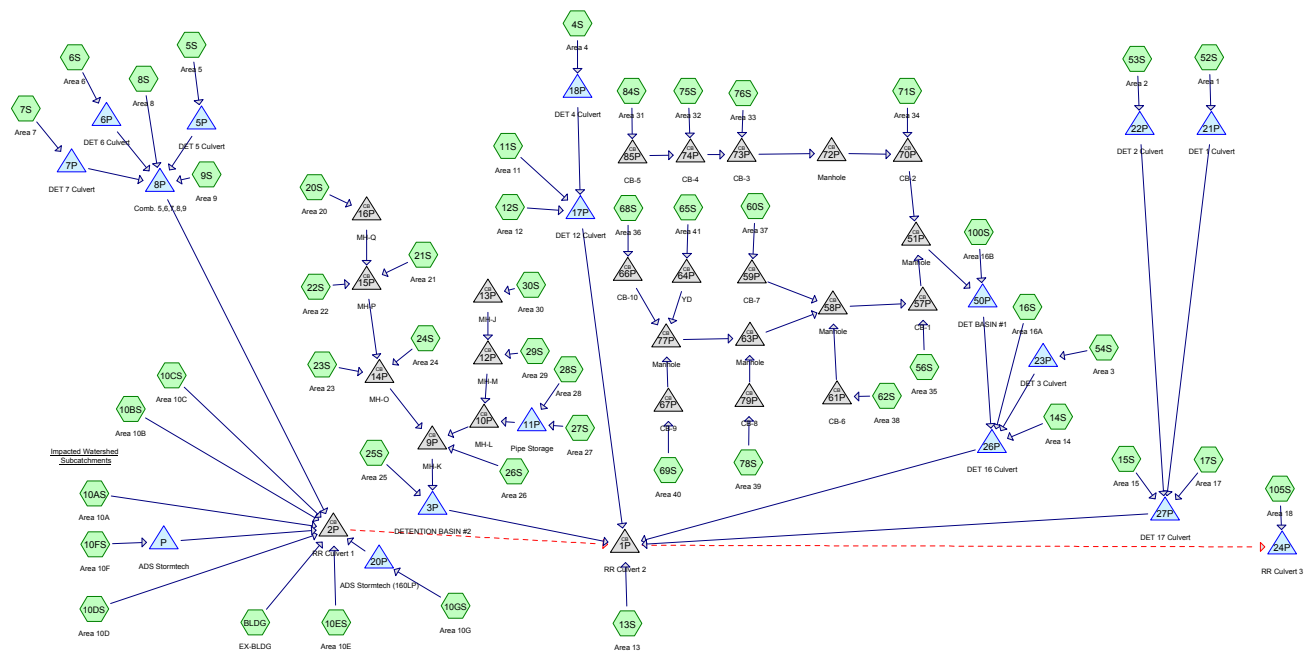
PROPOSED
WATERSHED MAP

SCALE: AS SHOWN

WM-02

Last Saved: 1/15/2025
Plotted On: Jan 15, 2025 3:28pm By: Zhanan
Tighe & Bond: 1:VA5128 The Auto Collective\0001 Design\Stormwater\AS128-01-PR-WM.dwg





Routing Diagram for Proposed Conditions
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Proposed Conditions

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
1,994,177	70	1/2 acre lots, 25% imp, HSG B (4S, 52S, 53S, 54S)
2,083,910	80	1/2 acre lots, 25% imp, HSG C (4S, 52S, 53S, 54S)
293,159	85	1/2 acre lots, 25% imp, HSG D (4S, 53S)
447,884	79	50-75% Grass cover, Fair, HSG C (7S, 10AS, 10DS, 10ES, 10GS)
25,265	84	50-75% Grass cover, Fair, HSG D (7S)
596,598	61	>75% Grass cover, Good, HSG B (4S, 5S, 10BS, 10CS)
524,593	74	>75% Grass cover, Good, HSG C (4S, 5S, 9S, 11S, 14S, 15S, 16S, 21S, 22S, 23S, 25S, 26S, 27S, 28S, 30S, 60S, 62S, 65S, 68S, 69S, 100S)
135,297	80	>75% Grass cover, Good, HSG D (4S, 5S, 9S, 24S)
6,534	89	Gravel roads, HSG C (16S)
404,672	71	Meadow, non-grazed, HSG C (6S)
1,293,688	98	Paved parking & roofs (5S, 6S, 8S, 10BS, 10CS, 11S, 14S, 15S, 17S, 20S, 21S, 22S, 23S, 24S, 26S, 27S, 28S, 29S, 30S, 56S, 60S, 62S, 65S, 68S, 69S, 71S, 75S, 76S, 78S, 84S)
307,446	98	Paved parking, HSG C (10DS, 10ES, 10GS, 105S)
537,922	98	Paved roads w/curbs & sewers, HSG C (10AS, 10FS)
360,328	98	Roofs, HSG B (BLDG)
485,171	70	Woods, Good, HSG C (12S, 13S, 16S, 17S, 20S, 75S, 76S, 84S, 105S)
991,295	77	Woods, Good, HSG D (6S, 12S, 13S, 16S, 17S, 105S)
10,487,941	80	TOTAL AREA

Proposed Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 4S: Area 4

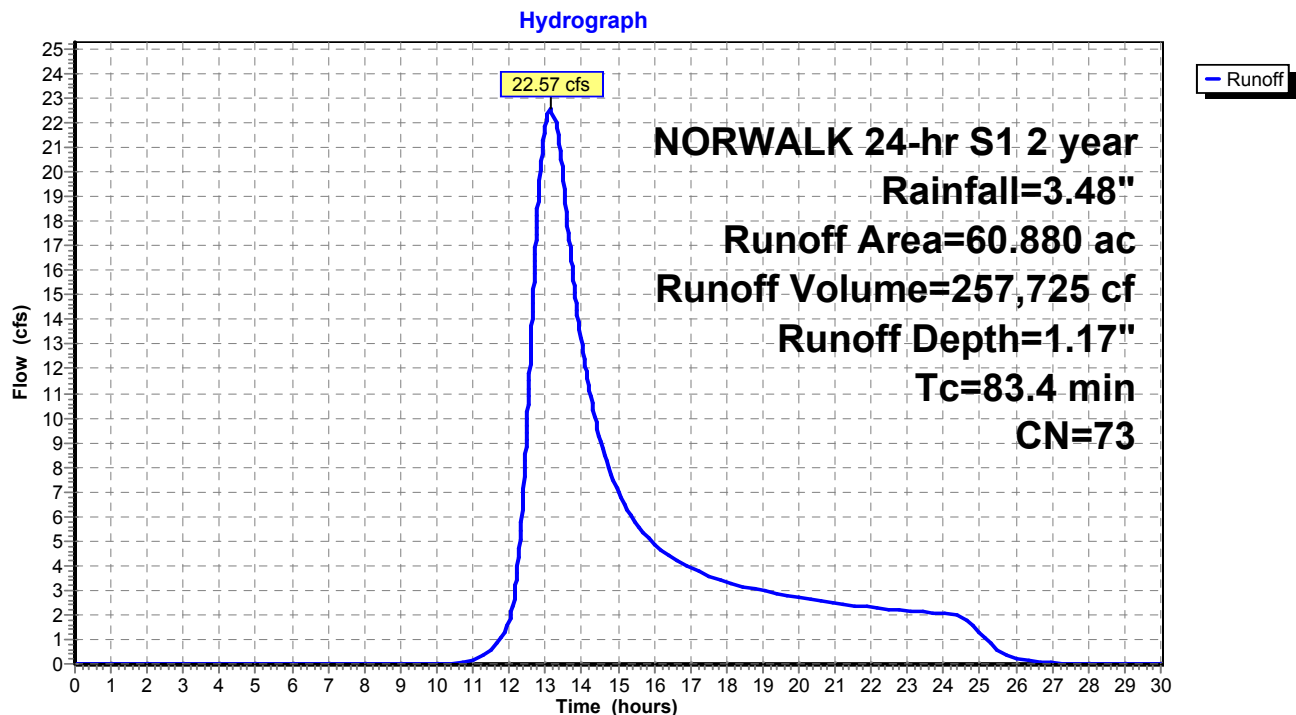
Runoff = 22.57 cfs @ 13.15 hrs, Volume= 257,725 cf, Depth= 1.17"
Routed to Pond 18P : DET 4 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
8.210	61	>75% Grass cover, Good, HSG B
0.140	74	>75% Grass cover, Good, HSG C
0.380	80	>75% Grass cover, Good, HSG D
25.920	70	1/2 acre lots, 25% imp, HSG B
22.630	80	1/2 acre lots, 25% imp, HSG C
3.600	85	1/2 acre lots, 25% imp, HSG D
60.880	73	Weighted Average
47.842		78.58% Pervious Area
13.037		21.42% Impervious Area

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

Subcatchment 4S: Area 4



Summary for Subcatchment 5S: Area 5

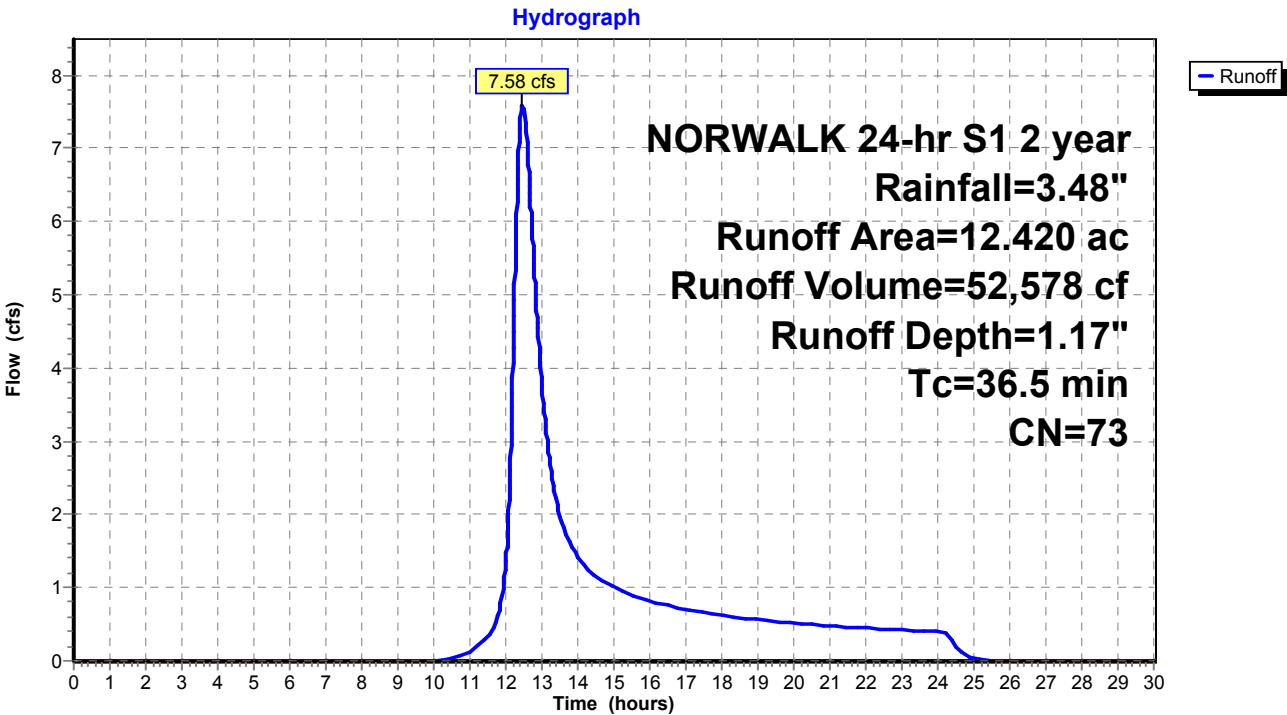
Runoff = 7.58 cfs @ 12.46 hrs, Volume= 52,578 cf, Depth= 1.17"
Routed to Pond 5P : DET 5 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
4.770	61	>75% Grass cover, Good, HSG B
5.210	74	>75% Grass cover, Good, HSG C
0.390	80	>75% Grass cover, Good, HSG D
2.050	98	Paved parking & roofs
12.420	73	Weighted Average
10.370		83.49% Pervious Area
2.050		16.51% Impervious Area

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

Subcatchment 5S: Area 5



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 6S: Area 6

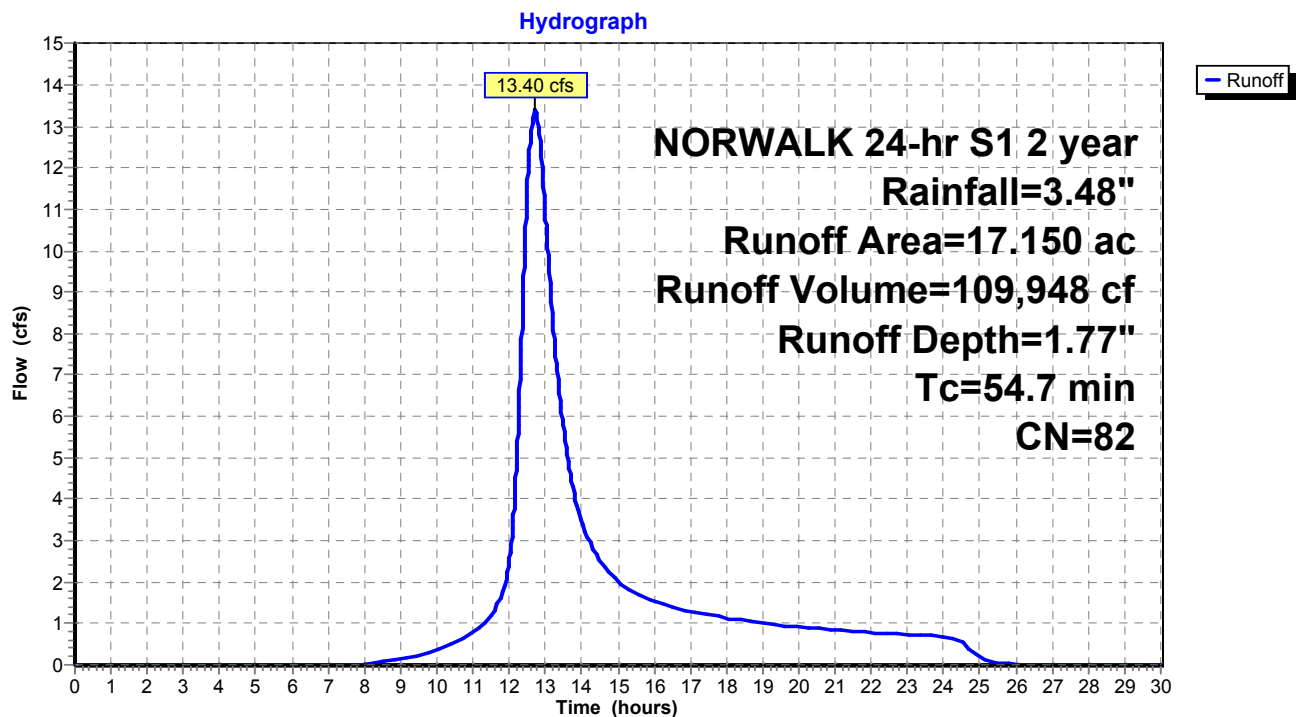
Runoff = 13.40 cfs @ 12.70 hrs, Volume= 109,948 cf, Depth= 1.77"
Routed to Pond 6P : DET 6 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
9.290	71	Meadow, non-grazed, HSG C
5.410	98	Paved parking & roofs
1.480	77	Woods, Good, HSG D
0.970	98	Paved parking & roofs
17.150	82	Weighted Average
10.770		62.80% Pervious Area
6.380		37.20% Impervious Area

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

Subcatchment 6S: Area 6



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 7S: Area 7

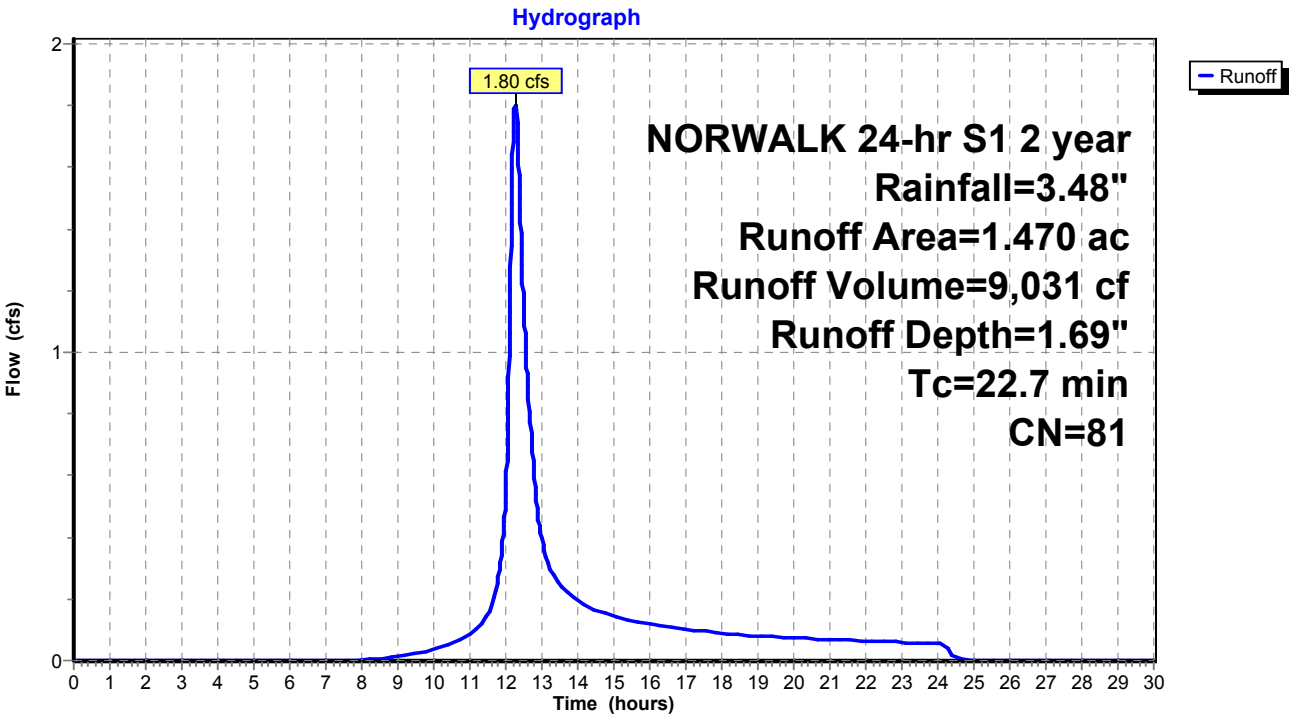
Runoff = 1.80 cfs @ 12.27 hrs, Volume= 9,031 cf, Depth= 1.69"
Routed to Pond 7P : DET 7 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.890	79	50-75% Grass cover, Fair, HSG C
0.580	84	50-75% Grass cover, Fair, HSG D
1.470	81	Weighted Average
1.470		100.00% Pervious Area

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

Subcatchment 7S: Area 7



Summary for Subcatchment 8S: Area 8

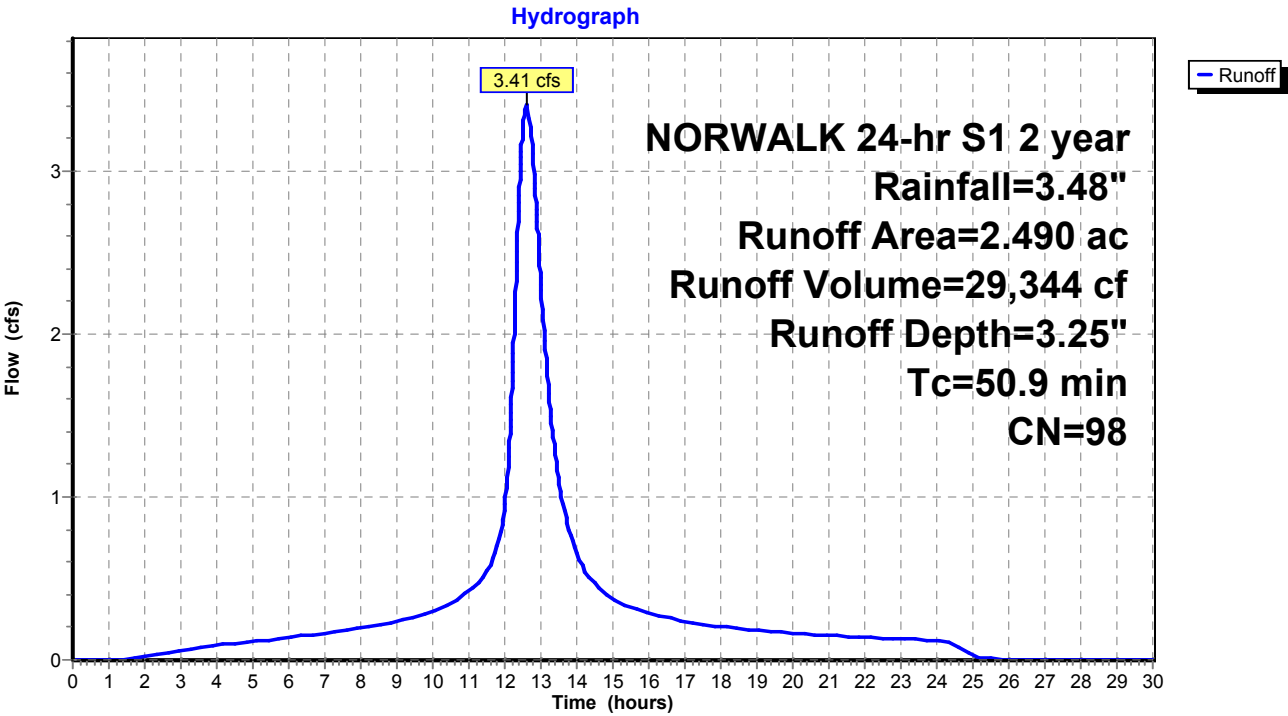
Runoff = 3.41 cfs @ 12.61 hrs, Volume= 29,344 cf, Depth= 3.25"
Routed to Pond 8P : Comb. 5,6,7,8,9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
2.490	98	Paved parking & roofs
2.490		100.00% Impervious Area

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

Subcatchment 8S: Area 8



Proposed Conditions

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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 9S: Area 9

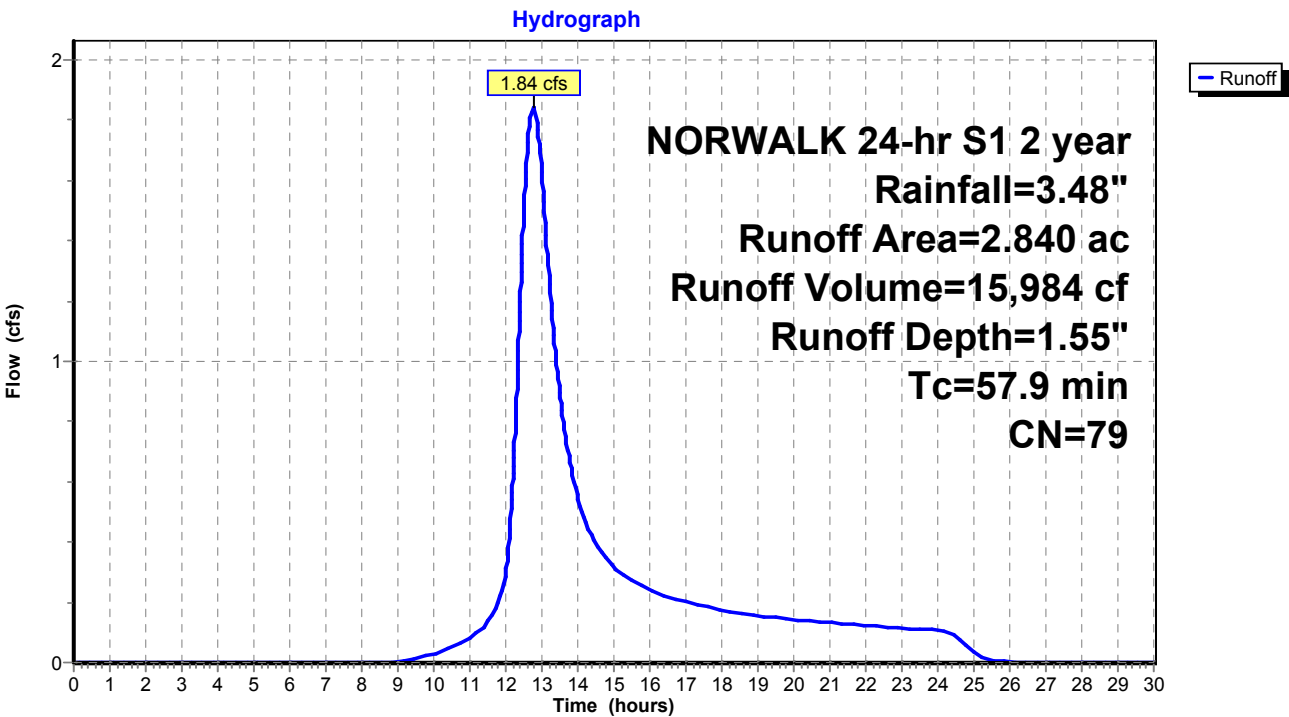
Runoff = 1.84 cfs @ 12.75 hrs, Volume= 15,984 cf, Depth= 1.55"
Routed to Pond 8P : Comb. 5,6,7,8,9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.530	74	>75% Grass cover, Good, HSG C
2.310	80	>75% Grass cover, Good, HSG D
2.840	79	Weighted Average
2.840		100.00% Pervious Area

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

Subcatchment 9S: Area 9



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 10AS: Area 10A

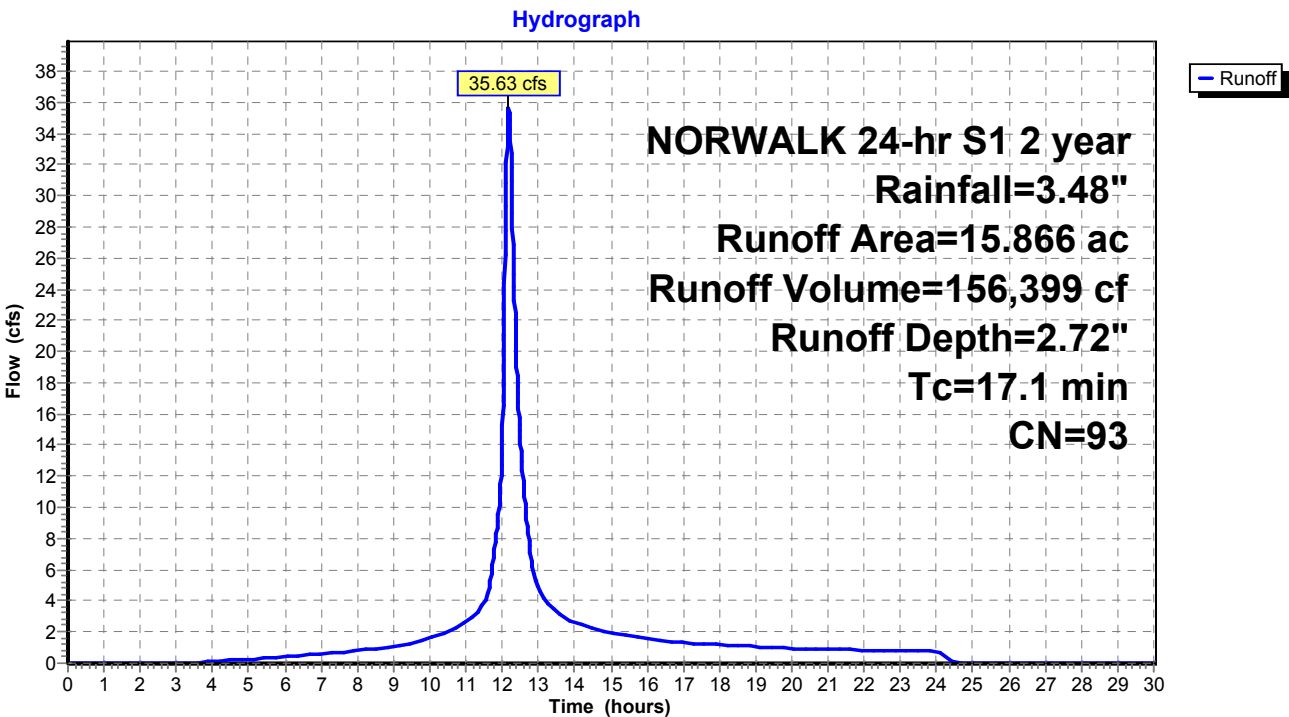
Runoff = 35.63 cfs @ 12.18 hrs, Volume= 156,399 cf, Depth= 2.72"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
3.905	79	50-75% Grass cover, Fair, HSG C
11.961	98	Paved roads w/curbs & sewers, HSG C
15.866	93	Weighted Average
3.905		24.61% Pervious Area
11.961		75.39% Impervious Area

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

Subcatchment 10AS: Area 10A



Summary for Subcatchment 10BS: Area 10B

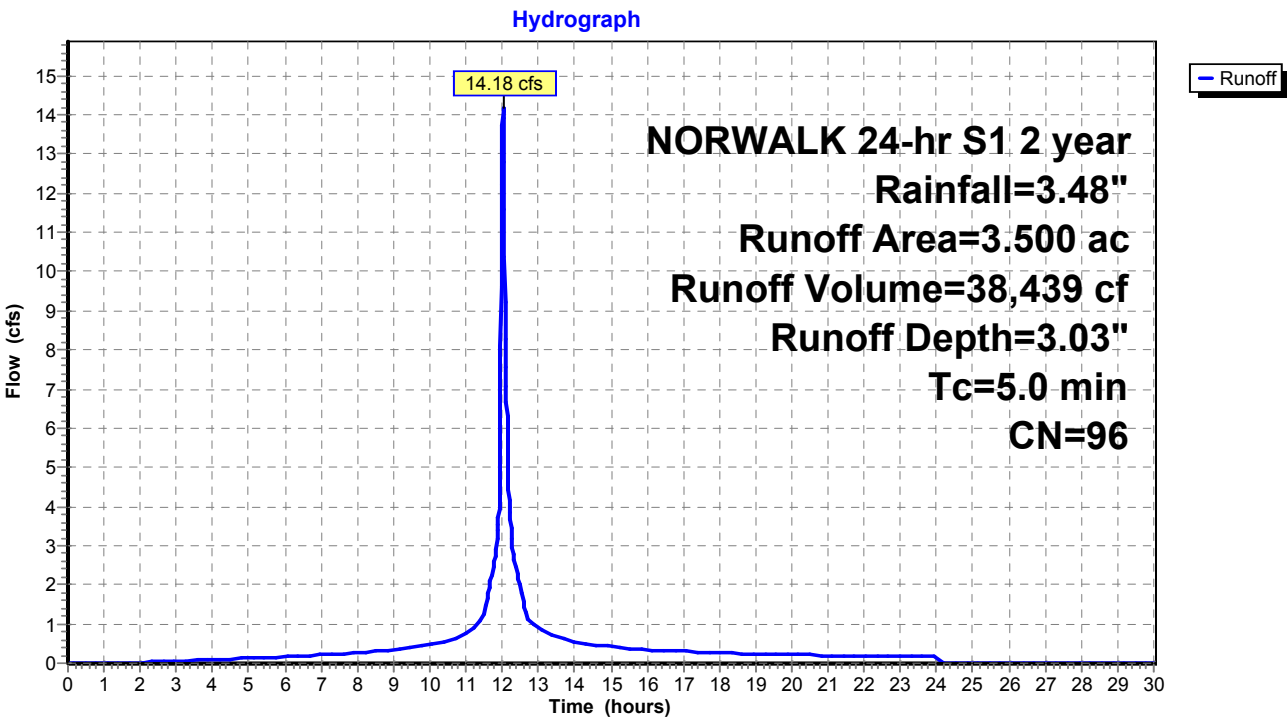
Runoff = 14.18 cfs @ 12.03 hrs, Volume= 38,439 cf, Depth= 3.03"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
3.308	98	Paved parking & roofs
0.192	61	>75% Grass cover, Good, HSG B
3.500	96	Weighted Average
0.192		5.49% Pervious Area
3.308		94.51% Impervious Area

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

Subcatchment 10BS: Area 10B



Summary for Subcatchment 10CS: Area 10C

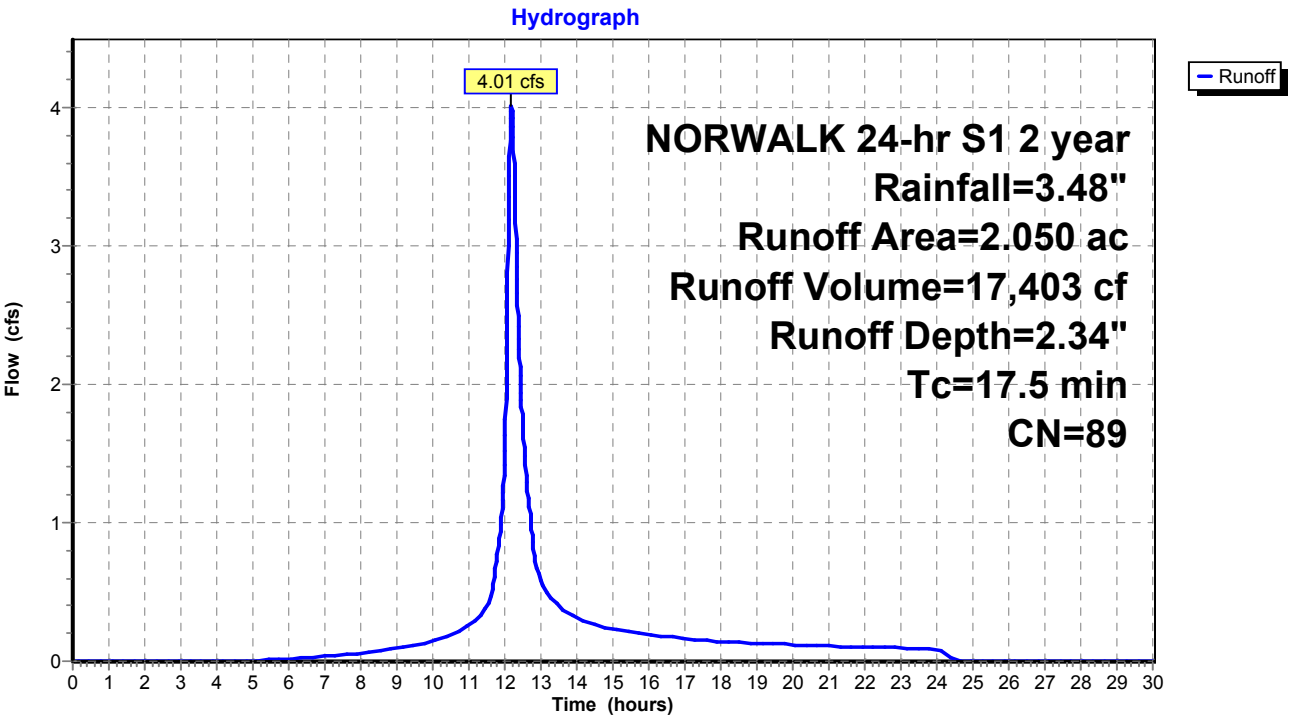
Runoff = 4.01 cfs @ 12.19 hrs, Volume= 17,403 cf, Depth= 2.34"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
1.526	98	Paved parking & roofs
0.524	61	>75% Grass cover, Good, HSG B
2.050	89	Weighted Average
0.524		25.56% Pervious Area
1.526		74.44% Impervious Area

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

Subcatchment 10CS: Area 10C



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 10DS: Area 10D

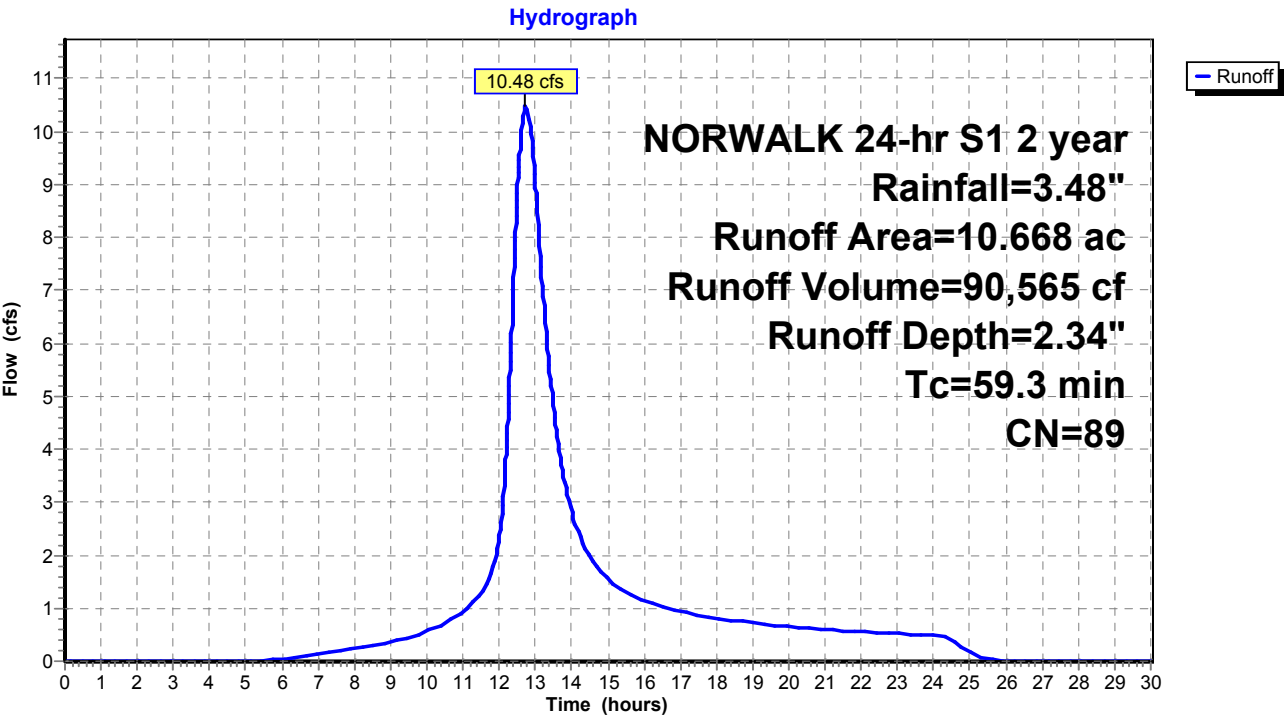
Runoff = 10.48 cfs @ 12.72 hrs, Volume= 90,565 cf, Depth= 2.34"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
5.033	79	50-75% Grass cover, Fair, HSG C
5.635	98	Paved parking, HSG C
10.668	89	Weighted Average
5.033		47.18% Pervious Area
5.635		52.82% Impervious Area

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

Subcatchment 10DS: Area 10D



Summary for Subcatchment 10ES: Area 10E

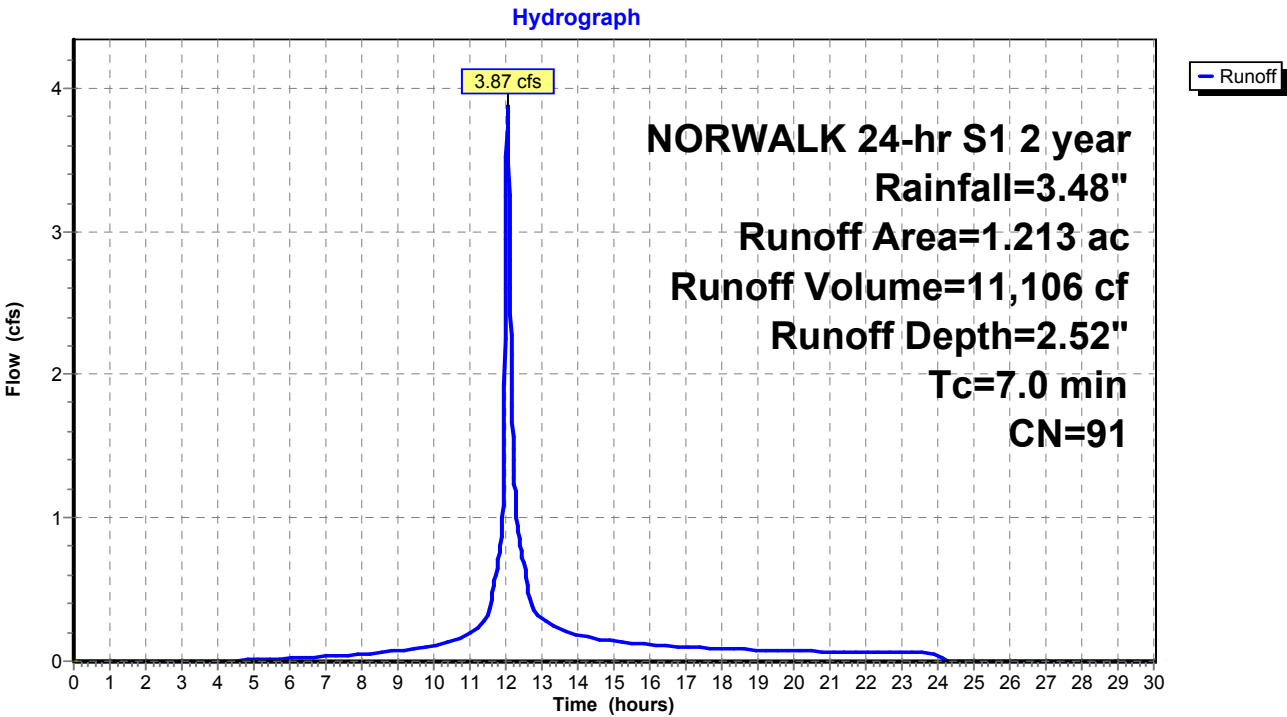
Runoff = 3.87 cfs @ 12.05 hrs, Volume= 11,106 cf, Depth= 2.52"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.781	98	Paved parking, HSG C
0.432	79	50-75% Grass cover, Fair, HSG C
1.213	91	Weighted Average
0.432		35.61% Pervious Area
0.781		64.39% Impervious Area

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

Subcatchment 10ES: Area 10E



Summary for Subcatchment 10FS: Area 10F

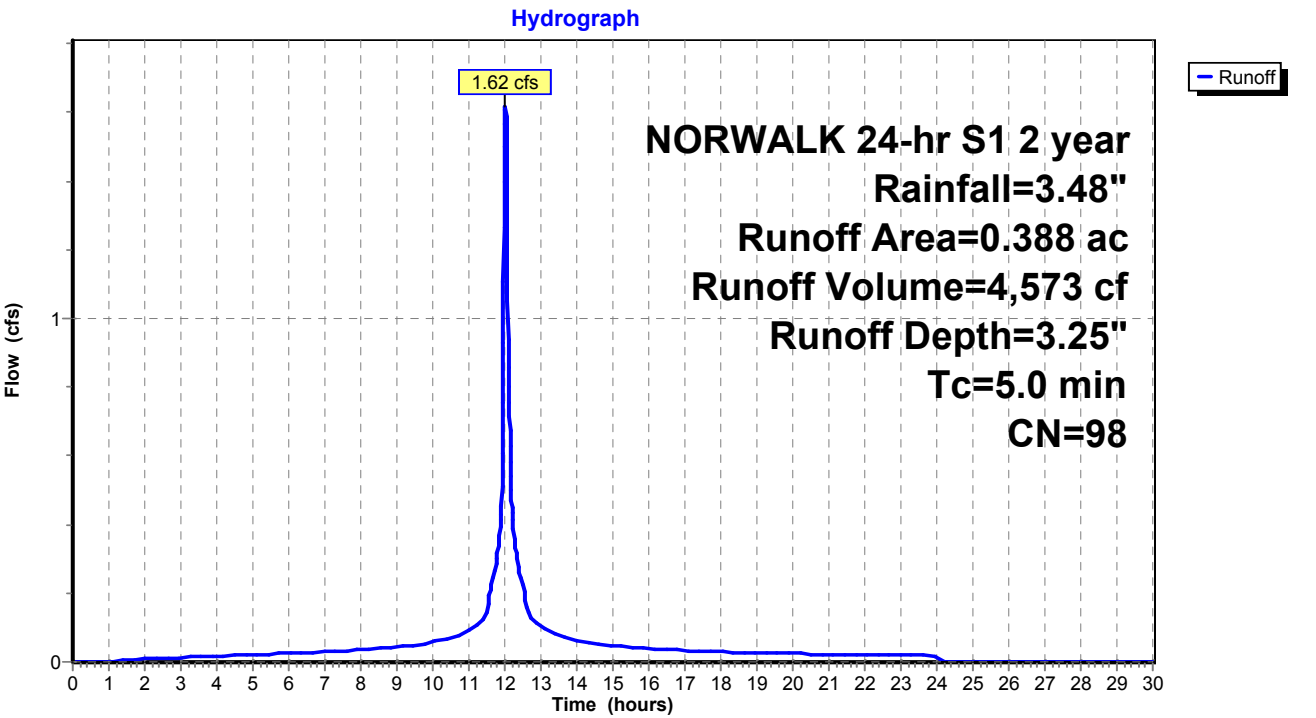
Runoff = 1.62 cfs @ 12.03 hrs, Volume= 4,573 cf, Depth= 3.25"
Routed to Pond P : ADS Stormtech

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.388	98	Paved roads w/curbs & sewers, HSG C
0.388		100.00% Impervious Area

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

Subcatchment 10FS: Area 10F



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 10GS: Area 10G

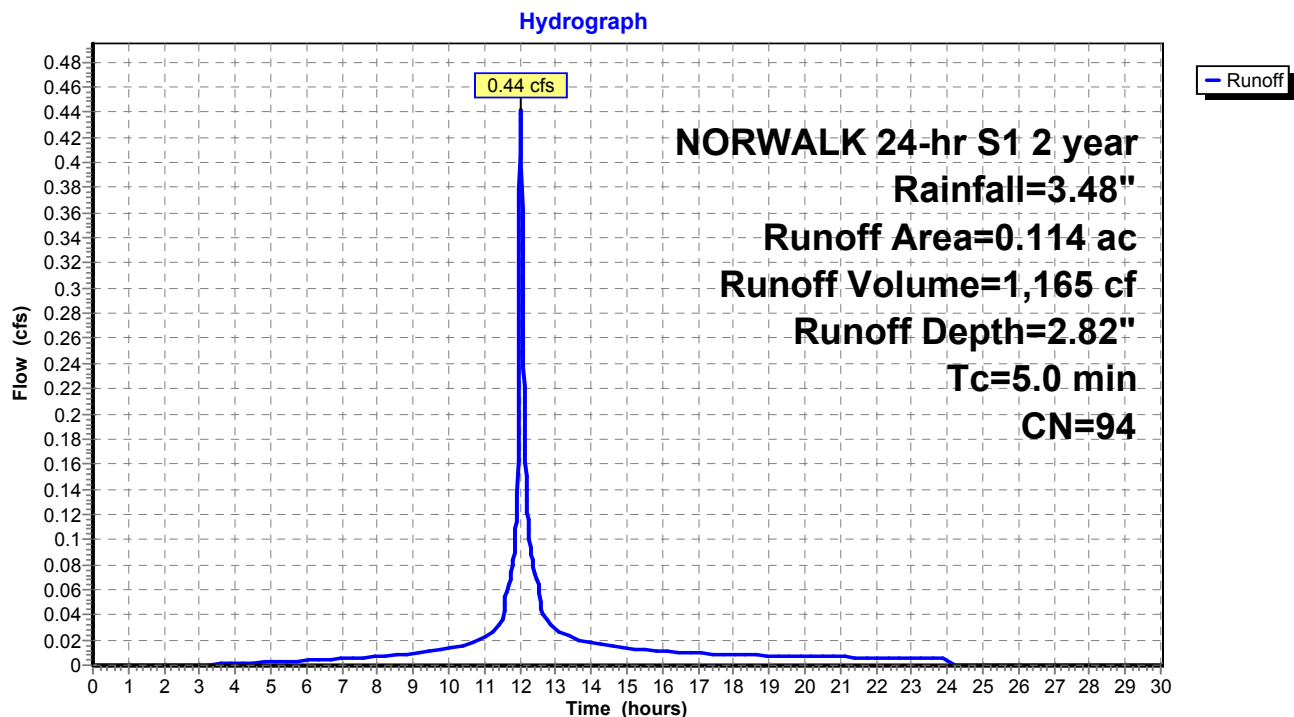
Runoff = 0.44 cfs @ 12.03 hrs, Volume= 1,165 cf, Depth= 2.82"
Routed to Pond 20P : ADS Stormtech (160LP)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
* 0.092	98	Paved parking, HSG C
* 0.022	79	50-75% Grass cover, Fair, HSG C
0.114	94	Weighted Average
0.022		19.30% Pervious Area
0.092		80.70% Impervious Area

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

Subcatchment 10GS: Area 10G



Summary for Subcatchment 11S: Area 11

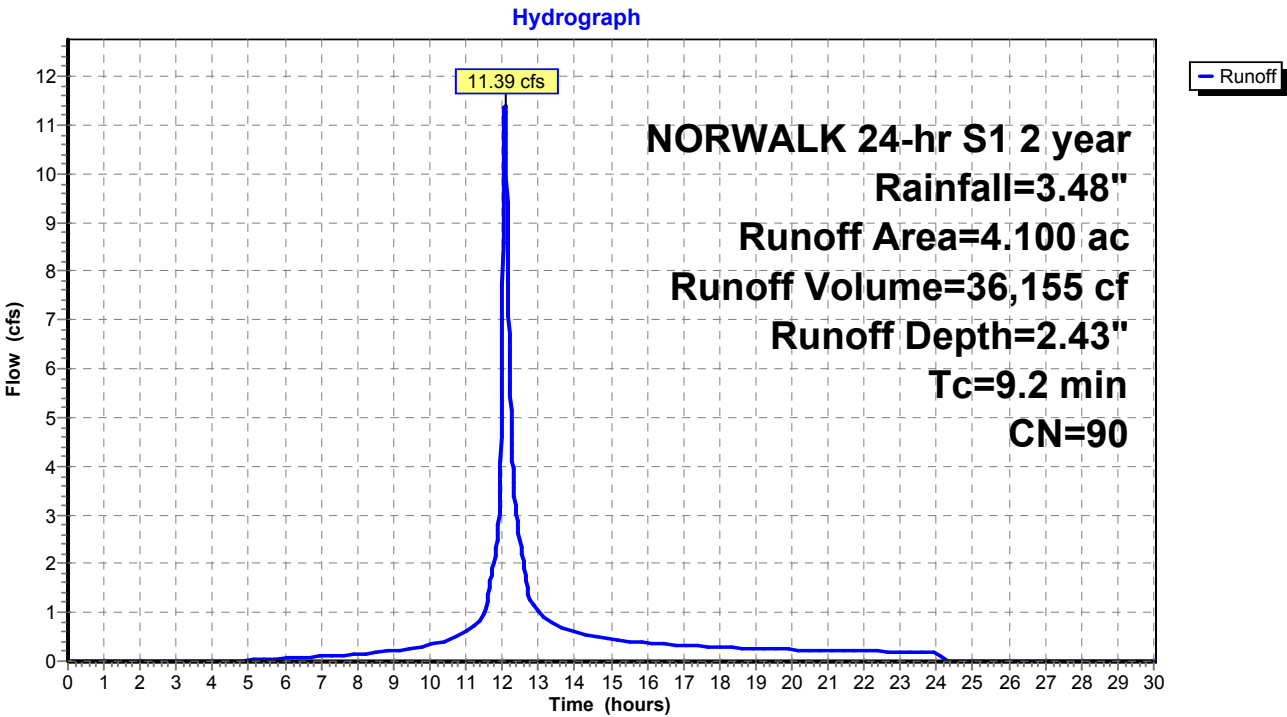
Runoff = 11.39 cfs @ 12.07 hrs, Volume= 36,155 cf, Depth= 2.43"
Routed to Pond 17P : DET 12 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
1.450	74	>75% Grass cover, Good, HSG C
2.650	98	Paved parking & roofs
4.100	90	Weighted Average
1.450		35.37% Pervious Area
2.650		64.63% Impervious Area

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

Subcatchment 11S: Area 11



Summary for Subcatchment 12S: Area 12

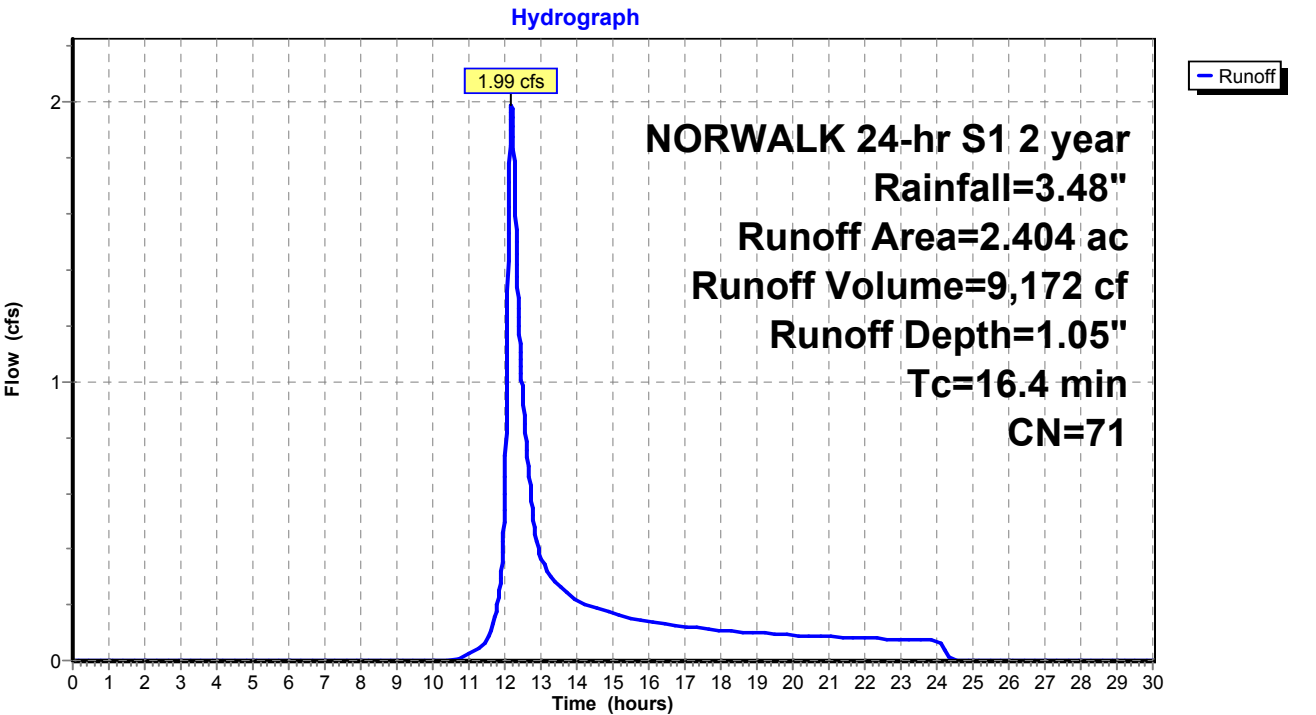
Runoff = 1.99 cfs @ 12.19 hrs, Volume= 9,172 cf, Depth= 1.05"
Routed to Pond 17P : DET 12 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
2.054	70	Woods, Good, HSG C
0.350	77	Woods, Good, HSG D
2.404	71	Weighted Average
2.404		100.00% Pervious Area

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

Subcatchment 12S: Area 12



Summary for Subcatchment 13S: Area 13

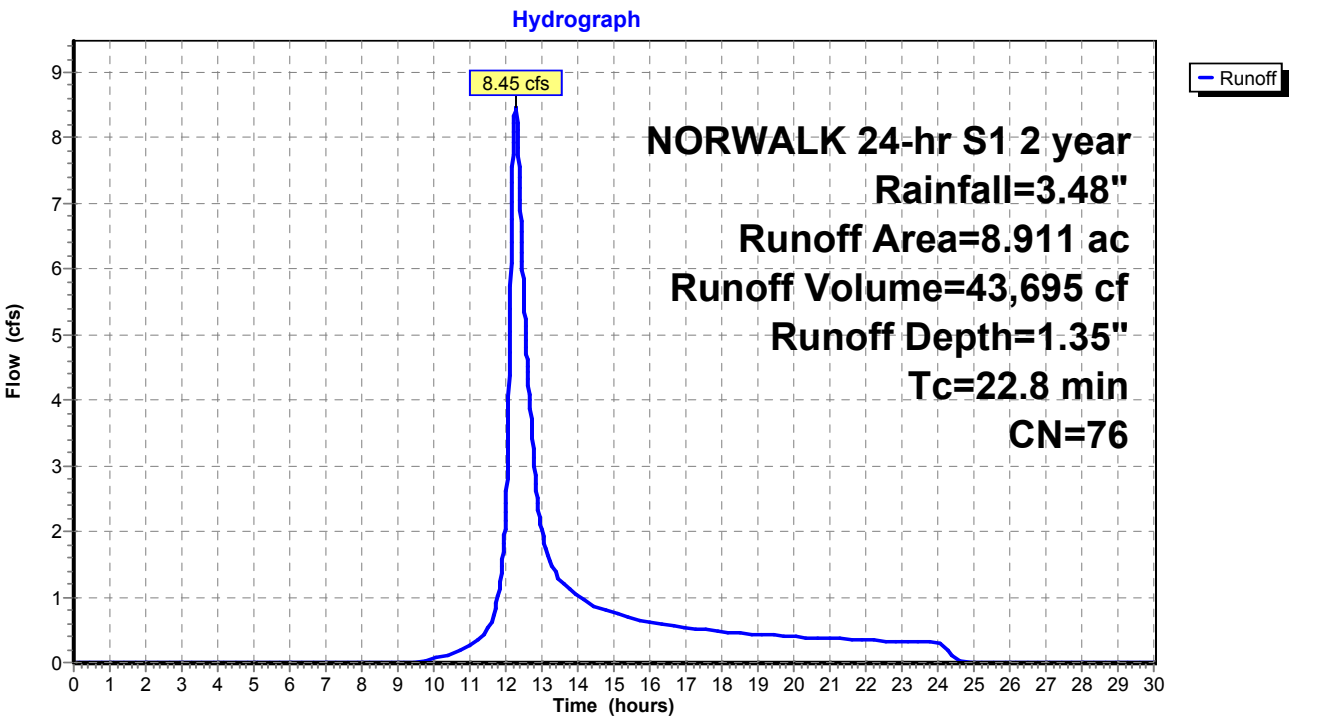
Runoff = 8.45 cfs @ 12.28 hrs, Volume= 43,695 cf, Depth= 1.35"
Routed to Pond 1P : RR Culvert 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
1.220	70	Woods, Good, HSG C
7.691	77	Woods, Good, HSG D
8.911	76	Weighted Average
8.911		100.00% Pervious Area

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

Subcatchment 13S: Area 13



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Summary for Subcatchment 14S: Area 14

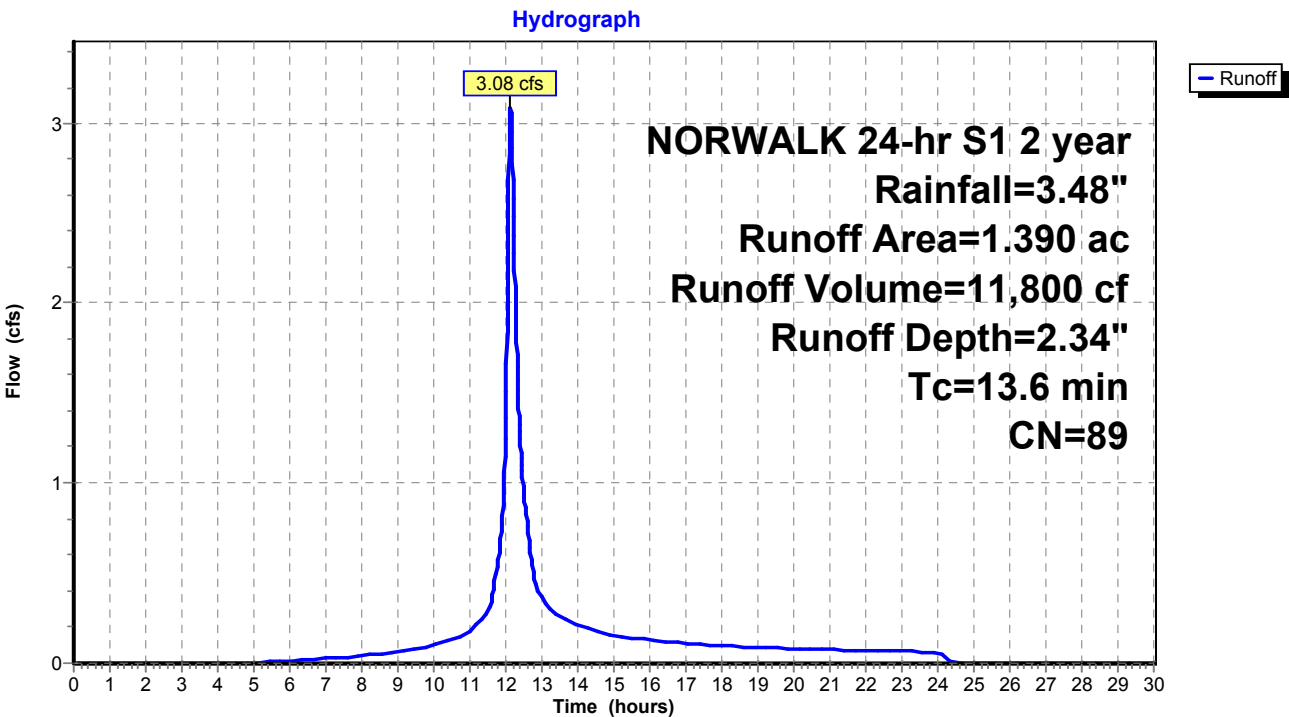
Runoff = 3.08 cfs @ 12.13 hrs, Volume= 11,800 cf, Depth= 2.34"
Routed to Pond 26P : DET 16 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.510	74	>75% Grass cover, Good, HSG C
0.880	98	Paved parking & roofs
1.390	89	Weighted Average
0.510		36.69% Pervious Area
0.880		63.31% Impervious Area

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

Subcatchment 14S: Area 14



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Summary for Subcatchment 15S: Area 15

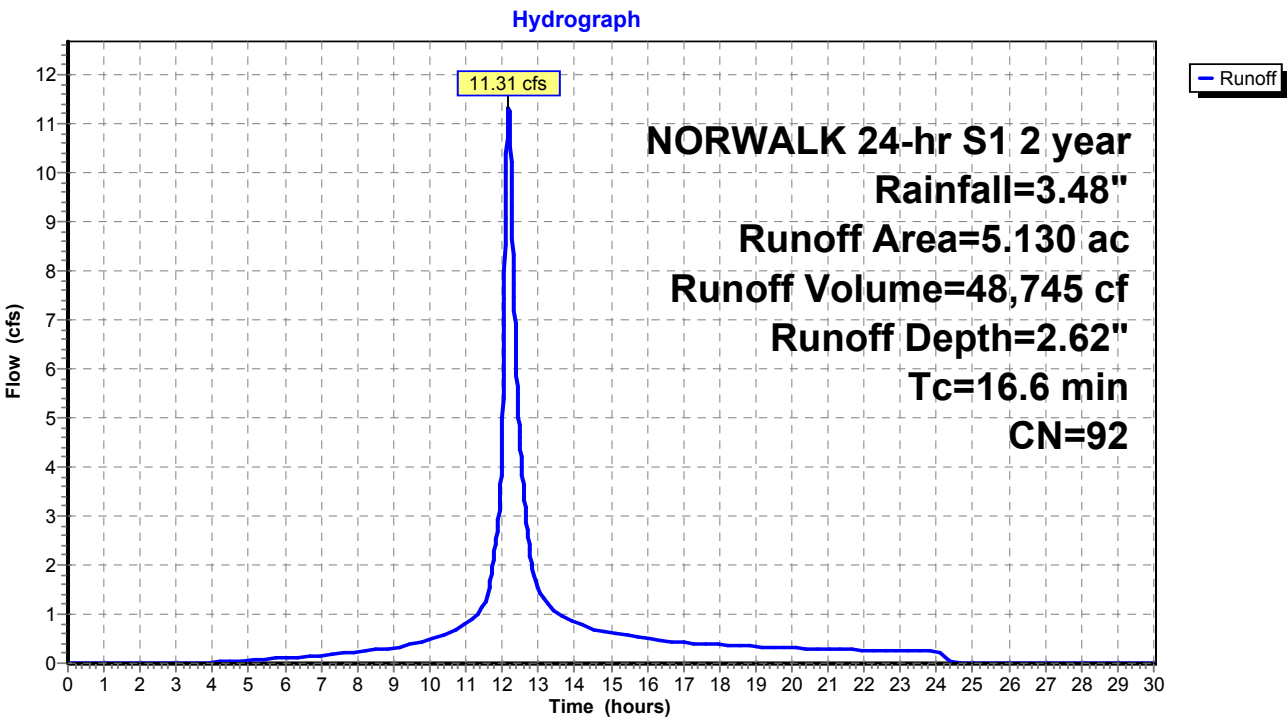
Runoff = 11.31 cfs @ 12.17 hrs, Volume= 48,745 cf, Depth= 2.62"
Routed to Pond 27P : DET 17 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
1.250	74	>75% Grass cover, Good, HSG C
3.880	98	Paved parking & roofs
5.130	92	Weighted Average
1.250		24.37% Pervious Area
3.880		75.63% Impervious Area

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

Subcatchment 15S: Area 15



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 16S: Area 16A

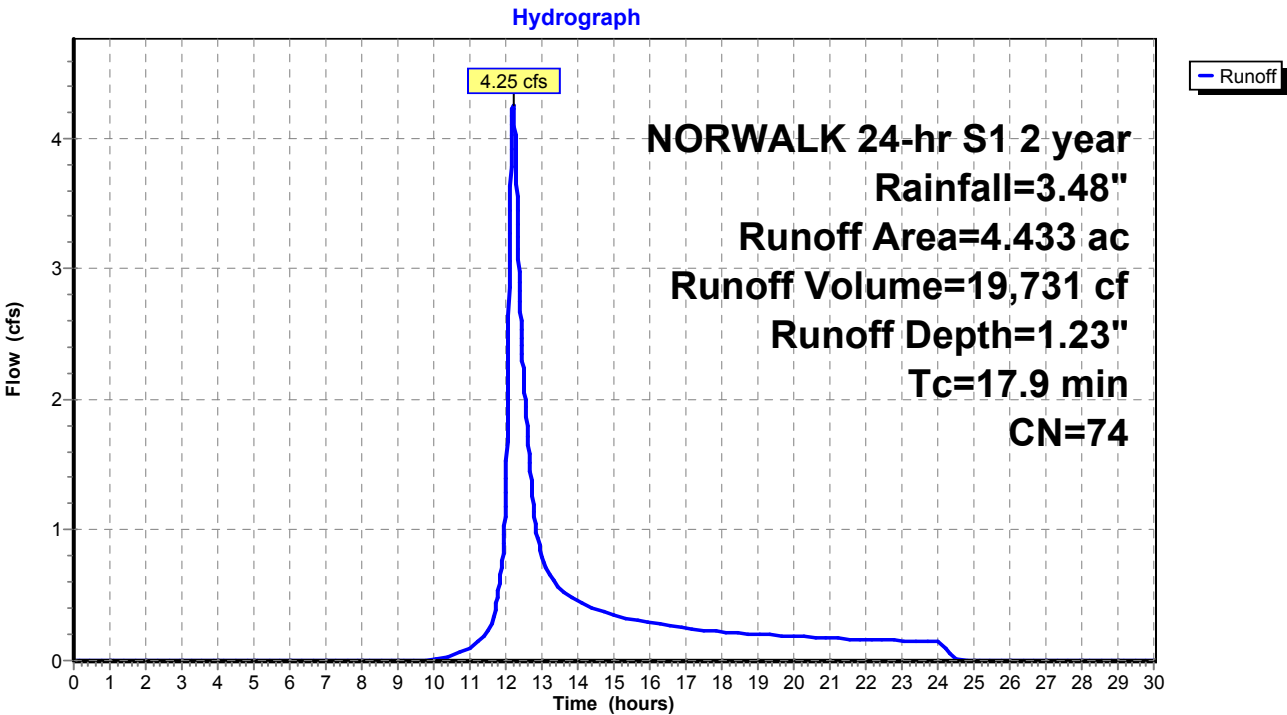
Runoff = 4.25 cfs @ 12.21 hrs, Volume= 19,731 cf, Depth= 1.23"
Routed to Pond 26P : DET 16 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
2.030	70	Woods, Good, HSG C
2.060	77	Woods, Good, HSG D
0.150	89	Gravel roads, HSG C
0.193	74	>75% Grass cover, Good, HSG C
4.433	74	Weighted Average
4.433		100.00% Pervious Area

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

Subcatchment 16S: Area 16A



Summary for Subcatchment 17S: Area 17

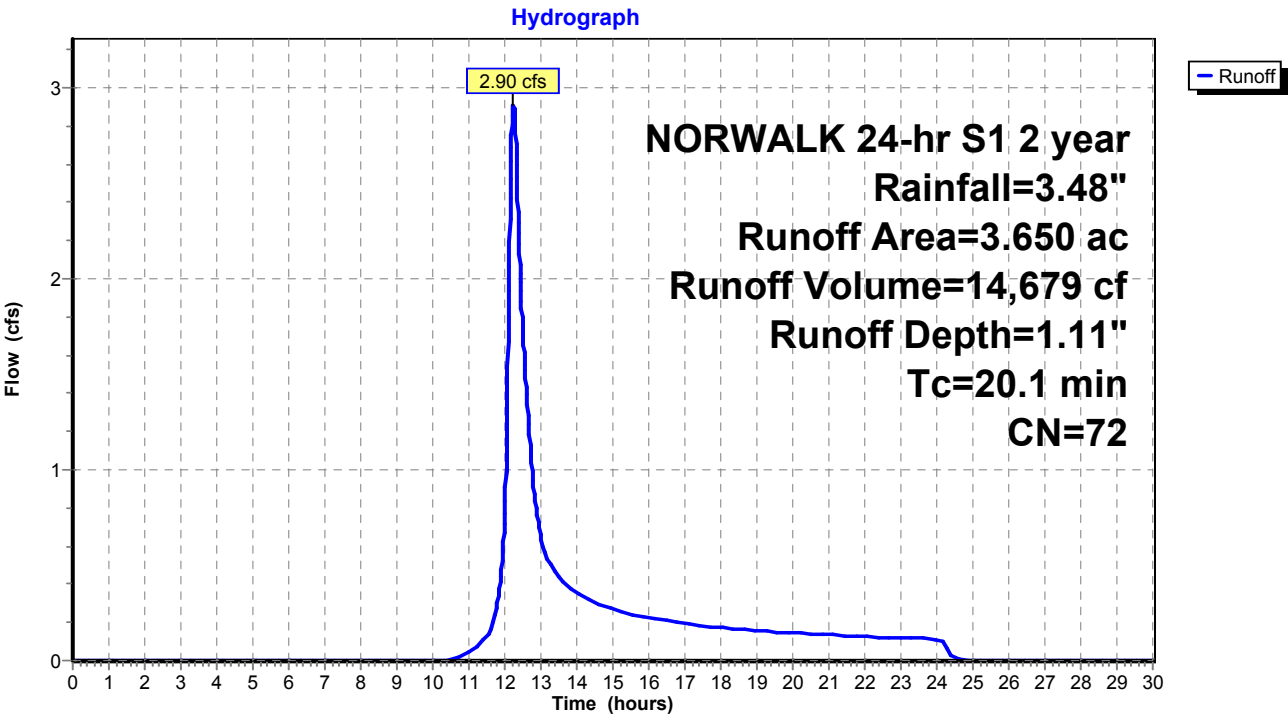
Runoff = 2.90 cfs @ 12.24 hrs, Volume= 14,679 cf, Depth= 1.11"
Routed to Pond 27P : DET 17 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
2.630	70	Woods, Good, HSG C
0.960	77	Woods, Good, HSG D
0.060	98	Paved parking & roofs
3.650	72	Weighted Average
3.590		98.36% Pervious Area
0.060		1.64% Impervious Area

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

Subcatchment 17S: Area 17



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 20S: Area 20

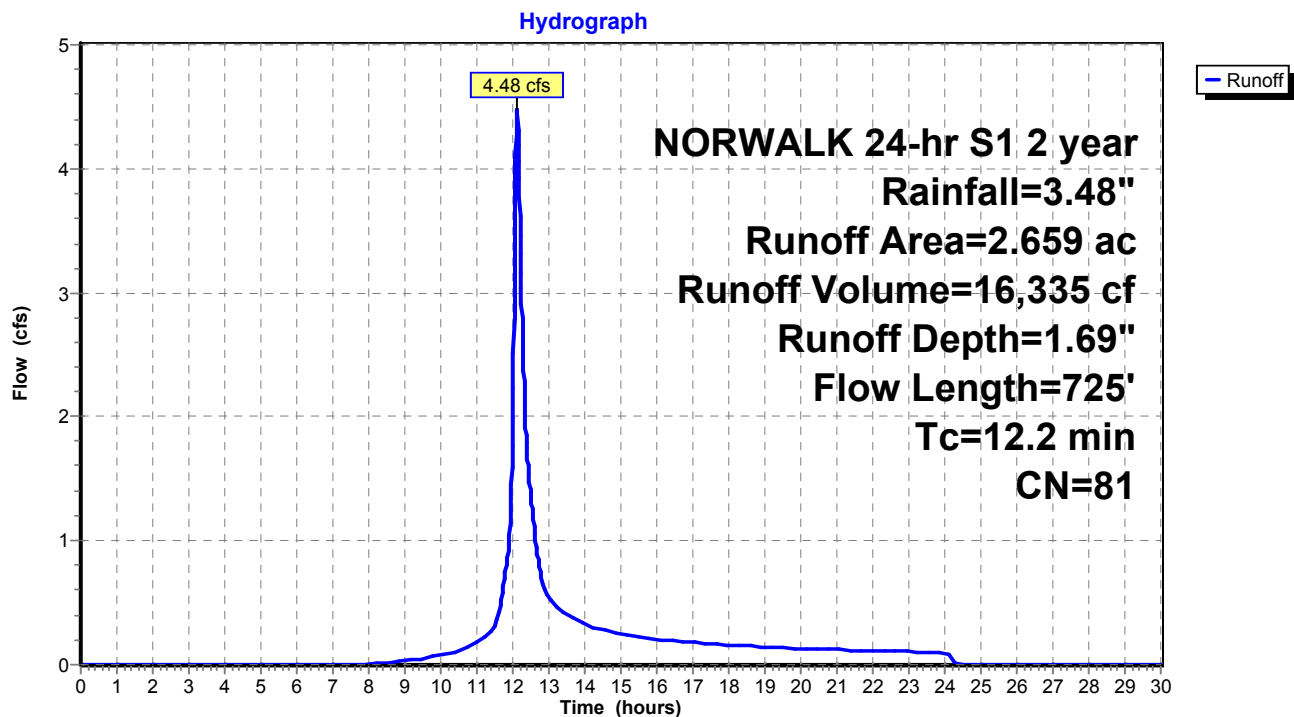
Runoff = 4.48 cfs @ 12.12 hrs, Volume= 16,335 cf, Depth= 1.69"
Routed to Pond 16P : MH-Q

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
1.030	98	Paved parking & roofs
1.629	70	Woods, Good, HSG C
2.659	81	Weighted Average
1.629		61.26% Pervious Area
1.030		38.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	125	0.2400	0.19		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.40"
1.2	600	0.0200	8.41	14.86	Pipe Channel, 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
12.2	725	Total			

Subcatchment 20S: Area 20



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 21S: Area 21

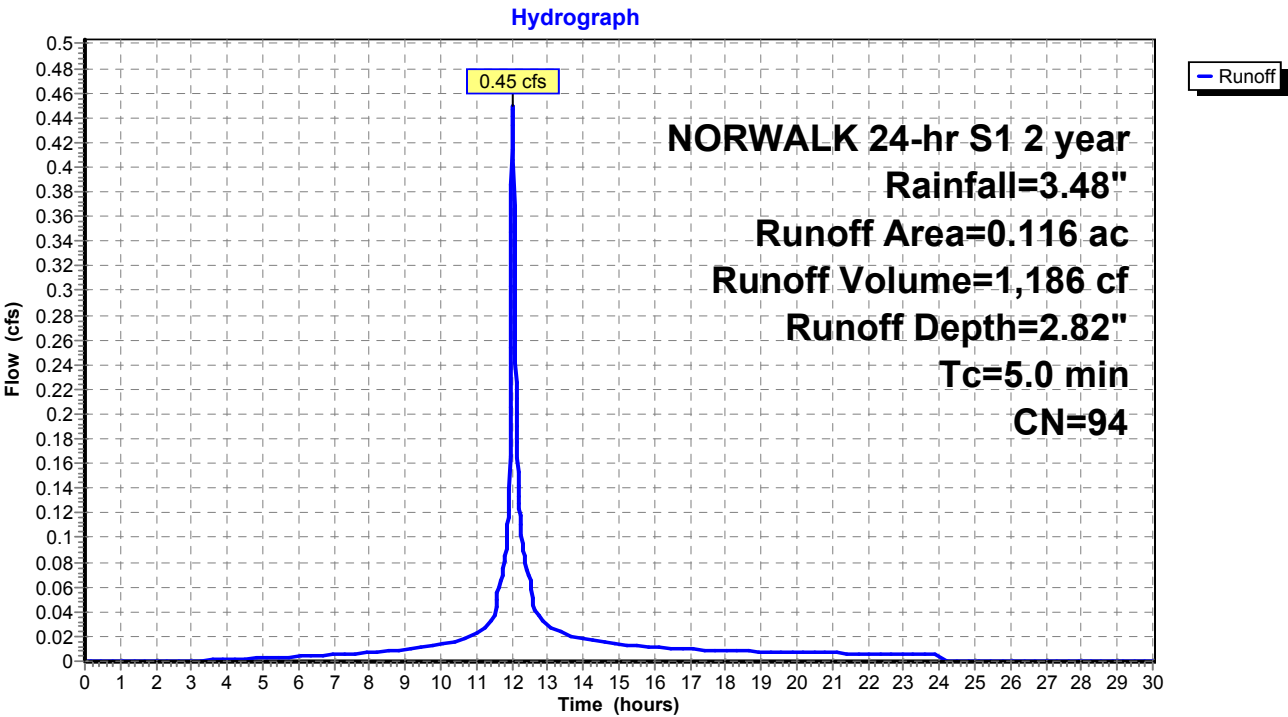
Runoff = 0.45 cfs @ 12.03 hrs, Volume= 1,186 cf, Depth= 2.82"
Routed to Pond 15P : MH-P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.020	74	>75% Grass cover, Good, HSG C
0.096	98	Paved parking & roofs
0.116	94	Weighted Average
0.020		17.24% Pervious Area
0.096		82.76% Impervious Area

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

Subcatchment 21S: Area 21



Summary for Subcatchment 22S: Area 22

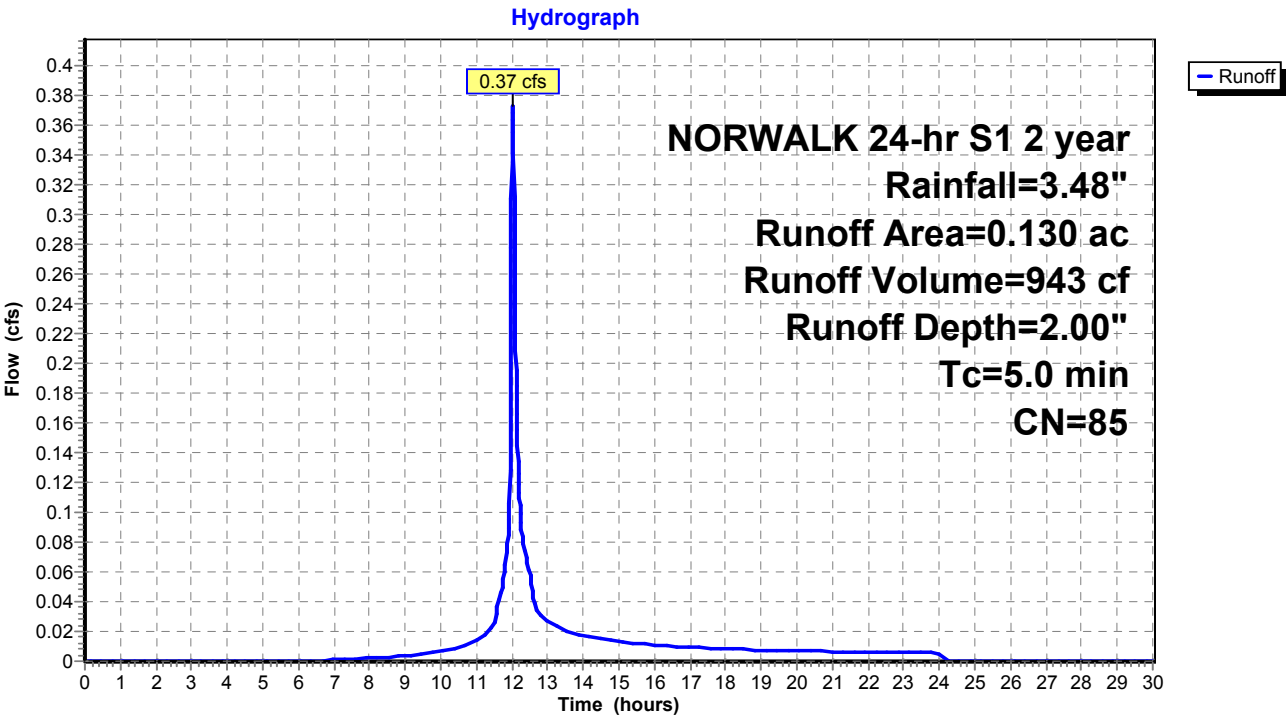
Runoff = 0.37 cfs @ 12.03 hrs, Volume= 943 cf, Depth= 2.00"
Routed to Pond 15P : MH-P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.068	74	>75% Grass cover, Good, HSG C
0.062	98	Paved parking & roofs
0.130	85	Weighted Average
0.068		52.31% Pervious Area
0.062		47.69% Impervious Area

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

Subcatchment 22S: Area 22



Summary for Subcatchment 23S: Area 23

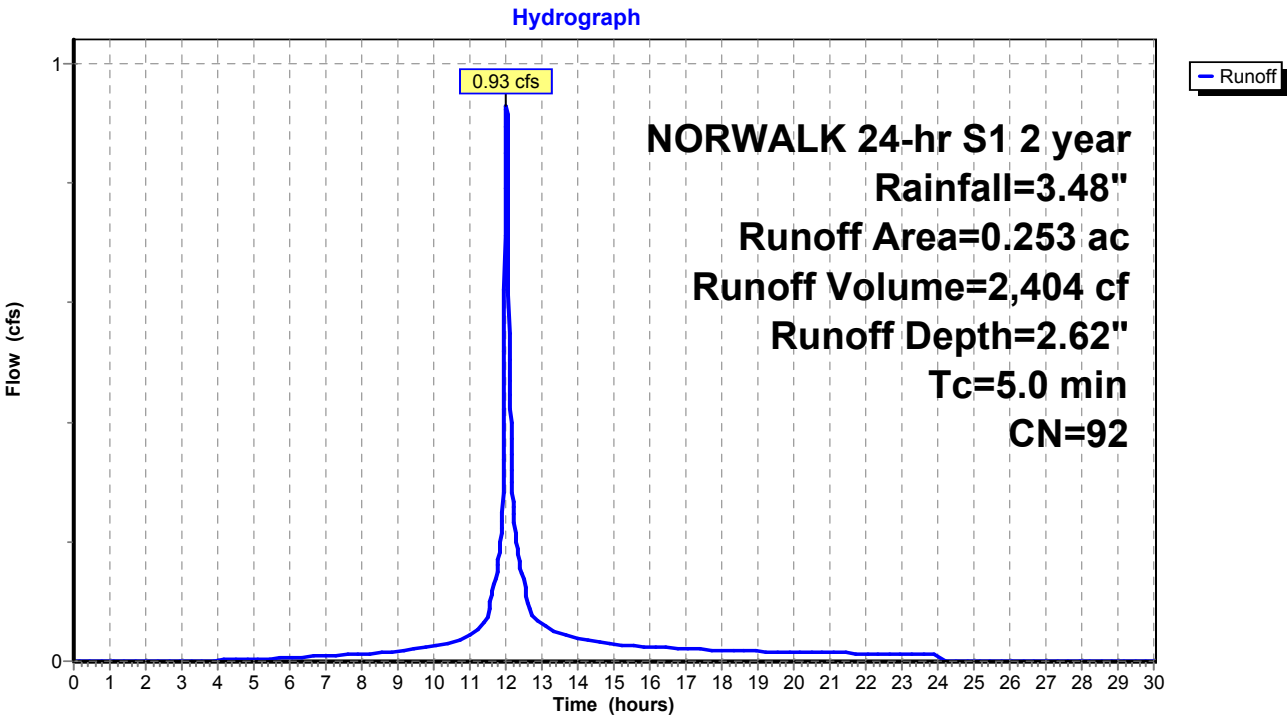
Runoff = 0.93 cfs @ 12.03 hrs, Volume= 2,404 cf, Depth= 2.62"
Routed to Pond 14P : MH-O

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.188	98	Paved parking & roofs
0.065	74	>75% Grass cover, Good, HSG C
0.253	92	Weighted Average
0.065		25.69% Pervious Area
0.188		74.31% Impervious Area

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

Subcatchment 23S: Area 23



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 24S: Area 24

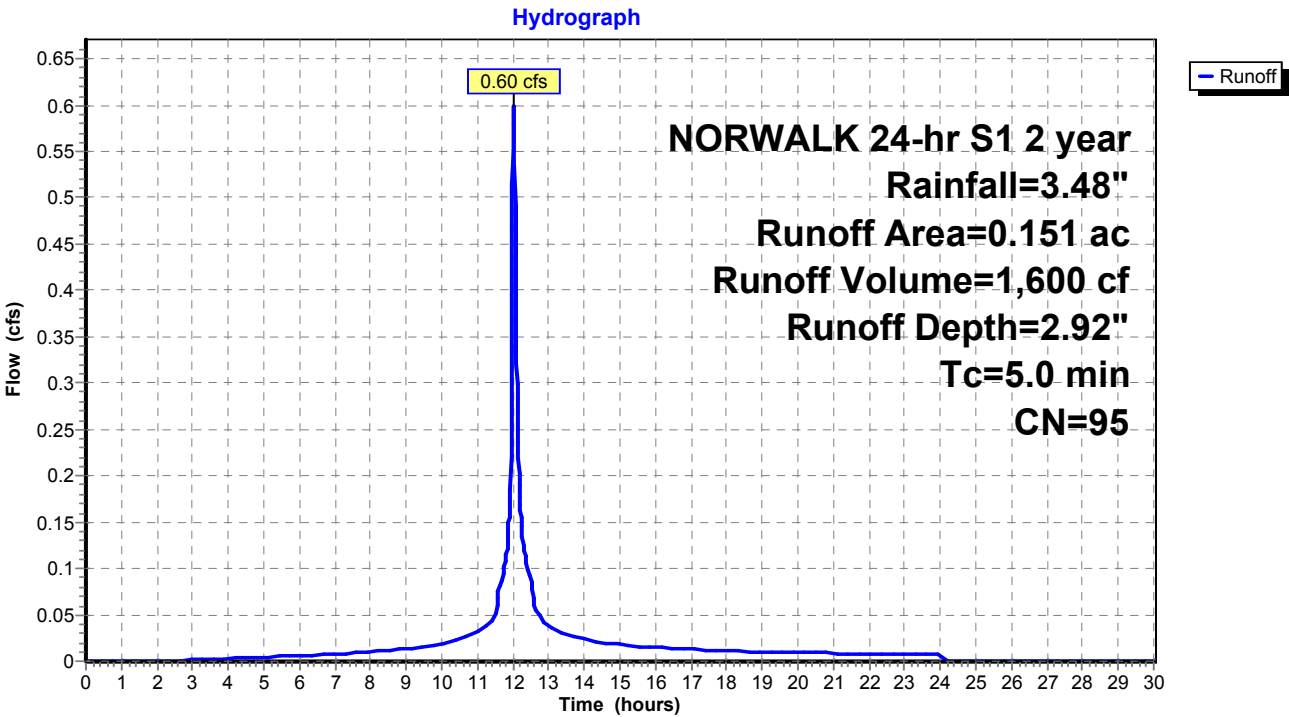
Runoff = 0.60 cfs @ 12.03 hrs, Volume= 1,600 cf, Depth= 2.92"
Routed to Pond 14P : MH-O

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.125	98	Paved parking & roofs
0.026	80	>75% Grass cover, Good, HSG D
0.151	95	Weighted Average
0.026		17.22% Pervious Area
0.125		82.78% Impervious Area

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

Subcatchment 24S: Area 24



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 25S: Area 25

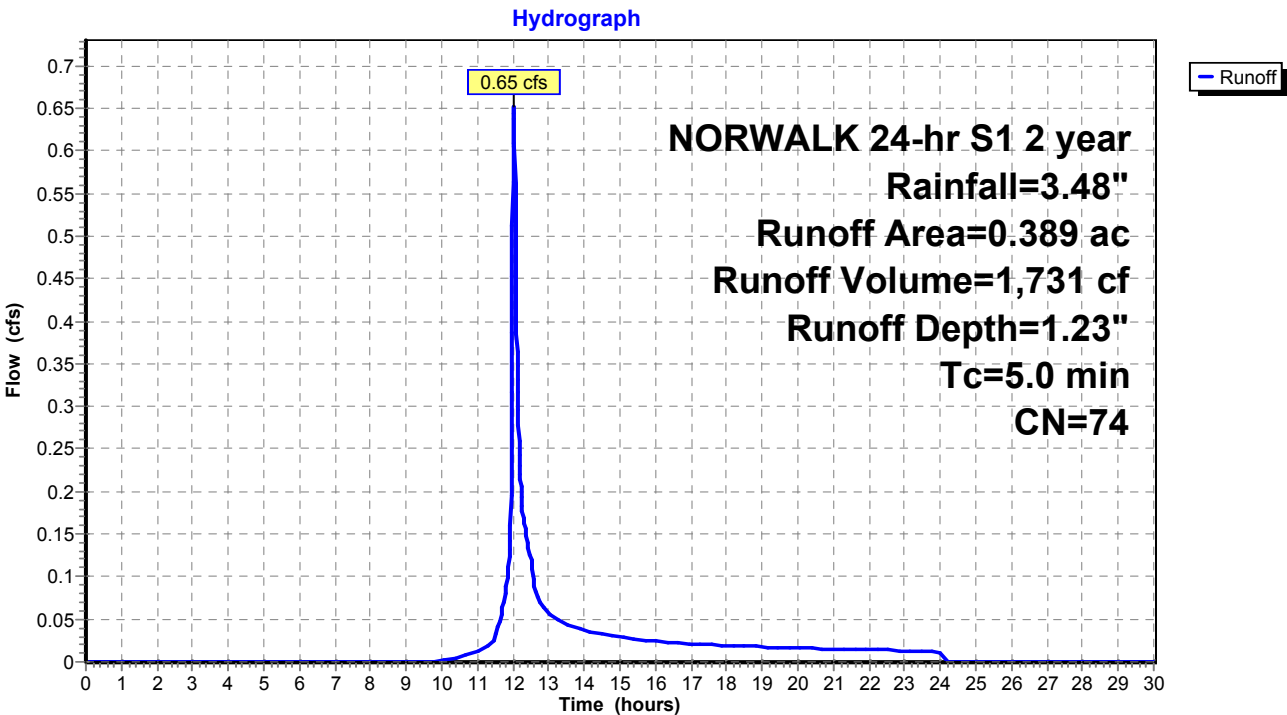
Runoff = 0.65 cfs @ 12.03 hrs, Volume= 1,731 cf, Depth= 1.23"
Routed to Pond 3P : DETENTION BASIN #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.389	74	>75% Grass cover, Good, HSG C
0.389		100.00% Pervious Area

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

Subcatchment 25S: Area 25



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 26S: Area 26

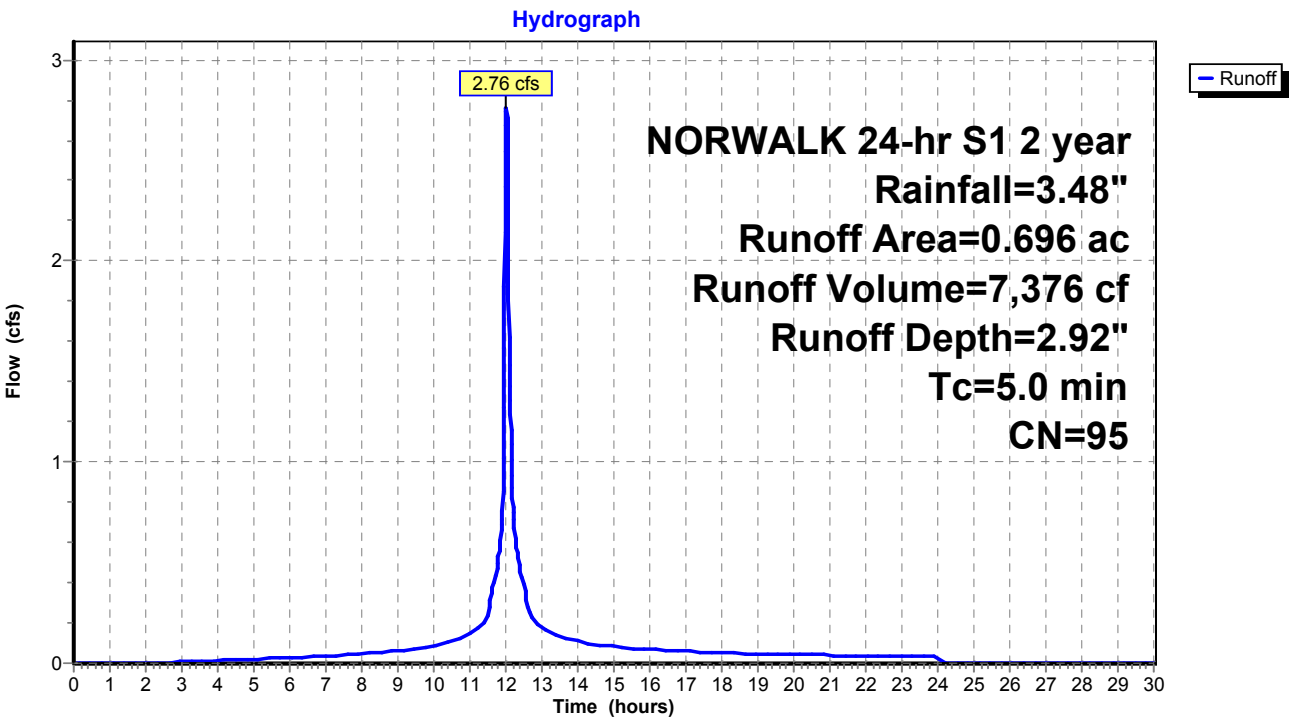
Runoff = 2.76 cfs @ 12.03 hrs, Volume= 7,376 cf, Depth= 2.92"
Routed to Pond 9P : MH-K

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.612	98	Paved parking & roofs
0.084	74	>75% Grass cover, Good, HSG C
0.696	95	Weighted Average
0.084		12.07% Pervious Area
0.612		87.93% Impervious Area

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

Subcatchment 26S: Area 26



Summary for Subcatchment 27S: Area 27

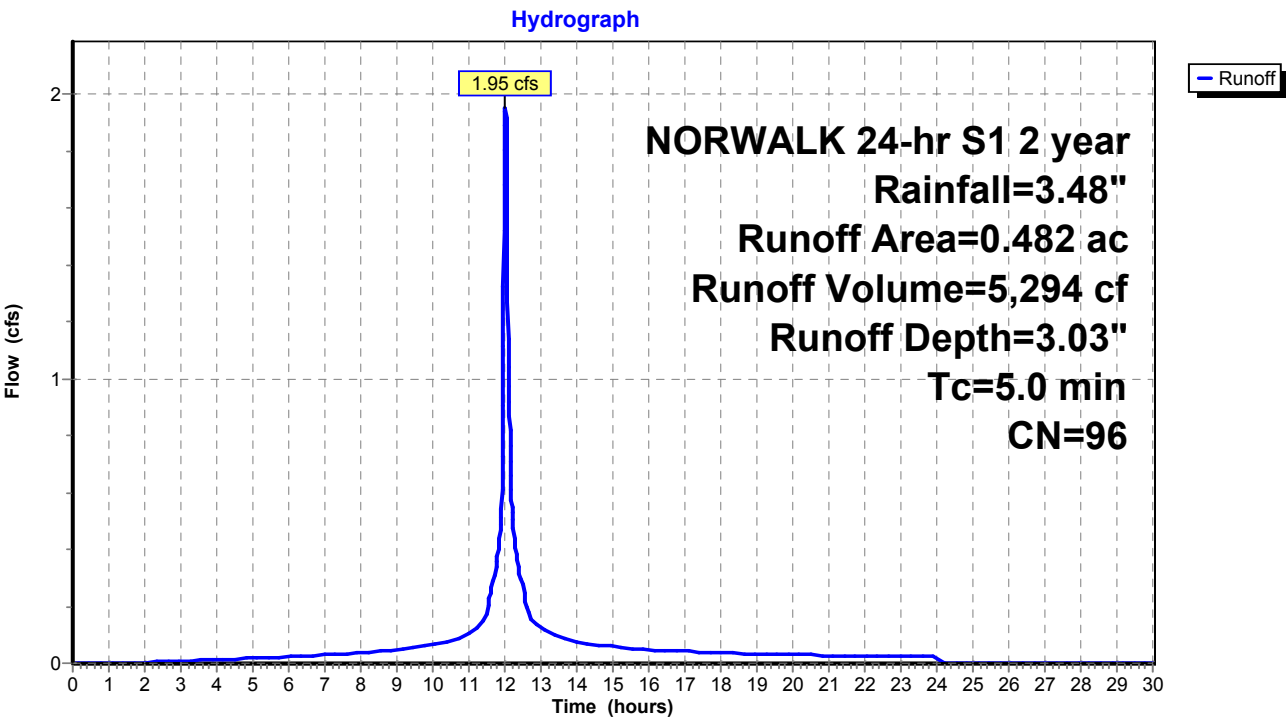
Runoff = 1.95 cfs @ 12.03 hrs, Volume= 5,294 cf, Depth= 3.03"
Routed to Pond 11P : Pipe Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.436	98	Paved parking & roofs
0.046	74	>75% Grass cover, Good, HSG C
0.482	96	Weighted Average
0.046		9.54% Pervious Area
0.436		90.46% Impervious Area

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

Subcatchment 27S: Area 27



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 28S: Area 28

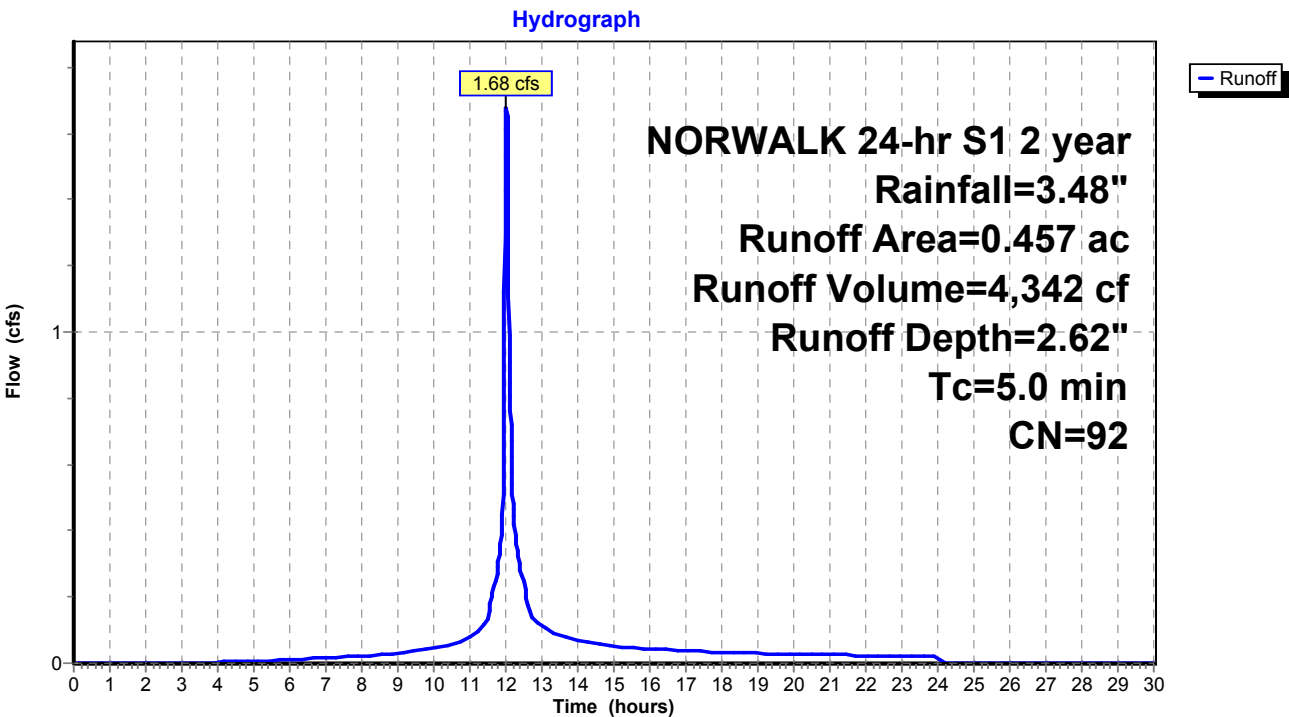
Runoff = 1.68 cfs @ 12.03 hrs, Volume= 4,342 cf, Depth= 2.62"
Routed to Pond 11P : Pipe Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.342	98	Paved parking & roofs
0.115	74	>75% Grass cover, Good, HSG C
0.457	92	Weighted Average
0.115		25.16% Pervious Area
0.342		74.84% Impervious Area

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

Subcatchment 28S: Area 28



Summary for Subcatchment 29S: Area 29

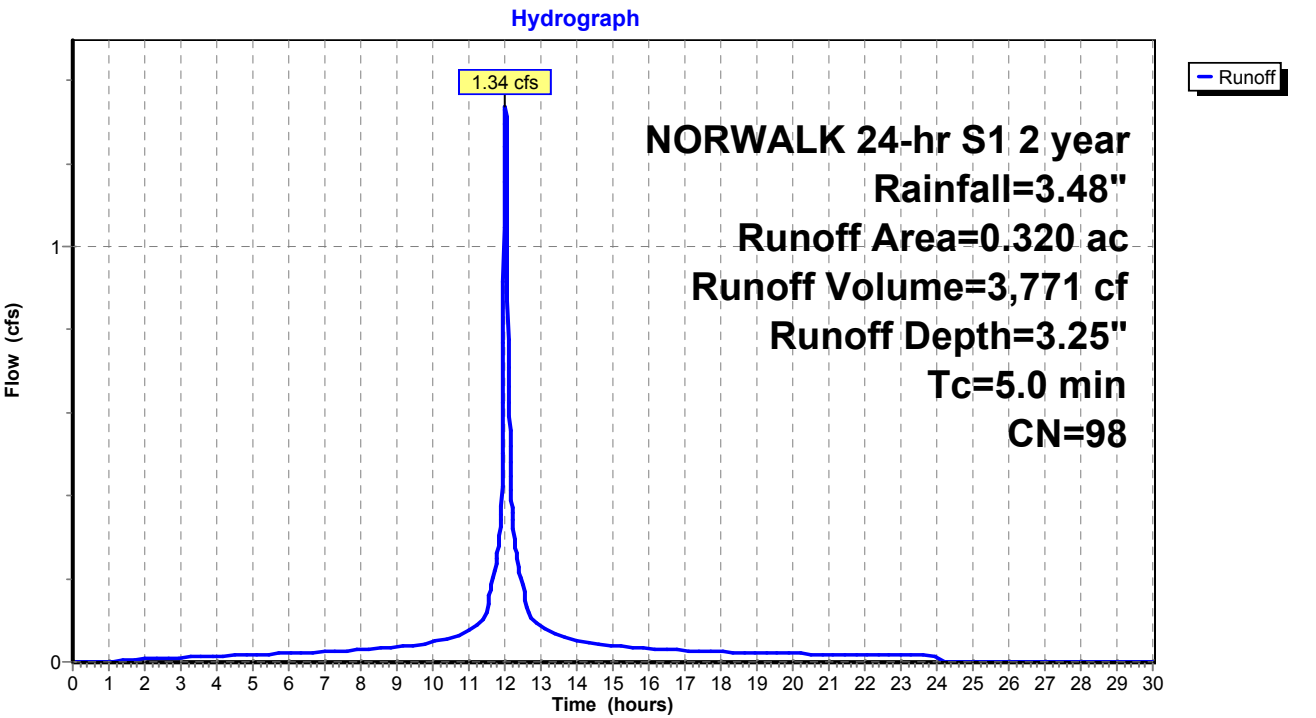
Runoff = 1.34 cfs @ 12.03 hrs, Volume= 3,771 cf, Depth= 3.25"
Routed to Pond 12P : MH-M

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.320	98	Paved parking & roofs
0.320		100.00% Impervious Area

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

Subcatchment 29S: Area 29



Summary for Subcatchment 30S: Area 30

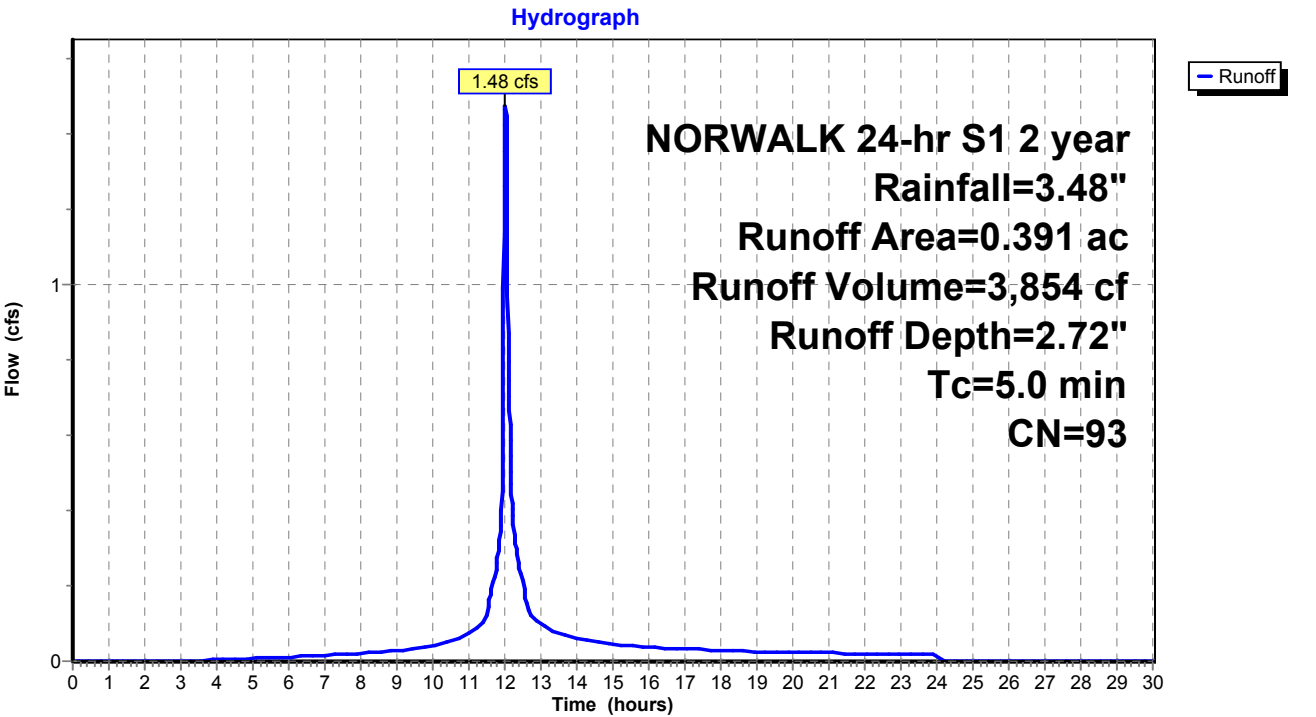
Runoff = 1.48 cfs @ 12.03 hrs, Volume= 3,854 cf, Depth= 2.72"
Routed to Pond 13P : MH-J

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.309	98	Paved parking & roofs
0.082	74	>75% Grass cover, Good, HSG C
0.391	93	Weighted Average
0.082		20.97% Pervious Area
0.309		79.03% Impervious Area

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

Subcatchment 30S: Area 30



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 52S: Area 1

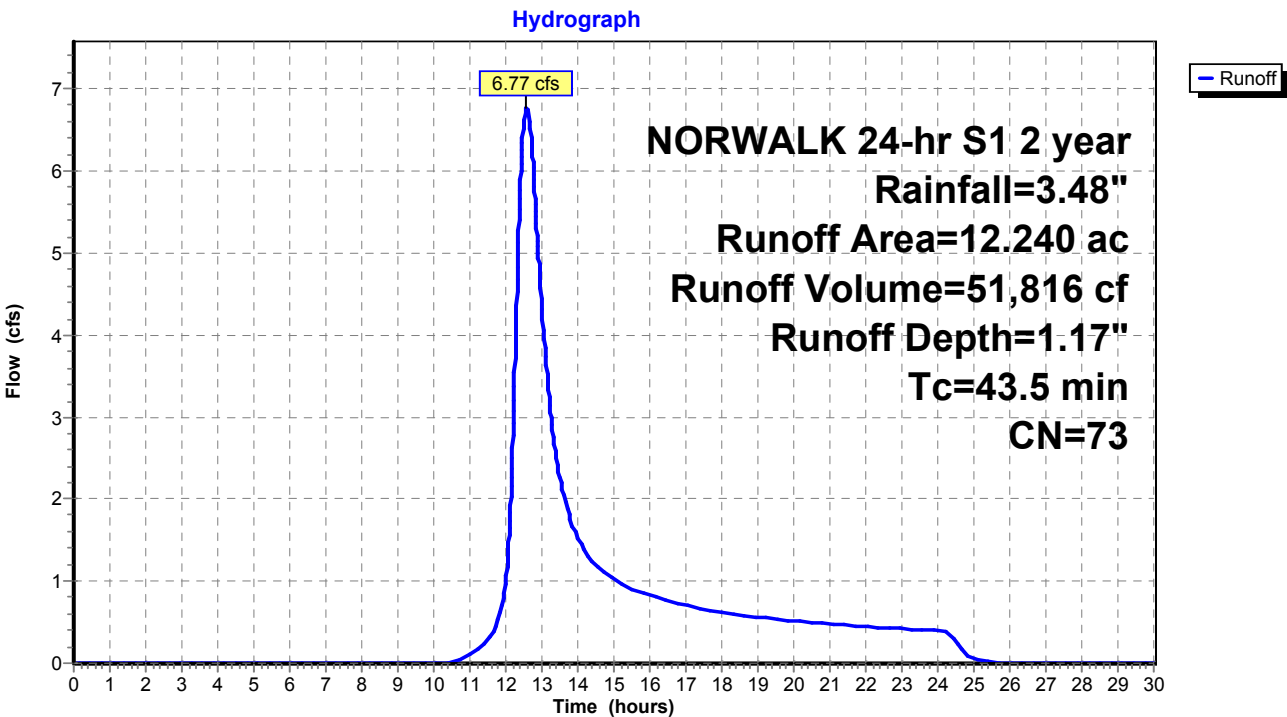
Runoff = 6.77 cfs @ 12.57 hrs, Volume= 51,816 cf, Depth= 1.17"
Routed to Pond 21P : DET 1 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
9.070	70	1/2 acre lots, 25% imp, HSG B
3.170	80	1/2 acre lots, 25% imp, HSG C
12.240	73	Weighted Average
9.180		75.00% Pervious Area
3.060		25.00% Impervious Area

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

Subcatchment 52S: Area 1



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 53S: Area 2

Runoff = 18.11 cfs @ 12.80 hrs, Volume= 159,366 cf, Depth= 1.48"
Routed to Pond 22P : DET 2 Culvert

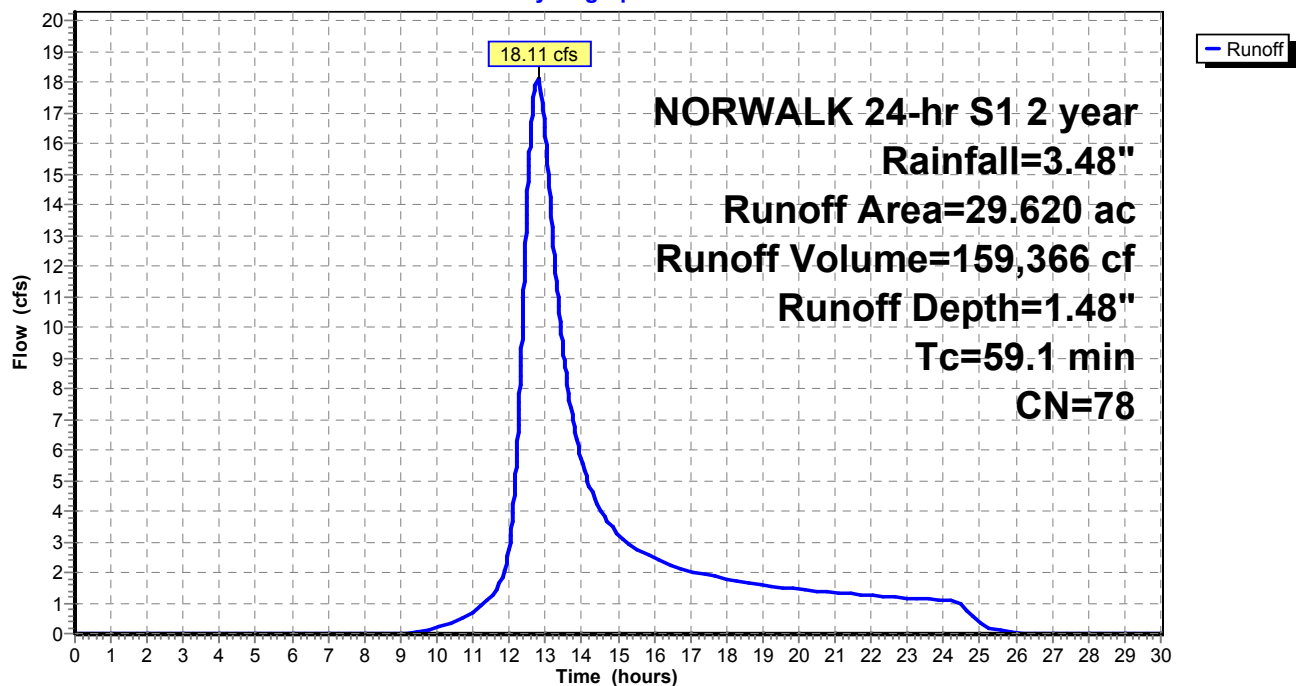
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
7.290	70	1/2 acre lots, 25% imp, HSG B
19.200	80	1/2 acre lots, 25% imp, HSG C
3.130	85	1/2 acre lots, 25% imp, HSG D
29.620	78	Weighted Average
22.215		75.00% Pervious Area
7.405		25.00% Impervious Area

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

Subcatchment 53S: Area 2

Hydrograph



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 54S: Area 3

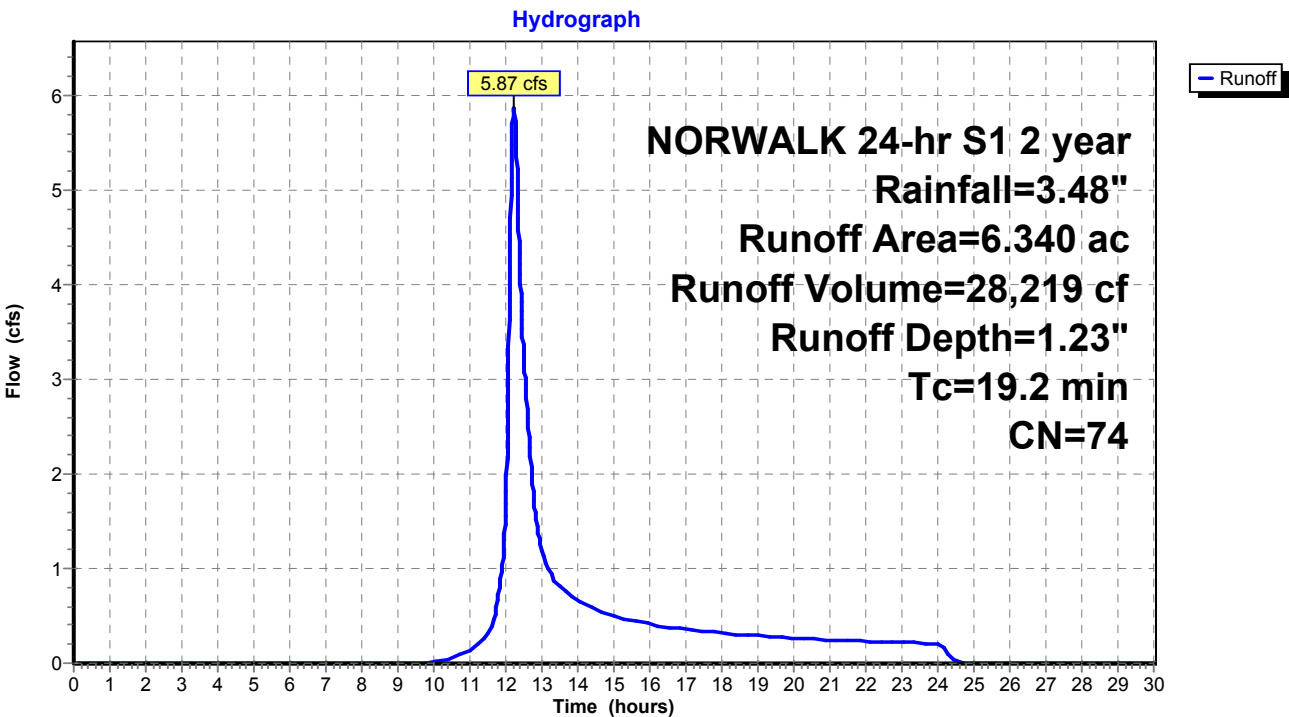
Runoff = 5.87 cfs @ 12.23 hrs, Volume= 28,219 cf, Depth= 1.23"
Routed to Pond 23P : DET 3 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
3.500	70	1/2 acre lots, 25% imp, HSG B
2.840	80	1/2 acre lots, 25% imp, HSG C
6.340	74	Weighted Average
4.755		75.00% Pervious Area
1.585		25.00% Impervious Area

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

Subcatchment 54S: Area 3



Summary for Subcatchment 56S: Area 35

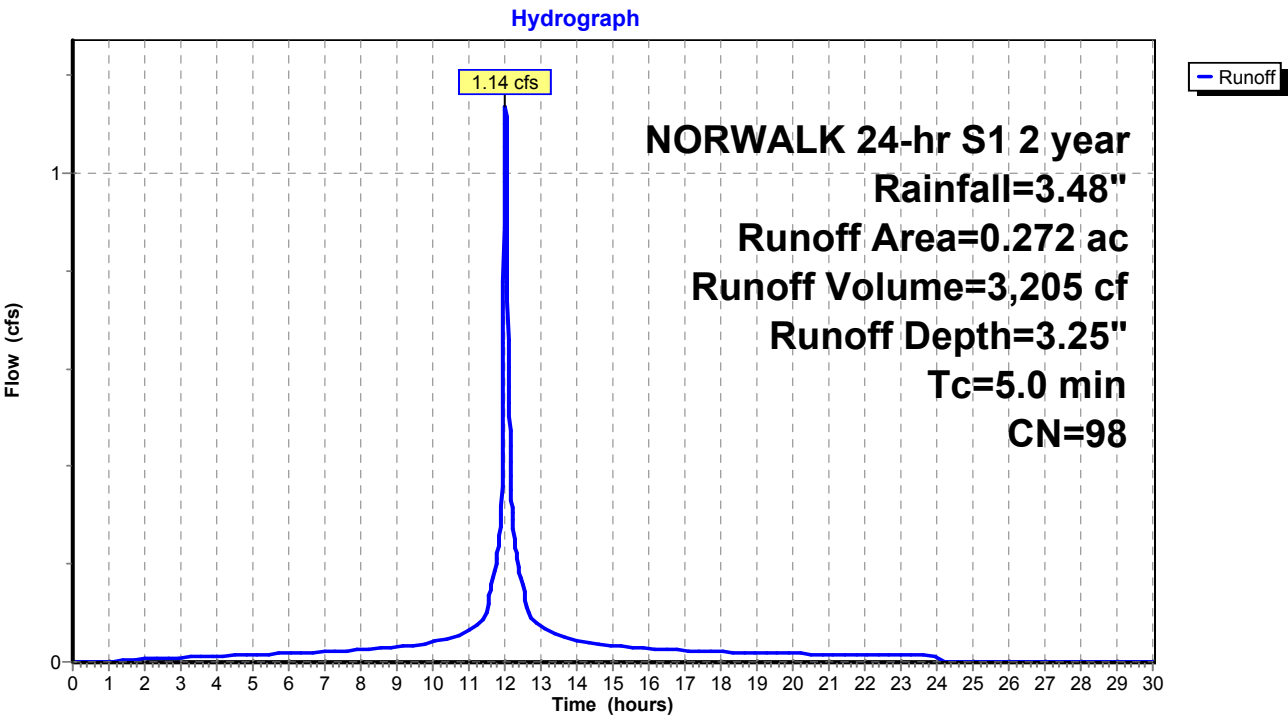
Runoff = 1.14 cfs @ 12.03 hrs, Volume= 3,205 cf, Depth= 3.25"
Routed to Pond 57P : CB-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.272	98	Paved parking & roofs
0.272		100.00% Impervious Area

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

Subcatchment 56S: Area 35



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 60S: Area 37

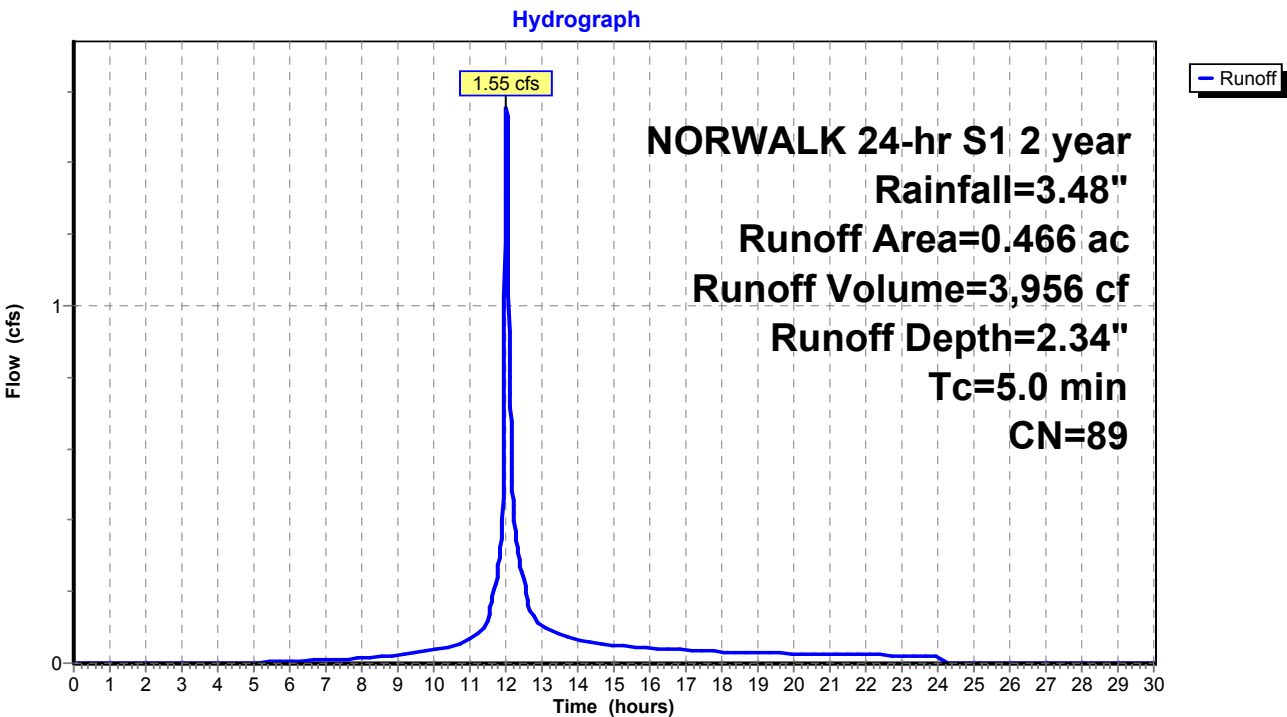
Runoff = 1.55 cfs @ 12.03 hrs, Volume= 3,956 cf, Depth= 2.34"
Routed to Pond 59P : CB-7

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.294	98	Paved parking & roofs
0.172	74	>75% Grass cover, Good, HSG C
0.466	89	Weighted Average
0.172		36.91% Pervious Area
0.294		63.09% Impervious Area

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

Subcatchment 60S: Area 37



Summary for Subcatchment 62S: Area 38

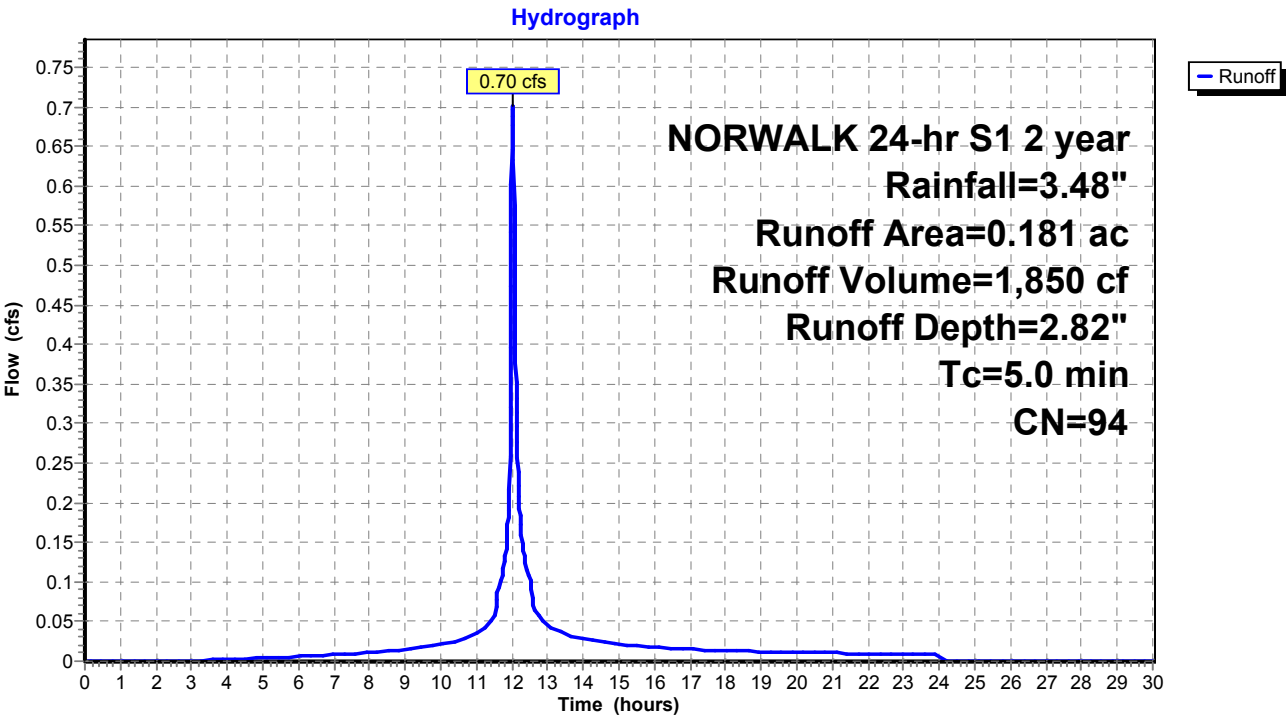
Runoff = 0.70 cfs @ 12.03 hrs, Volume= 1,850 cf, Depth= 2.82"
Routed to Pond 61P : CB-6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.149	98	Paved parking & roofs
0.032	74	>75% Grass cover, Good, HSG C
0.181	94	Weighted Average
0.032		17.68% Pervious Area
0.149		82.32% Impervious Area

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

Subcatchment 62S: Area 38



Summary for Subcatchment 65S: Area 41

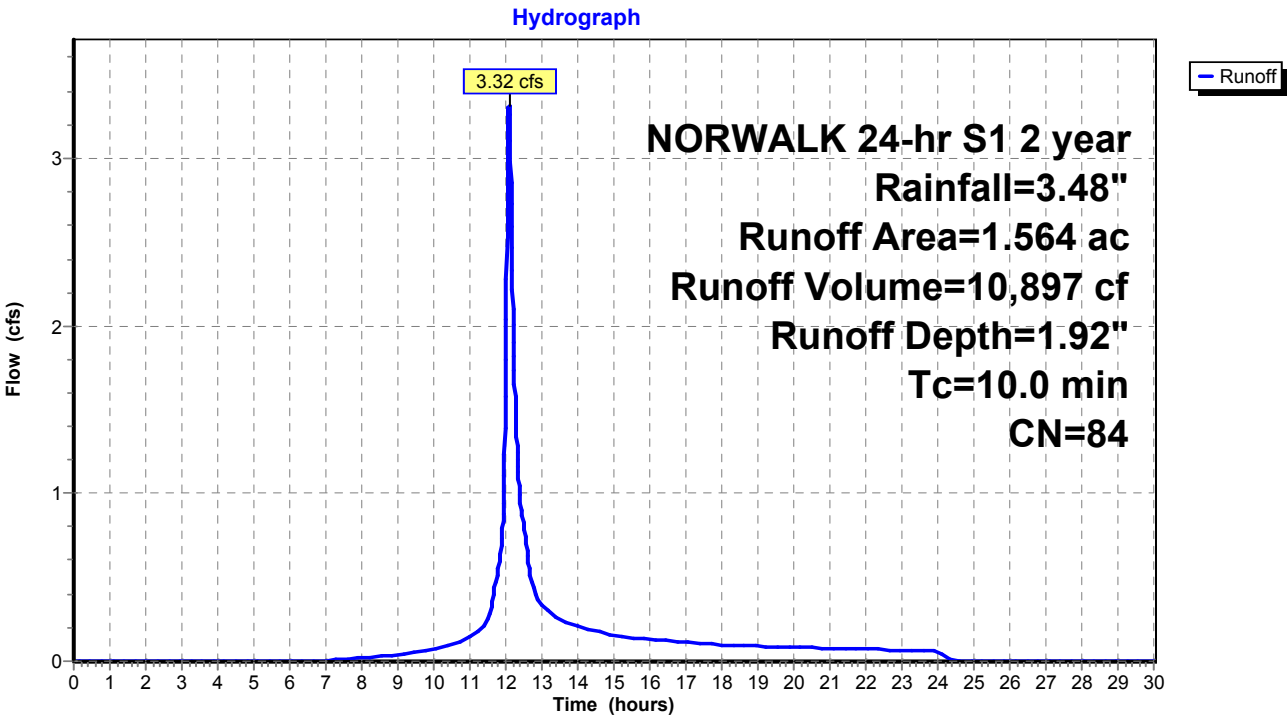
Runoff = 3.32 cfs @ 12.09 hrs, Volume= 10,897 cf, Depth= 1.92"
Routed to Pond 64P : YD

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.653	98	Paved parking & roofs
0.911	74	>75% Grass cover, Good, HSG C
1.564	84	Weighted Average
0.911		58.25% Pervious Area
0.653		41.75% Impervious Area

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

Subcatchment 65S: Area 41



Summary for Subcatchment 68S: Area 36

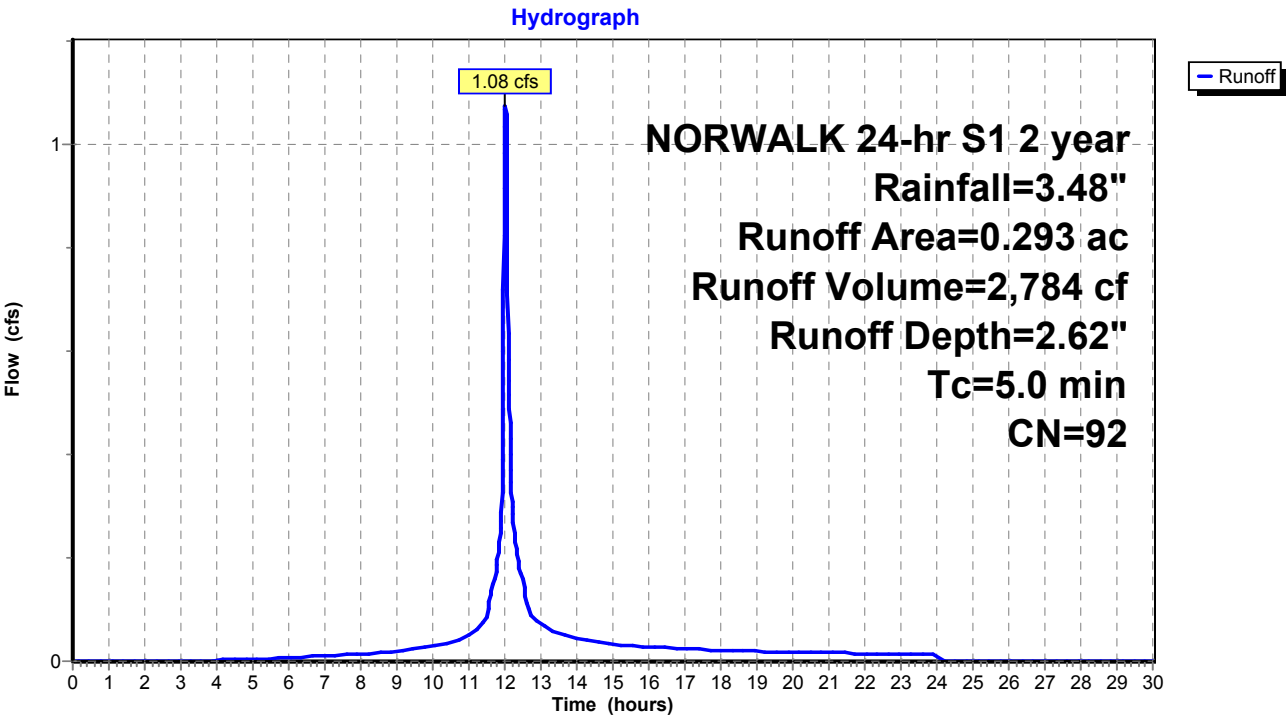
Runoff = 1.08 cfs @ 12.03 hrs, Volume= 2,784 cf, Depth= 2.62"
Routed to Pond 66P : CB-10

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.214	98	Paved parking & roofs
0.079	74	>75% Grass cover, Good, HSG C
0.293	92	Weighted Average
0.079		26.96% Pervious Area
0.214		73.04% Impervious Area

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

Subcatchment 68S: Area 36



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 69S: Area 40

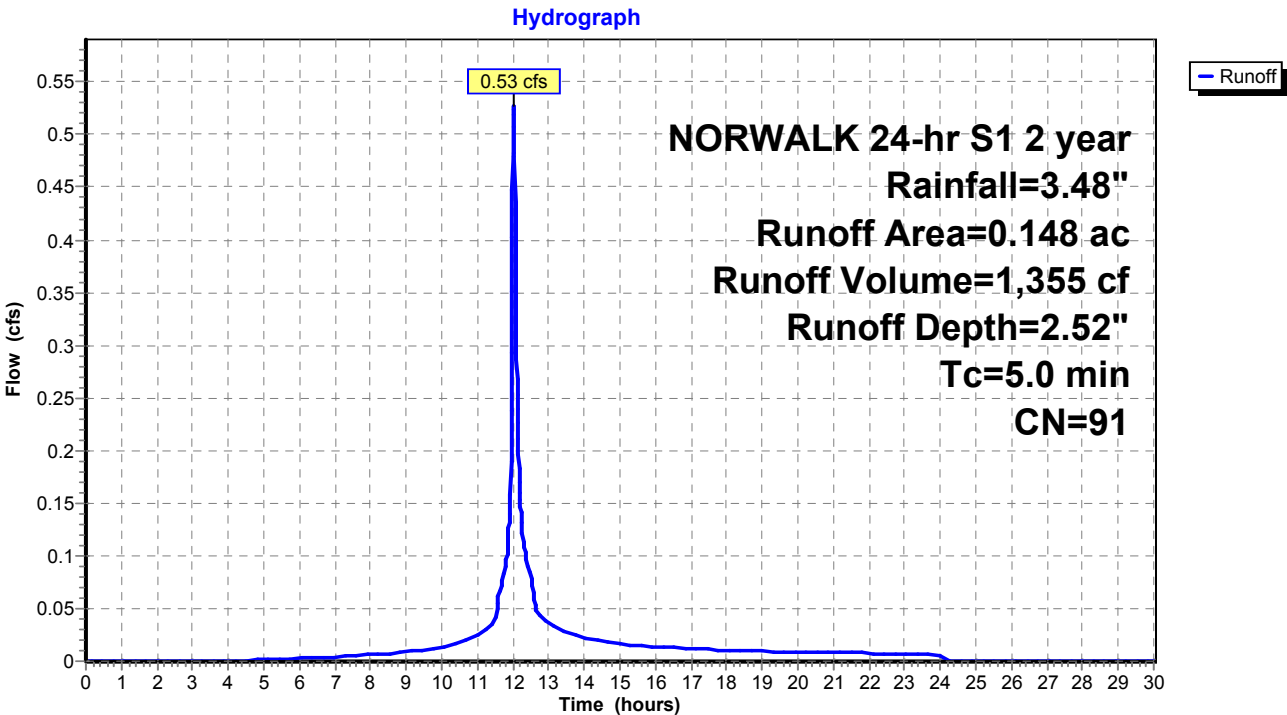
Runoff = 0.53 cfs @ 12.03 hrs, Volume= 1,355 cf, Depth= 2.52"
Routed to Pond 67P : CB-9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.103	98	Paved parking & roofs
0.045	74	>75% Grass cover, Good, HSG C
0.148	91	Weighted Average
0.045		30.41% Pervious Area
0.103		69.59% Impervious Area

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

Subcatchment 69S: Area 40



Summary for Subcatchment 71S: Area 34

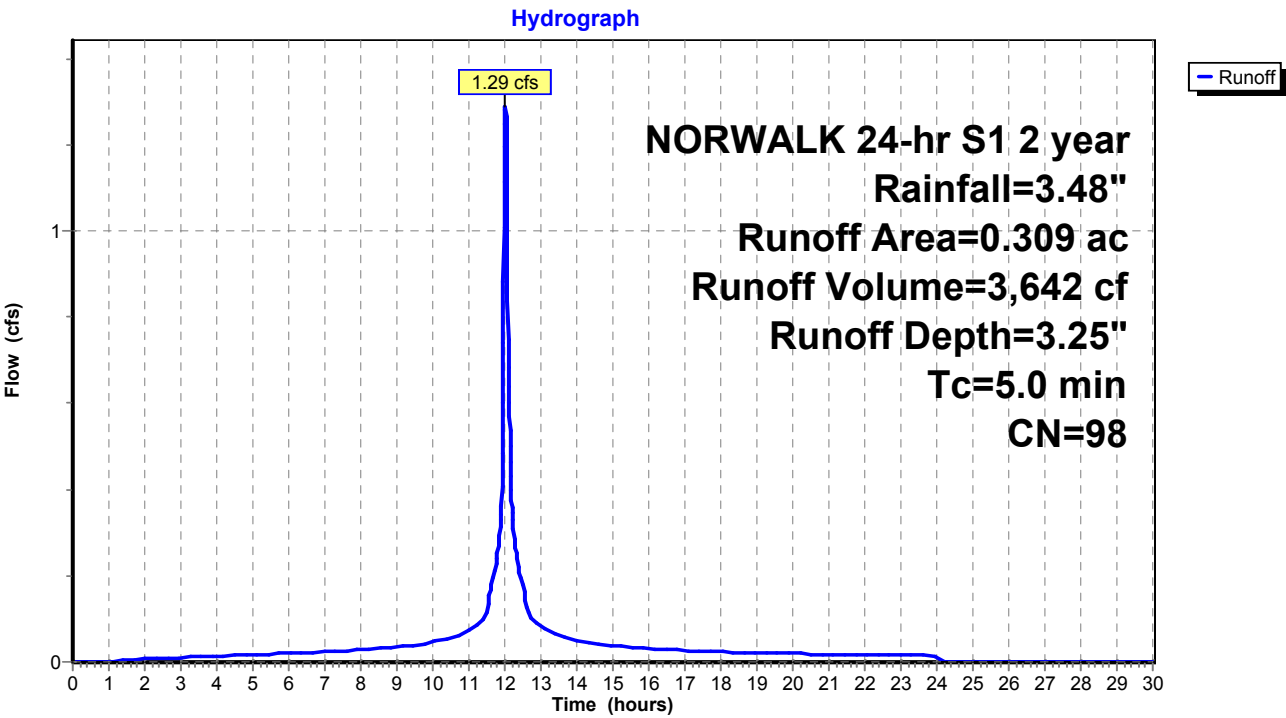
Runoff = 1.29 cfs @ 12.03 hrs, Volume= 3,642 cf, Depth= 3.25"
Routed to Pond 70P : CB-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.309	98	Paved parking & roofs
0.309		100.00% Impervious Area

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

Subcatchment 71S: Area 34



Summary for Subcatchment 75S: Area 32

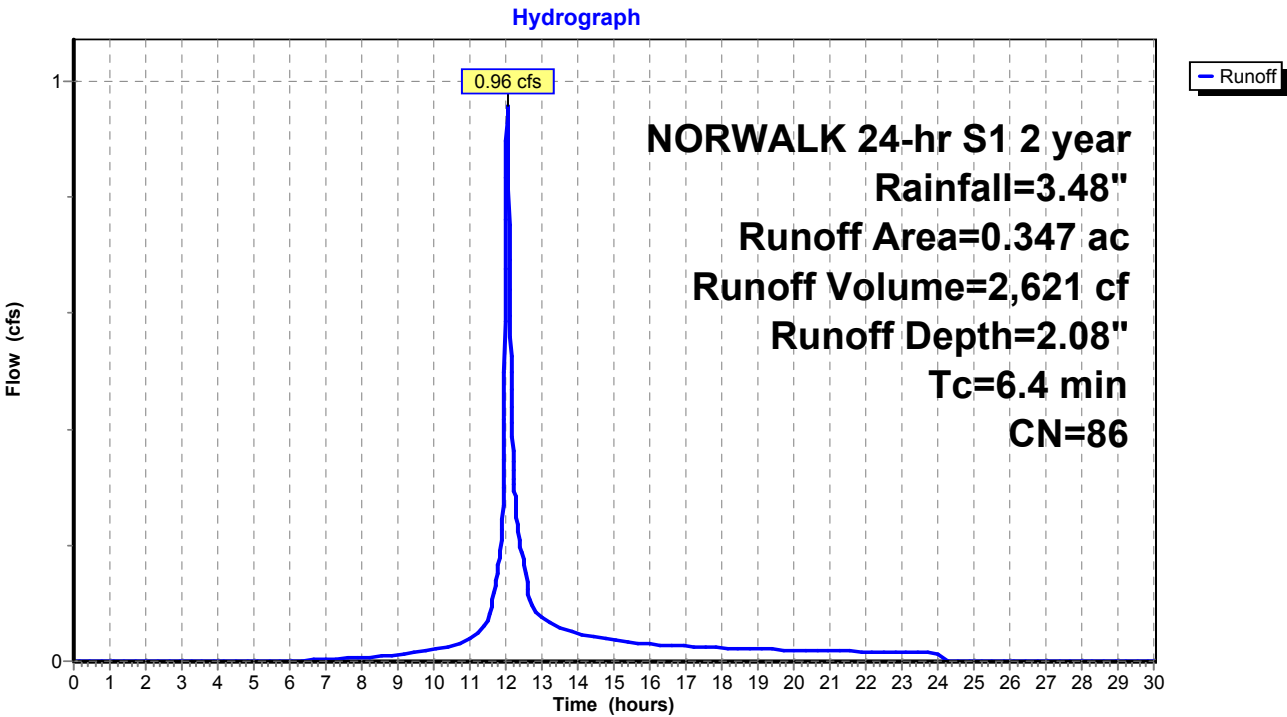
Runoff = 0.96 cfs @ 12.04 hrs, Volume= 2,621 cf, Depth= 2.08"
Routed to Pond 74P : CB-4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.196	98	Paved parking & roofs
0.151	70	Woods, Good, HSG C
0.347	86	Weighted Average
0.151		43.52% Pervious Area
0.196		56.48% Impervious Area

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

Subcatchment 75S: Area 32



Summary for Subcatchment 76S: Area 33

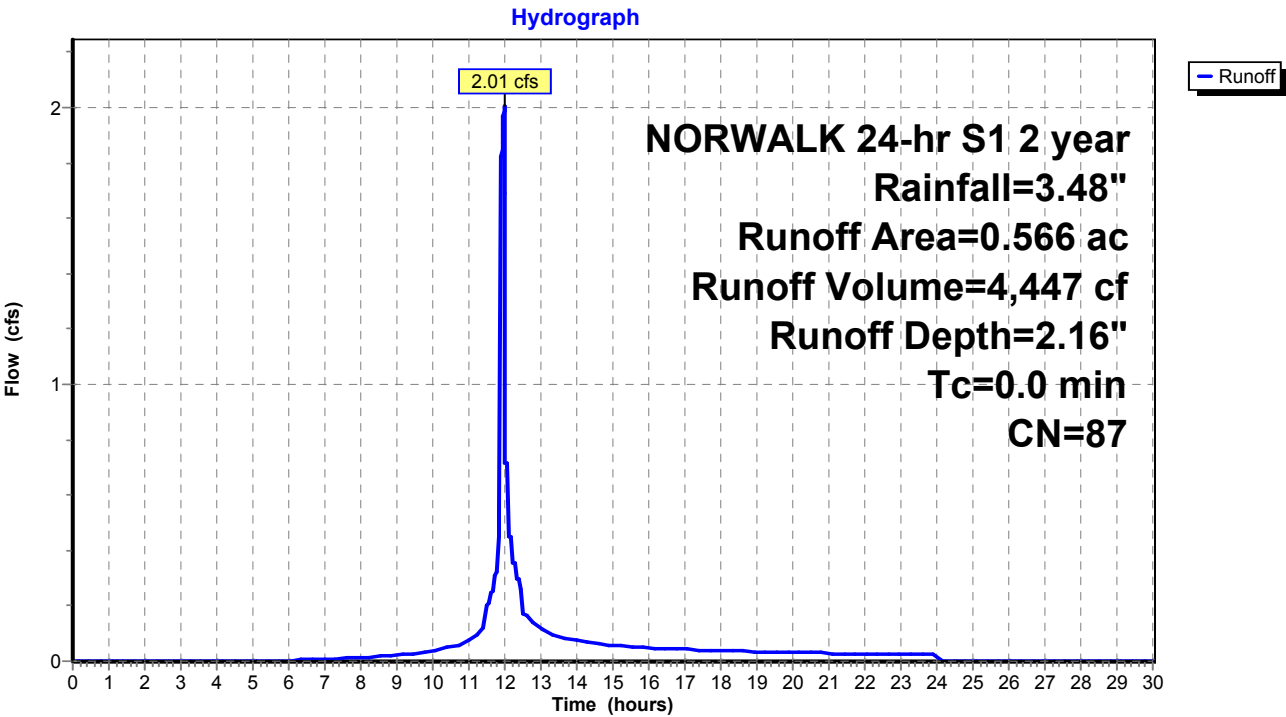
Runoff = 2.01 cfs @ 11.99 hrs, Volume= 4,447 cf, Depth= 2.16"
Routed to Pond 73P : CB-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.338	98	Paved parking & roofs
0.228	70	Woods, Good, HSG C
0.566	87	Weighted Average
0.228		40.28% Pervious Area
0.338		59.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.0					Direct Entry, 7

Subcatchment 76S: Area 33



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 78S: Area 39

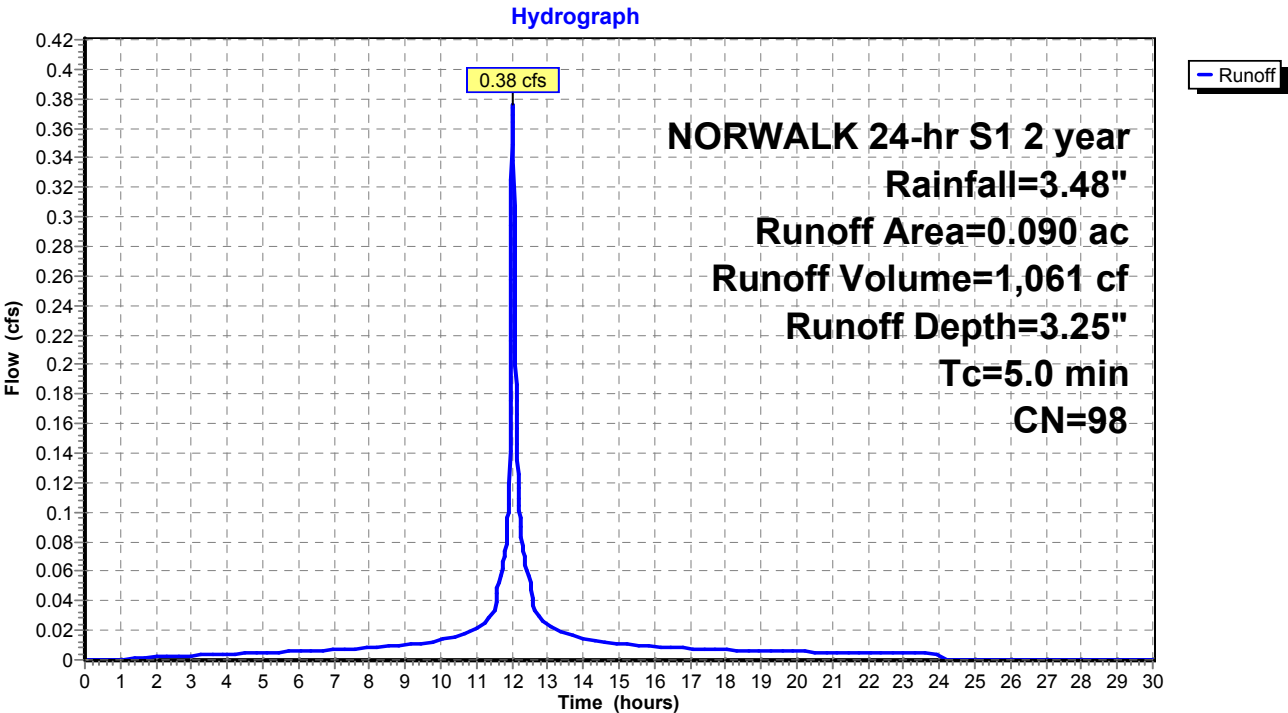
Runoff = 0.38 cfs @ 12.03 hrs, Volume= 1,061 cf, Depth= 3.25"
Routed to Pond 79P : CB-8

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.090	98	Paved parking & roofs
0.090		100.00% Impervious Area

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

Subcatchment 78S: Area 39



Summary for Subcatchment 84S: Area 31

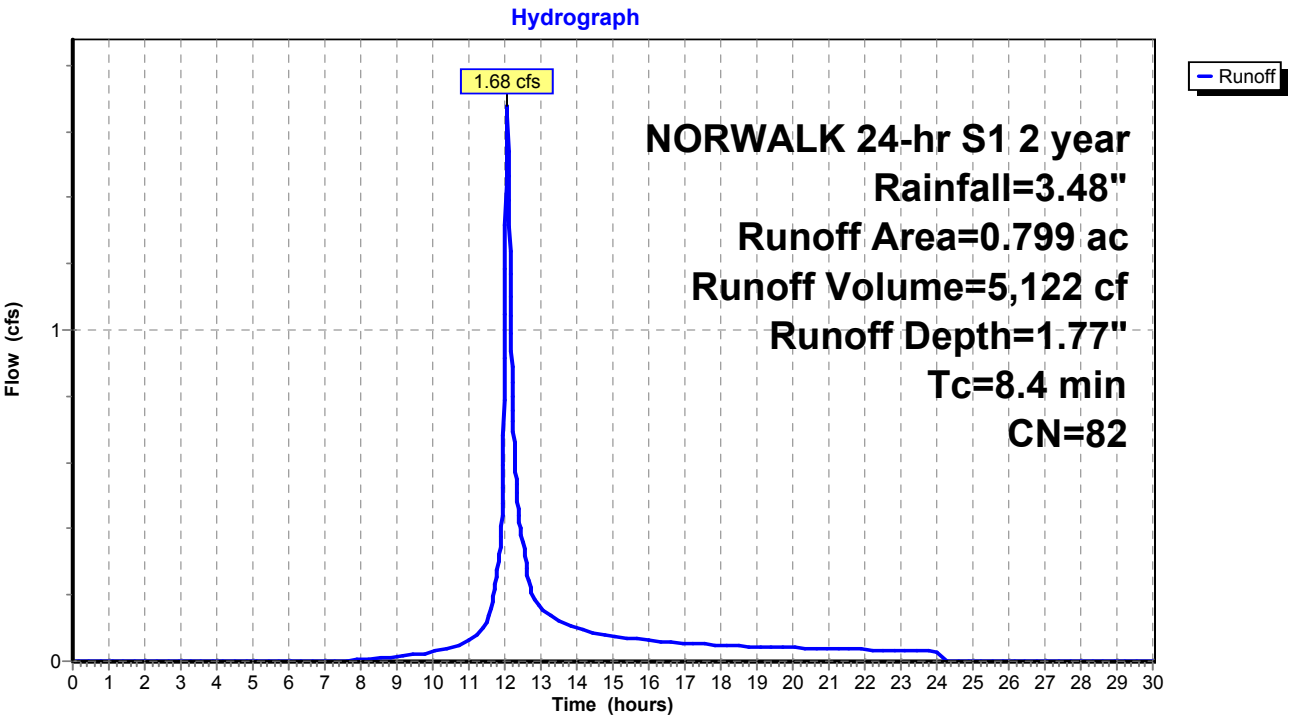
Runoff = 1.68 cfs @ 12.07 hrs, Volume= 5,122 cf, Depth= 1.77"
Routed to Pond 85P : CB-5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.337	98	Paved parking & roofs
0.462	70	Woods, Good, HSG C
0.799	82	Weighted Average
0.462		57.82% Pervious Area
0.337		42.18% Impervious Area

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

Subcatchment 84S: Area 31



Summary for Subcatchment 100S: Area 16B

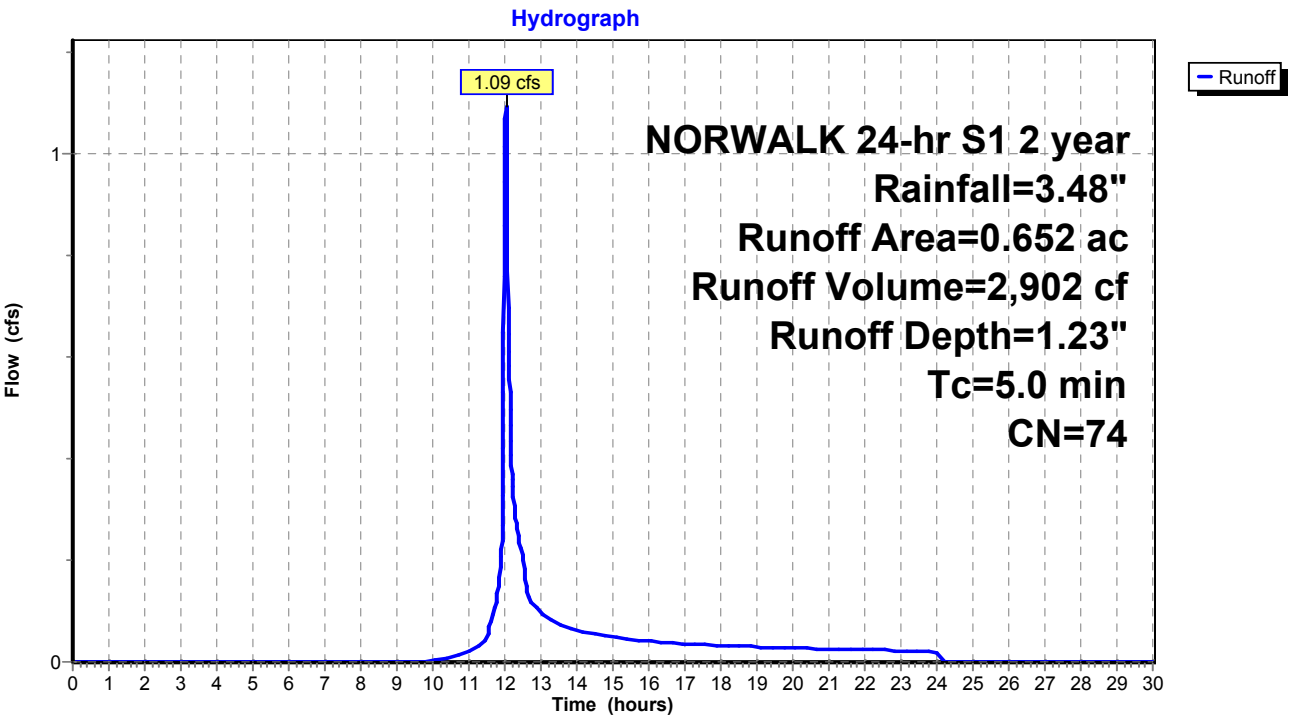
Runoff = 1.09 cfs @ 12.03 hrs, Volume= 2,902 cf, Depth= 1.23"
Routed to Pond 50P : DET BASIN #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.652	74	>75% Grass cover, Good, HSG C
0.652		100.00% Pervious Area

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

Subcatchment 100S: Area 16B



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment 105S: Area 18

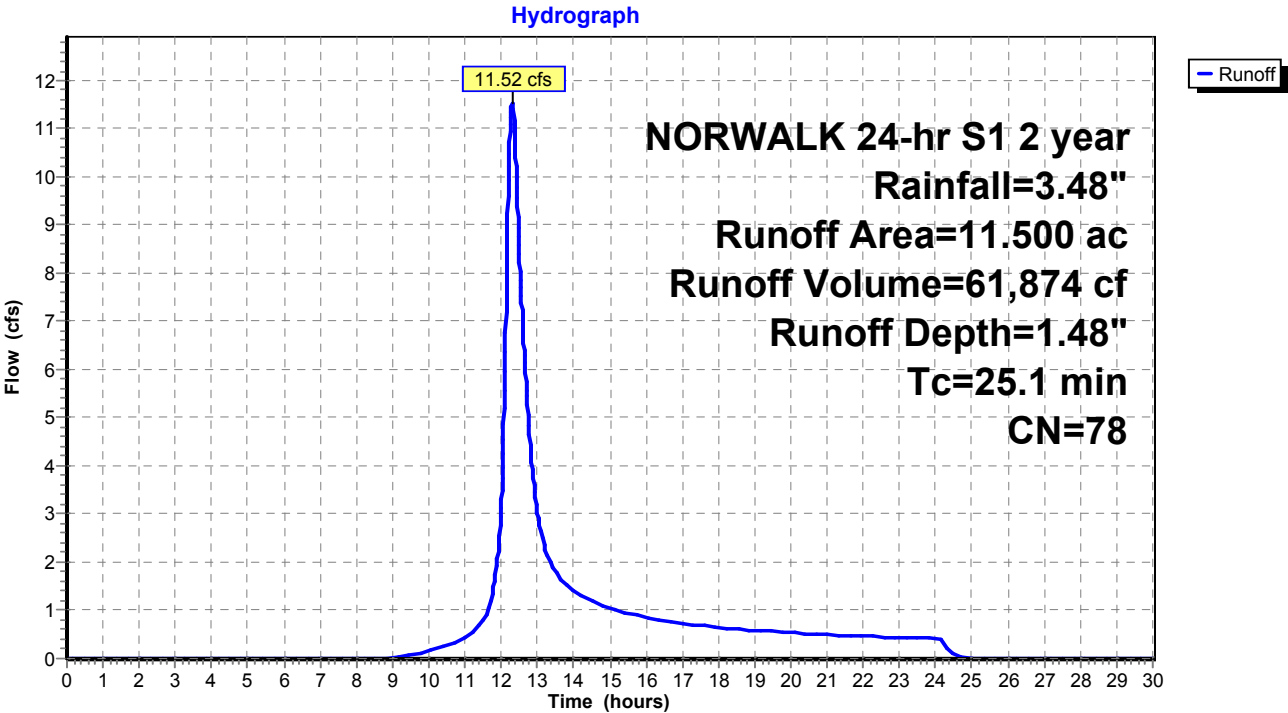
Runoff = 11.52 cfs @ 12.30 hrs, Volume= 61,874 cf, Depth= 1.48"
Routed to Pond 24P : RR Culvert 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
0.734	70	Woods, Good, HSG C
10.216	77	Woods, Good, HSG D
0.550	98	Paved parking, HSG C
11.500	78	Weighted Average
10.950		95.22% Pervious Area
0.550		4.78% Impervious Area

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

Subcatchment 105S: Area 18



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Subcatchment BLDG: EX-BLDG

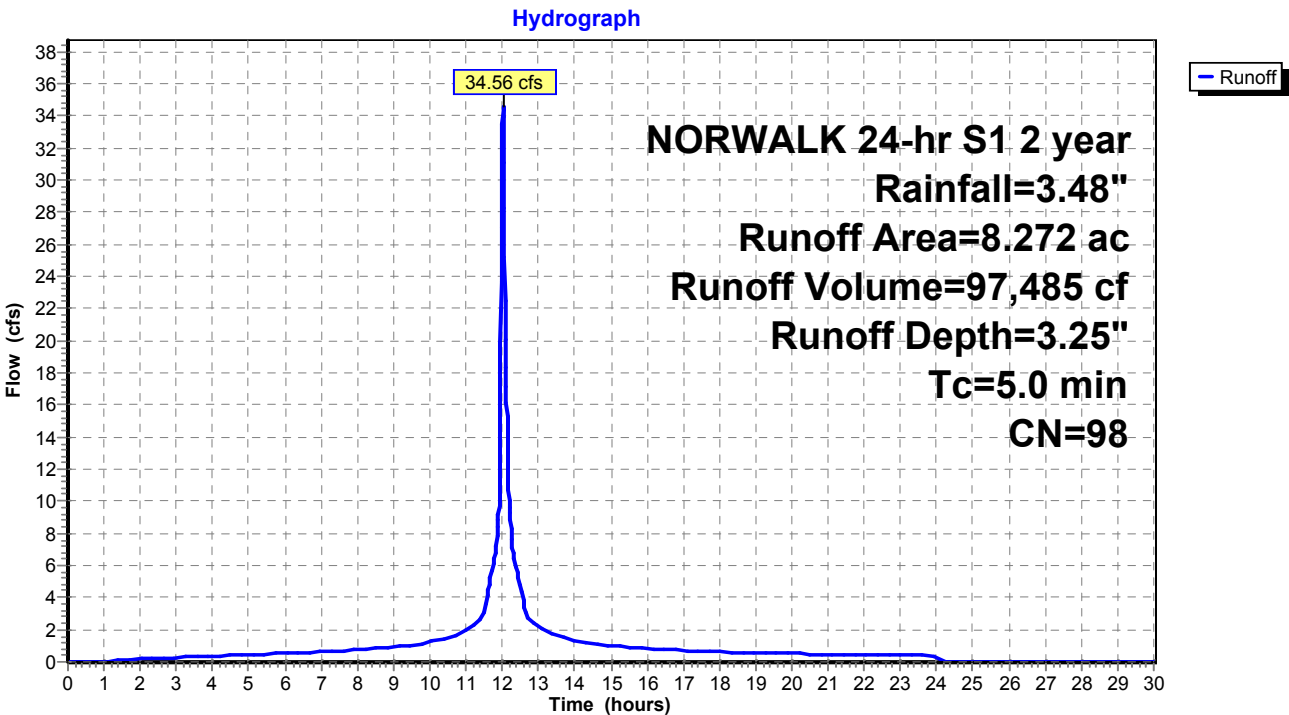
Runoff = 34.56 cfs @ 12.03 hrs, Volume= 97,485 cf, Depth= 3.25"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 2 year Rainfall=3.48"

Area (ac)	CN	Description
8.272	98	Roofs, HSG B
8.272		100.00% Impervious Area

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

Subcatchment BLDG: EX-BLDG



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Pond 1P: RR Culvert 2

Inflow Area = 6,570,111 sf, 25.88% Impervious, Inflow Depth > 1.49" for 2 year event
Inflow = 77.18 cfs @ 12.35 hrs, Volume= 816,760 cf
Outflow = 77.18 cfs @ 12.35 hrs, Volume= 816,760 cf, Atten= 0%, Lag= 0.0 min
Primary = 28.26 cfs @ 12.35 hrs, Volume= 597,482 cf
Secondary = 48.92 cfs @ 12.35 hrs, Volume= 219,278 cf
Routed to Pond 24P : RR Culvert 3

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 13.38' @ 12.35 hrs

Device	Routing	Invert	Outlet Devices
#1	Secondary	13.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 3.00 4.00 5.00 Width (feet) 50.00 50.00 50.00 50.00 50.00 50.00
#2	Primary	9.50'	24.0" W x 36.0" H Box Culvert L= 135.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.50' / 9.50' S= 0.0000 ' / Cc= 0.900 n= 0.014, Flow Area= 6.00 sf

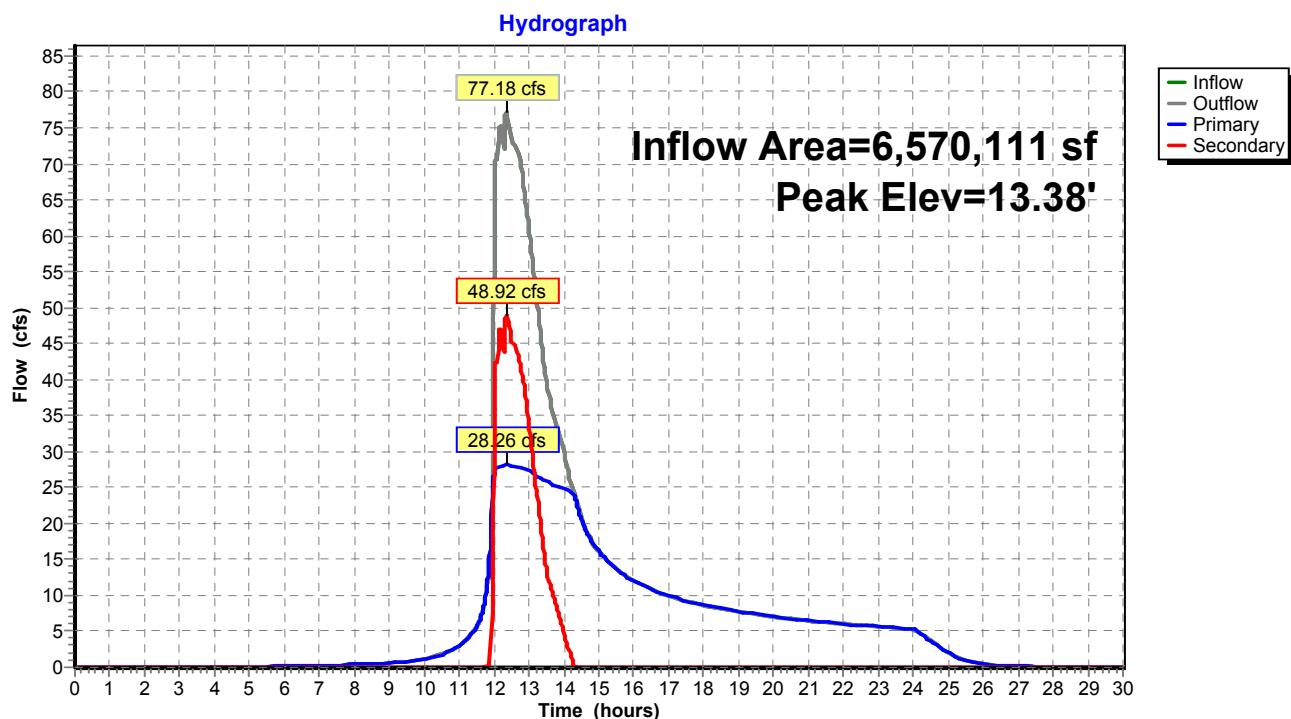
Primary OutFlow Max=28.26 cfs @ 12.35 hrs HW=13.38' (Free Discharge)

↑**2=Culvert** (Barrel Controls 28.26 cfs @ 4.86 fps)

Secondary OutFlow Max=48.68 cfs @ 12.35 hrs HW=13.38' (Free Discharge)

↑**1=Custom Weir/Orifice** (Weir Controls 48.68 cfs @ 2.56 fps)

Pond 1P: RR Culvert 2



Proposed Conditions

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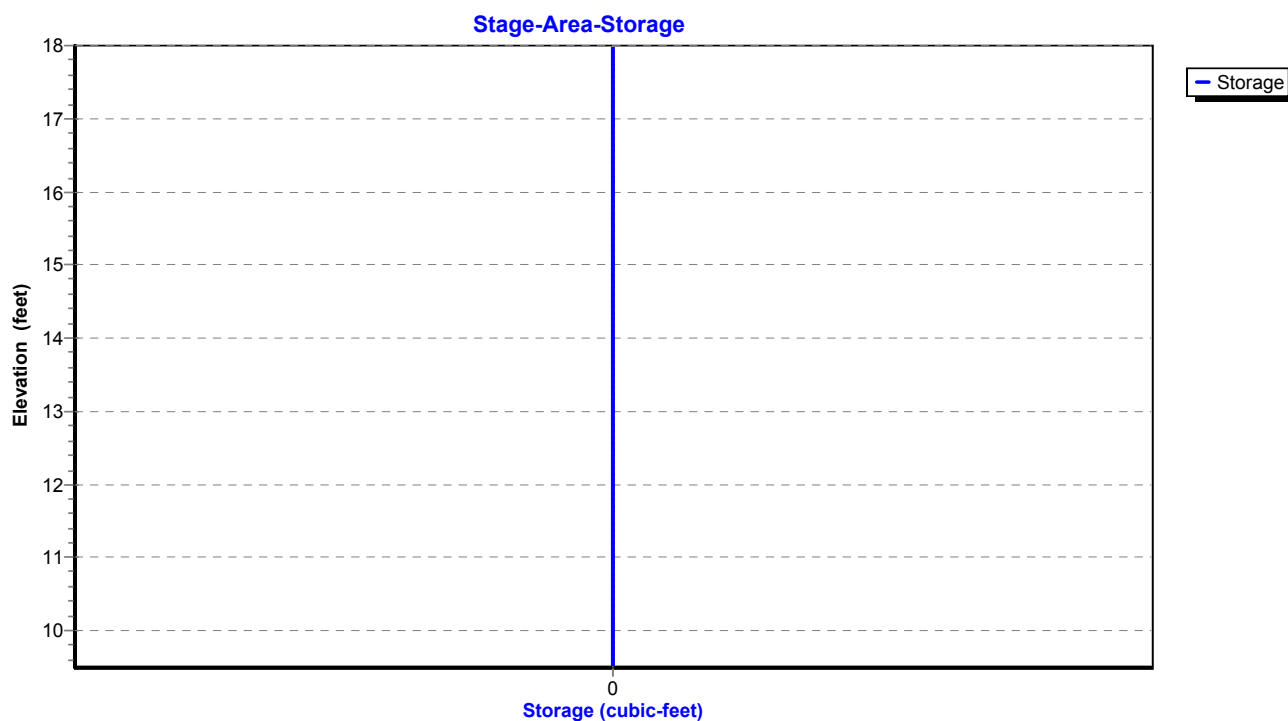
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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Pond 1P: RR Culvert 2



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Summary for Pond 2P: RR Culvert 1

Inflow Area = 3,416,890 sf, 54.67% Impervious, Inflow Depth = 2.23" for 2 year event
Inflow = 81.46 cfs @ 12.04 hrs, Volume= 633,951 cf
Outflow = 81.46 cfs @ 12.04 hrs, Volume= 633,951 cf, Atten= 0%, Lag= 0.0 min
Primary = 40.50 cfs @ 12.04 hrs, Volume= 541,688 cf
Secondary = 40.95 cfs @ 12.04 hrs, Volume= 92,263 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 28.39' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	25.00'	28.8" W x 28.8" H Box Culvert L= 123.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.00' / 23.60' S= 0.0114 '/' Cc= 0.900 n= 0.014, Flow Area= 5.76 sf
#2	Secondary	27.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 Width (feet) 6.00 6.00 6.00

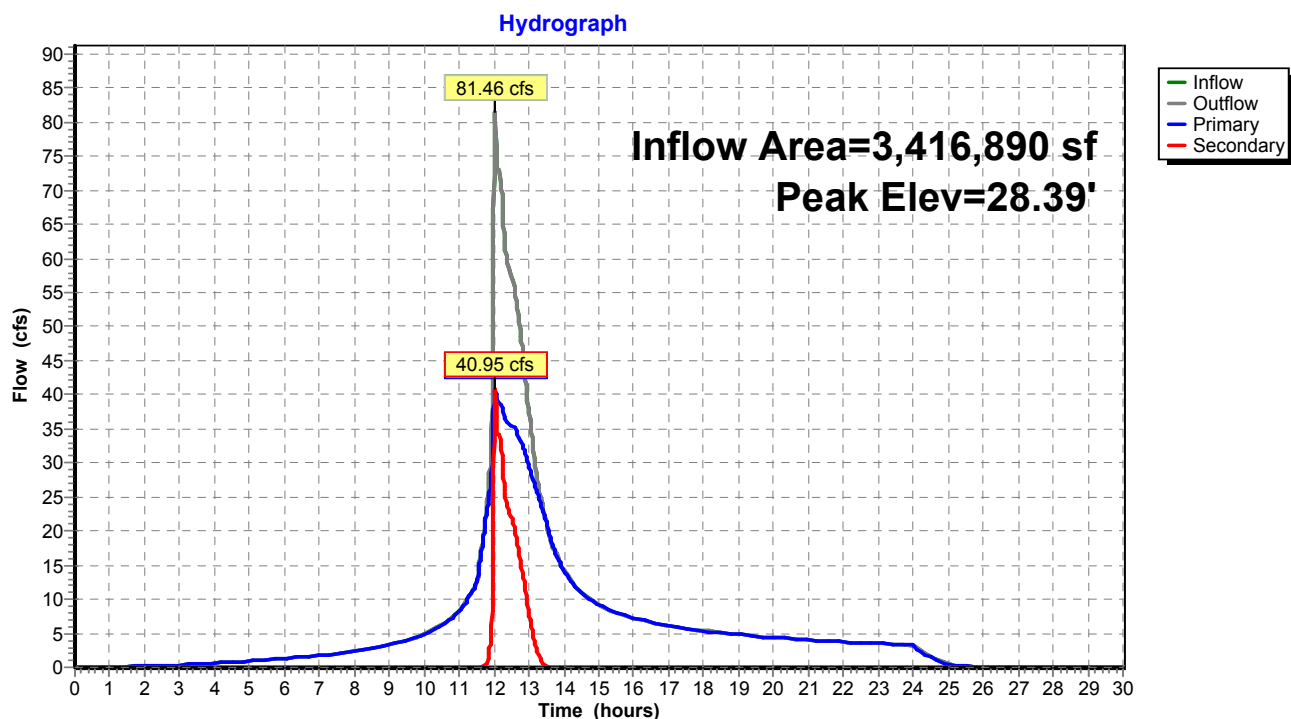
Primary OutFlow Max=40.48 cfs @ 12.04 hrs HW=28.39' (Free Discharge)

↑**1=Culvert** (Inlet Controls 40.48 cfs @ 7.03 fps)

Secondary OutFlow Max=40.86 cfs @ 12.04 hrs HW=28.39' (Free Discharge)

↑**2=Custom Weir/Orifice** (Weir Controls 40.86 cfs @ 4.90 fps)

Pond 2P: RR Culvert 1



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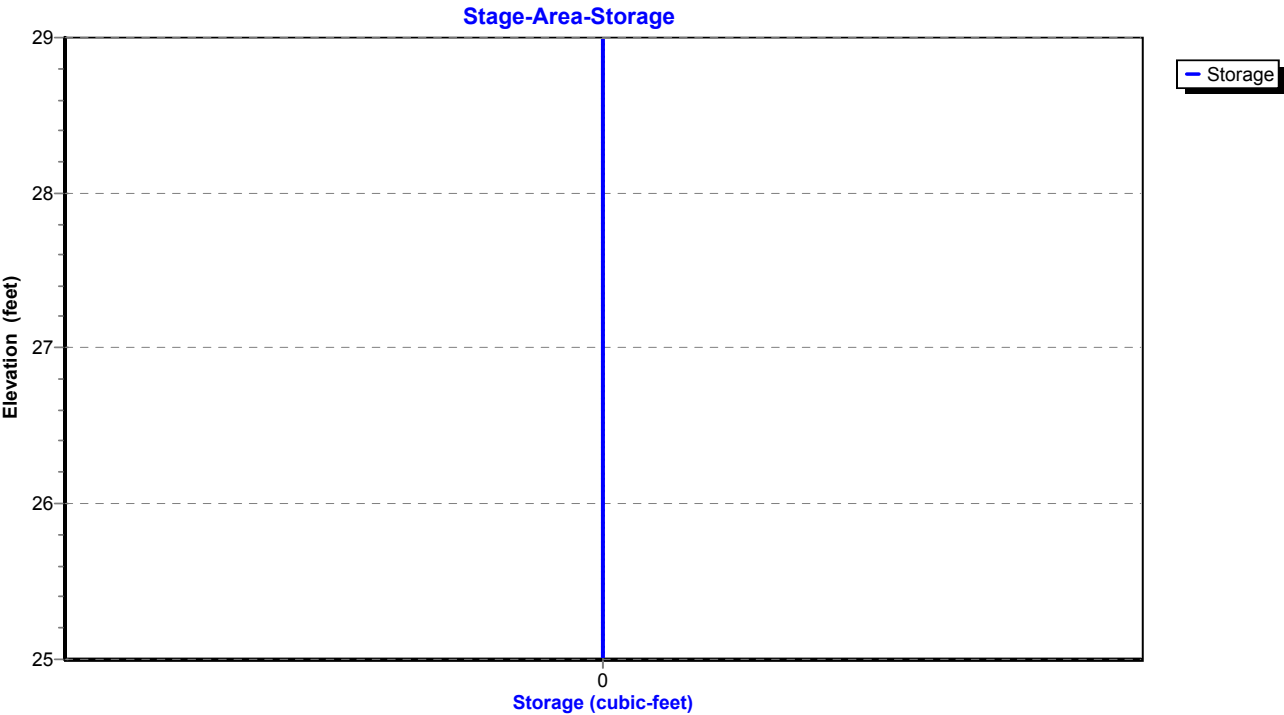
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Pond 2P: RR Culvert 1



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Summary for Pond 3P: DETENTION BASIN #2

Inflow Area = 263,277 sf, 58.24% Impervious, Inflow Depth = 1.85" for 2 year event
Inflow = 14.48 cfs @ 12.03 hrs, Volume= 40,587 cf
Outflow = 1.64 cfs @ 12.68 hrs, Volume= 24,876 cf, Atten= 89%, Lag= 38.8 min
Primary = 1.64 cfs @ 12.68 hrs, Volume= 24,876 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 47.80' @ 12.68 hrs Surf.Area= 8,253 sf Storage= 21,479 cf

Plug-Flow detention time= 303.4 min calculated for 24,868 cf (61% of inflow)
Center-of-Mass det. time= 175.6 min (994.5 - 819.0)

Volume	Invert	Avail.Storage	Storage Description
#1	44.00'	56,637 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.00	2,637	0	0
46.00	6,000	8,637	8,637
48.00	8,500	14,500	23,137
50.00	12,000	20,500	43,637
51.00	14,000	13,000	56,637

Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	18.0" Round Culvert L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.00' / 30.00' S= 0.1750 ' / Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	47.00'	10.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	50.40'	16.2" x 55.4" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.64 cfs @ 12.68 hrs HW=47.80' (Free Discharge)

1=Culvert (Passes 1.64 cfs of 14.87 cfs potential flow)
2=Orifice/Grate (Orifice Controls 1.64 cfs @ 3.05 fps)
3=Orifice/Grate (Controls 0.00 cfs)

Proposed Conditions

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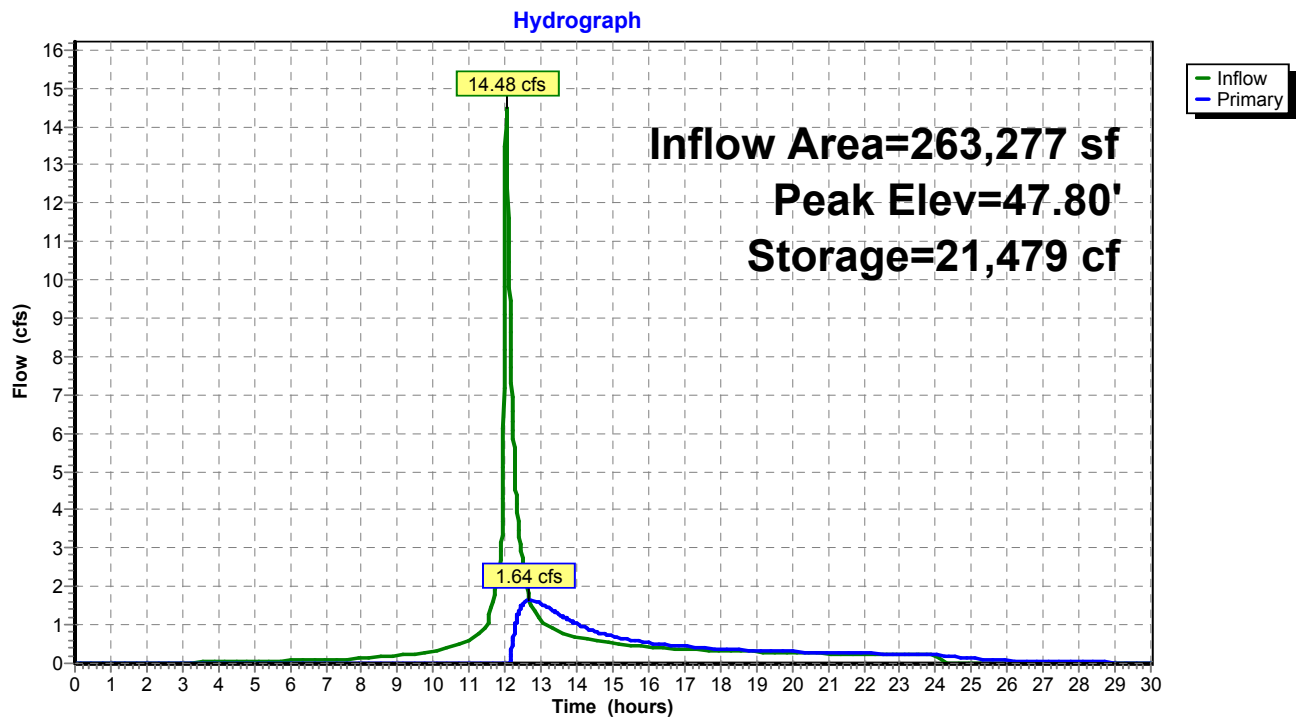
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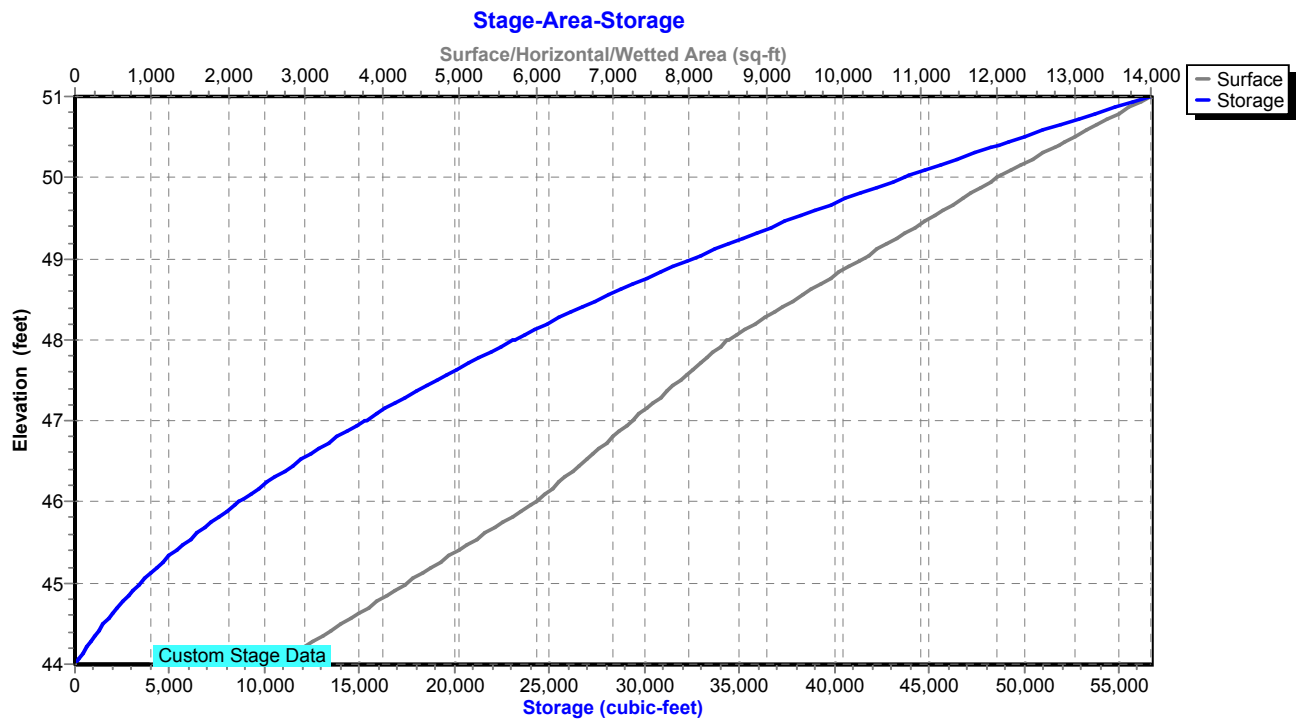
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Pond 3P: DETENTION BASIN #2



Pond 3P: DETENTION BASIN #2



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Summary for Pond 5P: DET 5 Culvert

Inflow Area = 541,015 sf, 16.51% Impervious, Inflow Depth = 1.17" for 2 year event
 Inflow = 7.58 cfs @ 12.46 hrs, Volume= 52,578 cf
 Outflow = 7.30 cfs @ 12.56 hrs, Volume= 52,577 cf, Atten= 4%, Lag= 6.1 min
 Primary = 7.30 cfs @ 12.56 hrs, Volume= 52,577 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 79.24' @ 12.56 hrs Storage= 1,910 cf

Plug-Flow detention time= 7.6 min calculated for 52,577 cf (100% of inflow)

Center-of-Mass det. time= 7.6 min (922.0 - 914.4)

Volume	Invert	Avail.Storage	Storage Description
#1	78.00'	62,584 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
78.00	0	0
79.00	1,179	1,179
80.00	3,009	4,188
81.00	5,795	9,983
82.00	9,335	19,318
83.00	16,518	35,836
84.00	26,748	62,584

Device	Routing	Invert	Outlet Devices
#1	Primary	78.00'	24.0" Round Culvert L= 224.0' Ke= 0.600 Inlet / Outlet Invert= 78.00' / 72.40' S= 0.0250 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=7.30 cfs @ 12.56 hrs HW=79.24' (Free Discharge)↑**1=Culvert** (Inlet Controls 7.30 cfs @ 3.56 fps)

Proposed Conditions

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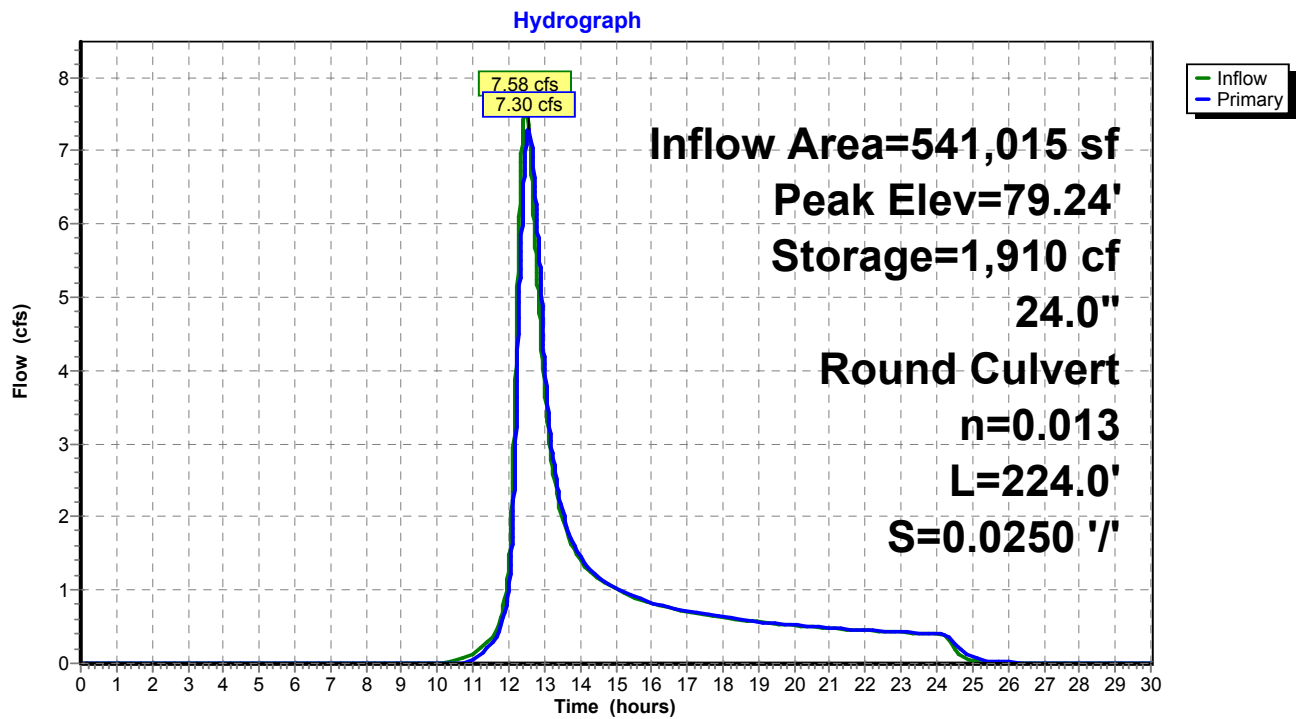
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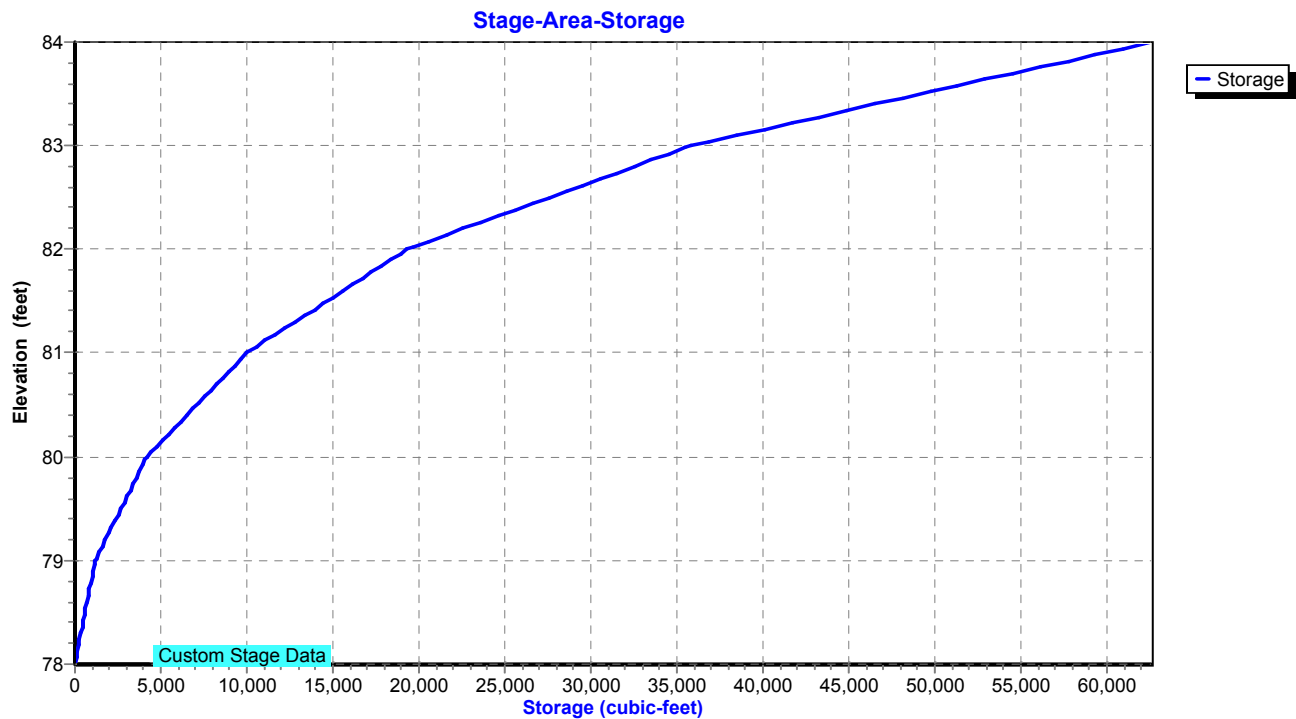
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Pond 5P: DET 5 Culvert



Pond 5P: DET 5 Culvert



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Summary for Pond 6P: DET 6 Culvert

Inflow Area = 747,054 sf, 37.20% Impervious, Inflow Depth = 1.77" for 2 year event
 Inflow = 13.40 cfs @ 12.70 hrs, Volume= 109,948 cf
 Outflow = 13.38 cfs @ 12.71 hrs, Volume= 109,948 cf, Atten= 0%, Lag= 0.7 min
 Primary = 13.38 cfs @ 12.71 hrs, Volume= 109,948 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 90.10' @ 12.71 hrs Storage= 212 cf

Plug-Flow detention time= 0.5 min calculated for 109,912 cf (100% of inflow)

Center-of-Mass det. time= 0.5 min (897.8 - 897.4)

Volume	Invert	Avail.Storage	Storage Description
#1	88.50'	5,954 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
88.50	0	0
90.00	154	154
92.00	1,175	1,329
93.00	4,625	5,954

Device	Routing	Invert	Outlet Devices
#1	Primary	88.50'	30.0" Round Culvert L= 180.0' Ke= 0.600 Inlet / Outlet Invert= 88.50' / 86.00' S= 0.0139 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=13.38 cfs @ 12.71 hrs HW=90.10' (Free Discharge)↑**1=Culvert** (Inlet Controls 13.38 cfs @ 4.04 fps)

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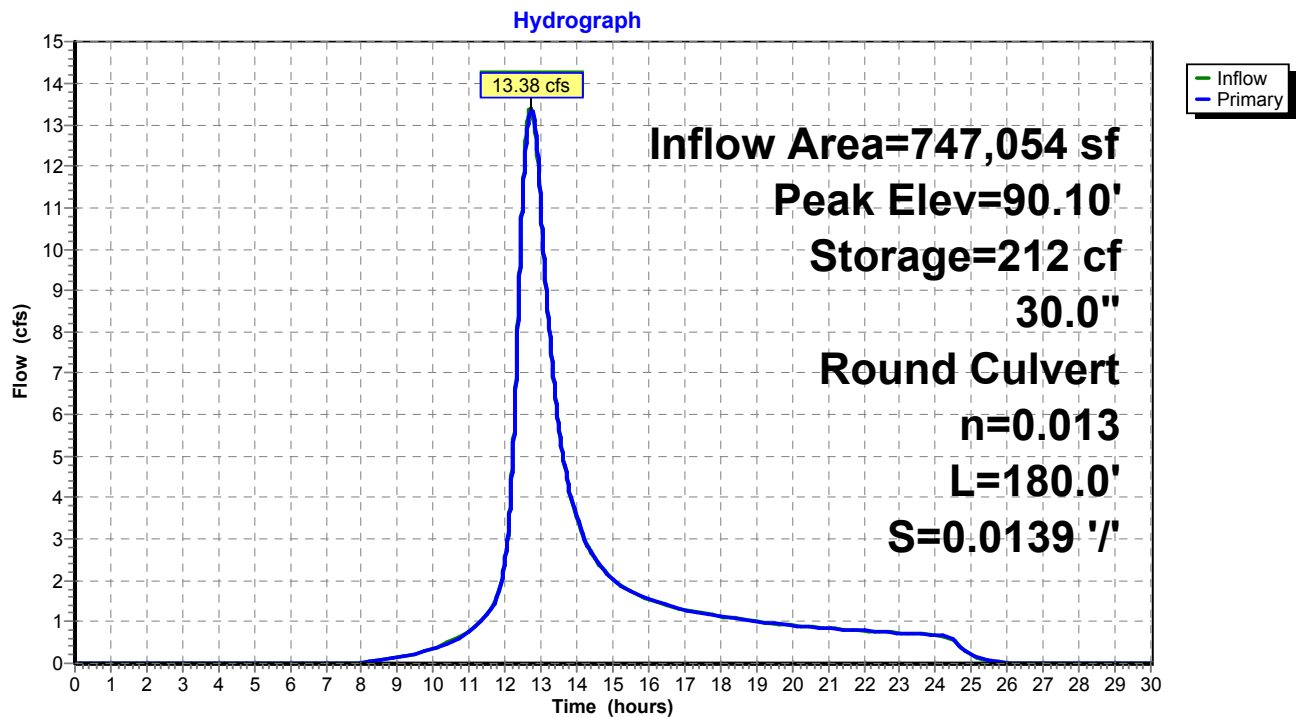
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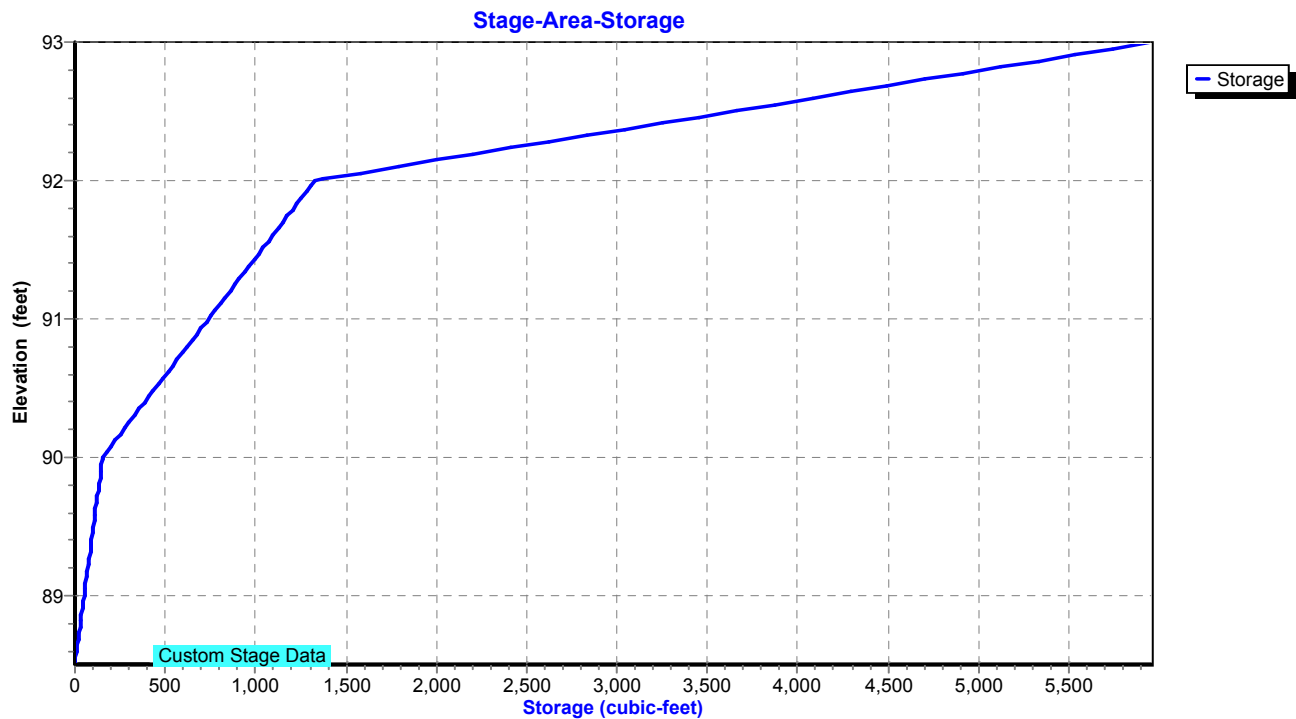
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Pond 6P: DET 6 Culvert



Pond 6P: DET 6 Culvert



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Summary for Pond 7P: DET 7 Culvert

Inflow Area = 64,033 sf, 0.00% Impervious, Inflow Depth = 1.69" for 2 year event
 Inflow = 1.80 cfs @ 12.27 hrs, Volume= 9,031 cf
 Outflow = 1.35 cfs @ 12.43 hrs, Volume= 9,031 cf, Atten= 25%, Lag= 9.9 min
 Primary = 1.35 cfs @ 12.43 hrs, Volume= 9,031 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 93.08' @ 12.43 hrs Storage= 557 cf

Plug-Flow detention time= 4.8 min calculated for 9,031 cf (100% of inflow)

Center-of-Mass det. time= 4.8 min (876.3 - 871.5)

Volume	Invert	Avail.Storage	Storage Description
#1	92.50'	5,874 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
92.50	0	0
93.00	103	103
94.00	5,771	5,874

Device	Routing	Invert	Outlet Devices
#1	Primary	92.50'	15.0" Round Culvert L= 202.0' Ke= 0.600 Inlet / Outlet Invert= 92.50' / 89.11' S= 0.0168 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=1.35 cfs @ 12.43 hrs HW=93.08' (Free Discharge)↑ **1=Culvert** (Inlet Controls 1.35 cfs @ 2.43 fps)

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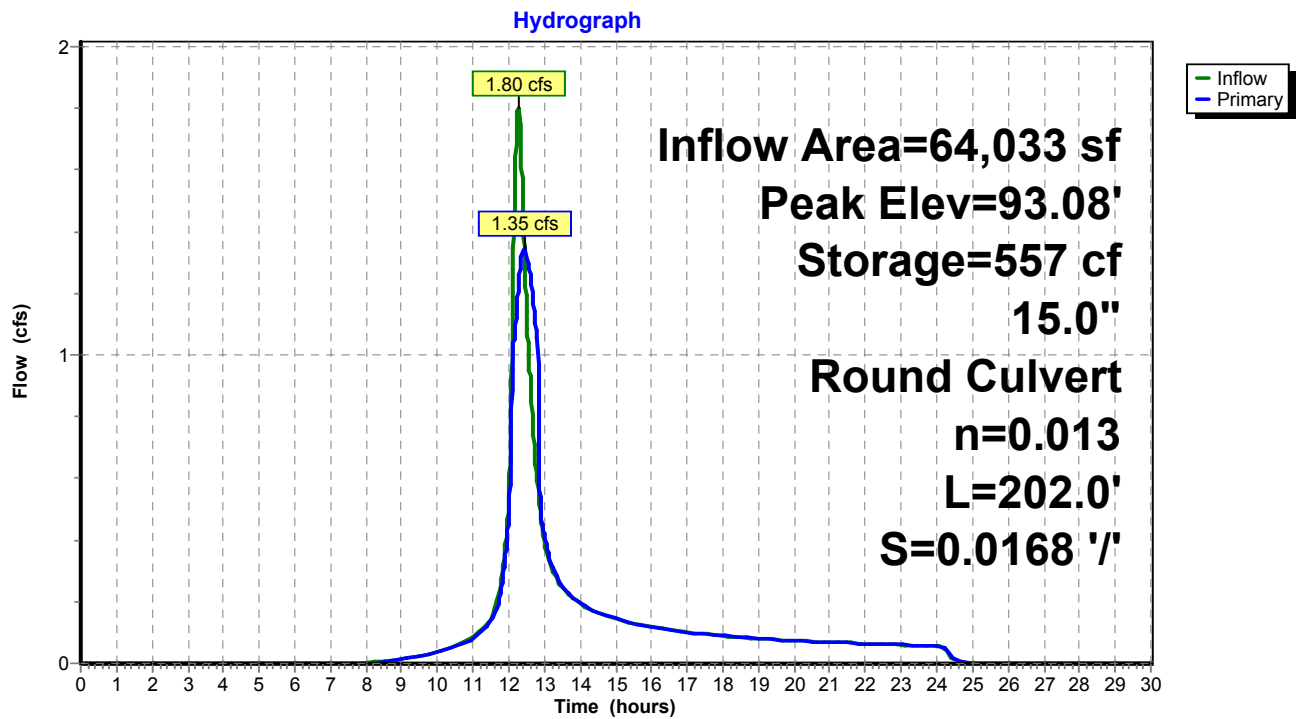
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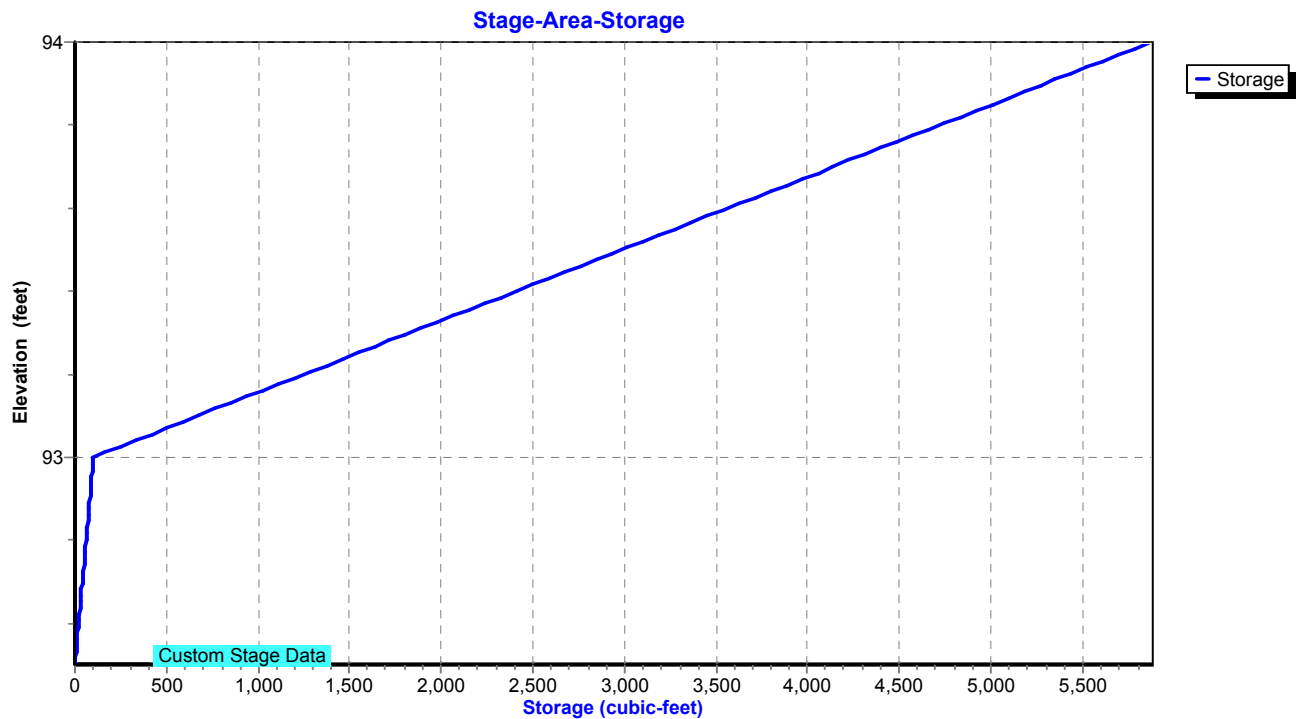
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Pond 7P: DET 7 Culvert



Pond 7P: DET 7 Culvert



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Summary for Pond 8P: Comb. 5,6,7,8,9

Inflow Area = 1,584,277 sf, 30.02% Impervious, Inflow Depth = 1.64" for 2 year event
 Inflow = 26.57 cfs @ 12.65 hrs, Volume= 216,885 cf
 Outflow = 26.57 cfs @ 12.65 hrs, Volume= 216,885 cf, Atten= 0%, Lag= 0.0 min
 Primary = 26.57 cfs @ 12.65 hrs, Volume= 216,885 cf
 Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 70.37' @ 12.65 hrs Storage= 39 cf

Plug-Flow detention time= 0.1 min calculated for 216,885 cf (100% of inflow)
 Center-of-Mass det. time= 0.1 min (890.4 - 890.3)

Volume	Invert	Avail.Storage	Storage Description
#1	68.40'	5,234 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.40	0	0
71.00	52	52
72.00	118	170
73.00	471	641
74.00	1,318	1,959
75.00	3,275	5,234

Device	Routing	Invert	Outlet Devices
#1	Primary	68.40'	42.0" Round Culvert L= 900.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 68.40' / 36.99' S= 0.0349 ' S= 0.0349 ' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=26.56 cfs @ 12.65 hrs HW=70.37' (Free Discharge)

↑**1=Culvert** (Inlet Controls 26.56 cfs @ 4.77 fps)

Proposed Conditions

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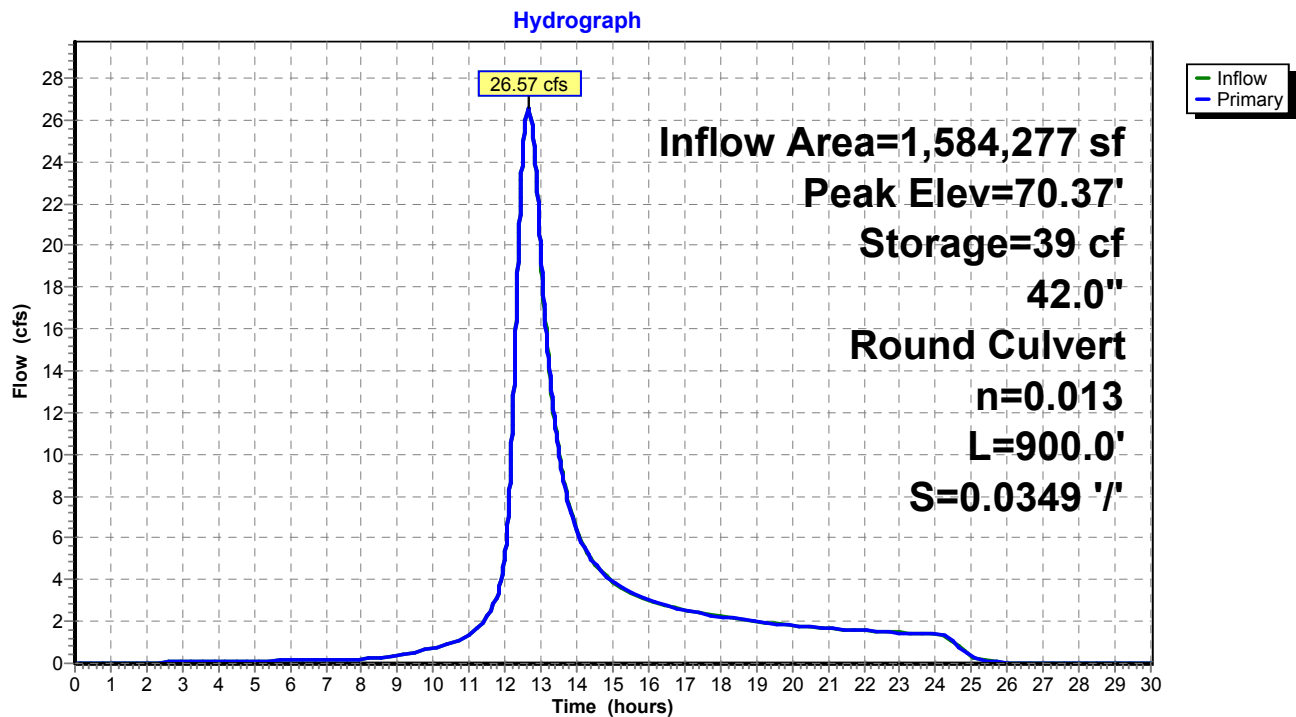
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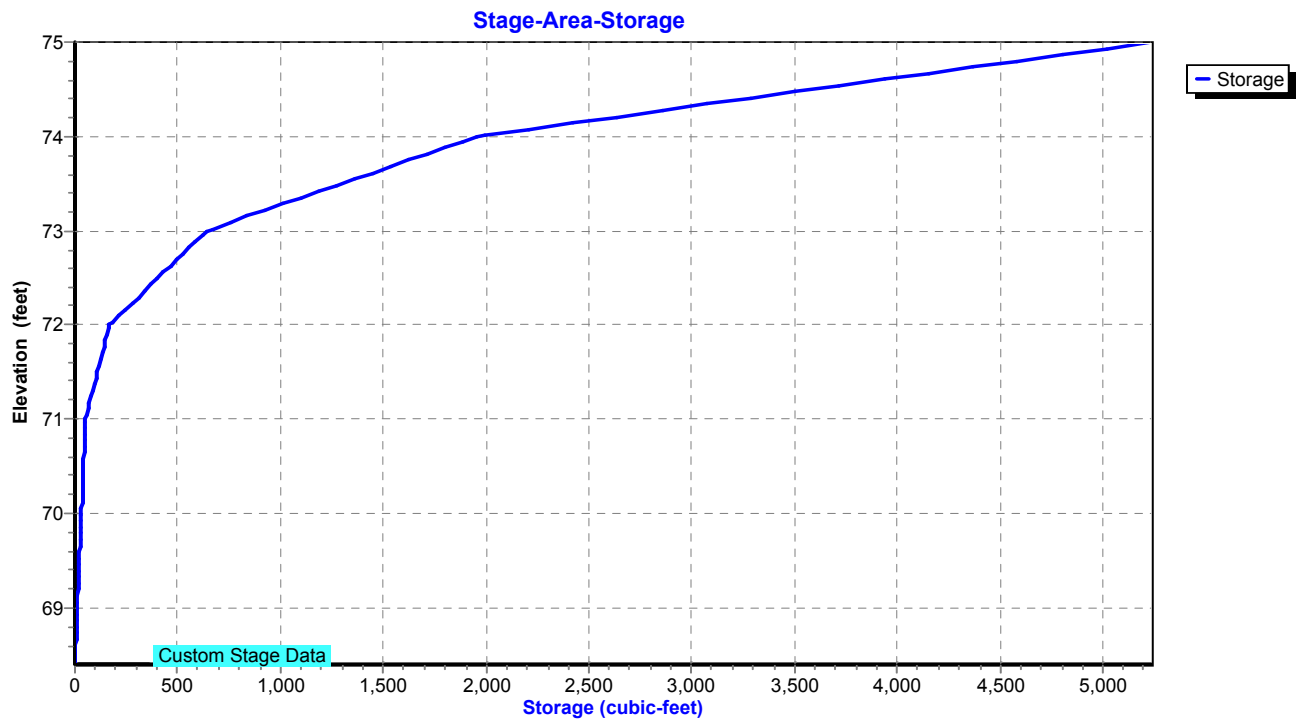
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Pond 8P: Comb. 5,6,7,8,9



Pond 8P: Comb. 5,6,7,8,9



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Summary for Pond 9P: MH-K

Inflow Area = 246,332 sf, 62.25% Impervious, Inflow Depth = 1.89" for 2 year event
Inflow = 13.83 cfs @ 12.03 hrs, Volume= 38,855 cf
Outflow = 13.83 cfs @ 12.03 hrs, Volume= 38,855 cf, Atten= 0%, Lag= 0.0 min
Primary = 13.83 cfs @ 12.03 hrs, Volume= 38,855 cf
Routed to Pond 3P : DETENTION BASIN #2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 49.28' @ 12.03 hrs

Flood Elev= 51.80'

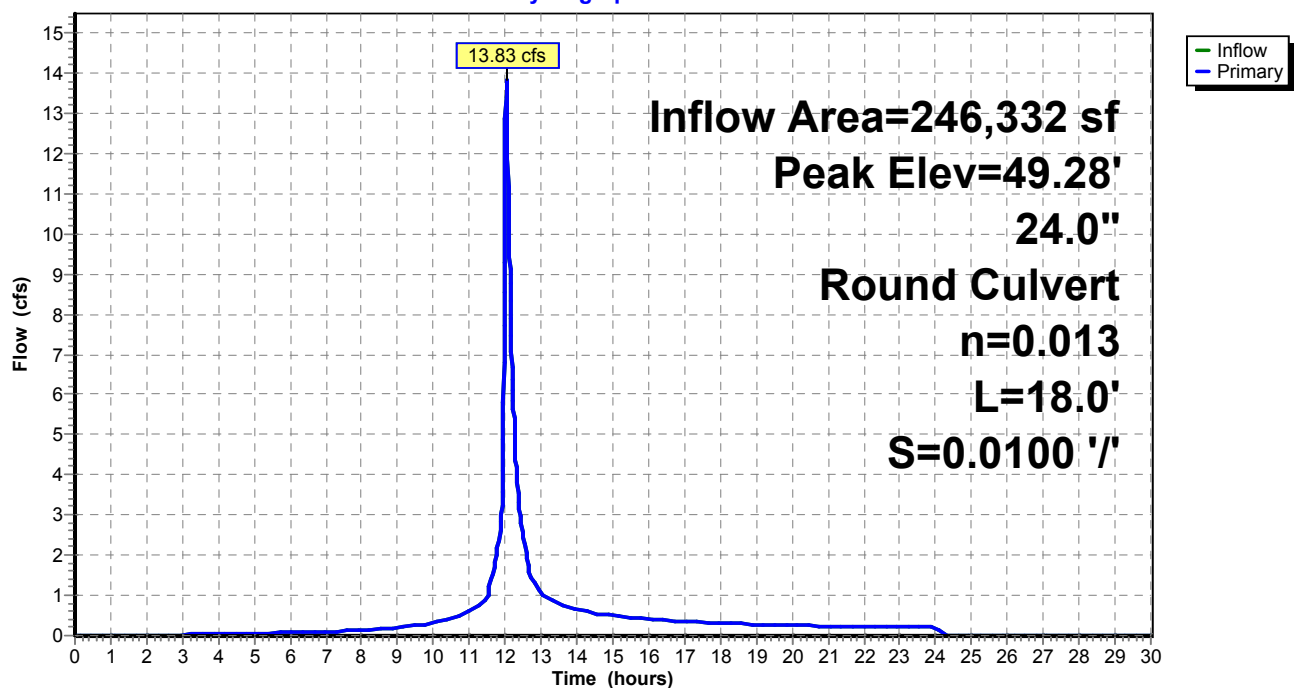
Device	Routing	Invert	Outlet Devices
#1	Primary	47.18'	24.0" Round Culvert L= 18.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.18' / 47.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=13.79 cfs @ 12.03 hrs HW=49.28' (Free Discharge)

↑1=Culvert (Barrel Controls 13.79 cfs @ 5.21 fps)

Pond 9P: MH-K

Hydrograph



Proposed Conditions

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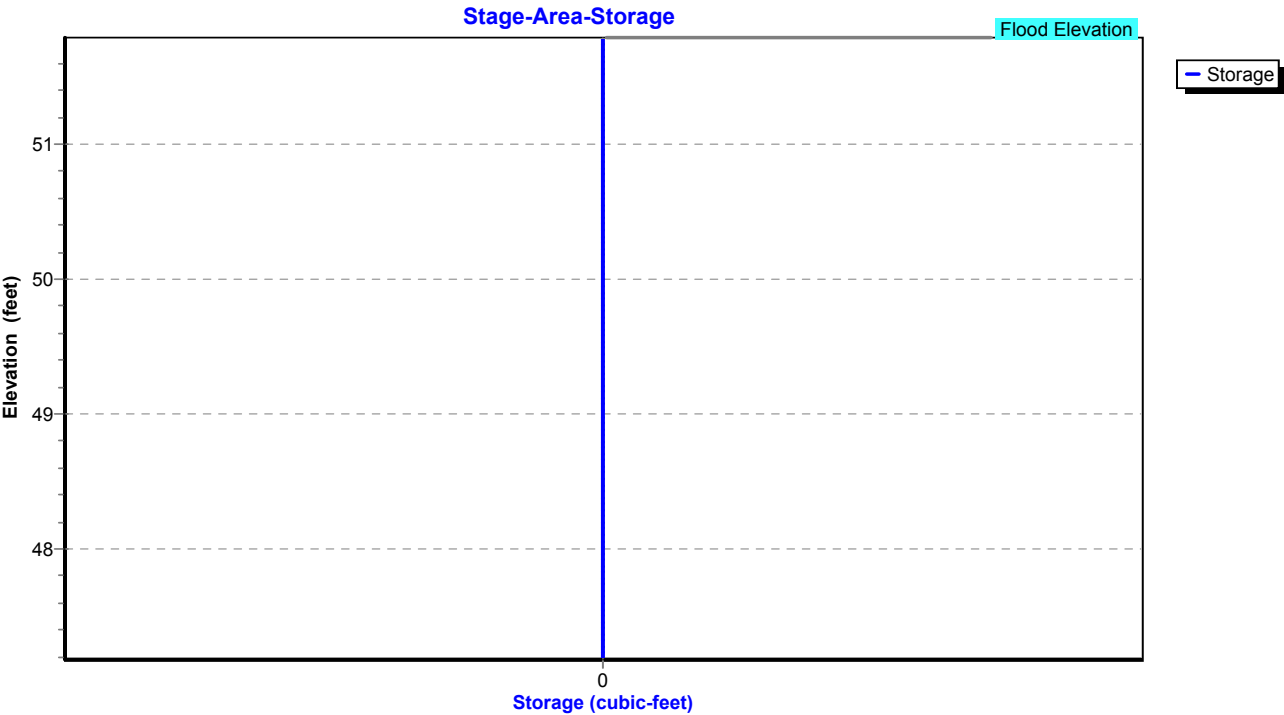
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Pond 9P: MH-K



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Summary for Pond 10P: MH-L

Inflow Area = 71,874 sf, 85.27% Impervious, Inflow Depth = 1.50" for 2 year event
Inflow = 5.92 cfs @ 12.03 hrs, Volume= 9,011 cf
Outflow = 5.92 cfs @ 12.03 hrs, Volume= 9,011 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.92 cfs @ 12.03 hrs, Volume= 9,011 cf
Routed to Pond 9P : MH-K

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 49.34' @ 12.03 hrs

Flood Elev= 53.00'

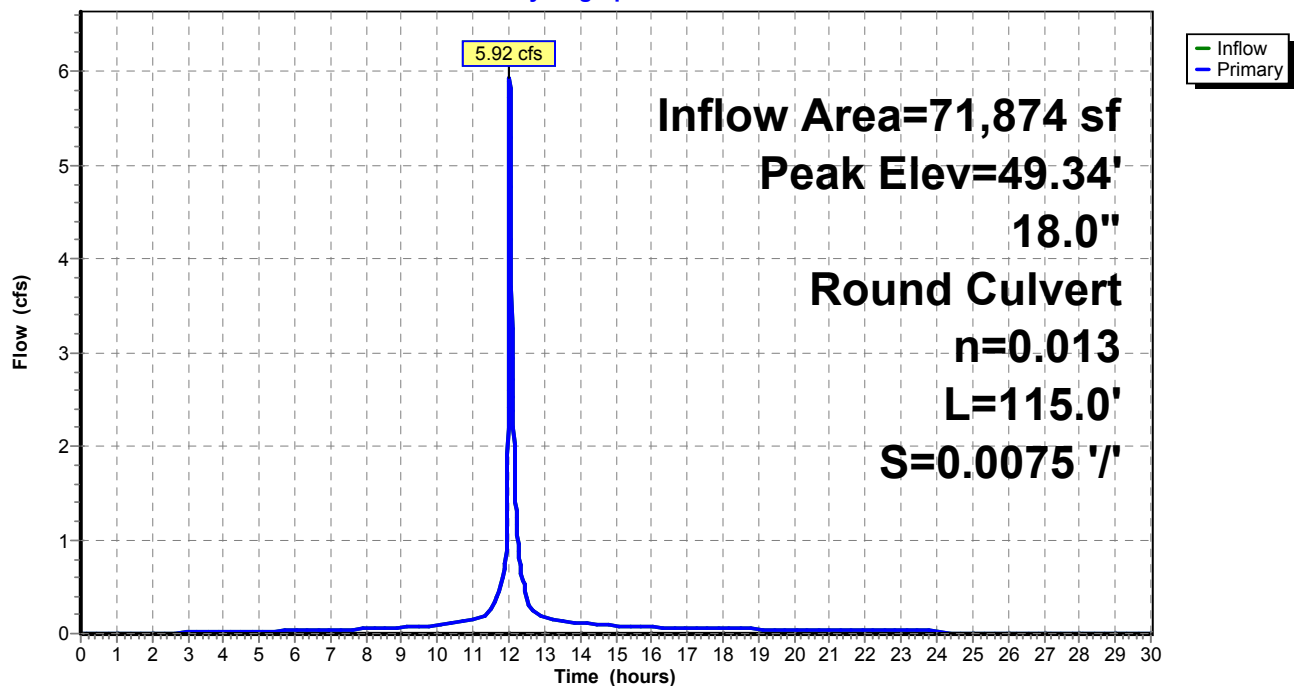
Device	Routing	Invert	Outlet Devices
#1	Primary	48.04'	18.0" Round Culvert L= 115.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.04' / 47.18' S= 0.0075 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=5.90 cfs @ 12.03 hrs HW=49.34' (Free Discharge)

↑1=Culvert (Barrel Controls 5.90 cfs @ 4.85 fps)

Pond 10P: MH-L

Hydrograph



Proposed Conditions

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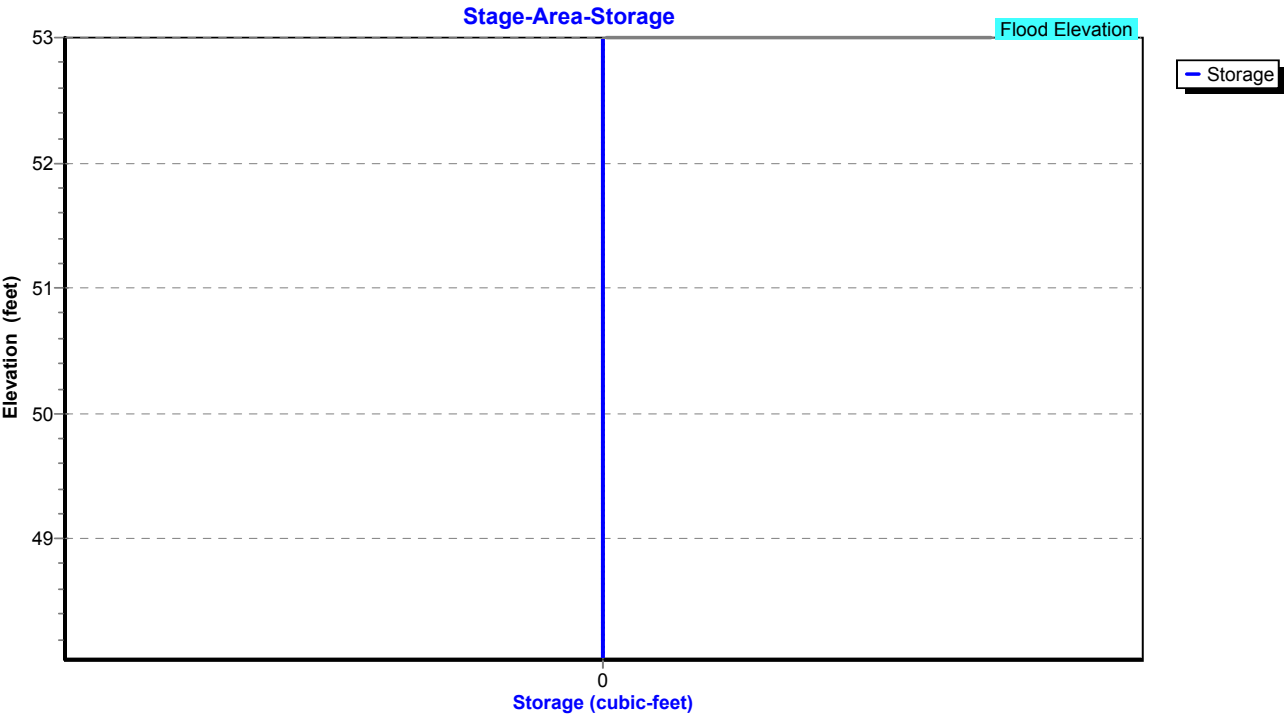
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Pond 10P: MH-L



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Summary for Pond 11P: Pipe Storage

Inflow Area = 40,903 sf, 82.85% Impervious, Inflow Depth = 2.83" for 2 year event
Inflow = 3.63 cfs @ 12.03 hrs, Volume= 9,636 cf
Outflow = 3.11 cfs @ 12.03 hrs, Volume= 1,386 cf, Atten= 14%, Lag= 0.0 min
Primary = 3.11 cfs @ 12.03 hrs, Volume= 1,386 cf
Routed to Pond 10P : MH-L

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 49.68' @ 12.03 hrs Storage= 0.081 af

Plug-Flow detention time= 233.3 min calculated for 1,385 cf (14% of inflow)

Center-of-Mass det. time= (not calculated: outflow precedes inflow)

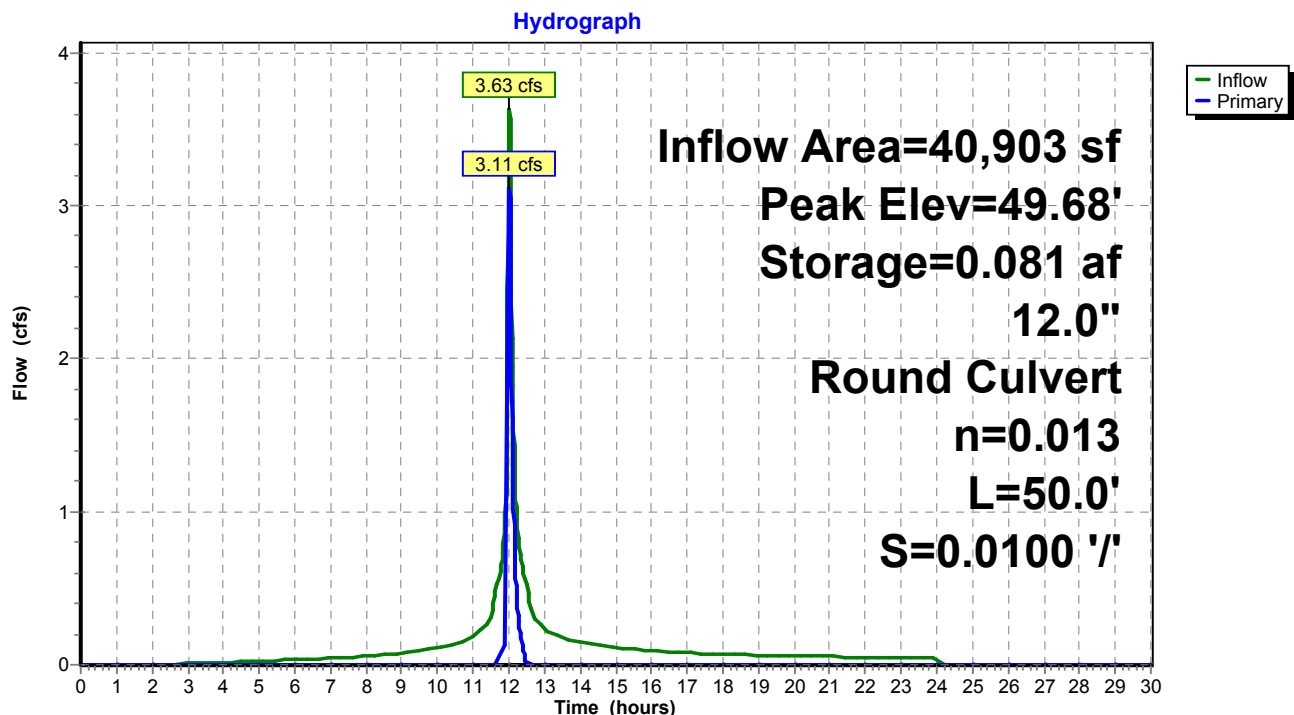
Volume	Invert	Avail.Storage	Storage Description
#1	45.50'	0.081 af	36.0" Round Pipe Storage x 2 L= 250.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.50'	12.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.50' / 48.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=3.10 cfs @ 12.03 hrs HW=49.67' (Free Discharge)

←1=Culvert (Inlet Controls 3.10 cfs @ 3.94 fps)

Pond 11P: Pipe Storage



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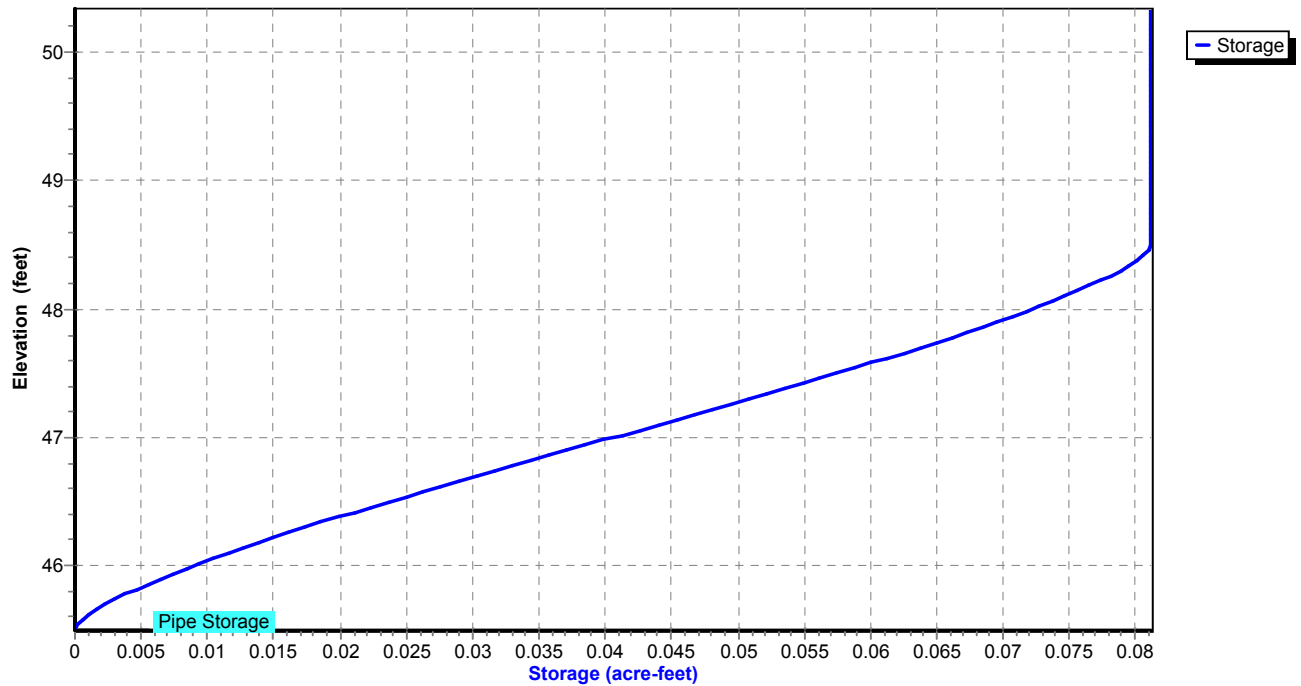
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Pond 11P: Pipe Storage

Stage-Area-Storage



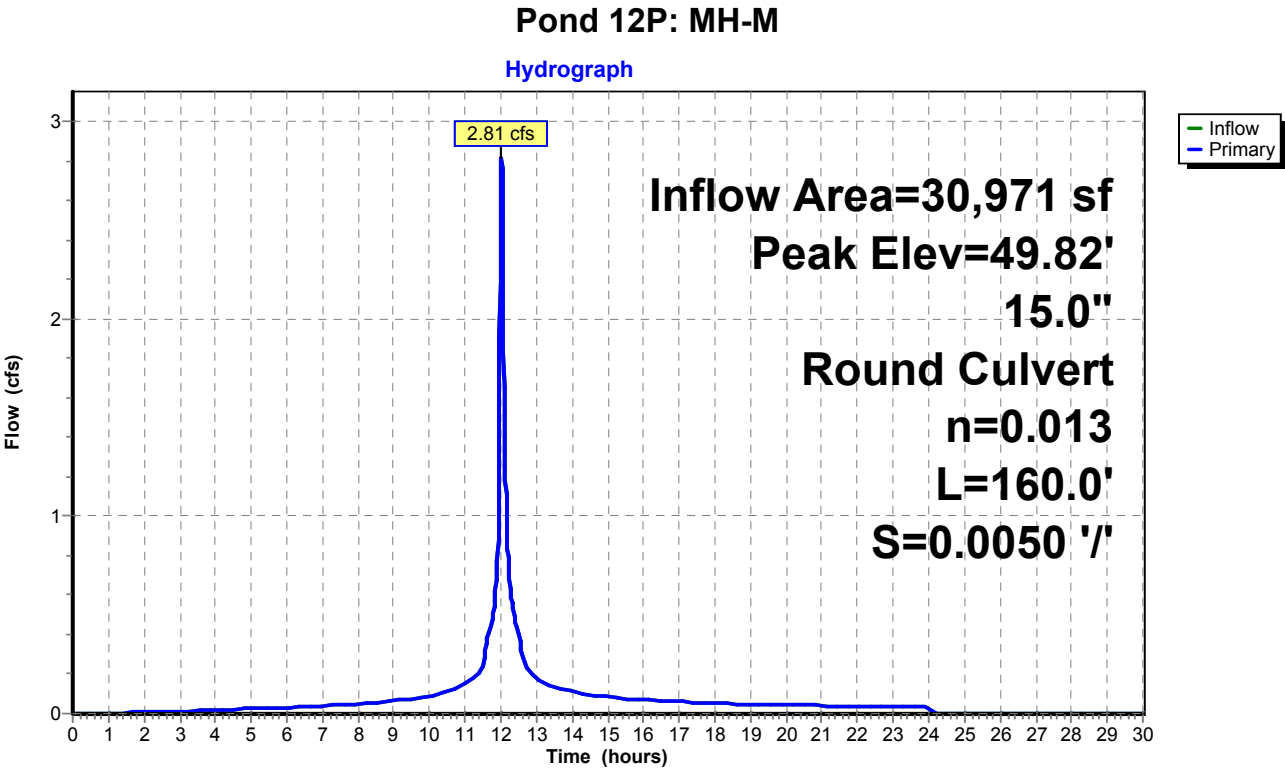
Summary for Pond 12P: MH-M

Inflow Area = 30,971 sf, 88.47% Impervious, Inflow Depth = 2.95" for 2 year event
Inflow = 2.81 cfs @ 12.03 hrs, Volume= 7,625 cf
Outflow = 2.81 cfs @ 12.03 hrs, Volume= 7,625 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.81 cfs @ 12.03 hrs, Volume= 7,625 cf
Routed to Pond 10P : MH-L

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 49.82' @ 12.03 hrs
Flood Elev= 54.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.84'	15.0" Round Culvert L= 160.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.84' / 48.04' S= 0.0050 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=2.80 cfs @ 12.03 hrs HW=49.82' (Free Discharge)
1=Culvert (Barrel Controls 2.80 cfs @ 3.75 fps)



Proposed Conditions

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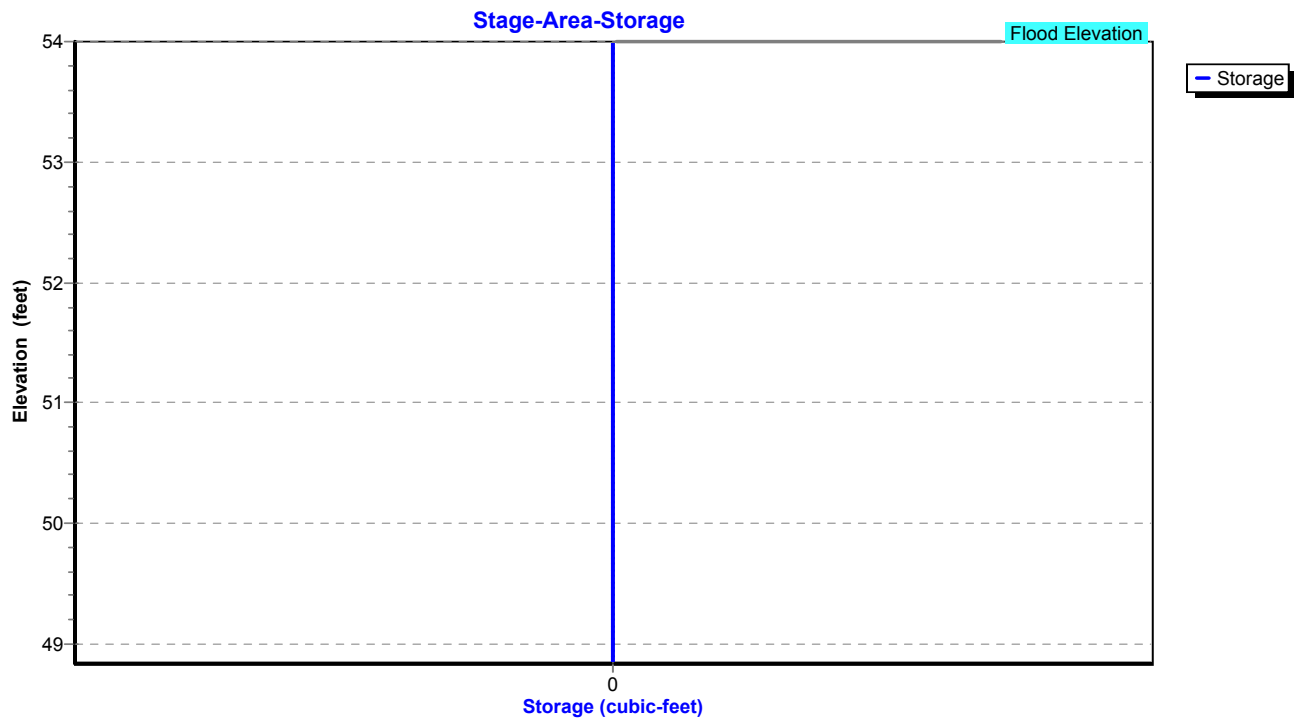
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Pond 12P: MH-M



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Summary for Pond 13P: MH-J

Inflow Area = 17,032 sf, 79.03% Impervious, Inflow Depth = 2.72" for 2 year event
Inflow = 1.48 cfs @ 12.03 hrs, Volume= 3,854 cf
Outflow = 1.48 cfs @ 12.03 hrs, Volume= 3,854 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.48 cfs @ 12.03 hrs, Volume= 3,854 cf
Routed to Pond 12P : MH-M

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.32' @ 12.03 hrs

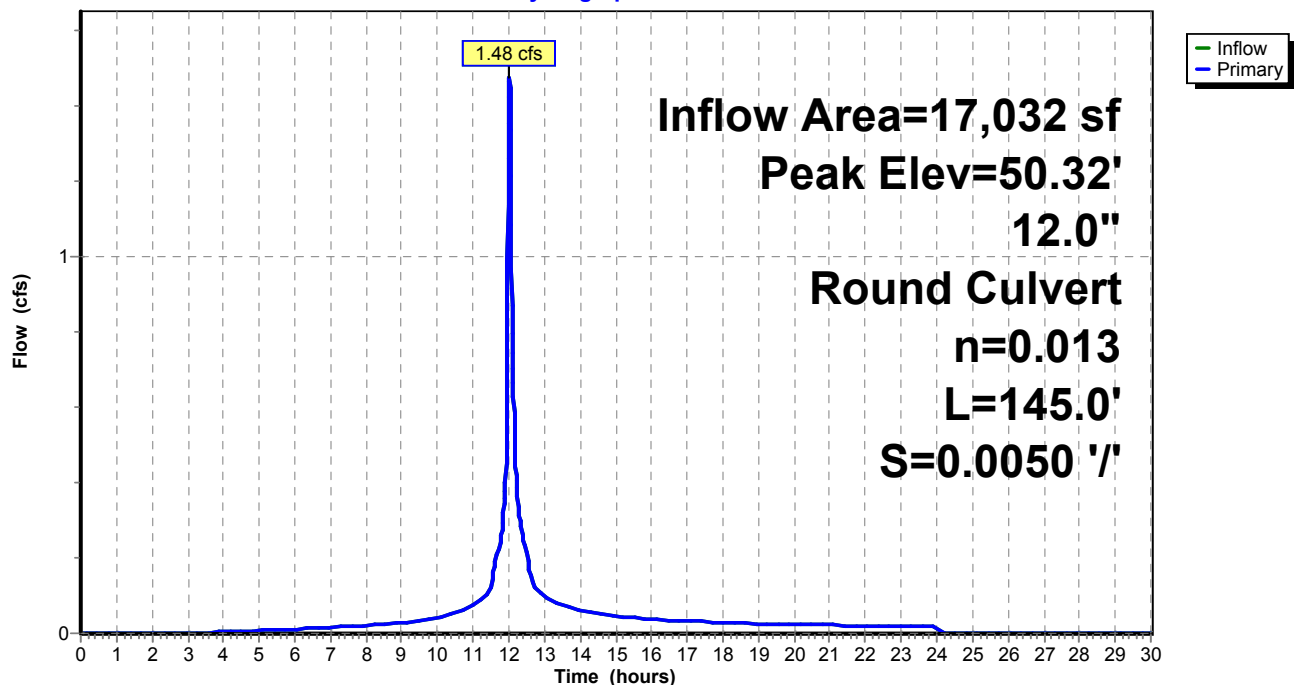
Device	Routing	Invert	Outlet Devices
#1	Primary	49.57'	12.0" Round Culvert L= 145.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.57' / 48.84' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.47 cfs @ 12.03 hrs HW=50.32' (Free Discharge)

↑1=Culvert (Barrel Controls 1.47 cfs @ 3.23 fps)

Pond 13P: MH-J

Hydrograph



Proposed Conditions

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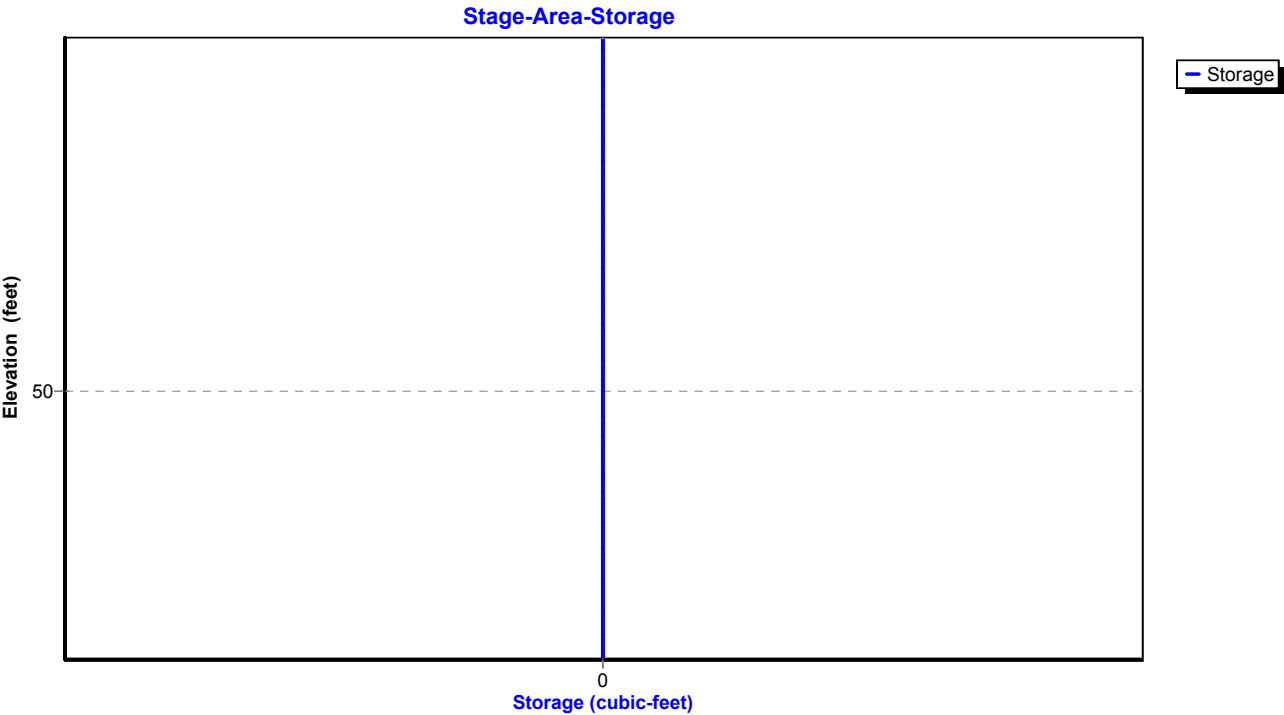
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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Pond 13P: MH-J



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Summary for Pond 14P: MH-O

Inflow Area = 144,140 sf, 45.36% Impervious, Inflow Depth = 1.87" for 2 year event
Inflow = 5.66 cfs @ 12.10 hrs, Volume= 22,468 cf
Outflow = 5.66 cfs @ 12.10 hrs, Volume= 22,468 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.66 cfs @ 12.10 hrs, Volume= 22,468 cf
Routed to Pond 9P : MH-K

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 49.19' @ 12.10 hrs

Flood Elev= 51.80'

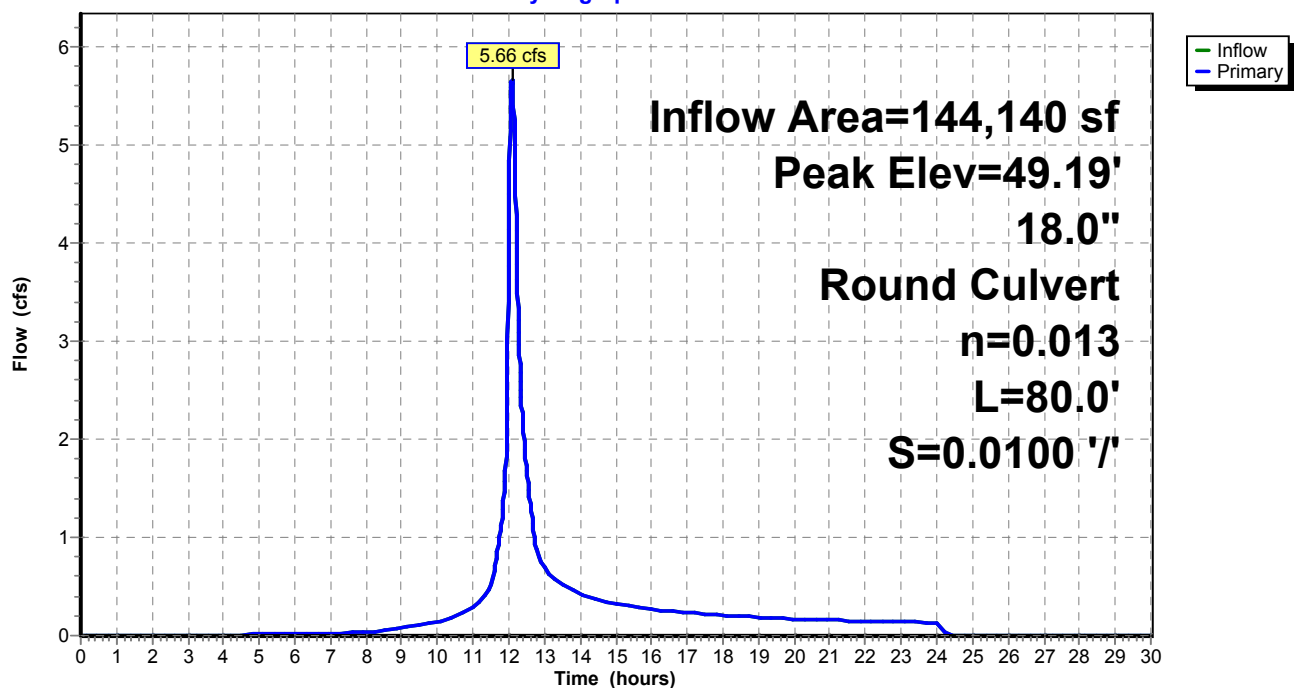
Device	Routing	Invert	Outlet Devices
#1	Primary	47.98'	18.0" Round Culvert L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.98' / 47.18' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=5.66 cfs @ 12.10 hrs HW=49.19' (Free Discharge)

↑1=Culvert (Barrel Controls 5.66 cfs @ 5.07 fps)

Pond 14P: MH-O

Hydrograph



Proposed Conditions

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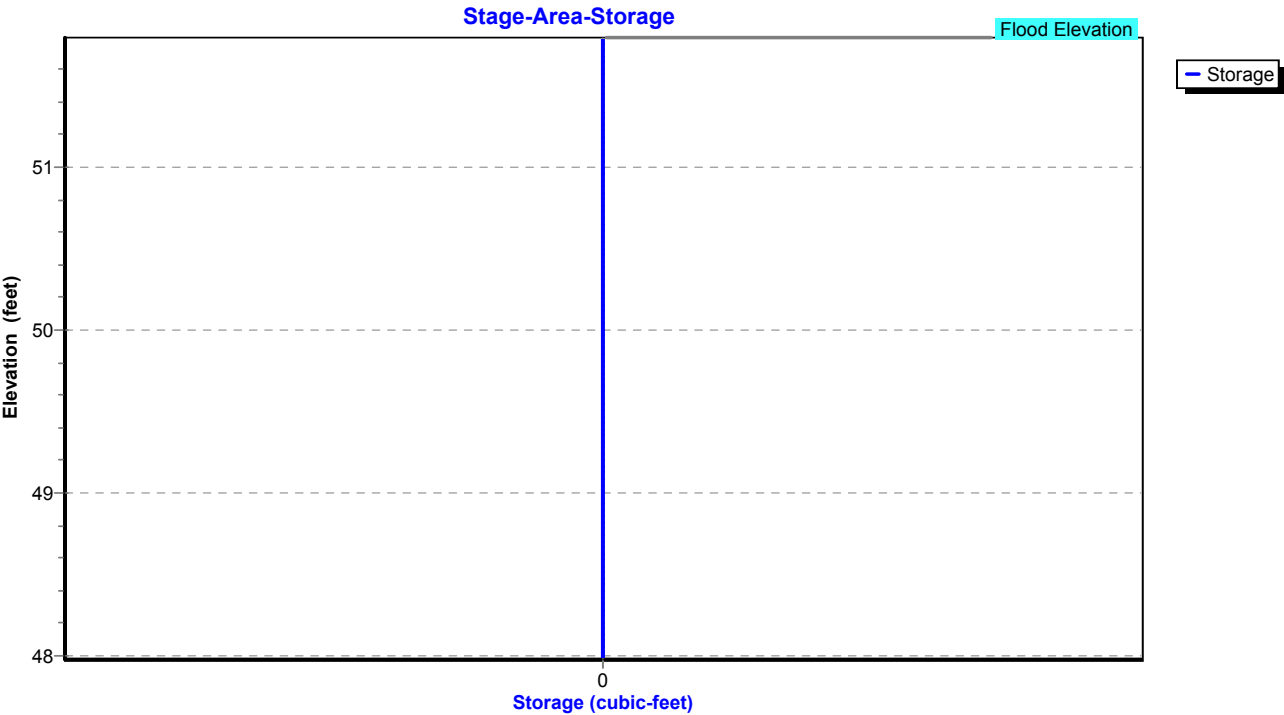
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Pond 14P: MH-O



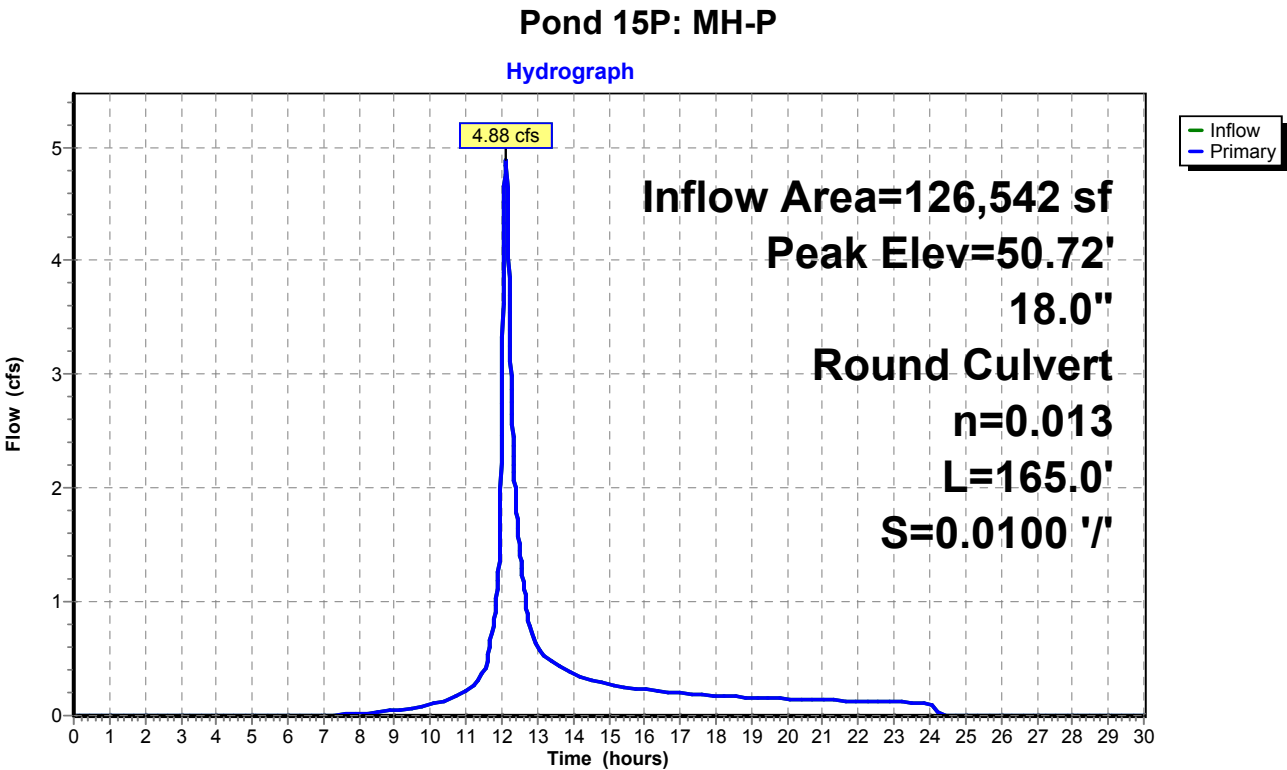
Summary for Pond 15P: MH-P

Inflow Area = 126,542 sf, 40.90% Impervious, Inflow Depth = 1.75" for 2 year event
Inflow = 4.88 cfs @ 12.11 hrs, Volume= 18,464 cf
Outflow = 4.88 cfs @ 12.11 hrs, Volume= 18,464 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.88 cfs @ 12.11 hrs, Volume= 18,464 cf
Routed to Pond 14P : MH-O

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 50.72' @ 12.11 hrs
Flood Elev= 53.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	49.63'	18.0" Round Culvert L= 165.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.63' / 47.98' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=4.88 cfs @ 12.11 hrs HW=50.72' (Free Discharge)
1=Culvert (Inlet Controls 4.88 cfs @ 3.55 fps)



Proposed Conditions

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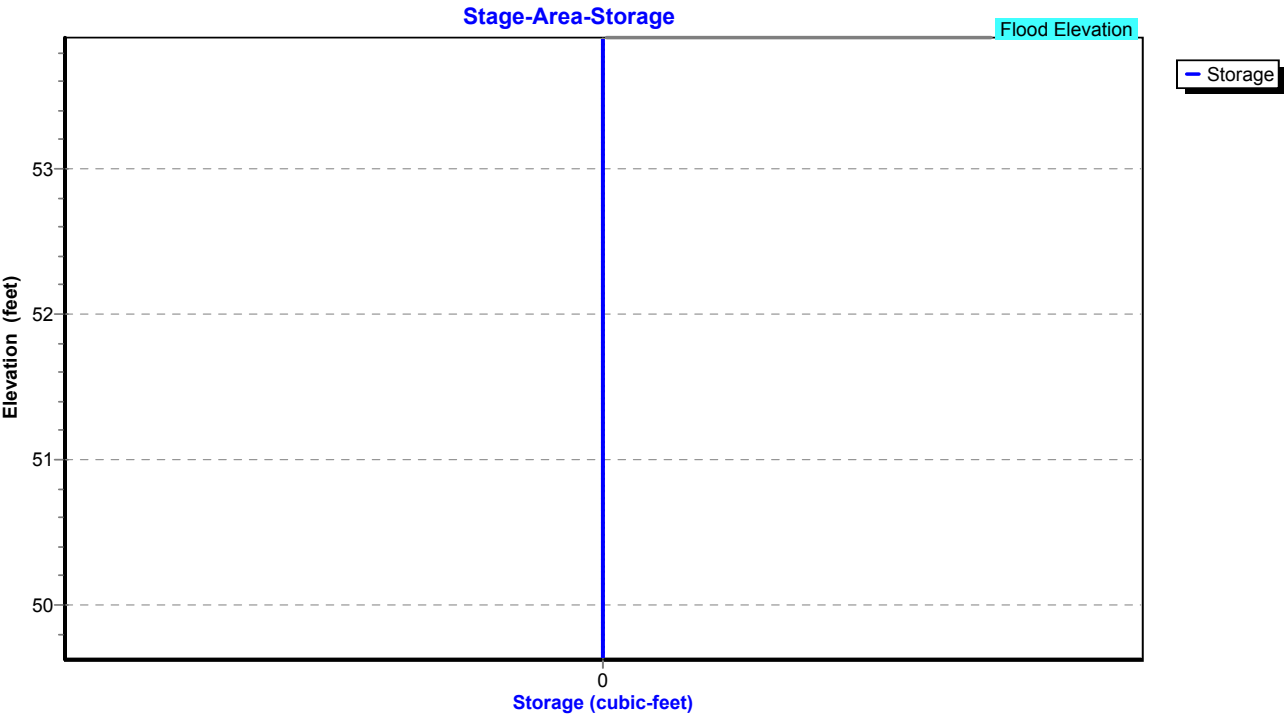
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Pond 15P: MH-P



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Summary for Pond 16P: MH-Q

Inflow Area = 115,826 sf, 38.74% Impervious, Inflow Depth = 1.69" for 2 year event
Inflow = 4.48 cfs @ 12.12 hrs, Volume= 16,335 cf
Outflow = 4.48 cfs @ 12.12 hrs, Volume= 16,335 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.48 cfs @ 12.12 hrs, Volume= 16,335 cf
Routed to Pond 15P : MH-P

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 52.47' @ 12.12 hrs

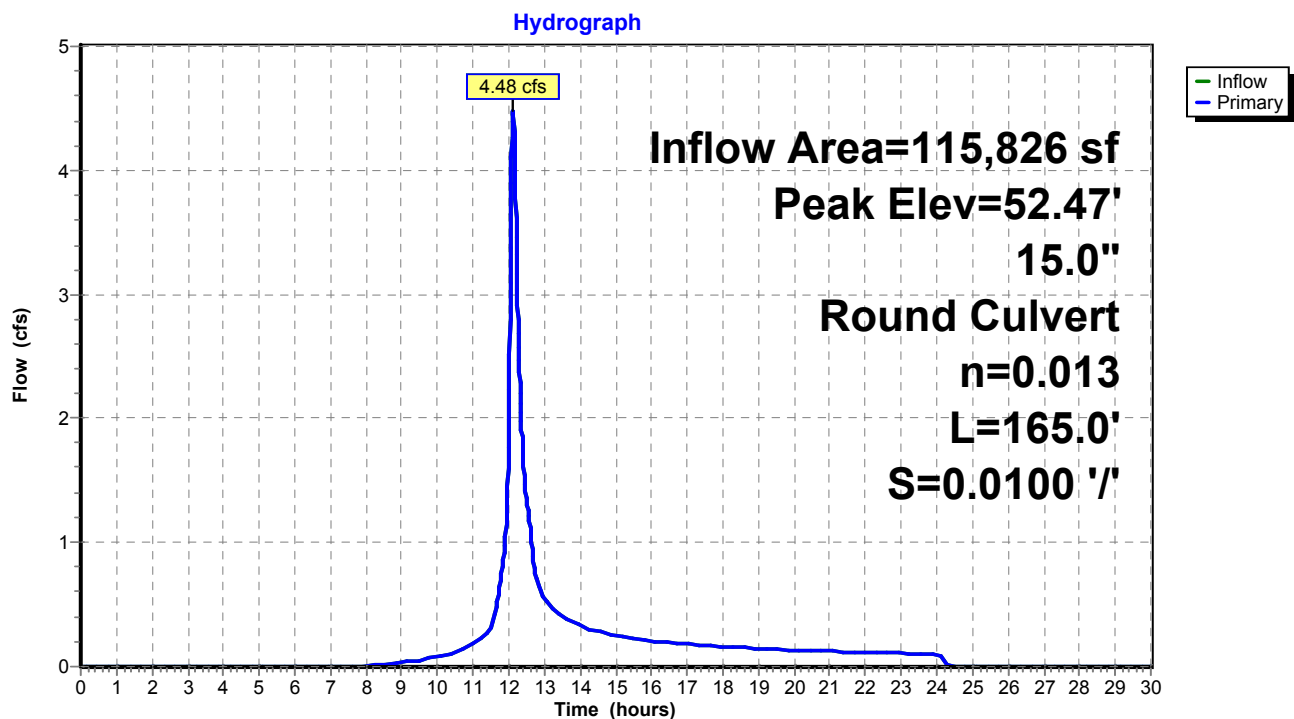
Flood Elev= 55.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.28'	15.0" Round Culvert L= 165.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 51.28' / 49.63' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=4.48 cfs @ 12.12 hrs HW=52.47' (Free Discharge)

↑1=Culvert (Inlet Controls 4.48 cfs @ 3.72 fps)

Pond 16P: MH-Q



Proposed Conditions

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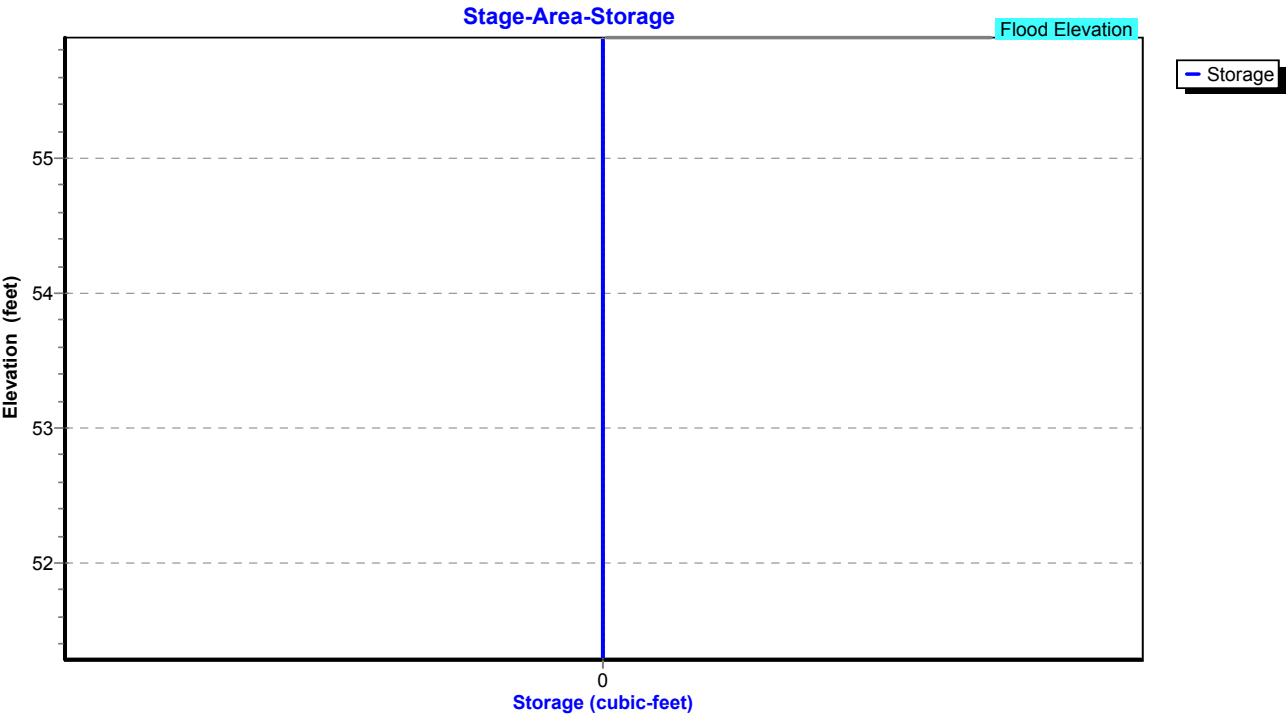
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Pond 16P: MH-Q



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Summary for Pond 17P: DET 12 Culvert

Inflow Area = 2,935,247 sf, 23.28% Impervious, Inflow Depth = 1.24" for 2 year event
 Inflow = 23.83 cfs @ 13.08 hrs, Volume= 303,052 cf
 Outflow = 23.81 cfs @ 13.14 hrs, Volume= 303,052 cf, Atten= 0%, Lag= 3.5 min
 Primary = 23.81 cfs @ 13.14 hrs, Volume= 303,052 cf
 Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 45.48' @ 13.14 hrs Surf.Area= 1,988 sf Storage= 1,956 cf

Plug-Flow detention time= 1.8 min calculated for 303,052 cf (100% of inflow)
 Center-of-Mass det. time= 1.8 min (941.7 - 939.9)

Volume	Invert	Avail.Storage	Storage Description
#1	43.80'	45,995 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
43.80	222	0	0
44.00	709	93	93
45.00	1,401	1,055	1,148
46.00	2,634	2,018	3,166
47.00	4,548	3,591	6,757
48.00	6,960	5,754	12,511
49.00	9,390	8,175	20,686
50.00	12,553	10,972	31,657
51.00	16,122	14,338	45,995

Device	Routing	Invert	Outlet Devices
#1	Primary	43.80'	54.0" Round Culvert L= 281.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 43.80' / 23.20' S= 0.0733 ' / Cc= 0.900 n= 0.013, Flow Area= 15.90 sf

Primary OutFlow Max=23.80 cfs @ 13.14 hrs HW=45.48' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 23.80 cfs @ 4.41 fps)

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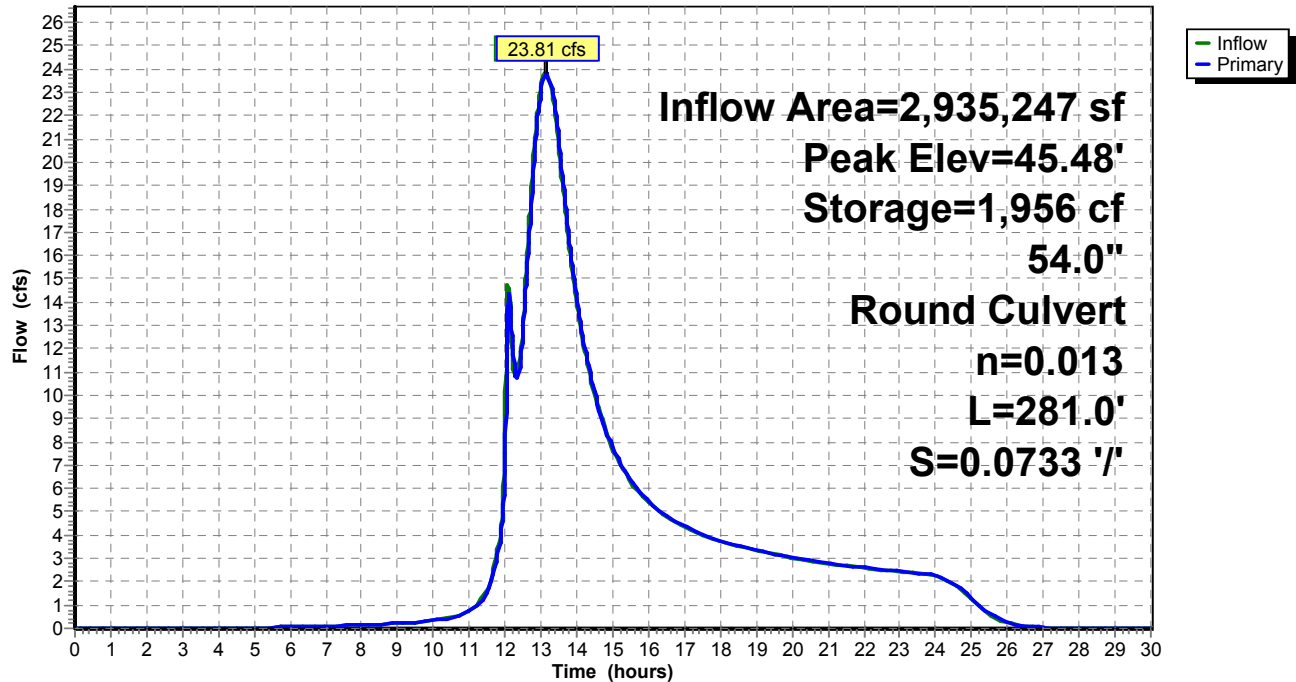
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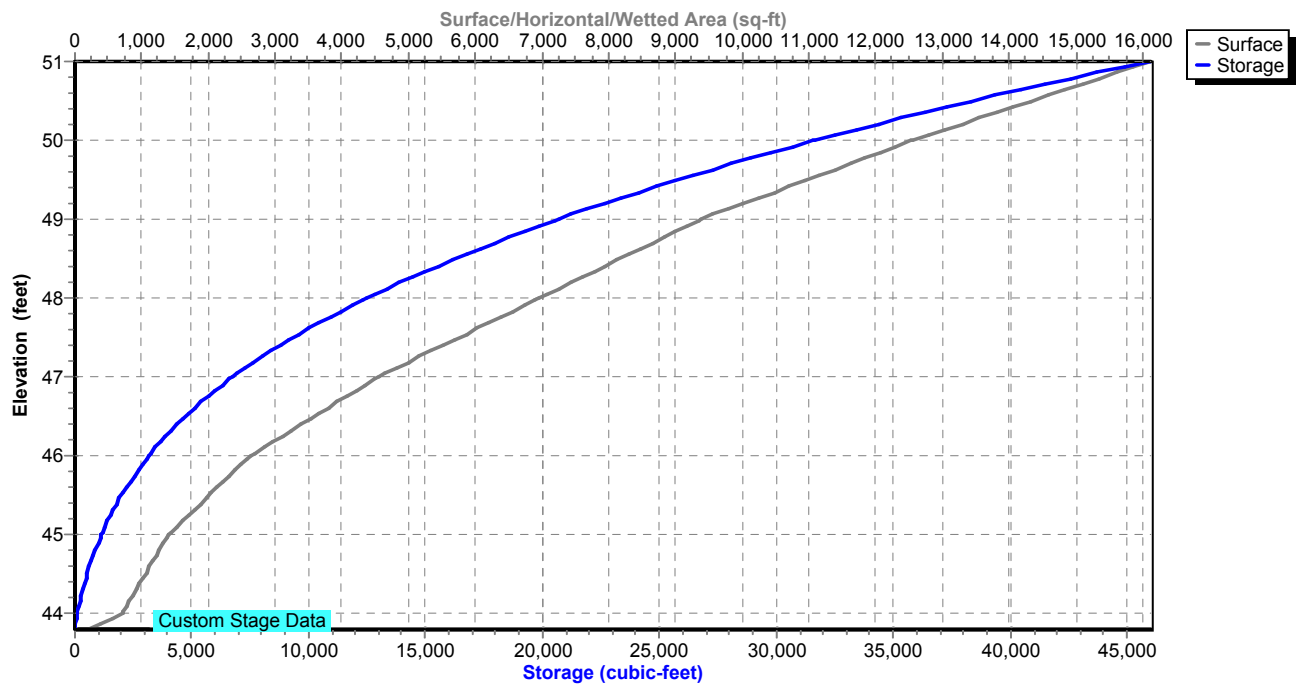
Pond 17P: DET 12 Culvert

Hydrograph



Pond 17P: DET 12 Culvert

Stage-Area-Storage



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Summary for Pond 18P: DET 4 Culvert

Inflow Area = 2,651,933 sf, 21.42% Impervious, Inflow Depth = 1.17" for 2 year event
 Inflow = 22.57 cfs @ 13.15 hrs, Volume= 257,725 cf
 Outflow = 22.57 cfs @ 13.16 hrs, Volume= 257,725 cf, Atten= 0%, Lag= 0.1 min
 Primary = 22.57 cfs @ 13.16 hrs, Volume= 257,725 cf
 Routed to Pond 17P : DET 12 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 63.92' @ 13.16 hrs Surf.Area= 191 sf Storage= 193 cf

Plug-Flow detention time= 0.1 min calculated for 257,640 cf (100% of inflow)
 Center-of-Mass det. time= 0.1 min (958.1 - 957.9)

Volume	Invert	Avail.Storage	Storage Description
#1	62.00'	13,716 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.00	10	0	0
65.00	292	453	453
66.00	695	494	947
67.00	1,049	872	1,819
68.00	1,488	1,269	3,087
69.00	2,004	1,746	4,833
70.00	2,550	2,277	7,110
71.00	3,178	2,864	9,974
72.00	4,305	3,742	13,716

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	36.0" Round Culvert L= 213.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 62.00' / 50.90' S= 0.0521 ' / S= 0.0521 ' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=22.57 cfs @ 13.16 hrs HW=63.92' (Free Discharge)

↑**1=Culvert** (Inlet Controls 22.57 cfs @ 4.72 fps)

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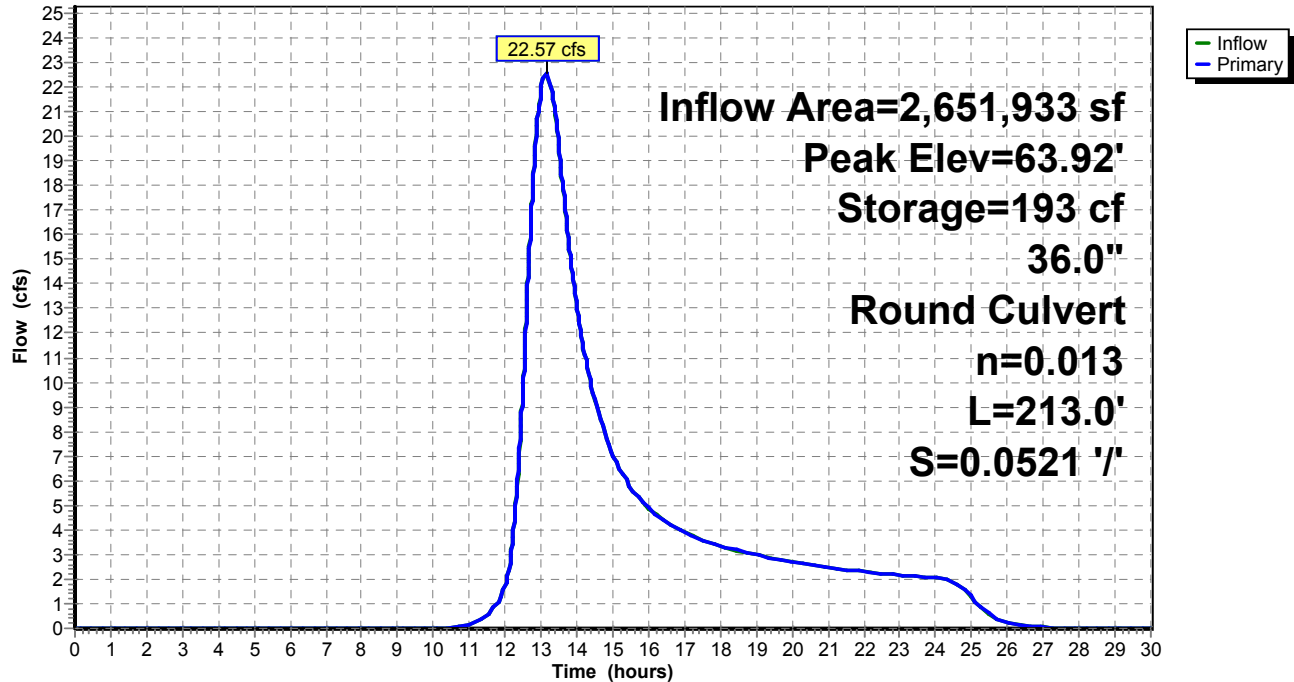
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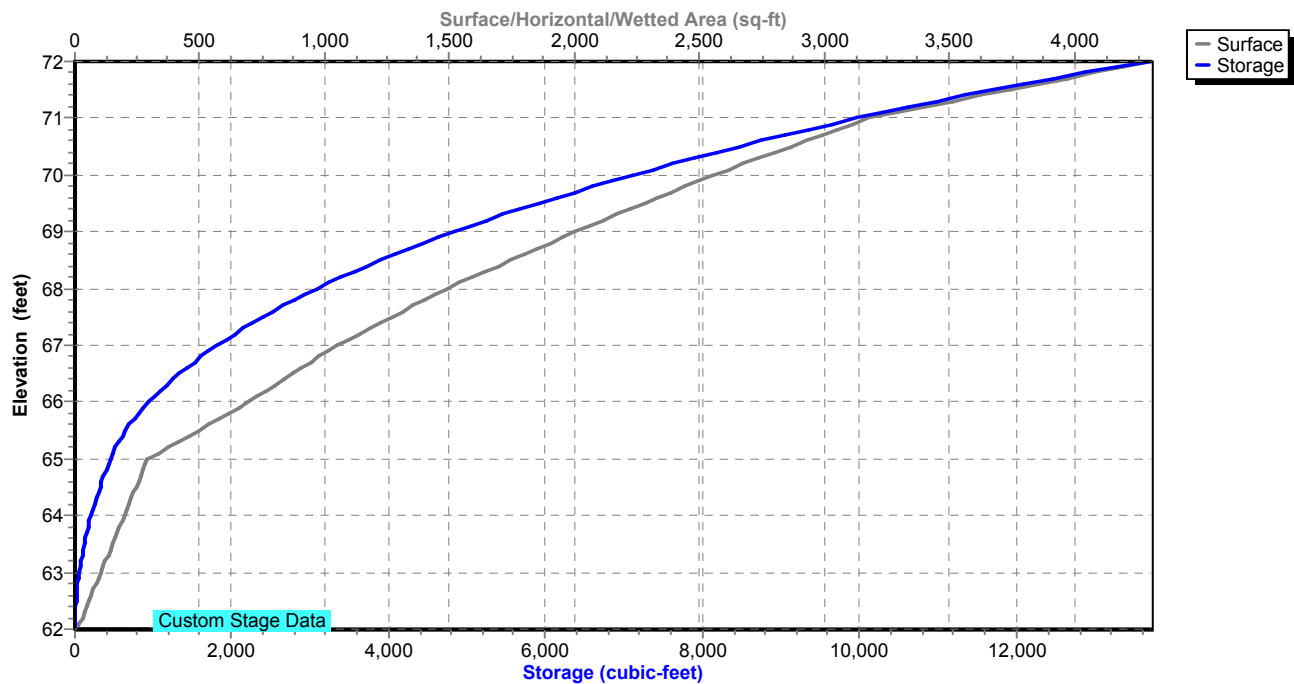
Pond 18P: DET 4 Culvert

Hydrograph



Pond 18P: DET 4 Culvert

Stage-Area-Storage



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Summary for Pond 20P: ADS Stormtech (160LP)

Inflow Area = 4,966 sf, 80.70% Impervious, Inflow Depth = 2.82" for 2 year event
Inflow = 0.44 cfs @ 12.03 hrs, Volume= 1,165 cf
Outflow = 0.19 cfs @ 12.14 hrs, Volume= 1,096 cf, Atten= 57%, Lag= 6.8 min
Primary = 0.19 cfs @ 12.14 hrs, Volume= 1,096 cf
Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 74.13' @ 12.14 hrs Surf.Area= 365 sf Storage= 231 cf

Plug-Flow detention time= 74.9 min calculated for 1,096 cf (94% of inflow)
Center-of-Mass det. time= 40.4 min (831.9 - 791.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	73.00'	227 cf	14.50'W x 23.83'L x 2.00'H Field A 691 cf Overall - 123 cf Embedded = 568 cf x 40.0% Voids
#2A	73.50'	123 cf	ADS_StormTech SC-160LP +Cap x 18 Inside #1 Effective Size= 18.0"W x 12.0"H => 0.96 sf x 7.12'L = 6.8 cf Overall Size= 25.0"W x 12.0"H x 7.56'L with 0.44' Overlap 18 Chambers in 6 Rows
#3	73.50'	22 cf	5.00'D x 1.10'H OCS
		372 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	73.50'	12.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 73.50' / 73.00' S= 0.0313 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	74.40'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 2.75 2.75 Width (feet) 0.33 0.33 5.00
#3	Device 1	73.00'	3.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.19 cfs @ 12.14 hrs HW=74.13' (Free Discharge)

- 1=Culvert (Passes 0.19 cfs of 1.42 cfs potential flow)
- 2=Custom Weir/Orifice (Controls 0.00 cfs)
- 3=Orifice/Grate (Orifice Controls 0.19 cfs @ 3.83 fps)

Proposed Conditions

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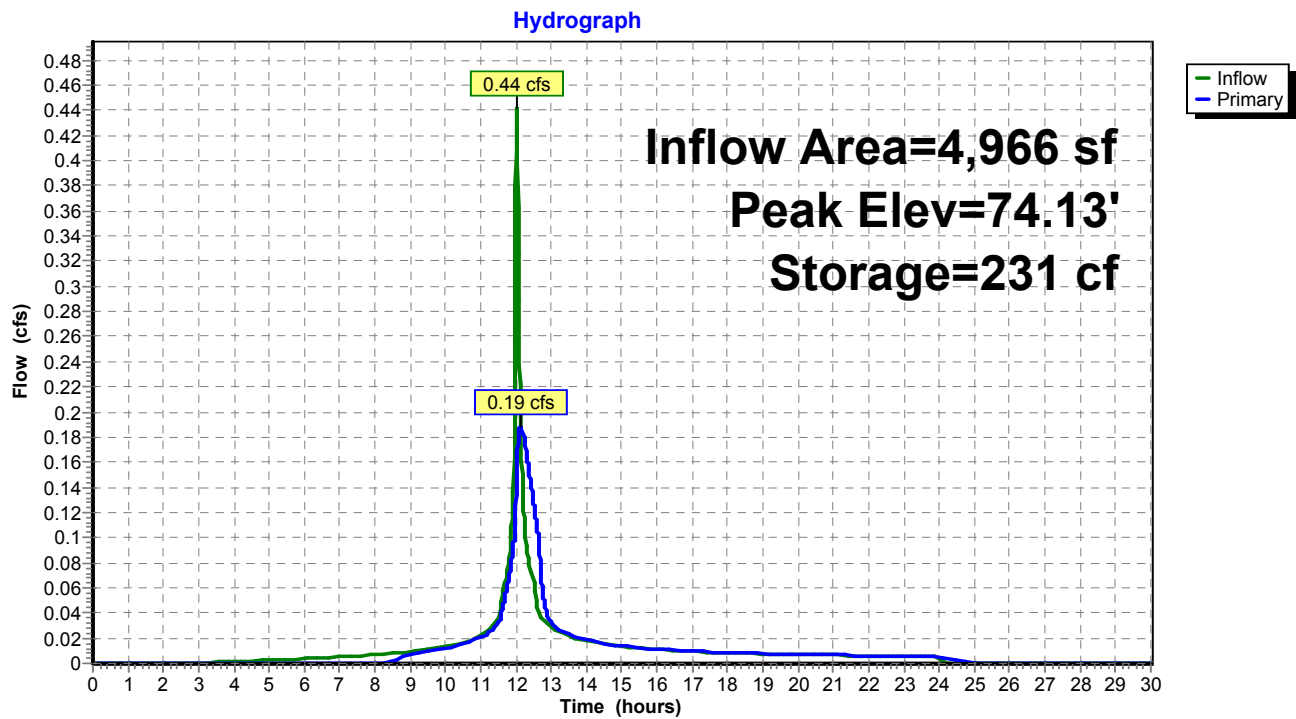
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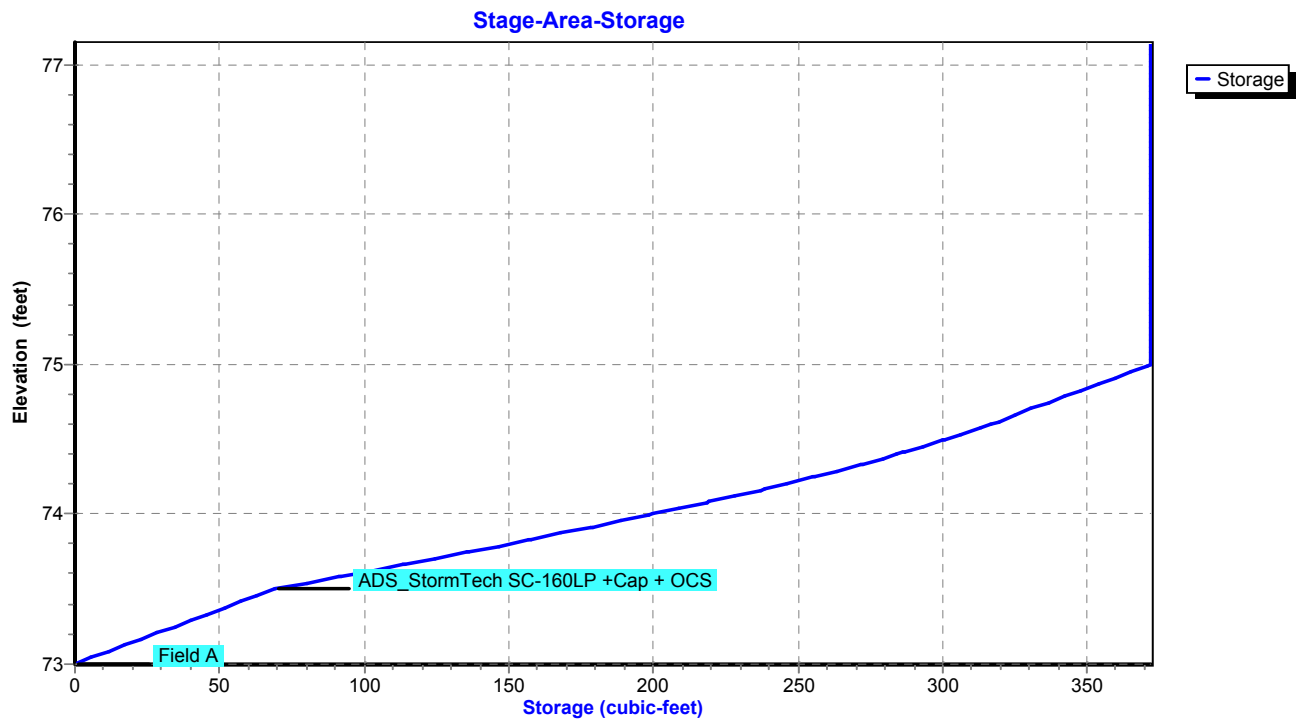
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Pond 20P: ADS Stormtech (160LP)



Pond 20P: ADS Stormtech (160LP)



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Stage-Area-Storage for Pond 20P: ADS Stormtech (160LP)

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
73.00	0	75.60	372
73.05	7	75.65	372
73.10	14	75.70	372
73.15	21	75.75	372
73.20	28	75.80	372
73.25	35	75.85	372
73.30	41	75.90	372
73.35	48	75.95	372
73.40	55	76.00	372
73.45	62	76.05	372
73.50	69	76.10	372
73.55	83	76.15	372
73.60	96	76.20	372
73.65	110	76.25	372
73.70	123	76.30	372
73.75	136	76.35	372
73.80	149	76.40	372
73.85	162	76.45	372
73.90	175	76.50	372
73.95	187	76.55	372
74.00	200	76.60	372
74.05	211	76.65	372
74.10	223	76.70	372
74.15	235	76.75	372
74.20	246	76.80	372
74.25	256	76.85	372
74.30	266	76.90	372
74.35	275	76.95	372
74.40	284	77.00	372
74.45	293	77.05	372
74.50	301	77.10	372
74.55	309	77.15	372
74.60	317		
74.65	323		
74.70	330		
74.75	337		
74.80	344		
74.85	351		
74.90	358		
74.95	365		
75.00	372		
75.05	372		
75.10	372		
75.15	372		
75.20	372		
75.25	372		
75.30	372		
75.35	372		
75.40	372		
75.45	372		
75.50	372		
75.55	372		

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Required Water Quality Volume: 184 cuft

Provided Water Quality Volume: 284 cuft

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Summary for Pond 21P: DET 1 Culvert

Inflow Area = 533,174 sf, 25.00% Impervious, Inflow Depth = 1.17" for 2 year event
 Inflow = 6.77 cfs @ 12.57 hrs, Volume= 51,816 cf
 Outflow = 6.77 cfs @ 12.58 hrs, Volume= 51,816 cf, Atten= 0%, Lag= 0.6 min
 Primary = 6.77 cfs @ 12.58 hrs, Volume= 51,816 cf
 Routed to Pond 27P : DET 17 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 38.14' @ 12.58 hrs Surf.Area= 250 sf Storage= 173 cf

Plug-Flow detention time= 0.6 min calculated for 51,799 cf (100% of inflow)
 Center-of-Mass det. time= 0.6 min (921.5 - 920.9)

Volume	Invert	Avail.Storage	Storage Description
#1	37.00'	1,591 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
37.00	66	0	0
38.00	213	140	140
39.00	470	342	481
40.00	1,750	1,110	1,591

Device	Routing	Invert	Outlet Devices
#1	Primary	37.00'	24.0" Round Culvert L= 206.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 37.00' / 27.01' S= 0.0485 ' S= 0.0485 ' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=6.77 cfs @ 12.58 hrs HW=38.14' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 6.77 cfs @ 3.64 fps)

Proposed Conditions

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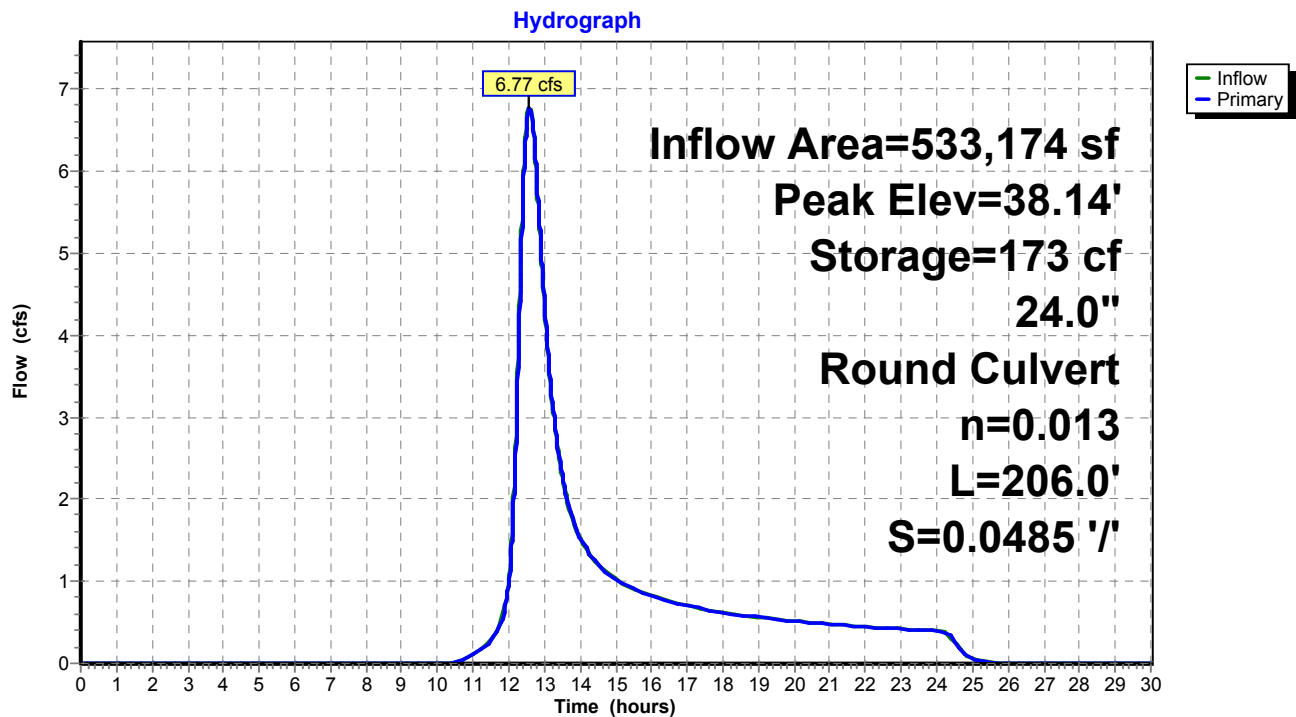
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NORWALK 24-hr S1 2 year Rainfall=3.48"

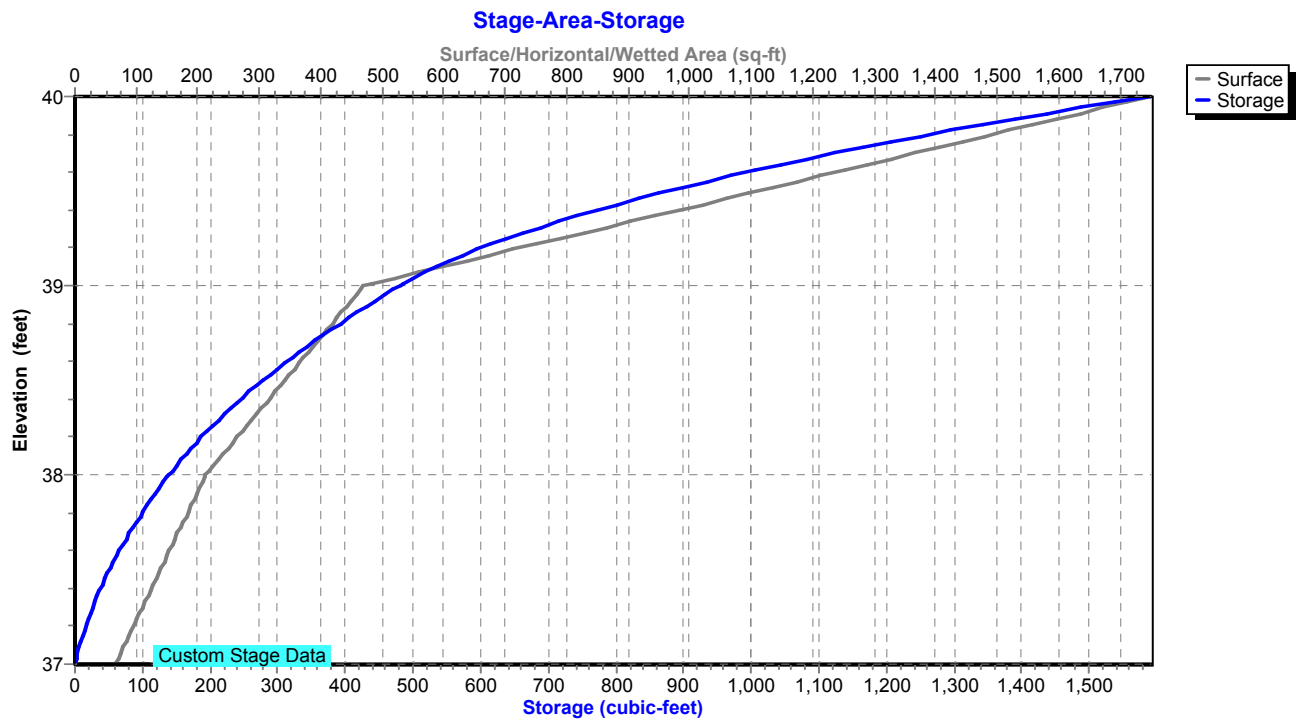
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Pond 21P: DET 1 Culvert



Pond 21P: DET 1 Culvert



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Pond 22P: DET 2 Culvert

Inflow Area = 1,290,247 sf, 25.00% Impervious, Inflow Depth = 1.48" for 2 year event
 Inflow = 18.11 cfs @ 12.80 hrs, Volume= 159,366 cf
 Outflow = 17.77 cfs @ 12.87 hrs, Volume= 159,366 cf, Atten= 2%, Lag= 4.1 min
 Primary = 17.77 cfs @ 12.87 hrs, Volume= 159,366 cf
 Routed to Pond 27P : DET 17 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 36.63' @ 12.87 hrs Surf.Area= 4,908 sf Storage= 3,972 cf

Plug-Flow detention time= 3.8 min calculated for 159,366 cf (100% of inflow)
 Center-of-Mass det. time= 3.7 min (920.4 - 916.7)

Volume	Invert	Avail.Storage	Storage Description
#1	34.80'	46,687 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.80	185	0	0
35.00	813	100	100
36.00	2,345	1,579	1,679
37.00	6,398	4,372	6,050
38.00	11,111	8,755	14,805
39.00	15,364	13,238	28,042
40.00	21,926	18,645	46,687

Device	Routing	Invert	Outlet Devices
#1	Primary	34.80'	30.0" Round Culvert L= 198.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.80' / 28.07' S= 0.0340 ' / S= 0.0340 ' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=17.77 cfs @ 12.87 hrs HW=36.63' (Free Discharge)
 ↑ **1=Culvert** (Inlet Controls 17.77 cfs @ 4.61 fps)

Proposed Conditions

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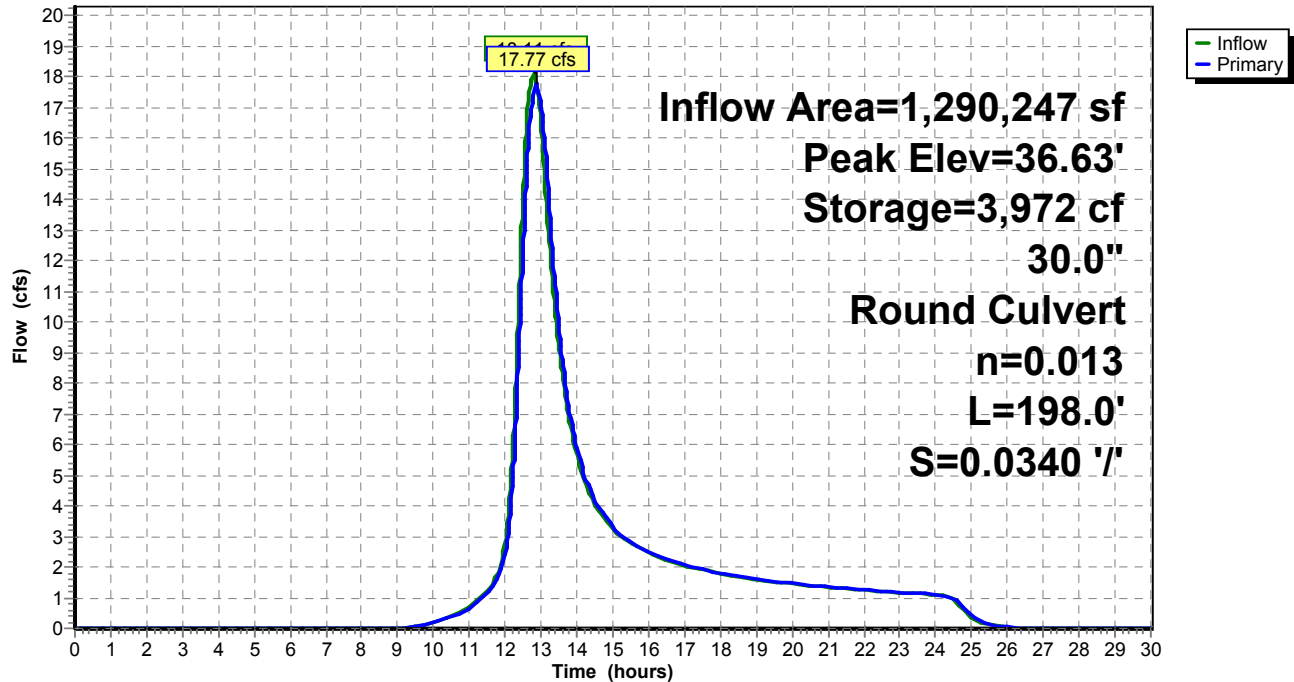
NORWALK 24-hr S1 2 year Rainfall=3.48"

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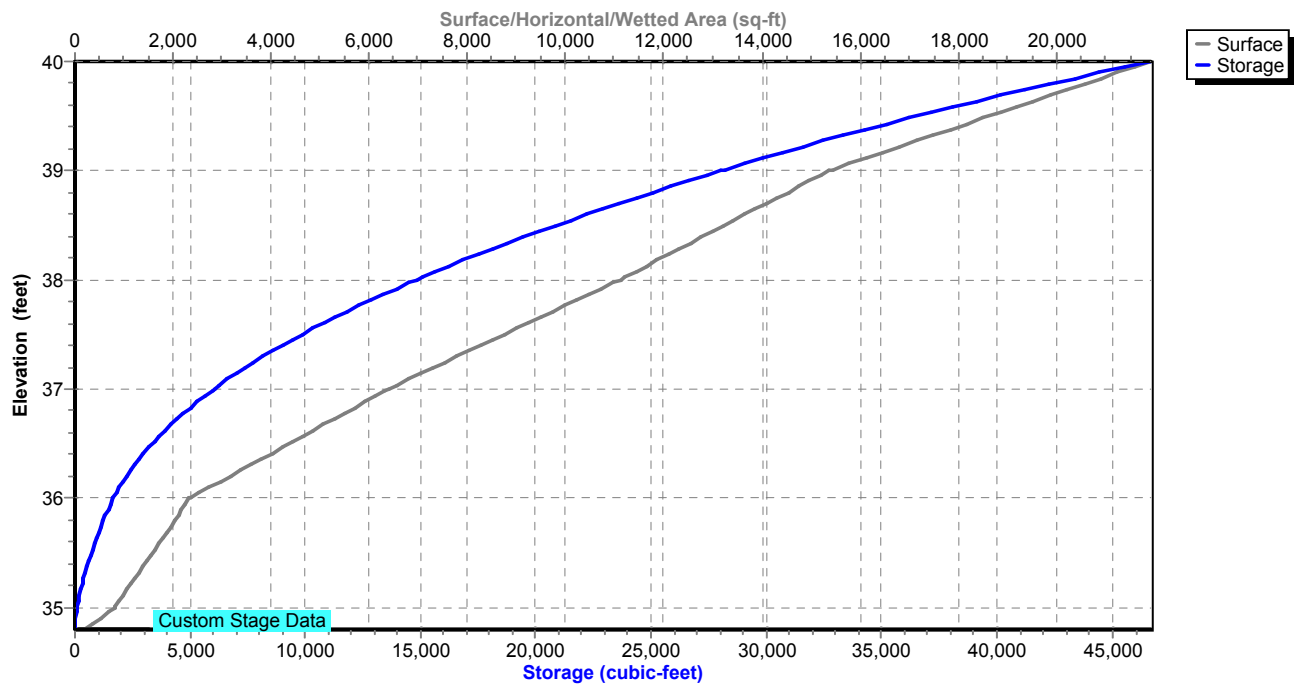
Pond 22P: DET 2 Culvert

Hydrograph



Pond 22P: DET 2 Culvert

Stage-Area-Storage



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Summary for Pond 23P: DET 3 Culvert

Inflow Area = 276,170 sf, 25.00% Impervious, Inflow Depth = 1.23" for 2 year event
 Inflow = 5.87 cfs @ 12.23 hrs, Volume= 28,219 cf
 Outflow = 5.85 cfs @ 12.24 hrs, Volume= 28,219 cf, Atten= 0%, Lag= 0.7 min
 Primary = 5.85 cfs @ 12.24 hrs, Volume= 28,219 cf
 Routed to Pond 26P : DET 16 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 43.55' @ 12.24 hrs Surf.Area= 404 sf Storage= 218 cf

Plug-Flow detention time= 0.6 min calculated for 28,209 cf (100% of inflow)
 Center-of-Mass det. time= 0.6 min (895.2 - 894.6)

Volume	Invert	Avail.Storage	Storage Description
#1	42.50'	16,475 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
42.50	10	0	0
43.00	198	52	52
44.00	572	385	437
45.00	1,607	1,090	1,527
46.00	3,156	2,382	3,908
47.00	5,953	4,555	8,463
48.00	10,072	8,013	16,475

Device	Routing	Invert	Outlet Devices
#1	Primary	42.50'	24.0" Round Culvert L= 202.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 42.50' / 32.20' S= 0.0510 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=5.84 cfs @ 12.24 hrs HW=43.55' (Free Discharge)
 ↑**1=Culvert** (Inlet Controls 5.84 cfs @ 3.49 fps)

Proposed Conditions

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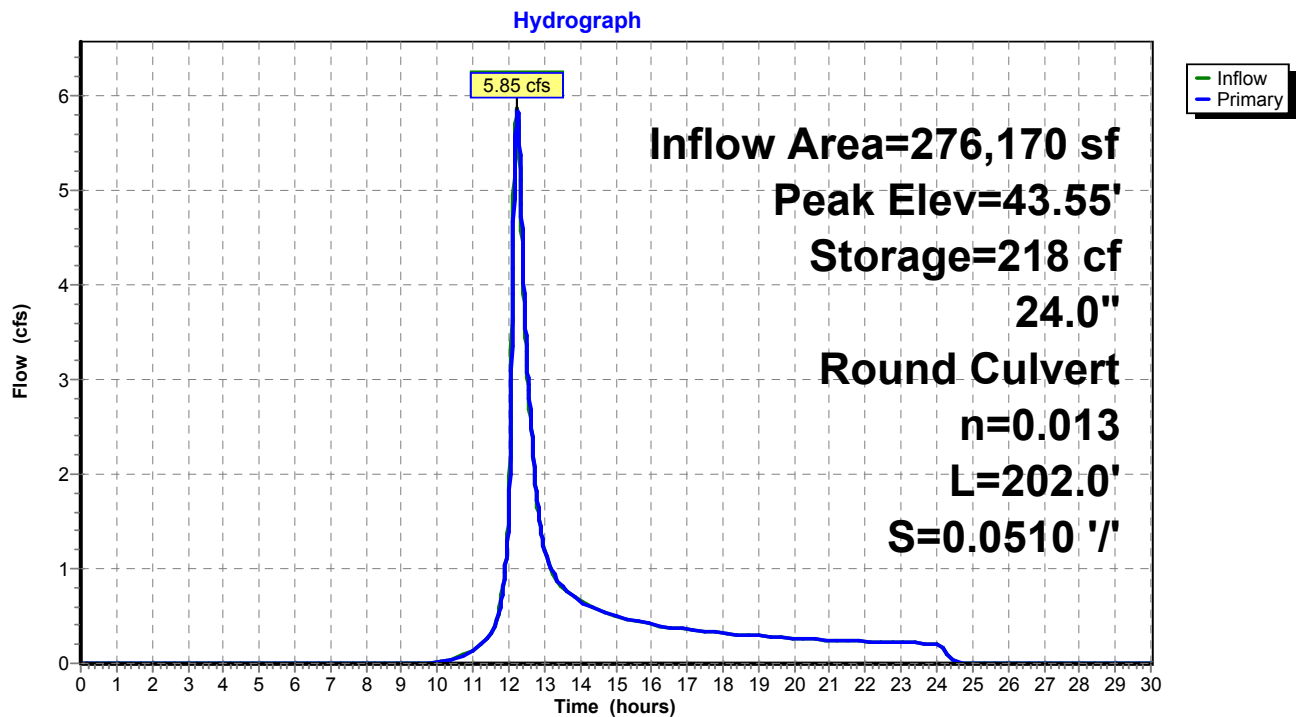
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NORWALK 24-hr S1 2 year Rainfall=3.48"

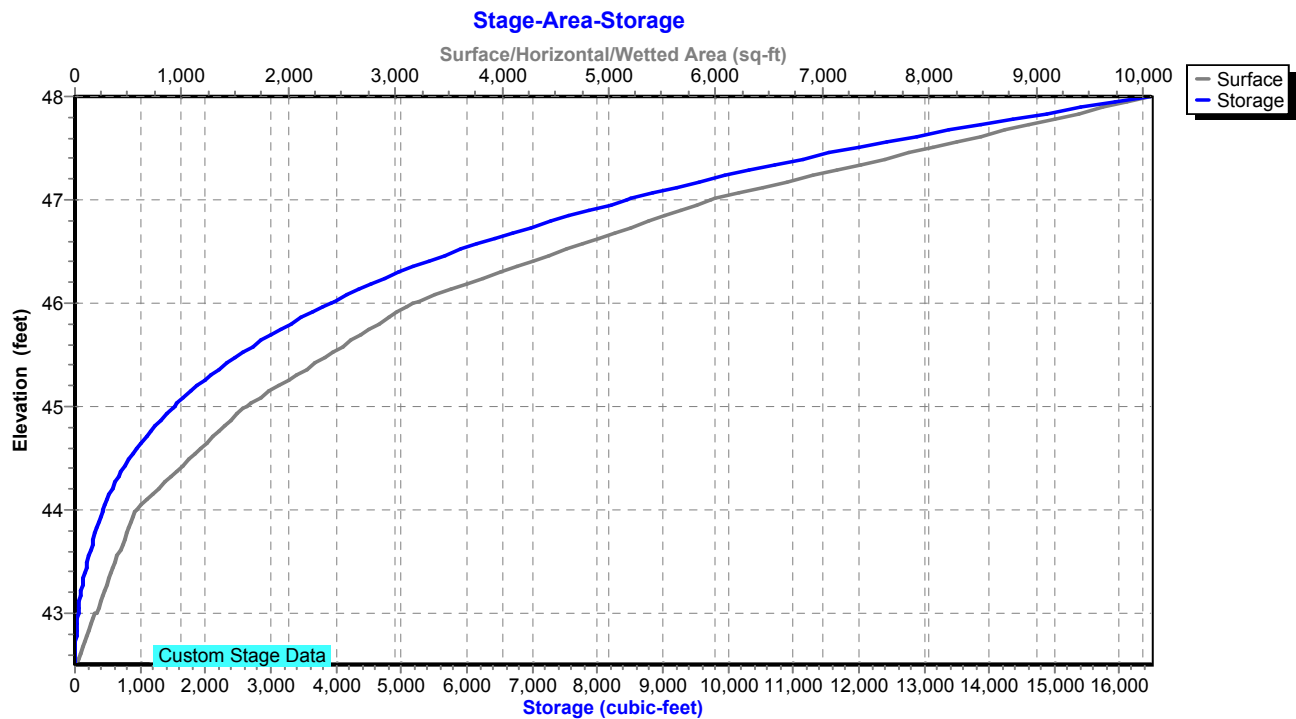
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Pond 23P: DET 3 Culvert



Pond 23P: DET 3 Culvert



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Summary for Pond 24P: RR Culvert 3

Inflow Area = 500,940 sf, 4.78% Impervious, Inflow Depth = 6.73" for 2 year event
 Inflow = 60.22 cfs @ 12.34 hrs, Volume= 281,152 cf
 Outflow = 26.06 cfs @ 13.23 hrs, Volume= 281,128 cf, Atten= 57%, Lag= 53.4 min
 Primary = 26.06 cfs @ 13.23 hrs, Volume= 281,128 cf

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 11.18' @ 13.23 hrs Storage= 109,145 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 43.9 min (834.3 - 790.4)

Volume	Invert	Avail.Storage	Storage Description
#1	8.10'	2,250,385 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
8.10	0	0
9.00	9	9
10.00	148	157
11.00	64,834	64,991
12.00	244,457	309,448
13.00	383,724	693,172
14.00	435,183	1,128,355
15.00	514,834	1,643,189
16.00	607,196	2,250,385

Device	Routing	Invert	Outlet Devices
#1	Primary	8.10'	30.0" W x 42.0" H Box Culvert L= 135.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 8.10' / 7.80' S= 0.0022 '/' Cc= 0.900 n= 0.019, Flow Area= 8.75 sf

Primary OutFlow Max=26.06 cfs @ 13.23 hrs HW=11.18' (Free Discharge)

↑ **1=Culvert** (Barrel Controls 26.06 cfs @ 4.51 fps)

Proposed Conditions

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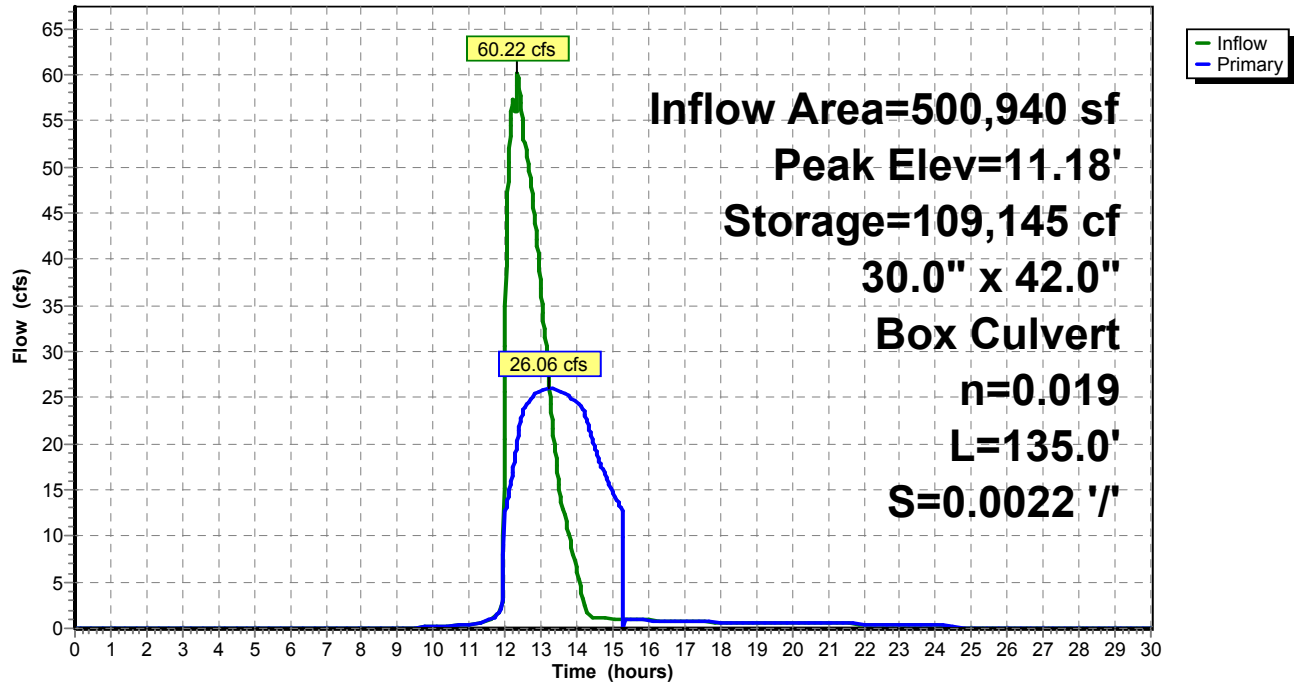
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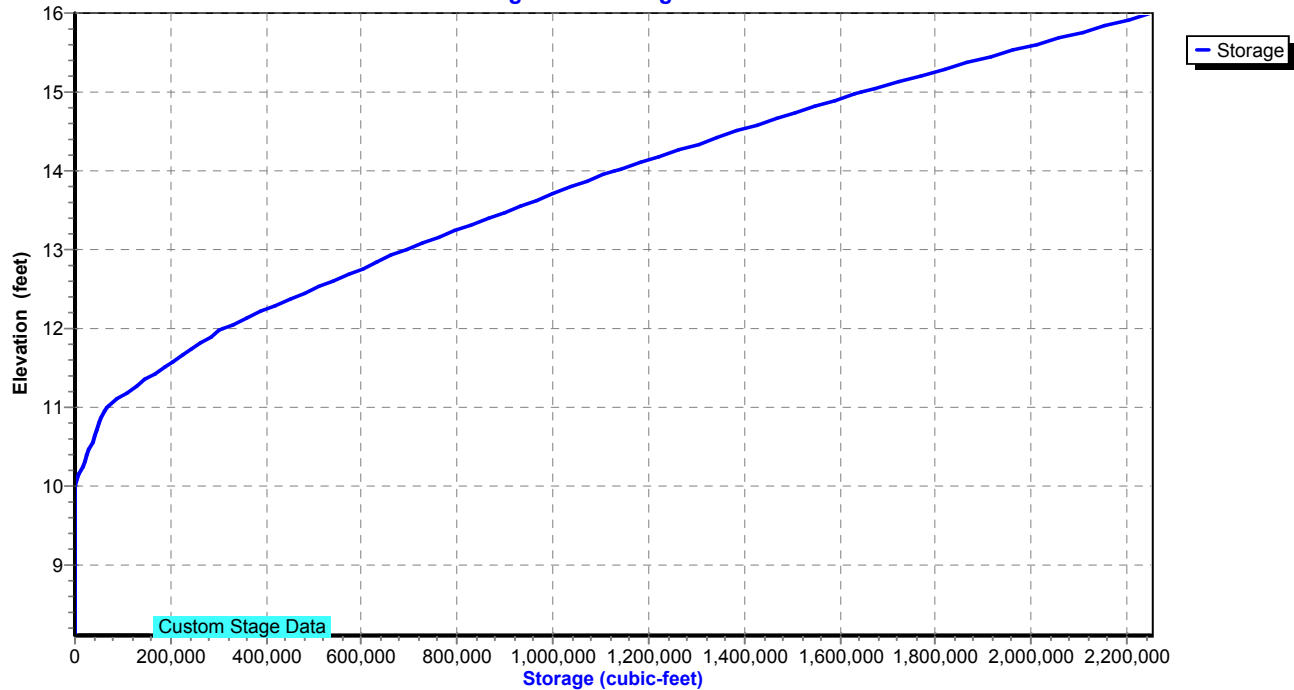
Pond 24P: RR Culvert 3

Hydrograph



Pond 24P: RR Culvert 3

Stage-Area-Storage



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Summary for Pond 26P: DET 16 Culvert

Inflow Area = 777,546 sf, 30.36% Impervious, Inflow Depth > 1.21" for 2 year event
 Inflow = 12.60 cfs @ 12.20 hrs, Volume= 78,326 cf
 Outflow = 11.13 cfs @ 12.29 hrs, Volume= 78,268 cf, Atten= 12%, Lag= 5.5 min
 Primary = 11.13 cfs @ 12.29 hrs, Volume= 78,268 cf
 Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 19.27' @ 12.29 hrs Surf.Area= 1,296 sf Storage= 1,177 cf

Plug-Flow detention time= 1.0 min calculated for 78,242 cf (100% of inflow)
 Center-of-Mass det. time= 0.4 min (940.0 - 939.7)

Volume	Invert	Avail.Storage	Storage Description
#1	17.00'	11,069 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.00	76	0	0
18.00	323	200	200
19.00	1,002	663	862
20.00	2,073	1,538	2,400
21.00	3,912	2,993	5,392
22.00	7,442	5,677	11,069

Device	Routing	Invert	Outlet Devices
#1	Primary	15.10'	15.0" Round Culvert L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 15.10' / 11.30' S= 0.0691 ' S= 0.0691 ' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Primary	20.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 Width (feet) 200.00 200.00 200.00

Primary OutFlow Max=11.13 cfs @ 12.29 hrs HW=19.27' (Free Discharge)

1=Culvert (Inlet Controls 11.13 cfs @ 9.07 fps)

2=Custom Weir/Orifice (Controls 0.00 cfs)

Proposed Conditions

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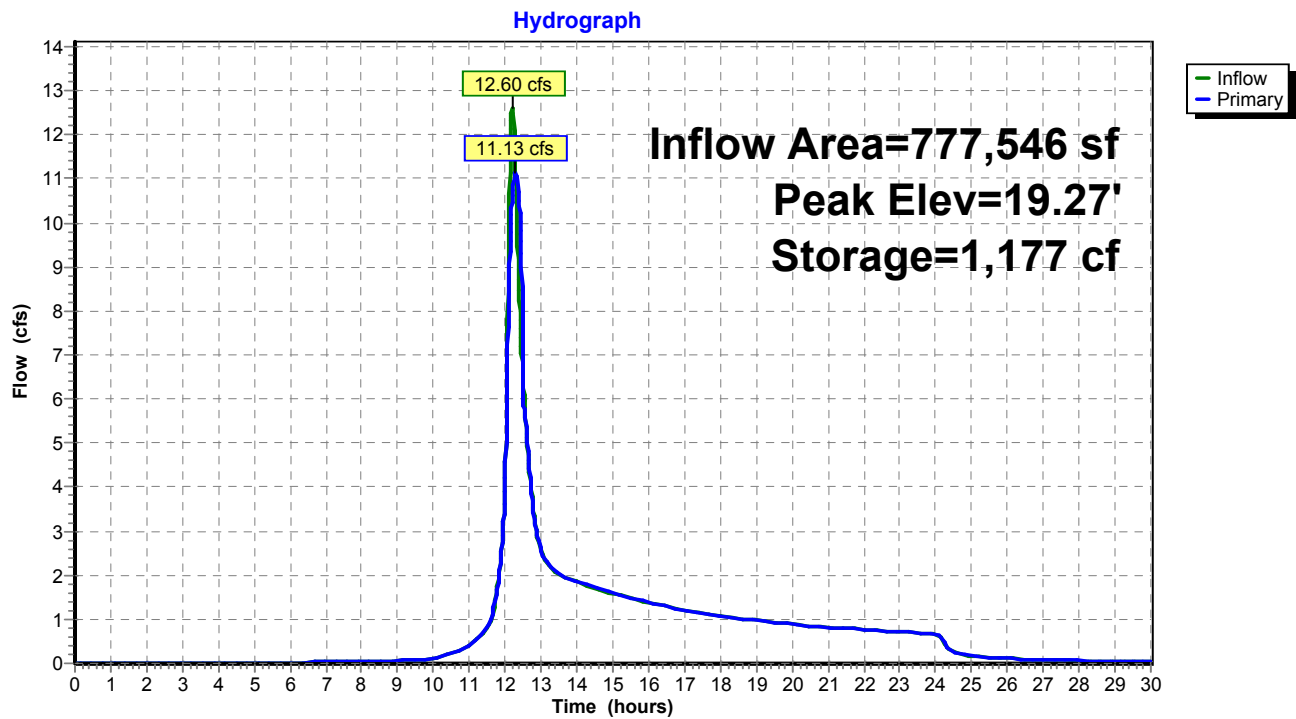
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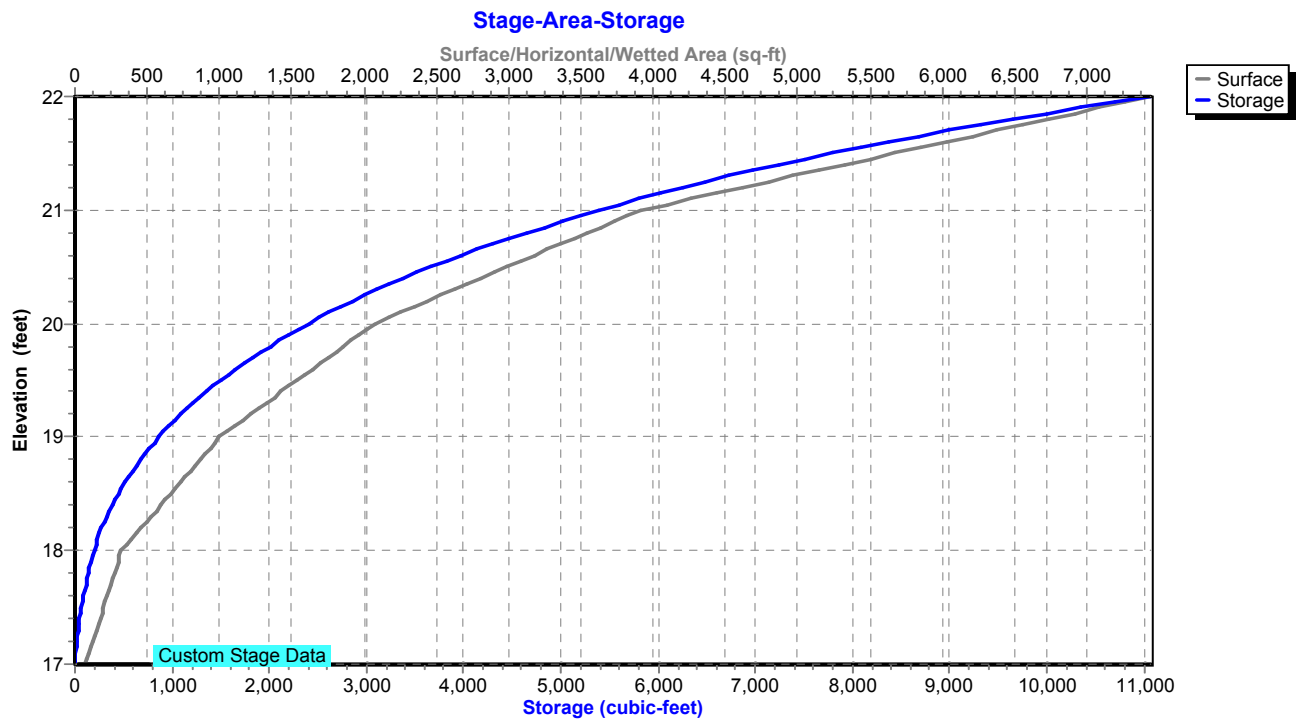
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Pond 26P: DET 16 Culvert



Pond 26P: DET 16 Culvert



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Summary for Pond 27P: DET 17 Culvert

Inflow Area = 2,205,878 sf, 28.45% Impervious, Inflow Depth = 1.49" for 2 year event
 Inflow = 26.93 cfs @ 12.69 hrs, Volume= 274,605 cf
 Outflow = 26.92 cfs @ 12.71 hrs, Volume= 274,605 cf, Atten= 0%, Lag= 1.0 min
 Primary = 26.92 cfs @ 12.71 hrs, Volume= 274,605 cf
 Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 18.65' @ 12.71 hrs Surf.Area= 9,465 sf Storage= 9,371 cf

Plug-Flow detention time= 4.0 min calculated for 274,514 cf (100% of inflow)
 Center-of-Mass det. time= 4.0 min (905.0 - 901.0)

Volume	Invert	Avail.Storage	Storage Description
#1	16.00'	13,420 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
16.00	340	0	0
17.00	2,203	1,272	1,272
18.00	4,950	3,577	4,848
18.55	8,311	3,647	8,495
19.00	13,580	4,925	13,420

Device	Routing	Invert	Outlet Devices
#1	Primary	15.30'	18.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 15.30' / 14.90' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Primary	18.55'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 3.00 Width (feet) 100.00 100.00 100.00 100.00

Primary OutFlow Max=26.60 cfs @ 12.71 hrs HW=18.65' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 13.72 cfs @ 7.76 fps)

— **2=Custom Weir/Orifice** (Weir Controls 12.88 cfs @ 1.31 fps)

Proposed Conditions

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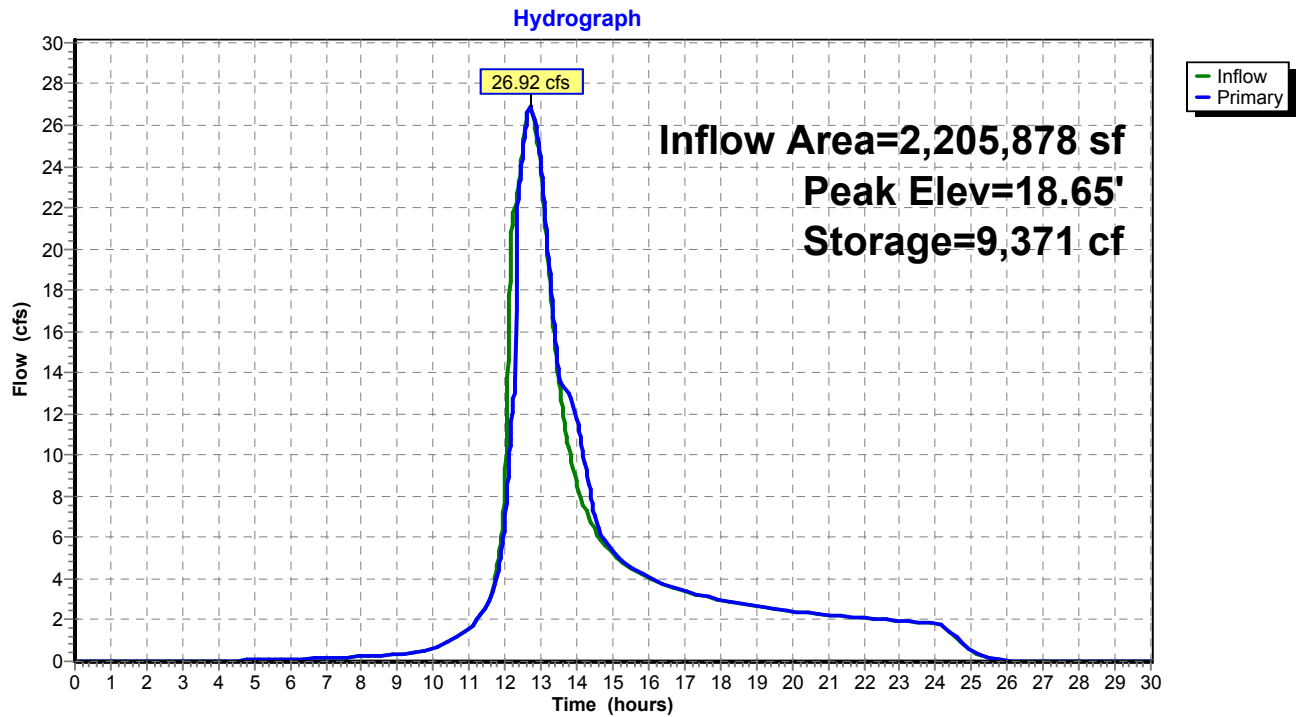
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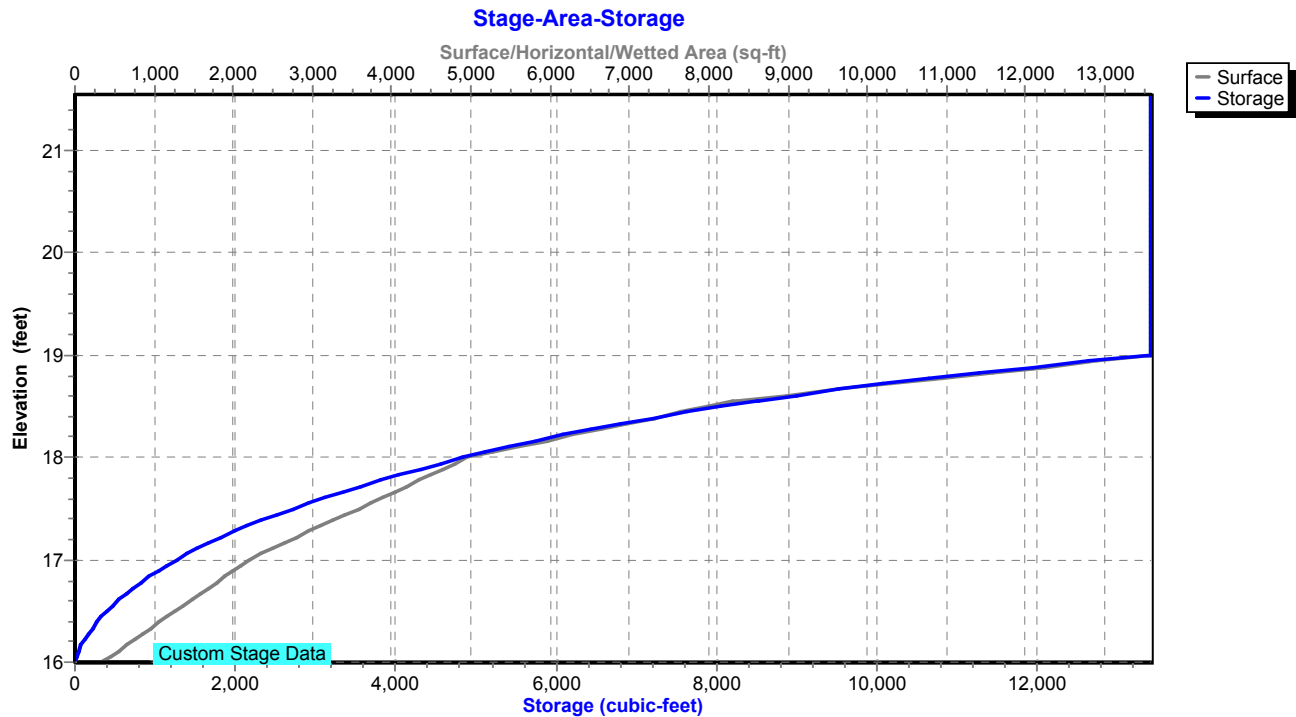
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Pond 27P: DET 17 Culvert



Pond 27P: DET 17 Culvert



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Summary for Pond 50P: DET BASIN #1

Inflow Area = 247,726 sf, 51.96% Impervious, Inflow Depth = 2.12" for 2 year event
Inflow = 13.50 cfs @ 12.04 hrs, Volume= 43,842 cf
Outflow = 0.59 cfs @ 14.92 hrs, Volume= 18,576 cf, Atten= 96%, Lag= 173.1 min
Primary = 0.59 cfs @ 14.92 hrs, Volume= 18,576 cf
Routed to Pond 26P : DET 16 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 26.88' @ 14.92 hrs Surf.Area= 13,327 sf Storage= 29,140 cf

Plug-Flow detention time= 460.0 min calculated for 18,576 cf (42% of inflow)
Center-of-Mass det. time= 304.5 min (1,126.9 - 822.5)

Volume	Invert	Avail.Storage	Storage Description
#1	24.00'	61,441 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
24.00	5,941	0	0
26.00	12,000	17,941	17,941
28.00	15,000	27,000	44,941
29.00	18,000	16,500	61,441

Device	Routing	Invert	Outlet Devices
#1	Primary	24.00'	18.0" Round Culvert L= 120.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 24.00' / 20.00' S= 0.0333 ' / Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	26.50'	12.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	28.50'	16.2" x 55.4" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.59 cfs @ 14.92 hrs HW=26.88' (Free Discharge)

1=Culvert (Passes 0.59 cfs of 12.43 cfs potential flow)
2=Orifice/Grate (Orifice Controls 0.59 cfs @ 2.11 fps)
3=Orifice/Grate (Controls 0.00 cfs)

Proposed Conditions

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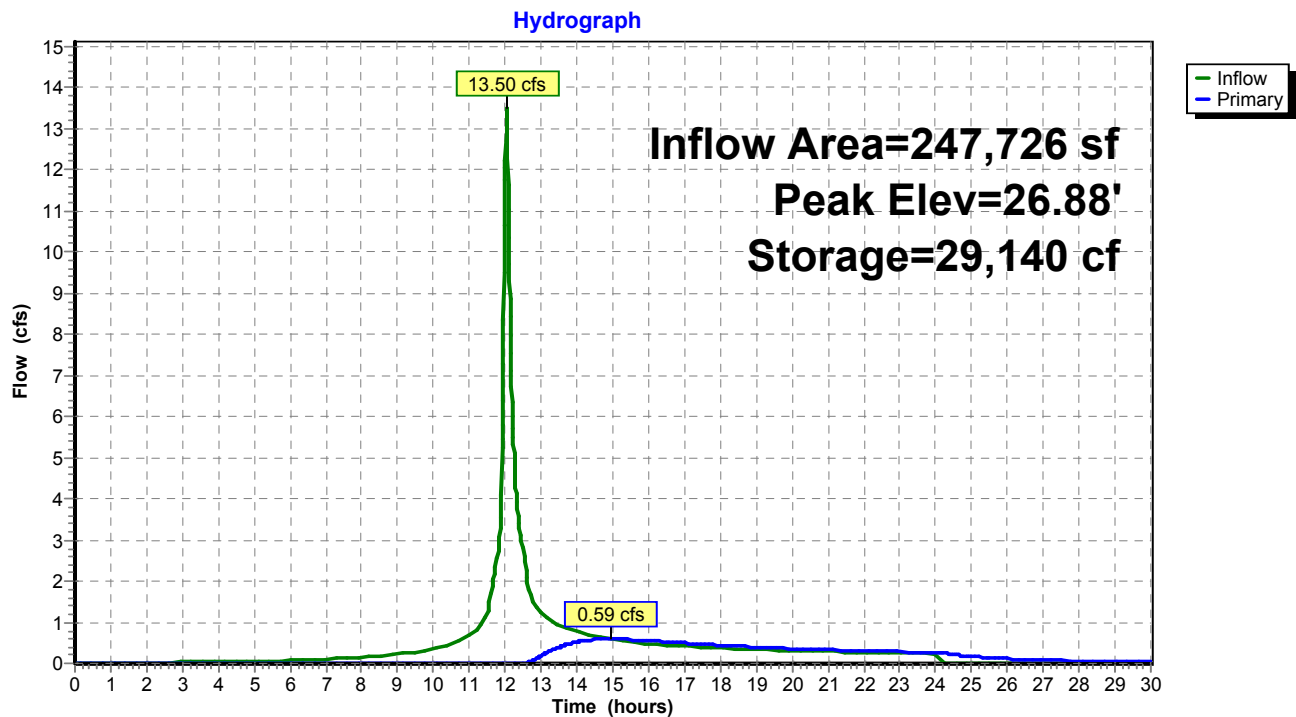
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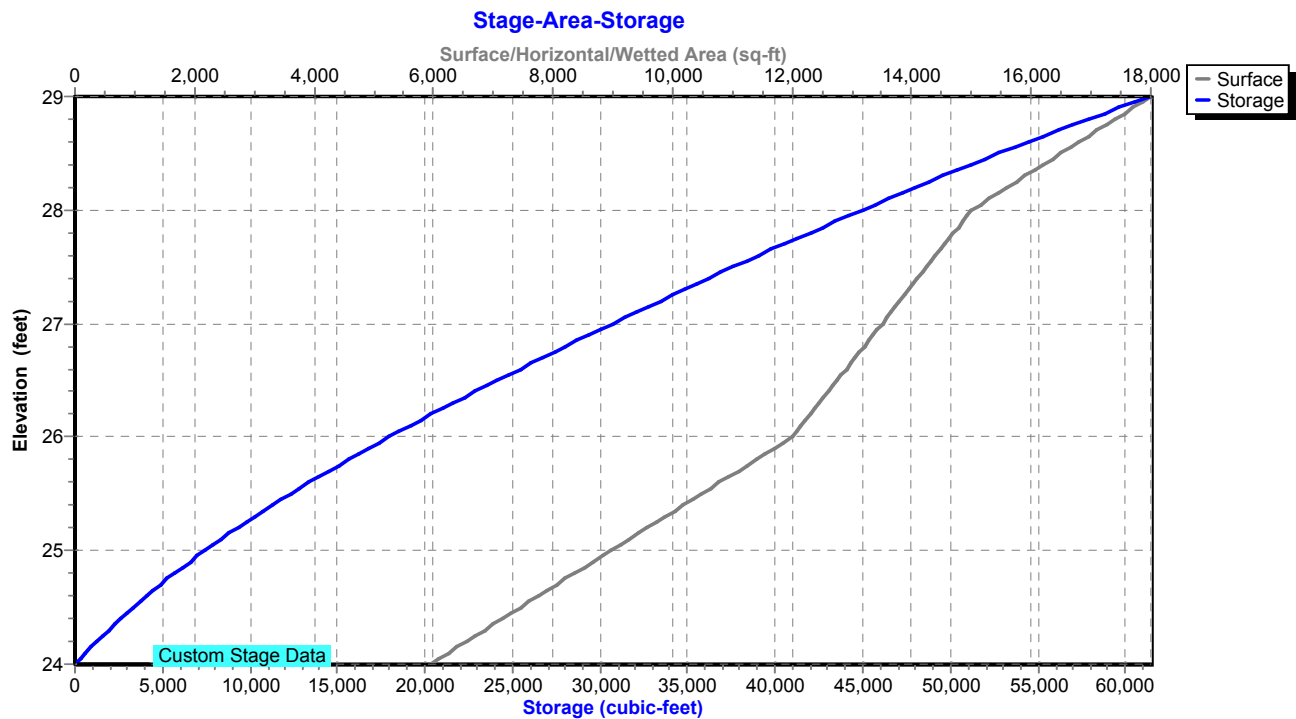
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Pond 50P: DET BASIN #1



Pond 50P: DET BASIN #1



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Summary for Pond 51P: Manhole

Inflow Area = 219,325 sf, 58.69% Impervious, Inflow Depth = 2.24" for 2 year event
Inflow = 12.42 cfs @ 12.04 hrs, Volume= 40,940 cf
Outflow = 12.42 cfs @ 12.04 hrs, Volume= 40,940 cf, Atten= 0%, Lag= 0.0 min
Primary = 12.42 cfs @ 12.04 hrs, Volume= 40,940 cf
Routed to Pond 50P : DET BASIN #1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 45.68' @ 12.04 hrs

Flood Elev= 51.00'

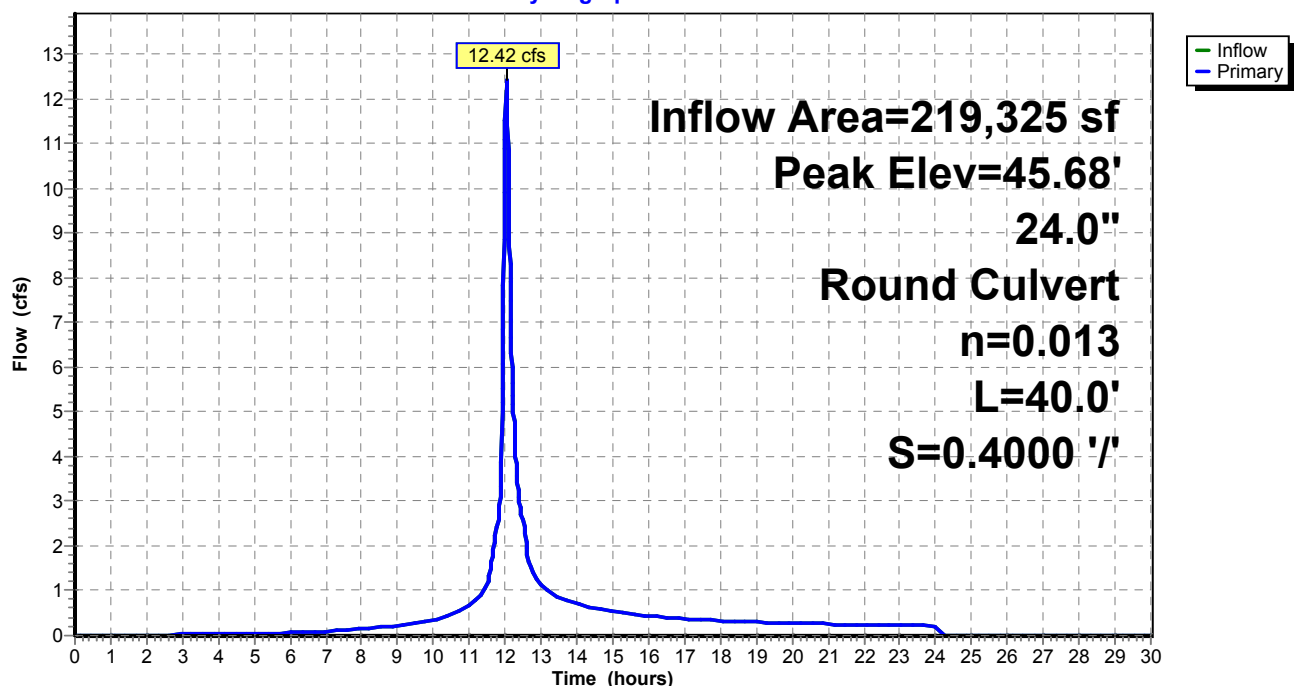
Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	24.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.00' / 28.00' S= 0.4000 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=12.42 cfs @ 12.04 hrs HW=45.68' (Free Discharge)

↑1=Culvert (Inlet Controls 12.42 cfs @ 4.41 fps)

Pond 51P: Manhole

Hydrograph



Proposed Conditions

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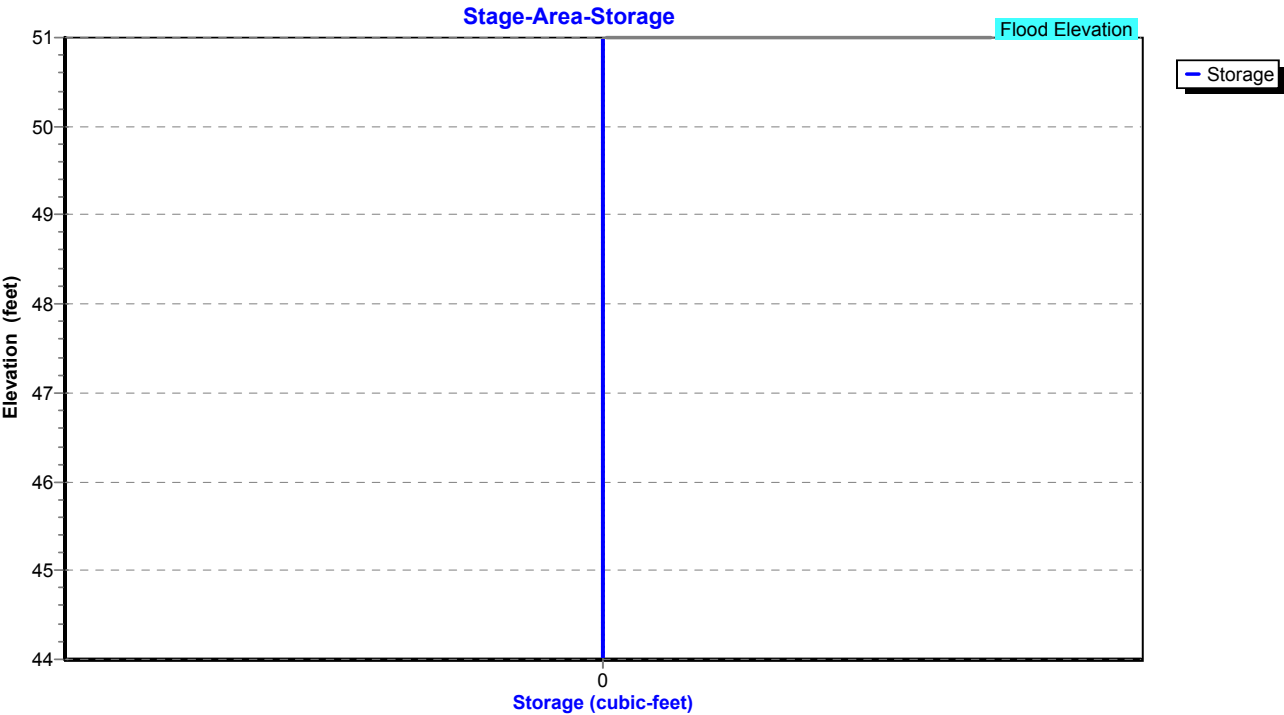
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Pond 51P: Manhole



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Summary for Pond 57P: CB-1

Inflow Area = 131,290 sf, 58.89% Impervious, Inflow Depth = 2.29" for 2 year event
Inflow = 7.96 cfs @ 12.04 hrs, Volume= 25,108 cf
Outflow = 7.96 cfs @ 12.04 hrs, Volume= 25,108 cf, Atten= 0%, Lag= 0.0 min
Primary = 7.96 cfs @ 12.04 hrs, Volume= 25,108 cf
Routed to Pond 51P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 45.77' @ 12.04 hrs

Flood Elev= 49.00'

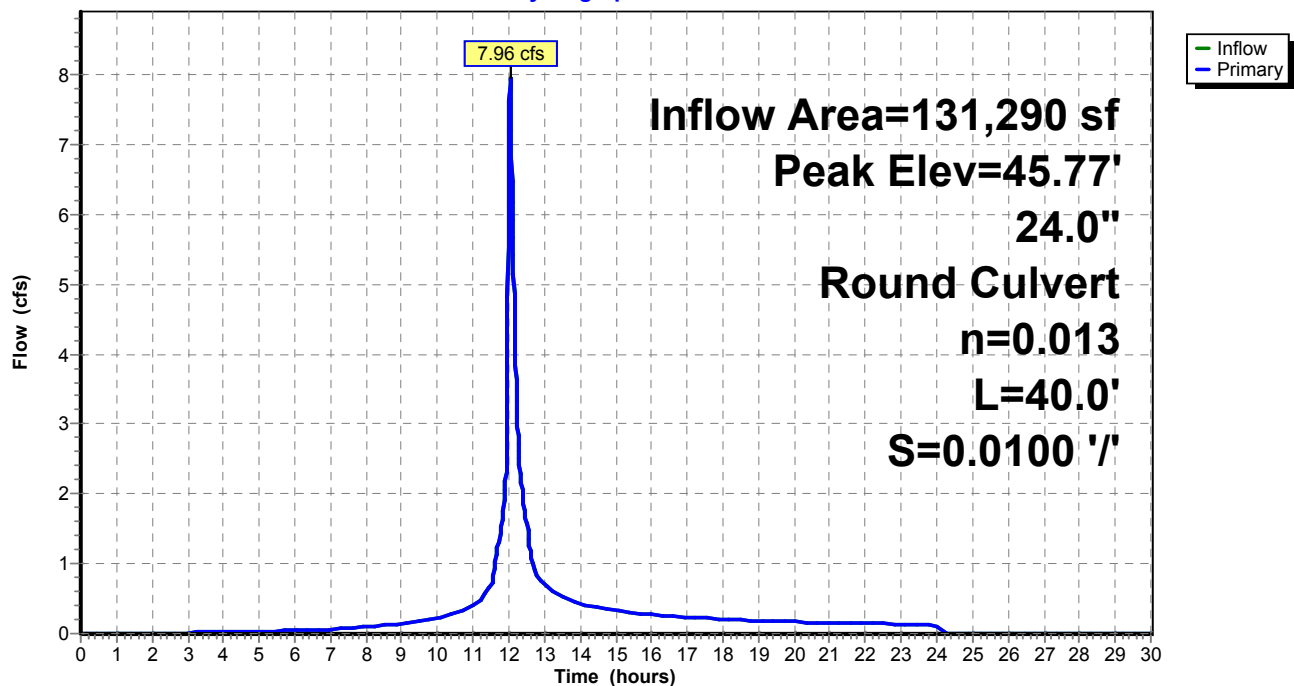
Device	Routing	Invert	Outlet Devices
#1	Primary	44.40'	24.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.40' / 44.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=7.94 cfs @ 12.04 hrs HW=45.77' (Free Discharge)

↑1=Culvert (Barrel Controls 7.94 cfs @ 4.90 fps)

Pond 57P: CB-1

Hydrograph



Proposed Conditions

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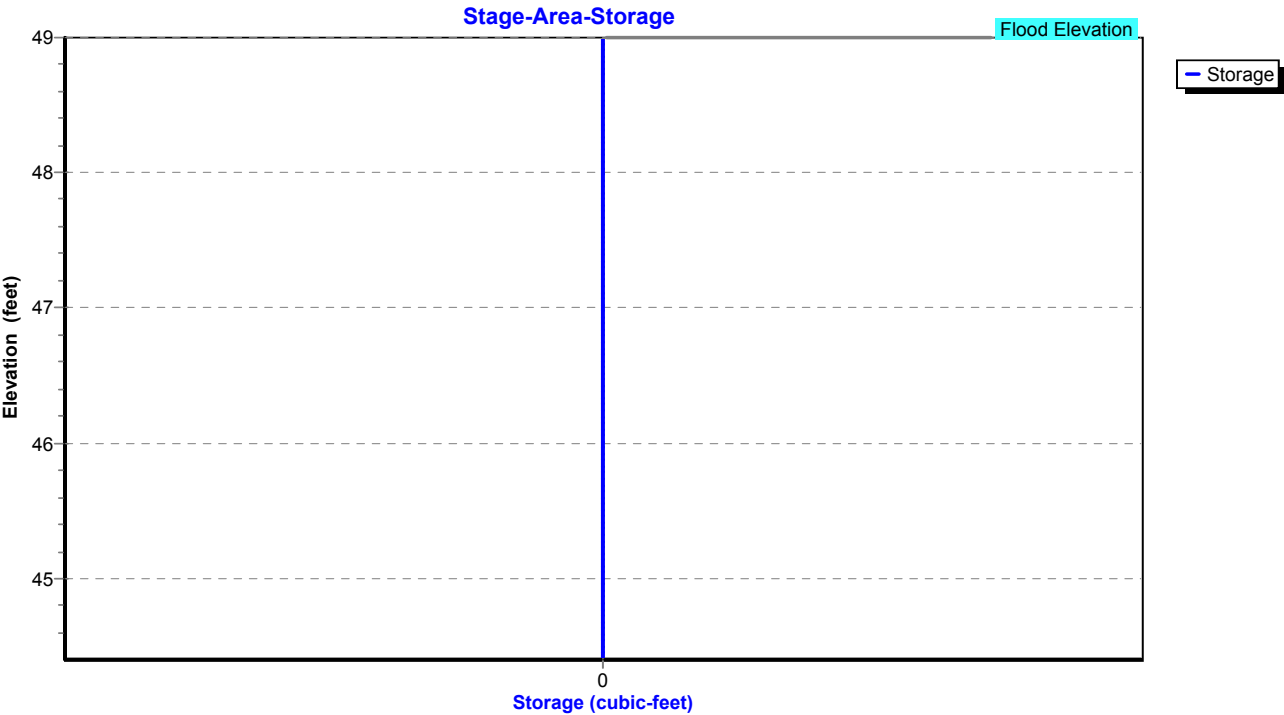
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Pond 57P: CB-1



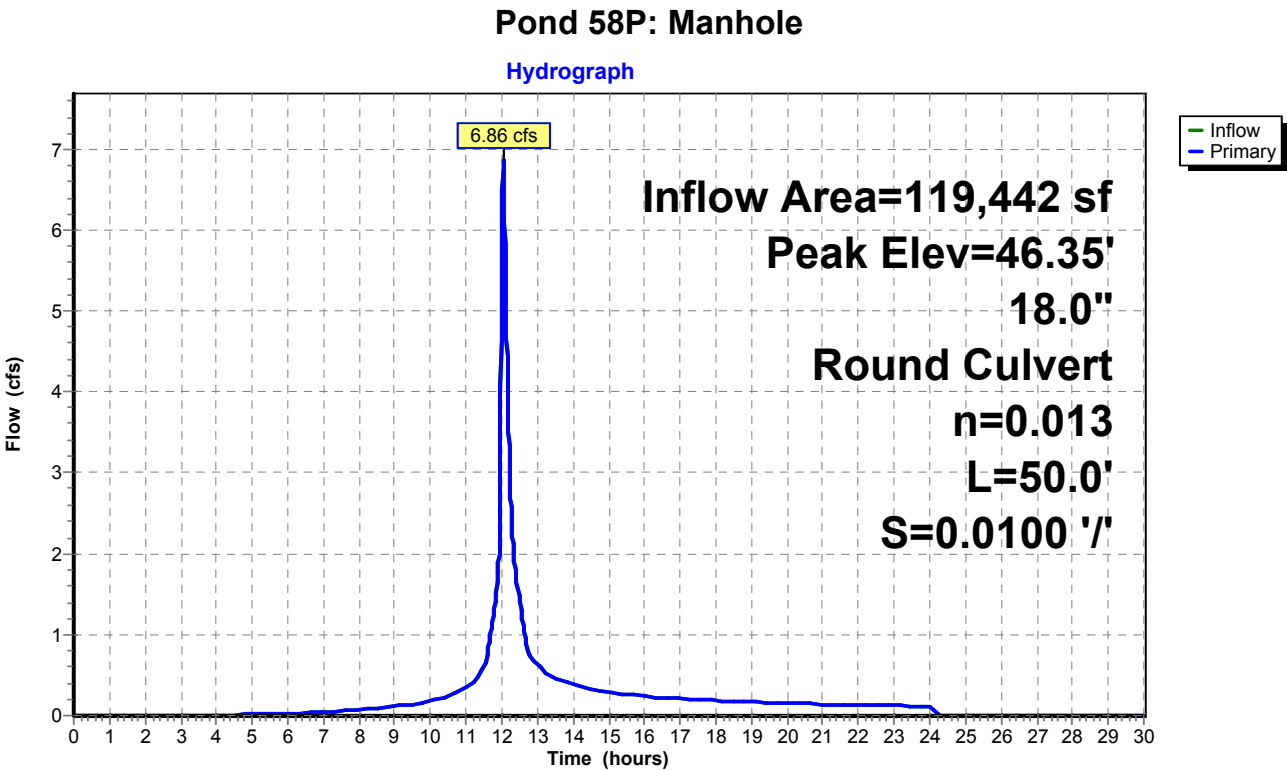
Summary for Pond 58P: Manhole

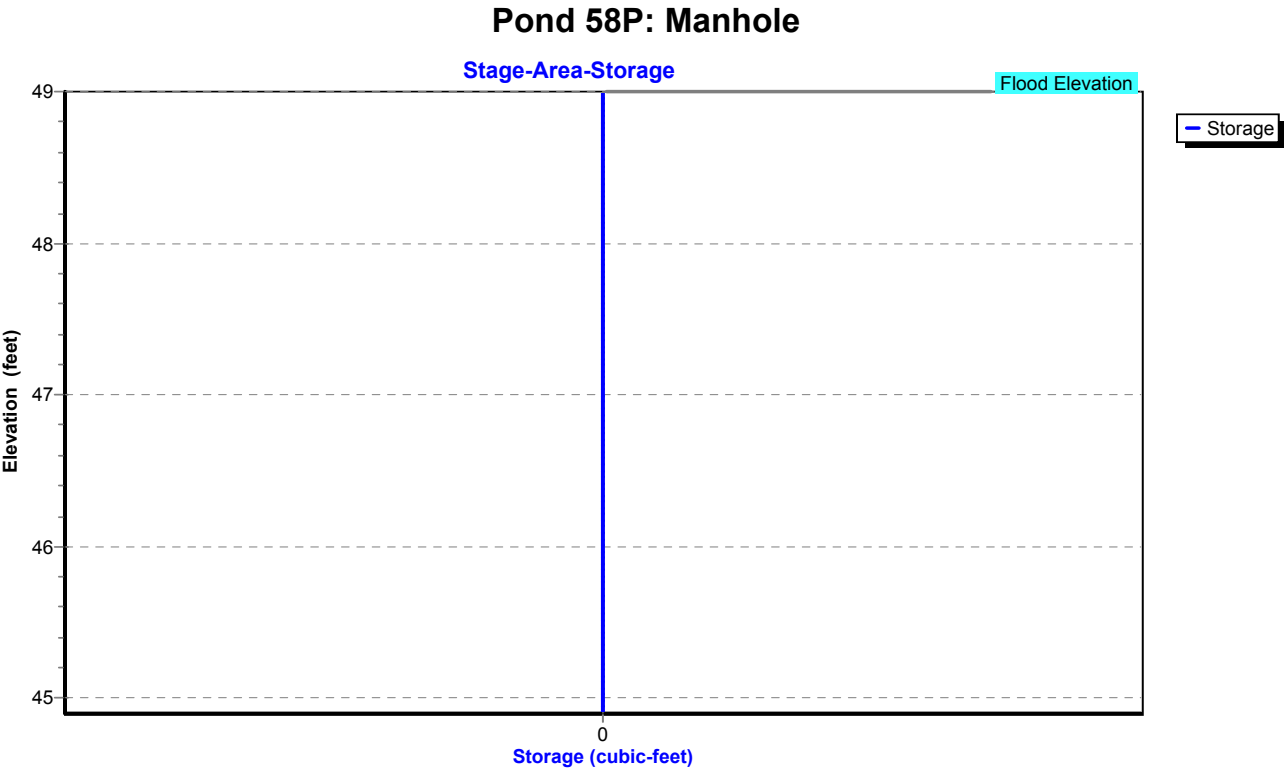
Inflow Area = 119,442 sf, 54.81% Impervious, Inflow Depth = 2.20" for 2 year event
Inflow = 6.86 cfs @ 12.04 hrs, Volume= 21,903 cf
Outflow = 6.86 cfs @ 12.04 hrs, Volume= 21,903 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.86 cfs @ 12.04 hrs, Volume= 21,903 cf
Routed to Pond 57P : CB-1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 46.35' @ 12.04 hrs
Flood Elev= 49.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	44.90'	18.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.90' / 44.40' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=6.85 cfs @ 12.04 hrs HW=46.35' (Free Discharge)
1=Culvert (Barrel Controls 6.85 cfs @ 5.00 fps)





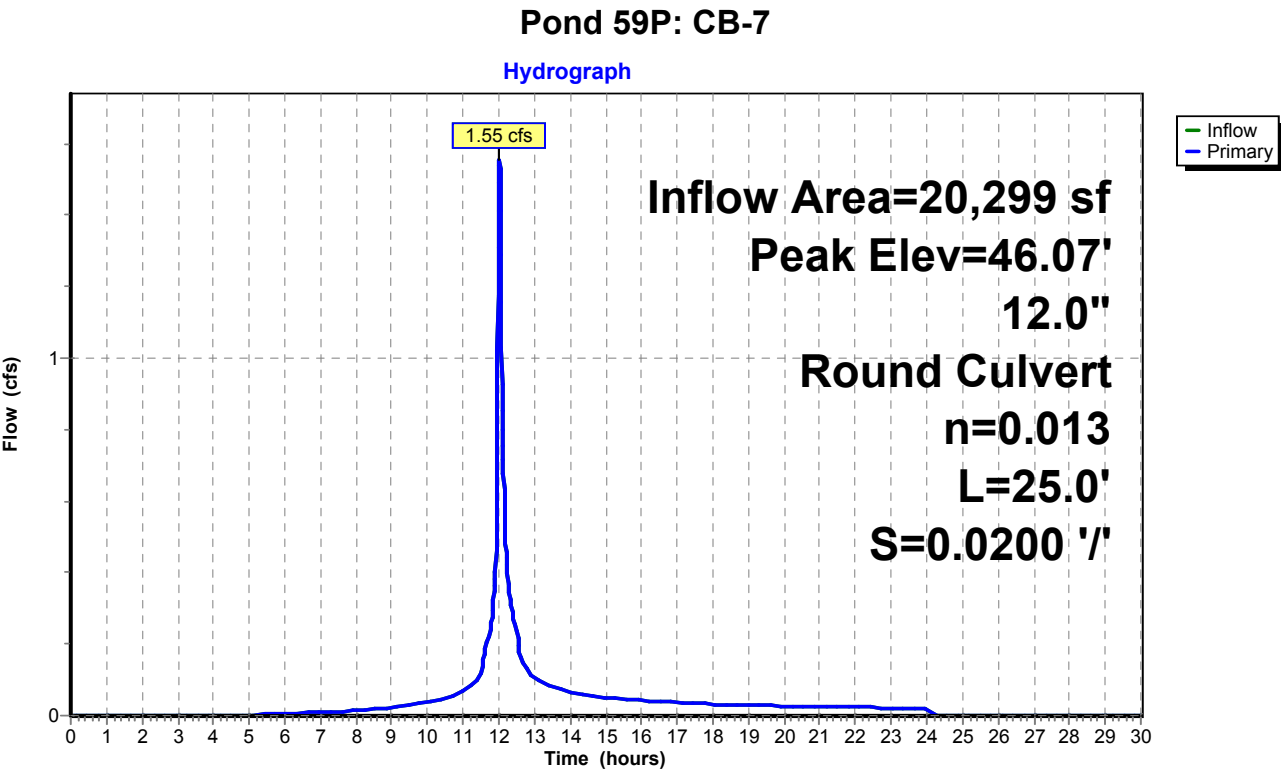
Summary for Pond 59P: CB-7

Inflow Area = 20,299 sf, 63.09% Impervious, Inflow Depth = 2.34" for 2 year event
Inflow = 1.55 cfs @ 12.03 hrs, Volume= 3,956 cf
Outflow = 1.55 cfs @ 12.03 hrs, Volume= 3,956 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.55 cfs @ 12.03 hrs, Volume= 3,956 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 46.07' @ 12.03 hrs
Flood Elev= 49.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	45.40'	12.0" Round Culvert L= 25.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.40' / 44.90' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.55 cfs @ 12.03 hrs HW=46.07' (Free Discharge)
1=Culvert (Inlet Controls 1.55 cfs @ 2.78 fps)



Proposed Conditions

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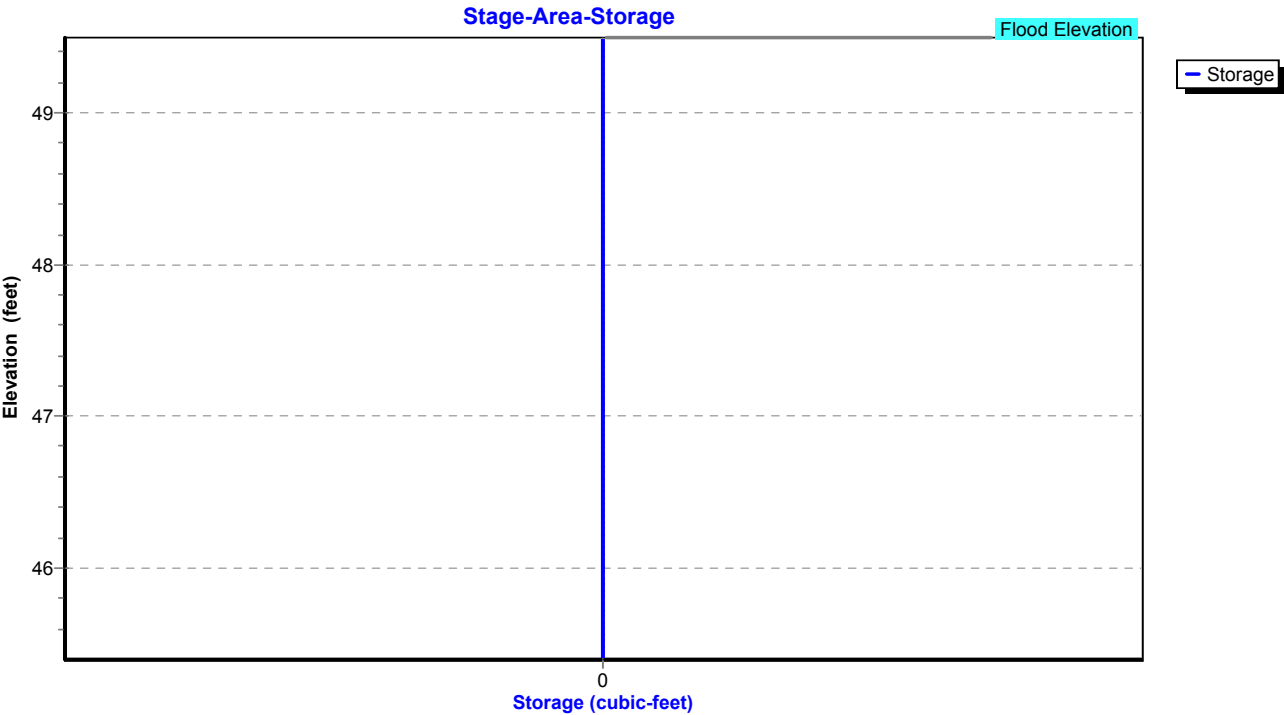
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Pond 59P: CB-7



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Pond 61P: CB-6

Inflow Area = 7,884 sf, 82.32% Impervious, Inflow Depth = 2.82" for 2 year event
Inflow = 0.70 cfs @ 12.03 hrs, Volume= 1,850 cf
Outflow = 0.70 cfs @ 12.03 hrs, Volume= 1,850 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.70 cfs @ 12.03 hrs, Volume= 1,850 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 45.53' @ 12.03 hrs

Flood Elev= 49.00'

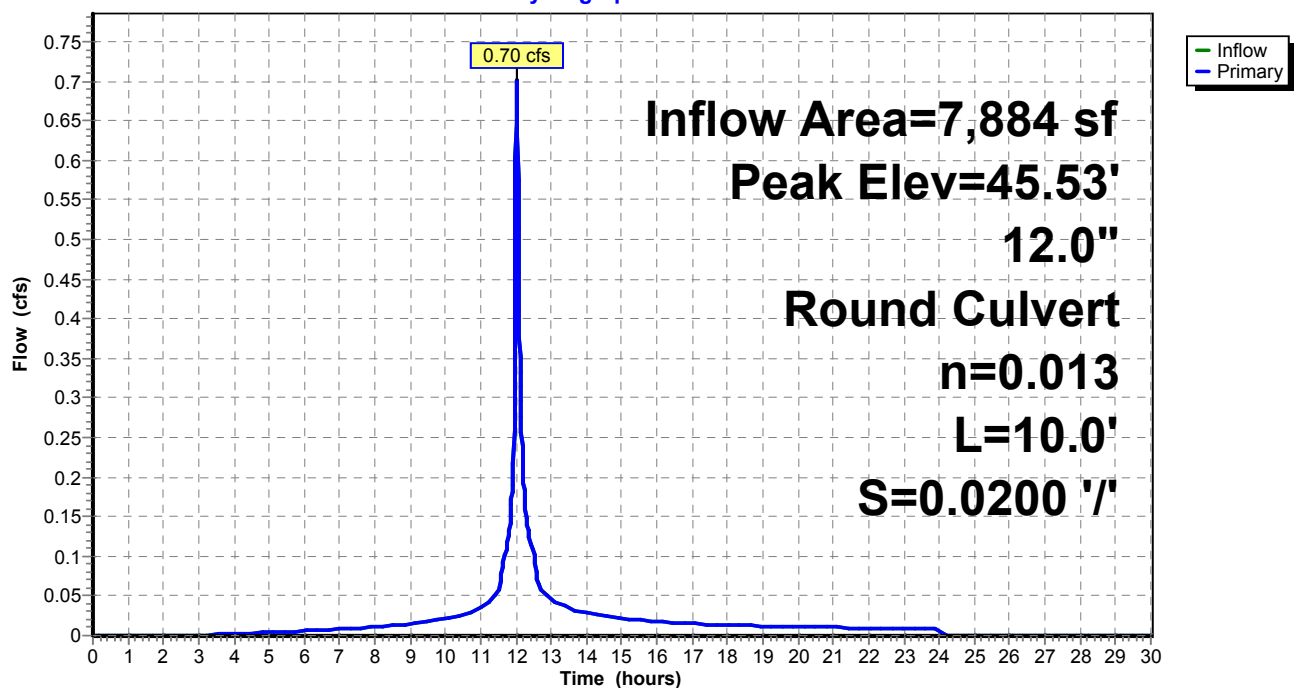
Device	Routing	Invert	Outlet Devices
#1	Primary	45.10'	12.0" Round Culvert L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.10' / 44.90' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.70 cfs @ 12.03 hrs HW=45.53' (Free Discharge)

↑1=Culvert (Barrel Controls 0.70 cfs @ 3.17 fps)

Pond 61P: CB-6

Hydrograph



Proposed Conditions

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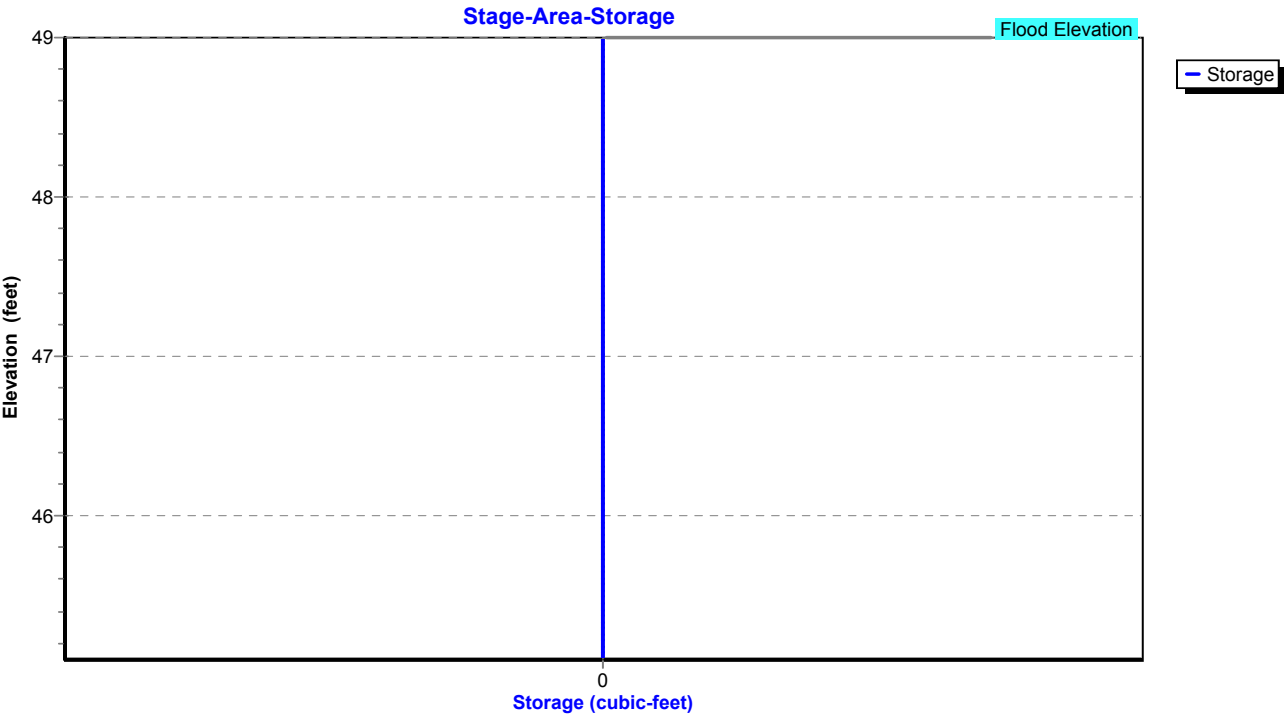
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Pond 61P: CB-6



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Summary for Pond 63P: Manhole

Inflow Area = 91,258 sf, 50.60% Impervious, Inflow Depth = 2.12" for 2 year event
Inflow = 4.76 cfs @ 12.06 hrs, Volume= 16,097 cf
Outflow = 4.76 cfs @ 12.06 hrs, Volume= 16,097 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.76 cfs @ 12.06 hrs, Volume= 16,097 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.47' @ 12.06 hrs

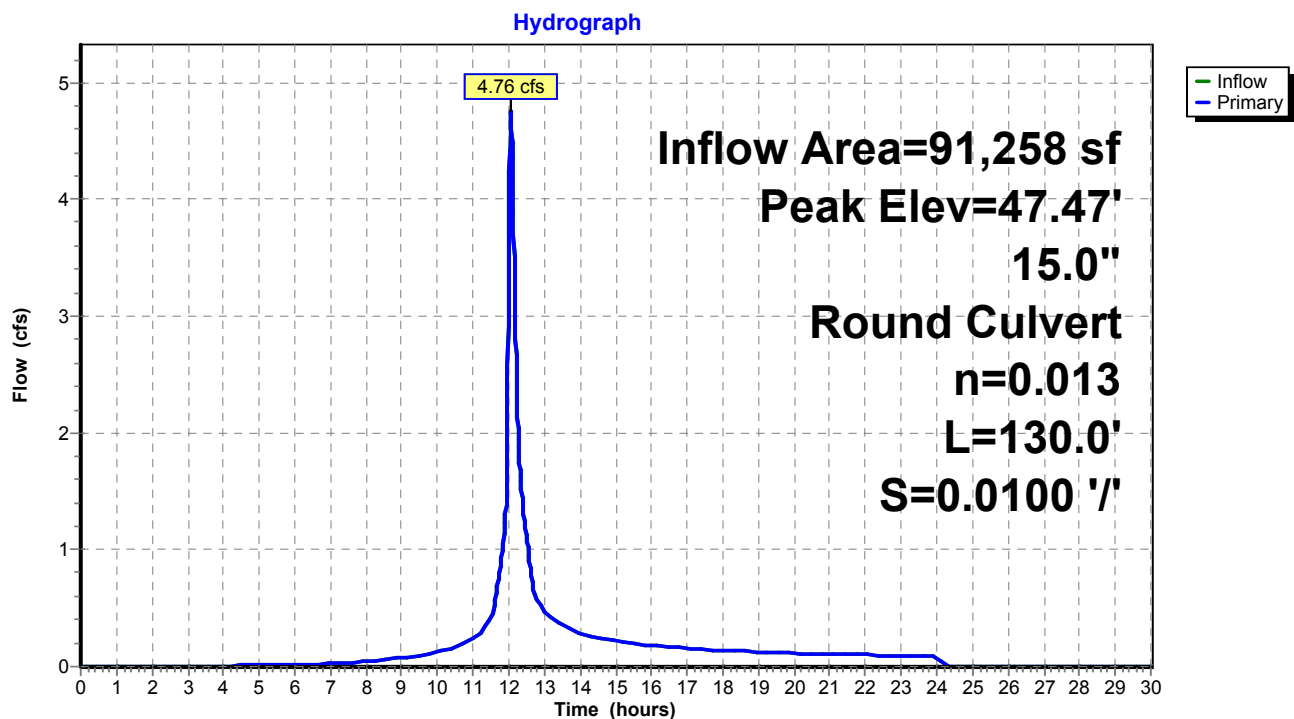
Flood Elev= 51.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.20'	15.0" Round Culvert L= 130.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.20' / 44.90' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=4.75 cfs @ 12.06 hrs HW=47.47' (Free Discharge)

↑1=Culvert (Inlet Controls 4.75 cfs @ 3.87 fps)

Pond 63P: Manhole



Proposed Conditions

Prepared by Tighe & Bond

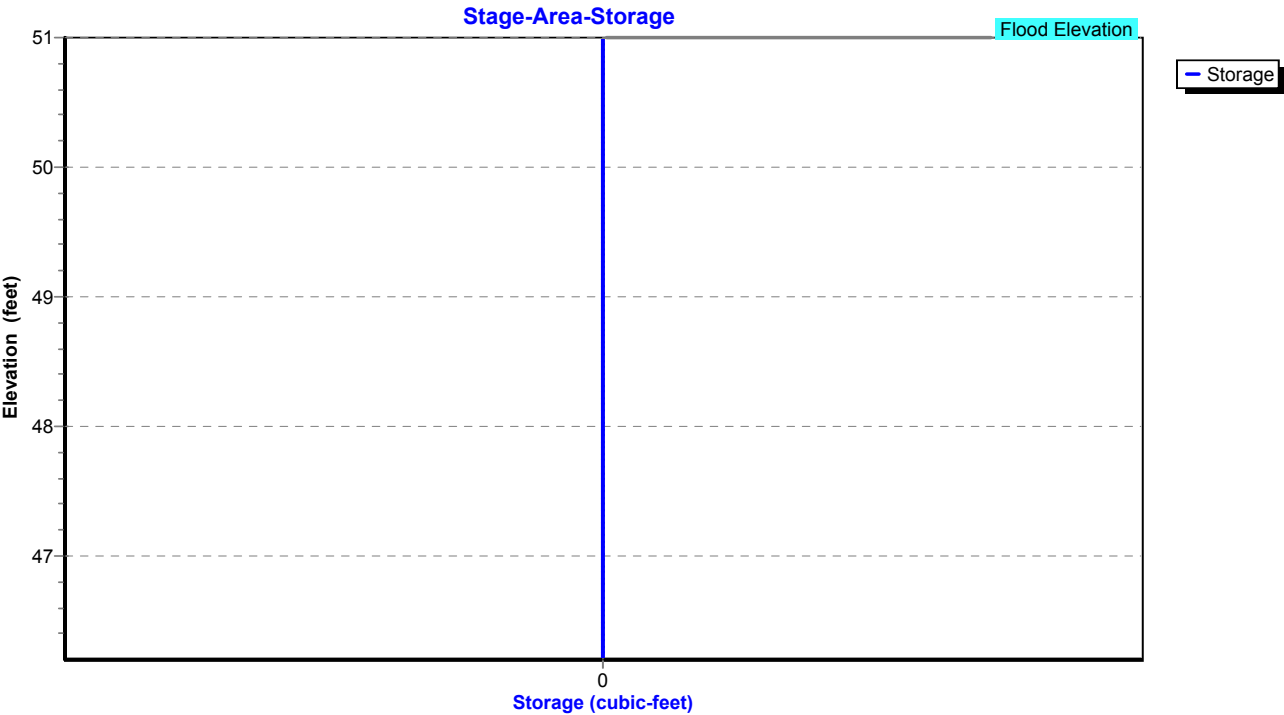
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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Pond 63P: Manhole



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Summary for Pond 64P: YD

Inflow Area = 68,128 sf, 41.75% Impervious, Inflow Depth = 1.92" for 2 year event
Inflow = 3.32 cfs @ 12.09 hrs, Volume= 10,897 cf
Outflow = 3.32 cfs @ 12.09 hrs, Volume= 10,897 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.32 cfs @ 12.09 hrs, Volume= 10,897 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.22' @ 12.09 hrs

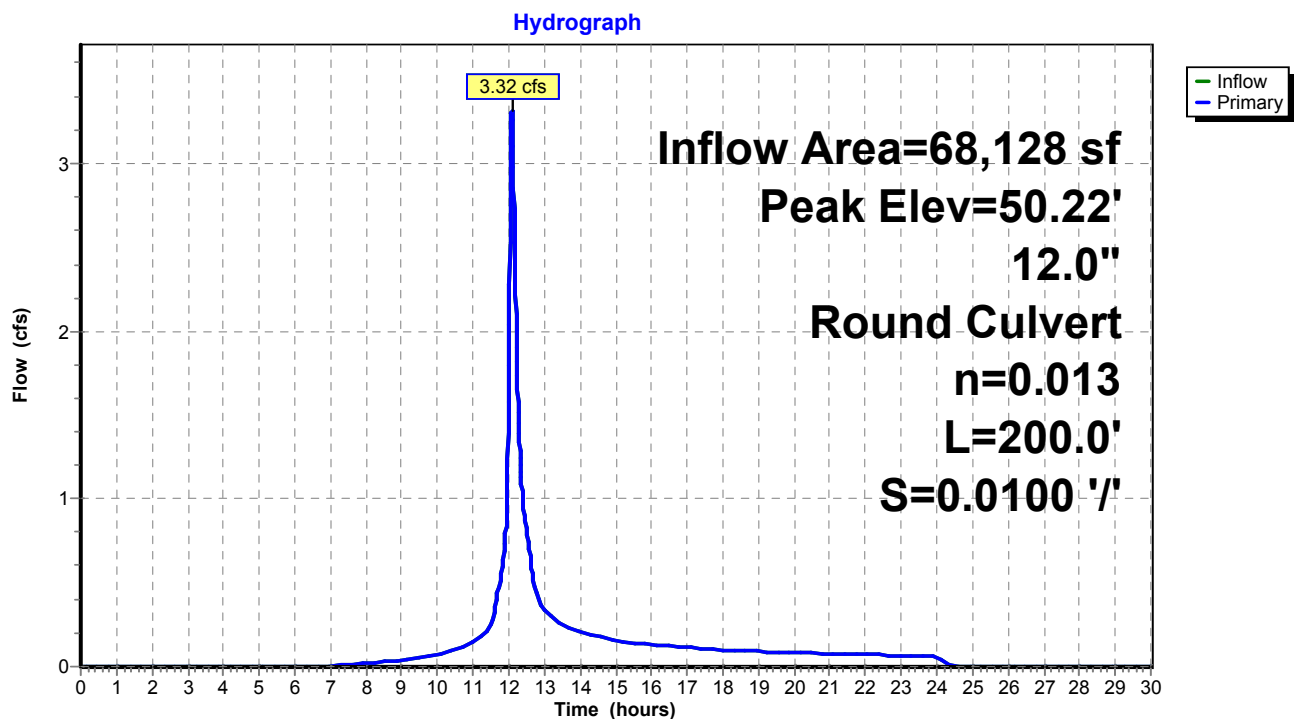
Flood Elev= 54.00'

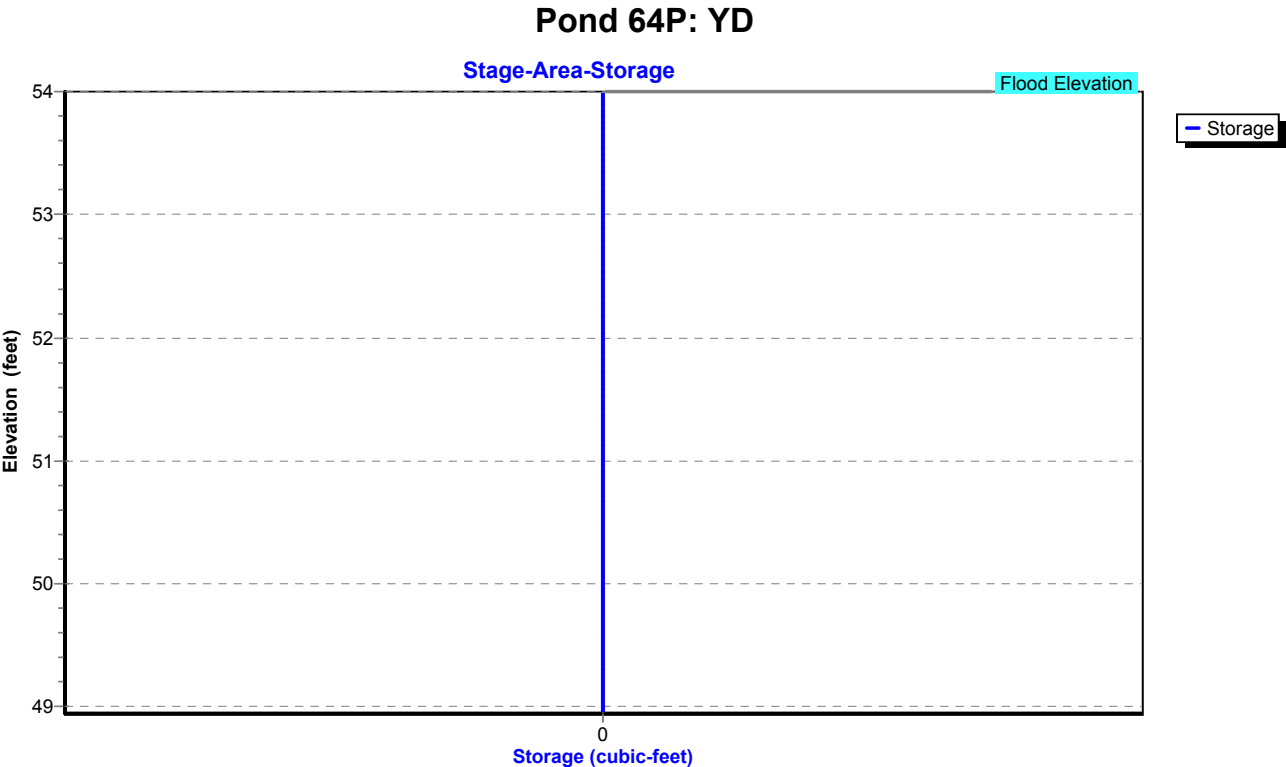
Device	Routing	Invert	Outlet Devices
#1	Primary	48.95'	12.0" Round Culvert L= 200.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.95' / 46.95' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=3.31 cfs @ 12.09 hrs HW=50.22' (Free Discharge)

↑1=Culvert (Inlet Controls 3.31 cfs @ 4.22 fps)

Pond 64P: YD





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Summary for Pond 66P: CB-10

Inflow Area = 12,763 sf, 73.04% Impervious, Inflow Depth = 2.62" for 2 year event
Inflow = 1.08 cfs @ 12.03 hrs, Volume= 2,784 cf
Outflow = 1.08 cfs @ 12.03 hrs, Volume= 2,784 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.08 cfs @ 12.03 hrs, Volume= 2,784 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 48.09' @ 12.03 hrs

Flood Elev= 53.00'

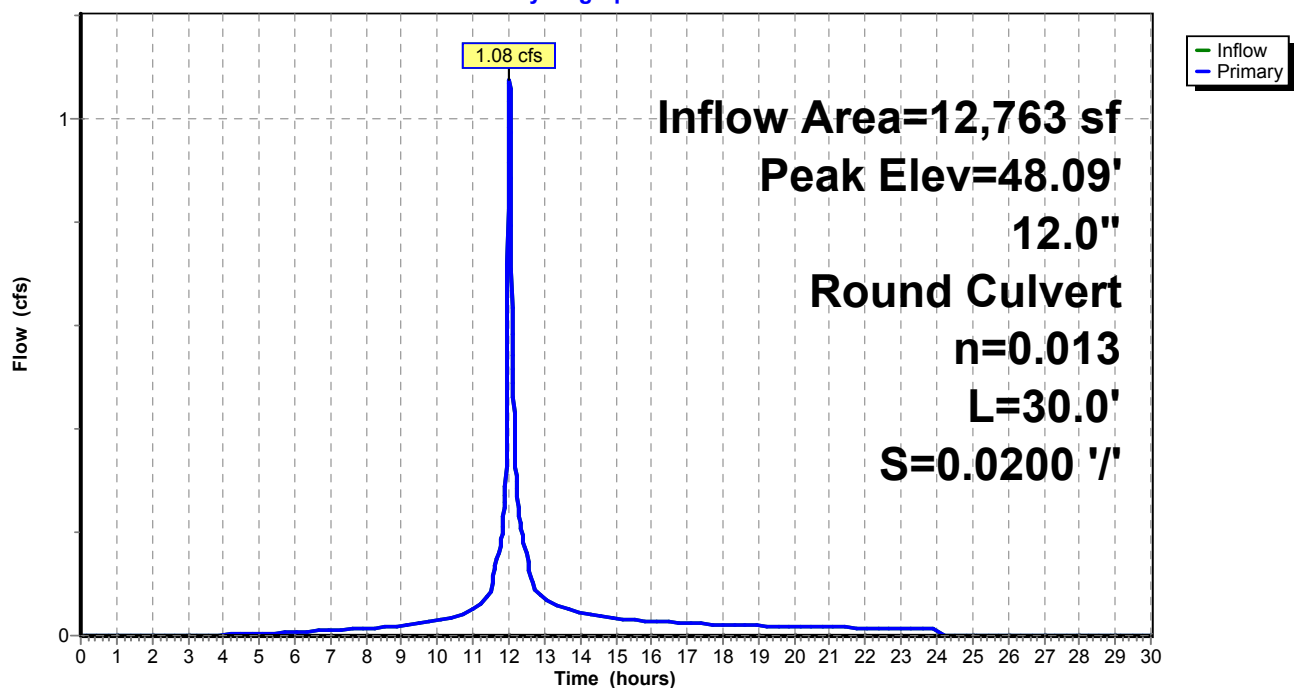
Device	Routing	Invert	Outlet Devices
#1	Primary	47.55'	12.0" Round Culvert L= 30.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.55' / 46.95' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.07 cfs @ 12.03 hrs HW=48.09' (Free Discharge)

↑1=Culvert (Inlet Controls 1.07 cfs @ 2.49 fps)

Pond 66P: CB-10

Hydrograph



Proposed Conditions

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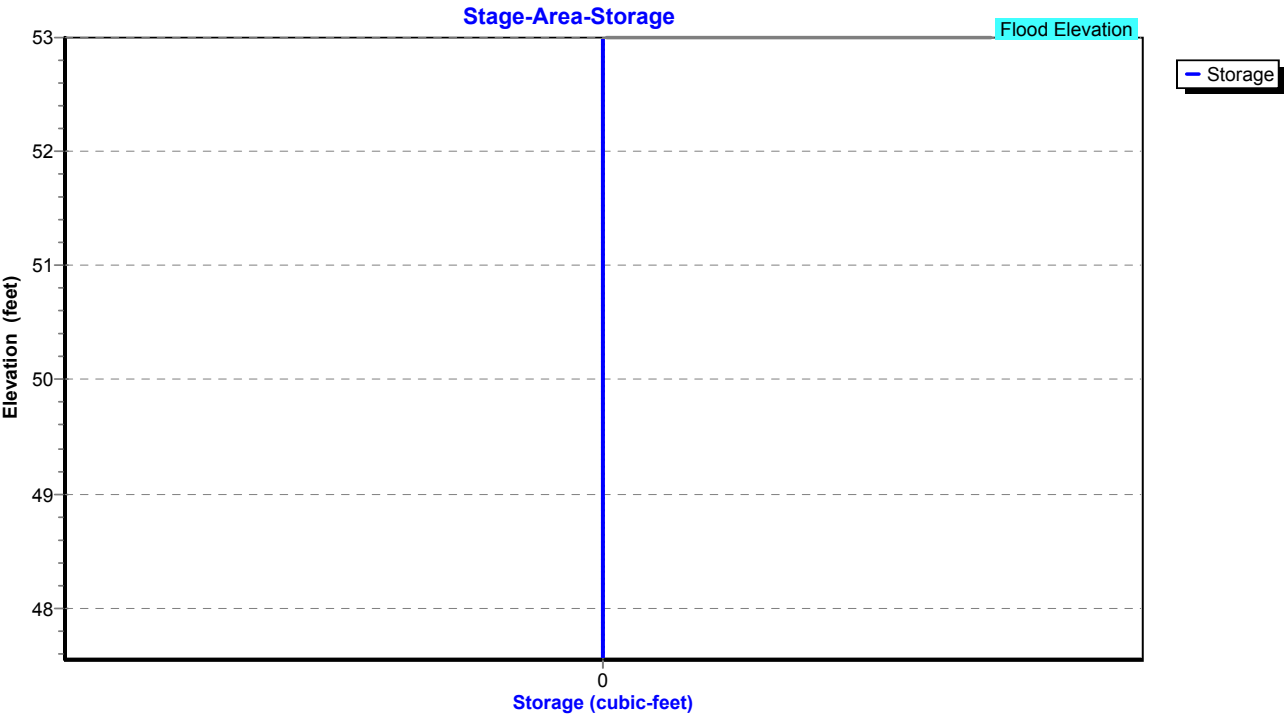
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Pond 66P: CB-10



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Summary for Pond 67P: CB-9

Inflow Area = 6,447 sf, 69.59% Impervious, Inflow Depth = 2.52" for 2 year event
Inflow = 0.53 cfs @ 12.03 hrs, Volume= 1,355 cf
Outflow = 0.53 cfs @ 12.03 hrs, Volume= 1,355 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.53 cfs @ 12.03 hrs, Volume= 1,355 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.52' @ 12.03 hrs

Flood Elev= 52.00'

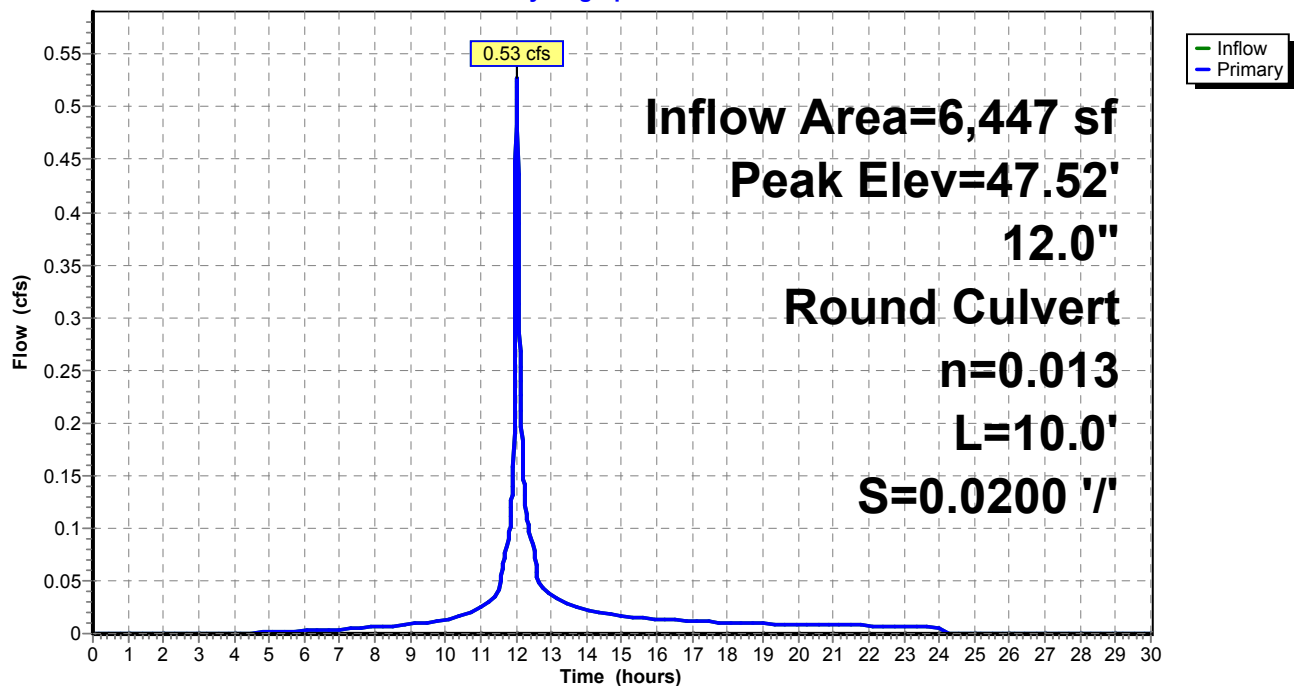
Device	Routing	Invert	Outlet Devices
#1	Primary	47.15'	12.0" Round Culvert L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.15' / 46.95' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.52 cfs @ 12.03 hrs HW=47.51' (Free Discharge)

↑1=Culvert (Barrel Controls 0.52 cfs @ 3.01 fps)

Pond 67P: CB-9

Hydrograph



Proposed Conditions

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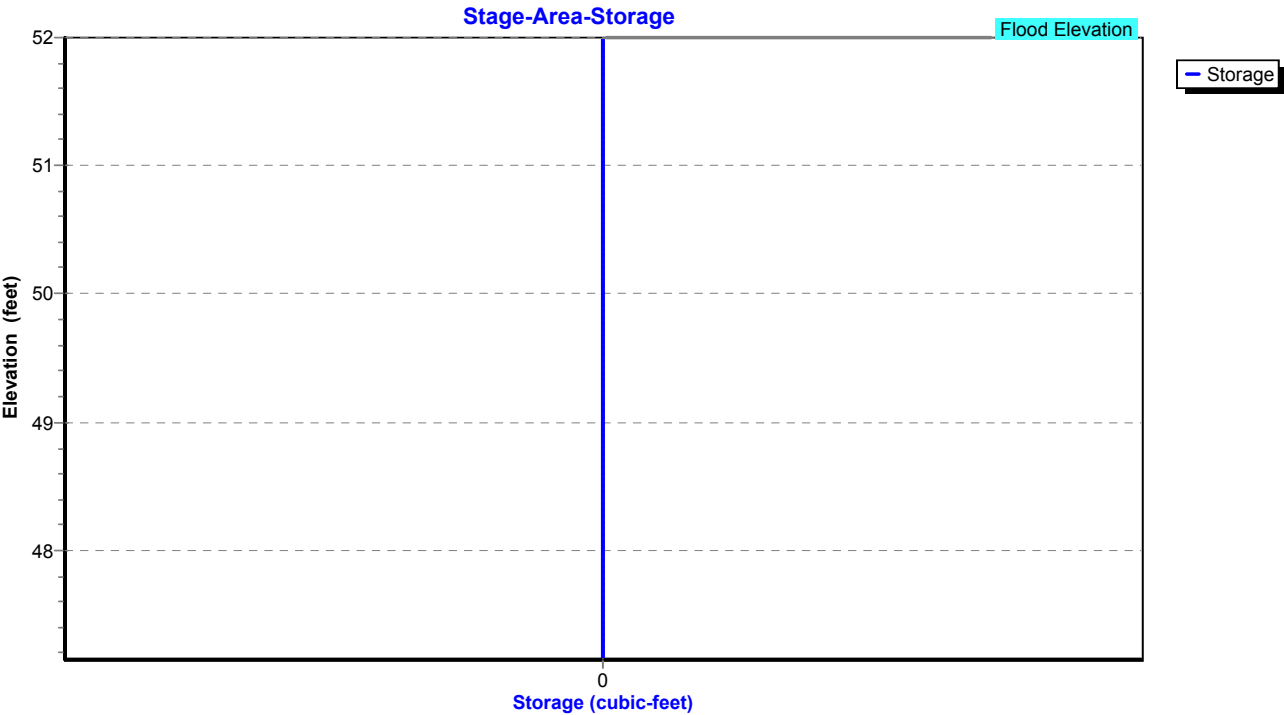
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Pond 67P: CB-9



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Summary for Pond 70P: CB-2

Inflow Area = 88,035 sf, 58.39% Impervious, Inflow Depth = 2.16" for 2 year event
Inflow = 4.71 cfs @ 11.99 hrs, Volume= 15,832 cf
Outflow = 4.71 cfs @ 11.99 hrs, Volume= 15,832 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.71 cfs @ 11.99 hrs, Volume= 15,832 cf
Routed to Pond 51P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.01' @ 11.99 hrs

Flood Elev= 53.30'

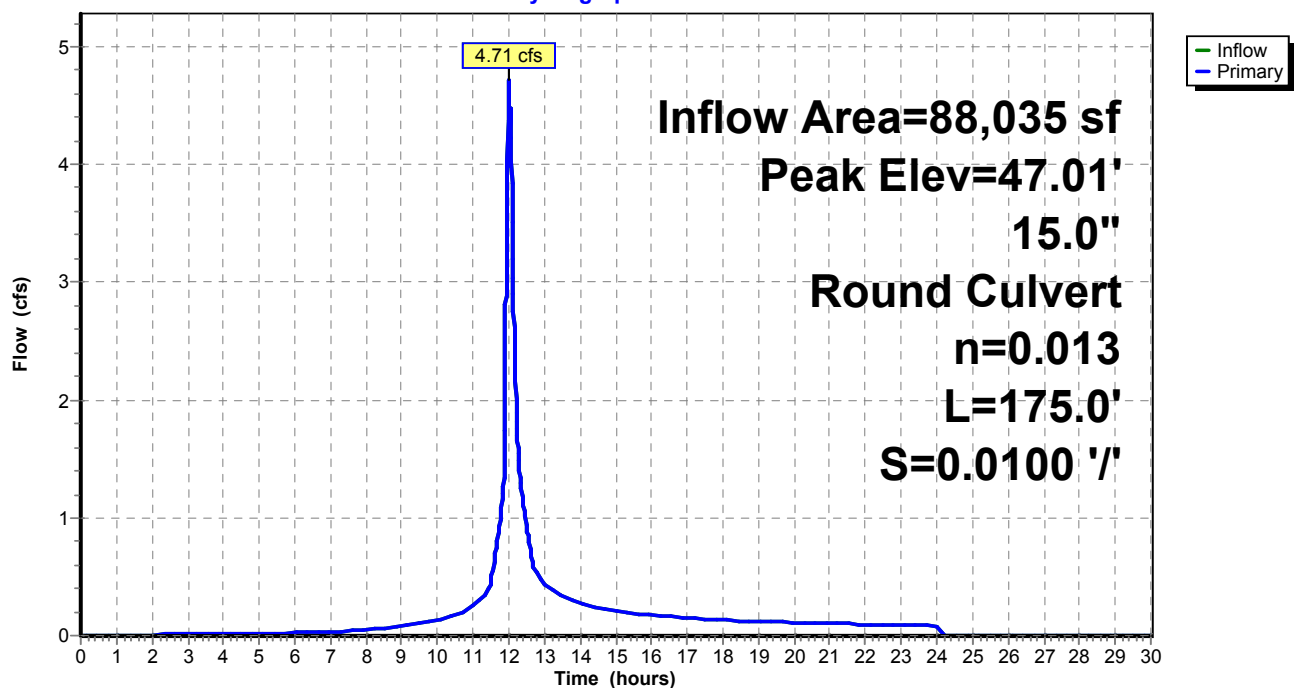
Device	Routing	Invert	Outlet Devices
#1	Primary	45.75'	15.0" Round Culvert L= 175.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.75' / 44.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=4.70 cfs @ 11.99 hrs HW=47.01' (Free Discharge)

↑1=Culvert (Inlet Controls 4.70 cfs @ 3.83 fps)

Pond 70P: CB-2

Hydrograph



Proposed Conditions

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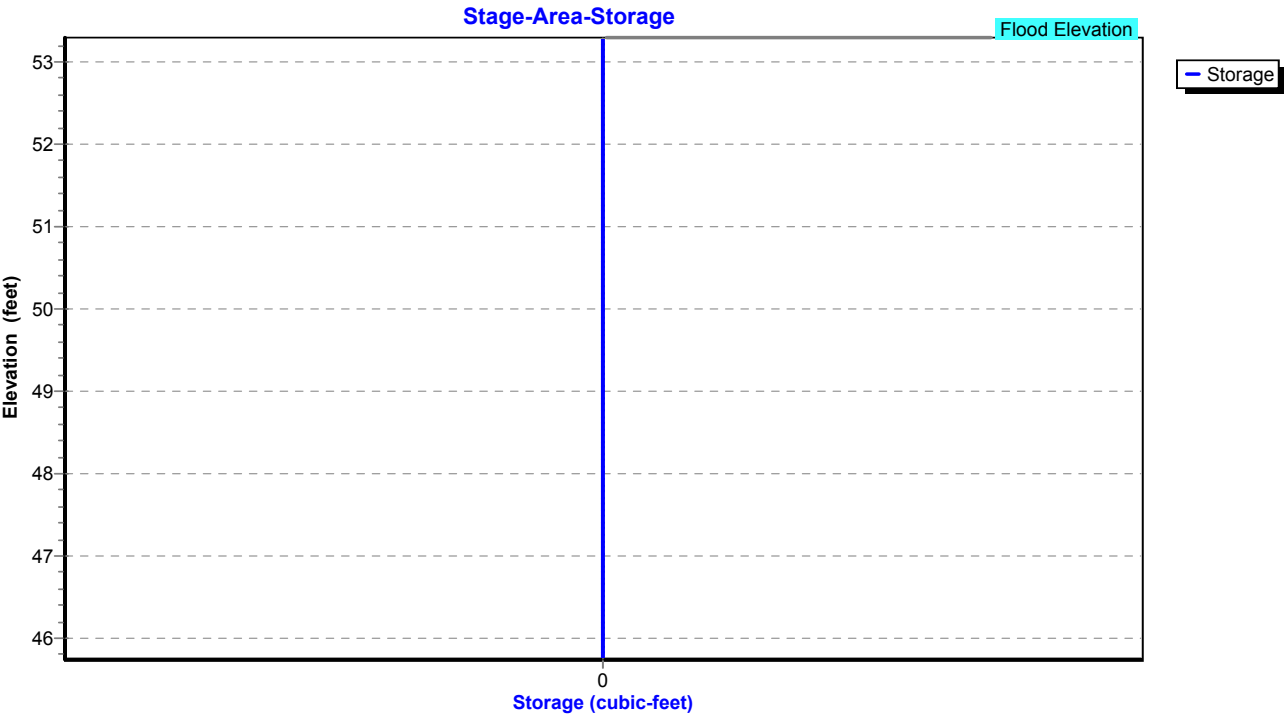
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Pond 70P: CB-2



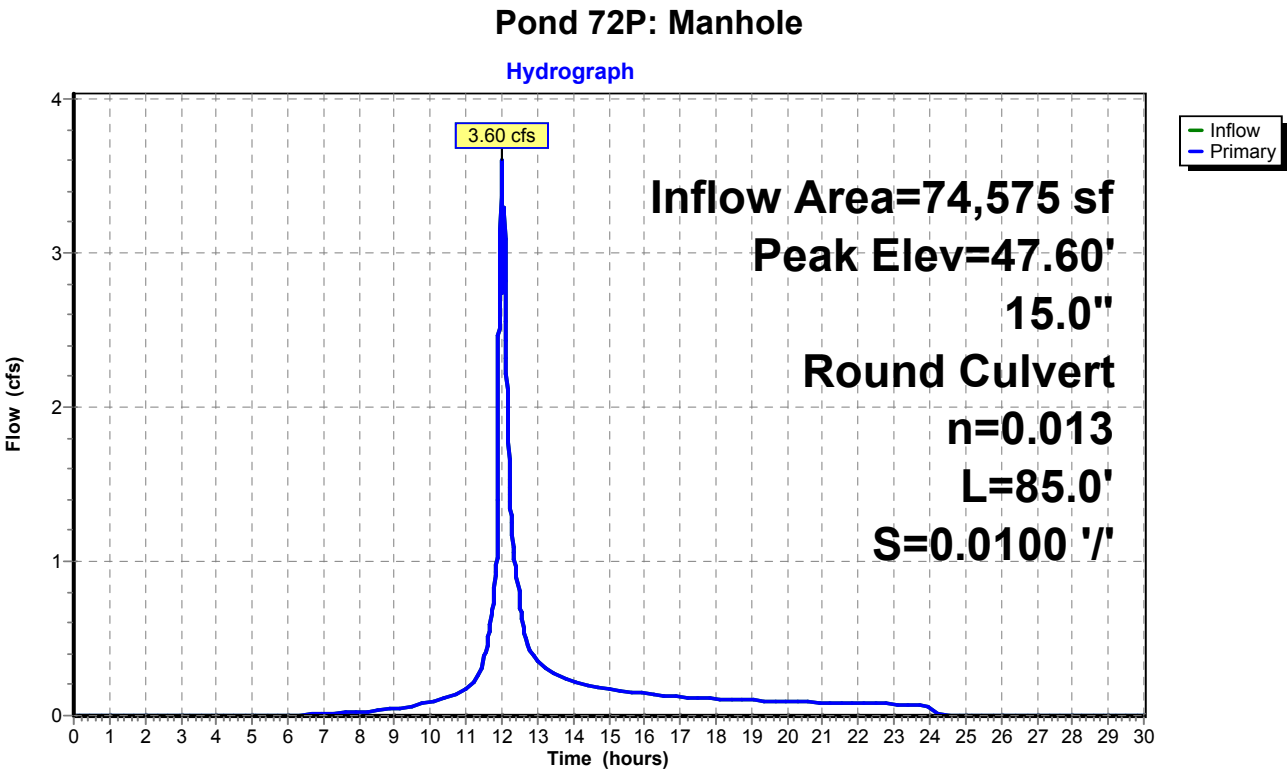
Summary for Pond 72P: Manhole

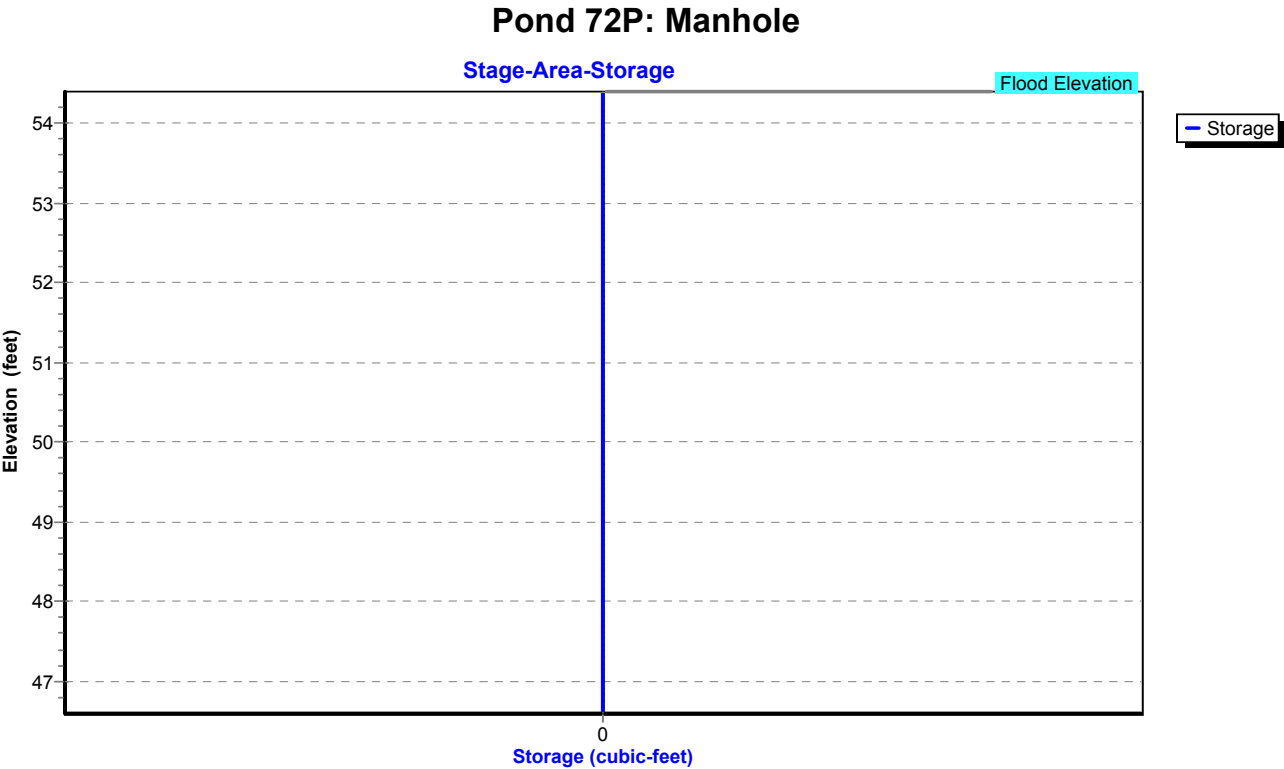
Inflow Area = 74,575 sf, 50.88% Impervious, Inflow Depth = 1.96" for 2 year event
Inflow = 3.60 cfs @ 11.99 hrs, Volume= 12,190 cf
Outflow = 3.60 cfs @ 11.99 hrs, Volume= 12,190 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.60 cfs @ 11.99 hrs, Volume= 12,190 cf
Routed to Pond 70P : CB-2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 47.60' @ 11.99 hrs
Flood Elev= 54.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.60'	15.0" Round Culvert L= 85.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.60' / 45.75' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=3.56 cfs @ 11.99 hrs HW=47.60' (Free Discharge)
1=Culvert (Inlet Controls 3.56 cfs @ 3.40 fps)





Proposed Conditions

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Summary for Pond 73P: CB-3

Inflow Area = 74,575 sf, 50.88% Impervious, Inflow Depth = 1.96" for 2 year event
Inflow = 3.60 cfs @ 11.99 hrs, Volume= 12,190 cf
Outflow = 3.60 cfs @ 11.99 hrs, Volume= 12,190 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.60 cfs @ 11.99 hrs, Volume= 12,190 cf
Routed to Pond 72P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 48.70' @ 11.99 hrs

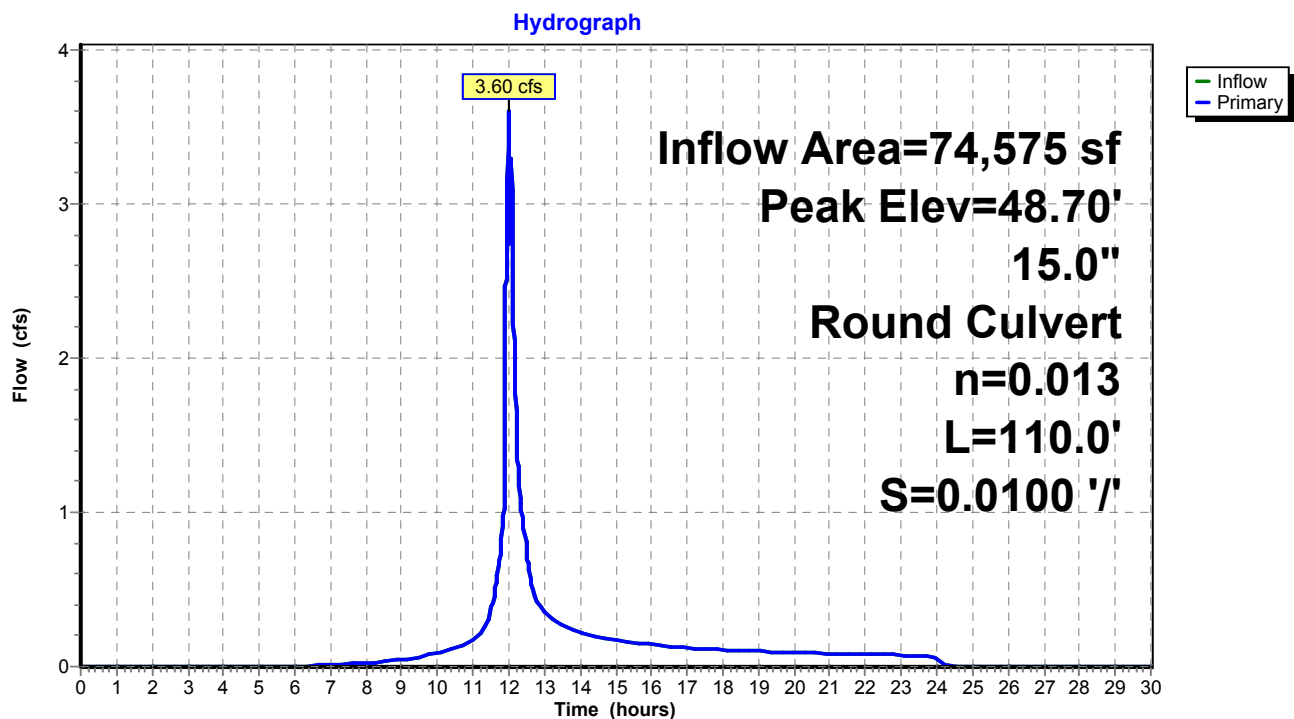
Flood Elev= 53.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.70'	15.0" Round Culvert L= 110.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.70' / 46.60' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

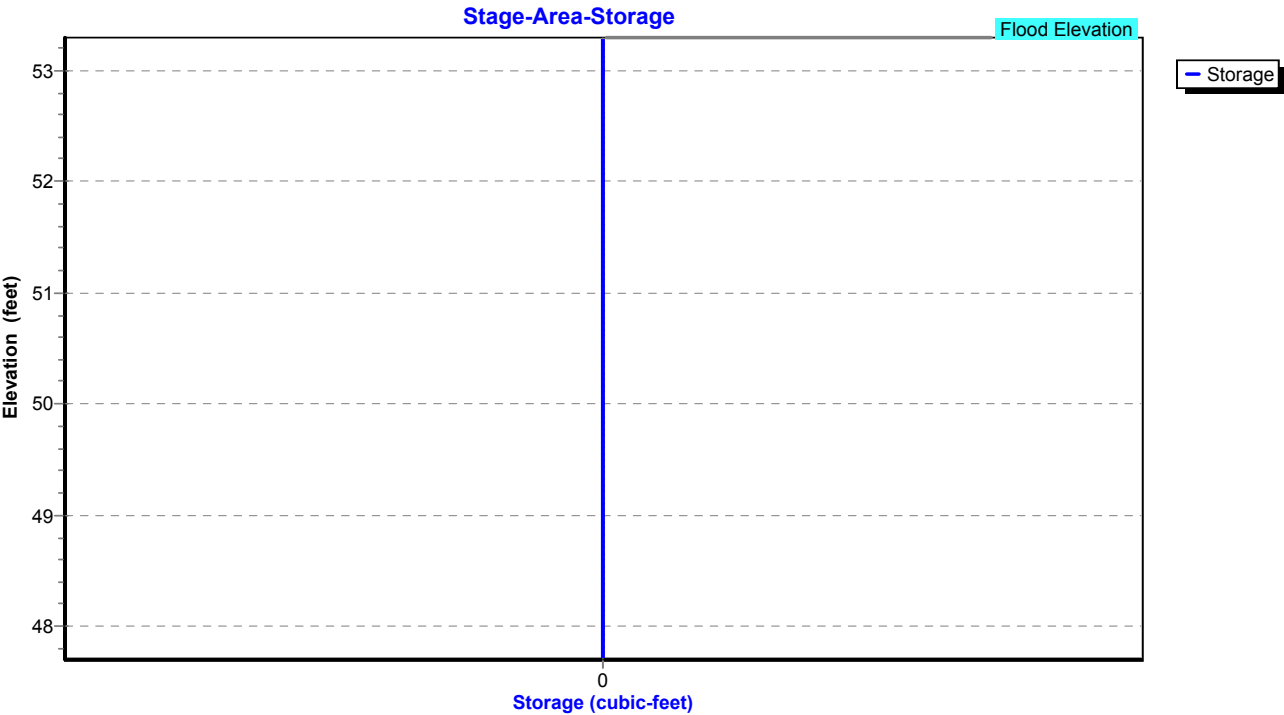
Primary OutFlow Max=3.56 cfs @ 11.99 hrs HW=48.70' (Free Discharge)

↑1=Culvert (Inlet Controls 3.56 cfs @ 3.40 fps)

Pond 73P: CB-3



Pond 73P: CB-3



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Summary for Pond 74P: CB-4

Inflow Area = 49,920 sf, 46.51% Impervious, Inflow Depth = 1.86" for 2 year event
Inflow = 2.59 cfs @ 12.06 hrs, Volume= 7,743 cf
Outflow = 2.59 cfs @ 12.06 hrs, Volume= 7,743 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.59 cfs @ 12.06 hrs, Volume= 7,743 cf
Routed to Pond 73P : CB-3

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.01' @ 12.06 hrs

Flood Elev= 53.70'

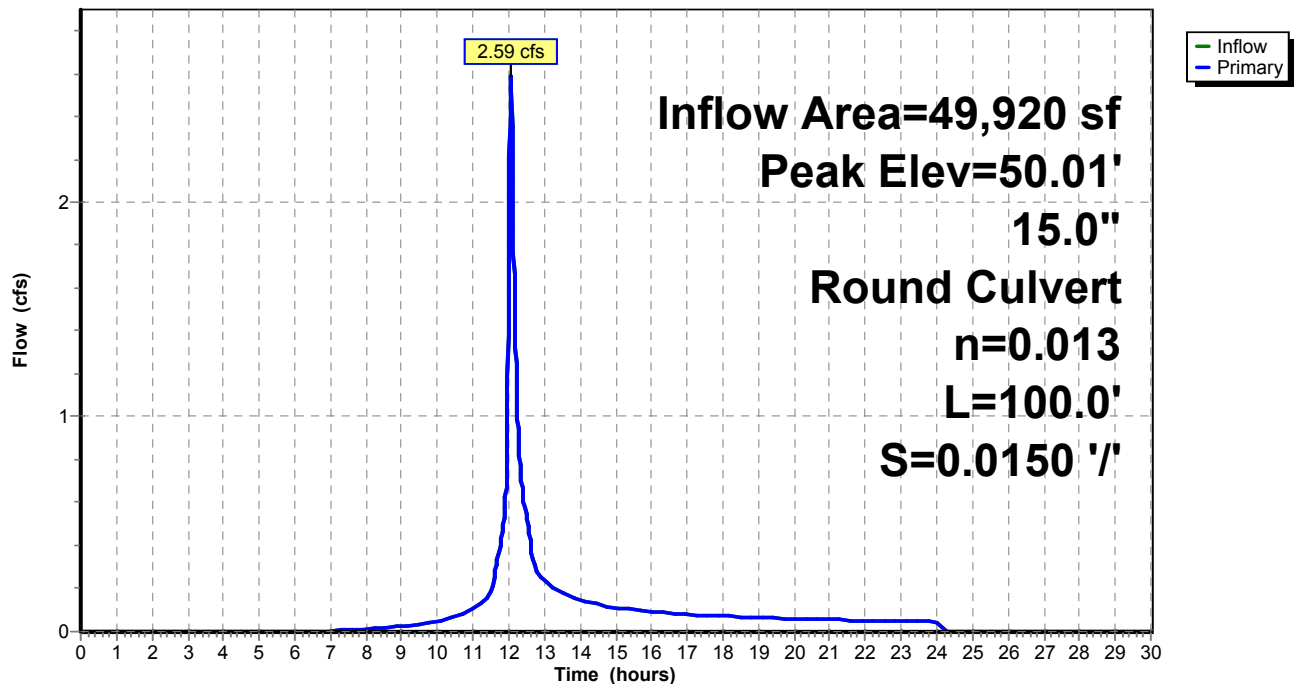
Device	Routing	Invert	Outlet Devices
#1	Primary	49.20'	15.0" Round Culvert L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.20' / 47.70' S= 0.0150 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=2.58 cfs @ 12.06 hrs HW=50.01' (Free Discharge)

↑1=Culvert (Inlet Controls 2.58 cfs @ 3.07 fps)

Pond 74P: CB-4

Hydrograph



Proposed Conditions

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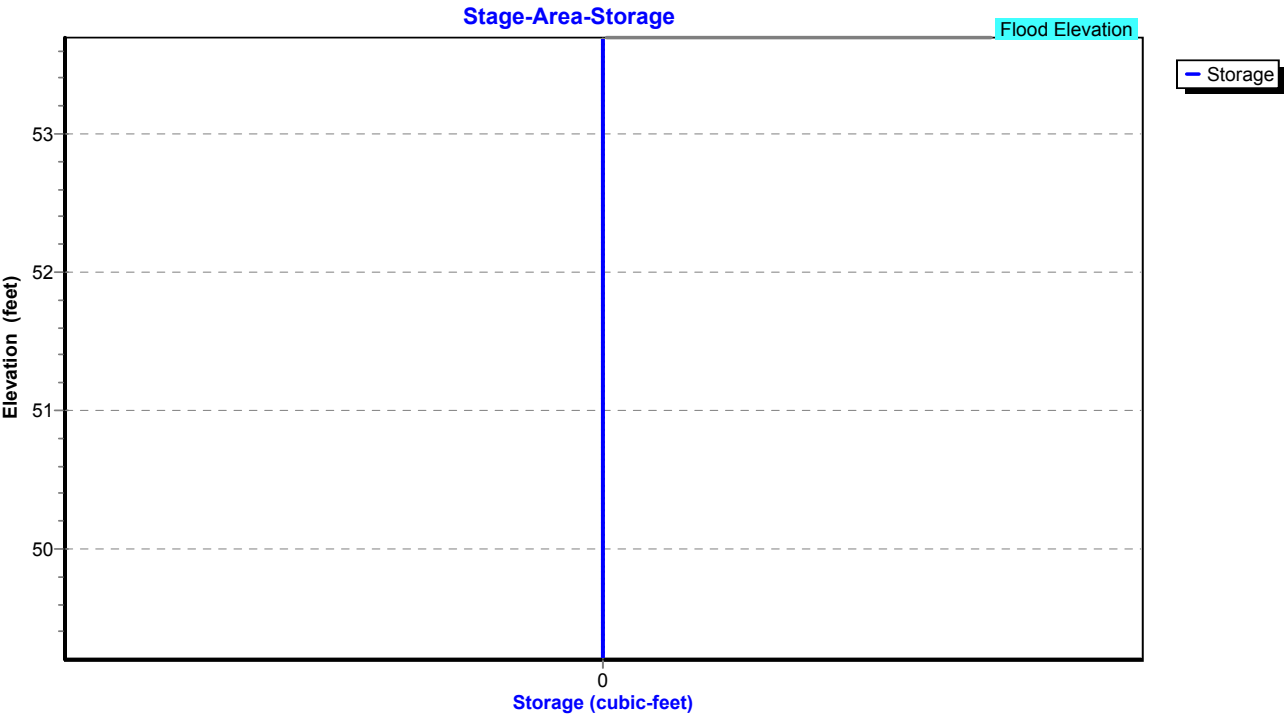
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Pond 74P: CB-4



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Summary for Pond 77P: Manhole

Inflow Area = 87,338 sf, 48.38% Impervious, Inflow Depth = 2.07" for 2 year event
Inflow = 4.44 cfs @ 12.06 hrs, Volume= 15,036 cf
Outflow = 4.44 cfs @ 12.06 hrs, Volume= 15,036 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.44 cfs @ 12.06 hrs, Volume= 15,036 cf
Routed to Pond 63P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 48.13' @ 12.06 hrs

Flood Elev= 52.50'

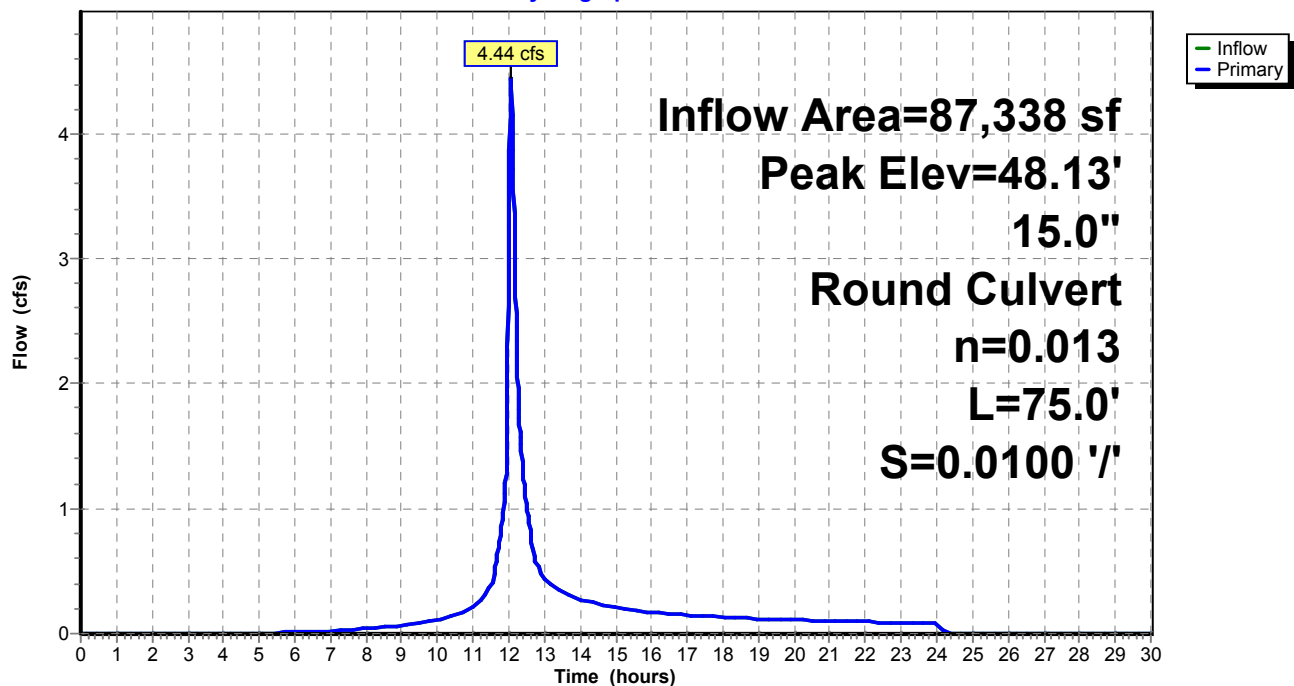
Device	Routing	Invert	Outlet Devices
#1	Primary	46.95'	15.0" Round Culvert L= 75.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.95' / 46.20' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=4.45 cfs @ 12.06 hrs HW=48.13' (Free Discharge)

↑1=Culvert (Inlet Controls 4.45 cfs @ 3.70 fps)

Pond 77P: Manhole

Hydrograph



Proposed Conditions

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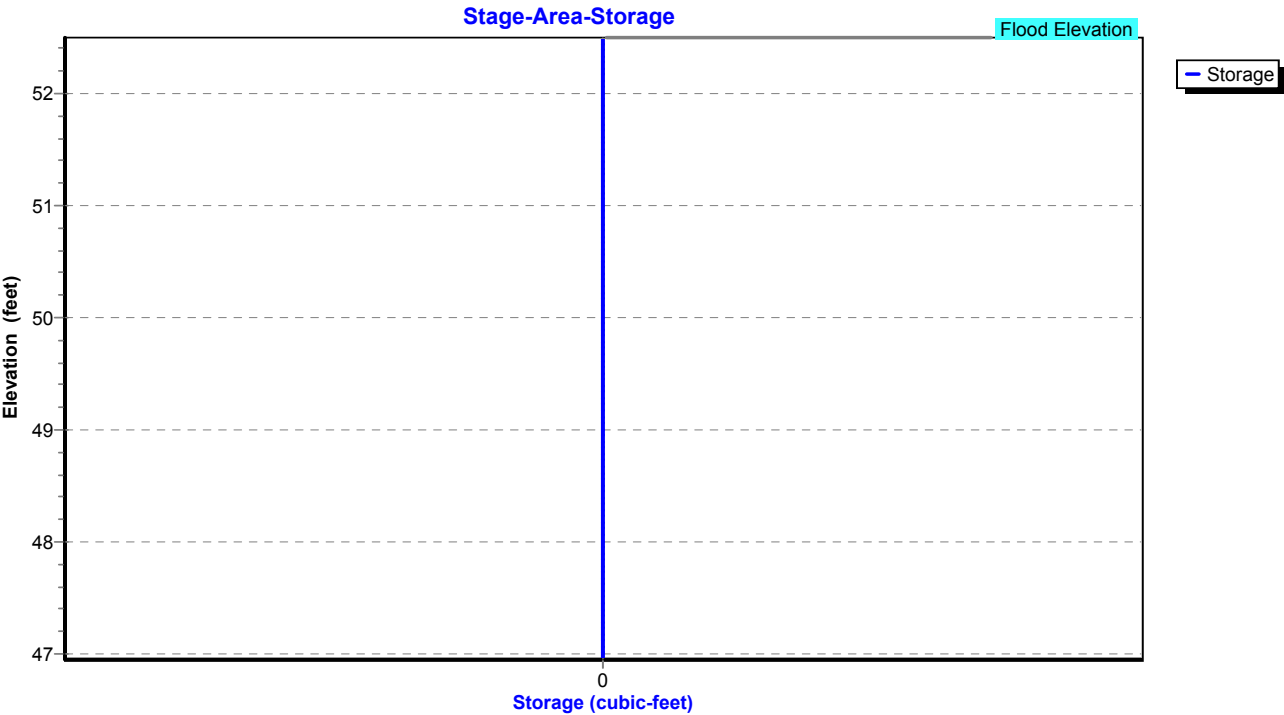
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Pond 77P: Manhole



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Summary for Pond 79P: CB-8

Inflow Area = 3,920 sf, 100.00% Impervious, Inflow Depth = 3.25" for 2 year event
Inflow = 0.38 cfs @ 12.03 hrs, Volume= 1,061 cf
Outflow = 0.38 cfs @ 12.03 hrs, Volume= 1,061 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.38 cfs @ 12.03 hrs, Volume= 1,061 cf
Routed to Pond 63P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.50' @ 12.03 hrs

Flood Elev= 52.50'

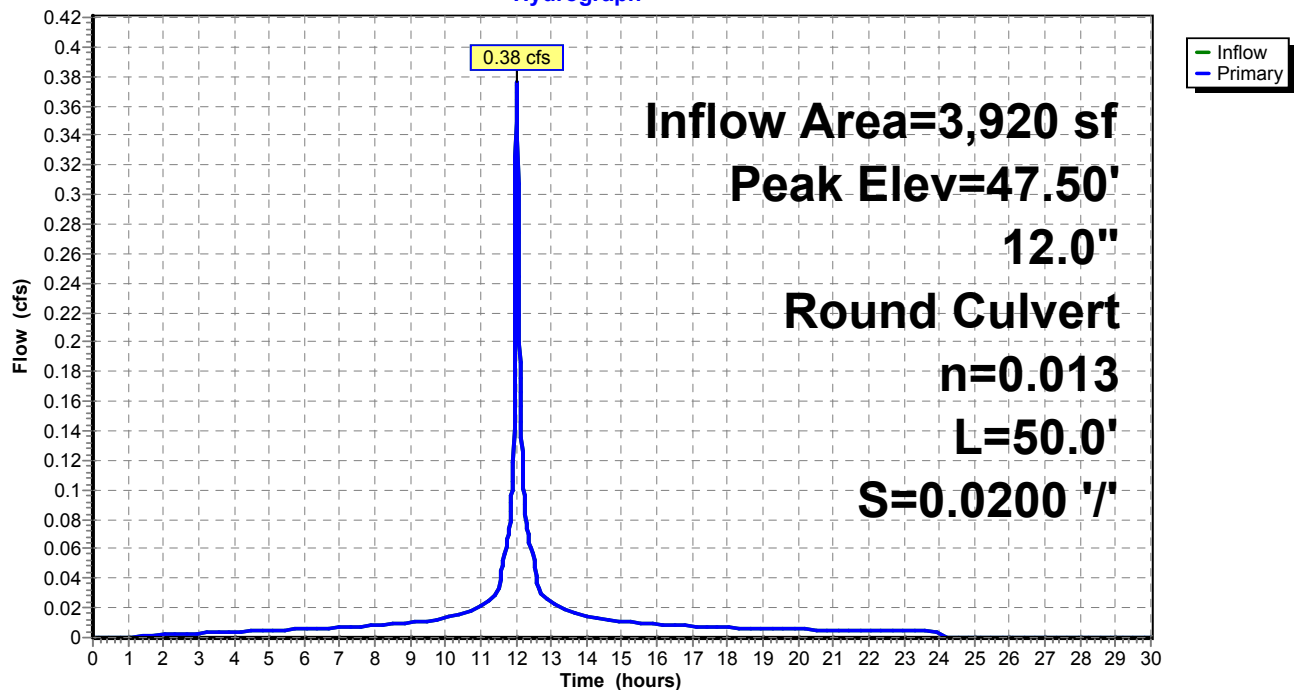
Device	Routing	Invert	Outlet Devices
#1	Primary	47.20'	12.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.20' / 46.20' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.37 cfs @ 12.03 hrs HW=47.50' (Free Discharge)

↑1=Culvert (Inlet Controls 0.37 cfs @ 1.87 fps)

Pond 79P: CB-8

Hydrograph



Proposed Conditions

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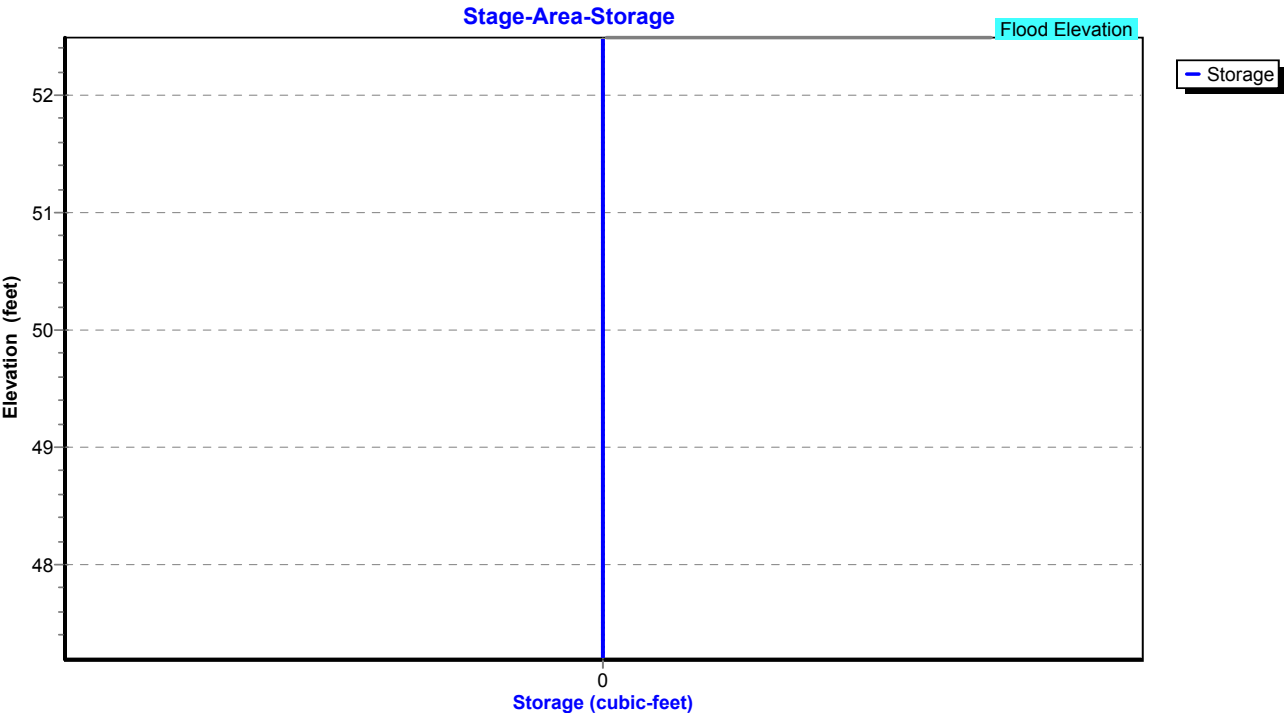
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Pond 79P: CB-8



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Summary for Pond 85P: CB-5

Inflow Area = 34,804 sf, 42.18% Impervious, Inflow Depth = 1.77" for 2 year event
Inflow = 1.68 cfs @ 12.07 hrs, Volume= 5,122 cf
Outflow = 1.68 cfs @ 12.07 hrs, Volume= 5,122 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.68 cfs @ 12.07 hrs, Volume= 5,122 cf
Routed to Pond 74P : CB-4

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.90' @ 12.07 hrs

Flood Elev= 53.30'

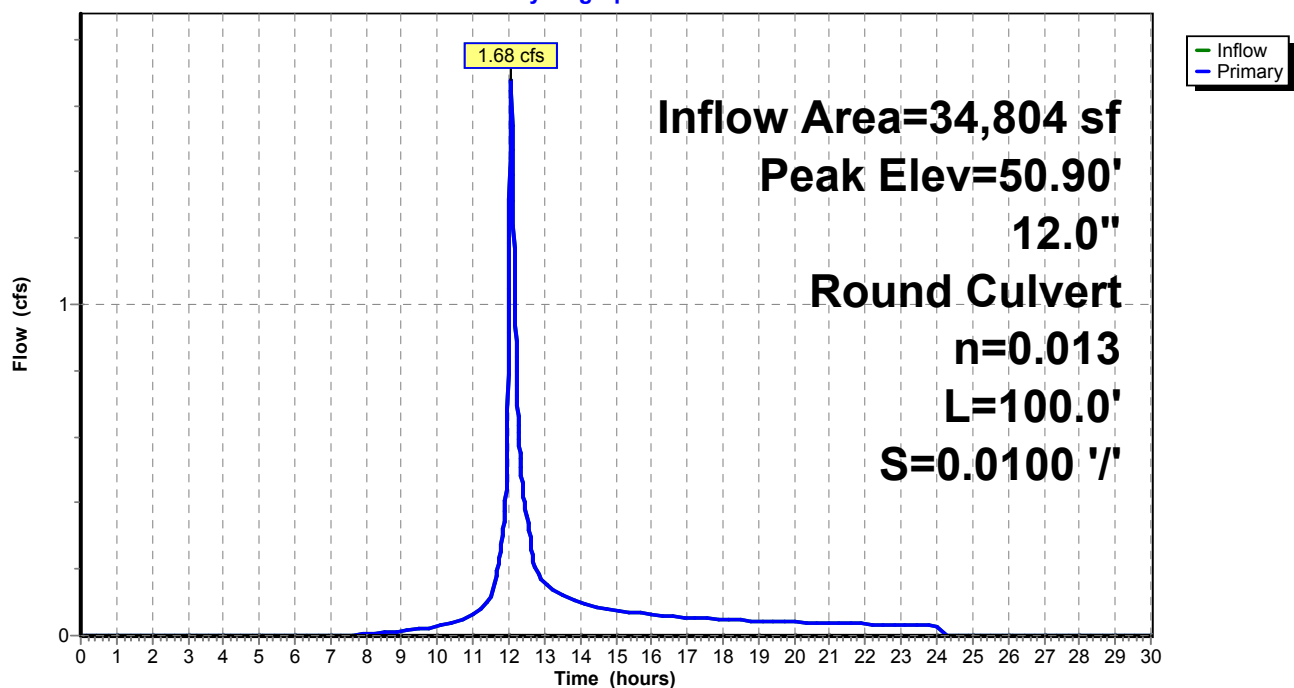
Device	Routing	Invert	Outlet Devices
#1	Primary	50.20'	12.0" Round Culvert L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 50.20' / 49.20' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.67 cfs @ 12.07 hrs HW=50.90' (Free Discharge)

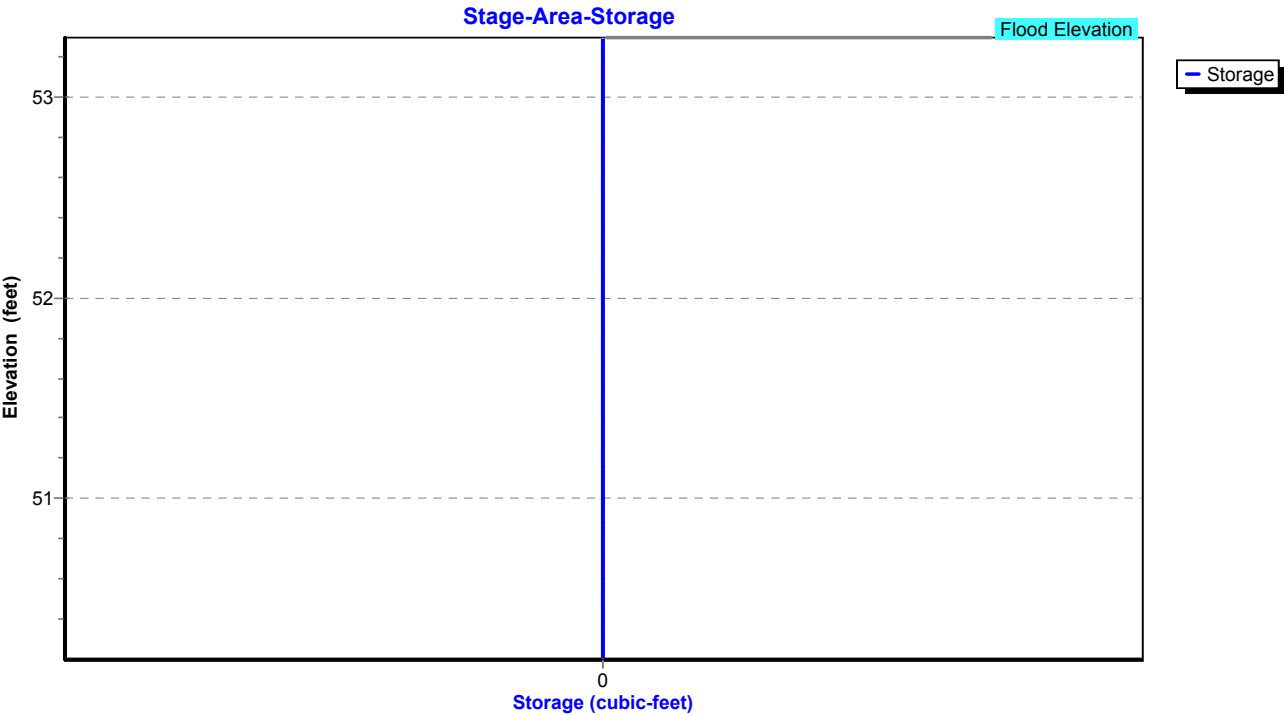
↑1=Culvert (Inlet Controls 1.67 cfs @ 2.85 fps)

Pond 85P: CB-5

Hydrograph



Pond 85P: CB-5



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NORWALK 24-hr S1 2 year Rainfall=3.48"

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Summary for Pond P: ADS Stormtech

Inflow Area = 16,901 sf, 100.00% Impervious, Inflow Depth = 3.25" for 2 year event
Inflow = 1.62 cfs @ 12.03 hrs, Volume= 4,573 cf
Outflow = 0.50 cfs @ 12.18 hrs, Volume= 4,573 cf, Atten= 69%, Lag= 9.4 min
Primary = 0.50 cfs @ 12.18 hrs, Volume= 4,573 cf
Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 52.90' @ 12.18 hrs Surf.Area= 749 sf Storage= 770 cf

Plug-Flow detention time= 18.2 min calculated for 4,571 cf (100% of inflow)
Center-of-Mass det. time= 18.2 min (773.9 - 755.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	51.34'	764 cf	15.75'W x 46.34'L x 3.75'H Field A 2,737 cf Overall - 827 cf Embedded = 1,910 cf x 40.0% Voids
#2A	51.84'	827 cf	ADS_StormTech SC-740 +Cap x 18 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 18 Chambers in 3 Rows
#3	51.34'	114 cf	5.00'D x 5.80'H OCS
		1,705 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	51.34'	12.0" Round Culvert L= 4.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 51.34' / 51.30' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	51.34'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	54.30'	5.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.50 cfs @ 12.18 hrs HW=52.90' (Free Discharge)

- 1=Culvert (Passes 0.50 cfs of 3.83 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.50 cfs @ 5.69 fps)
- 3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Proposed Conditions

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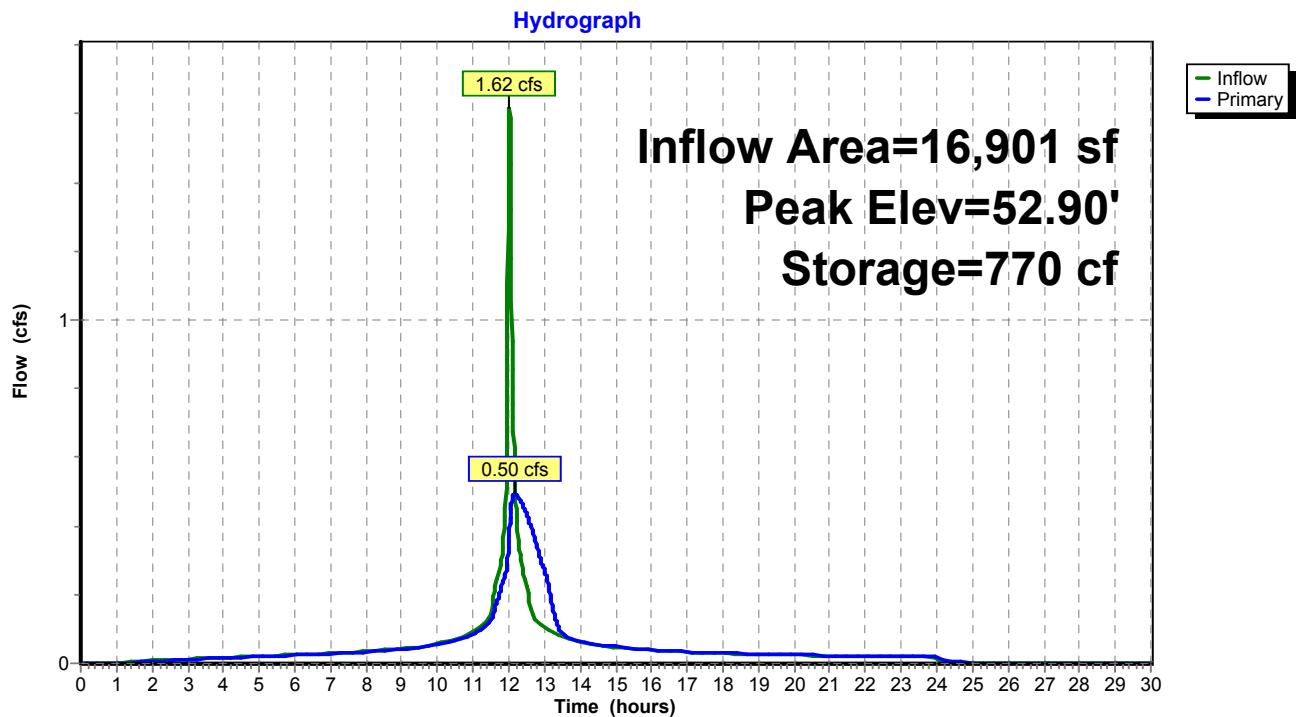
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NORWALK 24-hr S1 2 year Rainfall=3.48"

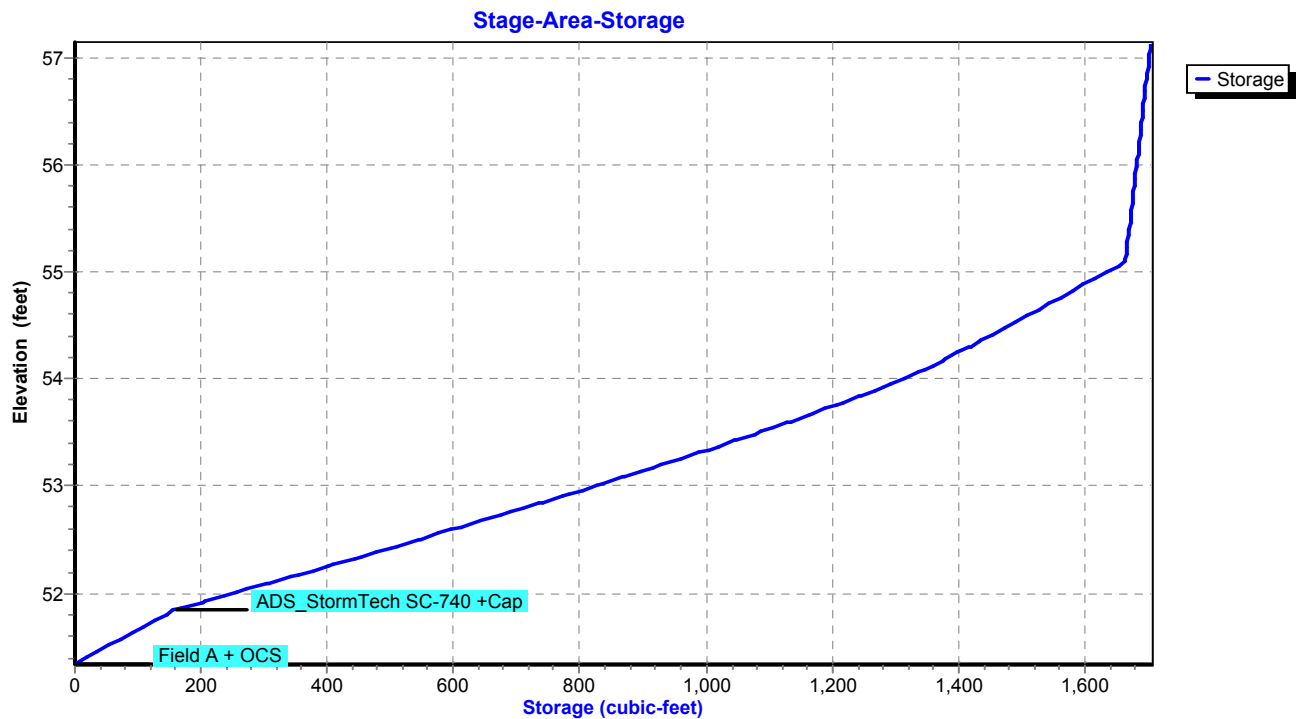
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Pond P: ADS Stormtech



Pond P: ADS Stormtech



Summary for Subcatchment 4S: Area 4

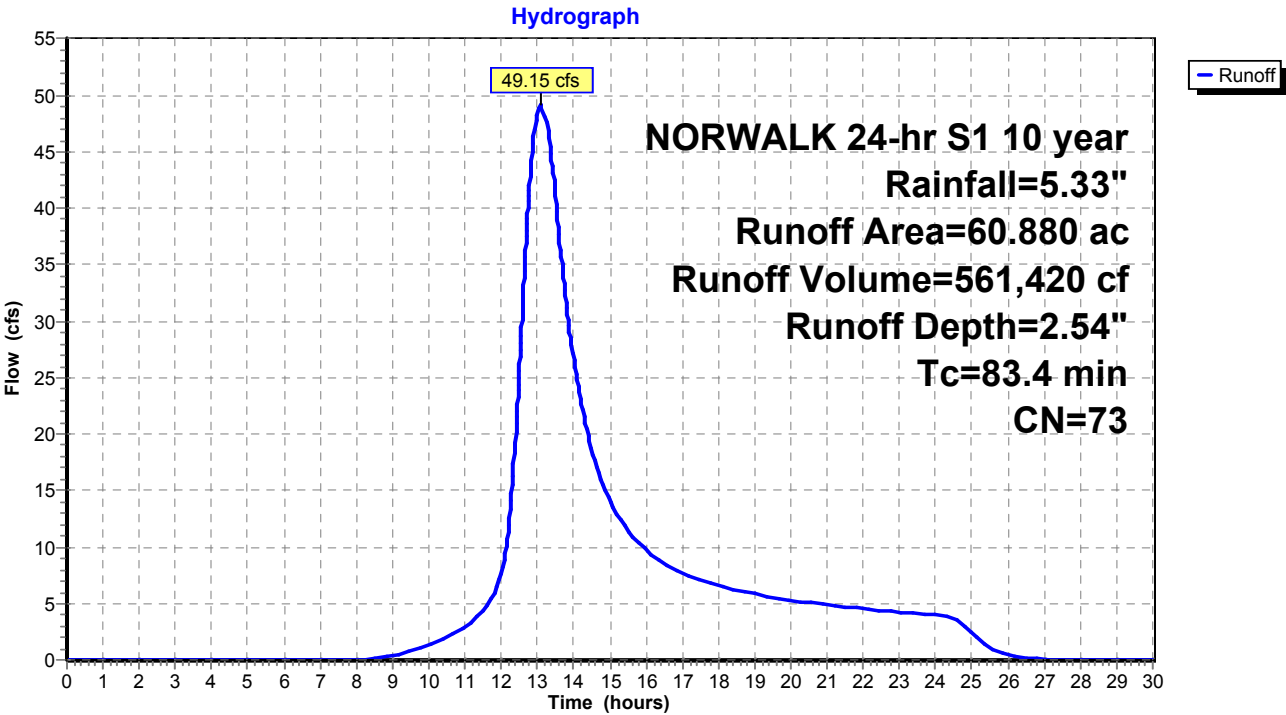
Runoff = 49.15 cfs @ 13.07 hrs, Volume= 561,420 cf, Depth= 2.54"
Routed to Pond 18P : DET 4 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
8.210	61	>75% Grass cover, Good, HSG B
0.140	74	>75% Grass cover, Good, HSG C
0.380	80	>75% Grass cover, Good, HSG D
25.920	70	1/2 acre lots, 25% imp, HSG B
22.630	80	1/2 acre lots, 25% imp, HSG C
3.600	85	1/2 acre lots, 25% imp, HSG D
60.880	73	Weighted Average
47.842		78.58% Pervious Area
13.037		21.42% Impervious Area

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

Subcatchment 4S: Area 4



Summary for Subcatchment 5S: Area 5

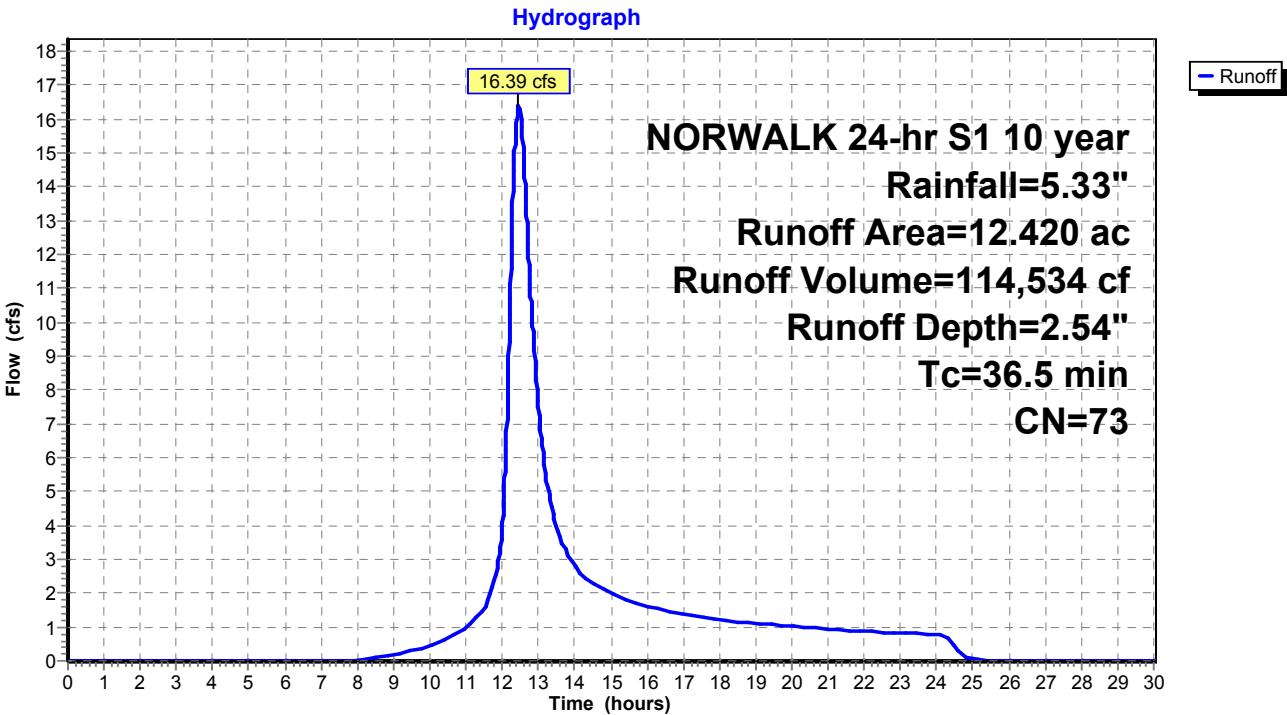
Runoff = 16.39 cfs @ 12.45 hrs, Volume= 114,534 cf, Depth= 2.54"
Routed to Pond 5P : DET 5 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
4.770	61	>75% Grass cover, Good, HSG B
5.210	74	>75% Grass cover, Good, HSG C
0.390	80	>75% Grass cover, Good, HSG D
2.050	98	Paved parking & roofs
12.420	73	Weighted Average
10.370		83.49% Pervious Area
2.050		16.51% Impervious Area

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

Subcatchment 5S: Area 5



Summary for Subcatchment 6S: Area 6

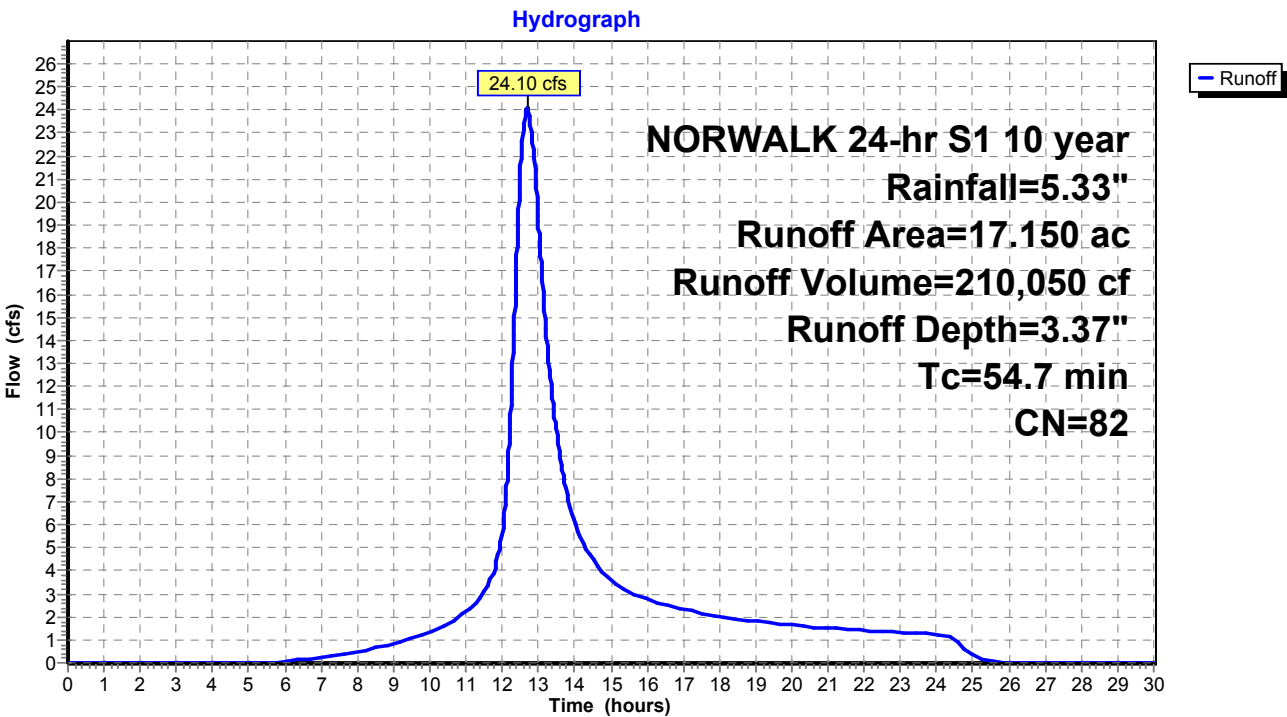
Runoff = 24.10 cfs @ 12.70 hrs, Volume= 210,050 cf, Depth= 3.37"
Routed to Pond 6P : DET 6 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
9.290	71	Meadow, non-grazed, HSG C
5.410	98	Paved parking & roofs
1.480	77	Woods, Good, HSG D
0.970	98	Paved parking & roofs
17.150	82	Weighted Average
10.770		62.80% Pervious Area
6.380		37.20% Impervious Area

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

Subcatchment 6S: Area 6



Summary for Subcatchment 7S: Area 7

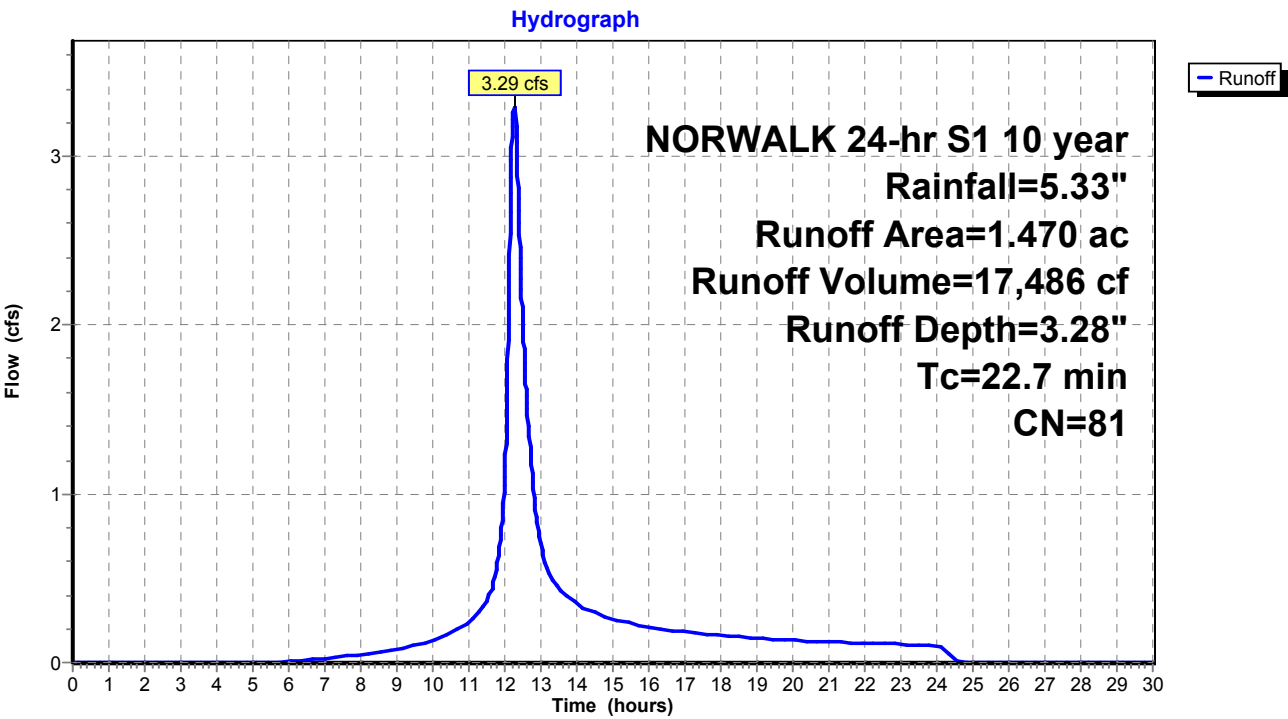
Runoff = 3.29 cfs @ 12.26 hrs, Volume= 17,486 cf, Depth= 3.28"
Routed to Pond 7P : DET 7 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.890	79	50-75% Grass cover, Fair, HSG C
0.580	84	50-75% Grass cover, Fair, HSG D
1.470	81	Weighted Average
1.470		100.00% Pervious Area

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

Subcatchment 7S: Area 7



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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 8S: Area 8

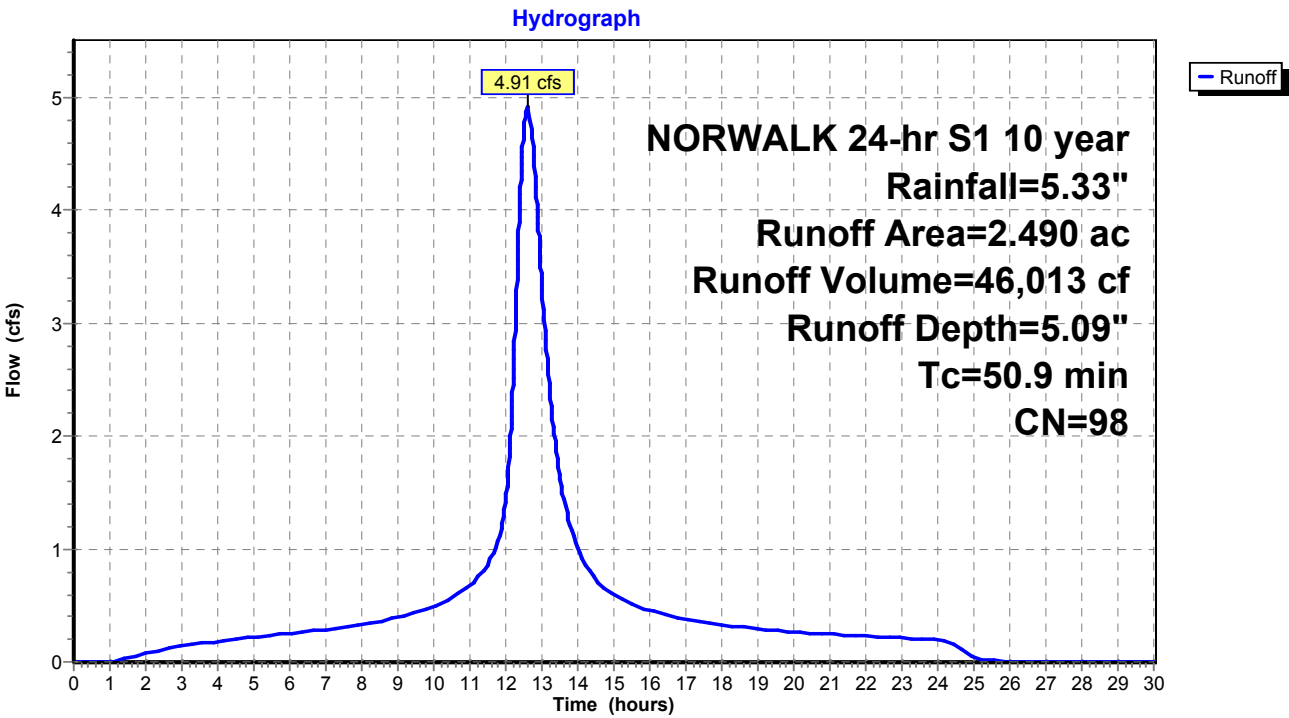
Runoff = 4.91 cfs @ 12.61 hrs, Volume= 46,013 cf, Depth= 5.09"
Routed to Pond 8P : Comb. 5,6,7,8,9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
2.490	98	Paved parking & roofs
2.490		100.00% Impervious Area

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

Subcatchment 8S: Area 8



Summary for Subcatchment 9S: Area 9

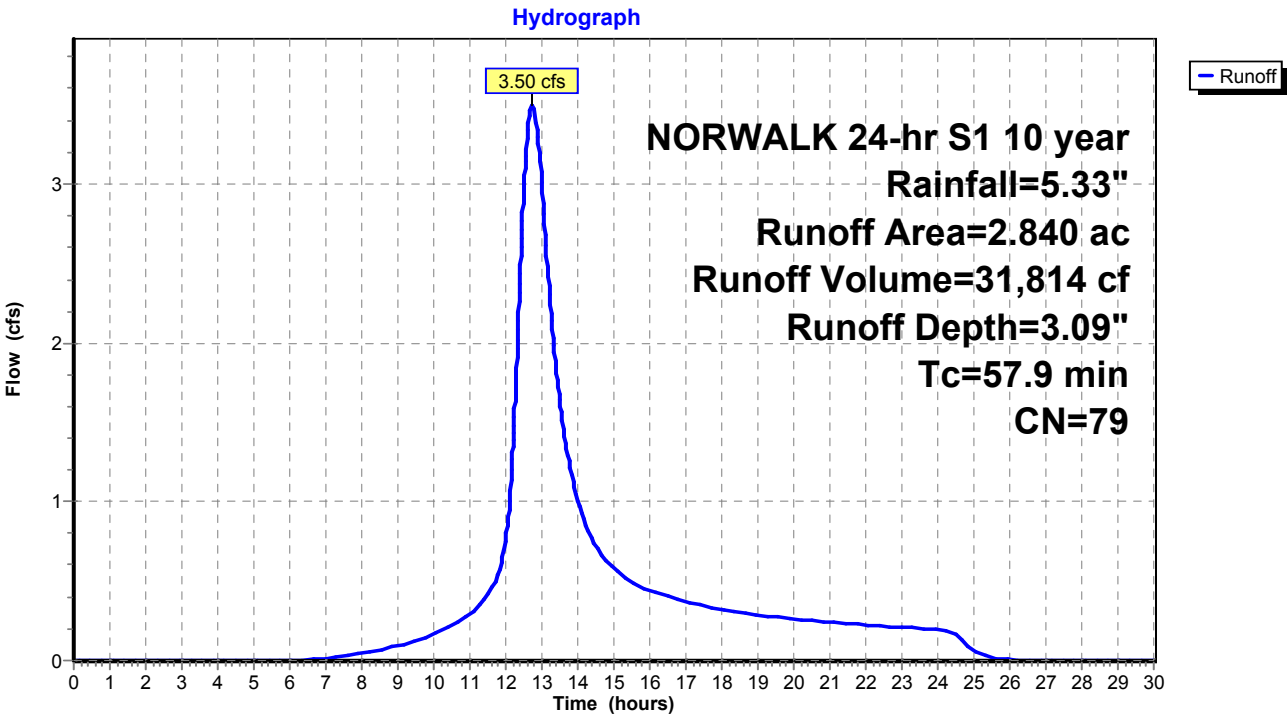
Runoff = 3.50 cfs @ 12.74 hrs, Volume= 31,814 cf, Depth= 3.09"
Routed to Pond 8P : Comb. 5,6,7,8,9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.530	74	>75% Grass cover, Good, HSG C
2.310	80	>75% Grass cover, Good, HSG D
2.840	79	Weighted Average
2.840		100.00% Pervious Area

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

Subcatchment 9S: Area 9



Summary for Subcatchment 10AS: Area 10A

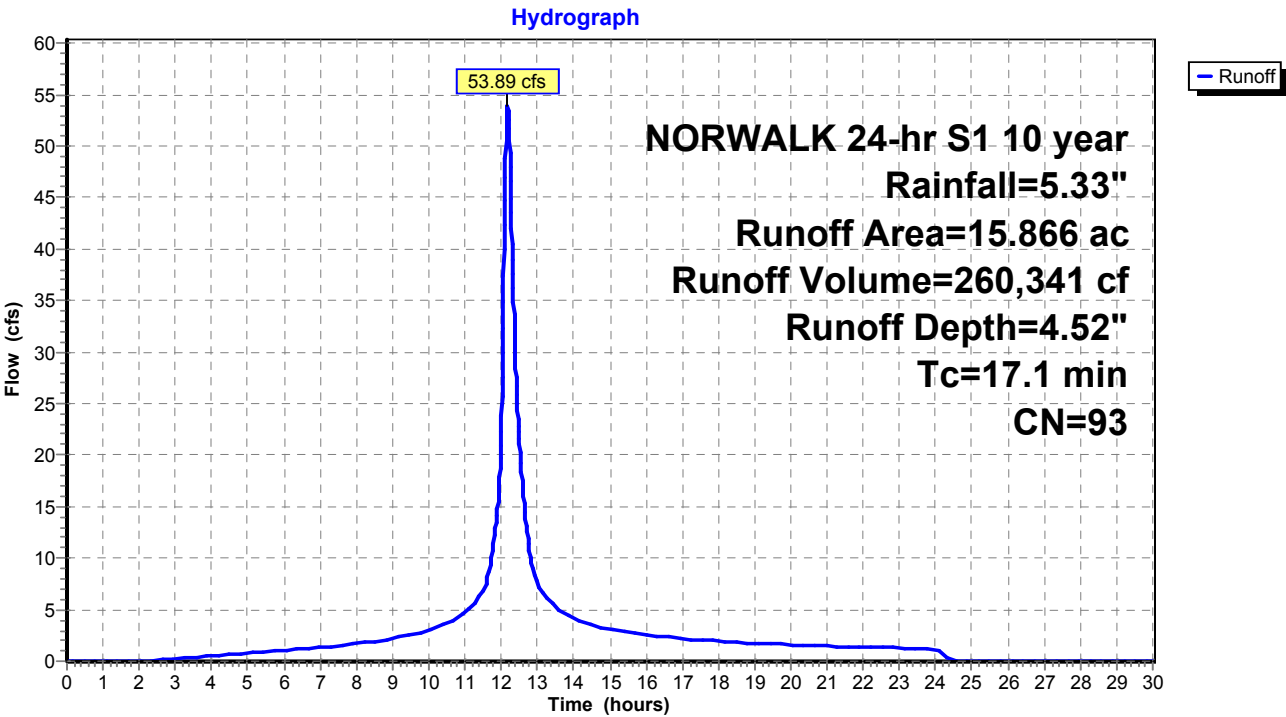
Runoff = 53.89 cfs @ 12.18 hrs, Volume= 260,341 cf, Depth= 4.52"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
3.905	79	50-75% Grass cover, Fair, HSG C
11.961	98	Paved roads w/curbs & sewers, HSG C
15.866	93	Weighted Average
3.905		24.61% Pervious Area
11.961		75.39% Impervious Area

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

Subcatchment 10AS: Area 10A



Summary for Subcatchment 10BS: Area 10B

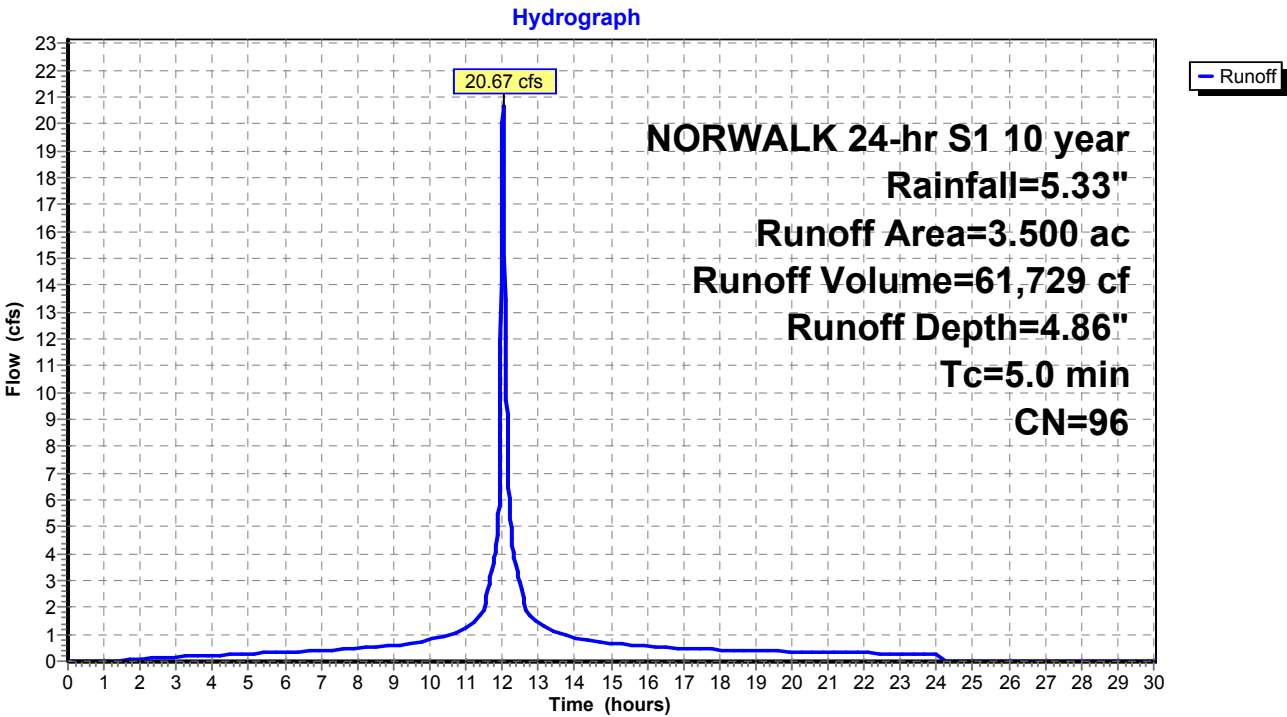
Runoff = 20.67 cfs @ 12.03 hrs, Volume= 61,729 cf, Depth= 4.86"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
3.308	98	Paved parking & roofs
0.192	61	>75% Grass cover, Good, HSG B
3.500	96	Weighted Average
0.192		5.49% Pervious Area
3.308		94.51% Impervious Area

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

Subcatchment 10BS: Area 10B



Summary for Subcatchment 10CS: Area 10C

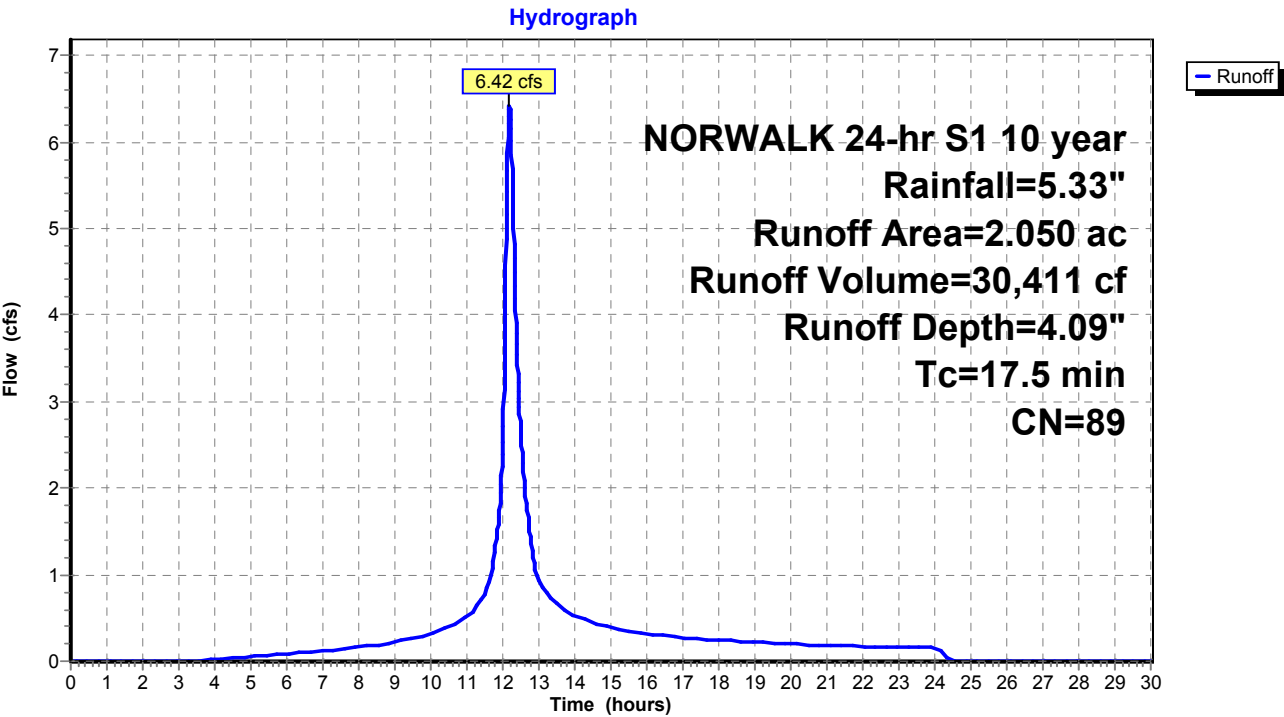
Runoff = 6.42 cfs @ 12.19 hrs, Volume= 30,411 cf, Depth= 4.09"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
1.526	98	Paved parking & roofs
0.524	61	>75% Grass cover, Good, HSG B
2.050	89	Weighted Average
0.524		25.56% Pervious Area
1.526		74.44% Impervious Area

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

Subcatchment 10CS: Area 10C



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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 10DS: Area 10D

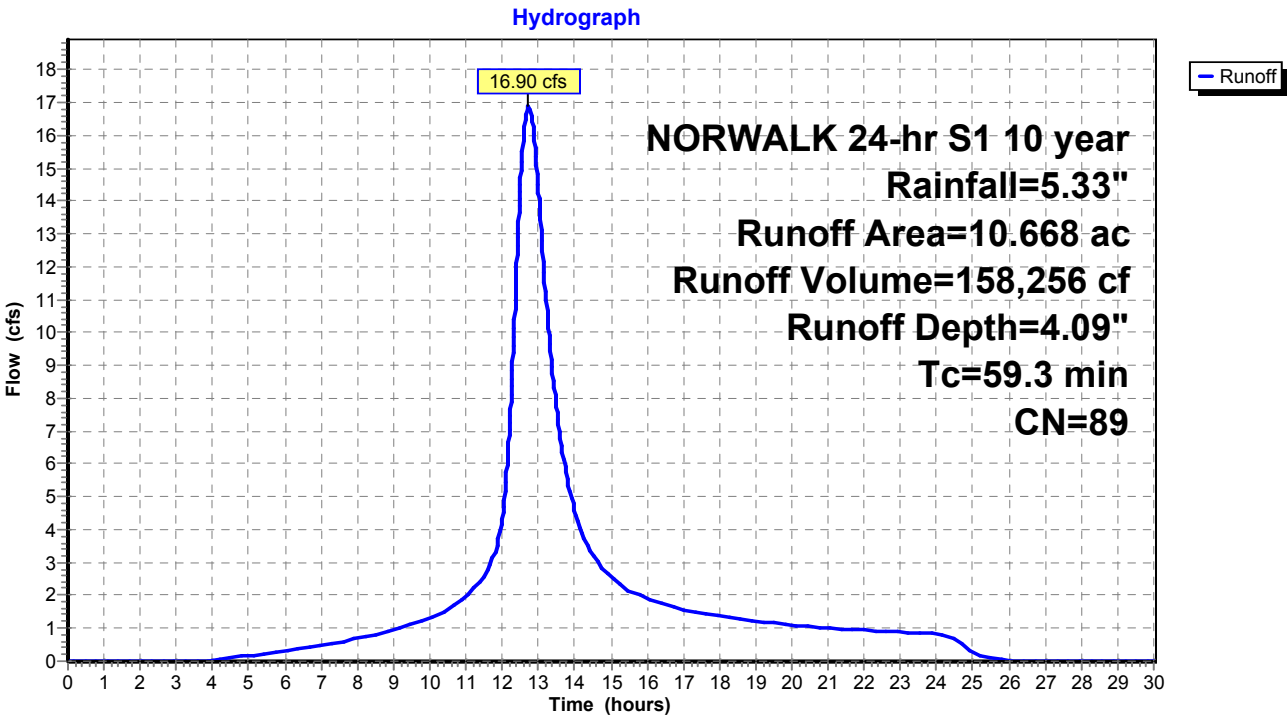
Runoff = 16.90 cfs @ 12.72 hrs, Volume= 158,256 cf, Depth= 4.09"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
5.033	79	50-75% Grass cover, Fair, HSG C
5.635	98	Paved parking, HSG C
10.668	89	Weighted Average
5.033		47.18% Pervious Area
5.635		52.82% Impervious Area

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

Subcatchment 10DS: Area 10D



Summary for Subcatchment 10ES: Area 10E

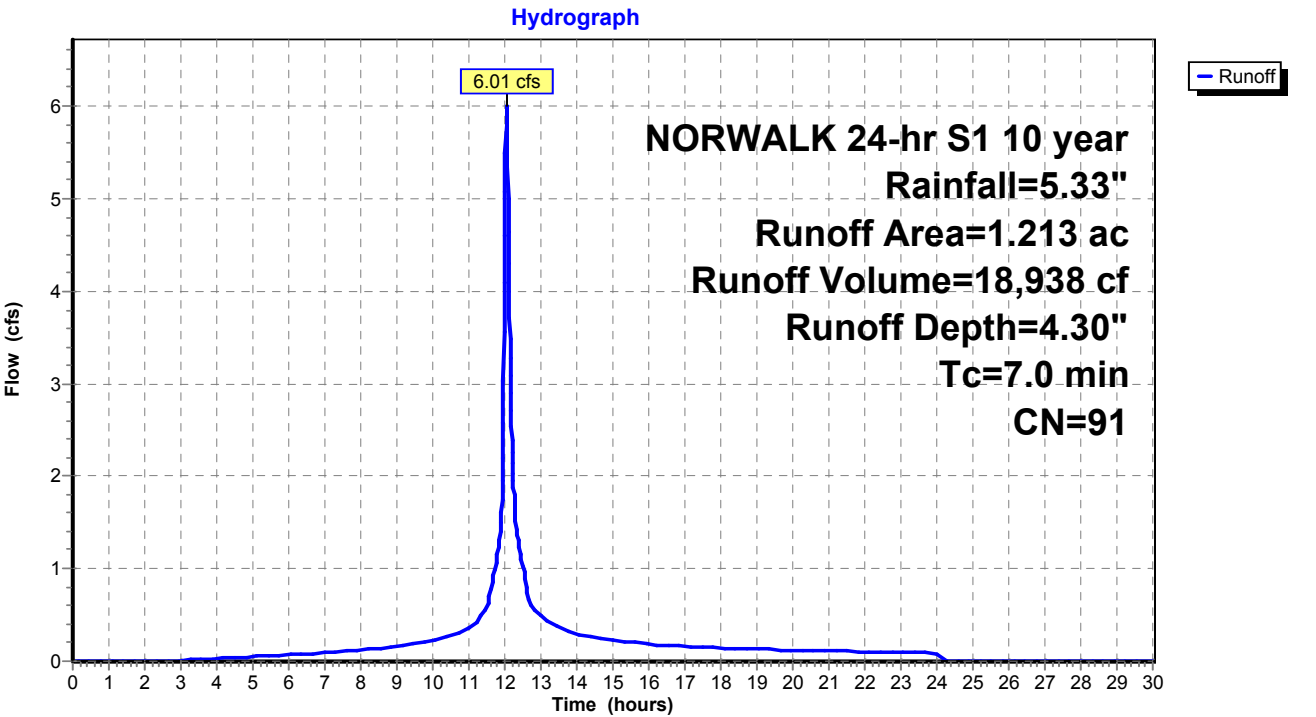
Runoff = 6.01 cfs @ 12.05 hrs, Volume= 18,938 cf, Depth= 4.30"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.781	98	Paved parking, HSG C
0.432	79	50-75% Grass cover, Fair, HSG C
1.213	91	Weighted Average
0.432		35.61% Pervious Area
0.781		64.39% Impervious Area

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

Subcatchment 10ES: Area 10E



Summary for Subcatchment 10FS: Area 10F

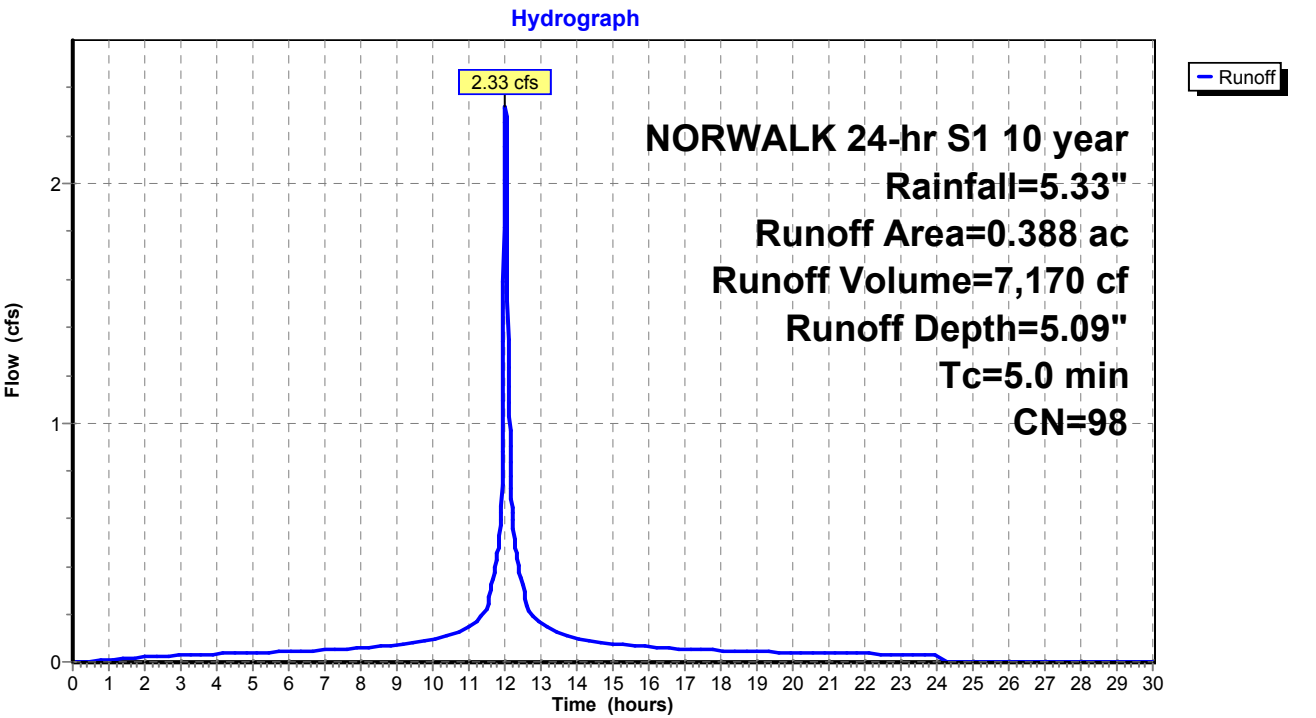
Runoff = 2.33 cfs @ 12.03 hrs, Volume= 7,170 cf, Depth= 5.09"
Routed to Pond P : ADS Stormtech

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.388	98	Paved roads w/curbs & sewers, HSG C
0.388		100.00% Impervious Area

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

Subcatchment 10FS: Area 10F



Summary for Subcatchment 10GS: Area 10G

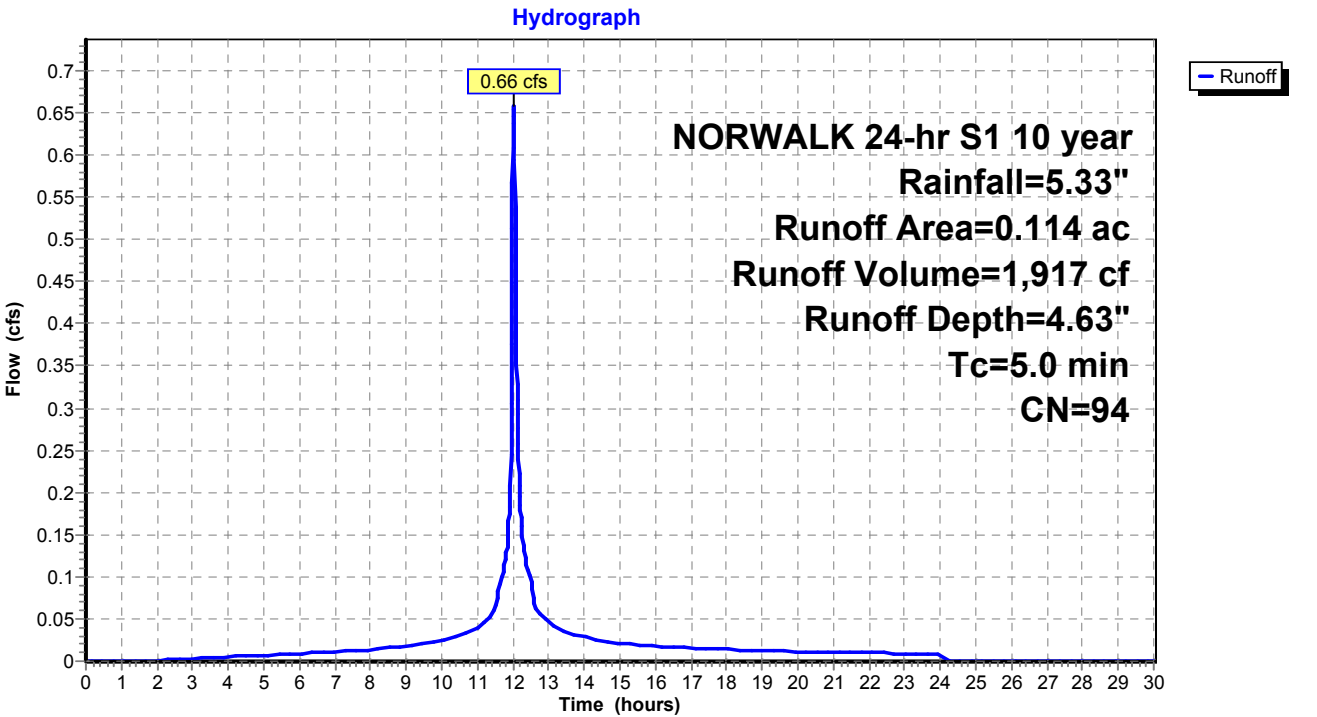
Runoff = 0.66 cfs @ 12.03 hrs, Volume= 1,917 cf, Depth= 4.63"
Routed to Pond 20P : ADS Stormtech (160LP)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
* 0.092	98	Paved parking, HSG C
* 0.022	79	50-75% Grass cover, Fair, HSG C
0.114	94	Weighted Average
0.022		19.30% Pervious Area
0.092		80.70% Impervious Area

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

Subcatchment 10GS: Area 10G



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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 11S: Area 11

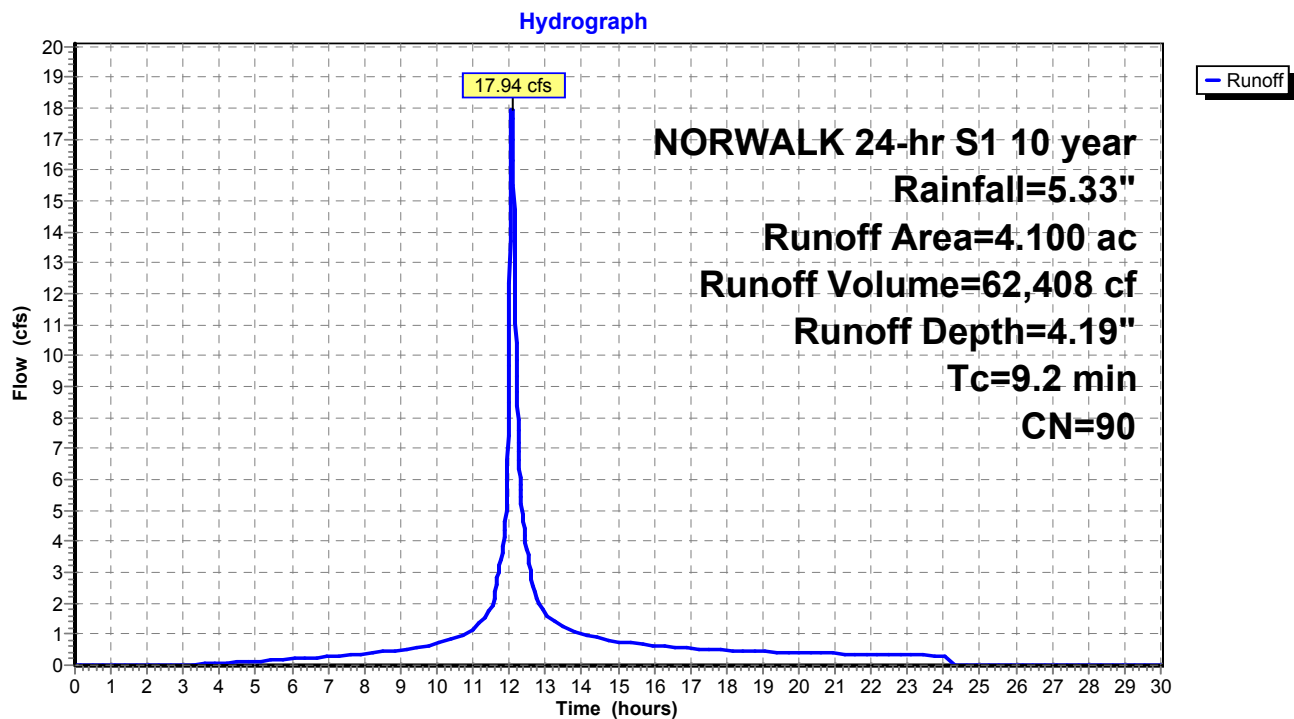
Runoff = 17.94 cfs @ 12.07 hrs, Volume= 62,408 cf, Depth= 4.19"
Routed to Pond 17P : DET 12 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
1.450	74	>75% Grass cover, Good, HSG C
2.650	98	Paved parking & roofs
4.100	90	Weighted Average
1.450		35.37% Pervious Area
2.650		64.63% Impervious Area

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

Subcatchment 11S: Area 11



Summary for Subcatchment 12S: Area 12

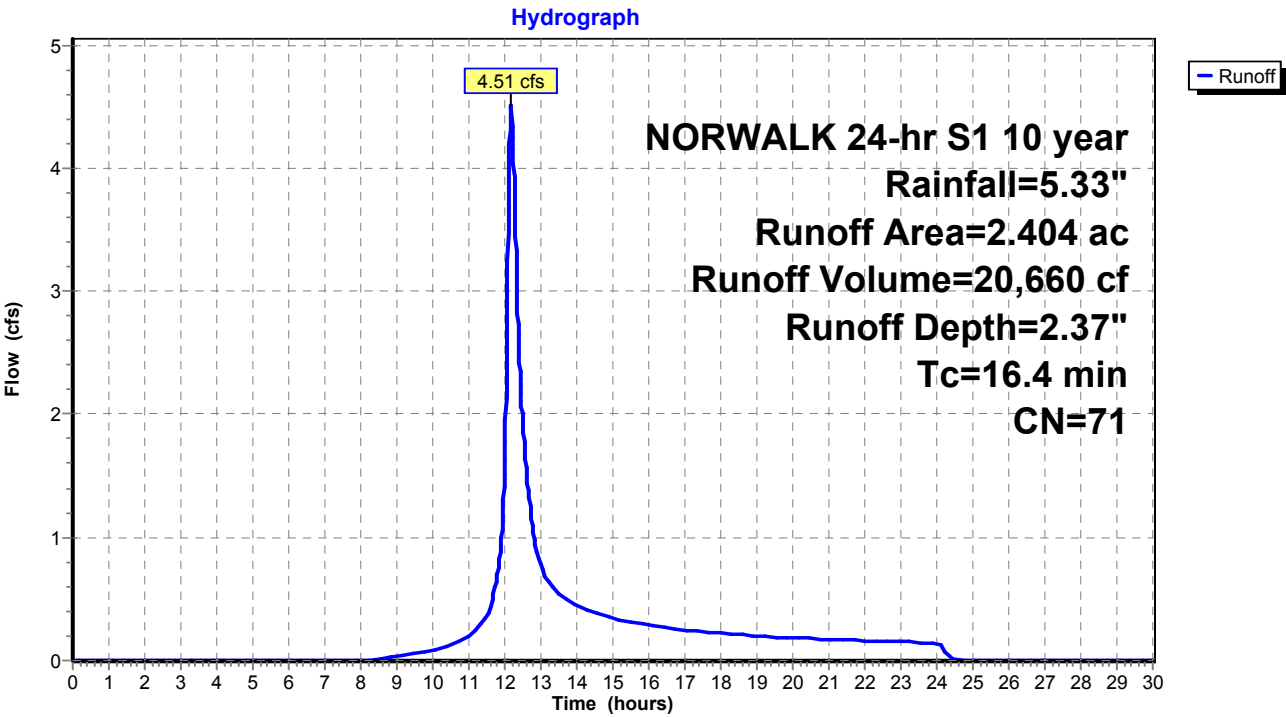
Runoff = 4.51 cfs @ 12.18 hrs, Volume= 20,660 cf, Depth= 2.37"
Routed to Pond 17P : DET 12 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
2.054	70	Woods, Good, HSG C
0.350	77	Woods, Good, HSG D
2.404	71	Weighted Average
2.404		100.00% Pervious Area

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

Subcatchment 12S: Area 12



Summary for Subcatchment 13S: Area 13

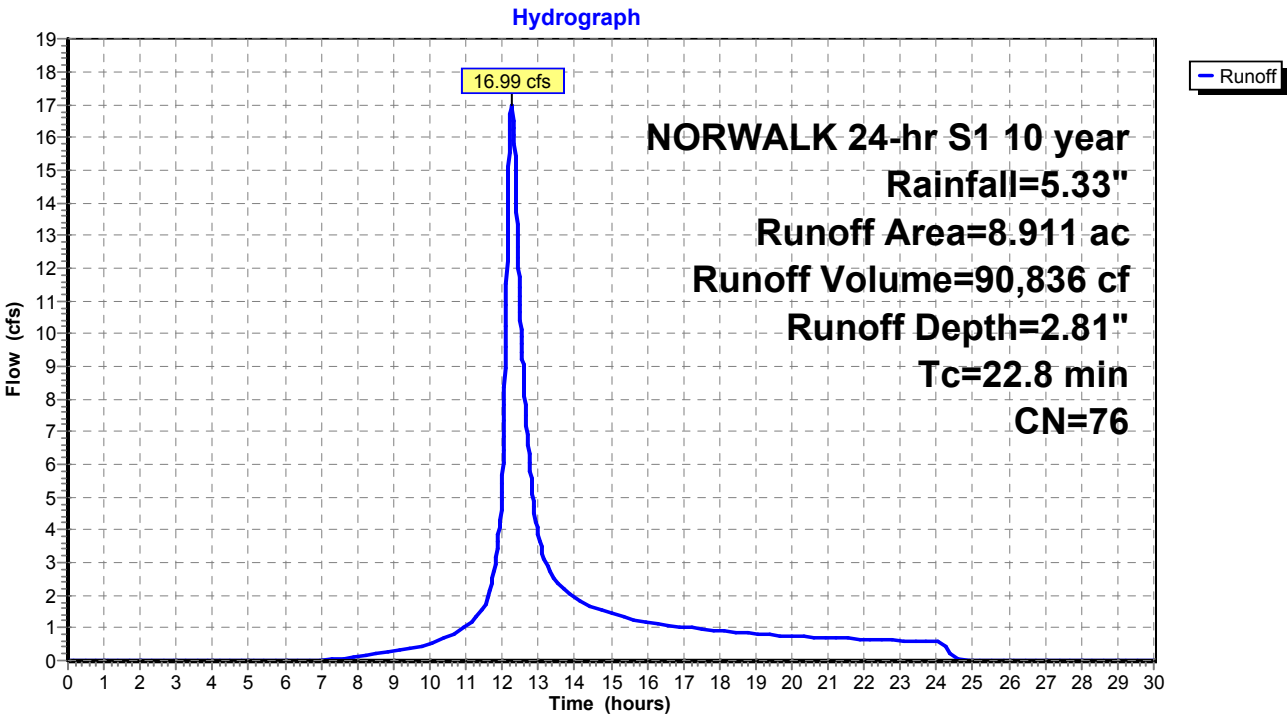
Runoff = 16.99 cfs @ 12.26 hrs, Volume= 90,836 cf, Depth= 2.81"
Routed to Pond 1P : RR Culvert 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
1.220	70	Woods, Good, HSG C
7.691	77	Woods, Good, HSG D
8.911	76	Weighted Average
8.911		100.00% Pervious Area

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

Subcatchment 13S: Area 13



Summary for Subcatchment 14S: Area 14

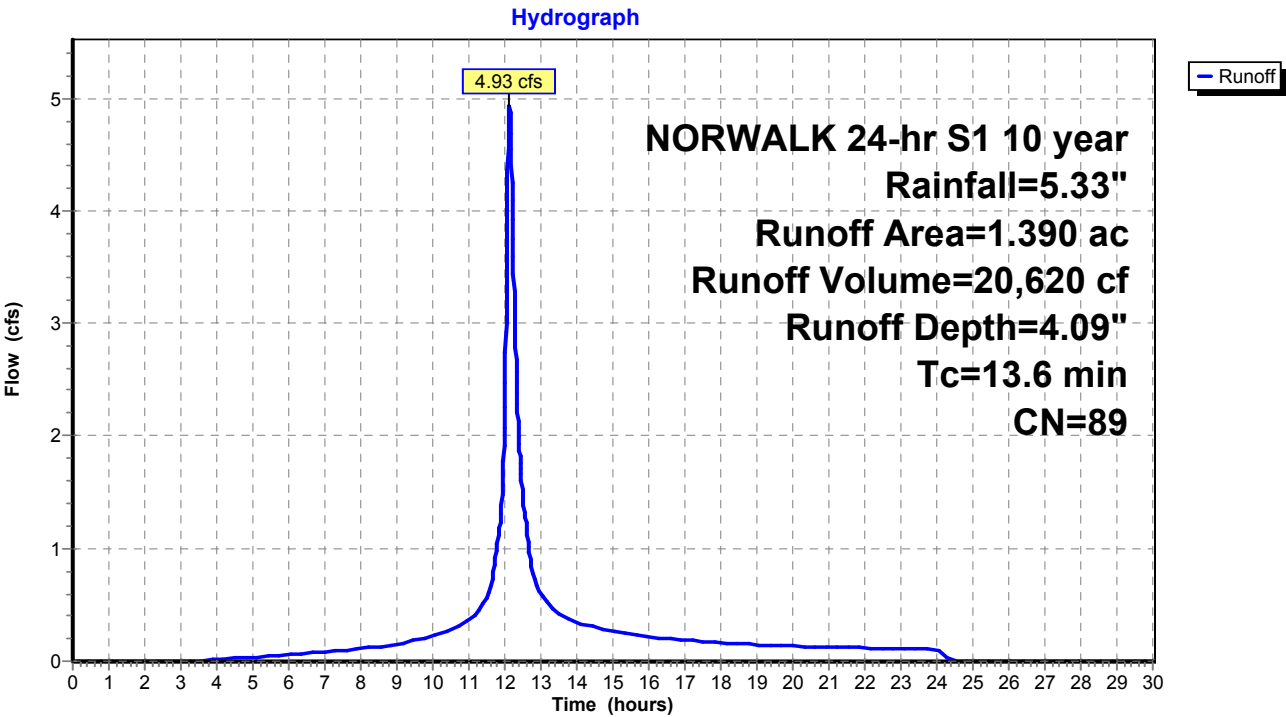
Runoff = 4.93 cfs @ 12.13 hrs, Volume= 20,620 cf, Depth= 4.09"
Routed to Pond 26P : DET 16 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.510	74	>75% Grass cover, Good, HSG C
0.880	98	Paved parking & roofs
1.390	89	Weighted Average
0.510		36.69% Pervious Area
0.880		63.31% Impervious Area

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

Subcatchment 14S: Area 14



Summary for Subcatchment 15S: Area 15

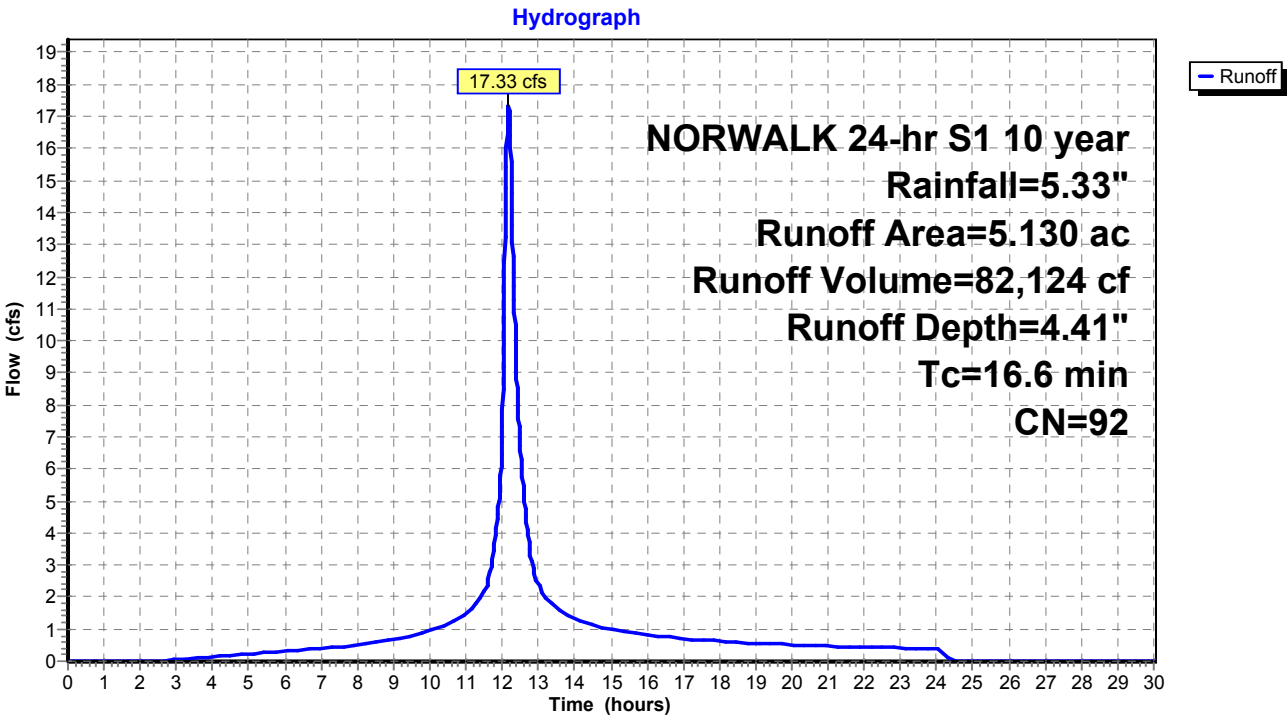
Runoff = 17.33 cfs @ 12.17 hrs, Volume= 82,124 cf, Depth= 4.41"
Routed to Pond 27P : DET 17 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
1.250	74	>75% Grass cover, Good, HSG C
3.880	98	Paved parking & roofs
5.130	92	Weighted Average
1.250		24.37% Pervious Area
3.880		75.63% Impervious Area

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

Subcatchment 15S: Area 15



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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 16S: Area 16A

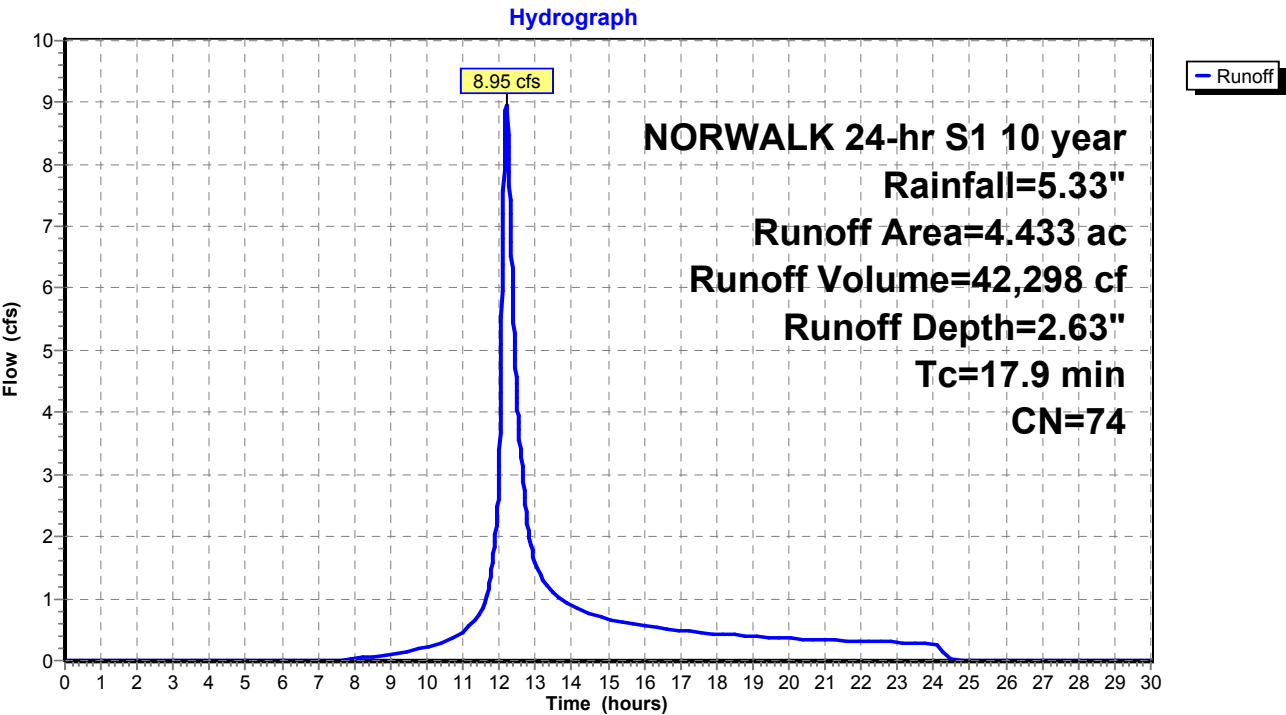
Runoff = 8.95 cfs @ 12.20 hrs, Volume= 42,298 cf, Depth= 2.63"
Routed to Pond 26P : DET 16 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
2.030	70	Woods, Good, HSG C
2.060	77	Woods, Good, HSG D
0.150	89	Gravel roads, HSG C
0.193	74	>75% Grass cover, Good, HSG C
4.433	74	Weighted Average
4.433		100.00% Pervious Area

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

Subcatchment 16S: Area 16A



Summary for Subcatchment 17S: Area 17

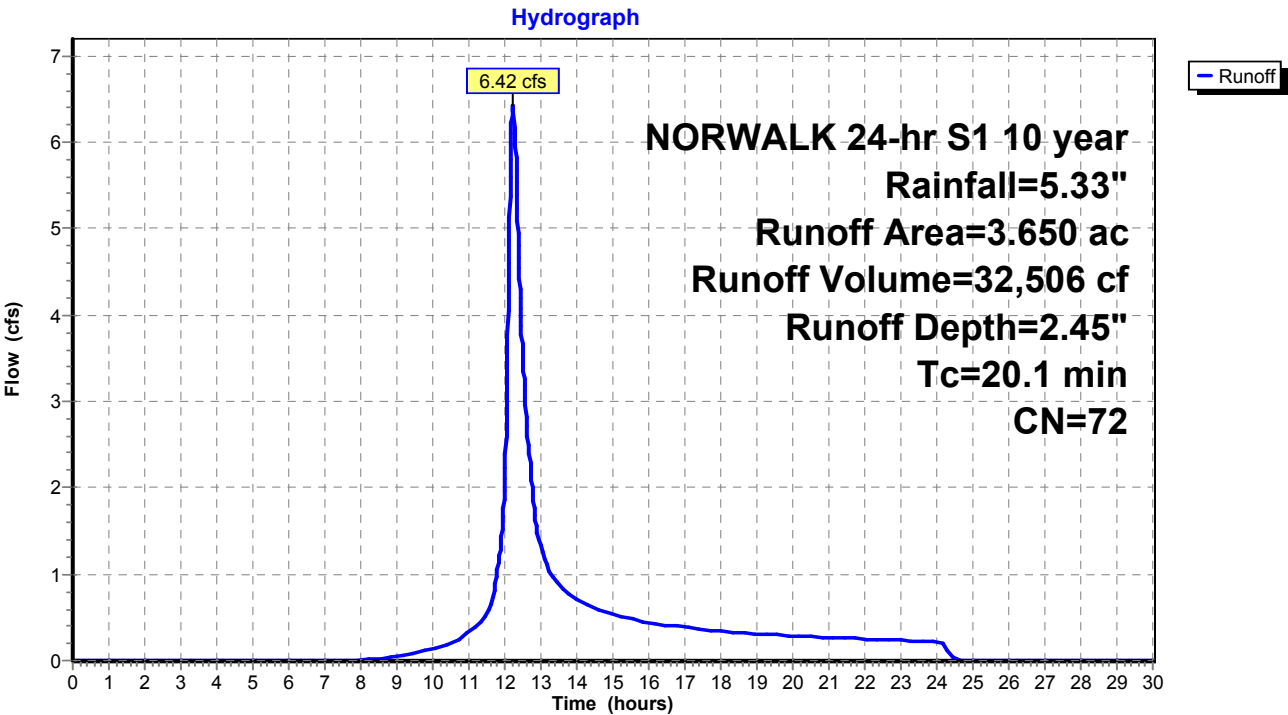
Runoff = 6.42 cfs @ 12.22 hrs, Volume= 32,506 cf, Depth= 2.45"
Routed to Pond 27P : DET 17 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
2.630	70	Woods, Good, HSG C
0.960	77	Woods, Good, HSG D
0.060	98	Paved parking & roofs
3.650	72	Weighted Average
3.590		98.36% Pervious Area
0.060		1.64% Impervious Area

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

Subcatchment 17S: Area 17



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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 20S: Area 20

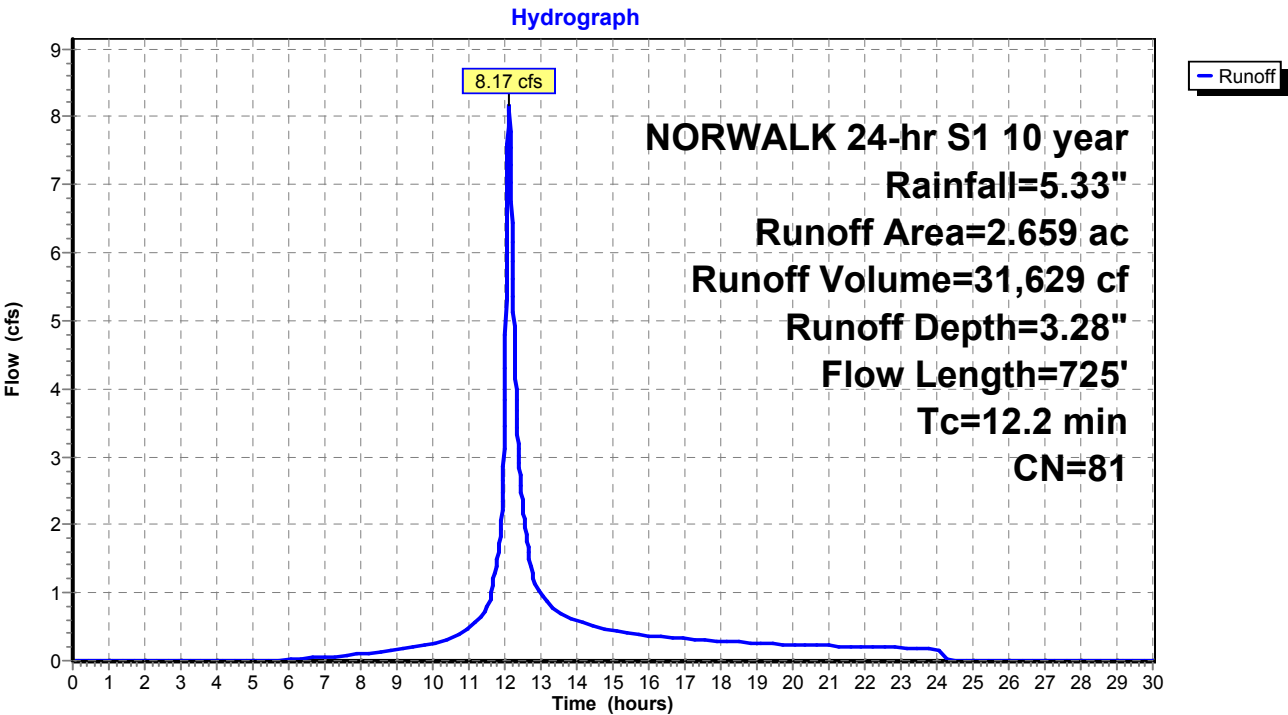
Runoff = 8.17 cfs @ 12.12 hrs, Volume= 31,629 cf, Depth= 3.28"
Routed to Pond 16P : MH-Q

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
1.030	98	Paved parking & roofs
1.629	70	Woods, Good, HSG C
2.659	81	Weighted Average
1.629		61.26% Pervious Area
1.030		38.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	125	0.2400	0.19		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.40"
1.2	600	0.0200	8.41	14.86	Pipe Channel, 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
12.2	725	Total			

Subcatchment 20S: Area 20



Summary for Subcatchment 21S: Area 21

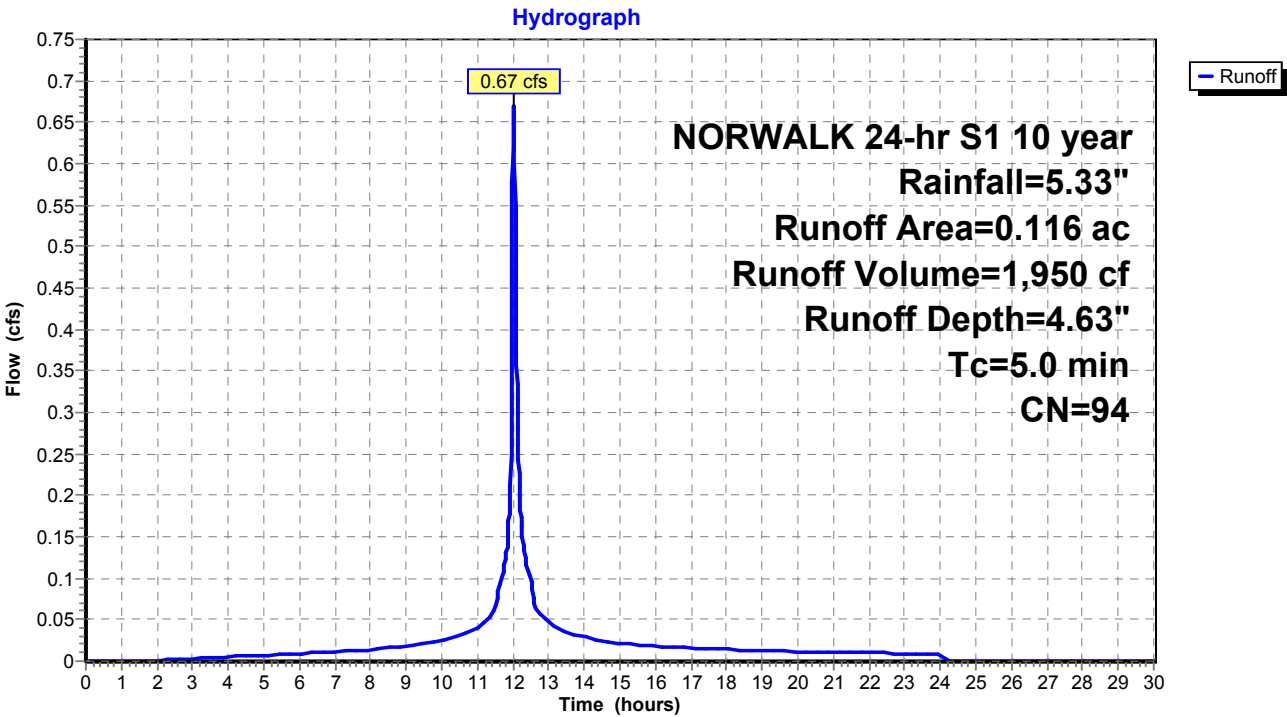
Runoff = 0.67 cfs @ 12.03 hrs, Volume= 1,950 cf, Depth= 4.63"
Routed to Pond 15P : MH-P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.020	74	>75% Grass cover, Good, HSG C
0.096	98	Paved parking & roofs
0.116	94	Weighted Average
0.020		17.24% Pervious Area
0.096		82.76% Impervious Area

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

Subcatchment 21S: Area 21



Summary for Subcatchment 22S: Area 22

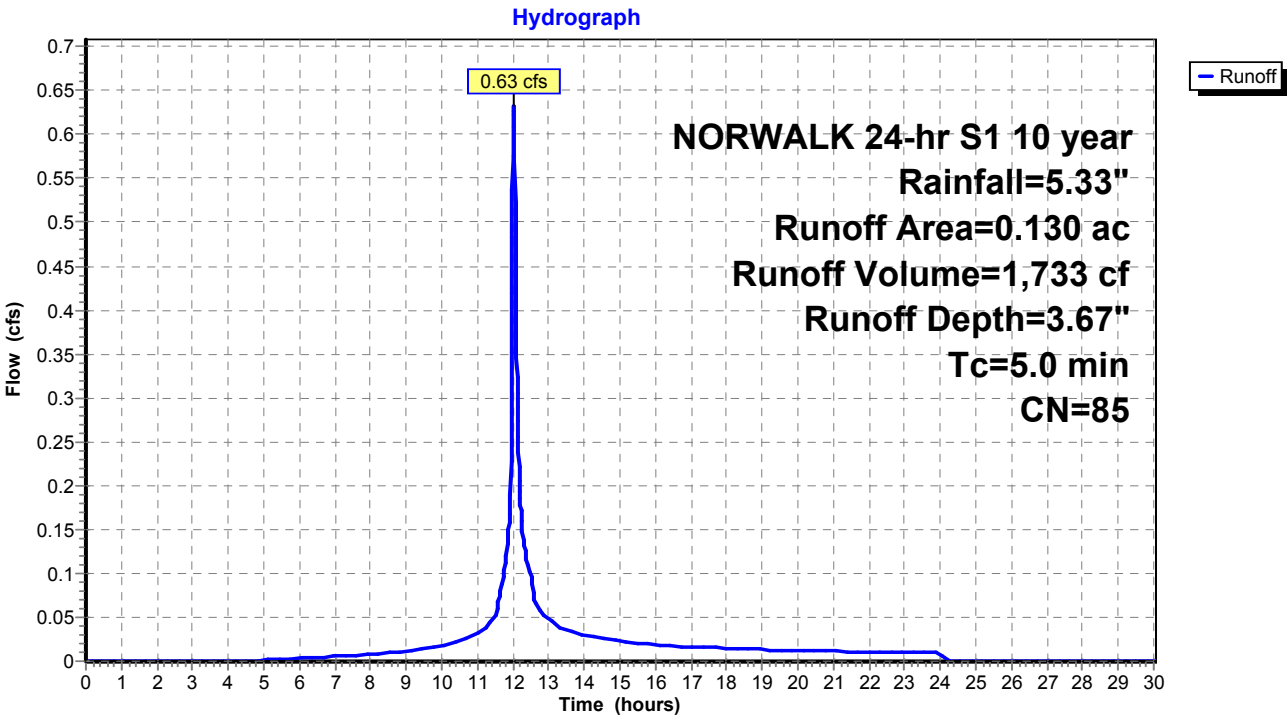
Runoff = 0.63 cfs @ 12.03 hrs, Volume= 1,733 cf, Depth= 3.67"
Routed to Pond 15P : MH-P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.068	74	>75% Grass cover, Good, HSG C
0.062	98	Paved parking & roofs
0.130	85	Weighted Average
0.068		52.31% Pervious Area
0.062		47.69% Impervious Area

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

Subcatchment 22S: Area 22



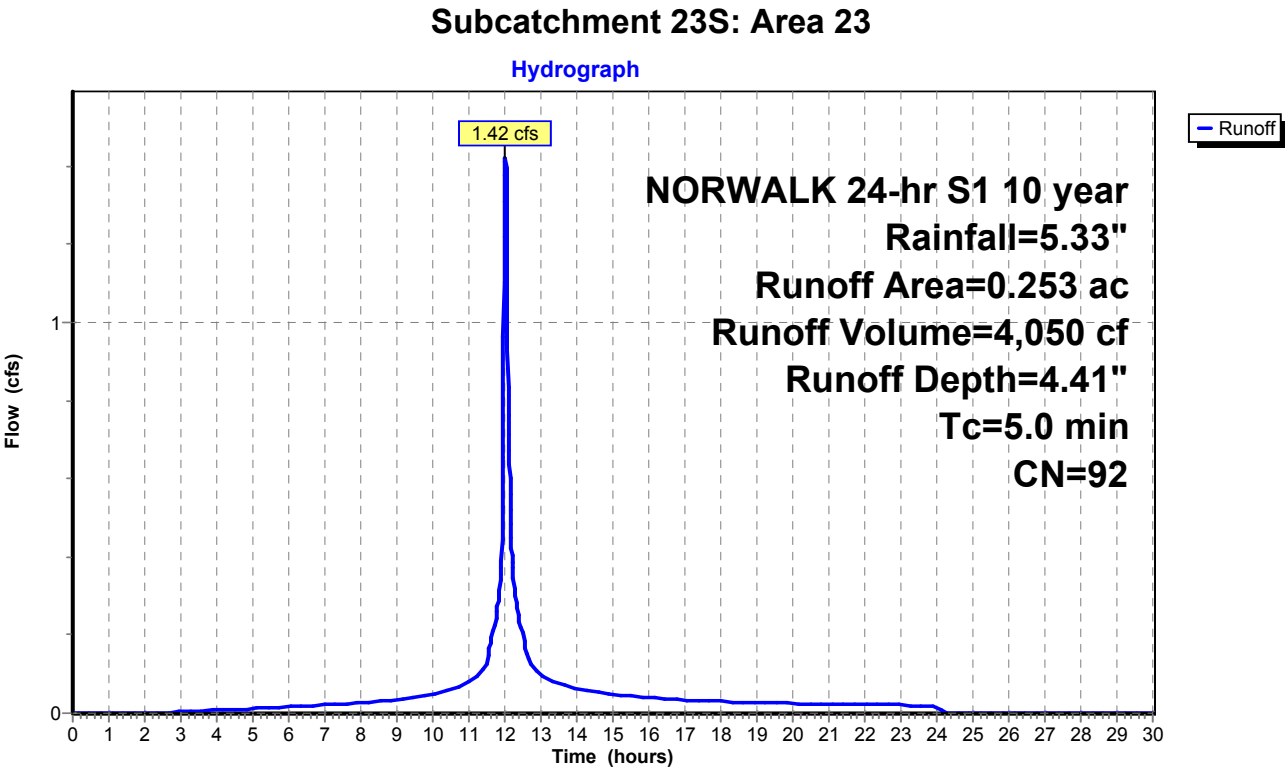
Summary for Subcatchment 23S: Area 23

Runoff = 1.42 cfs @ 12.03 hrs, Volume= 4,050 cf, Depth= 4.41"
Routed to Pond 14P : MH-O

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.188	98	Paved parking & roofs
0.065	74	>75% Grass cover, Good, HSG C
0.253	92	Weighted Average
0.065		25.69% Pervious Area
0.188		74.31% Impervious Area

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



Summary for Subcatchment 24S: Area 24

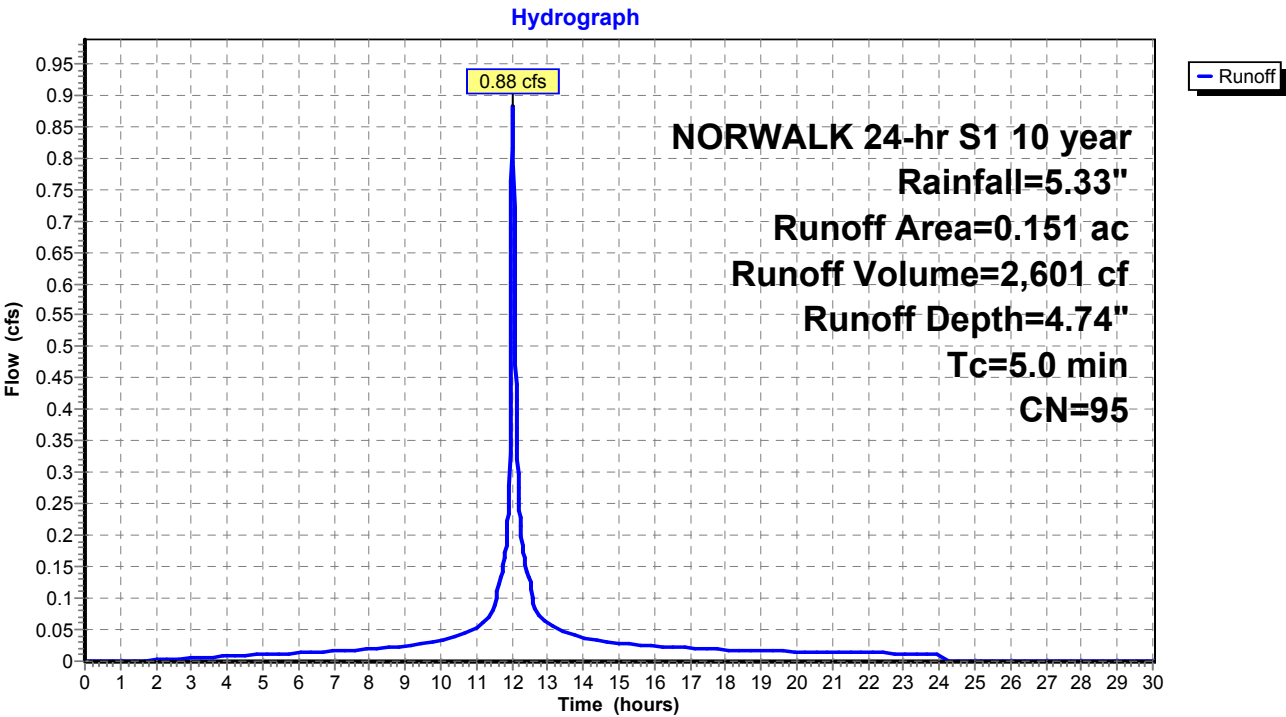
Runoff = 0.88 cfs @ 12.03 hrs, Volume= 2,601 cf, Depth= 4.74"
Routed to Pond 14P : MH-O

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.125	98	Paved parking & roofs
0.026	80	>75% Grass cover, Good, HSG D
0.151	95	Weighted Average
0.026		17.22% Pervious Area
0.125		82.78% Impervious Area

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

Subcatchment 24S: Area 24



Summary for Subcatchment 25S: Area 25

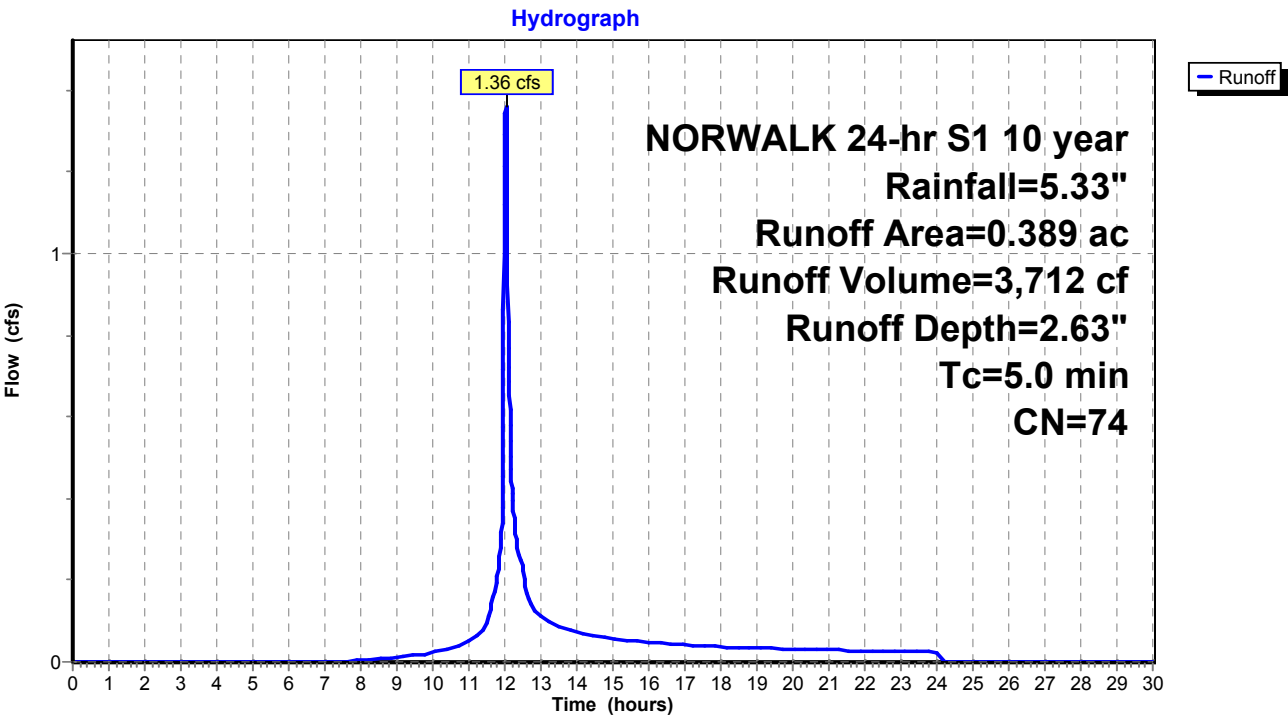
Runoff = 1.36 cfs @ 12.03 hrs, Volume= 3,712 cf, Depth= 2.63"
Routed to Pond 3P : DETENTION BASIN #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.389	74	>75% Grass cover, Good, HSG C
0.389		100.00% Pervious Area

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

Subcatchment 25S: Area 25



Summary for Subcatchment 26S: Area 26

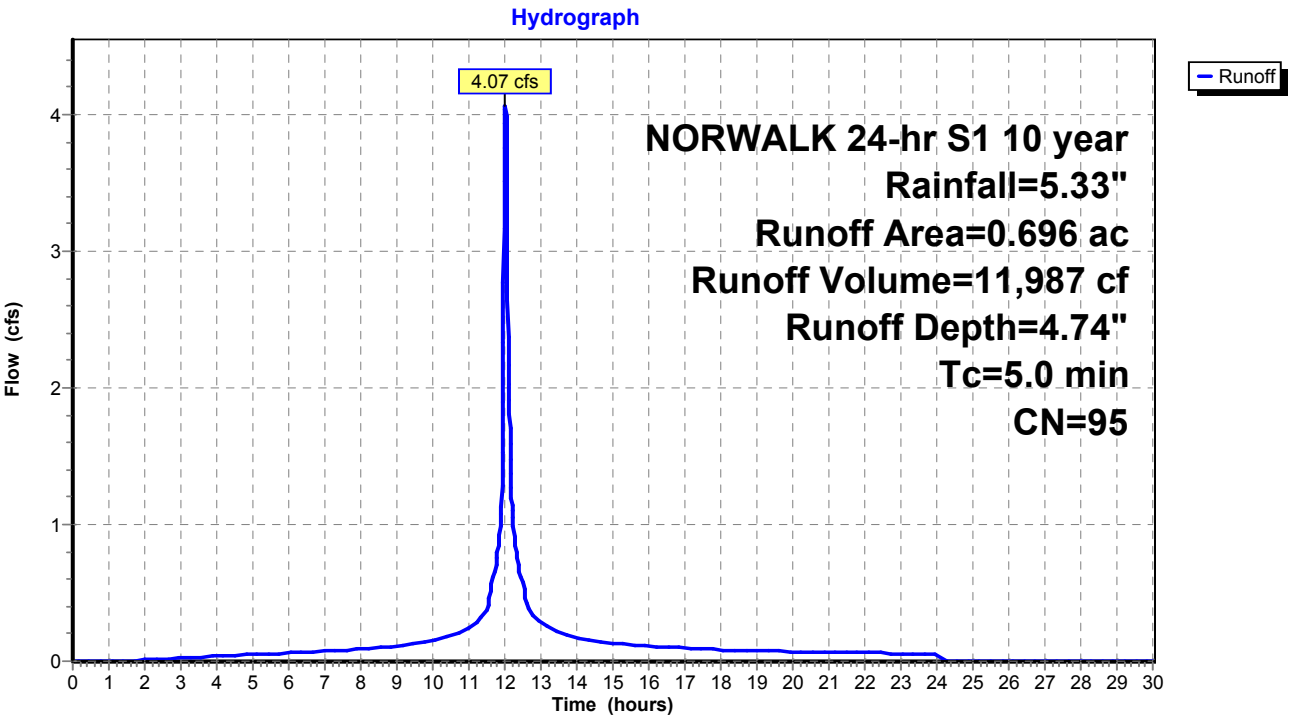
Runoff = 4.07 cfs @ 12.03 hrs, Volume= 11,987 cf, Depth= 4.74"
Routed to Pond 9P : MH-K

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.612	98	Paved parking & roofs
0.084	74	>75% Grass cover, Good, HSG C
0.696	95	Weighted Average
0.084		12.07% Pervious Area
0.612		87.93% Impervious Area

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

Subcatchment 26S: Area 26



Summary for Subcatchment 27S: Area 27

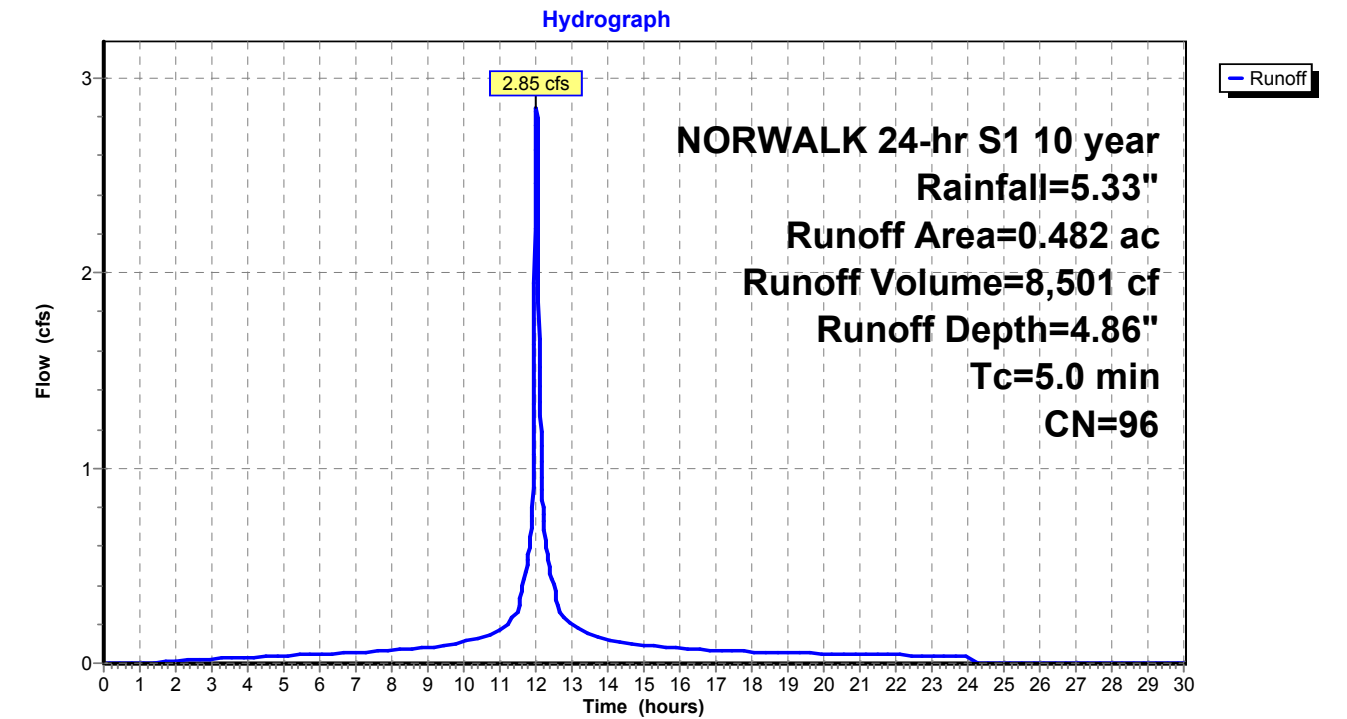
Runoff = 2.85 cfs @ 12.03 hrs, Volume= 8,501 cf, Depth= 4.86"
Routed to Pond 11P : Pipe Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.436	98	Paved parking & roofs
0.046	74	>75% Grass cover, Good, HSG C
0.482	96	Weighted Average
0.046		9.54% Pervious Area
0.436		90.46% Impervious Area

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

Subcatchment 27S: Area 27



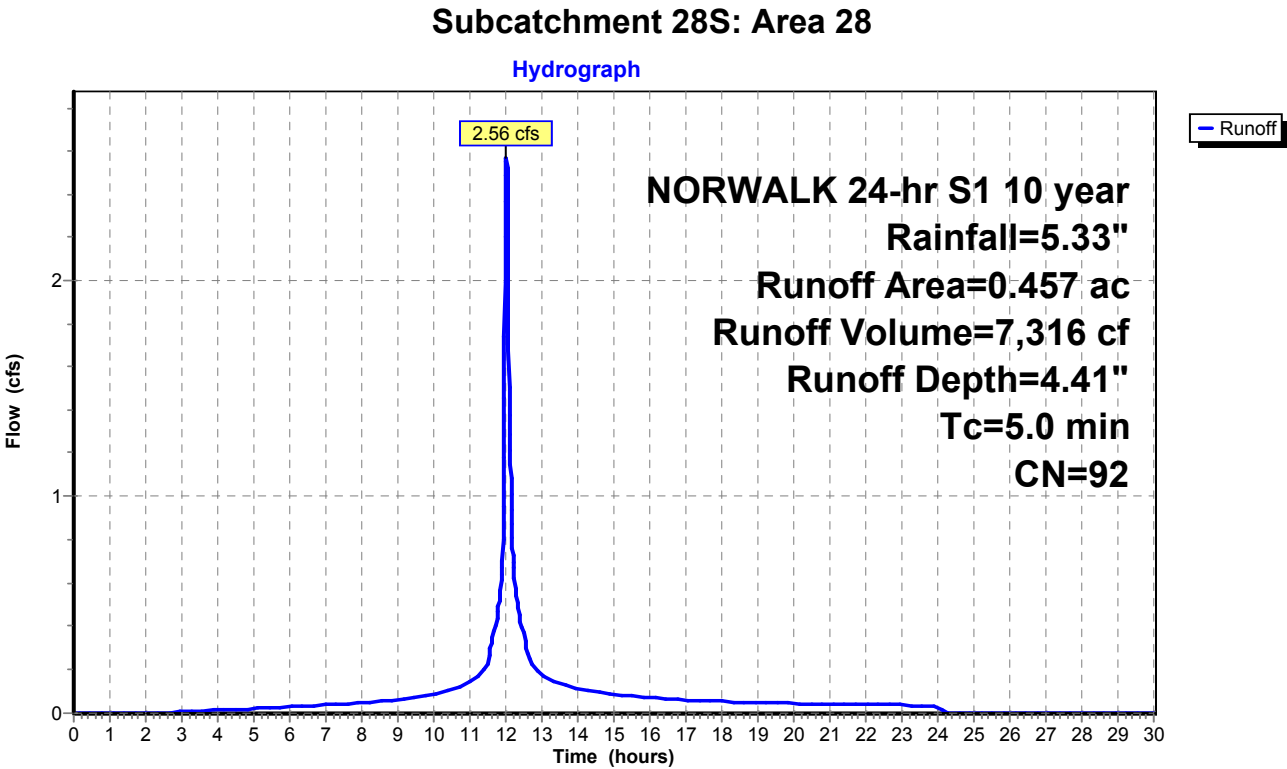
Summary for Subcatchment 28S: Area 28

Runoff = 2.56 cfs @ 12.03 hrs, Volume= 7,316 cf, Depth= 4.41"
Routed to Pond 11P : Pipe Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.342	98	Paved parking & roofs
0.115	74	>75% Grass cover, Good, HSG C
0.457	92	Weighted Average
0.115		25.16% Pervious Area
0.342		74.84% Impervious Area

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



Summary for Subcatchment 29S: Area 29

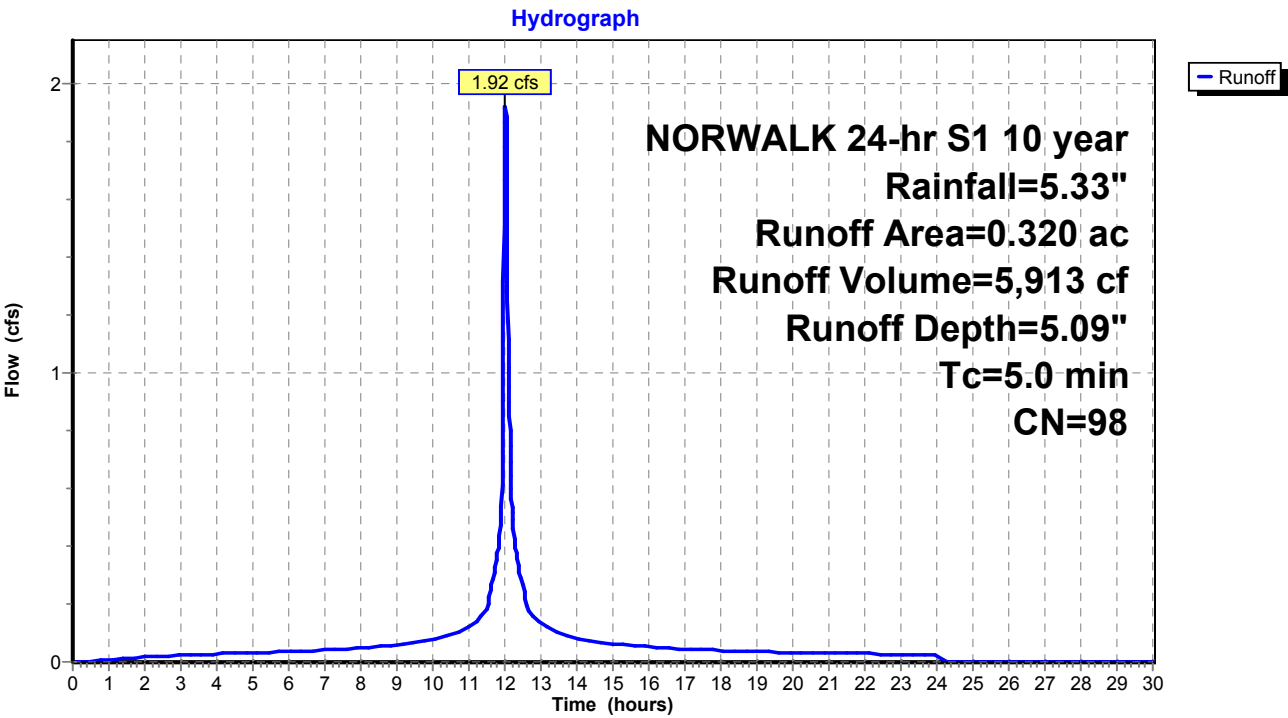
Runoff = 1.92 cfs @ 12.03 hrs, Volume= 5,913 cf, Depth= 5.09"
Routed to Pond 12P : MH-M

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.320	98	Paved parking & roofs
0.320		100.00% Impervious Area

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

Subcatchment 29S: Area 29



Summary for Subcatchment 30S: Area 30

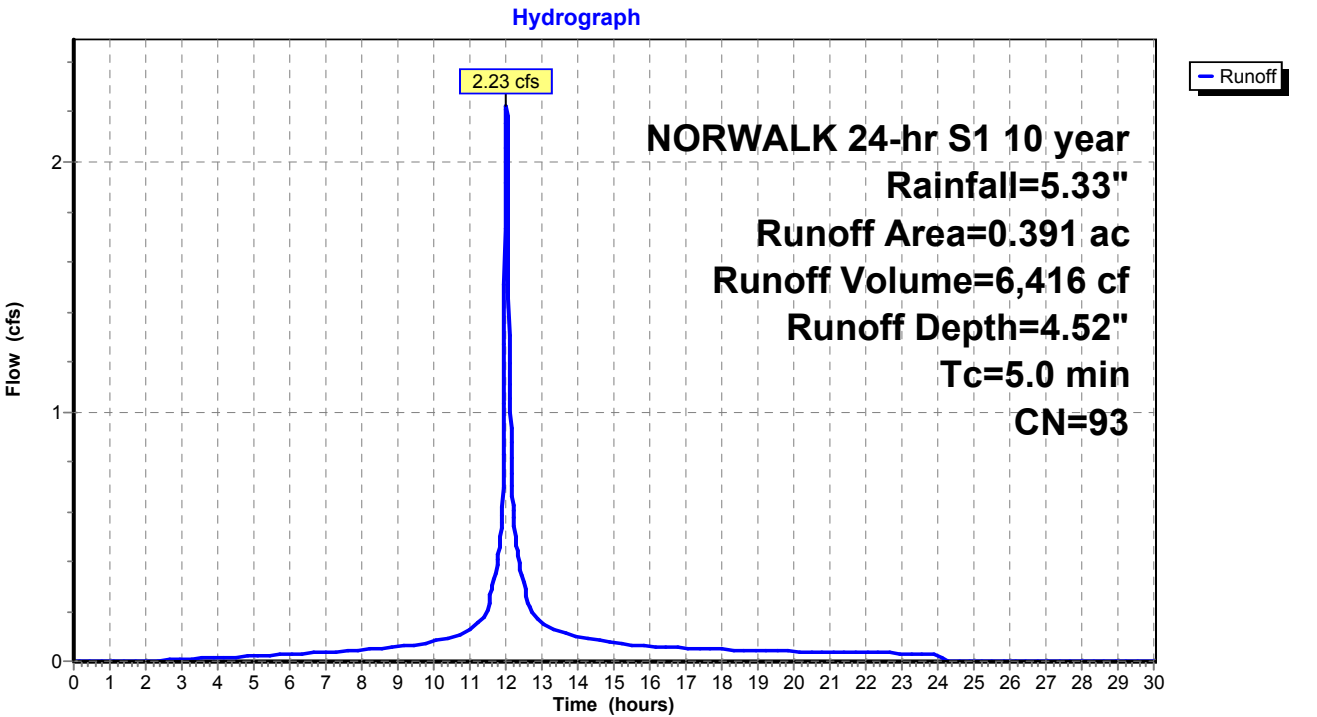
Runoff = 2.23 cfs @ 12.03 hrs, Volume= 6,416 cf, Depth= 4.52"
Routed to Pond 13P : MH-J

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.309	98	Paved parking & roofs
0.082	74	>75% Grass cover, Good, HSG C
0.391	93	Weighted Average
0.082		20.97% Pervious Area
0.309		79.03% Impervious Area

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

Subcatchment 30S: Area 30



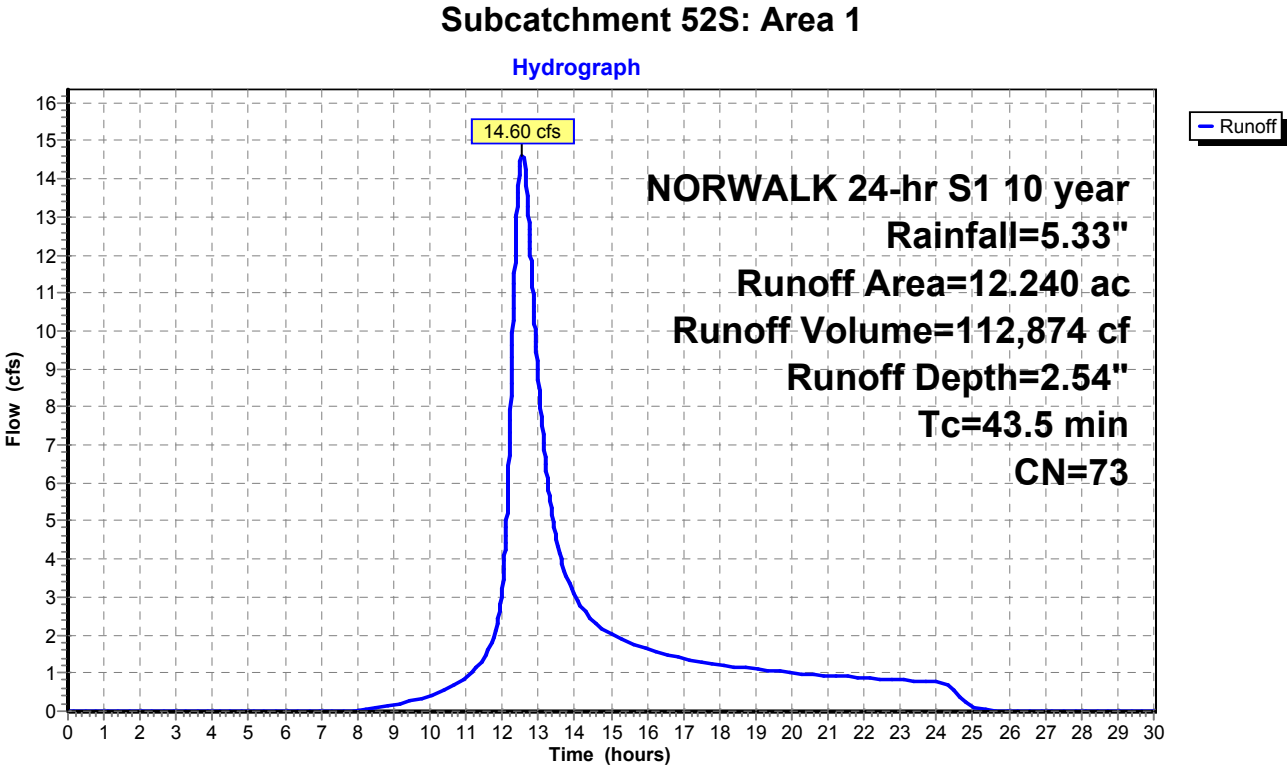
Summary for Subcatchment 52S: Area 1

Runoff = 14.60 cfs @ 12.53 hrs, Volume= 112,874 cf, Depth= 2.54"
Routed to Pond 21P : DET 1 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
9.070	70	1/2 acre lots, 25% imp, HSG B
3.170	80	1/2 acre lots, 25% imp, HSG C
12.240	73	Weighted Average
9.180		75.00% Pervious Area
3.060		25.00% Impervious Area

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



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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 53S: Area 2

Runoff = 34.97 cfs @ 12.74 hrs, Volume= 321,732 cf, Depth= 2.99"
Routed to Pond 22P : DET 2 Culvert

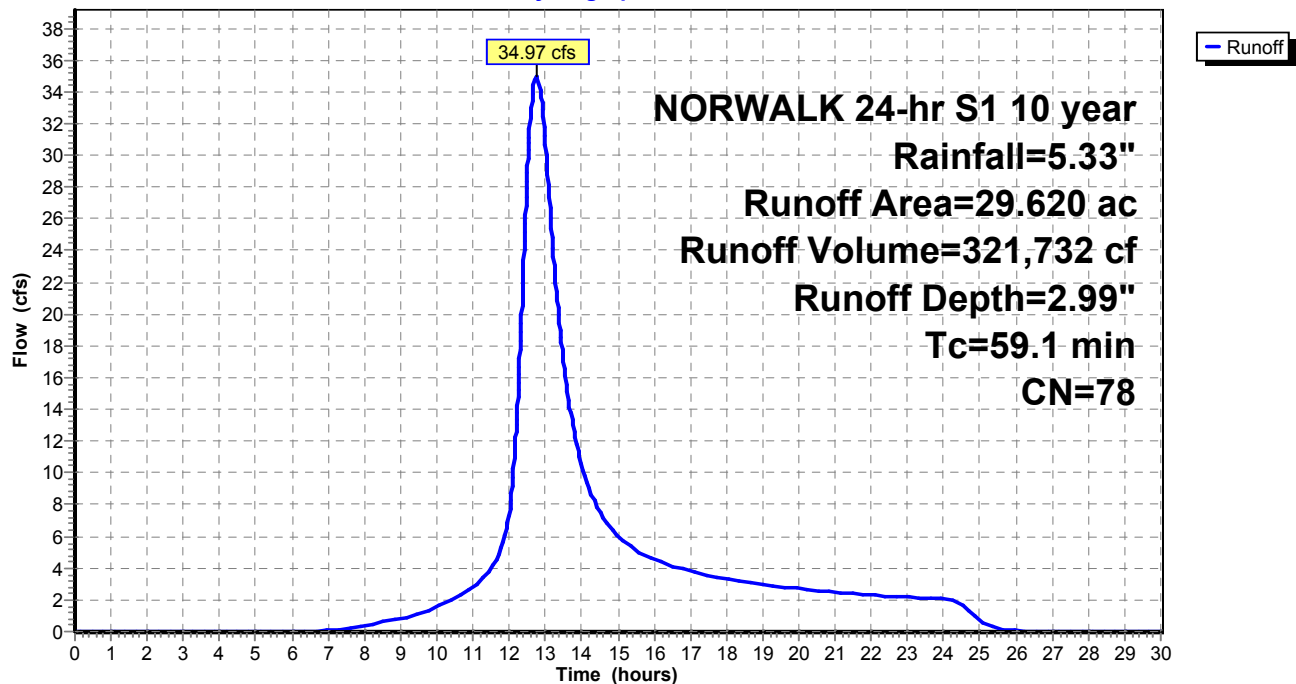
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
7.290	70	1/2 acre lots, 25% imp, HSG B
19.200	80	1/2 acre lots, 25% imp, HSG C
3.130	85	1/2 acre lots, 25% imp, HSG D
29.620	78	Weighted Average
22.215		75.00% Pervious Area
7.405		25.00% Impervious Area

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

Subcatchment 53S: Area 2

Hydrograph



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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 54S: Area 3

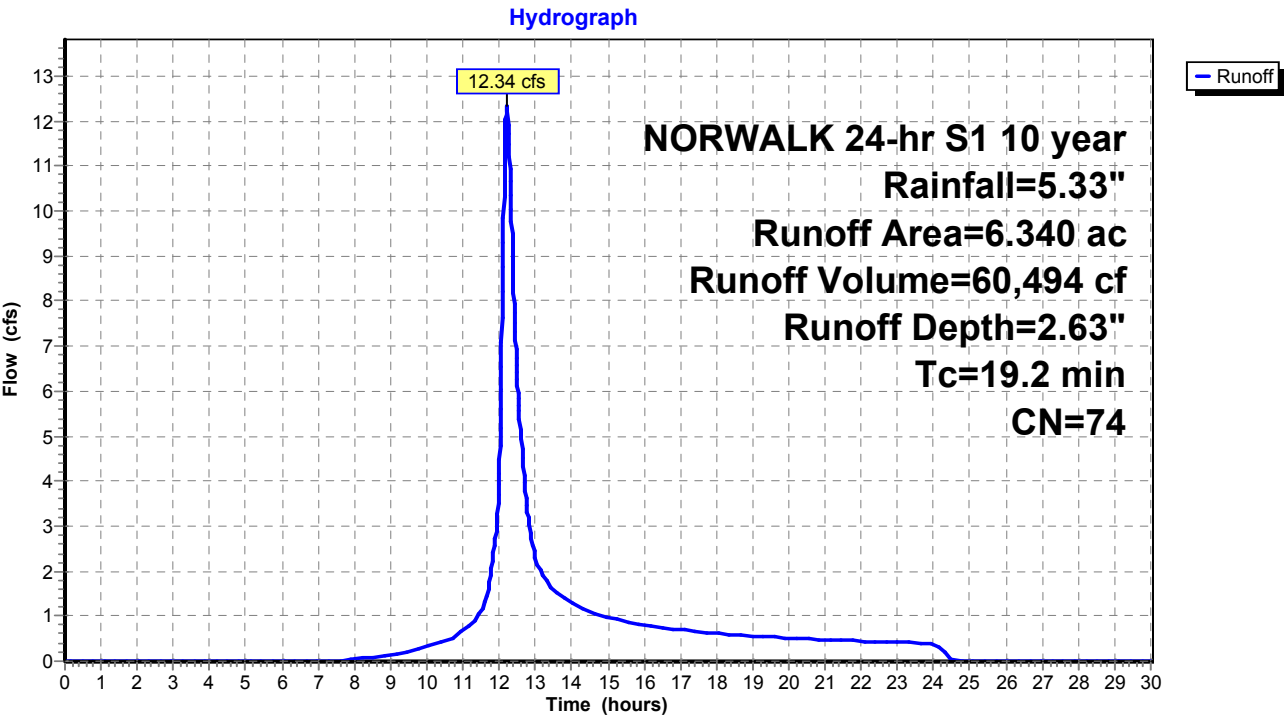
Runoff = 12.34 cfs @ 12.22 hrs, Volume= 60,494 cf, Depth= 2.63"
Routed to Pond 23P : DET 3 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
3.500	70	1/2 acre lots, 25% imp, HSG B
2.840	80	1/2 acre lots, 25% imp, HSG C
6.340	74	Weighted Average
4.755		75.00% Pervious Area
1.585		25.00% Impervious Area

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

Subcatchment 54S: Area 3



Summary for Subcatchment 56S: Area 35

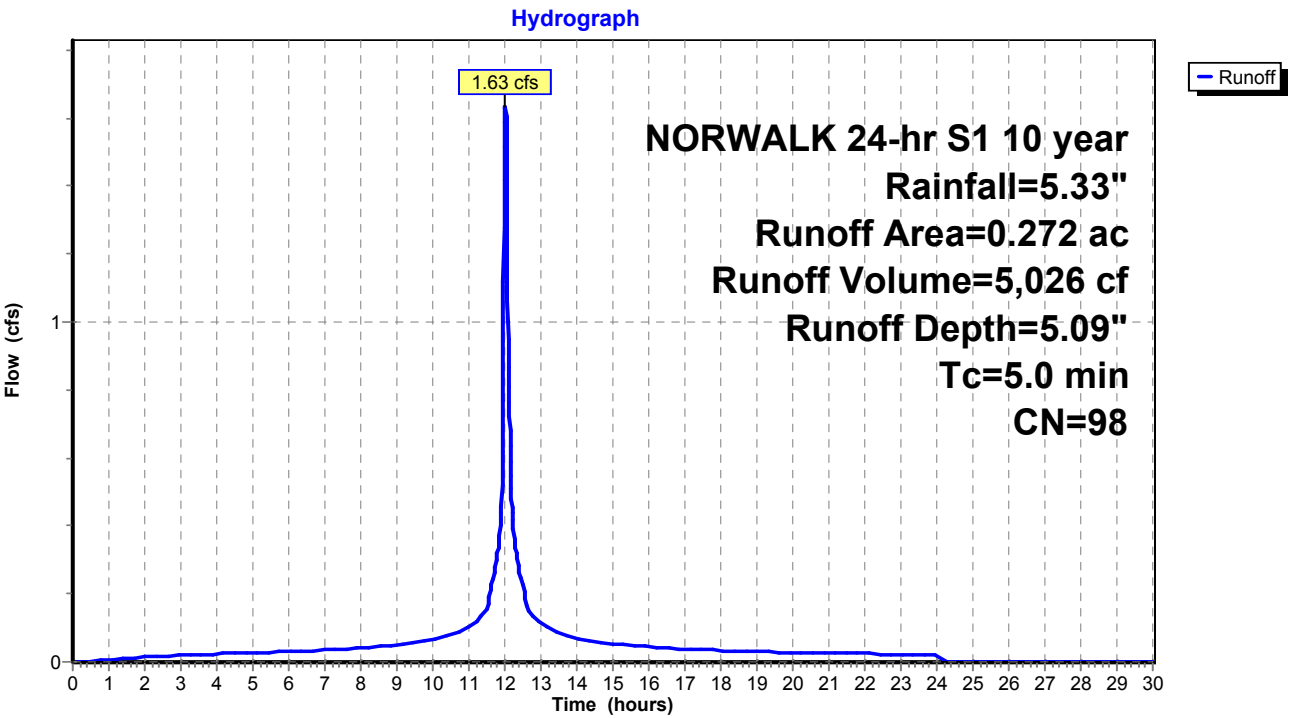
Runoff = 1.63 cfs @ 12.03 hrs, Volume= 5,026 cf, Depth= 5.09"
Routed to Pond 57P : CB-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.272	98	Paved parking & roofs
0.272		100.00% Impervious Area

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

Subcatchment 56S: Area 35



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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 60S: Area 37

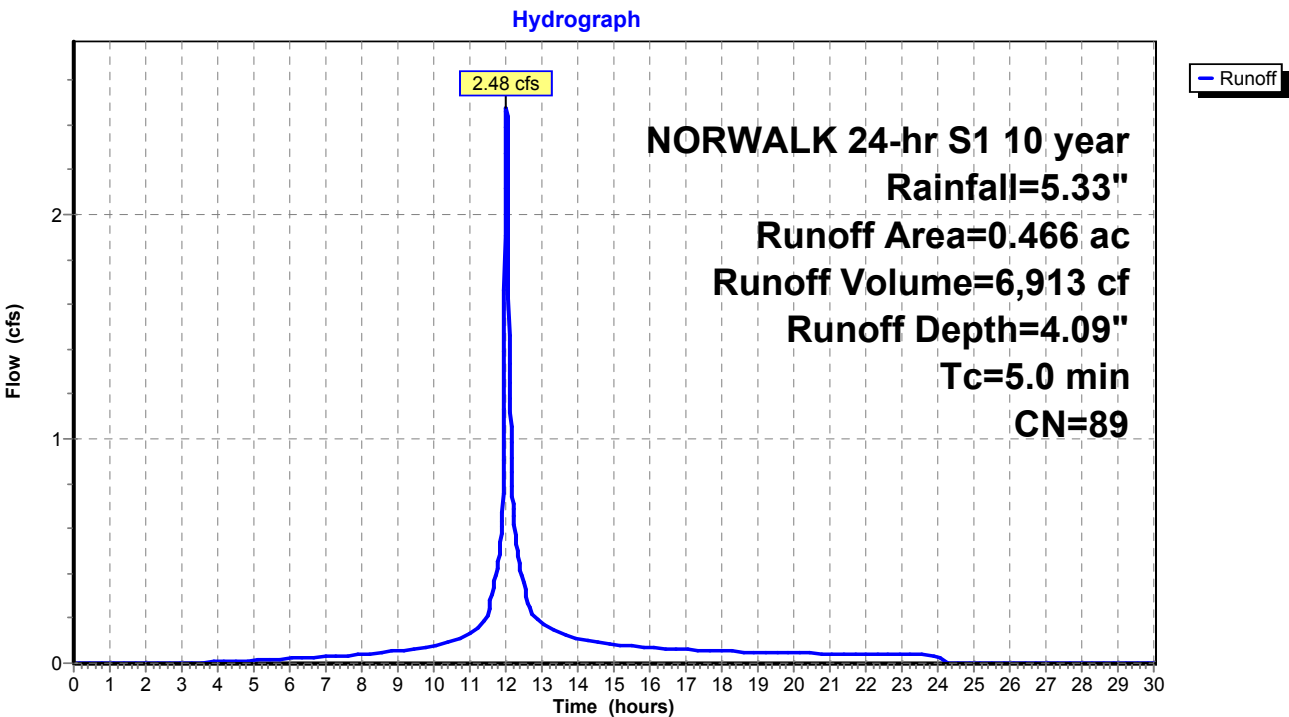
Runoff = 2.48 cfs @ 12.03 hrs, Volume= 6,913 cf, Depth= 4.09"
Routed to Pond 59P : CB-7

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.294	98	Paved parking & roofs
0.172	74	>75% Grass cover, Good, HSG C
0.466	89	Weighted Average
0.172		36.91% Pervious Area
0.294		63.09% Impervious Area

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

Subcatchment 60S: Area 37



Summary for Subcatchment 62S: Area 38

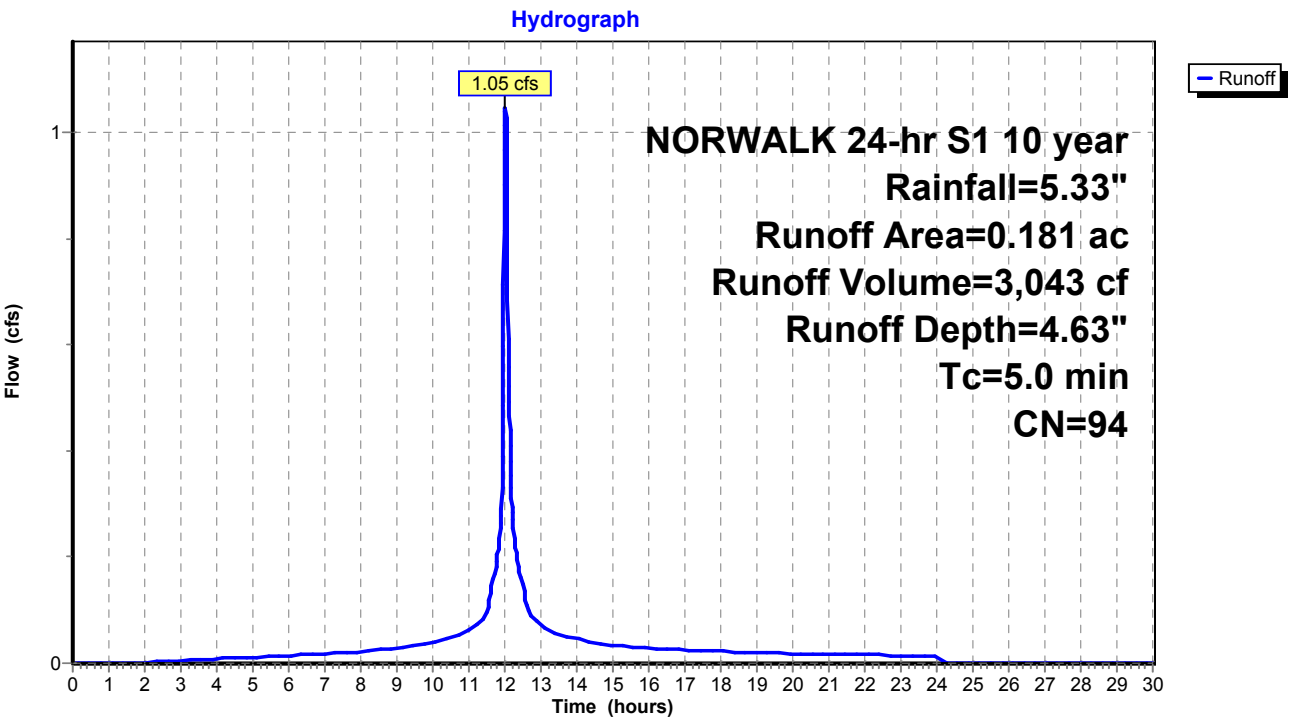
Runoff = 1.05 cfs @ 12.03 hrs, Volume= 3,043 cf, Depth= 4.63"
Routed to Pond 61P : CB-6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.149	98	Paved parking & roofs
0.032	74	>75% Grass cover, Good, HSG C
0.181	94	Weighted Average
0.032		17.68% Pervious Area
0.149		82.32% Impervious Area

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

Subcatchment 62S: Area 38



Summary for Subcatchment 65S: Area 41

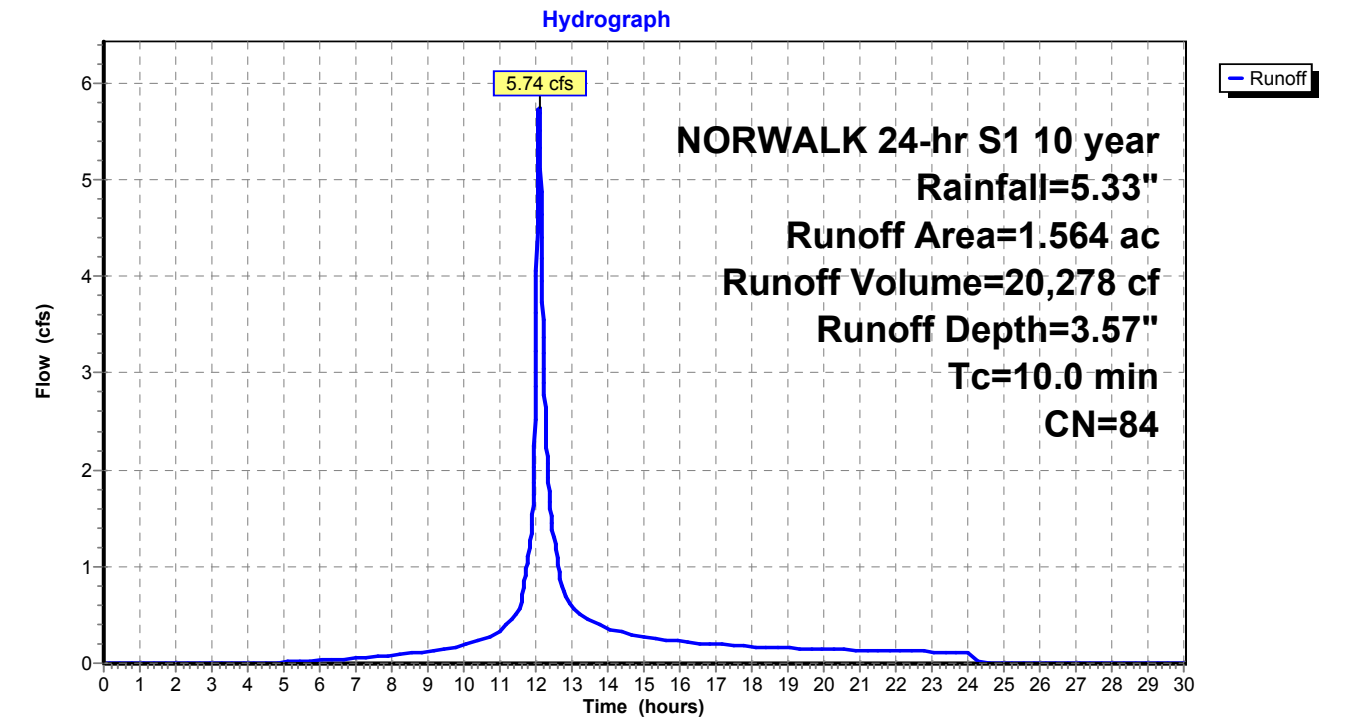
Runoff = 5.74 cfs @ 12.08 hrs, Volume= 20,278 cf, Depth= 3.57"
Routed to Pond 64P : YD

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.653	98	Paved parking & roofs
0.911	74	>75% Grass cover, Good, HSG C
1.564	84	Weighted Average
0.911		58.25% Pervious Area
0.653		41.75% Impervious Area

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

Subcatchment 65S: Area 41



Summary for Subcatchment 68S: Area 36

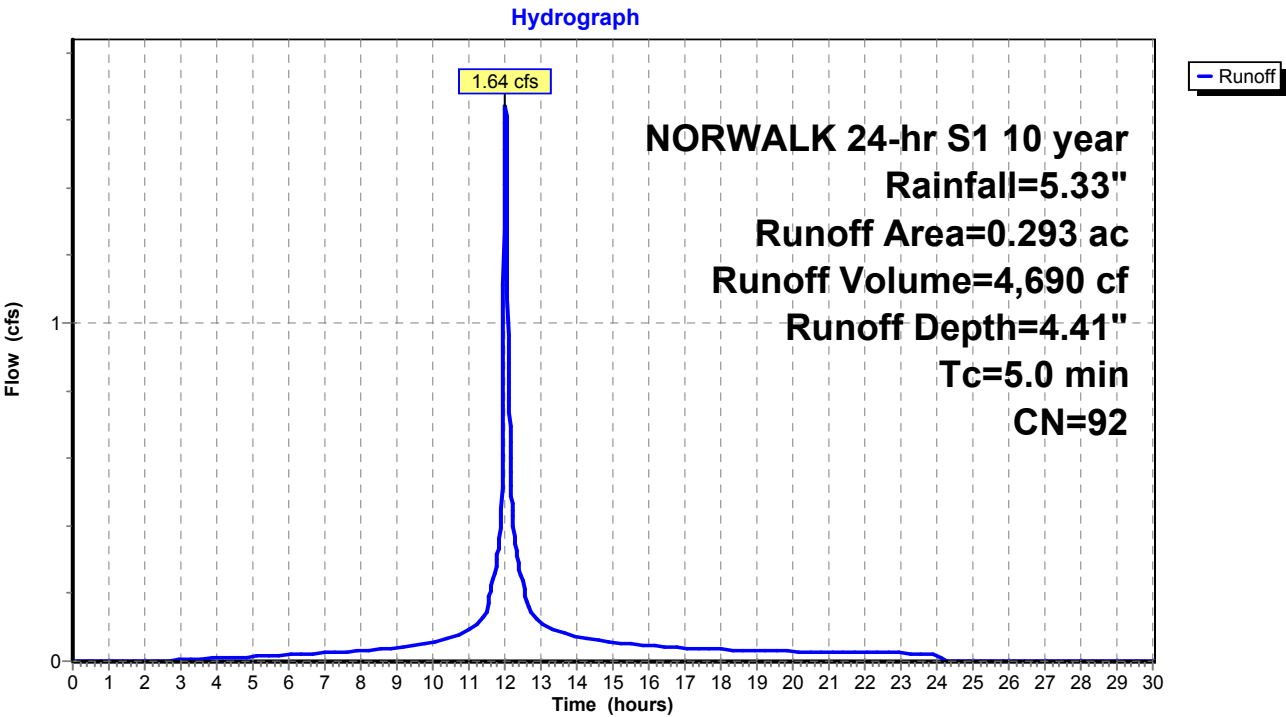
Runoff = 1.64 cfs @ 12.03 hrs, Volume= 4,690 cf, Depth= 4.41"
Routed to Pond 66P : CB-10

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.214	98	Paved parking & roofs
0.079	74	>75% Grass cover, Good, HSG C
0.293	92	Weighted Average
0.079		26.96% Pervious Area
0.214		73.04% Impervious Area

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

Subcatchment 68S: Area 36



Summary for Subcatchment 69S: Area 40

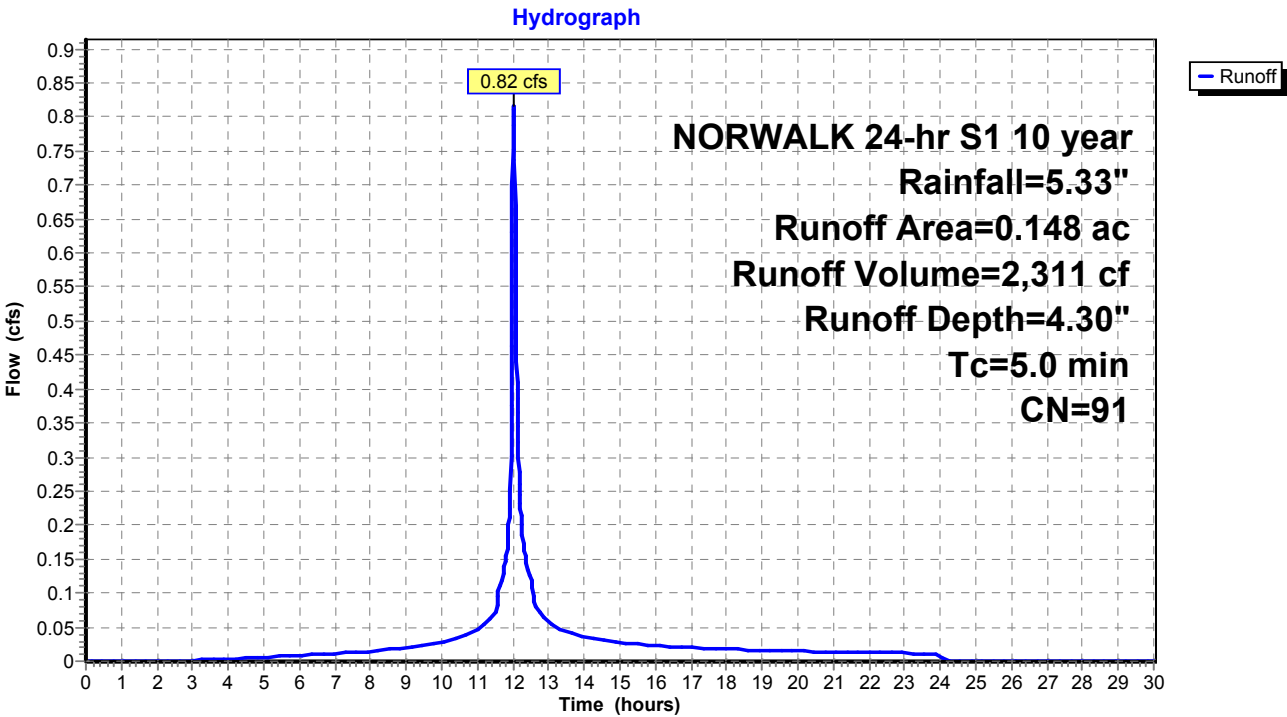
Runoff = 0.82 cfs @ 12.03 hrs, Volume= 2,311 cf, Depth= 4.30"
Routed to Pond 67P : CB-9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.103	98	Paved parking & roofs
0.045	74	>75% Grass cover, Good, HSG C
0.148	91	Weighted Average
0.045		30.41% Pervious Area
0.103		69.59% Impervious Area

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

Subcatchment 69S: Area 40



Summary for Subcatchment 71S: Area 34

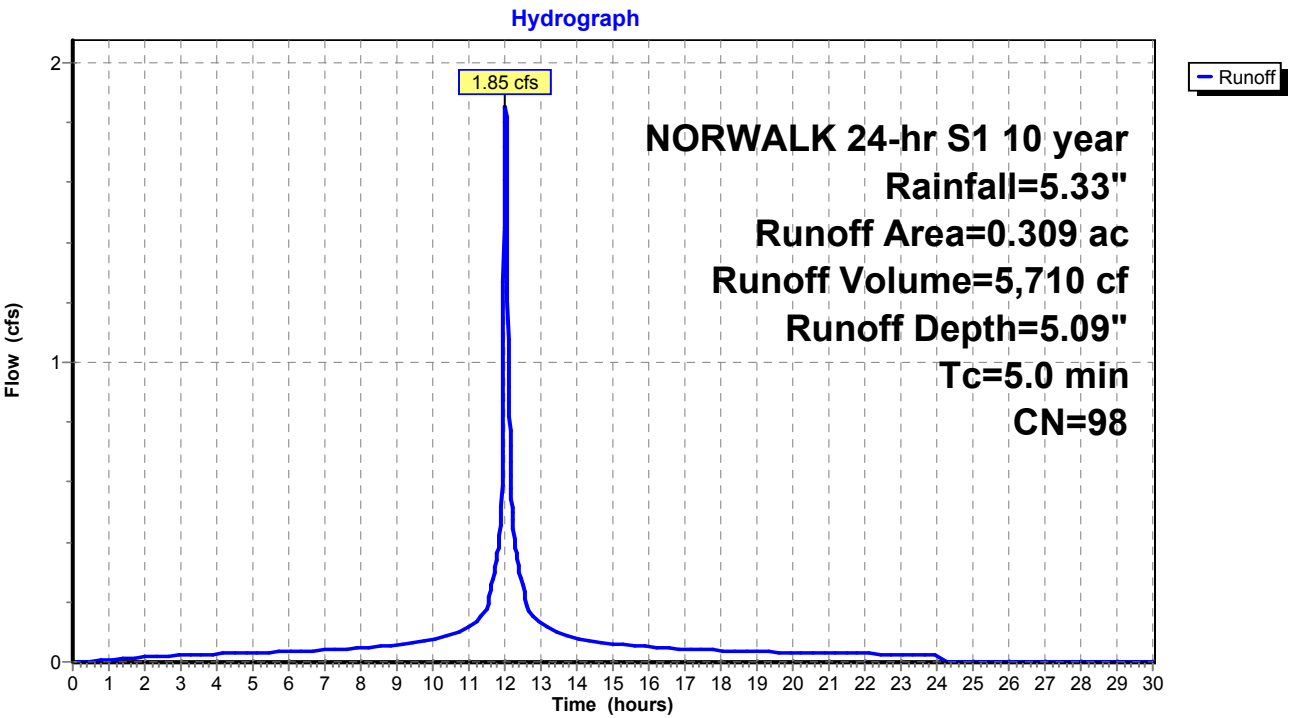
Runoff = 1.85 cfs @ 12.03 hrs, Volume= 5,710 cf, Depth= 5.09"
Routed to Pond 70P : CB-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.309	98	Paved parking & roofs
0.309		100.00% Impervious Area

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

Subcatchment 71S: Area 34



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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 75S: Area 32

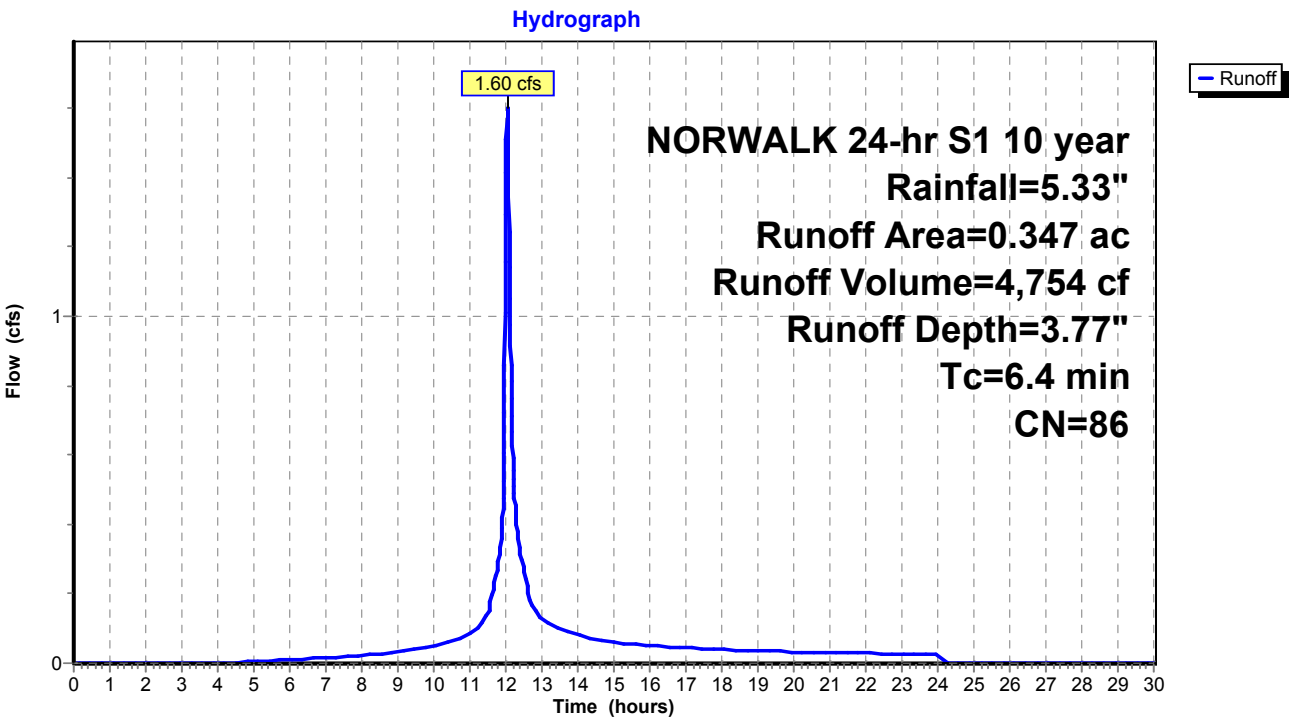
Runoff = 1.60 cfs @ 12.04 hrs, Volume= 4,754 cf, Depth= 3.77"
Routed to Pond 74P : CB-4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.196	98	Paved parking & roofs
0.151	70	Woods, Good, HSG C
0.347	86	Weighted Average
0.151		43.52% Pervious Area
0.196		56.48% Impervious Area

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

Subcatchment 75S: Area 32



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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Subcatchment 76S: Area 33

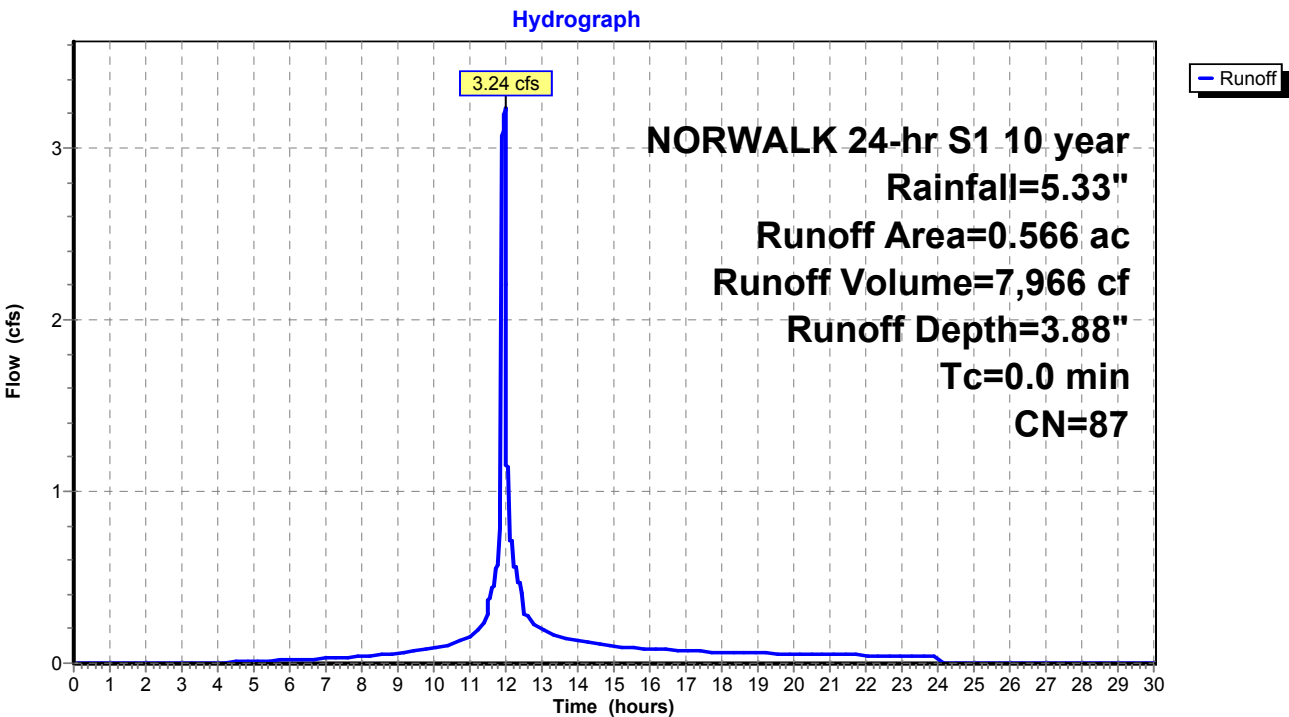
Runoff = 3.24 cfs @ 11.99 hrs, Volume= 7,966 cf, Depth= 3.88"
Routed to Pond 73P : CB-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.338	98	Paved parking & roofs
0.228	70	Woods, Good, HSG C
0.566	87	Weighted Average
0.228		40.28% Pervious Area
0.338		59.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.0					Direct Entry, 7

Subcatchment 76S: Area 33



Summary for Subcatchment 78S: Area 39

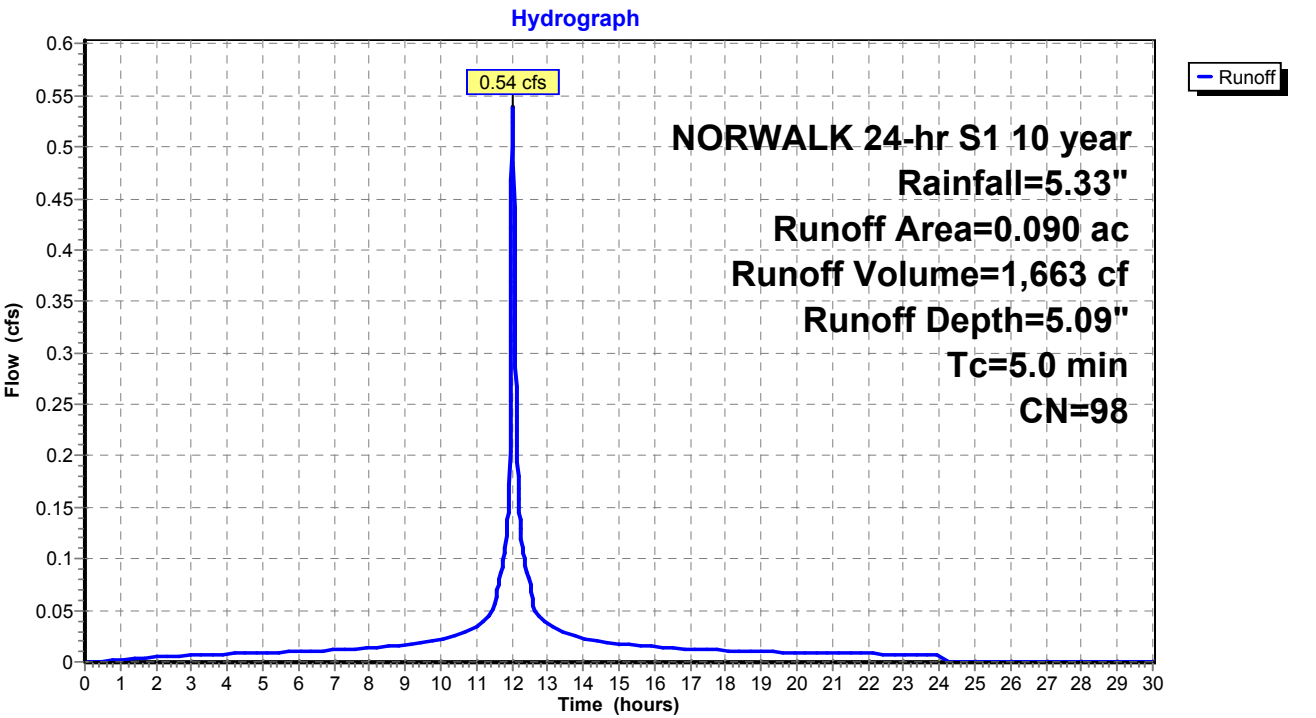
Runoff = 0.54 cfs @ 12.03 hrs, Volume= 1,663 cf, Depth= 5.09"
Routed to Pond 79P : CB-8

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.090	98	Paved parking & roofs
0.090		100.00% Impervious Area

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

Subcatchment 78S: Area 39



Summary for Subcatchment 84S: Area 31

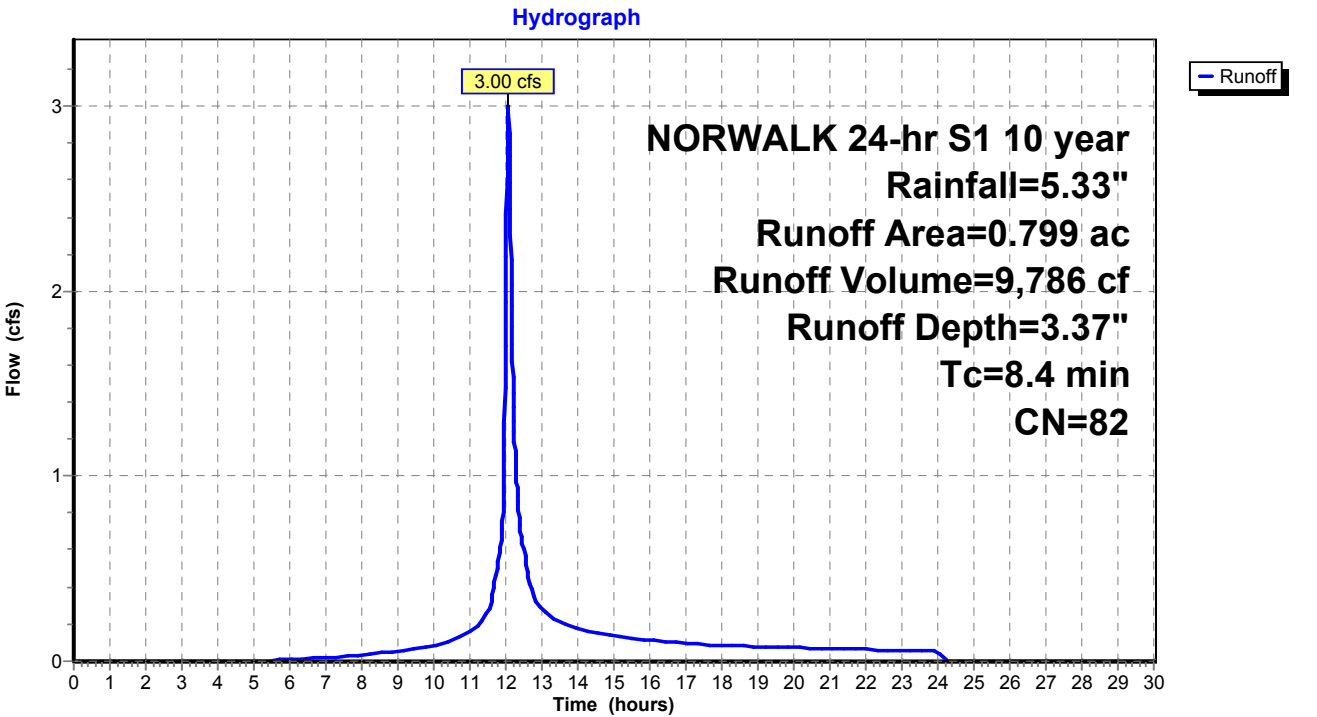
Runoff = 3.00 cfs @ 12.07 hrs, Volume= 9,786 cf, Depth= 3.37"
Routed to Pond 85P : CB-5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.337	98	Paved parking & roofs
0.462	70	Woods, Good, HSG C
0.799	82	Weighted Average
0.462		57.82% Pervious Area
0.337		42.18% Impervious Area

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

Subcatchment 84S: Area 31



Summary for Subcatchment 100S: Area 16B

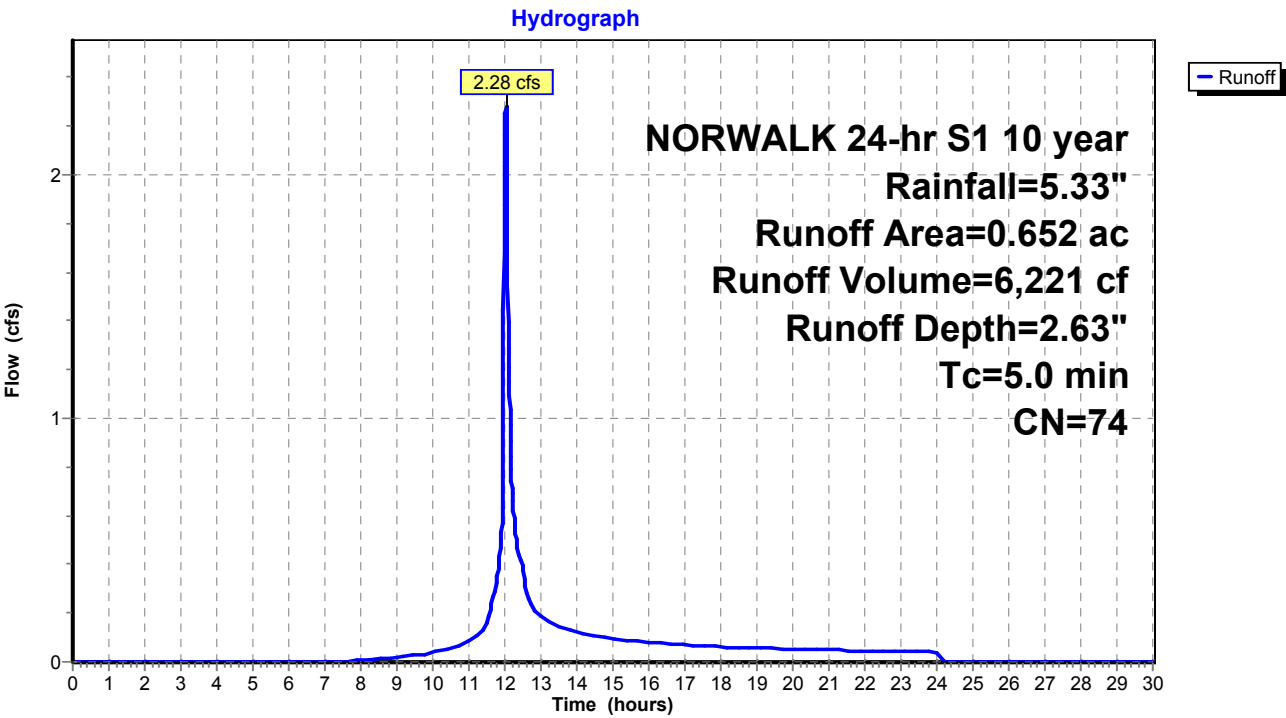
Runoff = 2.28 cfs @ 12.03 hrs, Volume= 6,221 cf, Depth= 2.63"
Routed to Pond 50P : DET BASIN #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.652	74	>75% Grass cover, Good, HSG C
0.652		100.00% Pervious Area

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

Subcatchment 100S: Area 16B



Summary for Subcatchment 105S: Area 18

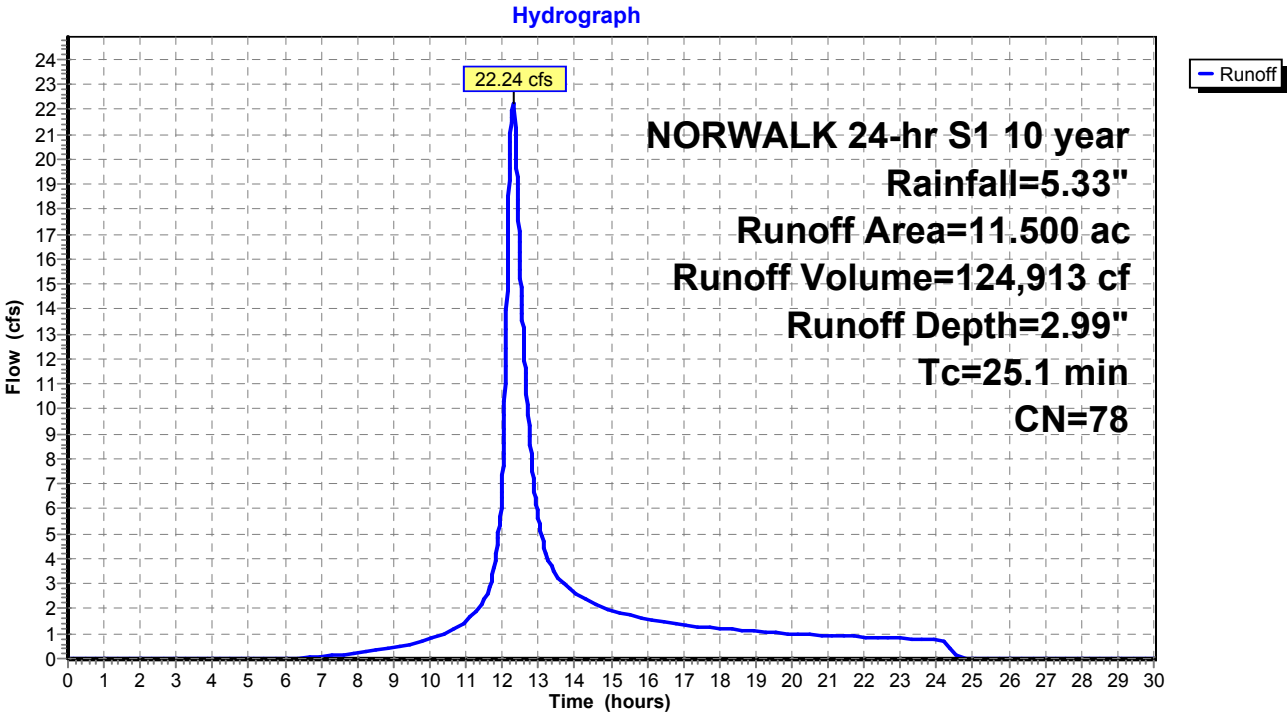
Runoff = 22.24 cfs @ 12.30 hrs, Volume= 124,913 cf, Depth= 2.99"
Routed to Pond 24P : RR Culvert 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
0.734	70	Woods, Good, HSG C
10.216	77	Woods, Good, HSG D
0.550	98	Paved parking, HSG C
11.500	78	Weighted Average
10.950		95.22% Pervious Area
0.550		4.78% Impervious Area

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

Subcatchment 105S: Area 18



Summary for Subcatchment BLDG: EX-BLDG

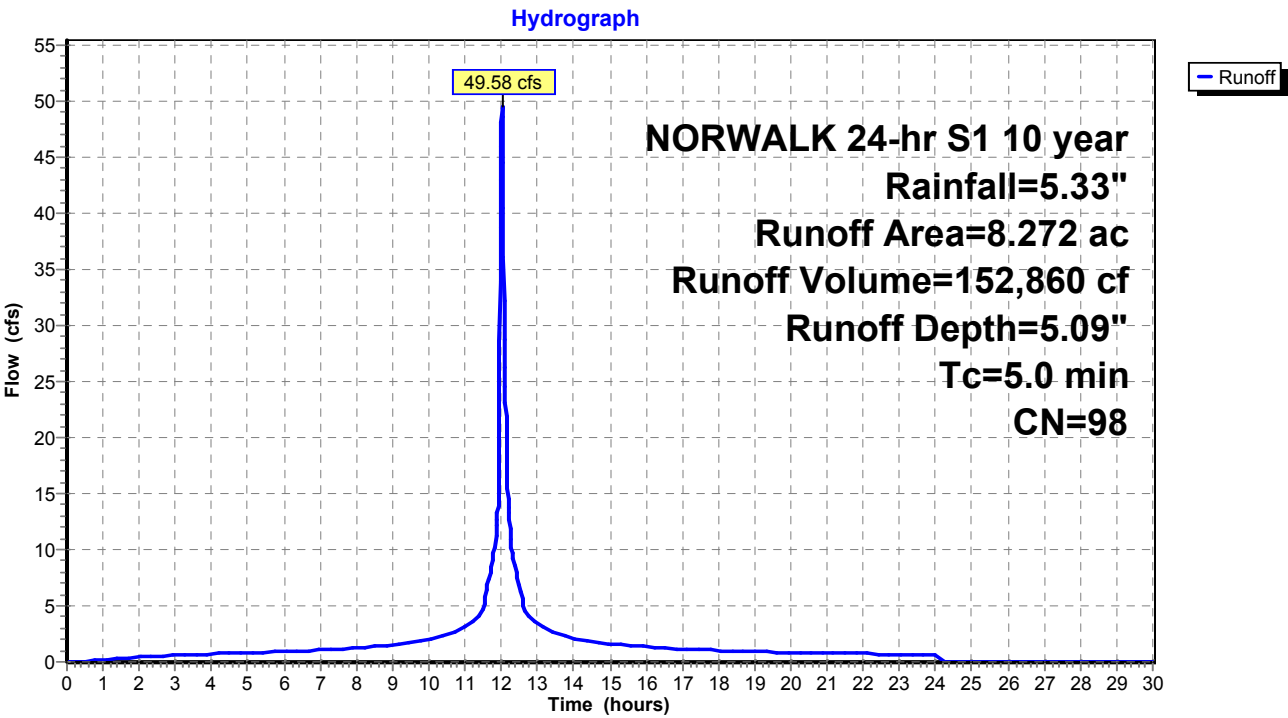
Runoff = 49.58 cfs @ 12.03 hrs, Volume= 152,860 cf, Depth= 5.09"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 10 year Rainfall=5.33"

Area (ac)	CN	Description
8.272	98	Roofs, HSG B
8.272		100.00% Impervious Area

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

Subcatchment BLDG: EX-BLDG



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Summary for Pond 1P: RR Culvert 2

Inflow Area = 6,570,111 sf, 25.88% Impervious, Inflow Depth > 3.25" for 10 year event
Inflow = 180.82 cfs @ 12.21 hrs, Volume= 1,777,066 cf
Outflow = 180.82 cfs @ 12.21 hrs, Volume= 1,777,066 cf, Atten= 0%, Lag= 0.0 min
Primary = 31.54 cfs @ 12.21 hrs, Volume= 986,424 cf
Secondary = 149.28 cfs @ 12.21 hrs, Volume= 790,642 cf
Routed to Pond 24P : RR Culvert 3

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 13.80' @ 12.21 hrs

Device	Routing	Invert	Outlet Devices
#1	Secondary	13.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 3.00 4.00 5.00 Width (feet) 50.00 50.00 50.00 50.00 50.00 50.00
#2	Primary	9.50'	24.0" W x 36.0" H Box Culvert L= 135.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.50' / 9.50' S= 0.0000 '/' Cc= 0.900 n= 0.014, Flow Area= 6.00 sf

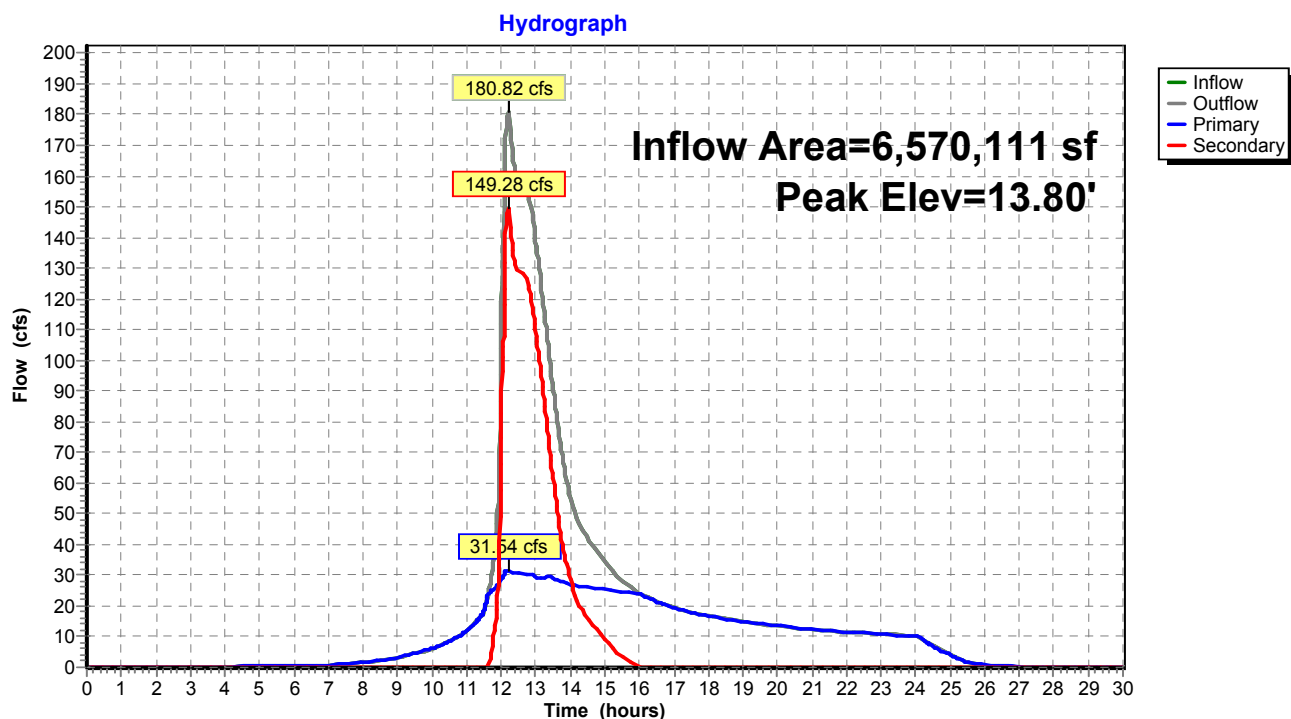
Primary OutFlow Max=31.55 cfs @ 12.21 hrs HW=13.80' (Free Discharge)

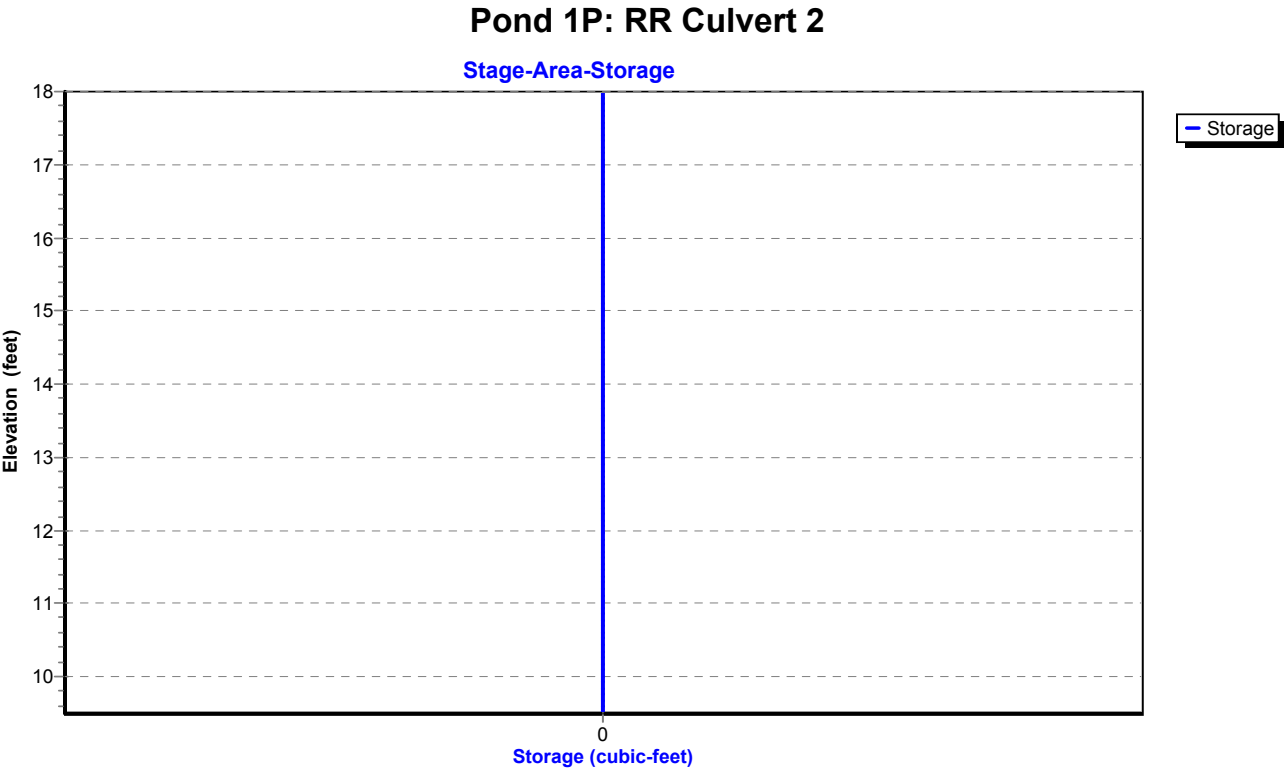
↑**2=Culvert** (Barrel Controls 31.55 cfs @ 5.26 fps)

Secondary OutFlow Max=149.11 cfs @ 12.21 hrs HW=13.80' (Free Discharge)

↑**1=Custom Weir/Orifice** (Weir Controls 149.11 cfs @ 3.72 fps)

Pond 1P: RR Culvert 2





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Summary for Pond 2P: RR Culvert 1

Inflow Area = 3,416,890 sf, 54.67% Impervious, Inflow Depth = 3.90" for 10 year event
Inflow = 126.02 cfs @ 12.04 hrs, Volume= 1,111,450 cf
Outflow = 126.02 cfs @ 12.04 hrs, Volume= 1,111,450 cf, Atten= 0%, Lag= 0.0 min
Primary = 47.54 cfs @ 12.04 hrs, Volume= 866,638 cf
Secondary = 78.48 cfs @ 12.04 hrs, Volume= 244,812 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 29.18' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	25.00'	28.8" W x 28.8" H Box Culvert L= 123.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.00' / 23.60' S= 0.0114 '/' Cc= 0.900 n= 0.014, Flow Area= 5.76 sf
#2	Secondary	27.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 Width (feet) 6.00 6.00 6.00

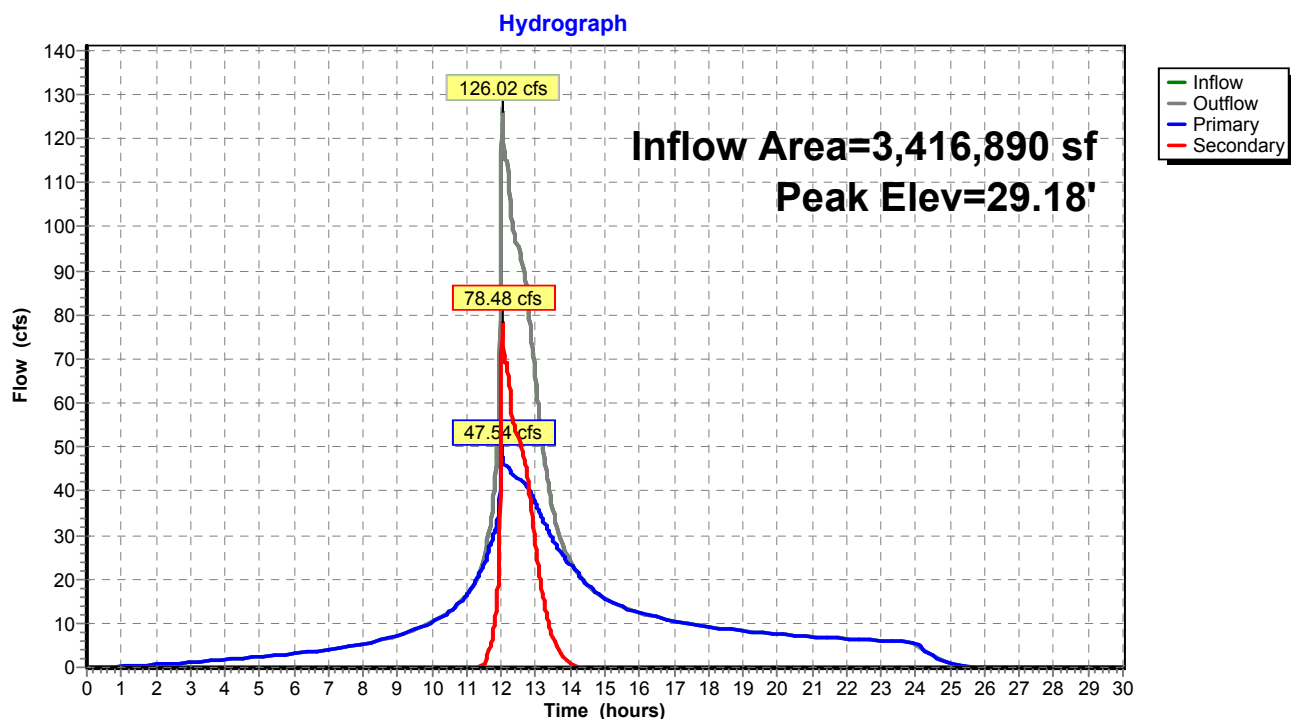
Primary OutFlow Max=47.53 cfs @ 12.04 hrs HW=29.18' (Free Discharge)

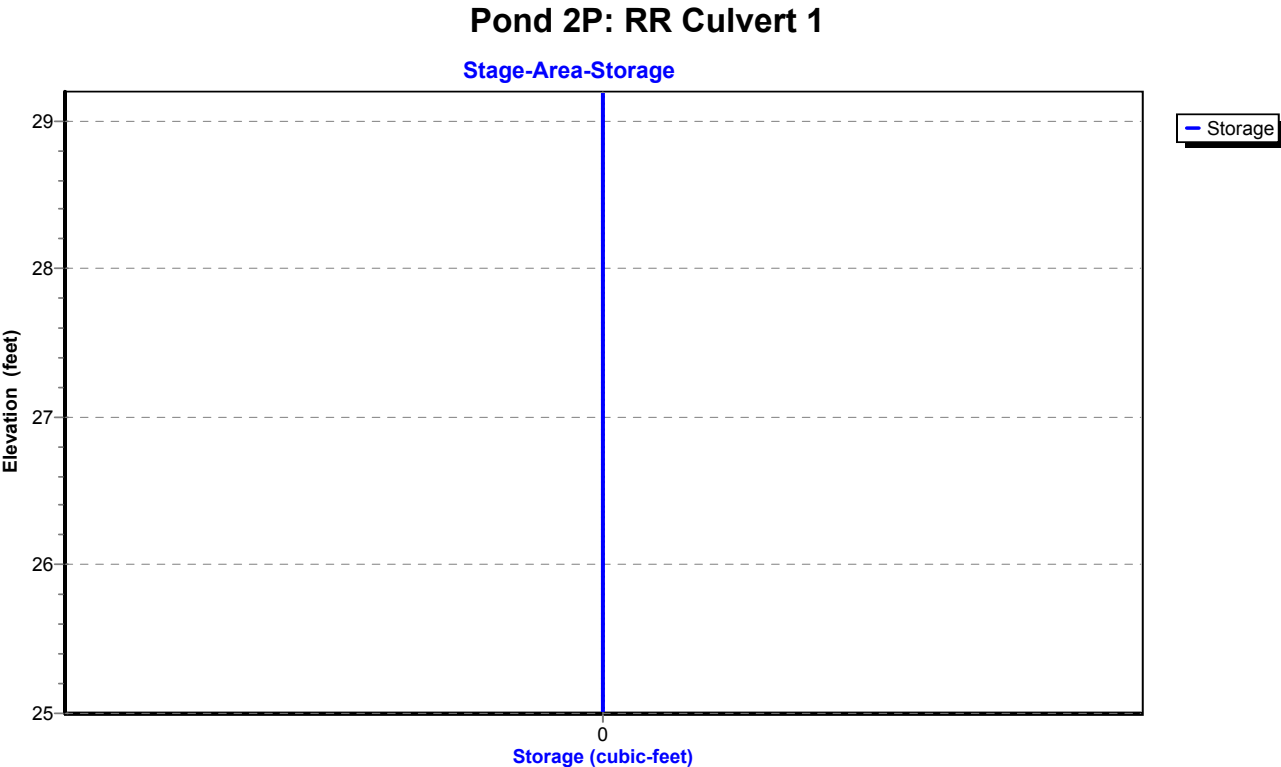
↑**1=Culvert** (Inlet Controls 47.53 cfs @ 8.25 fps)

Secondary OutFlow Max=78.41 cfs @ 12.04 hrs HW=29.18' (Free Discharge)

↑**2=Custom Weir/Orifice** (Orifice Controls 78.41 cfs @ 6.53 fps)

Pond 2P: RR Culvert 1





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Summary for Pond 3P: DETENTION BASIN #2

Inflow Area = 263,277 sf, 58.24% Impervious, Inflow Depth = 3.97" for 10 year event
Inflow = 24.01 cfs @ 12.03 hrs, Volume= 87,093 cf
Outflow = 3.87 cfs @ 12.61 hrs, Volume= 71,317 cf, Atten= 84%, Lag= 34.6 min
Primary = 3.87 cfs @ 12.61 hrs, Volume= 71,317 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 49.59' @ 12.61 hrs Surf.Area= 11,287 sf Storage= 38,892 cf

Plug-Flow detention time= 221.3 min calculated for 71,317 cf (82% of inflow)
Center-of-Mass det. time= 133.8 min (961.3 - 827.5)

Volume	Invert	Avail.Storage	Storage Description
#1	44.00'	56,637 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.00	2,637	0	0
46.00	6,000	8,637	8,637
48.00	8,500	14,500	23,137
50.00	12,000	20,500	43,637
51.00	14,000	13,000	56,637

Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	18.0" Round Culvert L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.00' / 30.00' S= 0.1750 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	47.00'	10.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	50.40'	16.2" x 55.4" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.87 cfs @ 12.61 hrs HW=49.59' (Free Discharge)

1=Culvert (Passes 3.87 cfs of 18.72 cfs potential flow)
2=Orifice/Grate (Orifice Controls 3.87 cfs @ 7.10 fps)
3=Orifice/Grate (Controls 0.00 cfs)

Proposed Conditions

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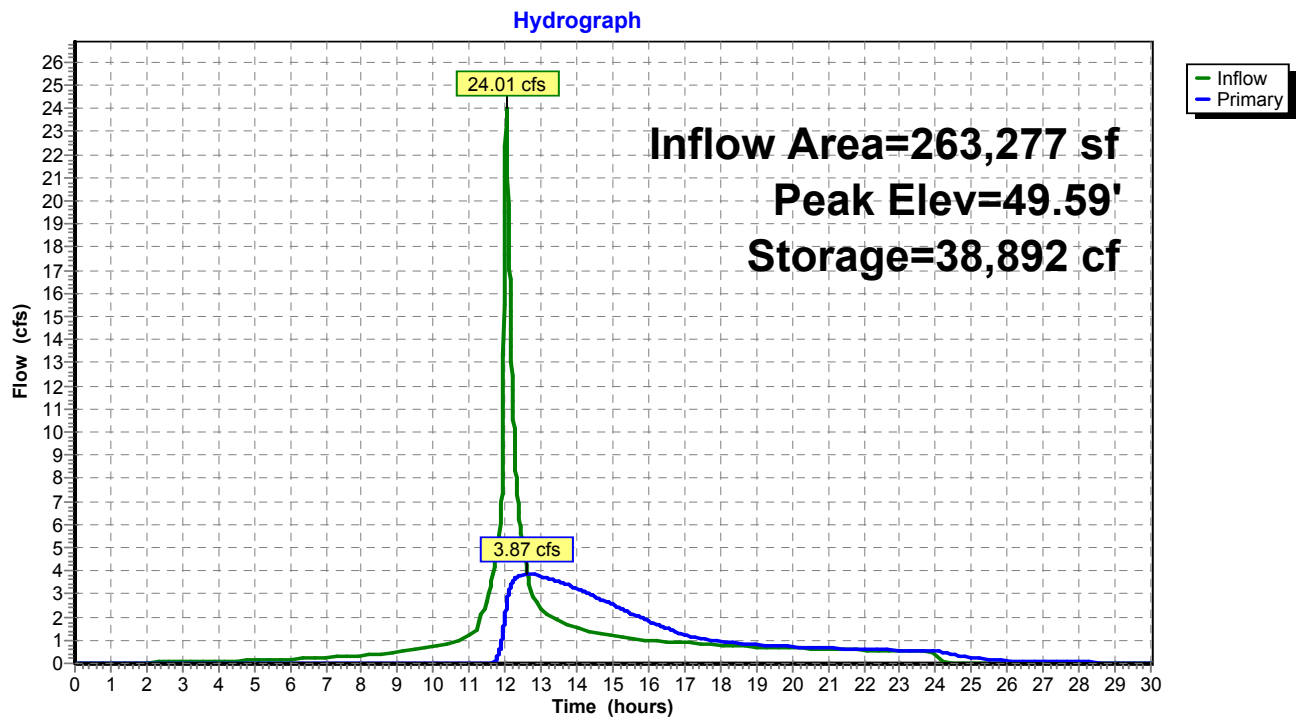
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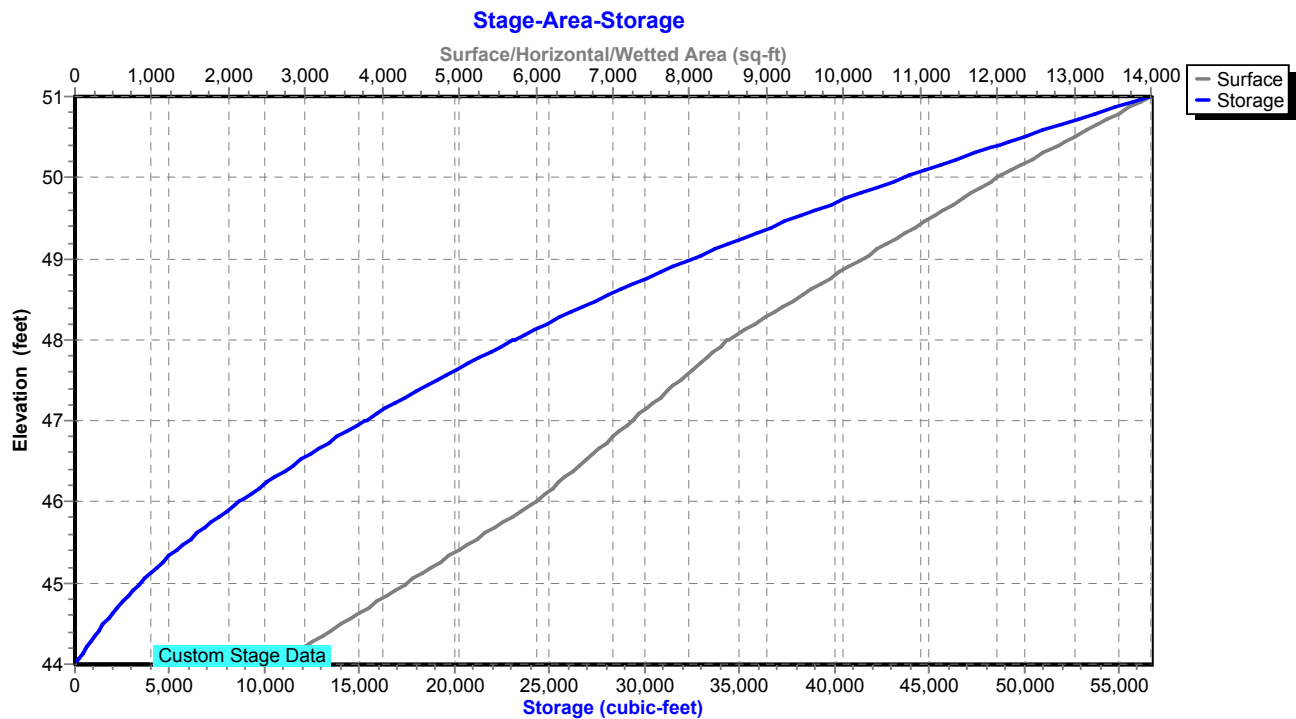
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Pond 3P: DETENTION BASIN #2



Pond 3P: DETENTION BASIN #2



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Summary for Pond 5P: DET 5 Culvert

Inflow Area = 541,015 sf, 16.51% Impervious, Inflow Depth = 2.54" for 10 year event
 Inflow = 16.39 cfs @ 12.45 hrs, Volume= 114,534 cf
 Outflow = 14.99 cfs @ 12.58 hrs, Volume= 114,533 cf, Atten= 9%, Lag= 8.0 min
 Primary = 14.99 cfs @ 12.58 hrs, Volume= 114,533 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 80.12' @ 12.58 hrs Storage= 4,872 cf

Plug-Flow detention time= 6.2 min calculated for 114,533 cf (100% of inflow)

Center-of-Mass det. time= 6.2 min (897.9 - 891.7)

Volume	Invert	Avail.Storage	Storage Description
#1	78.00'	62,584 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
78.00	0	0
79.00	1,179	1,179
80.00	3,009	4,188
81.00	5,795	9,983
82.00	9,335	19,318
83.00	16,518	35,836
84.00	26,748	62,584

Device	Routing	Invert	Outlet Devices
#1	Primary	78.00'	24.0" Round Culvert L= 224.0' Ke= 0.600 Inlet / Outlet Invert= 78.00' / 72.40' S= 0.0250 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=14.99 cfs @ 12.58 hrs HW=80.12' (Free Discharge)↑**1=Culvert** (Inlet Controls 14.99 cfs @ 4.77 fps)

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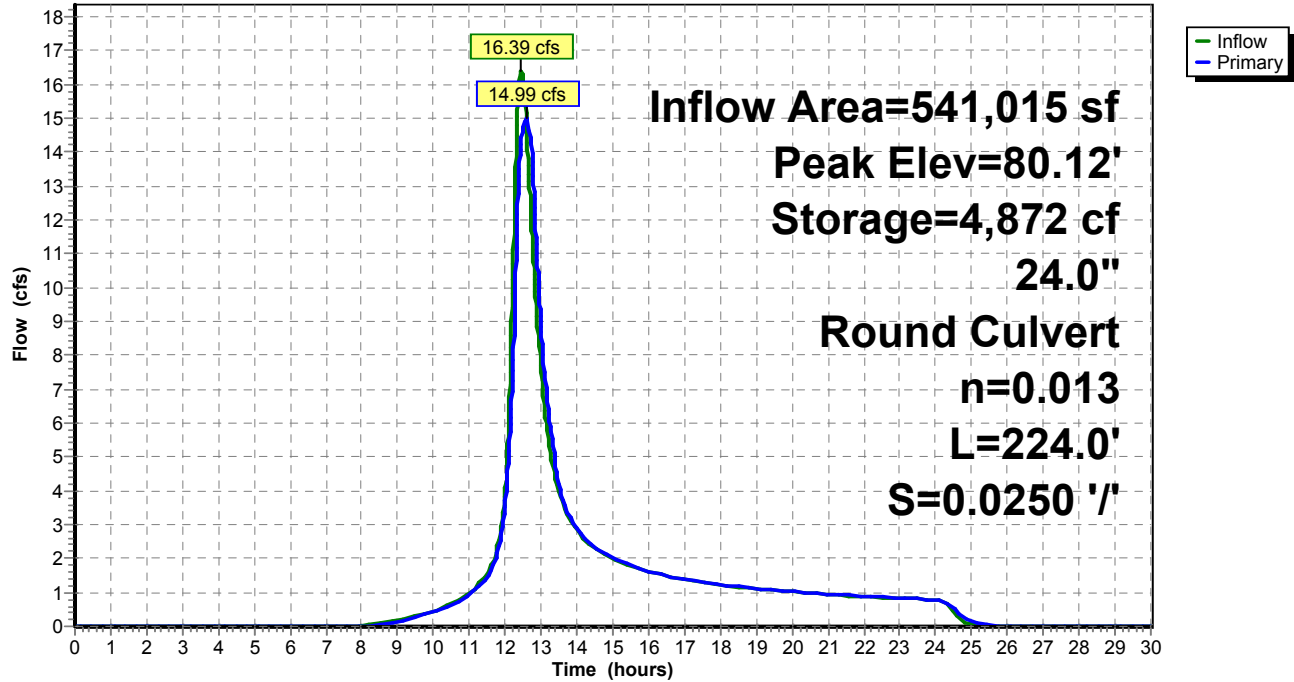
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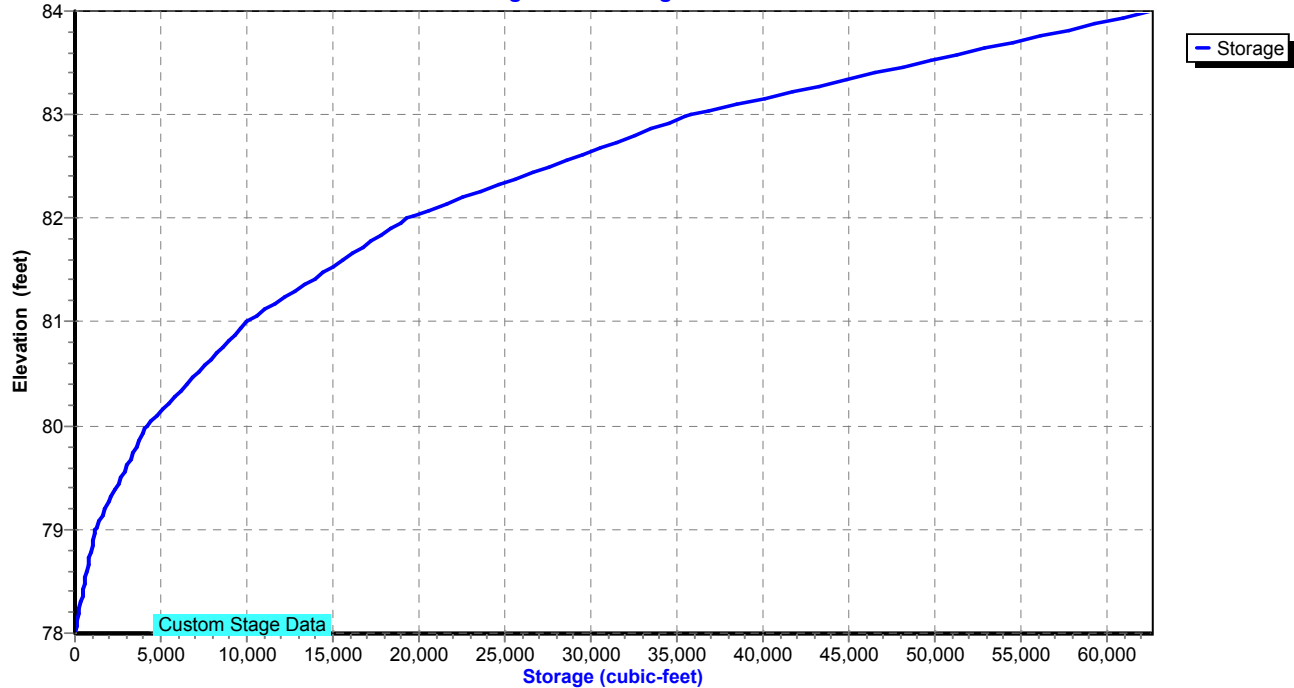
Pond 5P: DET 5 Culvert

Hydrograph



Pond 5P: DET 5 Culvert

Stage-Area-Storage



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Summary for Pond 6P: DET 6 Culvert

Inflow Area = 747,054 sf, 37.20% Impervious, Inflow Depth = 3.37" for 10 year event
 Inflow = 24.10 cfs @ 12.70 hrs, Volume= 210,050 cf
 Outflow = 24.05 cfs @ 12.71 hrs, Volume= 210,050 cf, Atten= 0%, Lag= 0.7 min
 Primary = 24.05 cfs @ 12.71 hrs, Volume= 210,050 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 90.91' @ 12.71 hrs Storage= 689 cf

Plug-Flow detention time= 0.4 min calculated for 210,050 cf (100% of inflow)

Center-of-Mass det. time= 0.4 min (878.6 - 878.2)

Volume	Invert	Avail.Storage	Storage Description
#1	88.50'	5,954 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
88.50	0	0
90.00	154	154
92.00	1,175	1,329
93.00	4,625	5,954

Device	Routing	Invert	Outlet Devices
#1	Primary	88.50'	30.0" Round Culvert L= 180.0' Ke= 0.600 Inlet / Outlet Invert= 88.50' / 86.00' S= 0.0139 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=24.06 cfs @ 12.71 hrs HW=90.91' (Free Discharge)↑**1=Culvert** (Inlet Controls 24.06 cfs @ 4.96 fps)

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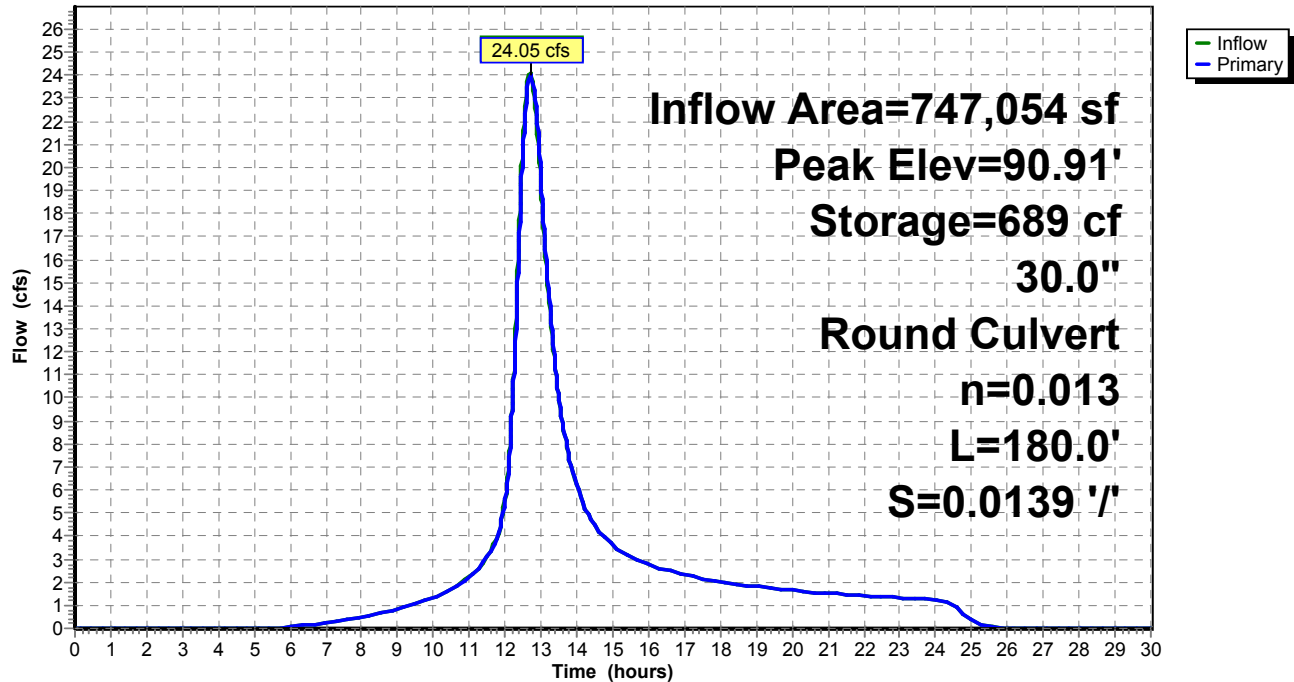
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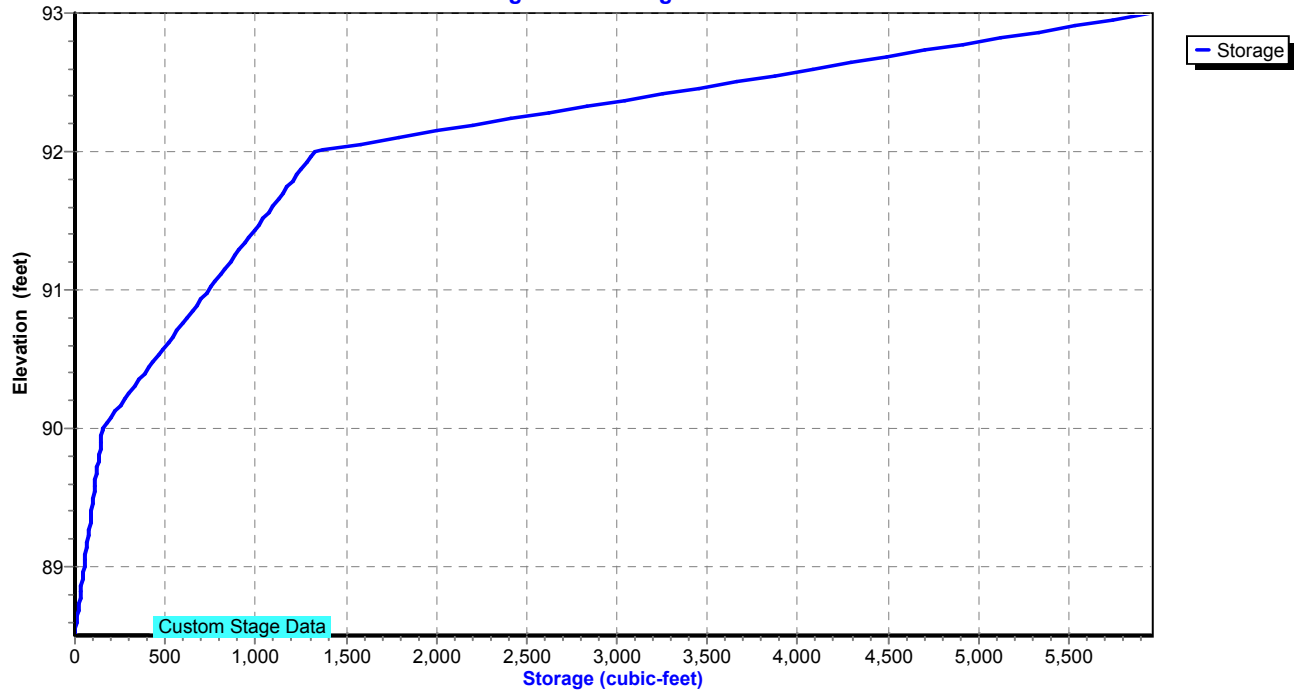
Pond 6P: DET 6 Culvert

Hydrograph



Pond 6P: DET 6 Culvert

Stage-Area-Storage



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Summary for Pond 7P: DET 7 Culvert

Inflow Area = 64,033 sf, 0.00% Impervious, Inflow Depth = 3.28" for 10 year event
 Inflow = 3.29 cfs @ 12.26 hrs, Volume= 17,486 cf
 Outflow = 2.21 cfs @ 12.46 hrs, Volume= 17,486 cf, Atten= 33%, Lag= 12.1 min
 Primary = 2.21 cfs @ 12.46 hrs, Volume= 17,486 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 93.27' @ 12.46 hrs Storage= 1,651 cf

Plug-Flow detention time= 6.0 min calculated for 17,480 cf (100% of inflow)

Center-of-Mass det. time= 6.1 min (858.1 - 852.0)

Volume	Invert	Avail.Storage	Storage Description
#1	92.50'	5,874 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
92.50	0	0
93.00	103	103
94.00	5,771	5,874

Device	Routing	Invert	Outlet Devices
#1	Primary	92.50'	15.0" Round Culvert L= 202.0' Ke= 0.600 Inlet / Outlet Invert= 92.50' / 89.11' S= 0.0168 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=2.21 cfs @ 12.46 hrs HW=93.27' (Free Discharge)↑ **1=Culvert** (Inlet Controls 2.21 cfs @ 2.80 fps)

Proposed Conditions

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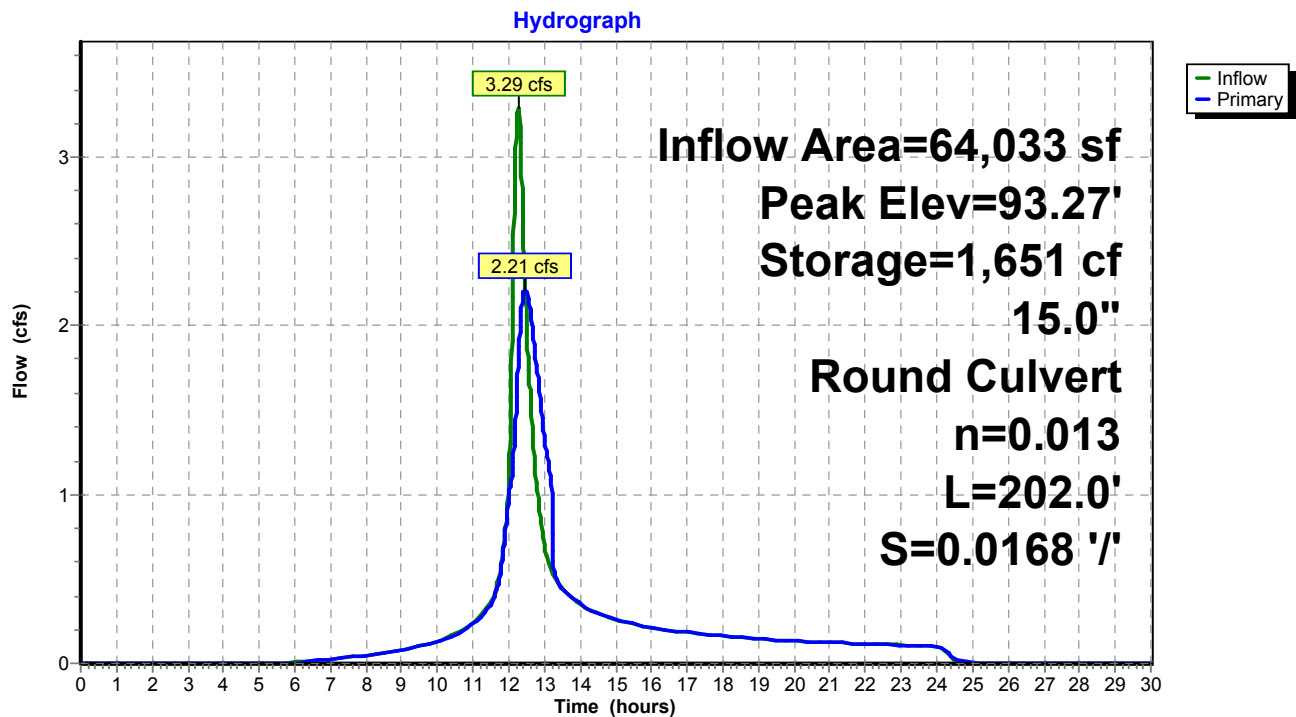
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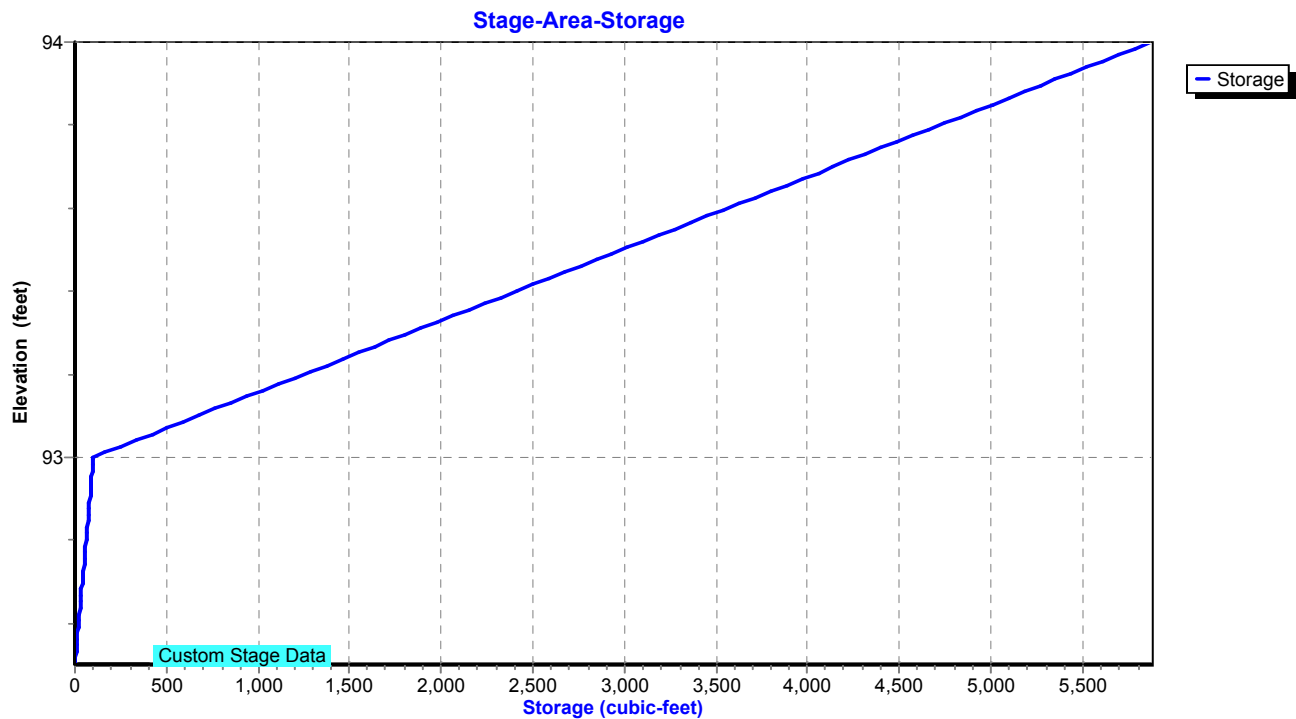
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Pond 7P: DET 7 Culvert



Pond 7P: DET 7 Culvert



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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Pond 8P: Comb. 5,6,7,8,9

Inflow Area = 1,584,277 sf, 30.02% Impervious, Inflow Depth = 3.18" for 10 year event
 Inflow = 48.91 cfs @ 12.65 hrs, Volume= 419,897 cf
 Outflow = 48.91 cfs @ 12.66 hrs, Volume= 419,897 cf, Atten= 0%, Lag= 0.1 min
 Primary = 48.91 cfs @ 12.66 hrs, Volume= 419,897 cf
 Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 71.28' @ 12.66 hrs Storage= 85 cf

Plug-Flow detention time= 0.0 min calculated for 419,757 cf (100% of inflow)
 Center-of-Mass det. time= 0.0 min (874.3 - 874.3)

Volume	Invert	Avail.Storage	Storage Description
#1	68.40'	5,234 cf	Custom Stage Data Listed below
Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
68.40	0	0	
71.00	52	52	
72.00	118	170	
73.00	471	641	
74.00	1,318	1,959	
75.00	3,275	5,234	

Device	Routing	Invert	Outlet Devices
#1	Primary	68.40'	42.0" Round Culvert L= 900.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 68.40' / 36.99' S= 0.0349 ' / Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=48.91 cfs @ 12.66 hrs HW=71.28' (Free Discharge)

↑**1=Culvert** (Inlet Controls 48.91 cfs @ 5.78 fps)

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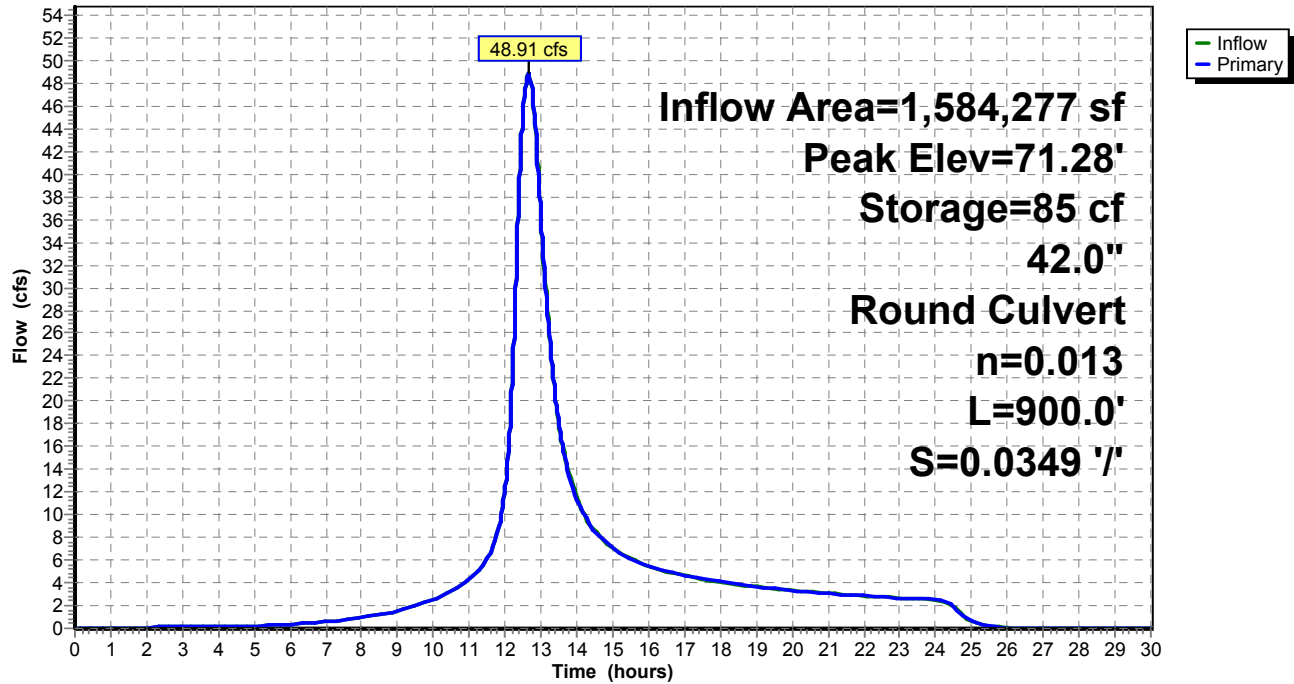
NORWALK 24-hr S1 10 year Rainfall=5.33"

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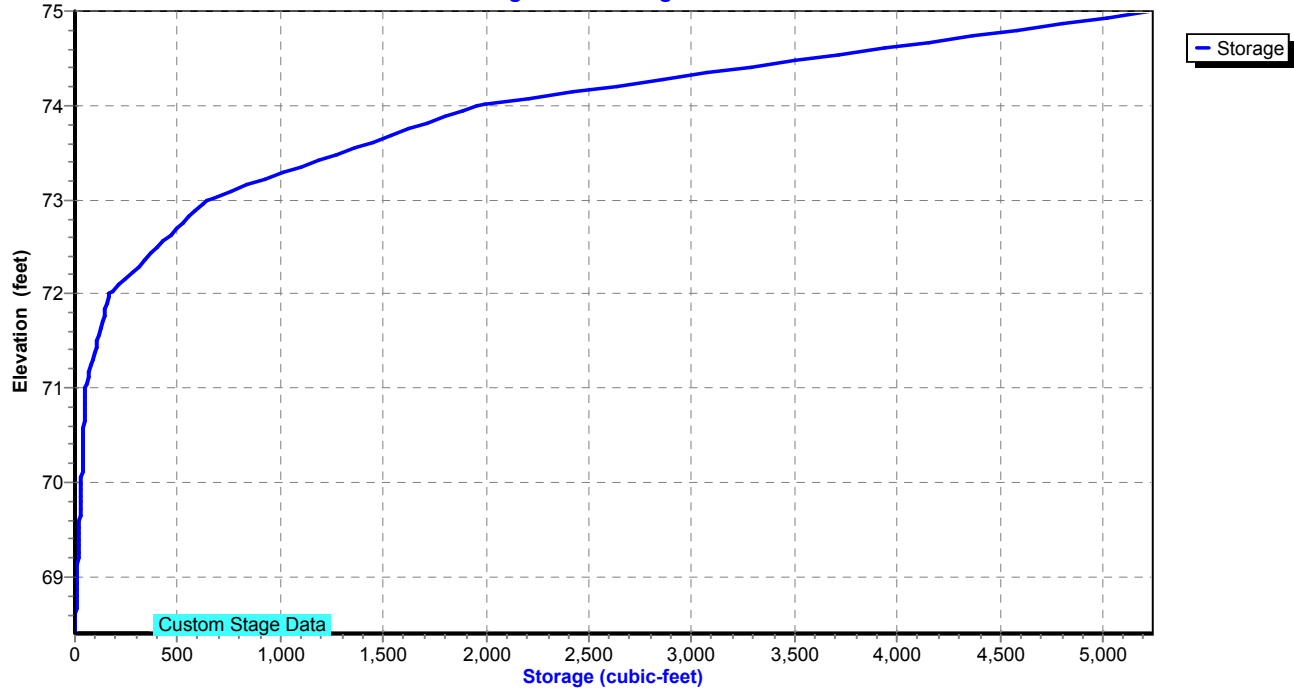
Pond 8P: Comb. 5,6,7,8,9

Hydrograph



Pond 8P: Comb. 5,6,7,8,9

Stage-Area-Storage



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Summary for Pond 9P: MH-K

Inflow Area = 246,332 sf, 62.25% Impervious, Inflow Depth = 4.06" for 10 year event
Inflow = 22.66 cfs @ 12.03 hrs, Volume= 83,382 cf
Outflow = 22.66 cfs @ 12.03 hrs, Volume= 83,382 cf, Atten= 0%, Lag= 0.0 min
Primary = 22.66 cfs @ 12.03 hrs, Volume= 83,382 cf
Routed to Pond 3P : DETENTION BASIN #2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.42' @ 12.03 hrs

Flood Elev= 51.80'

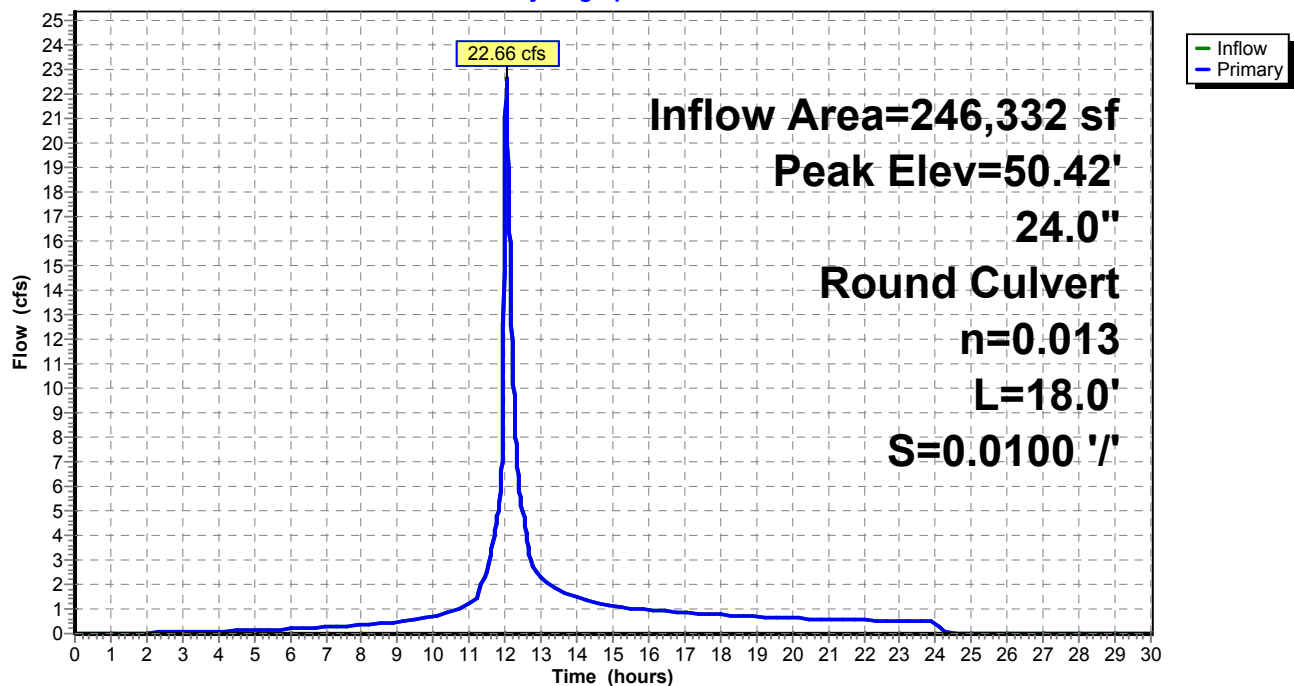
Device	Routing	Invert	Outlet Devices
#1	Primary	47.18'	24.0" Round Culvert L= 18.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.18' / 47.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=22.59 cfs @ 12.03 hrs HW=50.41' (Free Discharge)

↑1=Culvert (Inlet Controls 22.59 cfs @ 7.19 fps)

Pond 9P: MH-K

Hydrograph



Proposed Conditions

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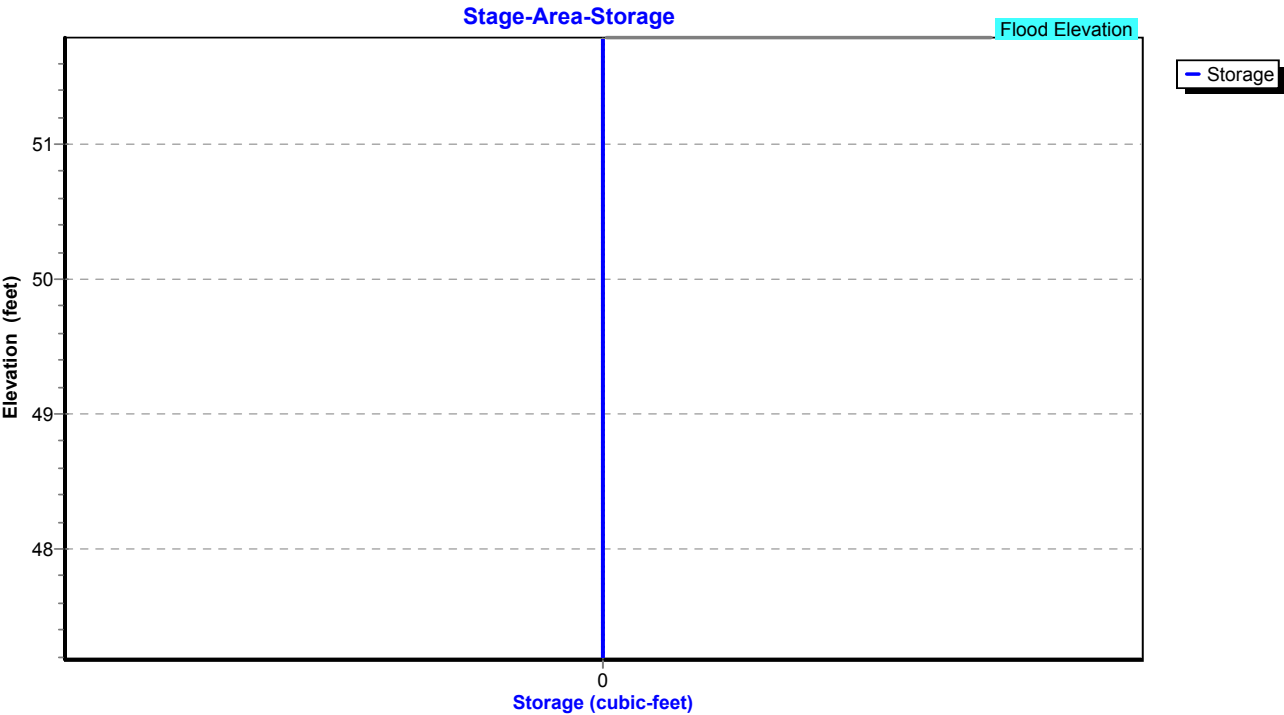
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Pond 9P: MH-K



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Summary for Pond 10P: MH-L

Inflow Area = 71,874 sf, 85.27% Impervious, Inflow Depth = 4.91" for 10 year event
Inflow = 9.67 cfs @ 12.03 hrs, Volume= 29,431 cf
Outflow = 9.67 cfs @ 12.03 hrs, Volume= 29,431 cf, Atten= 0%, Lag= 0.0 min
Primary = 9.67 cfs @ 12.03 hrs, Volume= 29,431 cf
Routed to Pond 9P : MH-K

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.36' @ 12.03 hrs

Flood Elev= 53.00'

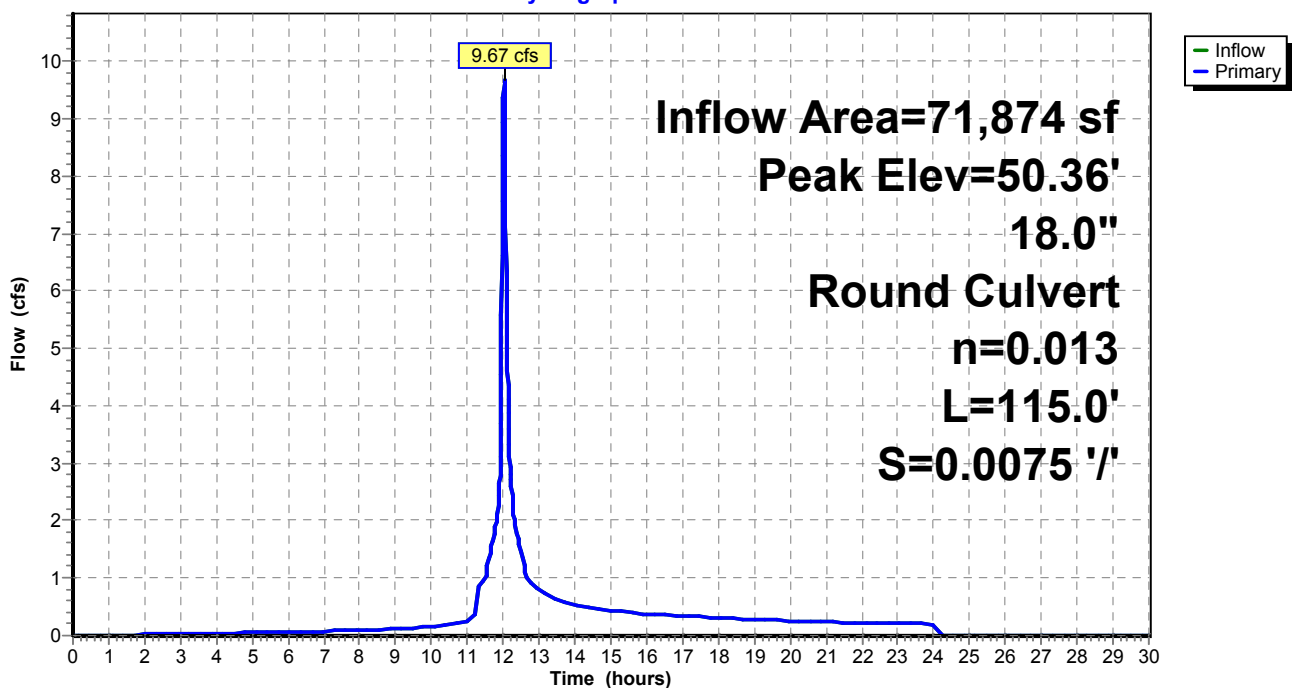
Device	Routing	Invert	Outlet Devices
#1	Primary	48.04'	18.0" Round Culvert L= 115.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.04' / 47.18' S= 0.0075 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=9.63 cfs @ 12.03 hrs HW=50.34' (Free Discharge)

↑1=Culvert (Barrel Controls 9.63 cfs @ 5.45 fps)

Pond 10P: MH-L

Hydrograph



Proposed Conditions

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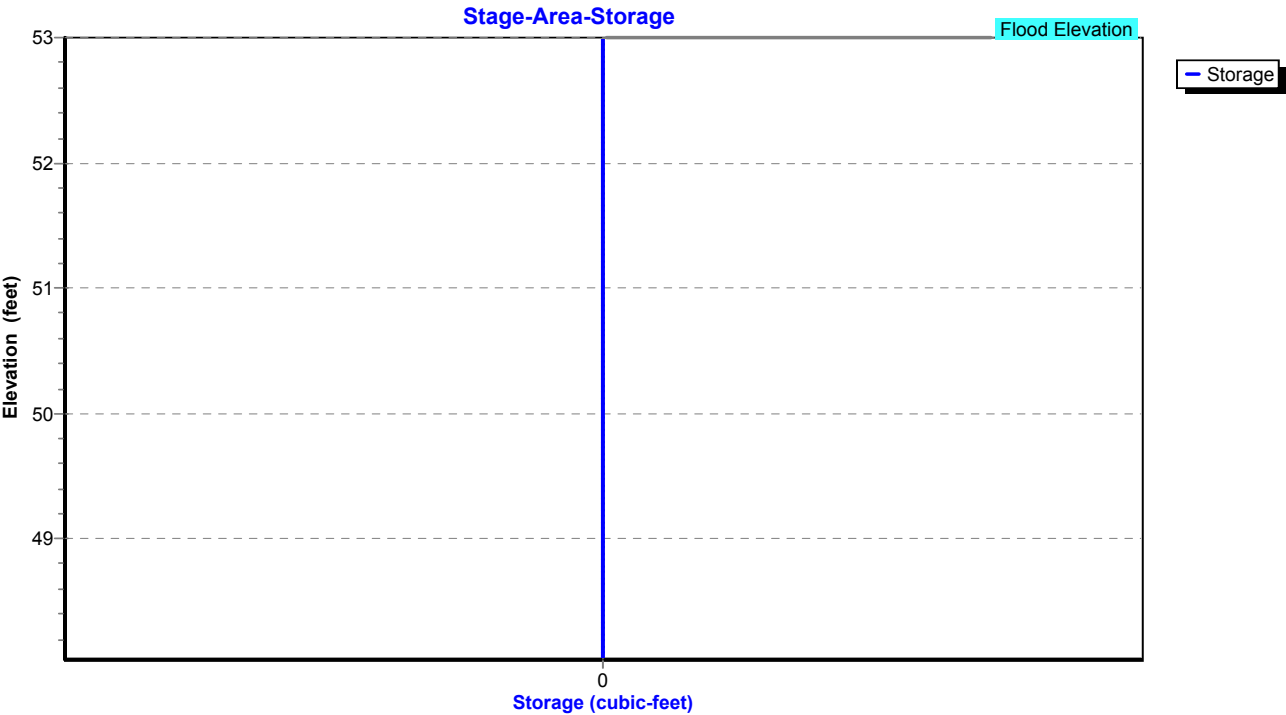
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Pond 10P: MH-L



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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Pond 11P: Pipe Storage

Inflow Area = 40,903 sf, 82.85% Impervious, Inflow Depth = 4.64" for 10 year event
Inflow = 5.41 cfs @ 12.03 hrs, Volume= 15,817 cf
Outflow = 5.53 cfs @ 12.03 hrs, Volume= 17,102 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.53 cfs @ 12.03 hrs, Volume= 17,102 cf
Routed to Pond 10P : MH-L

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 51.36' @ 12.03 hrs Storage= 0.081 af

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 126.1 min (901.5 - 775.4)

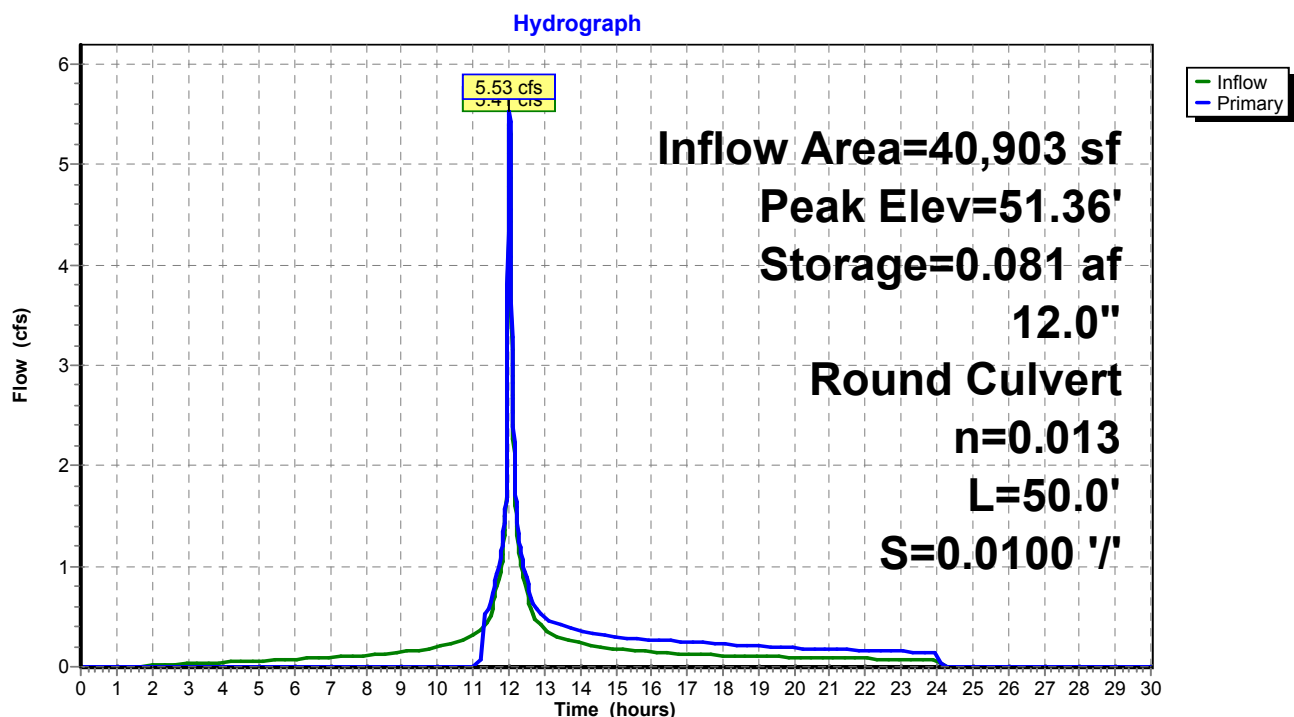
Volume	Invert	Avail.Storage	Storage Description
#1	45.50'	0.081 af	36.0" Round Pipe Storage x 2 L= 250.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.50'	12.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.50' / 48.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=5.51 cfs @ 12.03 hrs HW=51.34' (Free Discharge)

↑1=Culvert (Barrel Controls 5.51 cfs @ 7.01 fps)

Pond 11P: Pipe Storage



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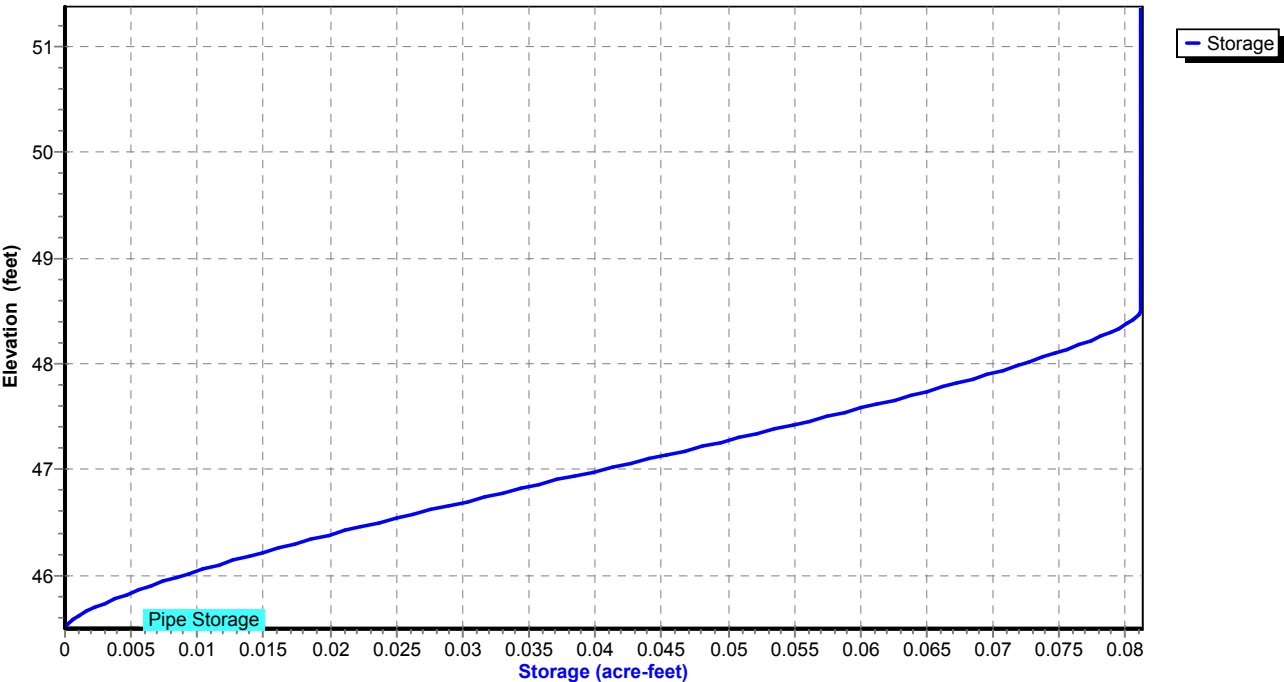
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Pond 11P: Pipe Storage

Stage-Area-Storage



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Summary for Pond 12P: MH-M

Inflow Area = 30,971 sf, 88.47% Impervious, Inflow Depth = 4.78" for 10 year event
Inflow = 4.14 cfs @ 12.03 hrs, Volume= 12,329 cf
Outflow = 4.14 cfs @ 12.03 hrs, Volume= 12,329 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.14 cfs @ 12.03 hrs, Volume= 12,329 cf
Routed to Pond 10P : MH-L

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.13' @ 12.03 hrs

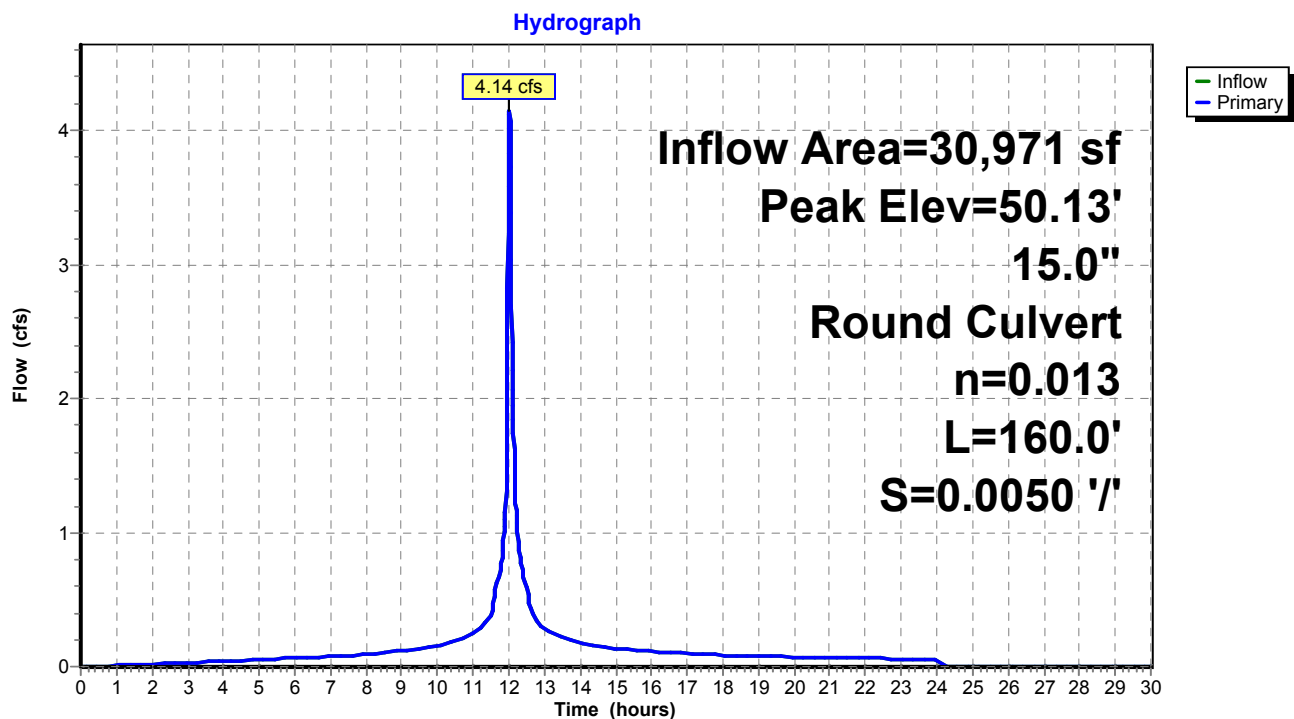
Flood Elev= 54.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.84'	15.0" Round Culvert L= 160.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.84' / 48.04' S= 0.0050 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=4.13 cfs @ 12.03 hrs HW=50.13' (Free Discharge)

↑1=Culvert (Barrel Controls 4.13 cfs @ 4.06 fps)

Pond 12P: MH-M



Proposed Conditions

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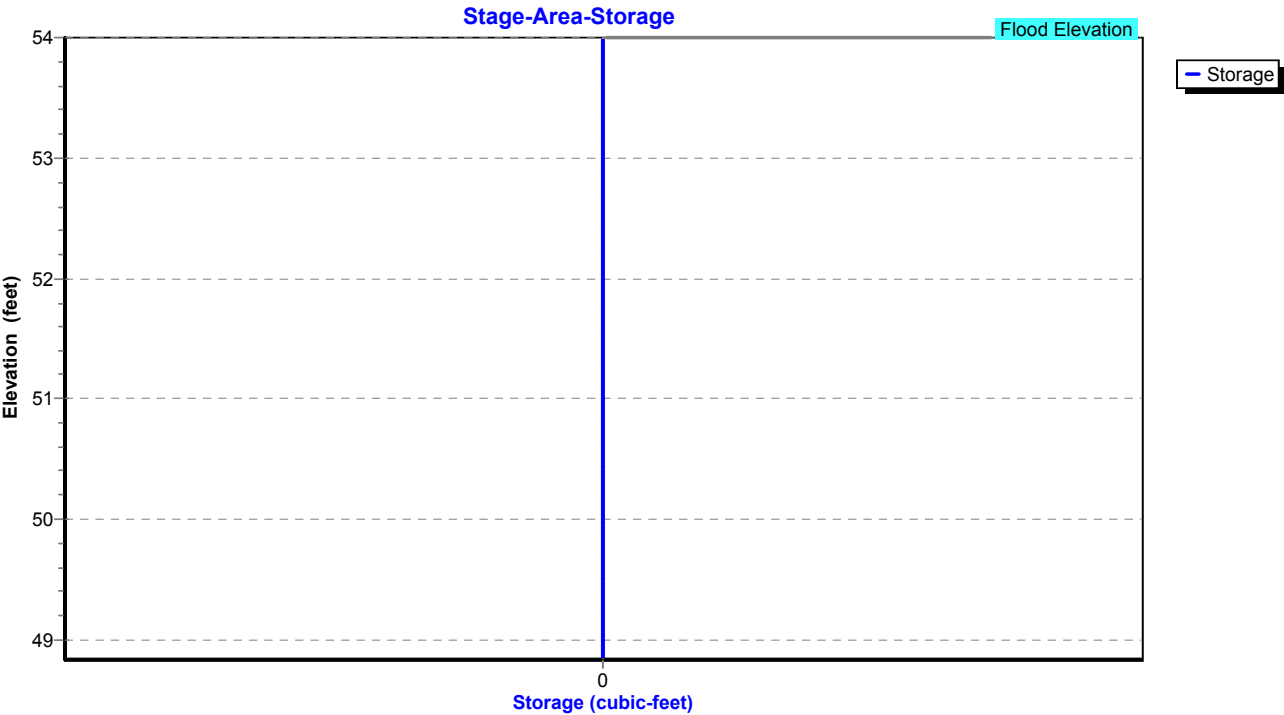
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Pond 12P: MH-M



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Summary for Pond 13P: MH-J

Inflow Area = 17,032 sf, 79.03% Impervious, Inflow Depth = 4.52" for 10 year event
Inflow = 2.23 cfs @ 12.03 hrs, Volume= 6,416 cf
Outflow = 2.23 cfs @ 12.03 hrs, Volume= 6,416 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.23 cfs @ 12.03 hrs, Volume= 6,416 cf
Routed to Pond 12P : MH-M

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.57' @ 12.03 hrs

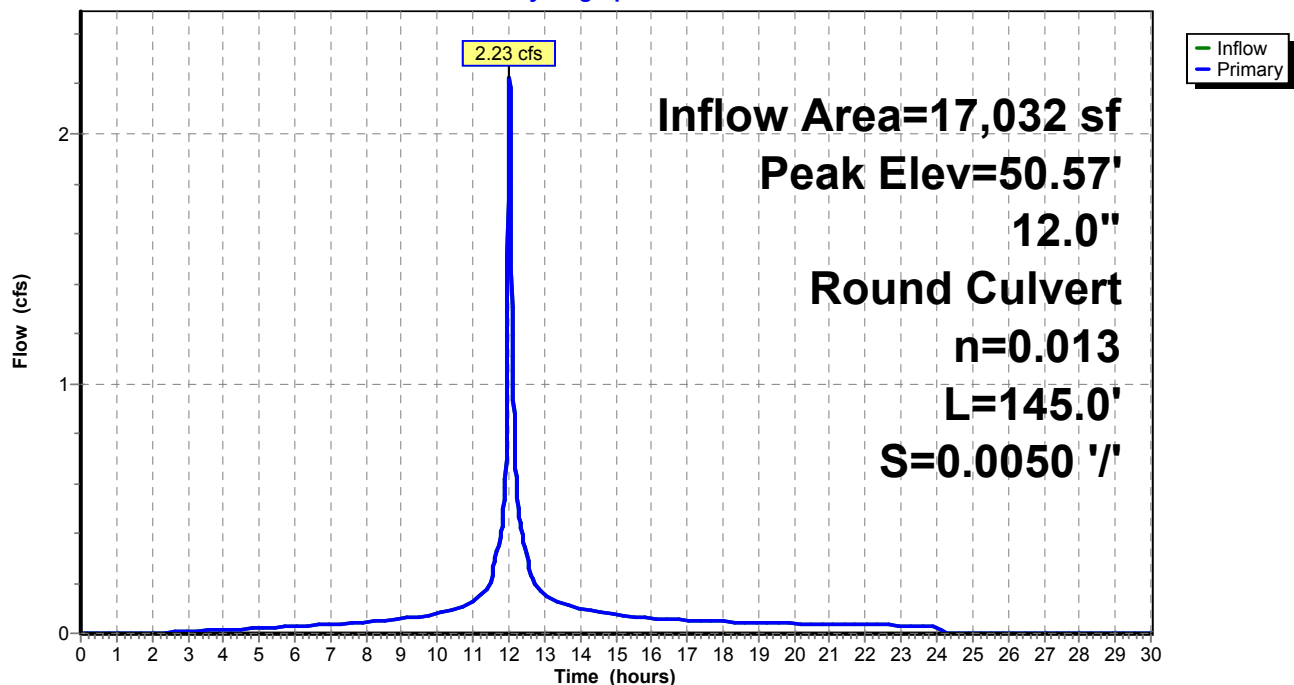
Device	Routing	Invert	Outlet Devices
#1	Primary	49.57'	12.0" Round Culvert L= 145.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.57' / 48.84' S= 0.0050 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=2.22 cfs @ 12.03 hrs HW=50.56' (Free Discharge)

↑1=Culvert (Barrel Controls 2.22 cfs @ 3.53 fps)

Pond 13P: MH-J

Hydrograph



Proposed Conditions

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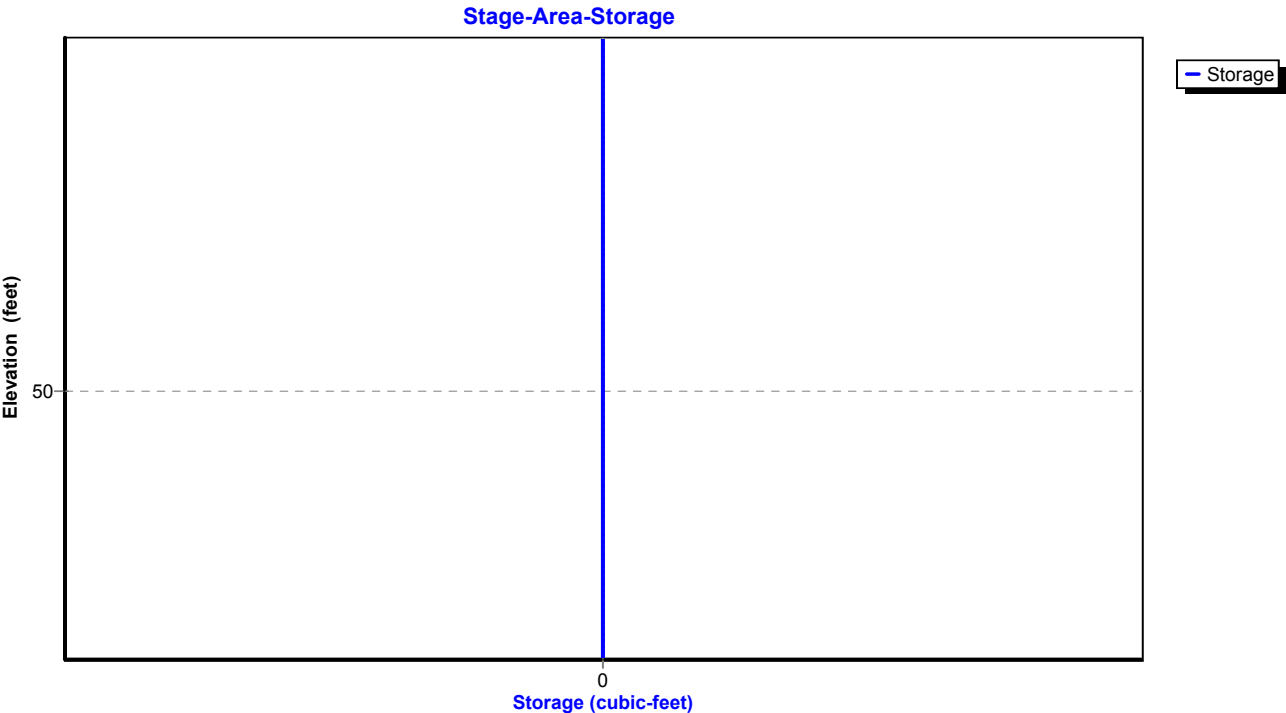
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Pond 13P: MH-J



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Summary for Pond 14P: MH-O

Inflow Area = 144,140 sf, 45.36% Impervious, Inflow Depth = 3.49" for 10 year event
Inflow = 9.99 cfs @ 12.10 hrs, Volume= 41,963 cf
Outflow = 9.99 cfs @ 12.10 hrs, Volume= 41,963 cf, Atten= 0%, Lag= 0.0 min
Primary = 9.99 cfs @ 12.10 hrs, Volume= 41,963 cf
Routed to Pond 9P : MH-K

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.15' @ 12.10 hrs

Flood Elev= 51.80'

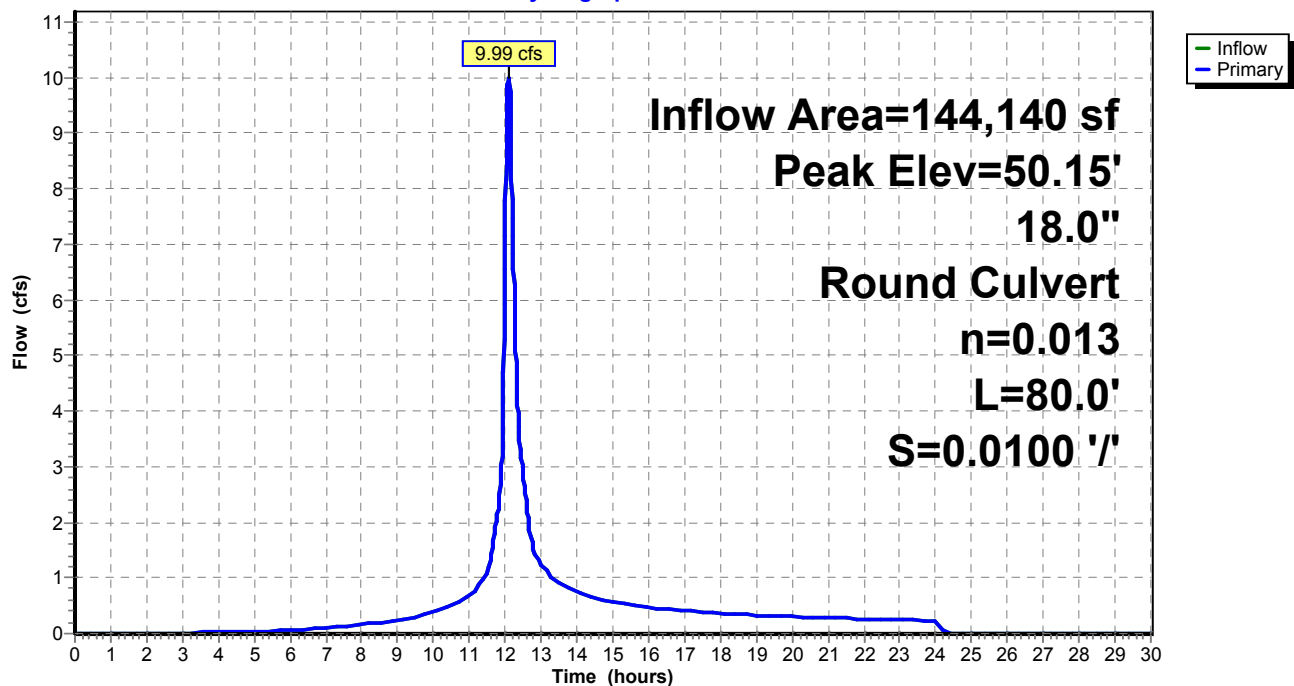
Device	Routing	Invert	Outlet Devices
#1	Primary	47.98'	18.0" Round Culvert L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.98' / 47.18' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=9.98 cfs @ 12.10 hrs HW=50.15' (Free Discharge)

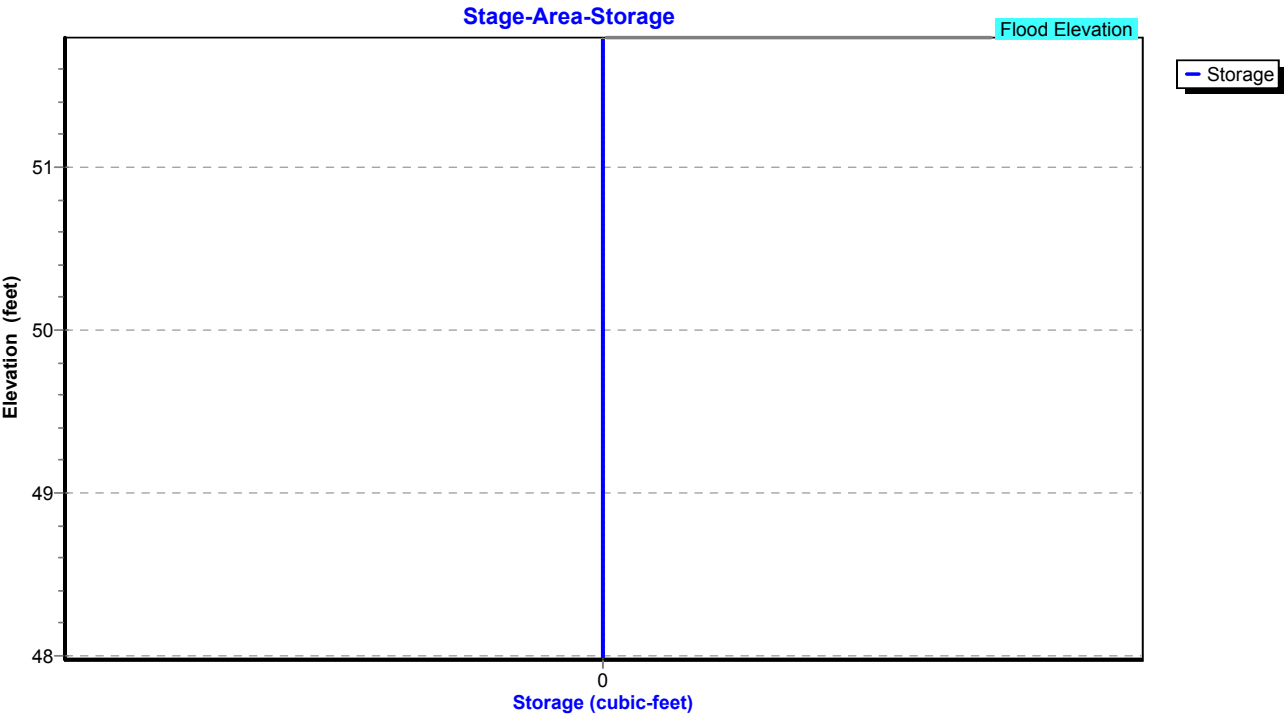
↑1=Culvert (Barrel Controls 9.98 cfs @ 5.65 fps)

Pond 14P: MH-O

Hydrograph



Pond 14P: MH-O



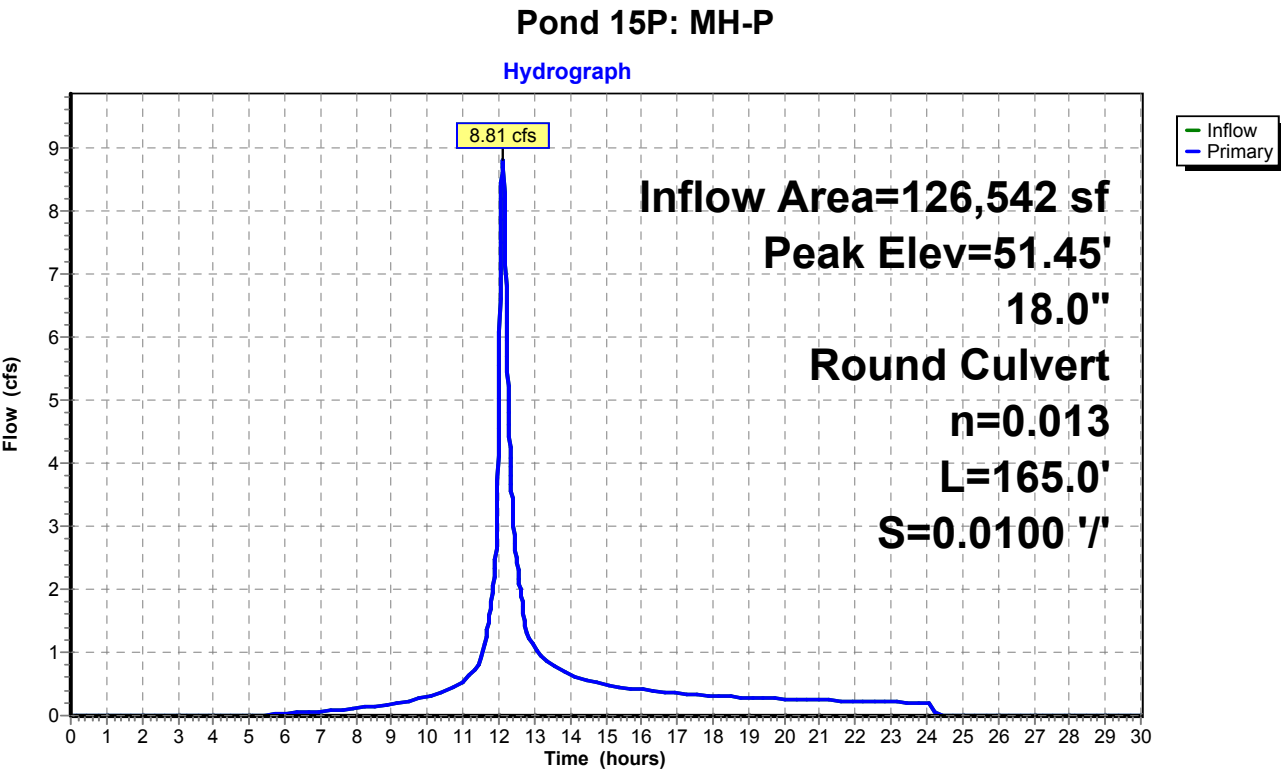
Summary for Pond 15P: MH-P

Inflow Area = 126,542 sf, 40.90% Impervious, Inflow Depth = 3.35" for 10 year event
Inflow = 8.81 cfs @ 12.11 hrs, Volume= 35,313 cf
Outflow = 8.81 cfs @ 12.11 hrs, Volume= 35,313 cf, Atten= 0%, Lag= 0.0 min
Primary = 8.81 cfs @ 12.11 hrs, Volume= 35,313 cf
Routed to Pond 14P : MH-O

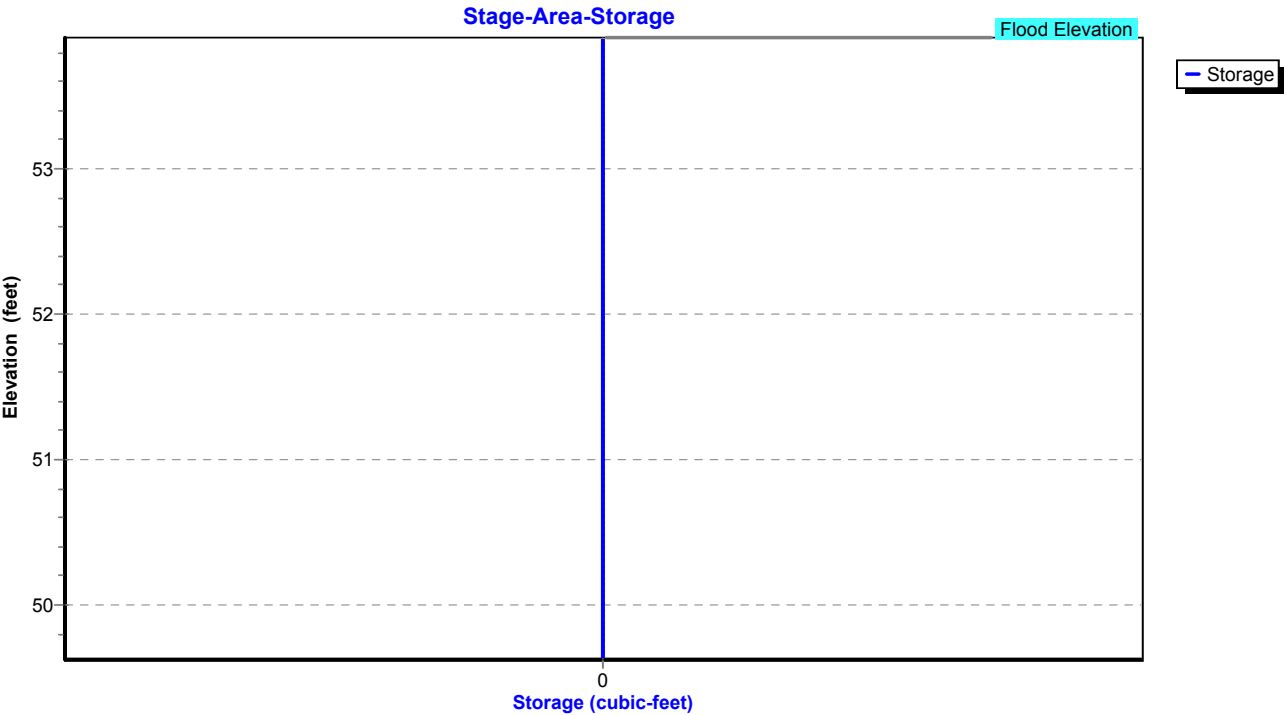
Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 51.45' @ 12.11 hrs
Flood Elev= 53.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	49.63'	18.0" Round Culvert L= 165.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.63' / 47.98' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=8.81 cfs @ 12.11 hrs HW=51.45' (Free Discharge)
1=Culvert (Inlet Controls 8.81 cfs @ 4.98 fps)



Pond 15P: MH-P



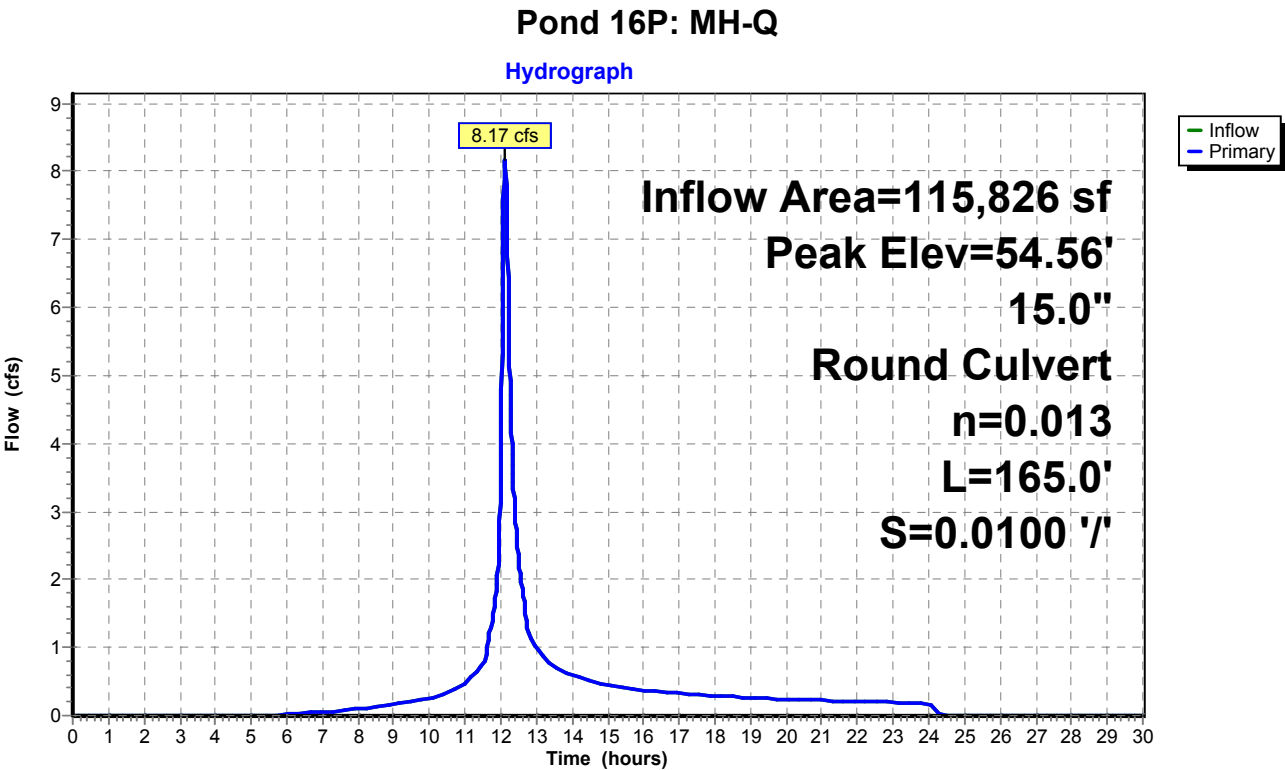
Summary for Pond 16P: MH-Q

Inflow Area = 115,826 sf, 38.74% Impervious, Inflow Depth = 3.28" for 10 year event
Inflow = 8.17 cfs @ 12.12 hrs, Volume= 31,629 cf
Outflow = 8.17 cfs @ 12.12 hrs, Volume= 31,629 cf, Atten= 0%, Lag= 0.0 min
Primary = 8.17 cfs @ 12.12 hrs, Volume= 31,629 cf
Routed to Pond 15P : MH-P

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 54.56' @ 12.12 hrs
Flood Elev= 55.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.28'	15.0" Round Culvert L= 165.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 51.28' / 49.63' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=8.16 cfs @ 12.12 hrs HW=54.55' (Free Discharge)
1=Culvert (Barrel Controls 8.16 cfs @ 6.65 fps)



Proposed Conditions

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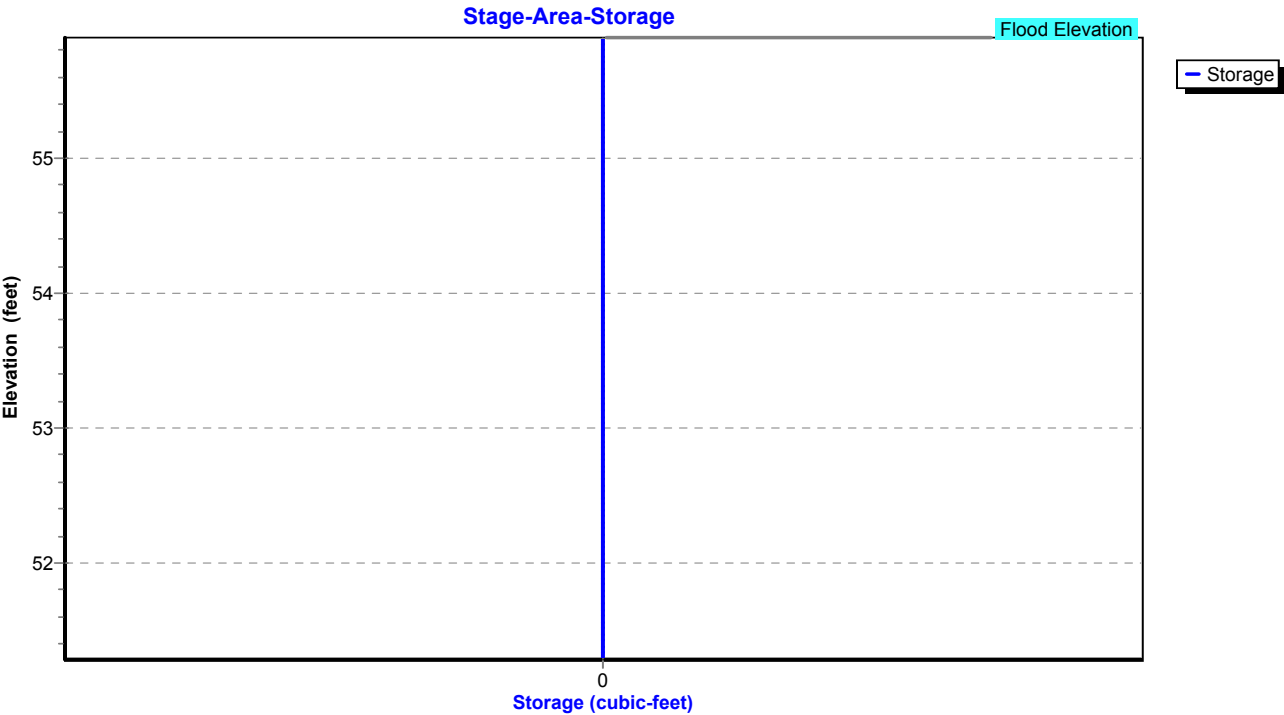
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Pond 16P: MH-Q



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Summary for Pond 17P: DET 12 Culvert

Inflow Area = 2,935,247 sf, 23.28% Impervious, Inflow Depth = 2.63" for 10 year event
 Inflow = 51.37 cfs @ 13.08 hrs, Volume= 644,488 cf
 Outflow = 51.25 cfs @ 13.11 hrs, Volume= 644,488 cf, Atten= 0%, Lag= 1.6 min
 Primary = 51.25 cfs @ 13.11 hrs, Volume= 644,488 cf
 Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 46.37' @ 13.11 hrs Surf.Area= 3,343 sf Storage= 4,272 cf

Plug-Flow detention time= 1.6 min calculated for 644,273 cf (100% of inflow)
 Center-of-Mass det. time= 1.6 min (922.4 - 920.8)

Volume	Invert	Avail.Storage	Storage Description
#1	43.80'	45,995 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
43.80	222	0	0
44.00	709	93	93
45.00	1,401	1,055	1,148
46.00	2,634	2,018	3,166
47.00	4,548	3,591	6,757
48.00	6,960	5,754	12,511
49.00	9,390	8,175	20,686
50.00	12,553	10,972	31,657
51.00	16,122	14,338	45,995

Device	Routing	Invert	Outlet Devices
#1	Primary	43.80'	54.0" Round Culvert L= 281.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 43.80' / 23.20' S= 0.0733 ' / Cc= 0.900 n= 0.013, Flow Area= 15.90 sf

Primary OutFlow Max=51.24 cfs @ 13.11 hrs HW=46.37' (Free Discharge)

↑**1=Culvert** (Inlet Controls 51.24 cfs @ 5.46 fps)

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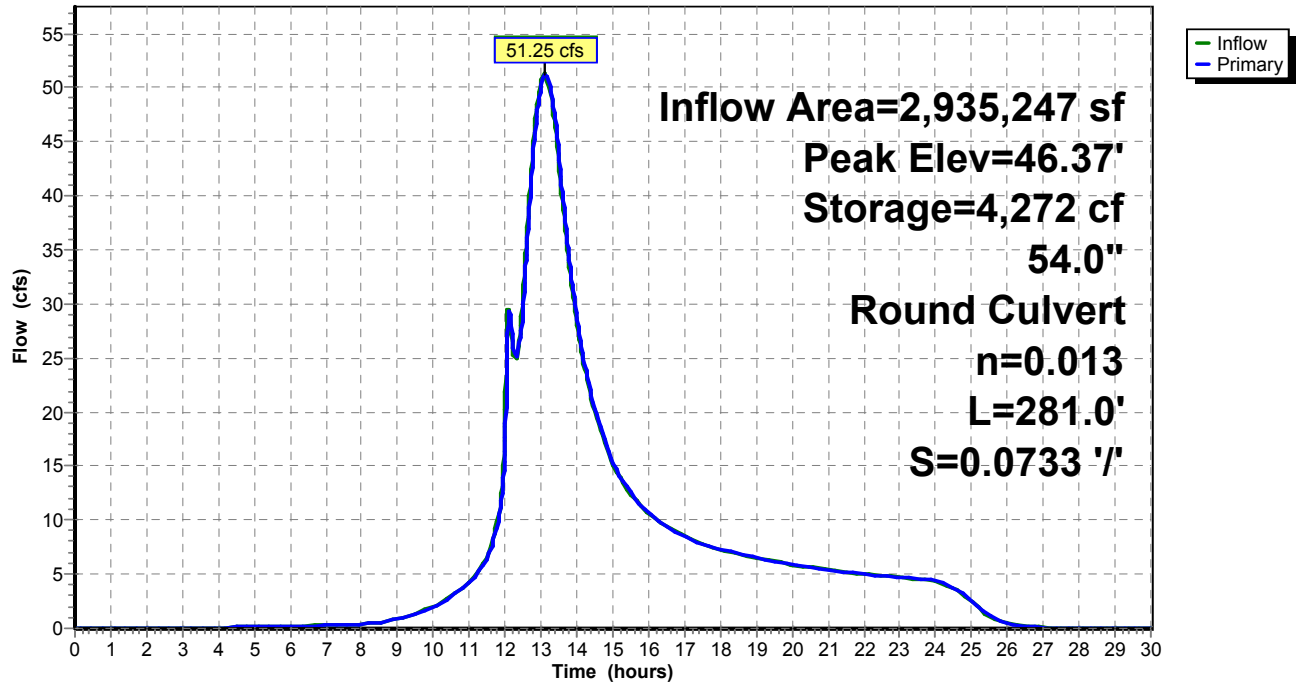
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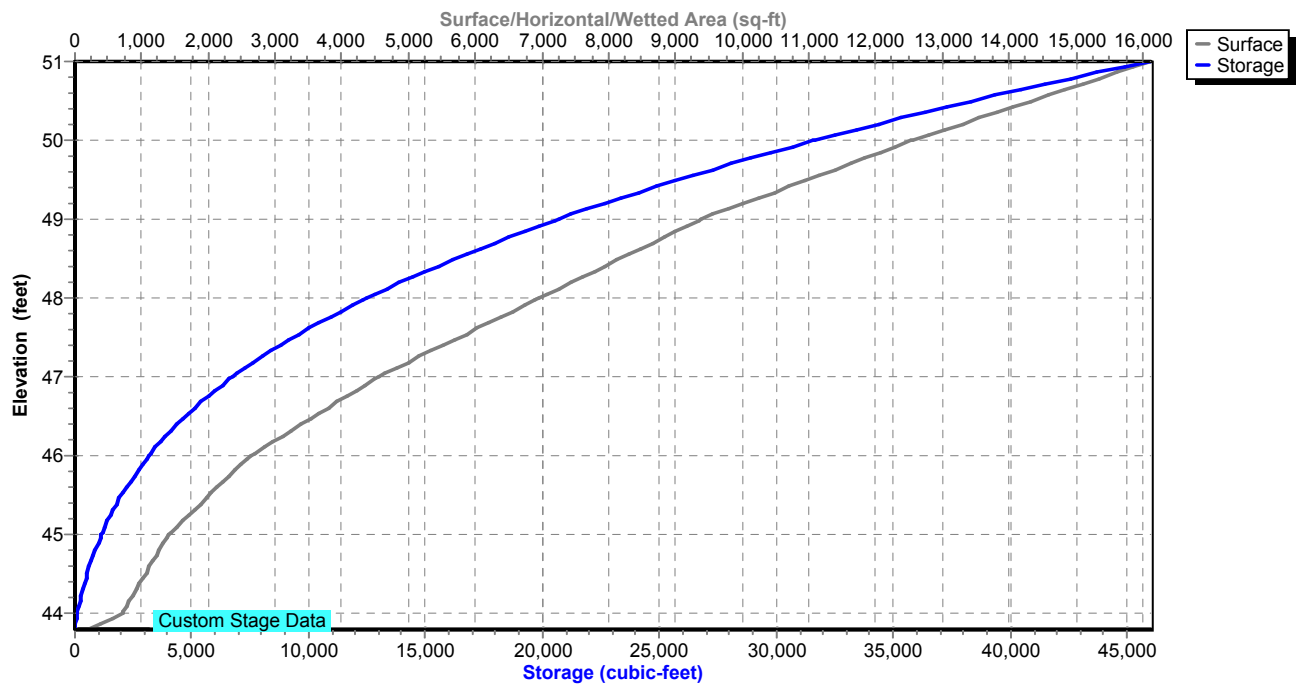
Pond 17P: DET 12 Culvert

Hydrograph



Pond 17P: DET 12 Culvert

Stage-Area-Storage



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Summary for Pond 18P: DET 4 Culvert

Inflow Area = 2,651,933 sf, 21.42% Impervious, Inflow Depth = 2.54" for 10 year event
 Inflow = 49.15 cfs @ 13.07 hrs, Volume= 561,420 cf
 Outflow = 49.10 cfs @ 13.08 hrs, Volume= 561,420 cf, Atten= 0%, Lag= 0.8 min
 Primary = 49.10 cfs @ 13.08 hrs, Volume= 561,420 cf
 Routed to Pond 17P : DET 12 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 65.58' @ 13.08 hrs Surf.Area= 526 sf Storage= 691 cf

Plug-Flow detention time= 0.2 min calculated for 561,233 cf (100% of inflow)
 Center-of-Mass det. time= 0.2 min (935.4 - 935.3)

Volume	Invert	Avail.Storage	Storage Description
#1	62.00'	13,716 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.00	10	0	0
65.00	292	453	453
66.00	695	494	947
67.00	1,049	872	1,819
68.00	1,488	1,269	3,087
69.00	2,004	1,746	4,833
70.00	2,550	2,277	7,110
71.00	3,178	2,864	9,974
72.00	4,305	3,742	13,716

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	36.0" Round Culvert L= 213.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 62.00' / 50.90' S= 0.0521 ' / S= 0.0521 ' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=49.09 cfs @ 13.08 hrs HW=65.58' (Free Discharge)
 ↑ **1=Culvert** (Inlet Controls 49.09 cfs @ 6.95 fps)

Proposed Conditions

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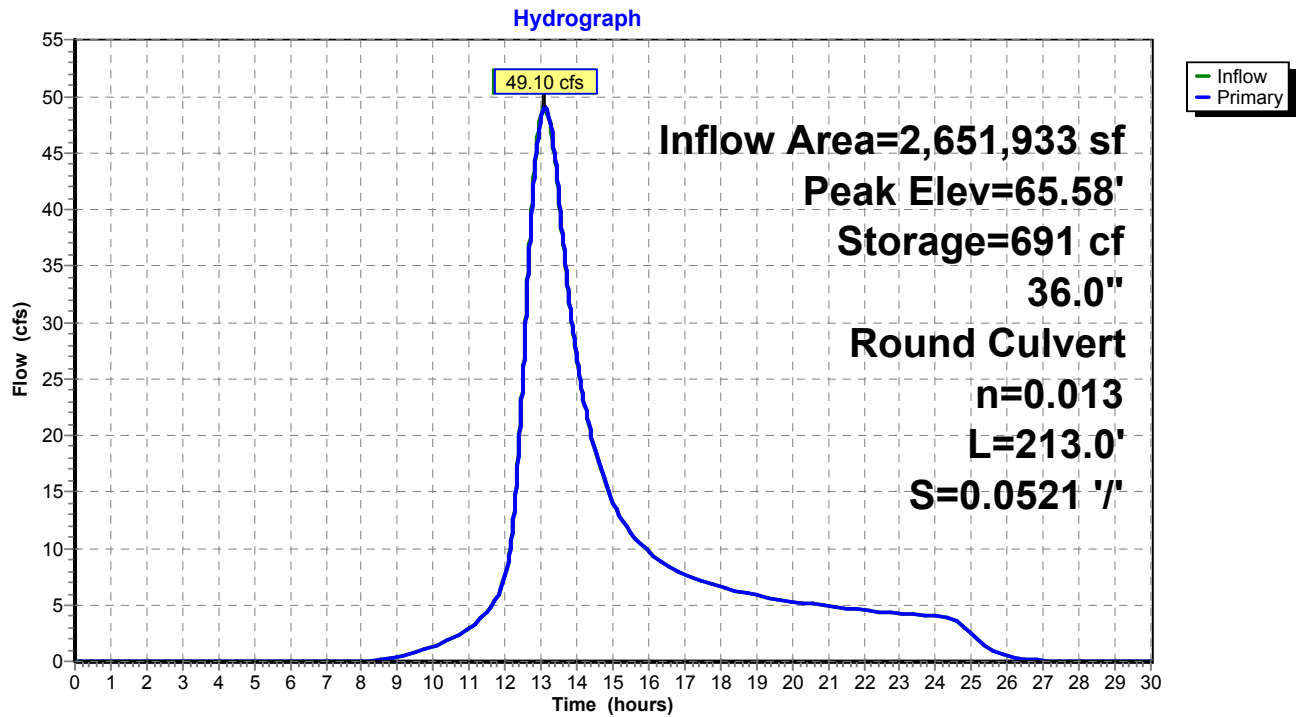
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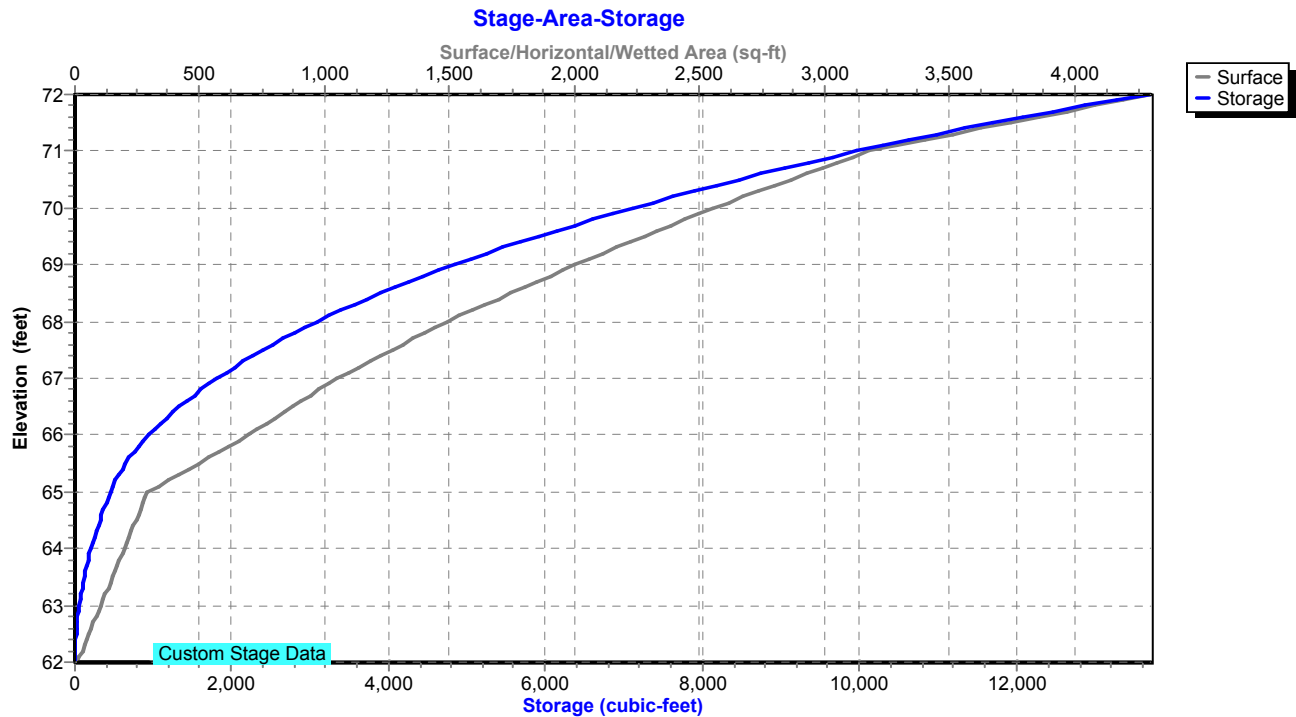
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Pond 18P: DET 4 Culvert



Pond 18P: DET 4 Culvert



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Summary for Pond 20P: ADS Stormtech (160LP)

Inflow Area = 4,966 sf, 80.70% Impervious, Inflow Depth = 4.63" for 10 year event
Inflow = 0.66 cfs @ 12.03 hrs, Volume= 1,917 cf
Outflow = 0.34 cfs @ 12.11 hrs, Volume= 1,848 cf, Atten= 48%, Lag= 4.8 min
Primary = 0.34 cfs @ 12.11 hrs, Volume= 1,848 cf
Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 74.59' @ 12.11 hrs Surf.Area= 365 sf Storage= 315 cf

Plug-Flow detention time= 55.5 min calculated for 1,848 cf (96% of inflow)
Center-of-Mass det. time= 32.9 min (810.3 - 777.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	73.00'	227 cf	14.50'W x 23.83'L x 2.00'H Field A 691 cf Overall - 123 cf Embedded = 568 cf x 40.0% Voids
#2A	73.50'	123 cf	ADS_StormTech SC-160LP +Cap x 18 Inside #1 Effective Size= 18.0"W x 12.0"H => 0.96 sf x 7.12'L = 6.8 cf Overall Size= 25.0"W x 12.0"H x 7.56'L with 0.44' Overlap 18 Chambers in 6 Rows
#3	73.50'	22 cf	5.00'D x 1.10'H OCS
		372 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	73.50'	12.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 73.50' / 73.00' S= 0.0313 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	74.40'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 2.75 2.75 Width (feet) 0.33 0.33 5.00
#3	Device 1	73.00'	3.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.34 cfs @ 12.11 hrs HW=74.59' (Free Discharge)

- 1=Culvert (Passes 0.34 cfs of 2.91 cfs potential flow)
- 2=Custom Weir/Orifice (Weir Controls 0.09 cfs @ 1.44 fps)
- 3=Orifice/Grate (Orifice Controls 0.25 cfs @ 5.03 fps)

Proposed Conditions

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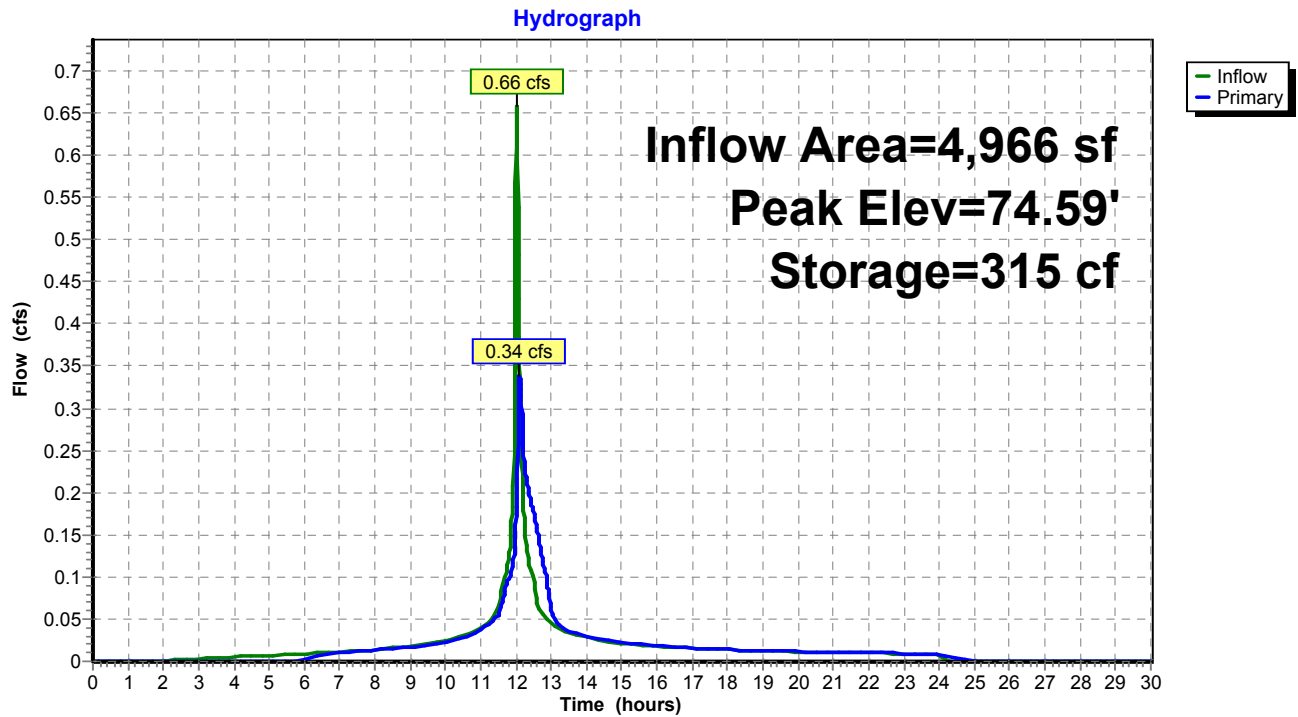
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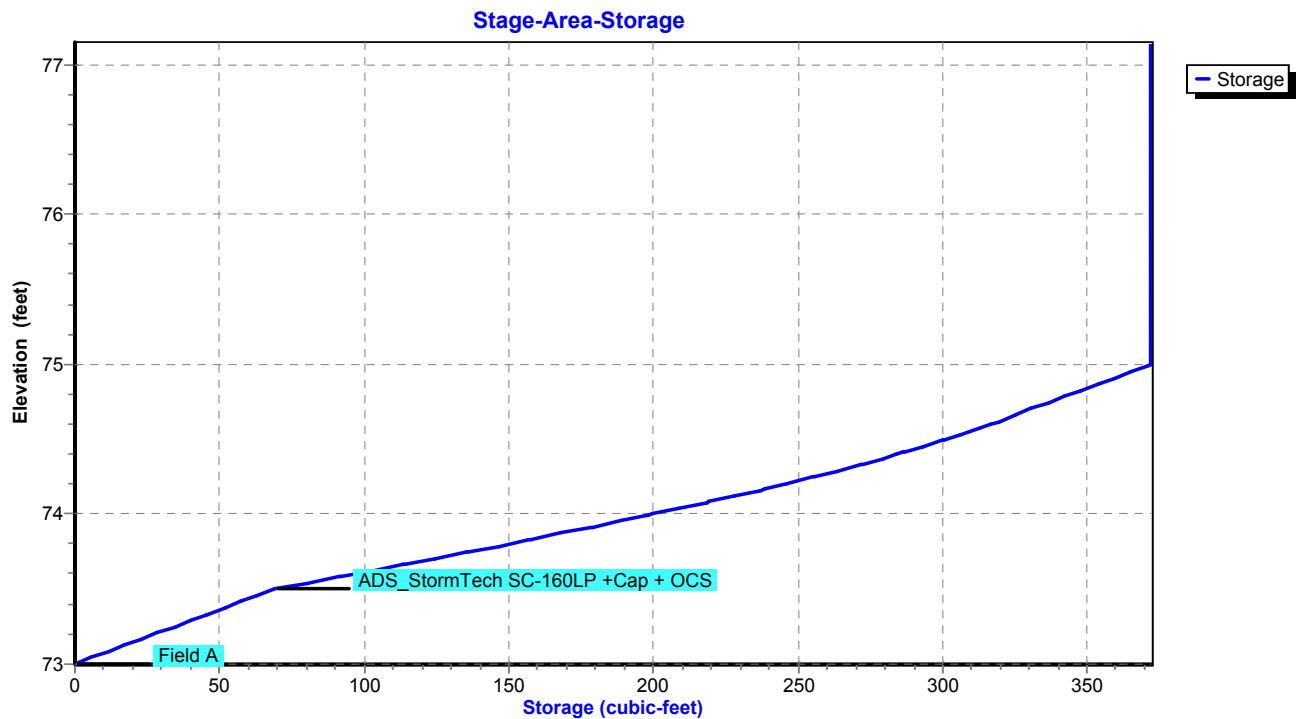
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Pond 20P: ADS Stormtech (160LP)



Pond 20P: ADS Stormtech (160LP)



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Summary for Pond 21P: DET 1 Culvert

Inflow Area = 533,174 sf, 25.00% Impervious, Inflow Depth = 2.54" for 10 year event
 Inflow = 14.60 cfs @ 12.53 hrs, Volume= 112,874 cf
 Outflow = 14.59 cfs @ 12.56 hrs, Volume= 112,874 cf, Atten= 0%, Lag= 2.1 min
 Primary = 14.59 cfs @ 12.56 hrs, Volume= 112,874 cf
 Routed to Pond 27P : DET 17 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 38.92' @ 12.56 hrs Surf.Area= 448 sf Storage= 442 cf

Plug-Flow detention time= 0.5 min calculated for 112,837 cf (100% of inflow)
 Center-of-Mass det. time= 0.5 min (898.8 - 898.2)

Volume	Invert	Avail.Storage	Storage Description
#1	37.00'	1,591 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
37.00	66	0	0
38.00	213	140	140
39.00	470	342	481
40.00	1,750	1,110	1,591

Device	Routing	Invert	Outlet Devices
#1	Primary	37.00'	24.0" Round Culvert L= 206.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 37.00' / 27.01' S= 0.0485 ' S= 0.0485 ' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=14.59 cfs @ 12.56 hrs HW=38.92' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 14.59 cfs @ 4.71 fps)

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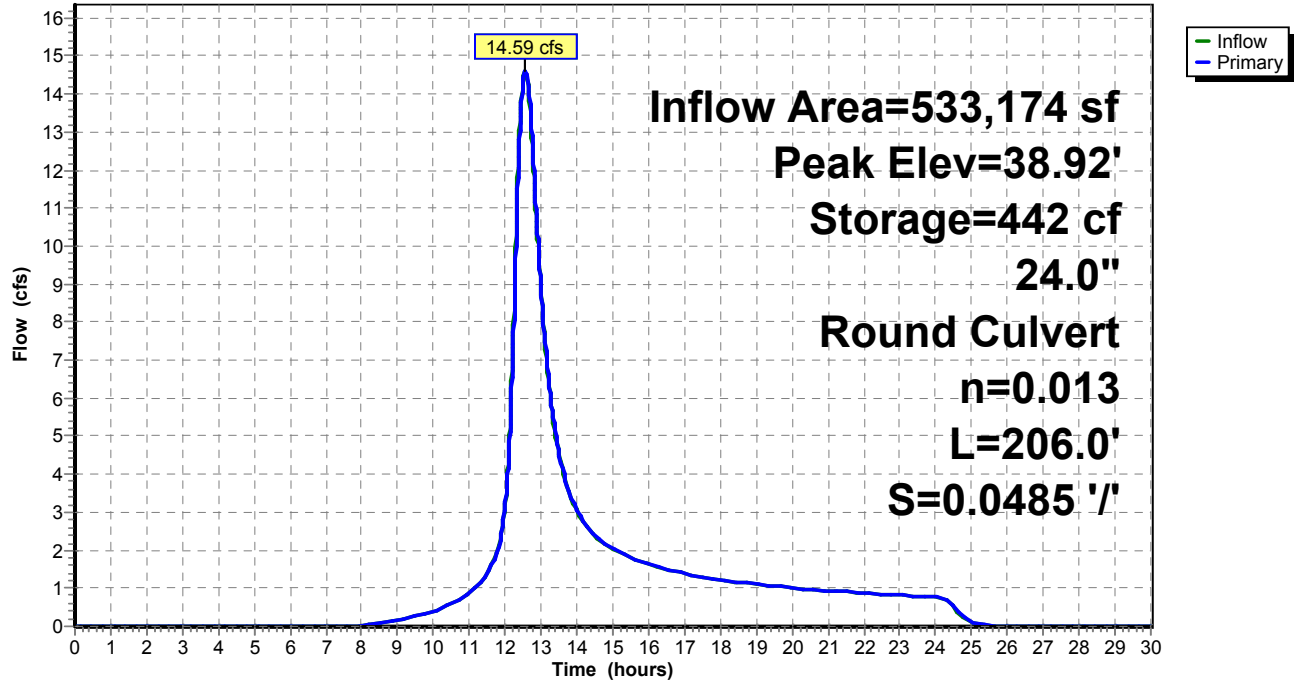
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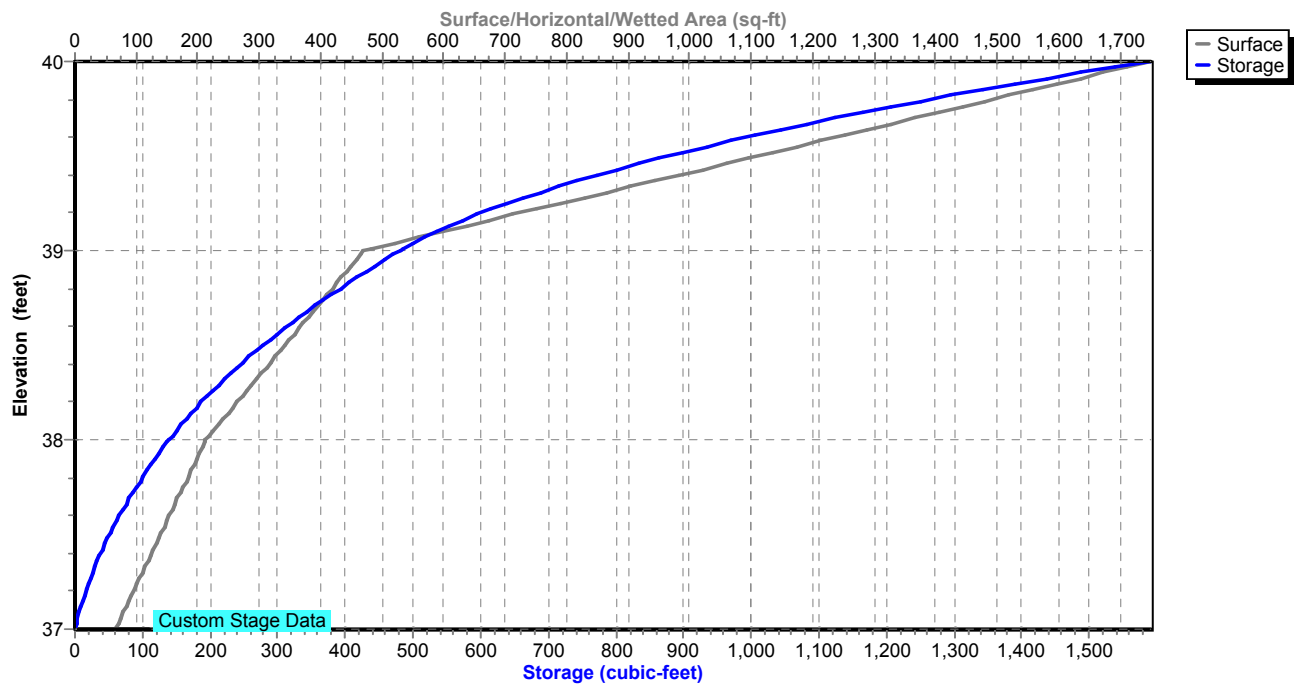
Pond 21P: DET 1 Culvert

Hydrograph



Pond 21P: DET 1 Culvert

Stage-Area-Storage



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Summary for Pond 22P: DET 2 Culvert

Inflow Area = 1,290,247 sf, 25.00% Impervious, Inflow Depth = 2.99" for 10 year event
 Inflow = 34.97 cfs @ 12.74 hrs, Volume= 321,732 cf
 Outflow = 31.92 cfs @ 12.96 hrs, Volume= 321,732 cf, Atten= 9%, Lag= 13.0 min
 Primary = 31.92 cfs @ 12.96 hrs, Volume= 321,732 cf
 Routed to Pond 27P : DET 17 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 37.87' @ 12.96 hrs Surf.Area= 10,516 sf Storage= 13,440 cf

Plug-Flow detention time= 4.4 min calculated for 321,732 cf (100% of inflow)
 Center-of-Mass det. time= 4.4 min (900.6 - 896.2)

Volume	Invert	Avail.Storage	Storage Description
#1	34.80'	46,687 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.80	185	0	0
35.00	813	100	100
36.00	2,345	1,579	1,679
37.00	6,398	4,372	6,050
38.00	11,111	8,755	14,805
39.00	15,364	13,238	28,042
40.00	21,926	18,645	46,687

Device	Routing	Invert	Outlet Devices
#1	Primary	34.80'	30.0" Round Culvert L= 198.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.80' / 28.07' S= 0.0340 ' / S= 0.0340 ' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=31.92 cfs @ 12.96 hrs HW=37.87' (Free Discharge)
 ↑ **1=Culvert** (Inlet Controls 31.92 cfs @ 6.50 fps)

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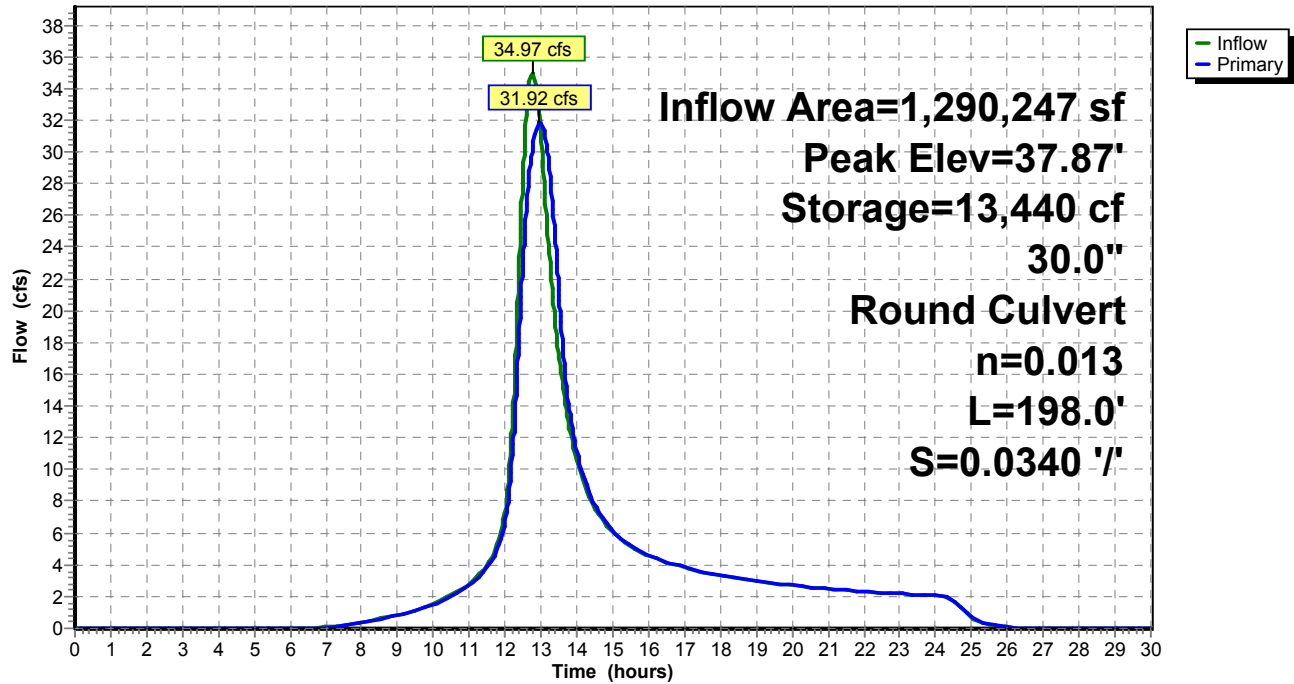
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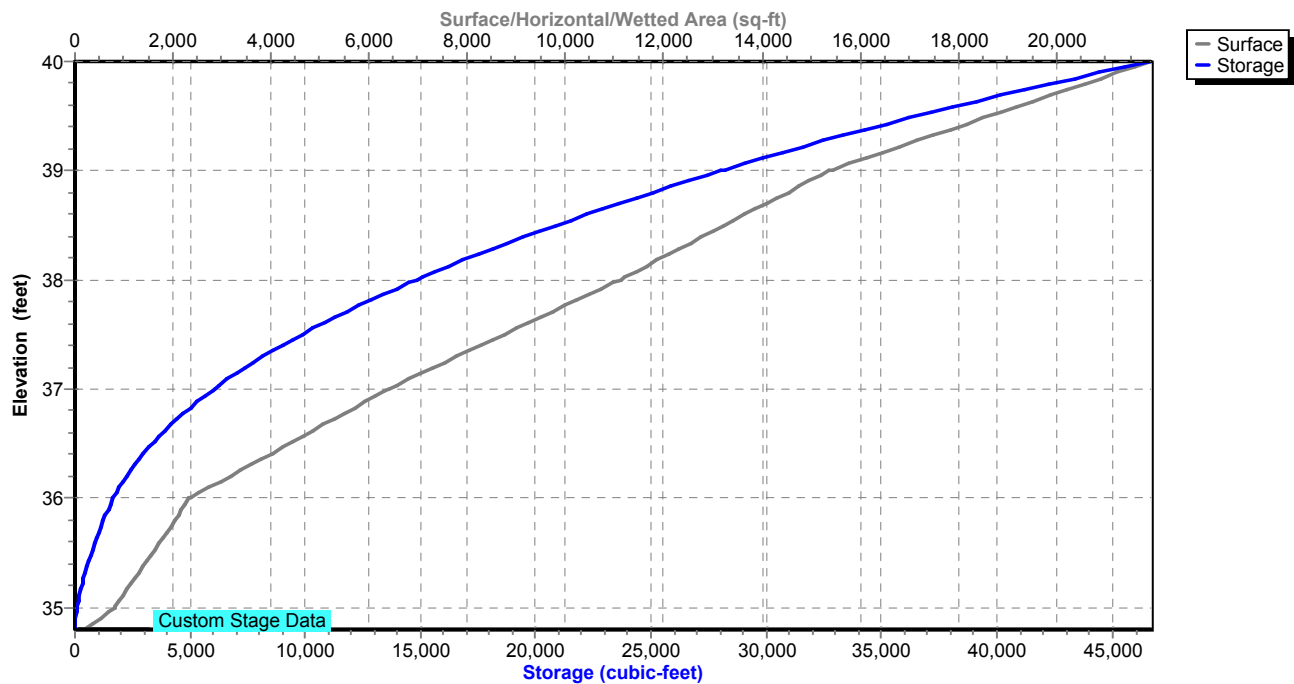
Pond 22P: DET 2 Culvert

Hydrograph



Pond 22P: DET 2 Culvert

Stage-Area-Storage



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Summary for Pond 23P: DET 3 Culvert

Inflow Area = 276,170 sf, 25.00% Impervious, Inflow Depth = 2.63" for 10 year event
 Inflow = 12.34 cfs @ 12.22 hrs, Volume= 60,494 cf
 Outflow = 12.24 cfs @ 12.24 hrs, Volume= 60,494 cf, Atten= 1%, Lag= 1.0 min
 Primary = 12.24 cfs @ 12.24 hrs, Volume= 60,494 cf
 Routed to Pond 26P : DET 16 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 44.16' @ 12.24 hrs Surf.Area= 739 sf Storage= 543 cf

Plug-Flow detention time= 0.6 min calculated for 60,474 cf (100% of inflow)
 Center-of-Mass det. time= 0.6 min (873.1 - 872.5)

Volume	Invert	Avail.Storage	Storage Description
#1	42.50'	16,475 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
42.50	10	0	0
43.00	198	52	52
44.00	572	385	437
45.00	1,607	1,090	1,527
46.00	3,156	2,382	3,908
47.00	5,953	4,555	8,463
48.00	10,072	8,013	16,475

Device	Routing	Invert	Outlet Devices
#1	Primary	42.50'	24.0" Round Culvert L= 202.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 42.50' / 32.20' S= 0.0510 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=12.24 cfs @ 12.24 hrs HW=44.16' (Free Discharge)
 ↑**1=Culvert** (Inlet Controls 12.24 cfs @ 4.39 fps)

Proposed Conditions

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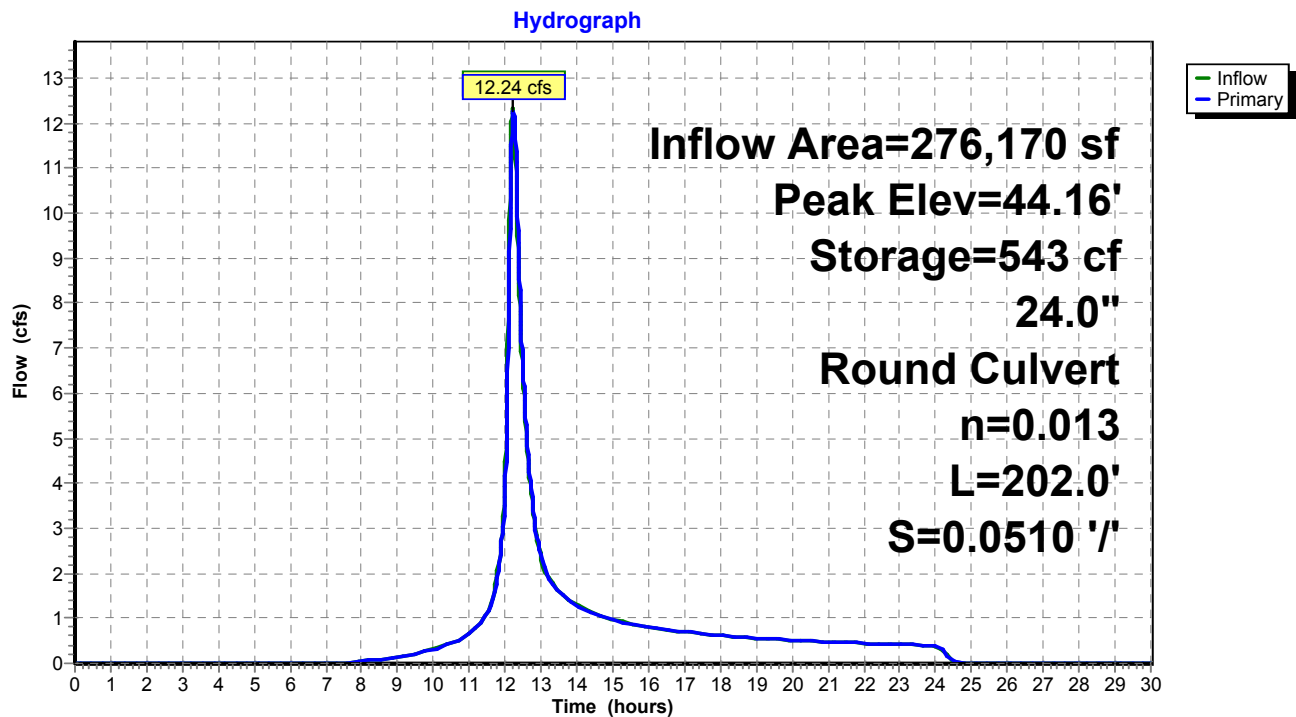
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NORWALK 24-hr S1 10 year Rainfall=5.33"

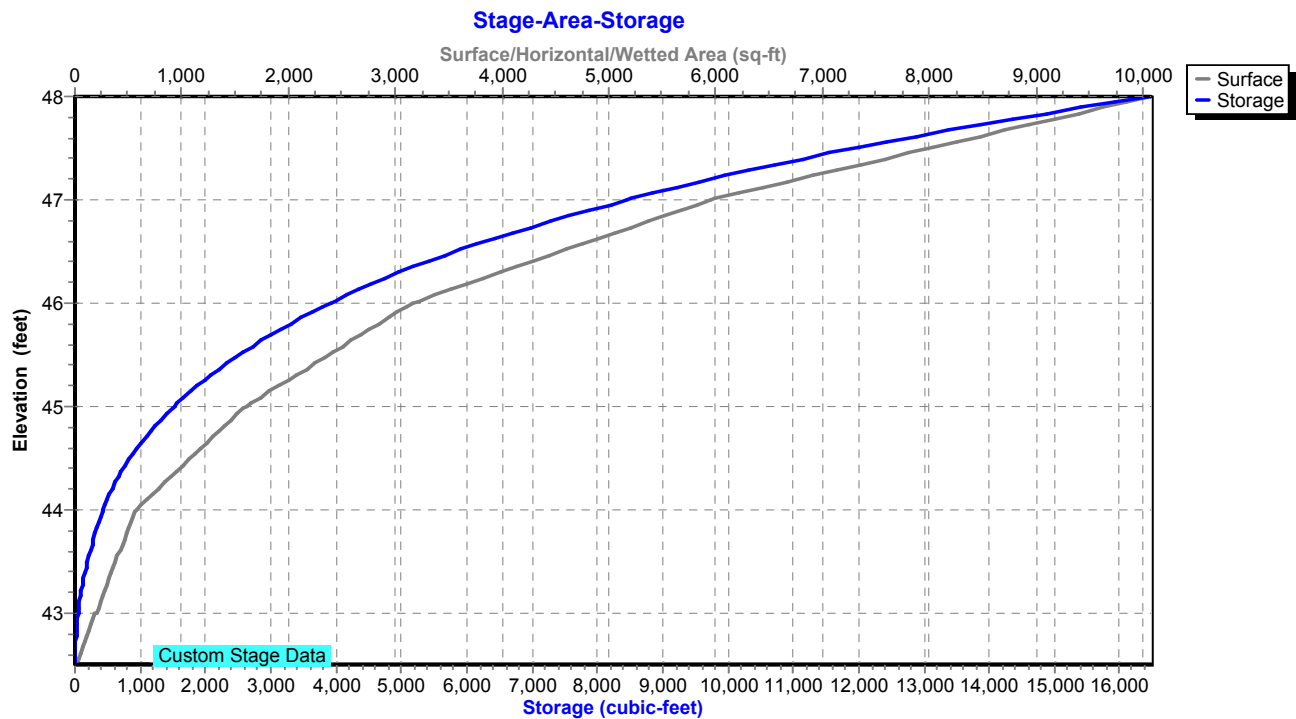
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Pond 23P: DET 3 Culvert



Pond 23P: DET 3 Culvert



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Summary for Pond 24P: RR Culvert 3

Inflow Area = 500,940 sf, 4.78% Impervious, Inflow Depth = 21.93" for 10 year event
 Inflow = 169.79 cfs @ 12.22 hrs, Volume= 915,555 cf
 Outflow = 44.37 cfs @ 13.75 hrs, Volume= 915,549 cf, Atten= 74%, Lag= 92.0 min
 Primary = 44.37 cfs @ 13.75 hrs, Volume= 915,549 cf

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 12.50' @ 13.75 hrs Storage= 502,963 cf

Plug-Flow detention time= 127.1 min calculated for 915,549 cf (100% of inflow)
 Center-of-Mass det. time= 127.1 min (915.3 - 788.2)

Volume	Invert	Avail.Storage	Storage Description
#1	8.10'	2,250,385 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
8.10	0	0
9.00	9	9
10.00	148	157
11.00	64,834	64,991
12.00	244,457	309,448
13.00	383,724	693,172
14.00	435,183	1,128,355
15.00	514,834	1,643,189
16.00	607,196	2,250,385

Device	Routing	Invert	Outlet Devices
#1	Primary	8.10'	30.0" W x 42.0" H Box Culvert L= 135.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 8.10' / 7.80' S= 0.0022 ' / Cc= 0.900 n= 0.019, Flow Area= 8.75 sf

Primary OutFlow Max=44.37 cfs @ 13.75 hrs HW=12.50' (Free Discharge)

↑ **1=Culvert** (Barrel Controls 44.37 cfs @ 5.37 fps)

Proposed Conditions

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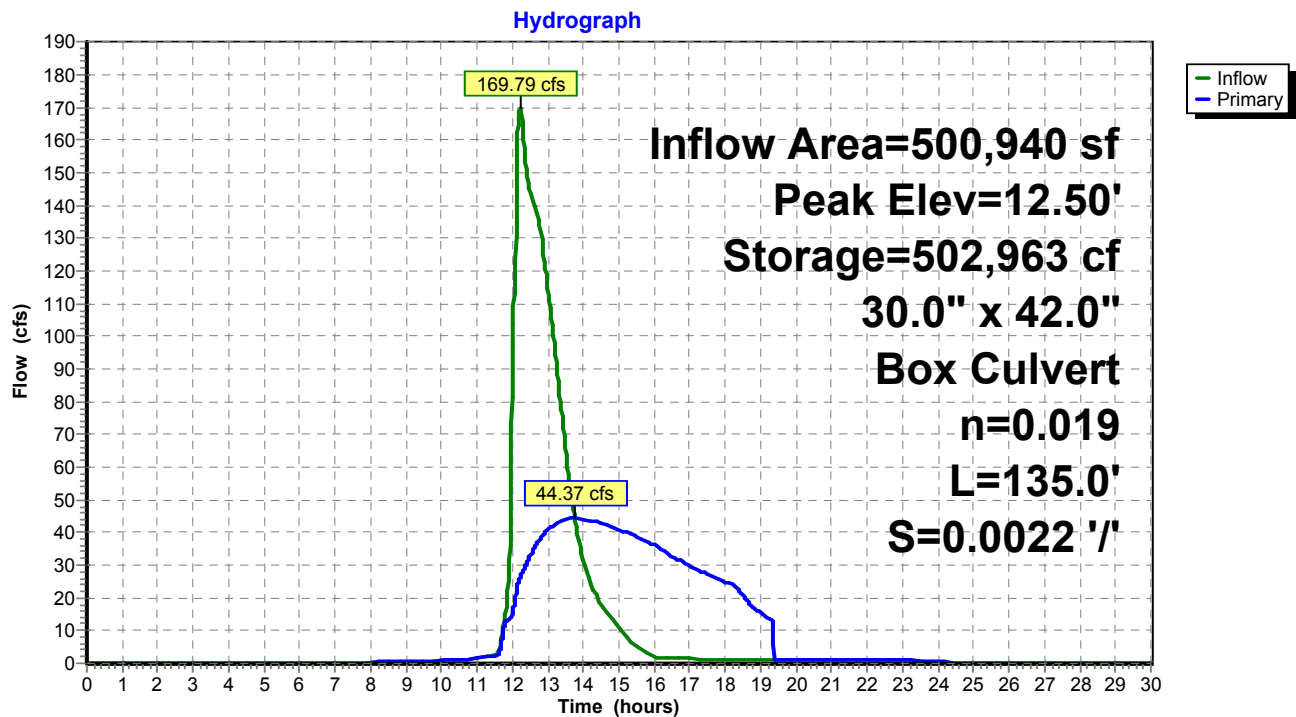
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NORWALK 24-hr S1 10 year Rainfall=5.33"

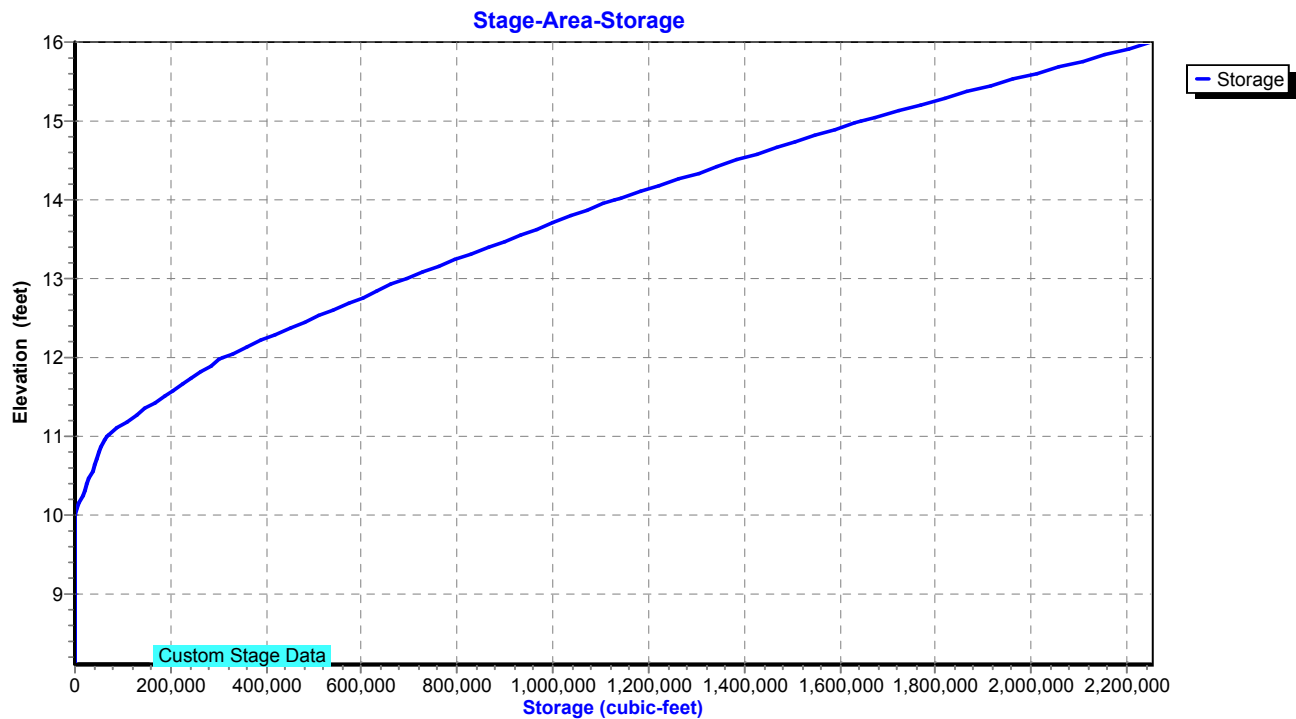
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Pond 24P: RR Culvert 3



Pond 24P: RR Culvert 3



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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Pond 26P: DET 16 Culvert

Inflow Area = 777,546 sf, 30.36% Impervious, Inflow Depth > 2.72" for 10 year event
 Inflow = 27.61 cfs @ 12.21 hrs, Volume= 176,385 cf
 Outflow = 27.60 cfs @ 12.21 hrs, Volume= 176,377 cf, Atten= 0%, Lag= 0.1 min
 Primary = 27.60 cfs @ 12.21 hrs, Volume= 176,377 cf
 Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 20.07' @ 12.21 hrs Surf.Area= 2,197 sf Storage= 2,544 cf

Plug-Flow detention time= 0.7 min calculated for 176,318 cf (100% of inflow)
 Center-of-Mass det. time= 0.7 min (900.9 - 900.3)

Volume	Invert	Avail.Storage	Storage Description
#1	17.00'	11,069 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.00	76	0	0
18.00	323	200	200
19.00	1,002	663	862
20.00	2,073	1,538	2,400
21.00	3,912	2,993	5,392
22.00	7,442	5,677	11,069

Device	Routing	Invert	Outlet Devices
#1	Primary	15.10'	15.0" Round Culvert L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 15.10' / 11.30' S= 0.0691 ' S= 0.0691 ' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Primary	20.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 Width (feet) 200.00 200.00 200.00

Primary OutFlow Max=26.93 cfs @ 12.21 hrs HW=20.07' (Free Discharge)

1=Culvert (Inlet Controls 12.31 cfs @ 10.03 fps)
 2=Custom Weir/Orifice (Weir Controls 14.61 cfs @ 1.08 fps)

Proposed Conditions

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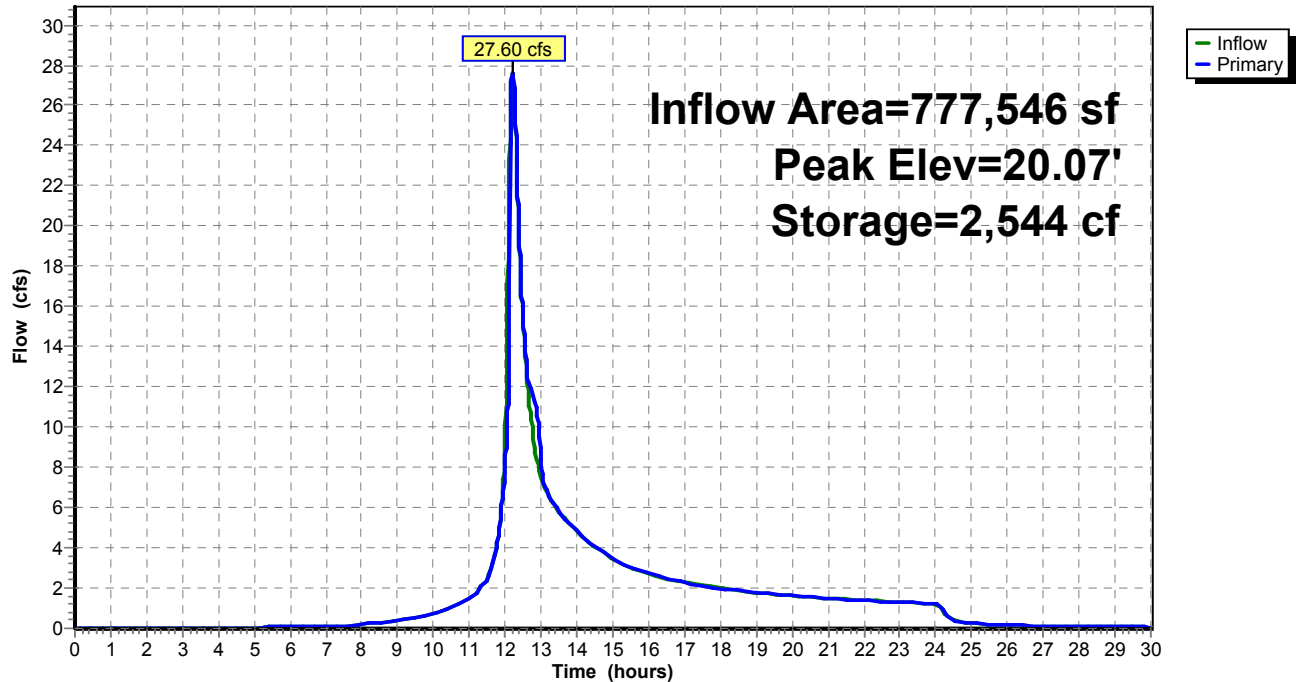
NORWALK 24-hr S1 10 year Rainfall=5.33"

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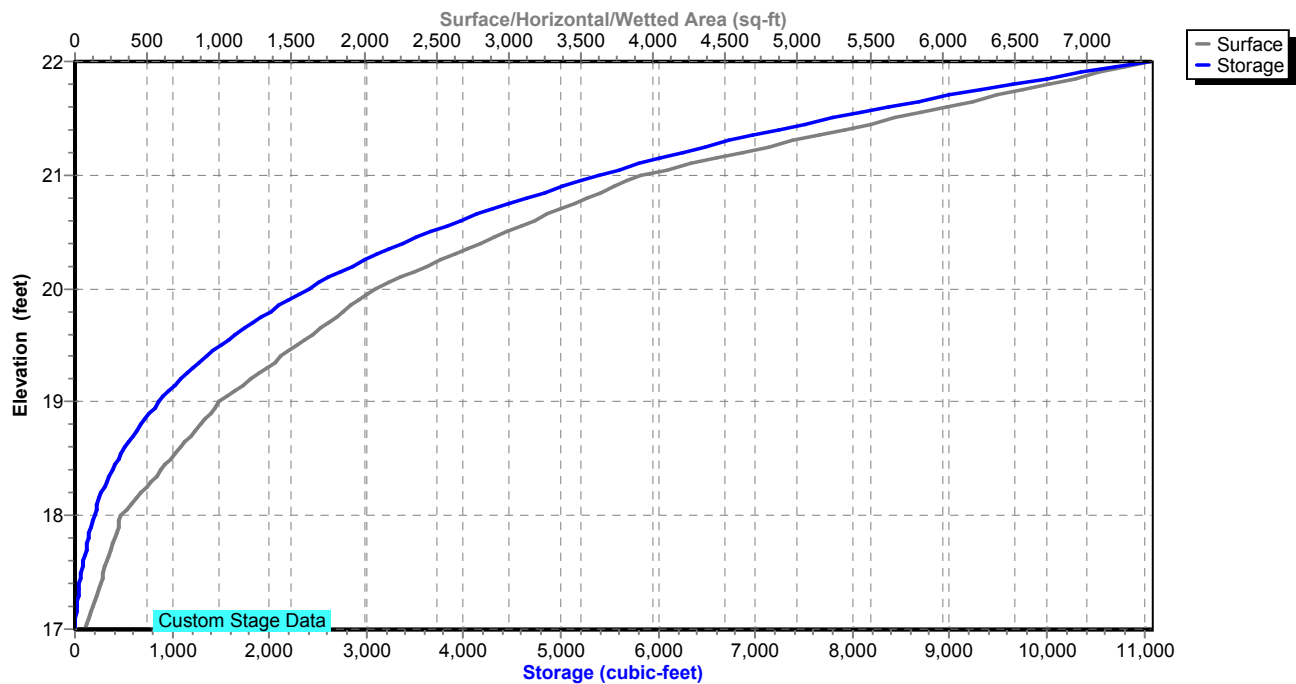
Pond 26P: DET 16 Culvert

Hydrograph



Pond 26P: DET 16 Culvert

Stage-Area-Storage



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Summary for Pond 27P: DET 17 Culvert

Inflow Area = 2,205,878 sf, 28.45% Impervious, Inflow Depth = 2.99" for 10 year event
 Inflow = 49.31 cfs @ 12.66 hrs, Volume= 549,236 cf
 Outflow = 49.30 cfs @ 12.67 hrs, Volume= 549,236 cf, Atten= 0%, Lag= 0.6 min
 Primary = 49.30 cfs @ 12.67 hrs, Volume= 549,236 cf
 Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 18.74' @ 12.67 hrs Surf.Area= 10,562 sf Storage= 10,309 cf

Plug-Flow detention time= 3.7 min calculated for 549,053 cf (100% of inflow)
 Center-of-Mass det. time= 3.7 min (887.6 - 883.9)

Volume	Invert	Avail.Storage	Storage Description
#1	16.00'	13,420 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
16.00	340	0	0
17.00	2,203	1,272	1,272
18.00	4,950	3,577	4,848
18.55	8,311	3,647	8,495
19.00	13,580	4,925	13,420

Device	Routing	Invert	Outlet Devices
#1	Primary	15.30'	18.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 15.30' / 14.90' S= 0.0100 ' S= 0.0100 ' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Primary	18.55'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 3.00 Width (feet) 100.00 100.00 100.00 100.00

Primary OutFlow Max=49.04 cfs @ 12.67 hrs HW=18.74' (Free Discharge)

1=Culvert (Inlet Controls 13.96 cfs @ 7.90 fps)

2=Custom Weir/Orifice (Weir Controls 35.08 cfs @ 1.82 fps)

Proposed Conditions

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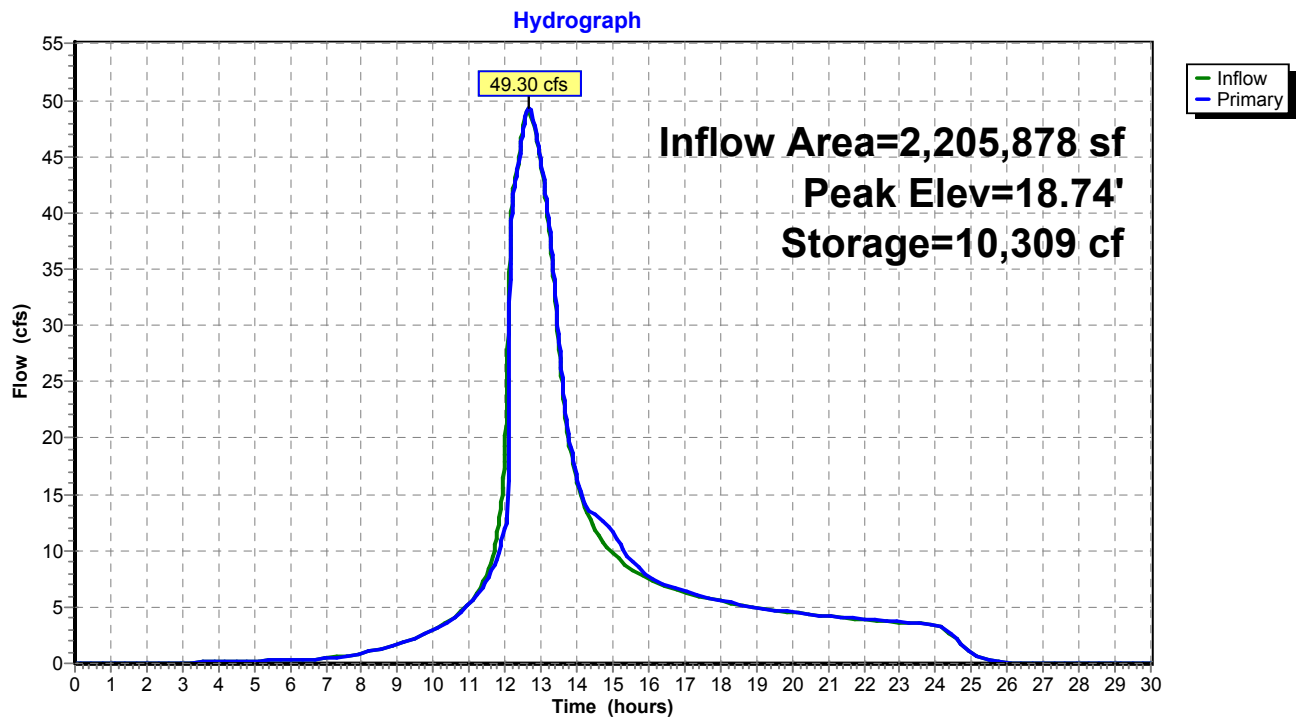
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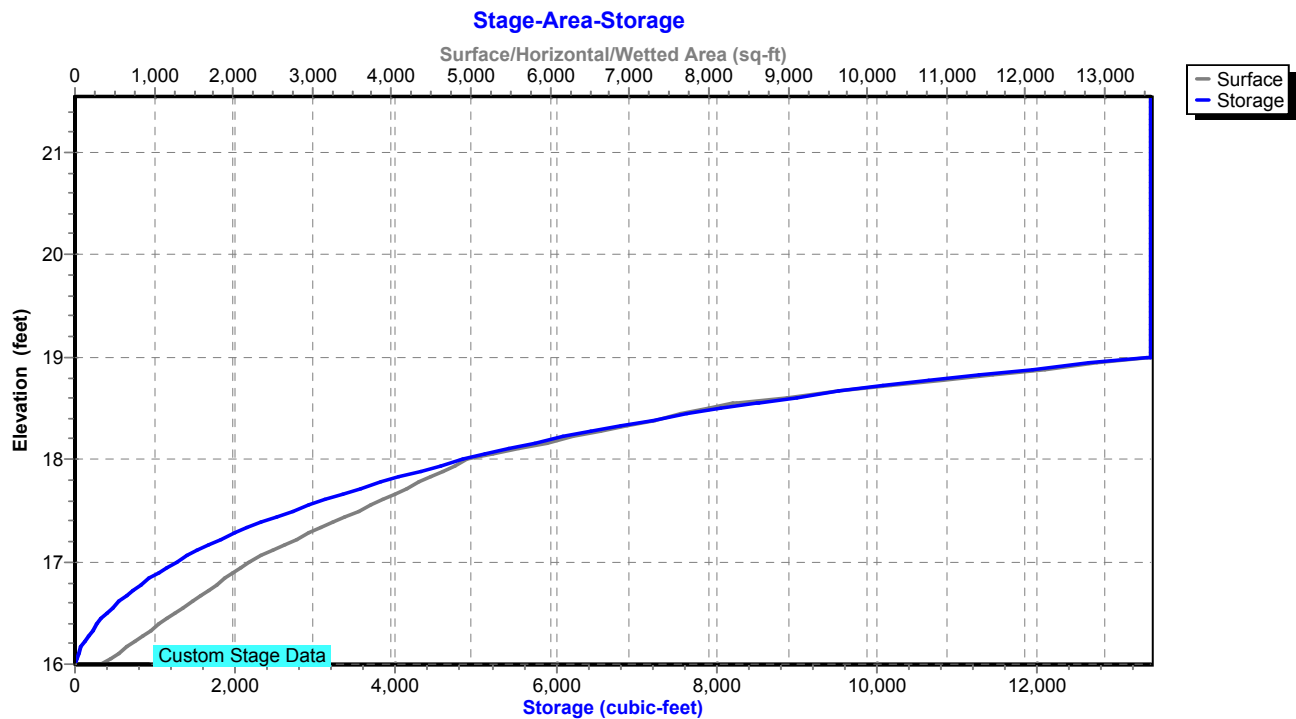
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Pond 27P: DET 17 Culvert



Pond 27P: DET 17 Culvert



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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Pond 50P: DET BASIN #1

Inflow Area = 247,726 sf, 51.96% Impervious, Inflow Depth = 3.80" for 10 year event
 Inflow = 22.29 cfs @ 12.04 hrs, Volume= 78,362 cf
 Outflow = 3.14 cfs @ 12.63 hrs, Volume= 52,973 cf, Atten= 86%, Lag= 35.6 min
 Primary = 3.14 cfs @ 12.63 hrs, Volume= 52,973 cf
 Routed to Pond 26P : DET 16 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 27.69' @ 12.63 hrs Surf.Area= 14,532 sf Storage= 40,335 cf

Plug-Flow detention time= 303.9 min calculated for 52,973 cf (68% of inflow)
 Center-of-Mass det. time= 180.2 min (989.0 - 808.8)

Volume	Invert	Avail.Storage	Storage Description
#1	24.00'	61,441 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
24.00	5,941	0	0
26.00	12,000	17,941	17,941
28.00	15,000	27,000	44,941
29.00	18,000	16,500	61,441

Device	Routing	Invert	Outlet Devices
#1	Primary	24.00'	18.0" Round Culvert L= 120.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 24.00' / 20.00' S= 0.0333 ' / Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	26.50'	12.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	28.50'	16.2" x 55.4" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.14 cfs @ 12.63 hrs HW=27.69' (Free Discharge)

↑ **1=Culvert** (Passes 3.14 cfs of 14.58 cfs potential flow)
 ↑ **2=Orifice/Grate** (Orifice Controls 3.14 cfs @ 3.99 fps)
 ↑ **3=Orifice/Grate** (Controls 0.00 cfs)

Proposed Conditions

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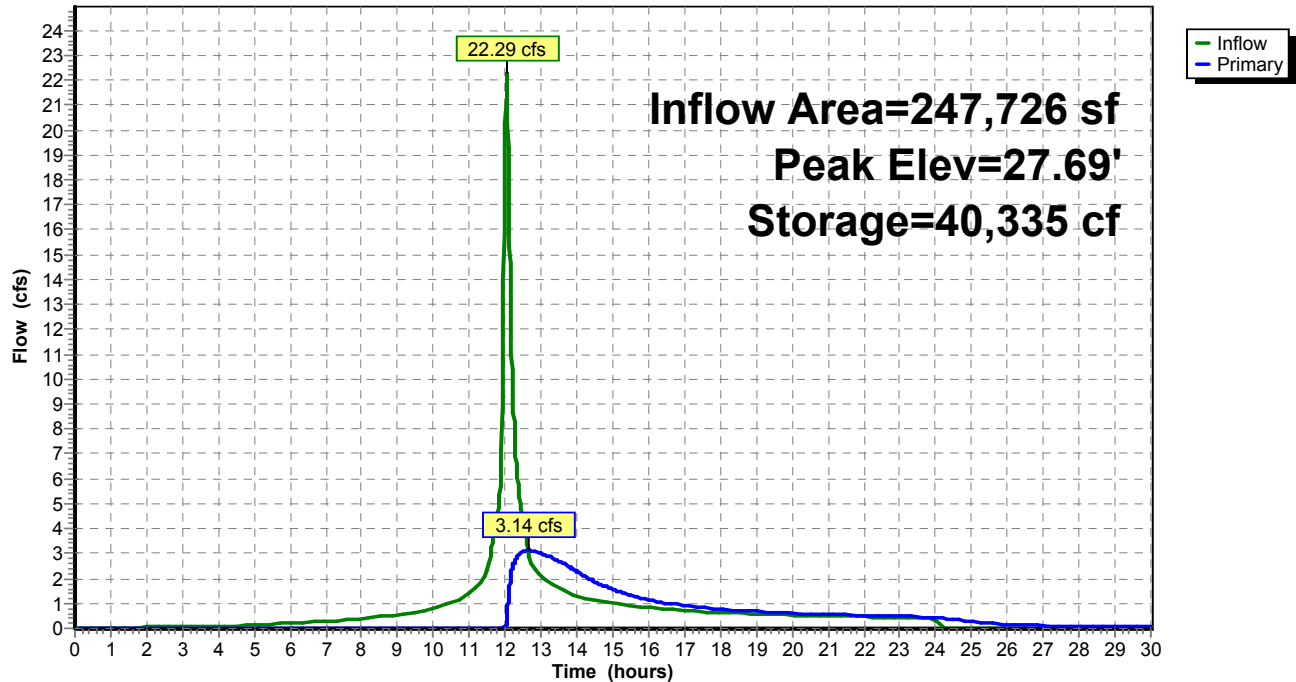
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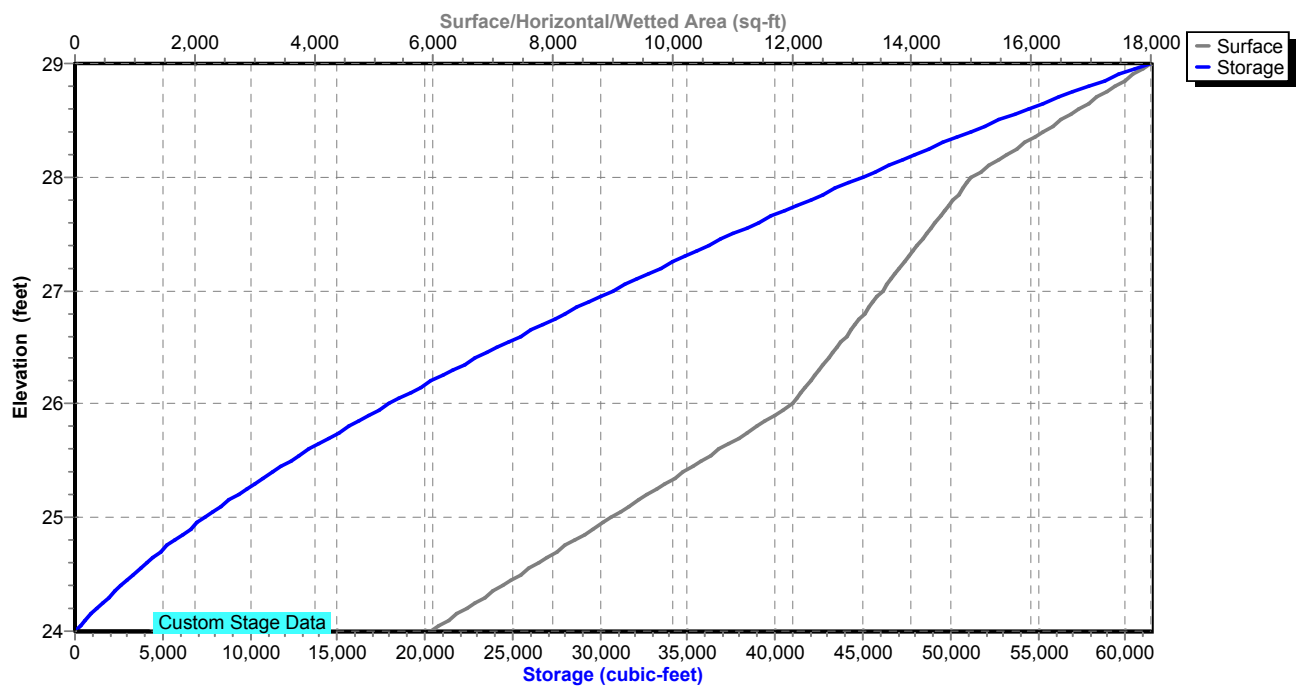
Pond 50P: DET BASIN #1

Hydrograph



Pond 50P: DET BASIN #1

Stage-Area-Storage



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Summary for Pond 51P: Manhole

Inflow Area = 219,325 sf, 58.69% Impervious, Inflow Depth = 3.95" for 10 year event
Inflow = 20.06 cfs @ 12.04 hrs, Volume= 72,141 cf
Outflow = 20.06 cfs @ 12.04 hrs, Volume= 72,141 cf, Atten= 0%, Lag= 0.0 min
Primary = 20.06 cfs @ 12.04 hrs, Volume= 72,141 cf
Routed to Pond 50P : DET BASIN #1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 46.76' @ 12.04 hrs

Flood Elev= 51.00'

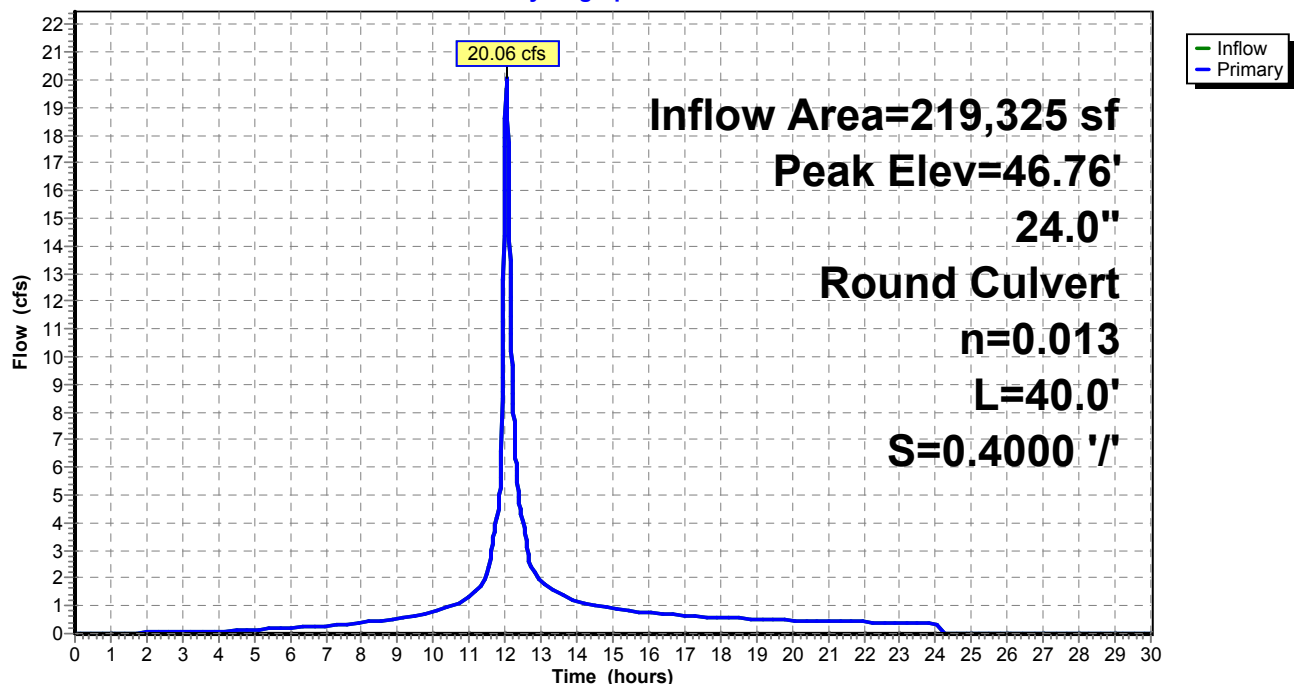
Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	24.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.00' / 28.00' S= 0.4000 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

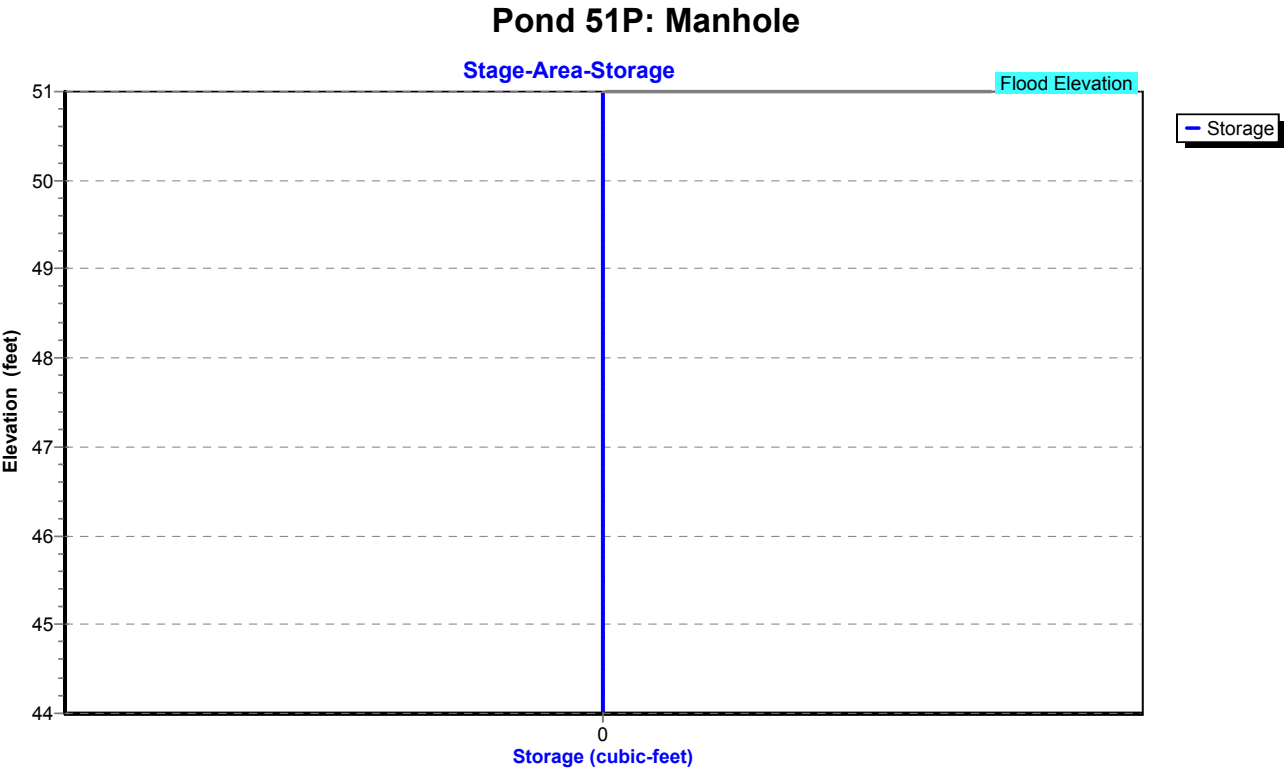
Primary OutFlow Max=20.04 cfs @ 12.04 hrs HW=46.76' (Free Discharge)

↑1=Culvert (Inlet Controls 20.04 cfs @ 6.38 fps)

Pond 51P: Manhole

Hydrograph





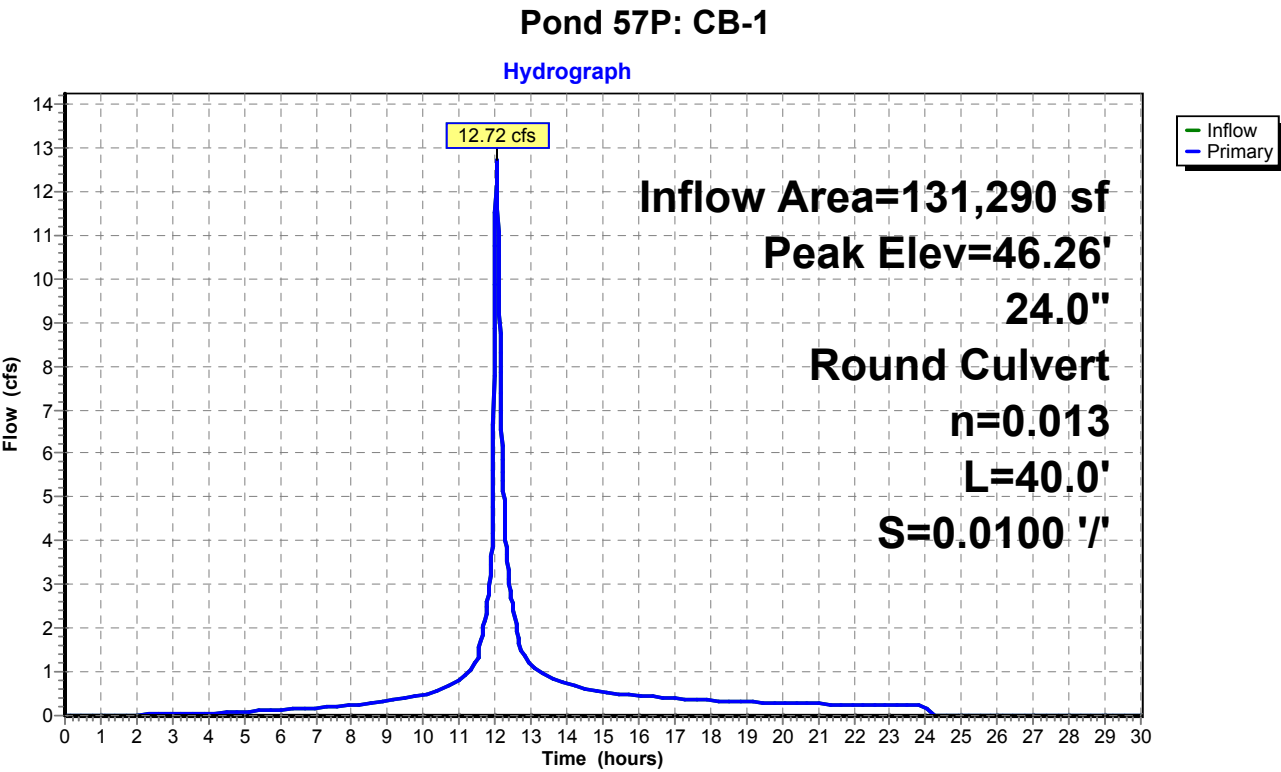
Summary for Pond 57P: CB-1

Inflow Area = 131,290 sf, 58.89% Impervious, Inflow Depth = 4.01" for 10 year event
Inflow = 12.72 cfs @ 12.04 hrs, Volume= 43,925 cf
Outflow = 12.72 cfs @ 12.04 hrs, Volume= 43,925 cf, Atten= 0%, Lag= 0.0 min
Primary = 12.72 cfs @ 12.04 hrs, Volume= 43,925 cf
Routed to Pond 51P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 46.26' @ 12.04 hrs
Flood Elev= 49.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	44.40'	24.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.40' / 44.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=12.70 cfs @ 12.04 hrs HW=46.26' (Free Discharge)
1=Culvert (Barrel Controls 12.70 cfs @ 5.42 fps)



Proposed Conditions

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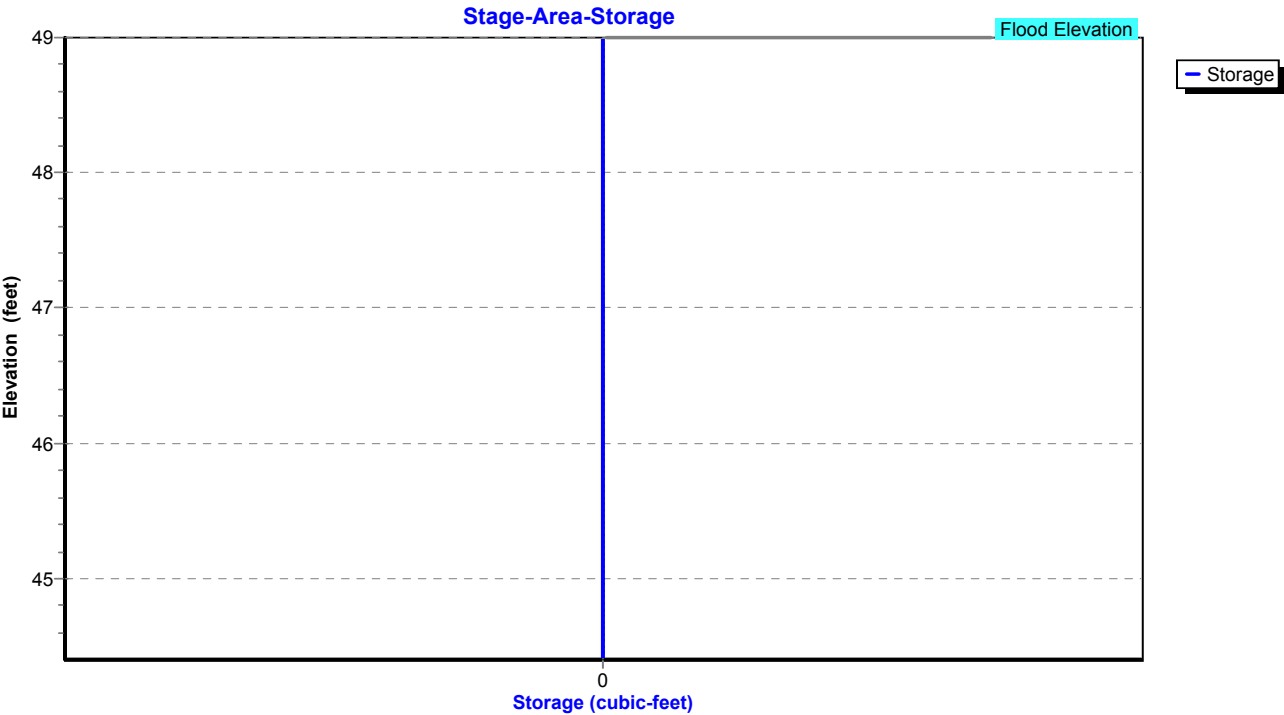
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Pond 57P: CB-1



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Summary for Pond 58P: Manhole

Inflow Area = 119,442 sf, 54.81% Impervious, Inflow Depth = 3.91" for 10 year event
Inflow = 11.15 cfs @ 12.04 hrs, Volume= 38,899 cf
Outflow = 11.15 cfs @ 12.04 hrs, Volume= 38,899 cf, Atten= 0%, Lag= 0.0 min
Primary = 11.15 cfs @ 12.04 hrs, Volume= 38,899 cf
Routed to Pond 57P : CB-1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.39' @ 12.04 hrs

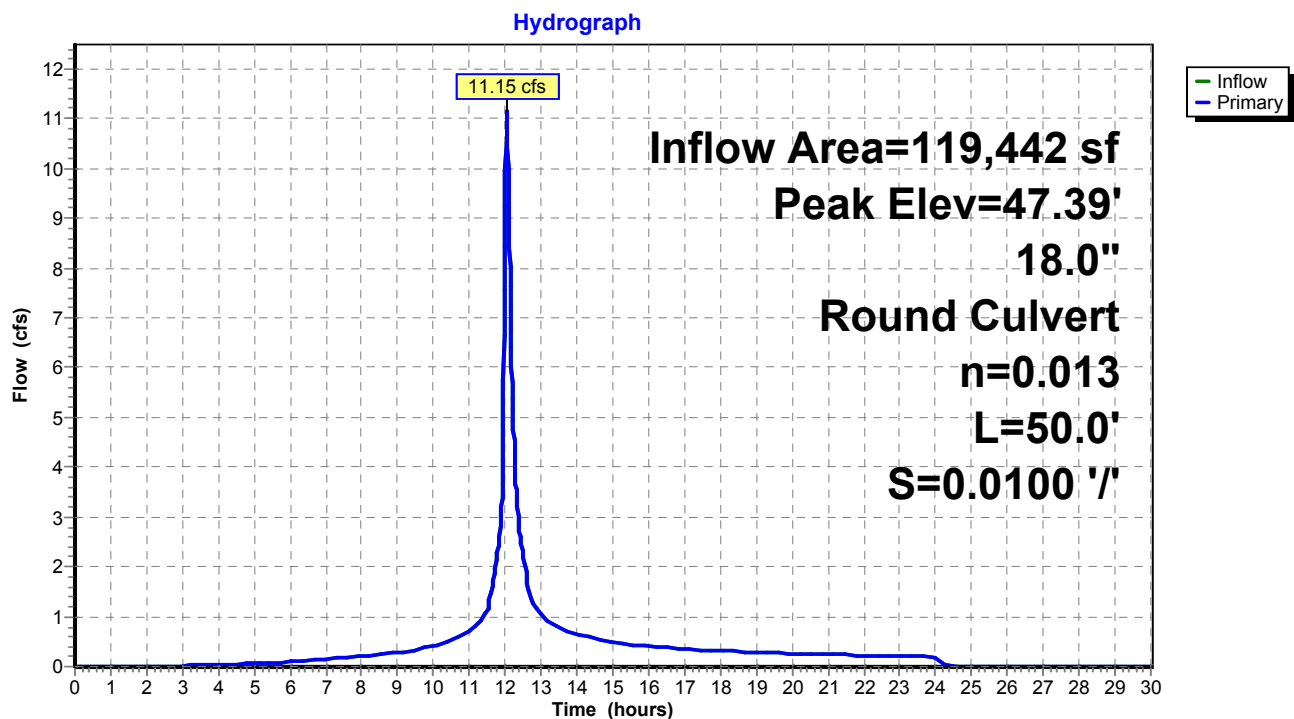
Flood Elev= 49.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	44.90'	18.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.90' / 44.40' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=11.13 cfs @ 12.04 hrs HW=47.39' (Free Discharge)

↑1=Culvert (Barrel Controls 11.13 cfs @ 6.30 fps)

Pond 58P: Manhole



Proposed Conditions

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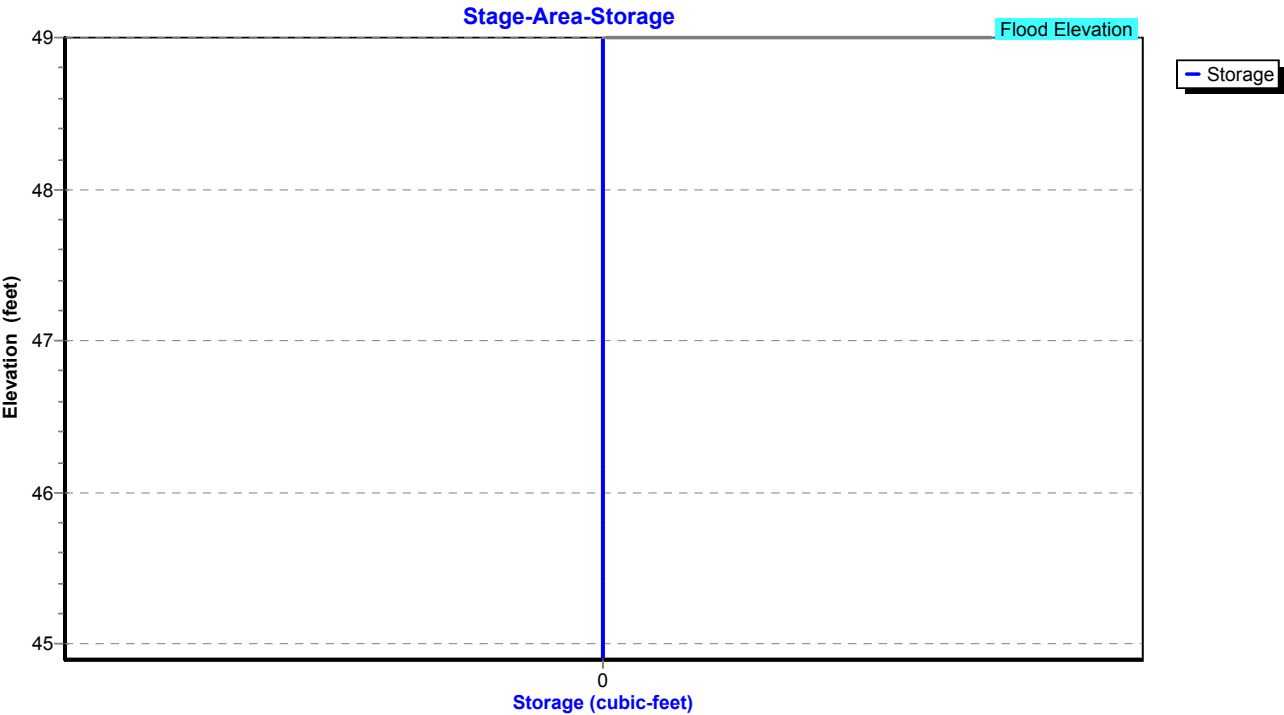
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Pond 58P: Manhole



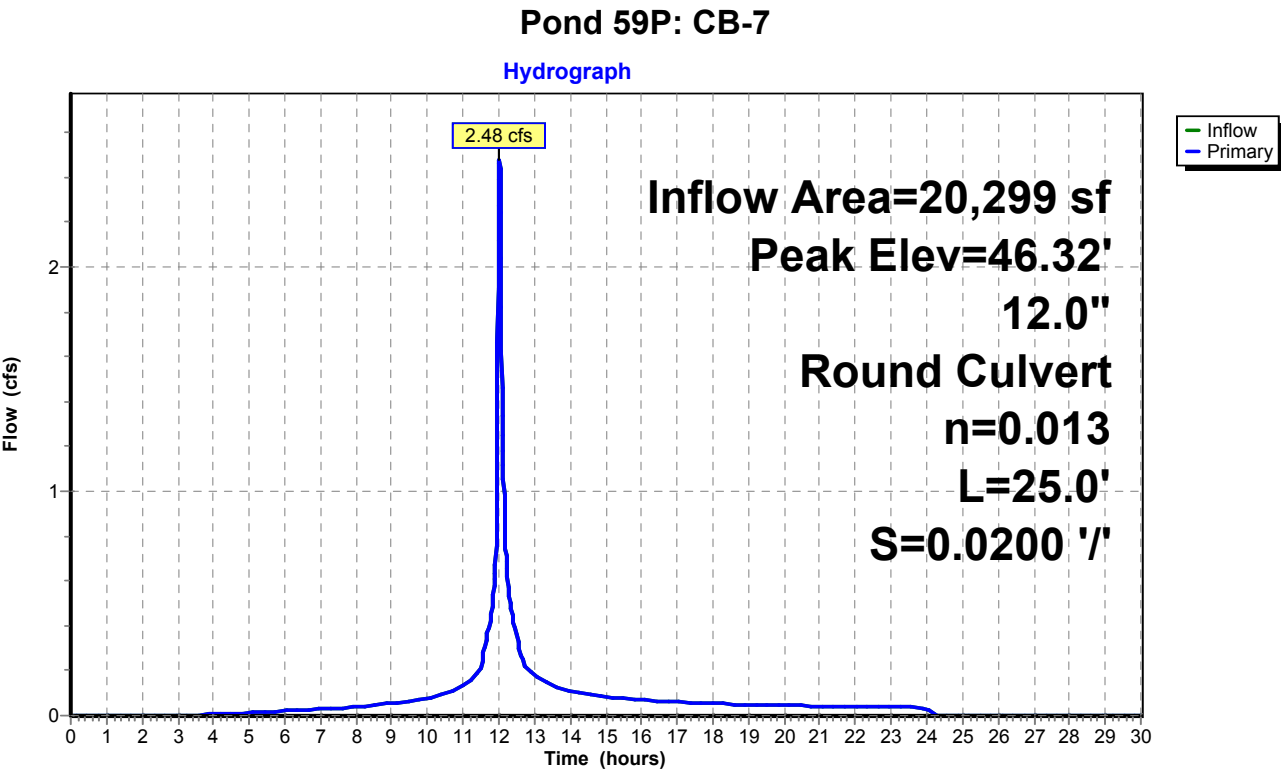
Summary for Pond 59P: CB-7

Inflow Area = 20,299 sf, 63.09% Impervious, Inflow Depth = 4.09" for 10 year event
Inflow = 2.48 cfs @ 12.03 hrs, Volume= 6,913 cf
Outflow = 2.48 cfs @ 12.03 hrs, Volume= 6,913 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.48 cfs @ 12.03 hrs, Volume= 6,913 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 46.32' @ 12.03 hrs
Flood Elev= 49.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	45.40'	12.0" Round Culvert L= 25.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.40' / 44.90' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=2.47 cfs @ 12.03 hrs HW=46.32' (Free Discharge)
1=Culvert (Inlet Controls 2.47 cfs @ 3.27 fps)



Proposed Conditions

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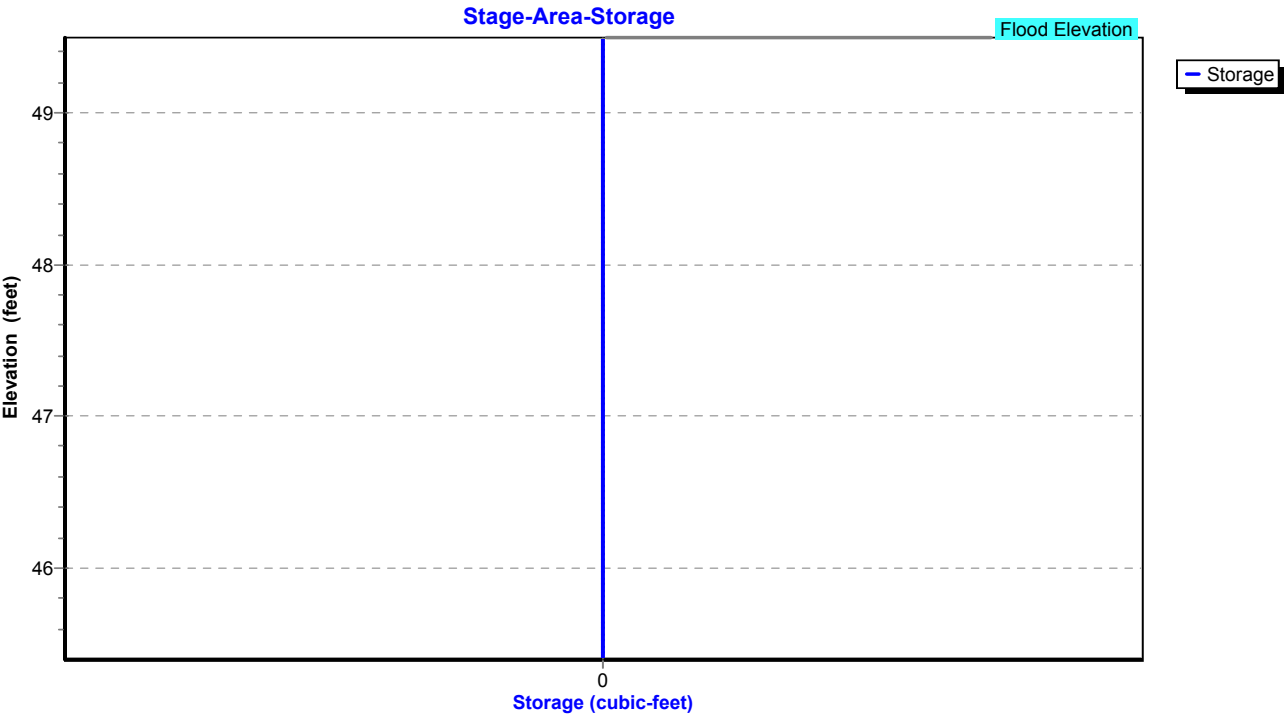
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Pond 59P: CB-7



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NORWALK 24-hr S1 10 year Rainfall=5.33"

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Summary for Pond 61P: CB-6

Inflow Area = 7,884 sf, 82.32% Impervious, Inflow Depth = 4.63" for 10 year event
Inflow = 1.05 cfs @ 12.03 hrs, Volume= 3,043 cf
Outflow = 1.05 cfs @ 12.03 hrs, Volume= 3,043 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.05 cfs @ 12.03 hrs, Volume= 3,043 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 45.65' @ 12.03 hrs

Flood Elev= 49.00'

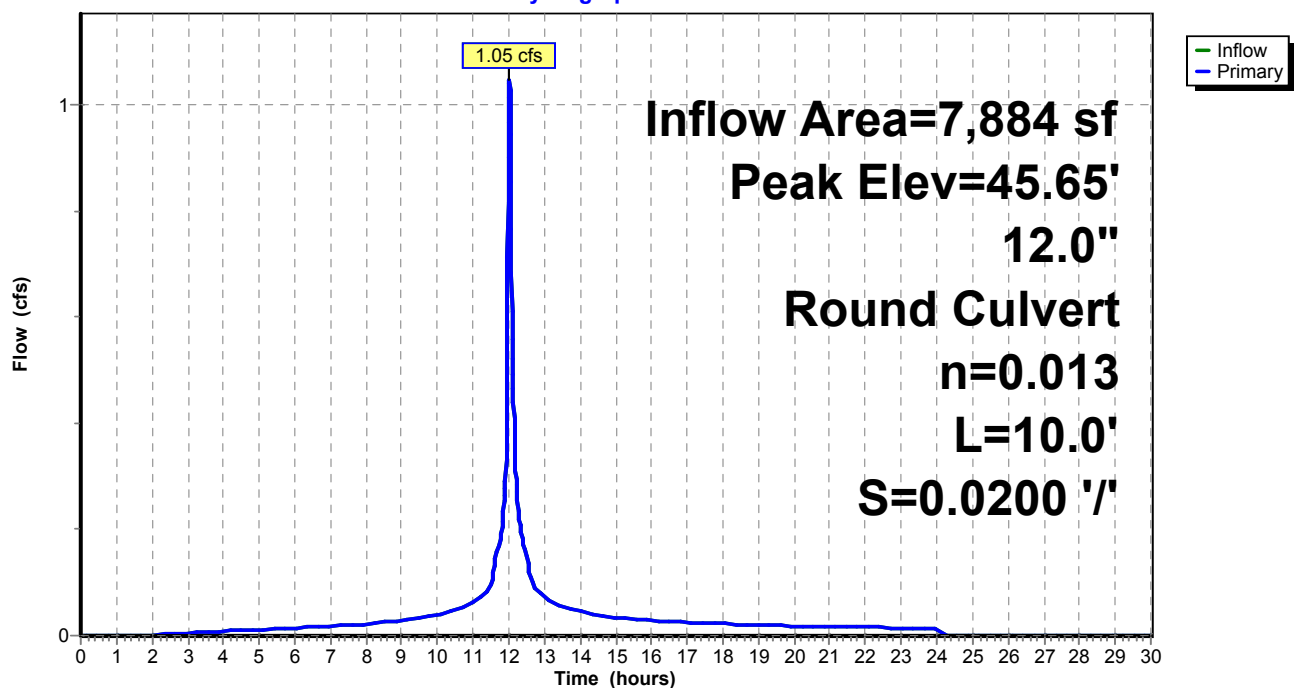
Device	Routing	Invert	Outlet Devices
#1	Primary	45.10'	12.0" Round Culvert L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.10' / 44.90' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.04 cfs @ 12.03 hrs HW=45.65' (Free Discharge)

↑1=Culvert (Barrel Controls 1.04 cfs @ 3.41 fps)

Pond 61P: CB-6

Hydrograph



Proposed Conditions

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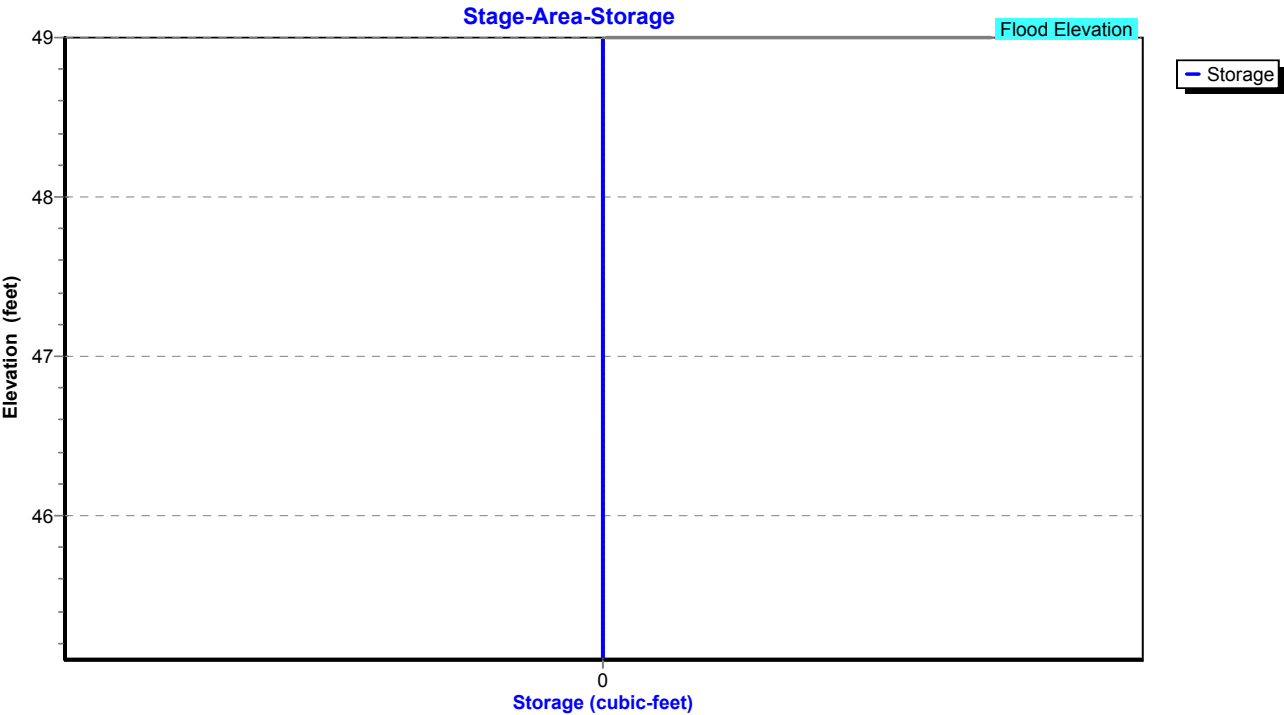
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Pond 61P: CB-6



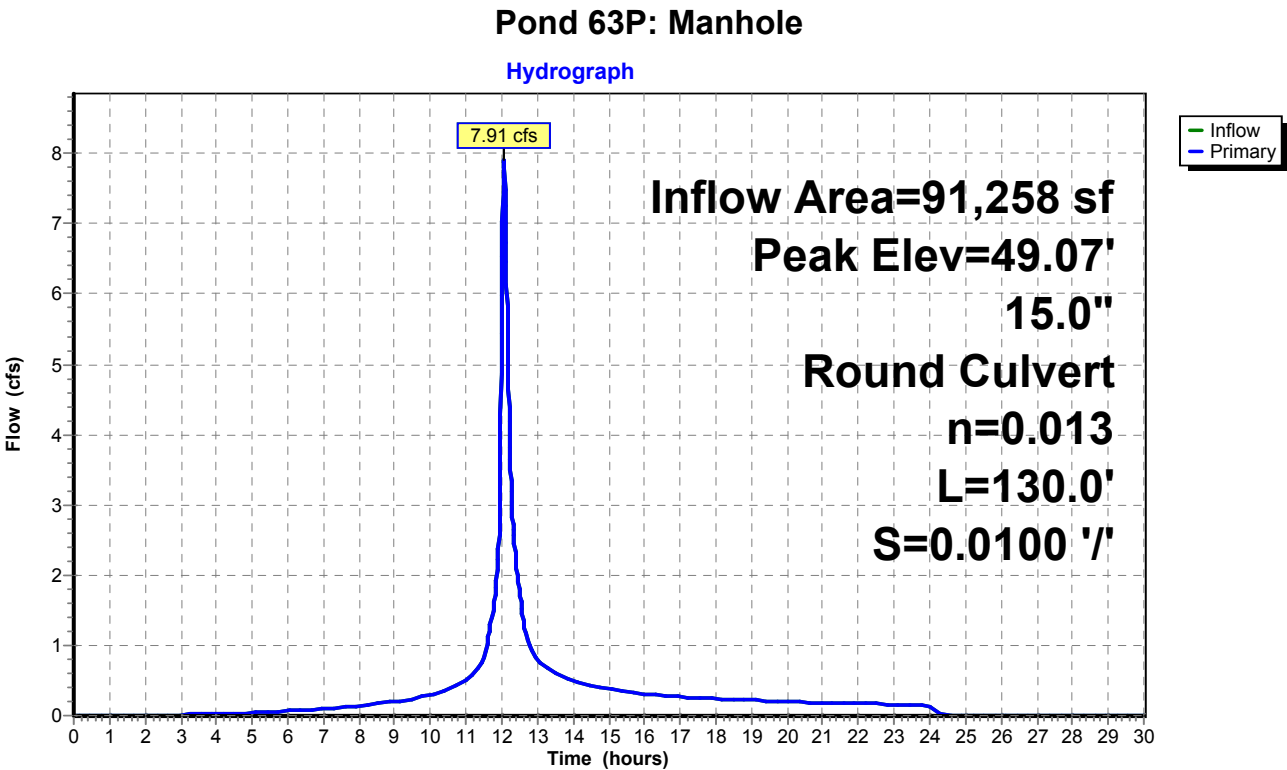
Summary for Pond 63P: Manhole

Inflow Area = 91,258 sf, 50.60% Impervious, Inflow Depth = 3.81" for 10 year event
Inflow = 7.91 cfs @ 12.06 hrs, Volume= 28,943 cf
Outflow = 7.91 cfs @ 12.06 hrs, Volume= 28,943 cf, Atten= 0%, Lag= 0.0 min
Primary = 7.91 cfs @ 12.06 hrs, Volume= 28,943 cf
Routed to Pond 58P : Manhole

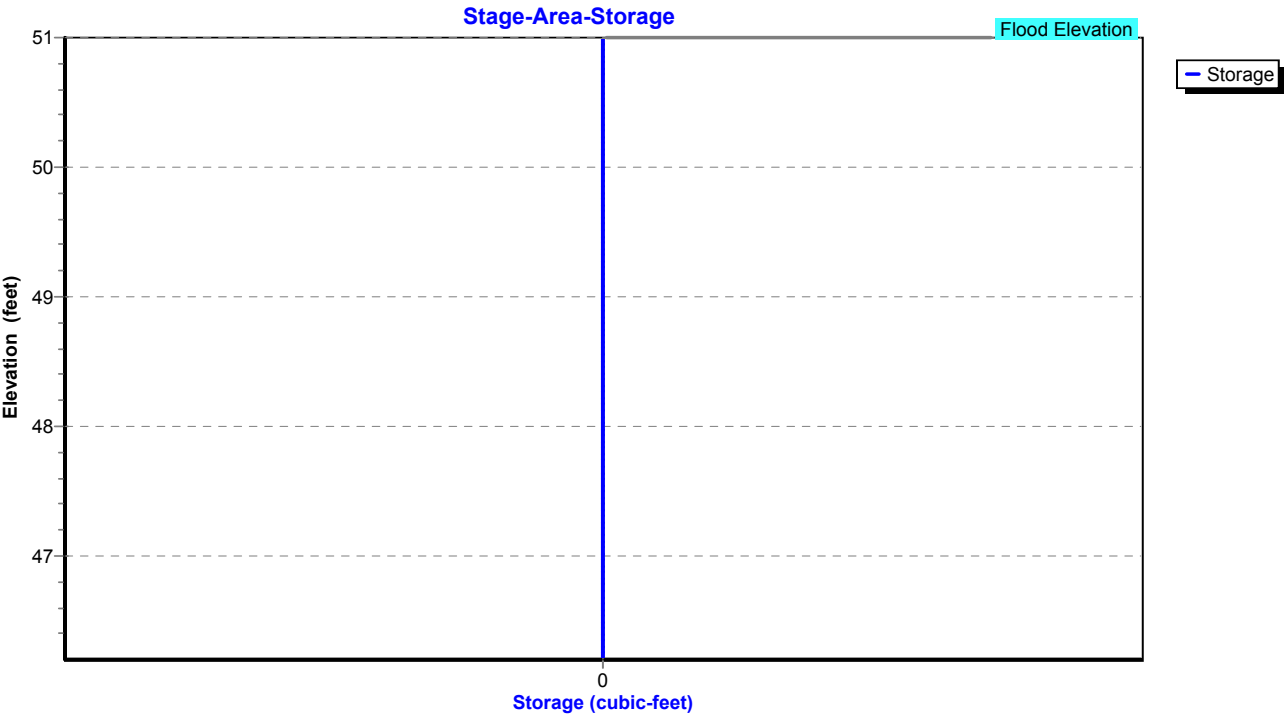
Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 49.07' @ 12.06 hrs
Flood Elev= 51.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.20'	15.0" Round Culvert L= 130.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.20' / 44.90' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=7.90 cfs @ 12.06 hrs HW=49.06' (Free Discharge)
1=Culvert (Barrel Controls 7.90 cfs @ 6.44 fps)



Pond 63P: Manhole



Summary for Pond 64P: YD

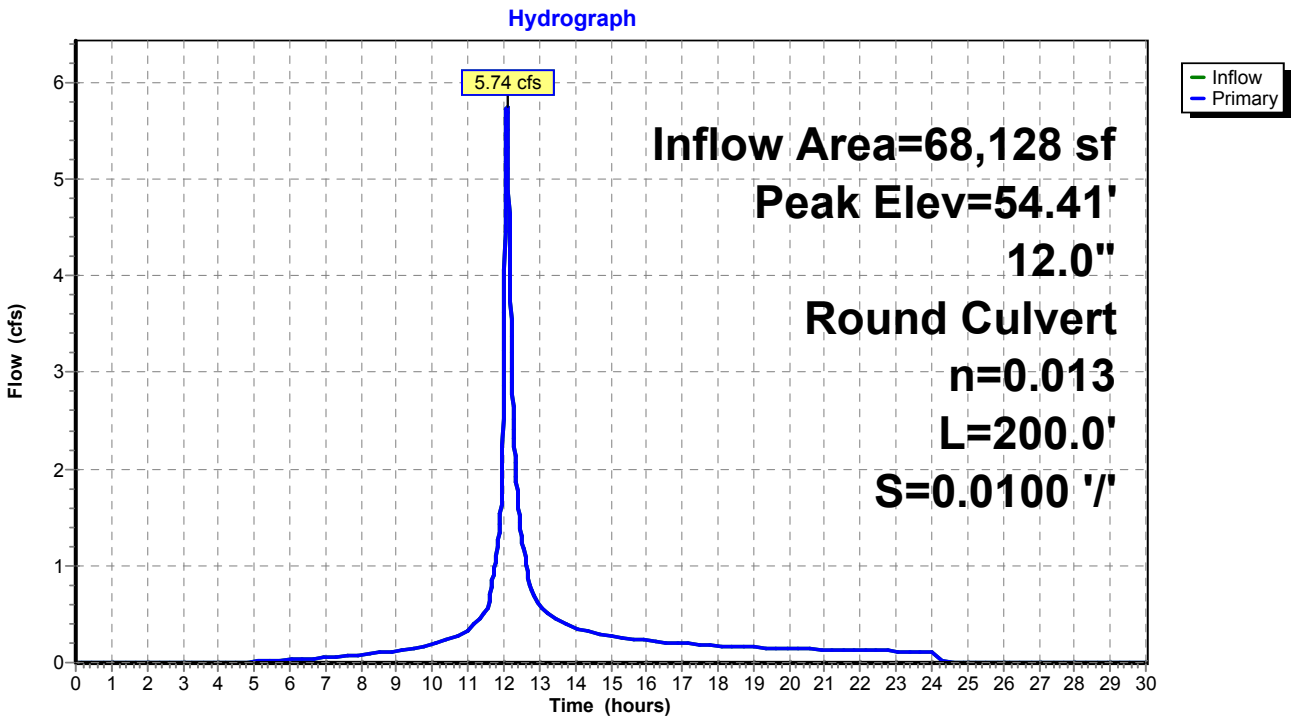
Inflow Area = 68,128 sf, 41.75% Impervious, Inflow Depth = 3.57" for 10 year event
Inflow = 5.74 cfs @ 12.08 hrs, Volume= 20,278 cf
Outflow = 5.74 cfs @ 12.08 hrs, Volume= 20,278 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.74 cfs @ 12.08 hrs, Volume= 20,278 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 54.41' @ 12.08 hrs
Flood Elev= 54.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.95'	12.0" Round Culvert L= 200.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.95' / 46.95' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=5.73 cfs @ 12.08 hrs HW=54.38' (Free Discharge)
1=Culvert (Barrel Controls 5.73 cfs @ 7.30 fps)

Pond 64P: YD



Proposed Conditions

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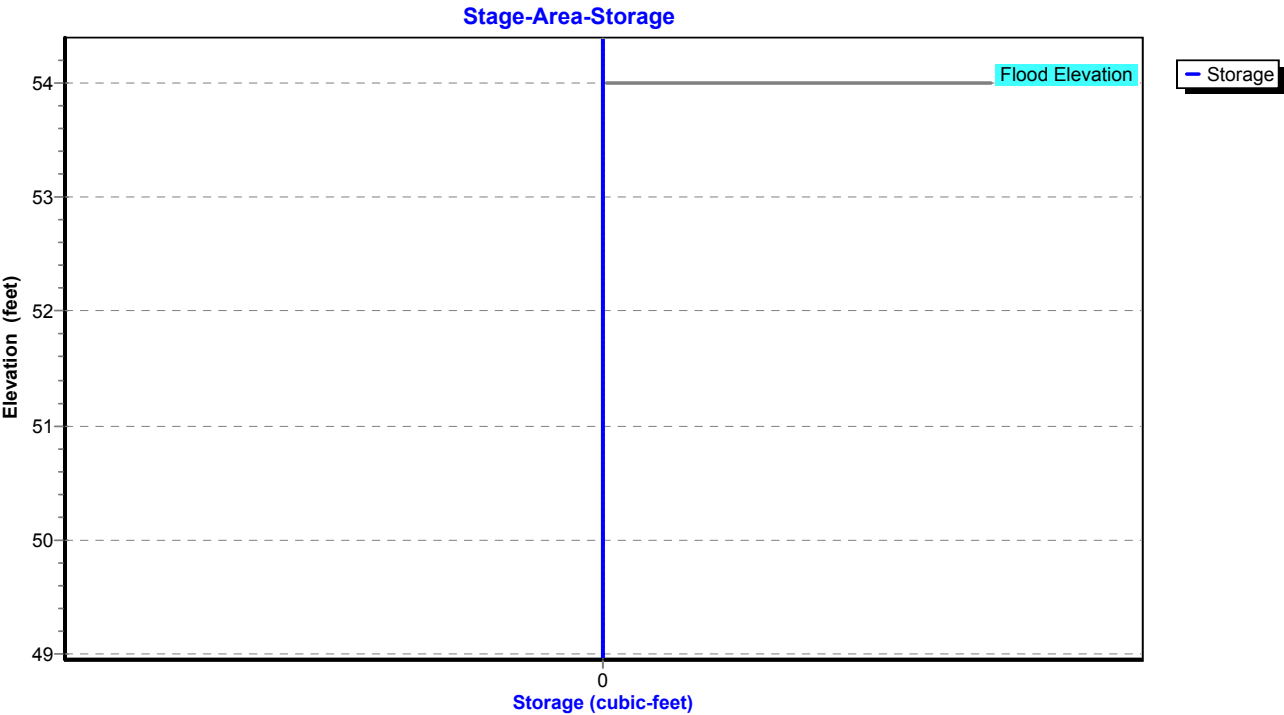
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Pond 64P: YD



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Summary for Pond 66P: CB-10

Inflow Area = 12,763 sf, 73.04% Impervious, Inflow Depth = 4.41" for 10 year event
Inflow = 1.64 cfs @ 12.03 hrs, Volume= 4,690 cf
Outflow = 1.64 cfs @ 12.03 hrs, Volume= 4,690 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.64 cfs @ 12.03 hrs, Volume= 4,690 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 48.24' @ 12.03 hrs

Flood Elev= 53.00'

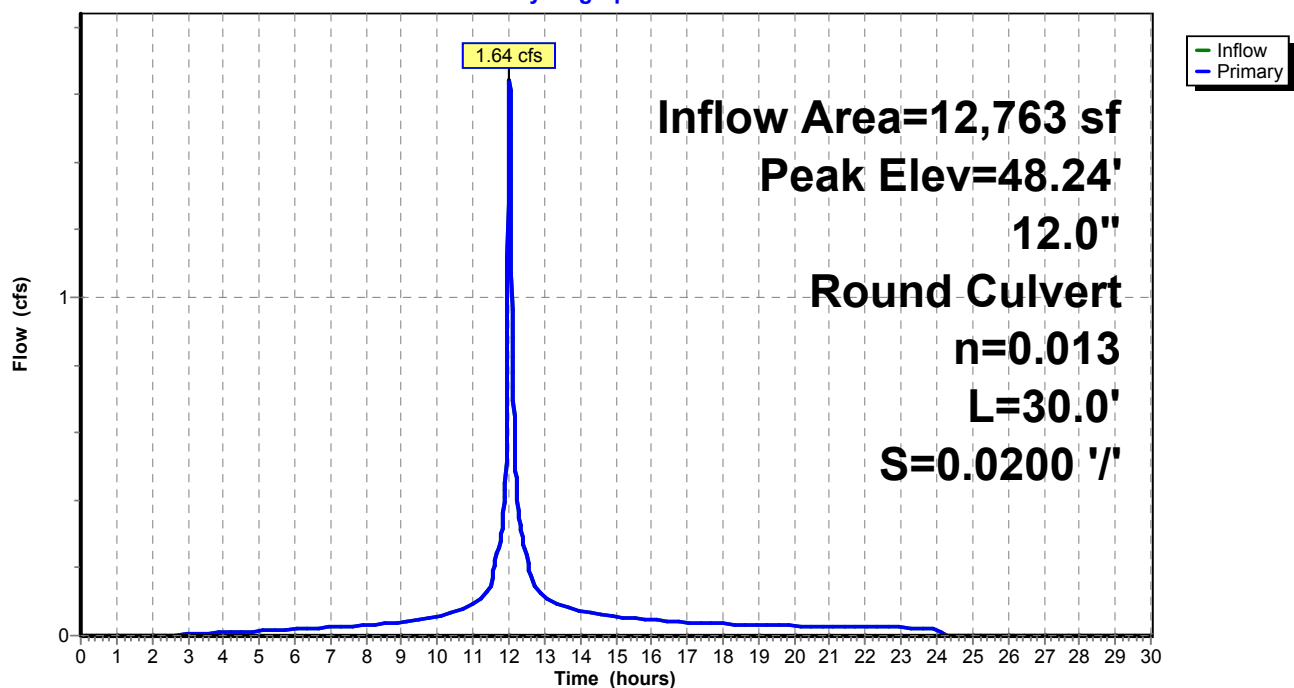
Device	Routing	Invert	Outlet Devices
#1	Primary	47.55'	12.0" Round Culvert L= 30.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.55' / 46.95' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.64 cfs @ 12.03 hrs HW=48.24' (Free Discharge)

↑1=Culvert (Inlet Controls 1.64 cfs @ 2.83 fps)

Pond 66P: CB-10

Hydrograph



Proposed Conditions

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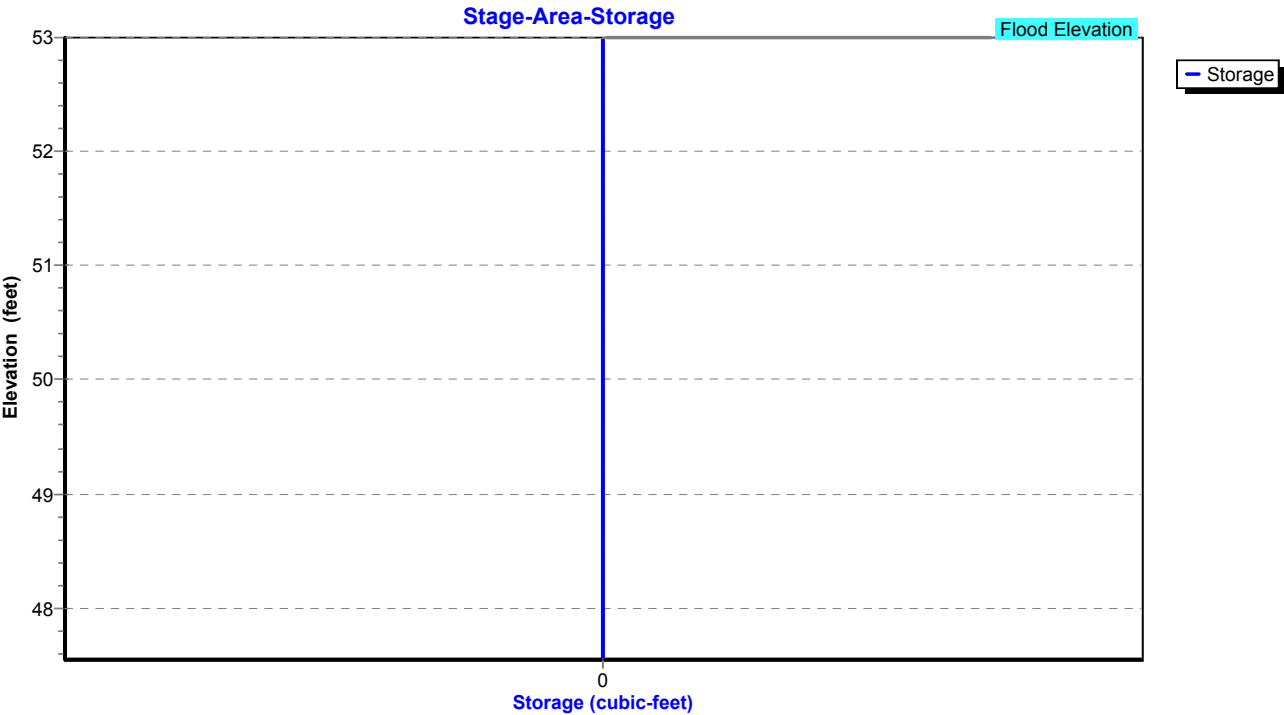
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Pond 66P: CB-10



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Summary for Pond 67P: CB-9

Inflow Area = 6,447 sf, 69.59% Impervious, Inflow Depth = 4.30" for 10 year event
Inflow = 0.82 cfs @ 12.03 hrs, Volume= 2,311 cf
Outflow = 0.82 cfs @ 12.03 hrs, Volume= 2,311 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.82 cfs @ 12.03 hrs, Volume= 2,311 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.62' @ 12.03 hrs

Flood Elev= 52.00'

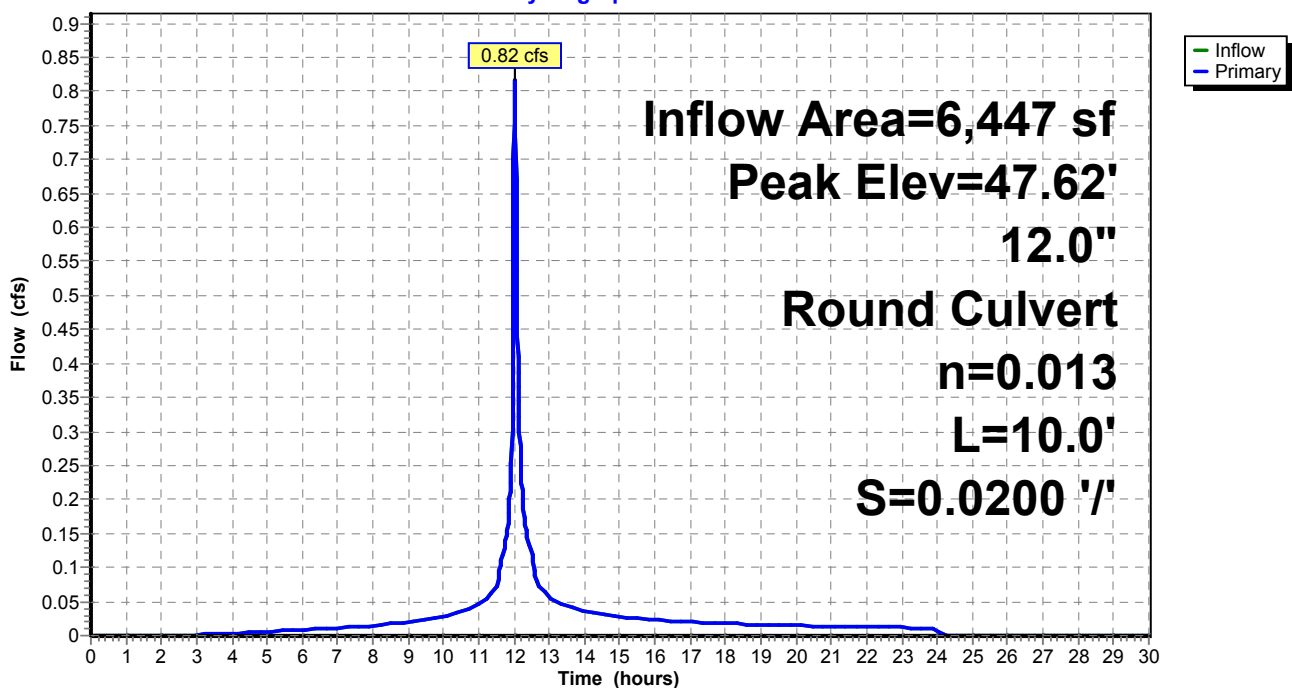
Device	Routing	Invert	Outlet Devices
#1	Primary	47.15'	12.0" Round Culvert L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.15' / 46.95' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.81 cfs @ 12.03 hrs HW=47.62' (Free Discharge)

↑1=Culvert (Barrel Controls 0.81 cfs @ 3.25 fps)

Pond 67P: CB-9

Hydrograph



Proposed Conditions

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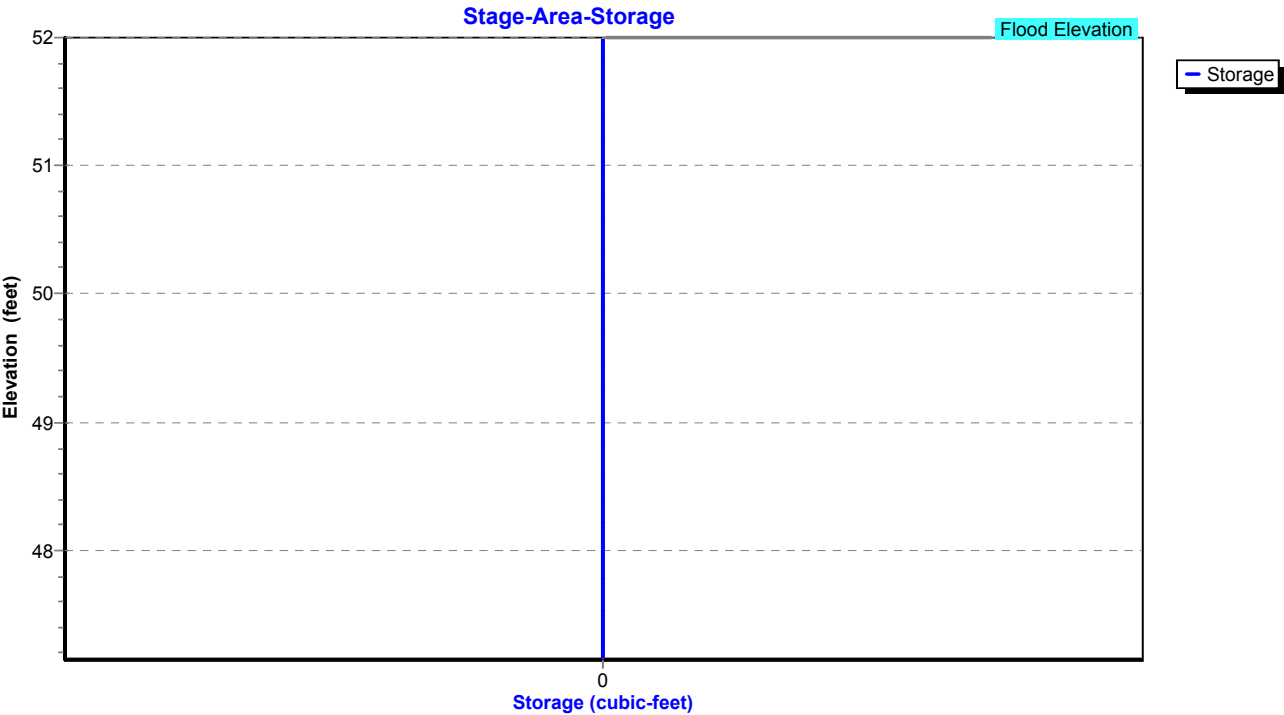
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Pond 67P: CB-9



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Summary for Pond 70P: CB-2

Inflow Area = 88,035 sf, 58.39% Impervious, Inflow Depth = 3.85" for 10 year event
Inflow = 7.70 cfs @ 11.99 hrs, Volume= 28,216 cf
Outflow = 7.70 cfs @ 11.99 hrs, Volume= 28,216 cf, Atten= 0%, Lag= 0.0 min
Primary = 7.70 cfs @ 11.99 hrs, Volume= 28,216 cf
Routed to Pond 51P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 48.66' @ 11.99 hrs

Flood Elev= 53.30'

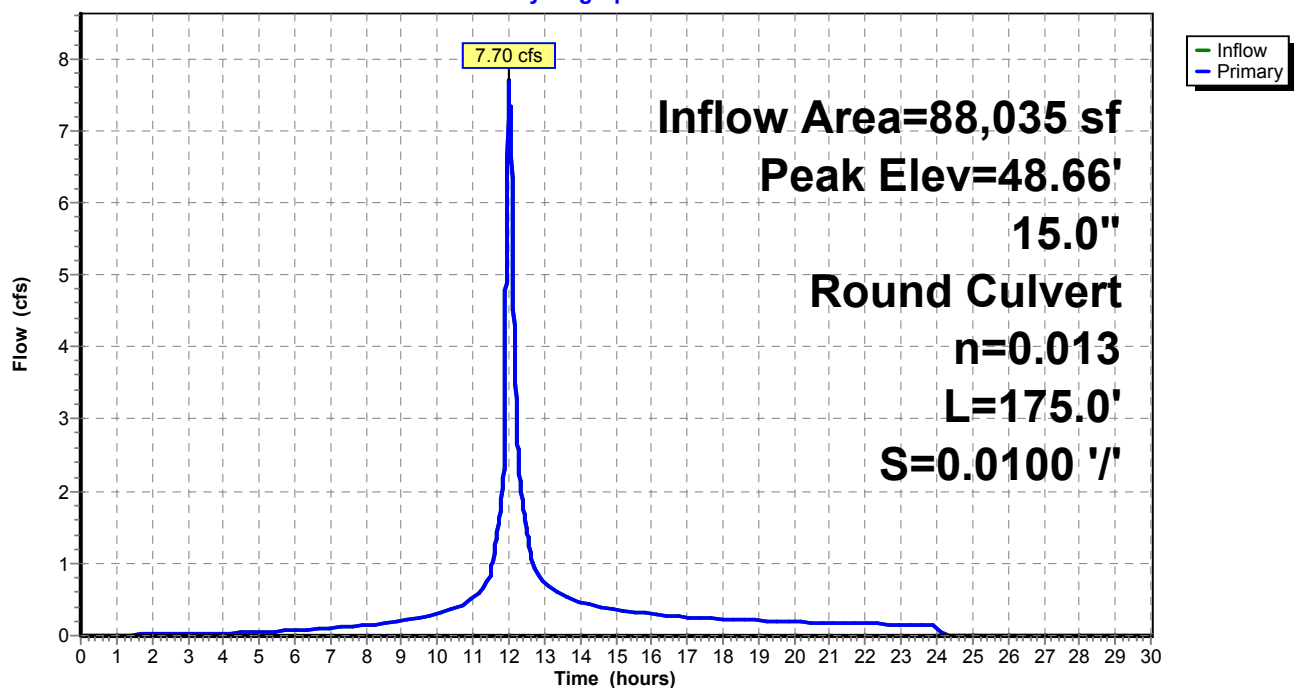
Device	Routing	Invert	Outlet Devices
#1	Primary	45.75'	15.0" Round Culvert L= 175.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.75' / 44.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=7.70 cfs @ 11.99 hrs HW=48.66' (Free Discharge)

↑1=Culvert (Barrel Controls 7.70 cfs @ 6.27 fps)

Pond 70P: CB-2

Hydrograph



Proposed Conditions

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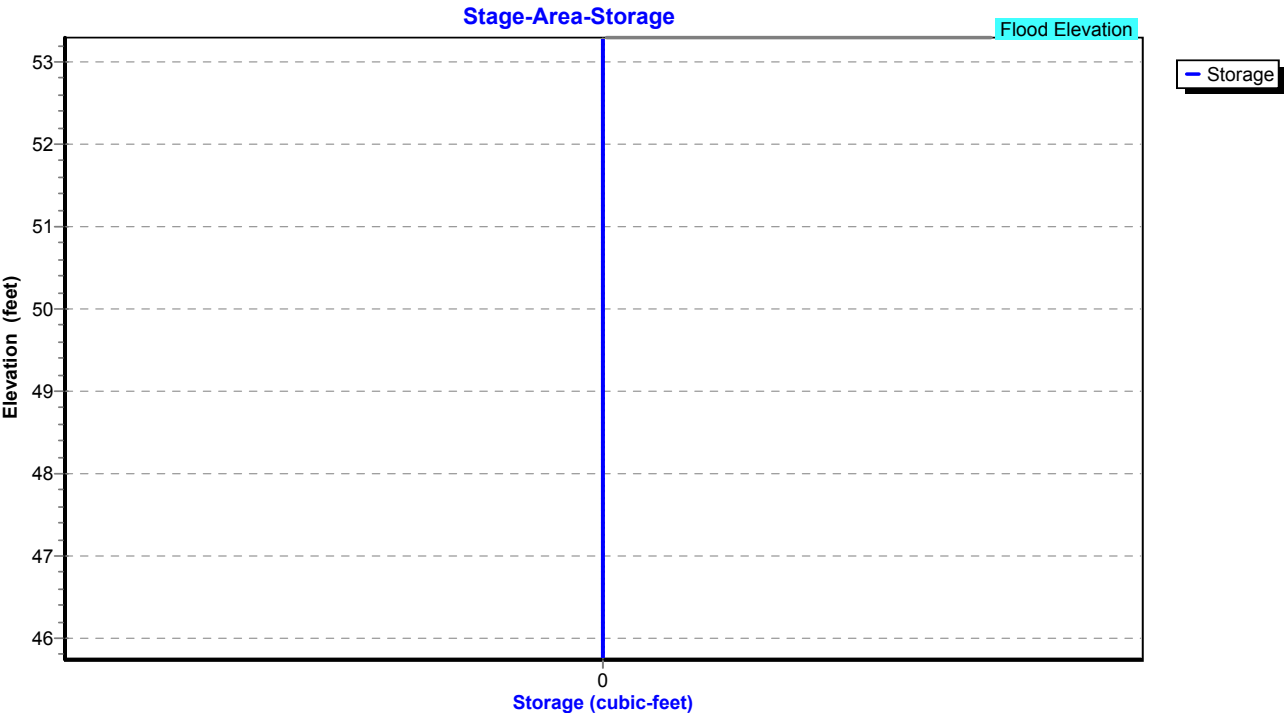
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Pond 70P: CB-2



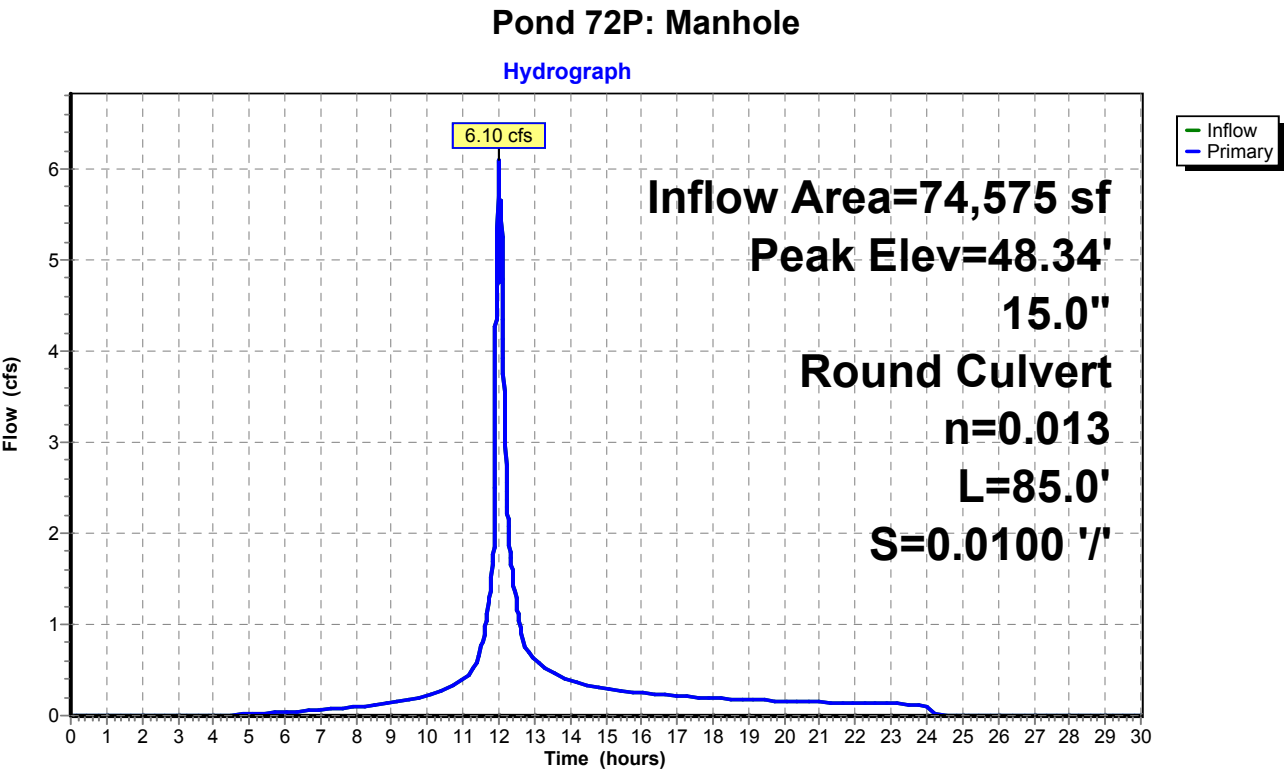
Summary for Pond 72P: Manhole

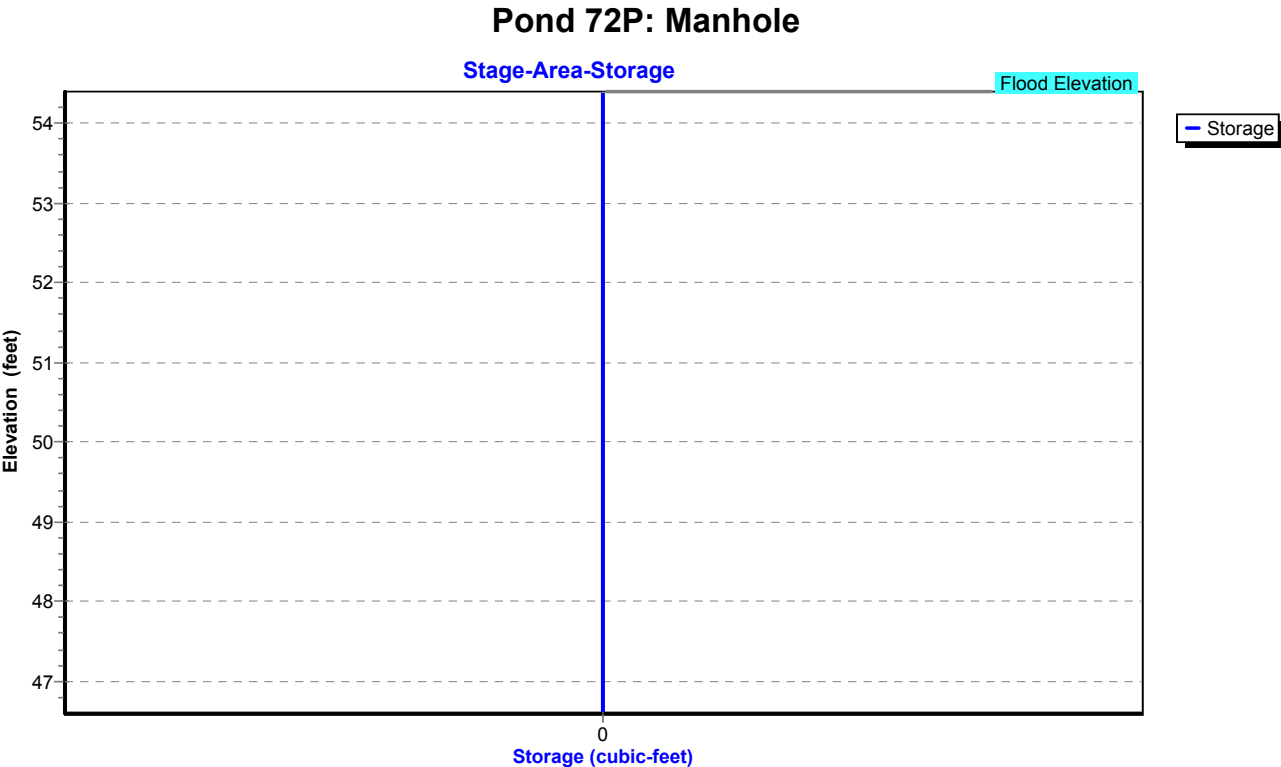
Inflow Area = 74,575 sf, 50.88% Impervious, Inflow Depth = 3.62" for 10 year event
Inflow = 6.10 cfs @ 11.99 hrs, Volume= 22,506 cf
Outflow = 6.10 cfs @ 11.99 hrs, Volume= 22,506 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.10 cfs @ 11.99 hrs, Volume= 22,506 cf
Routed to Pond 70P : CB-2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 48.34' @ 11.99 hrs
Flood Elev= 54.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.60'	15.0" Round Culvert L= 85.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.60' / 45.75' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=6.04 cfs @ 11.99 hrs HW=48.31' (Free Discharge)
1=Culvert (Barrel Controls 6.04 cfs @ 4.92 fps)





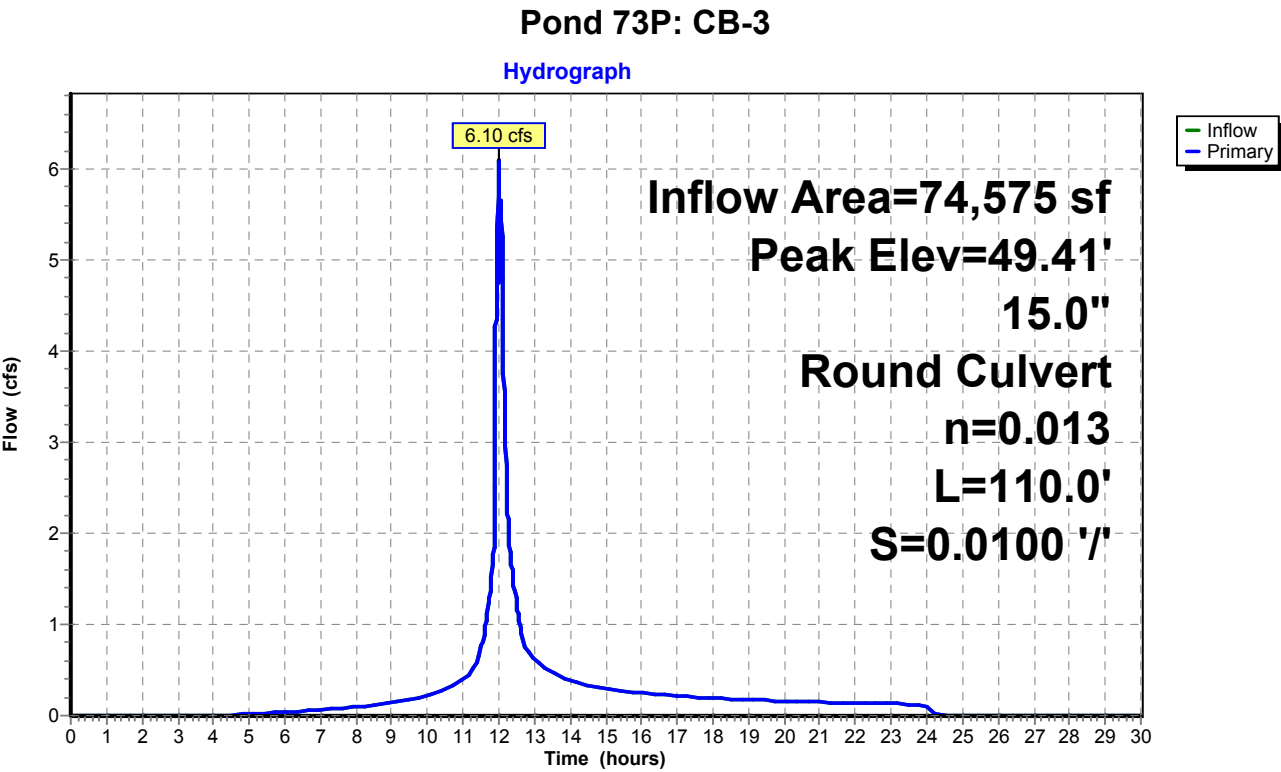
Summary for Pond 73P: CB-3

Inflow Area = 74,575 sf, 50.88% Impervious, Inflow Depth = 3.62" for 10 year event
Inflow = 6.10 cfs @ 11.99 hrs, Volume= 22,506 cf
Outflow = 6.10 cfs @ 11.99 hrs, Volume= 22,506 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.10 cfs @ 11.99 hrs, Volume= 22,506 cf
Routed to Pond 72P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 49.41' @ 11.99 hrs
Flood Elev= 53.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.70'	15.0" Round Culvert L= 110.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.70' / 46.60' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=6.06 cfs @ 11.99 hrs HW=49.39' (Free Discharge)
1=Culvert (Barrel Controls 6.06 cfs @ 4.94 fps)



Proposed Conditions

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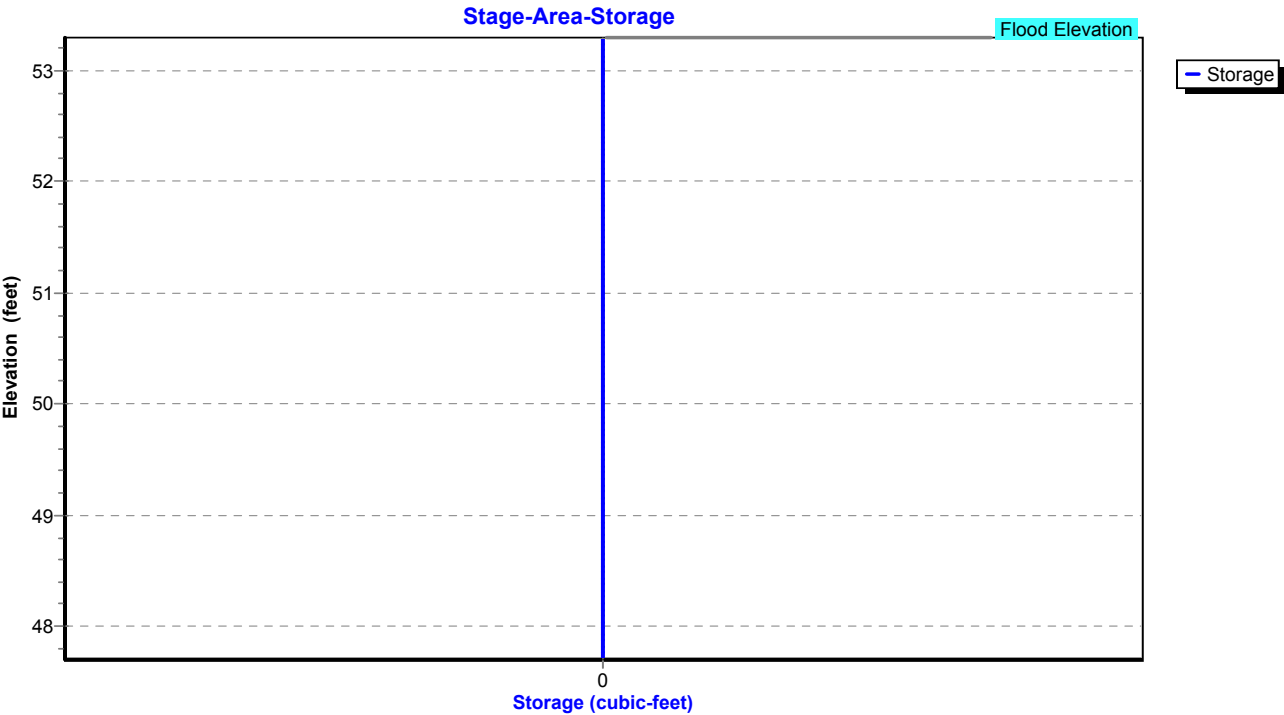
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Pond 73P: CB-3



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Summary for Pond 74P: CB-4

Inflow Area = 49,920 sf, 46.51% Impervious, Inflow Depth = 3.50" for 10 year event
Inflow = 4.52 cfs @ 12.06 hrs, Volume= 14,540 cf
Outflow = 4.52 cfs @ 12.06 hrs, Volume= 14,540 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.52 cfs @ 12.06 hrs, Volume= 14,540 cf
Routed to Pond 73P : CB-3

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.40' @ 12.06 hrs

Flood Elev= 53.70'

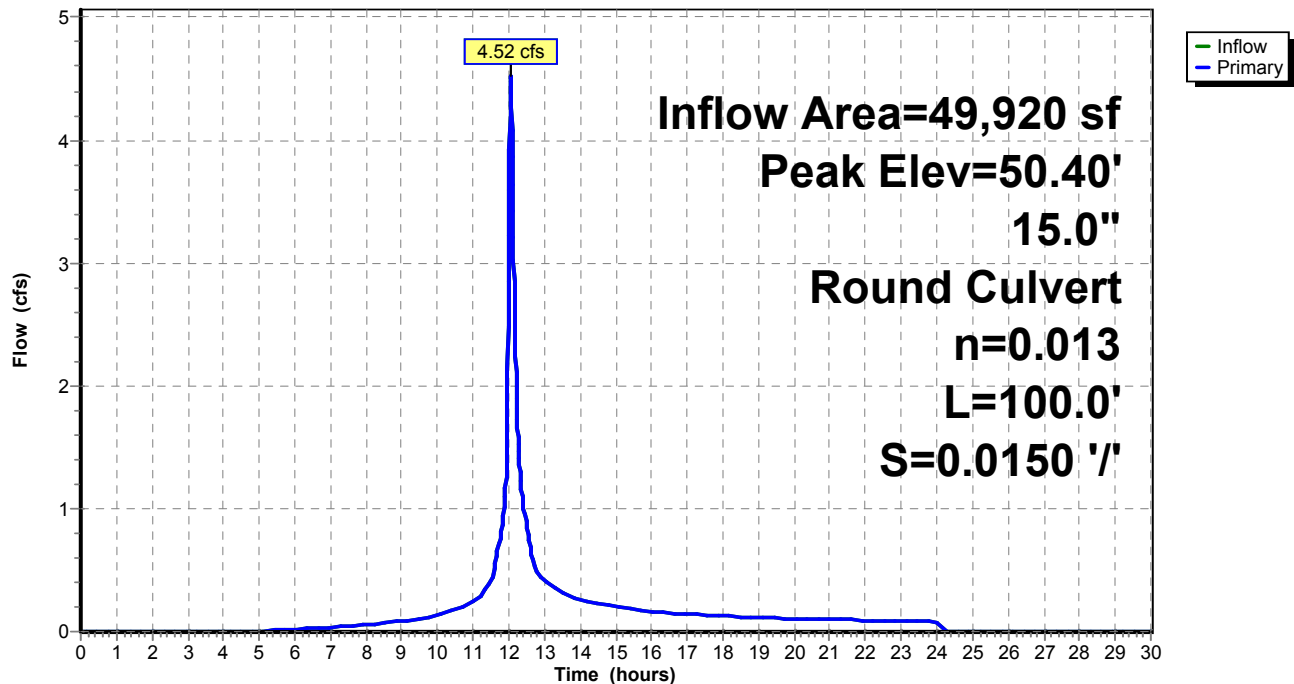
Device	Routing	Invert	Outlet Devices
#1	Primary	49.20'	15.0" Round Culvert L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.20' / 47.70' S= 0.0150 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=4.51 cfs @ 12.06 hrs HW=50.40' (Free Discharge)

↑1=Culvert (Inlet Controls 4.51 cfs @ 3.73 fps)

Pond 74P: CB-4

Hydrograph



Proposed Conditions

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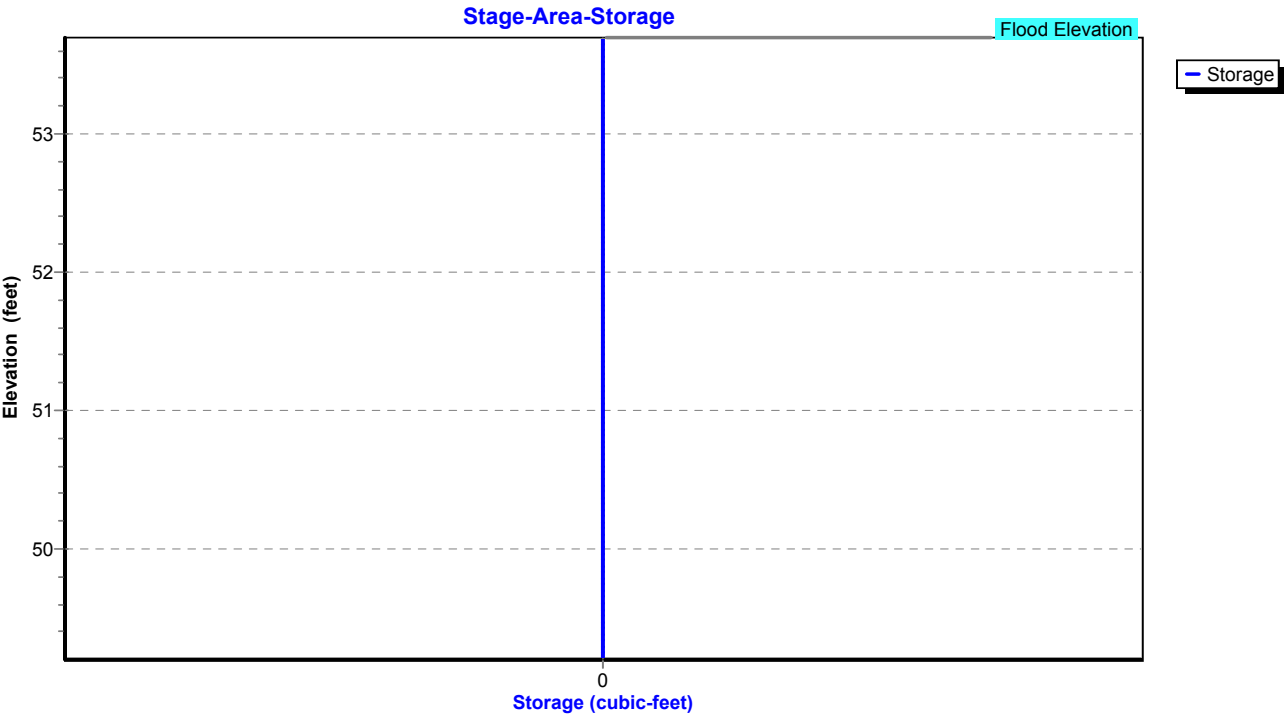
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Pond 74P: CB-4



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Summary for Pond 77P: Manhole

Inflow Area = 87,338 sf, 48.38% Impervious, Inflow Depth = 3.75" for 10 year event
Inflow = 7.47 cfs @ 12.06 hrs, Volume= 27,279 cf
Outflow = 7.47 cfs @ 12.06 hrs, Volume= 27,279 cf, Atten= 0%, Lag= 0.0 min
Primary = 7.47 cfs @ 12.06 hrs, Volume= 27,279 cf
Routed to Pond 63P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 49.32' @ 12.06 hrs

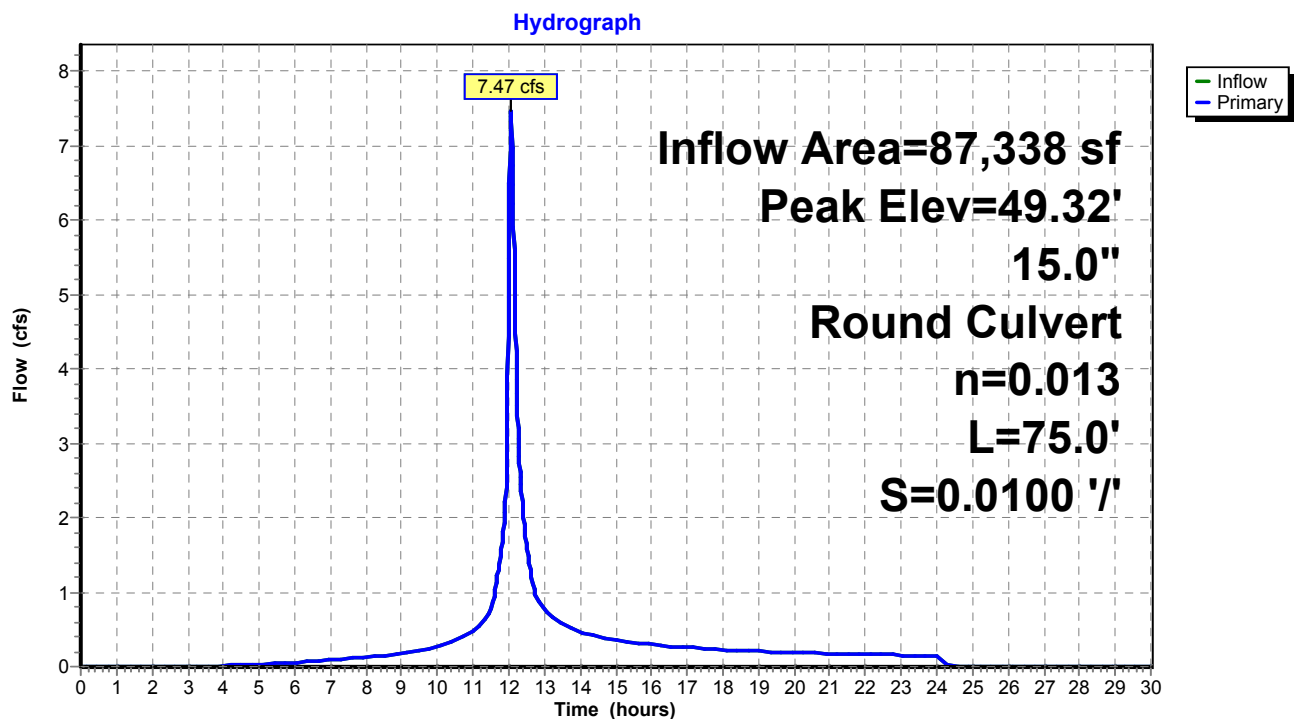
Flood Elev= 52.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.95'	15.0" Round Culvert L= 75.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.95' / 46.20' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=7.46 cfs @ 12.06 hrs HW=49.31' (Free Discharge)

↑1=Culvert (Barrel Controls 7.46 cfs @ 6.08 fps)

Pond 77P: Manhole



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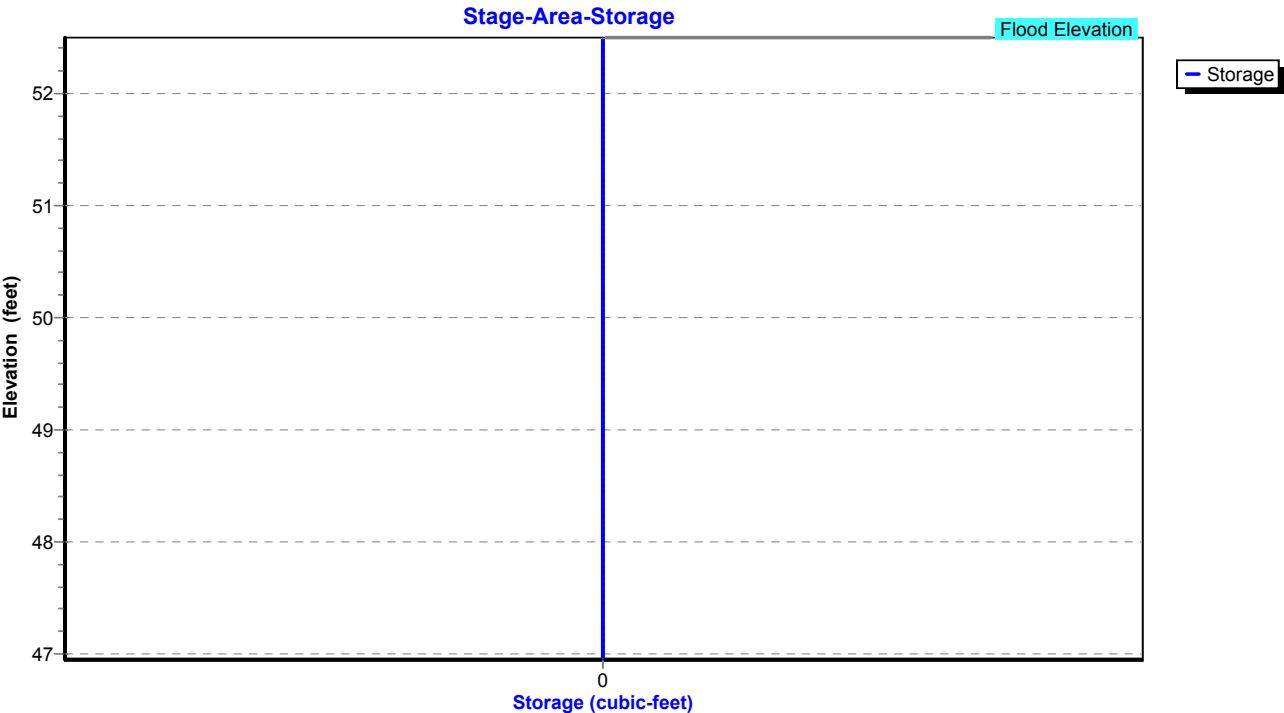
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Pond 77P: Manhole



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Summary for Pond 79P: CB-8

Inflow Area = 3,920 sf, 100.00% Impervious, Inflow Depth = 5.09" for 10 year event
Inflow = 0.54 cfs @ 12.03 hrs, Volume= 1,663 cf
Outflow = 0.54 cfs @ 12.03 hrs, Volume= 1,663 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.54 cfs @ 12.03 hrs, Volume= 1,663 cf
Routed to Pond 63P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.57' @ 12.03 hrs

Flood Elev= 52.50'

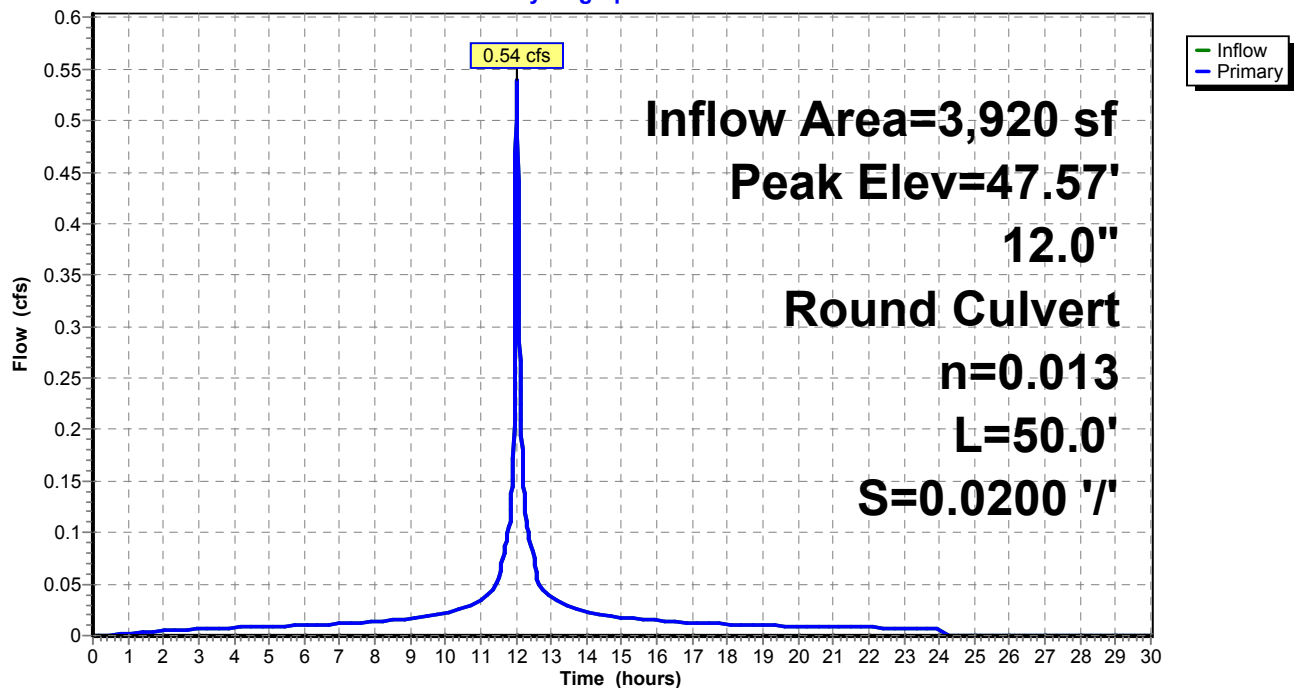
Device	Routing	Invert	Outlet Devices
#1	Primary	47.20'	12.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.20' / 46.20' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.54 cfs @ 12.03 hrs HW=47.57' (Free Discharge)

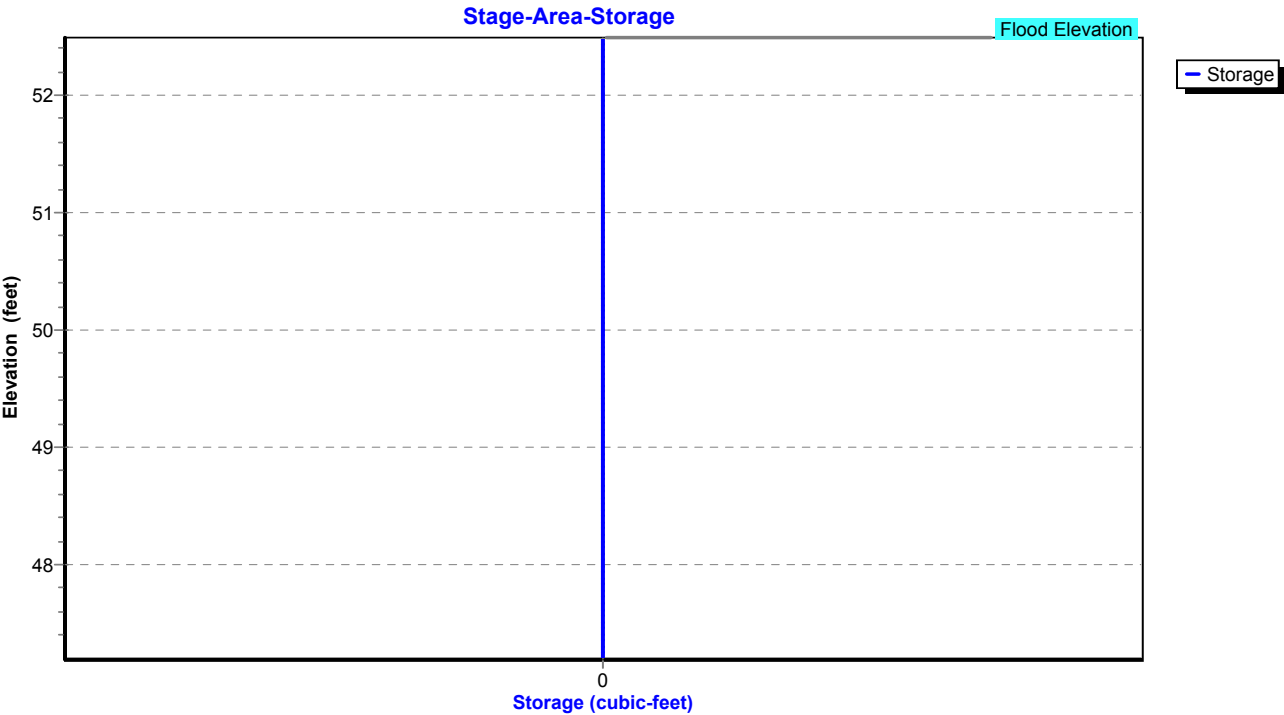
↑1=Culvert (Inlet Controls 0.54 cfs @ 2.06 fps)

Pond 79P: CB-8

Hydrograph



Pond 79P: CB-8



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Summary for Pond 85P: CB-5

Inflow Area = 34,804 sf, 42.18% Impervious, Inflow Depth = 3.37" for 10 year event
Inflow = 3.00 cfs @ 12.07 hrs, Volume= 9,786 cf
Outflow = 3.00 cfs @ 12.07 hrs, Volume= 9,786 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.00 cfs @ 12.07 hrs, Volume= 9,786 cf
Routed to Pond 74P : CB-4

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 51.33' @ 12.07 hrs

Flood Elev= 53.30'

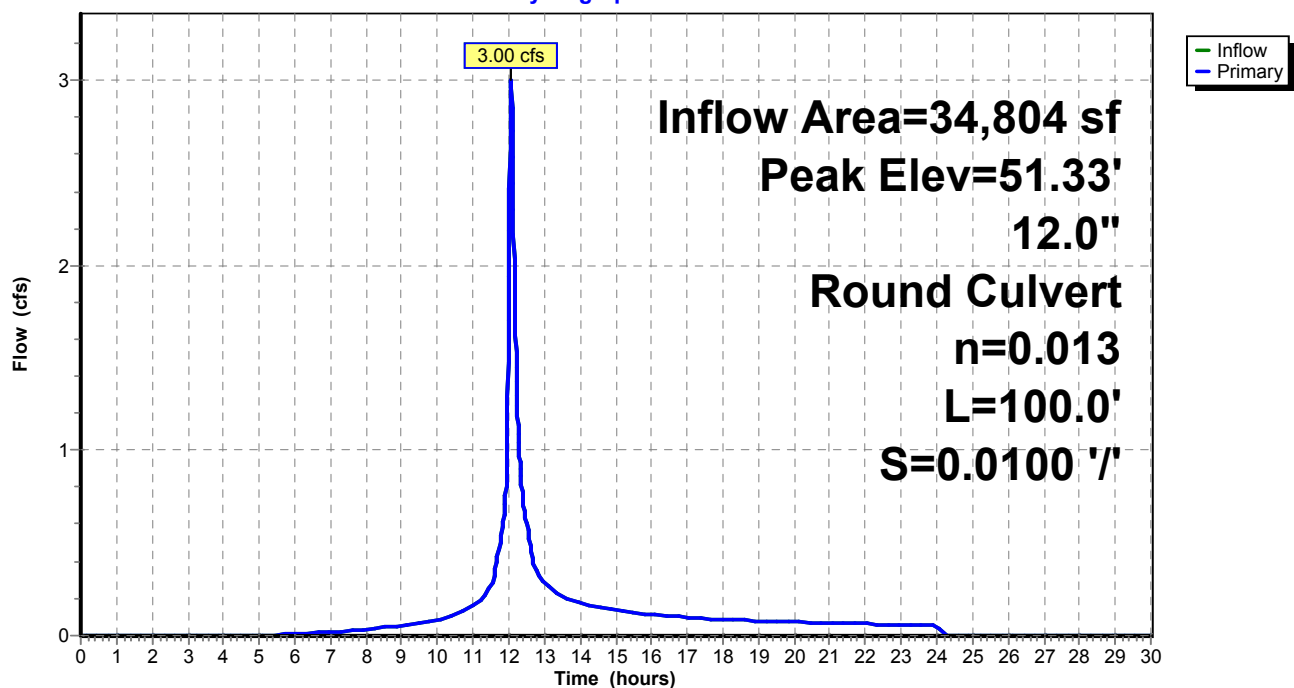
Device	Routing	Invert	Outlet Devices
#1	Primary	50.20'	12.0" Round Culvert L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 50.20' / 49.20' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=2.99 cfs @ 12.07 hrs HW=51.33' (Free Discharge)

↑1=Culvert (Inlet Controls 2.99 cfs @ 3.81 fps)

Pond 85P: CB-5

Hydrograph



Proposed Conditions

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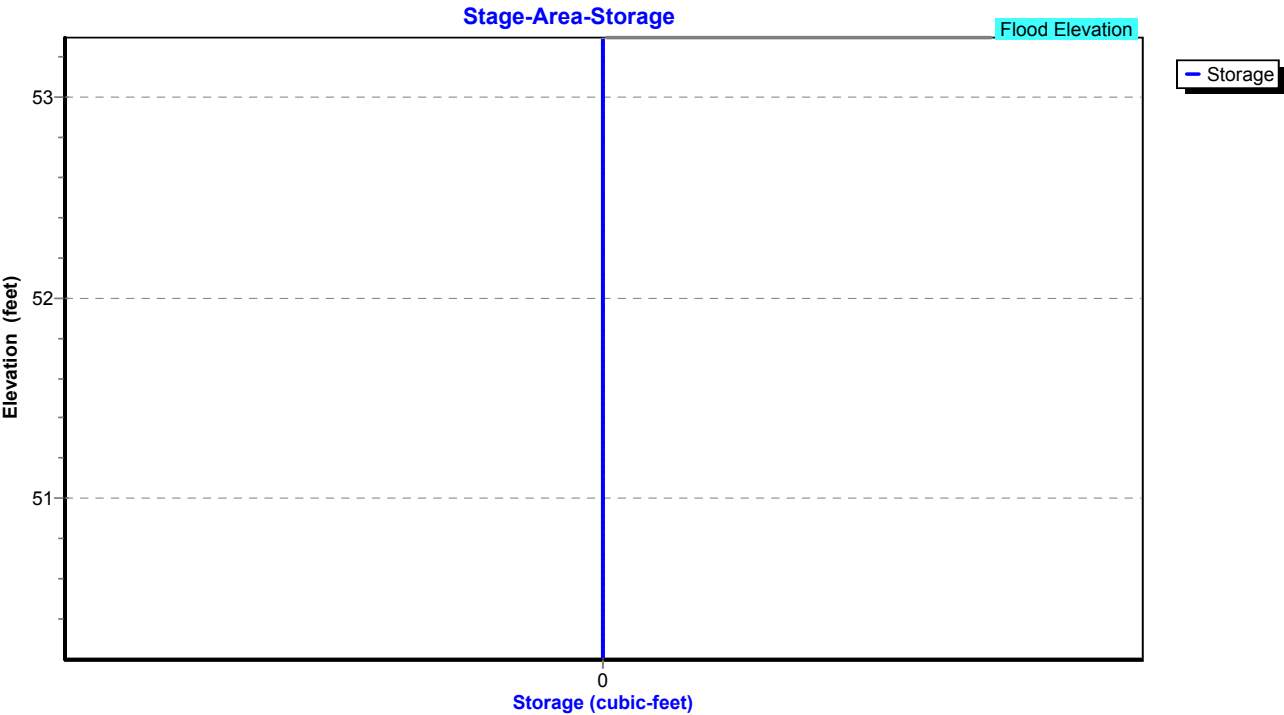
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Pond 85P: CB-5



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Summary for Pond P: ADS Stormtech

Inflow Area = 16,901 sf, 100.00% Impervious, Inflow Depth = 5.09" for 10 year event
 Inflow = 2.33 cfs @ 12.03 hrs, Volume= 7,170 cf
 Outflow = 0.64 cfs @ 12.20 hrs, Volume= 7,170 cf, Atten= 73%, Lag= 10.8 min
 Primary = 0.64 cfs @ 12.20 hrs, Volume= 7,170 cf
 Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 53.79' @ 12.20 hrs Surf.Area= 749 sf Storage= 1,222 cf

Plug-Flow detention time= 18.7 min calculated for 7,170 cf (100% of inflow)

Center-of-Mass det. time= 18.6 min (765.9 - 747.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	51.34'	764 cf	15.75'W x 46.34'L x 3.75'H Field A 2,737 cf Overall - 827 cf Embedded = 1,910 cf x 40.0% Voids
#2A	51.84'	827 cf	ADS_StormTech SC-740 +Cap x 18 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 18 Chambers in 3 Rows
#3	51.34'	114 cf	5.00'D x 5.80'H OCS
		1,705 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	51.34'	12.0" Round Culvert L= 4.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 51.34' / 51.30' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	51.34'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	54.30'	5.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.64 cfs @ 12.20 hrs HW=53.79' (Free Discharge)

- 1=Culvert (Passes 0.64 cfs of 5.28 cfs potential flow)
 2=Orifice/Grate (Orifice Controls 0.64 cfs @ 7.28 fps)
 3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Proposed Conditions

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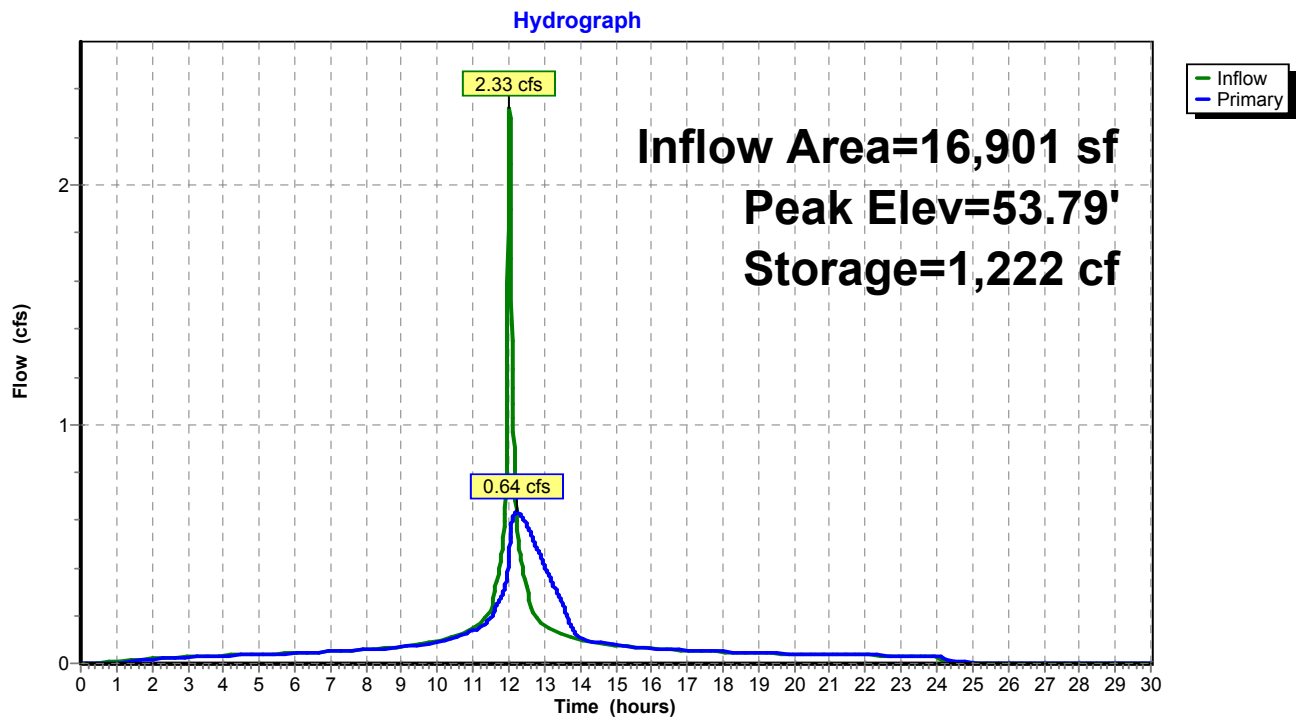
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NORWALK 24-hr S1 10 year Rainfall=5.33"

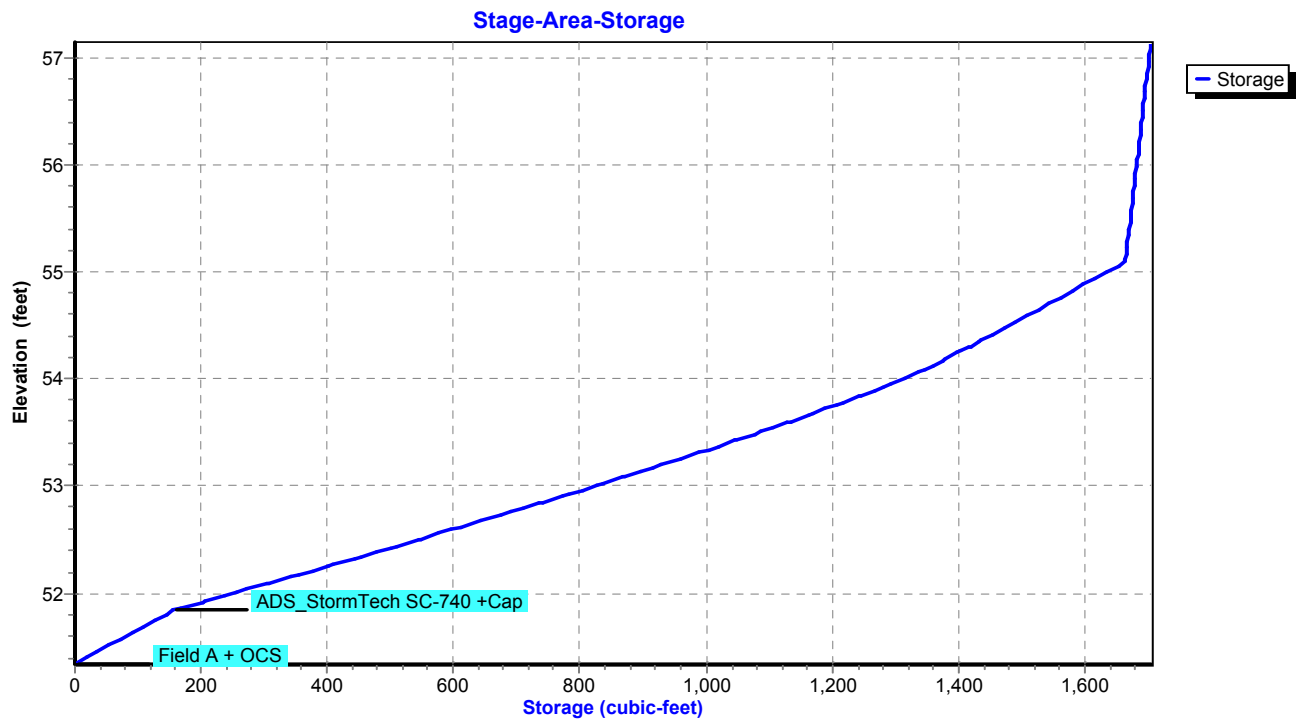
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Pond P: ADS Stormtech



Pond P: ADS Stormtech



Summary for Subcatchment 4S: Area 4

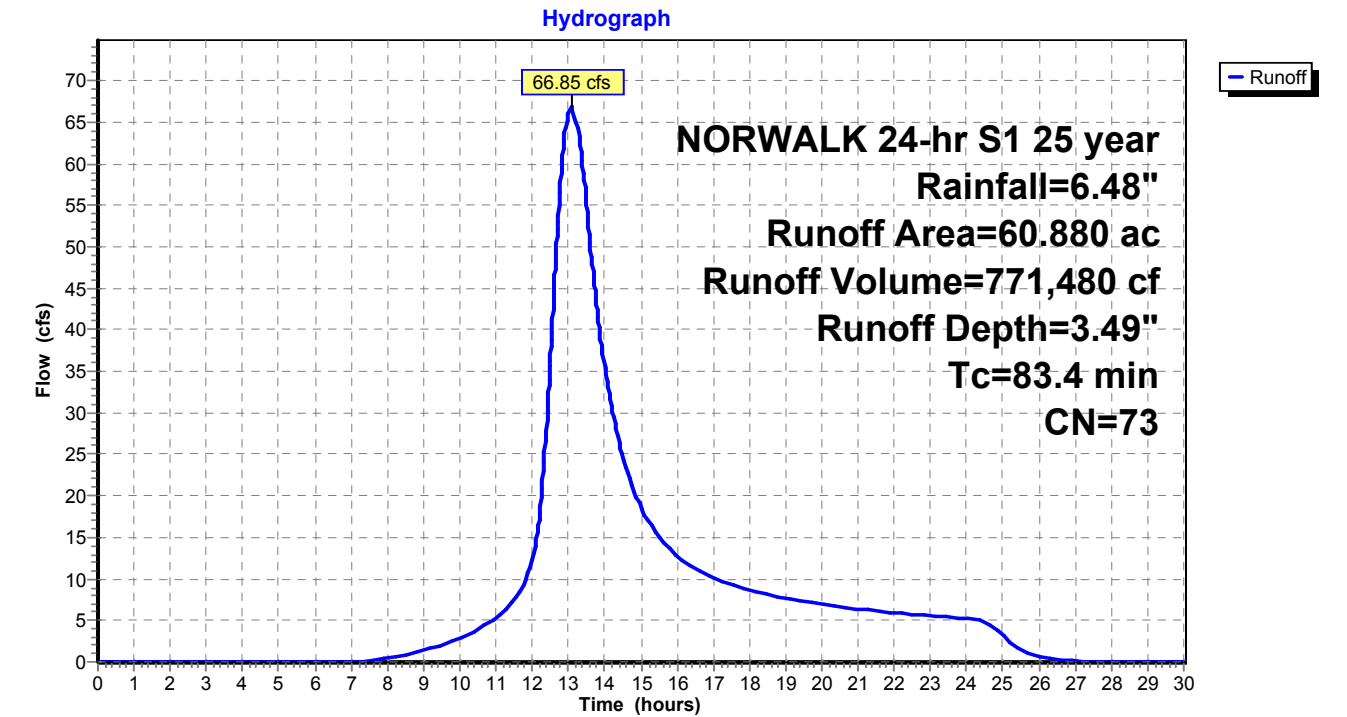
Runoff = 66.85 cfs @ 13.07 hrs, Volume= 771,480 cf, Depth= 3.49"
Routed to Pond 18P : DET 4 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
8.210	61	>75% Grass cover, Good, HSG B
0.140	74	>75% Grass cover, Good, HSG C
0.380	80	>75% Grass cover, Good, HSG D
25.920	70	1/2 acre lots, 25% imp, HSG B
22.630	80	1/2 acre lots, 25% imp, HSG C
3.600	85	1/2 acre lots, 25% imp, HSG D
60.880	73	Weighted Average
47.842		78.58% Pervious Area
13.037		21.42% Impervious Area

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

Subcatchment 4S: Area 4



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Summary for Subcatchment 5S: Area 5

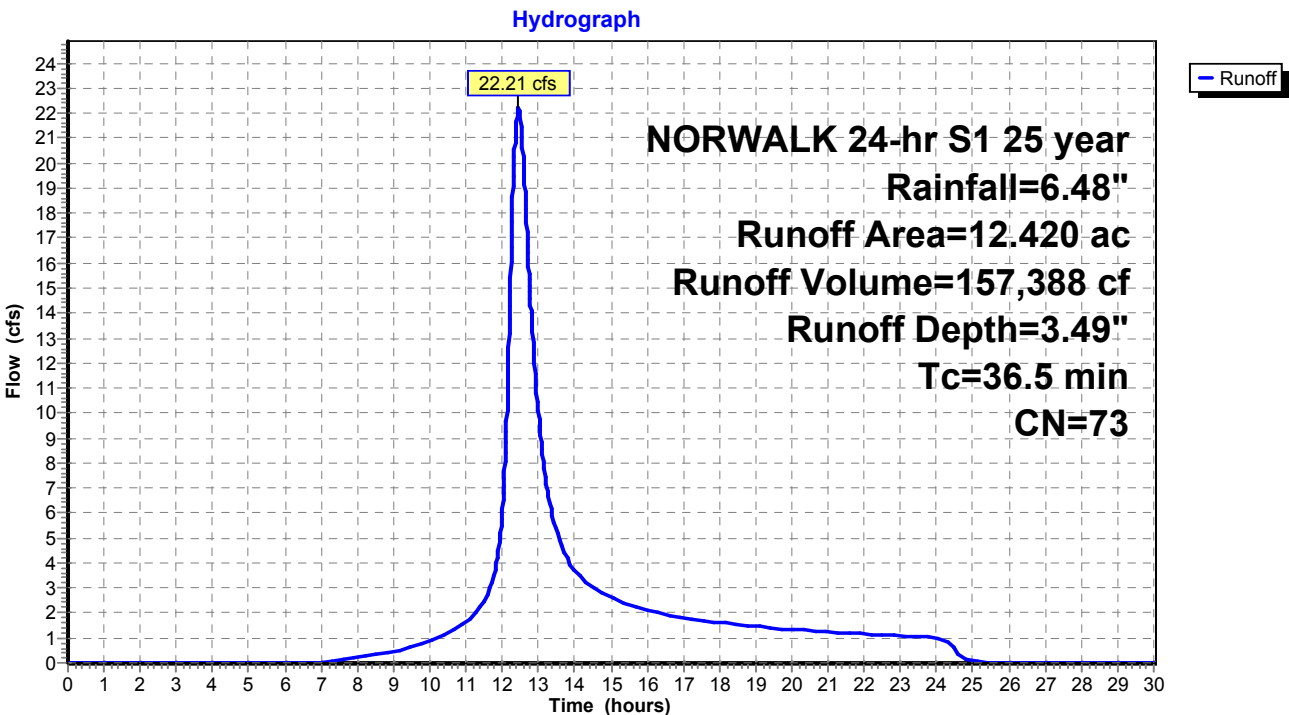
Runoff = 22.21 cfs @ 12.45 hrs, Volume= 157,388 cf, Depth= 3.49"
Routed to Pond 5P : DET 5 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
4.770	61	>75% Grass cover, Good, HSG B
5.210	74	>75% Grass cover, Good, HSG C
0.390	80	>75% Grass cover, Good, HSG D
2.050	98	Paved parking & roofs
12.420	73	Weighted Average
10.370		83.49% Pervious Area
2.050		16.51% Impervious Area

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

Subcatchment 5S: Area 5



Summary for Subcatchment 6S: Area 6

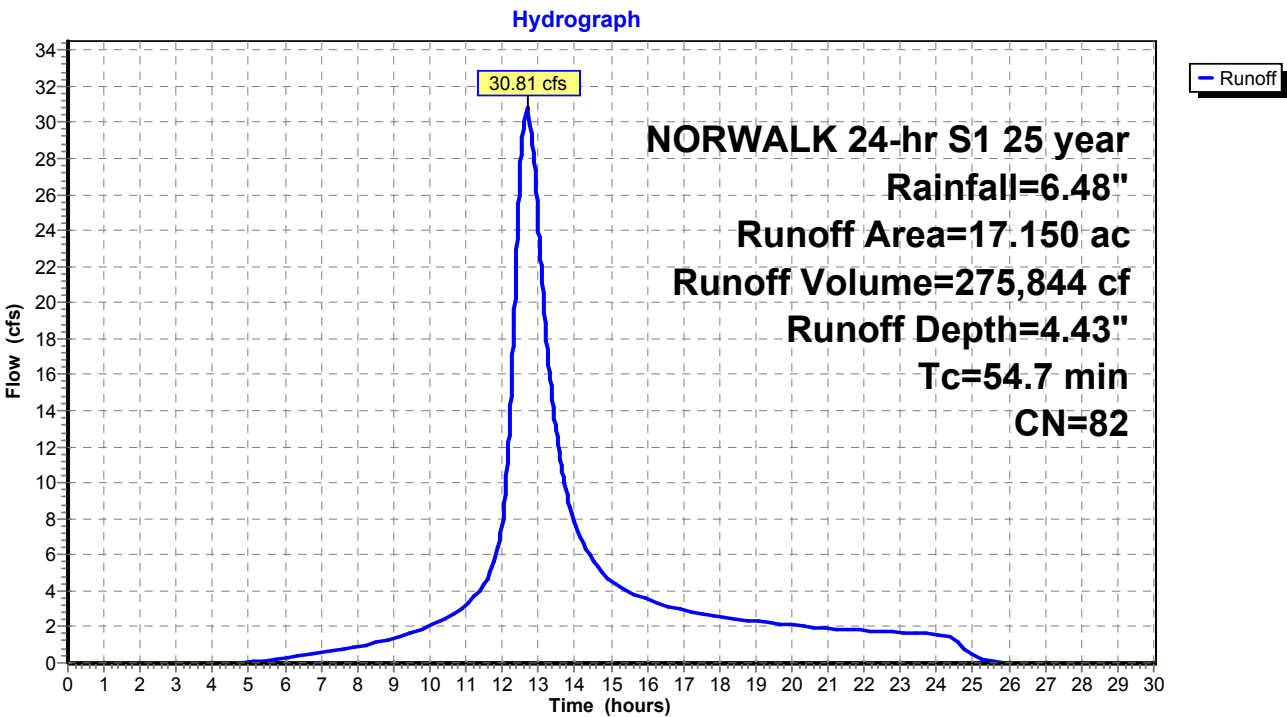
Runoff = 30.81 cfs @ 12.70 hrs, Volume= 275,844 cf, Depth= 4.43"
Routed to Pond 6P : DET 6 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
9.290	71	Meadow, non-grazed, HSG C
5.410	98	Paved parking & roofs
1.480	77	Woods, Good, HSG D
0.970	98	Paved parking & roofs
17.150	82	Weighted Average
10.770		62.80% Pervious Area
6.380		37.20% Impervious Area

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

Subcatchment 6S: Area 6



Summary for Subcatchment 7S: Area 7

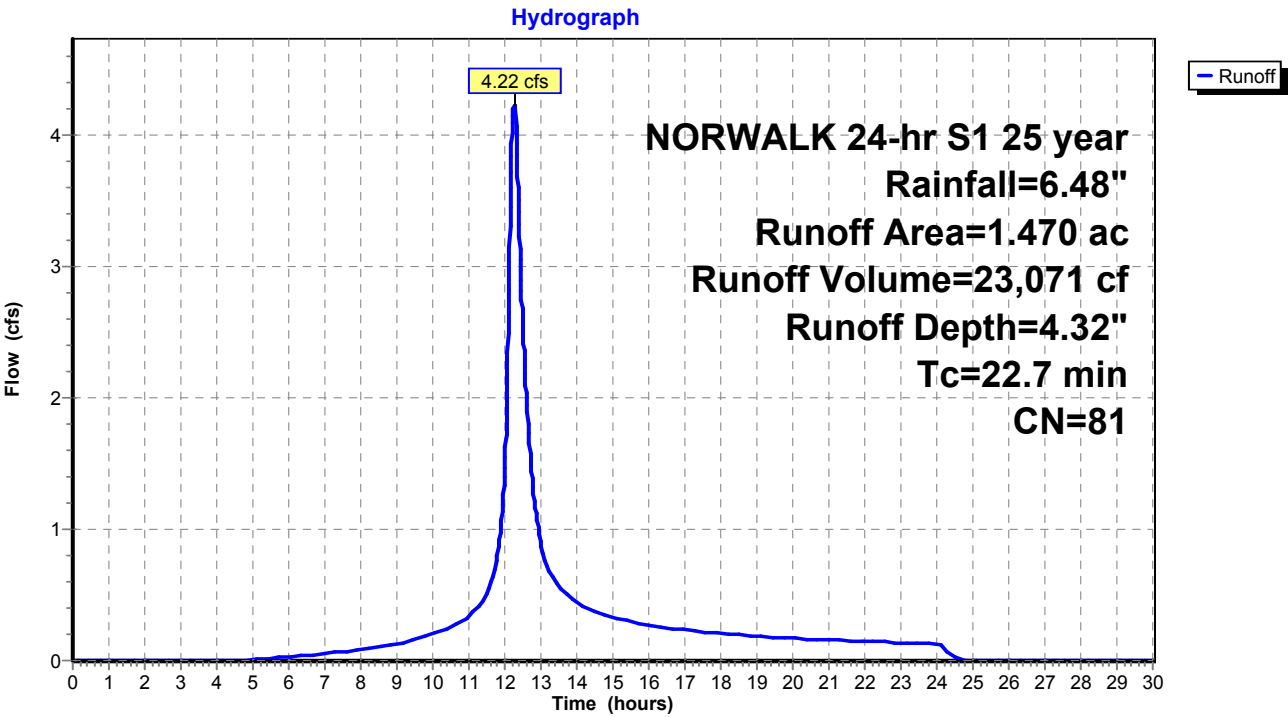
Runoff = 4.22 cfs @ 12.26 hrs, Volume= 23,071 cf, Depth= 4.32"
Routed to Pond 7P : DET 7 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.890	79	50-75% Grass cover, Fair, HSG C
0.580	84	50-75% Grass cover, Fair, HSG D
1.470	81	Weighted Average
1.470		100.00% Pervious Area

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

Subcatchment 7S: Area 7



Summary for Subcatchment 8S: Area 8

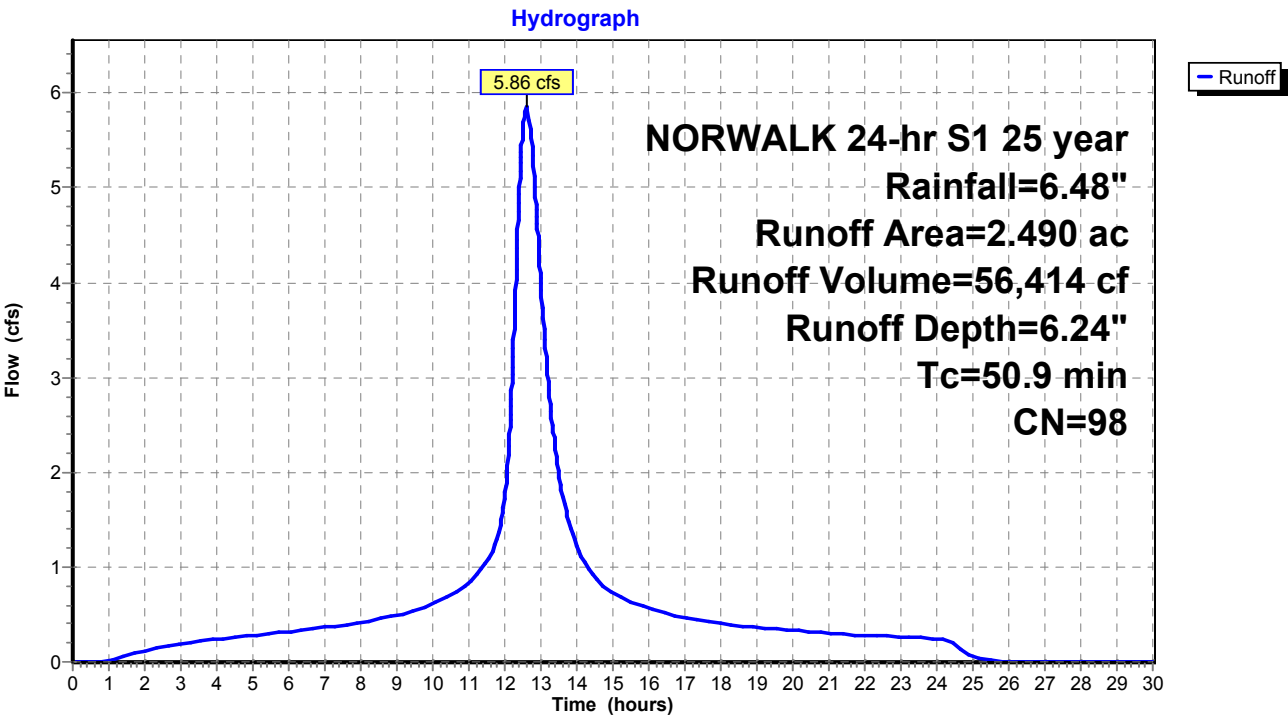
Runoff = 5.86 cfs @ 12.61 hrs, Volume= 56,414 cf, Depth= 6.24"
Routed to Pond 8P : Comb. 5,6,7,8,9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
2.490	98	Paved parking & roofs
2.490		100.00% Impervious Area

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

Subcatchment 8S: Area 8



Summary for Subcatchment 9S: Area 9

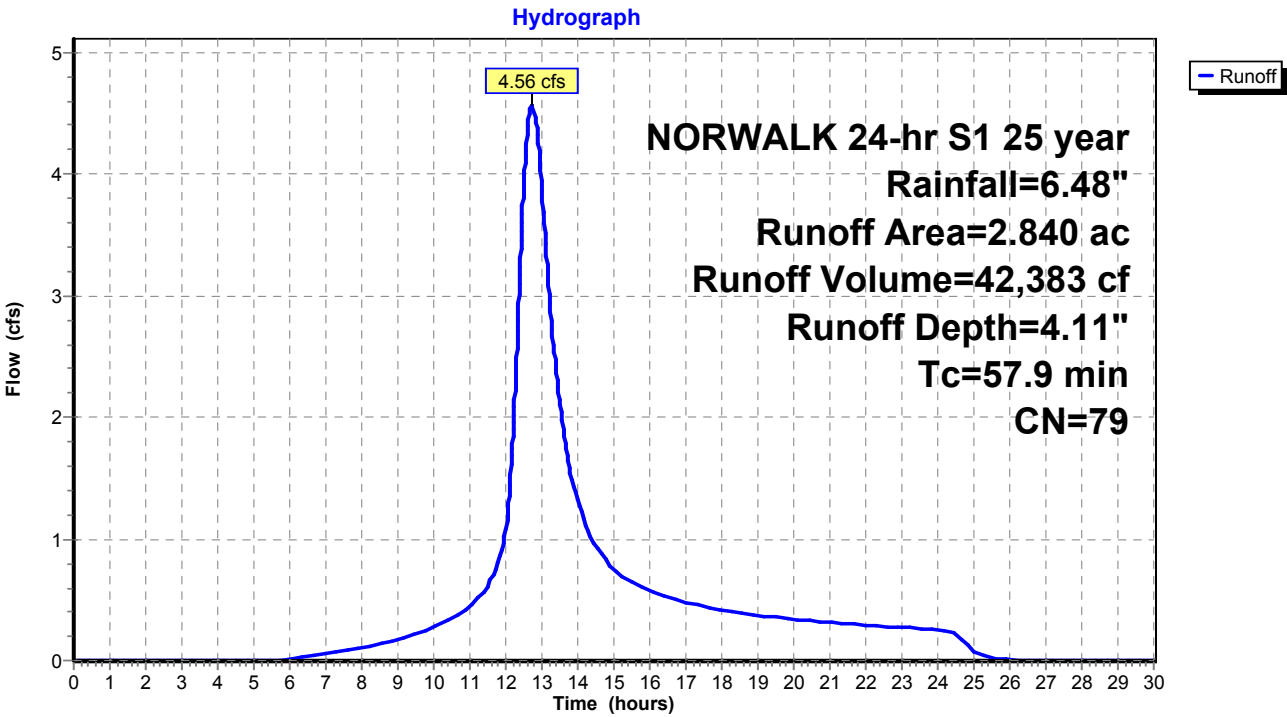
Runoff = 4.56 cfs @ 12.73 hrs, Volume= 42,383 cf, Depth= 4.11"
Routed to Pond 8P : Comb. 5,6,7,8,9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.530	74	>75% Grass cover, Good, HSG C
2.310	80	>75% Grass cover, Good, HSG D
2.840	79	Weighted Average
2.840		100.00% Pervious Area

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

Subcatchment 9S: Area 9



Summary for Subcatchment 10AS: Area 10A

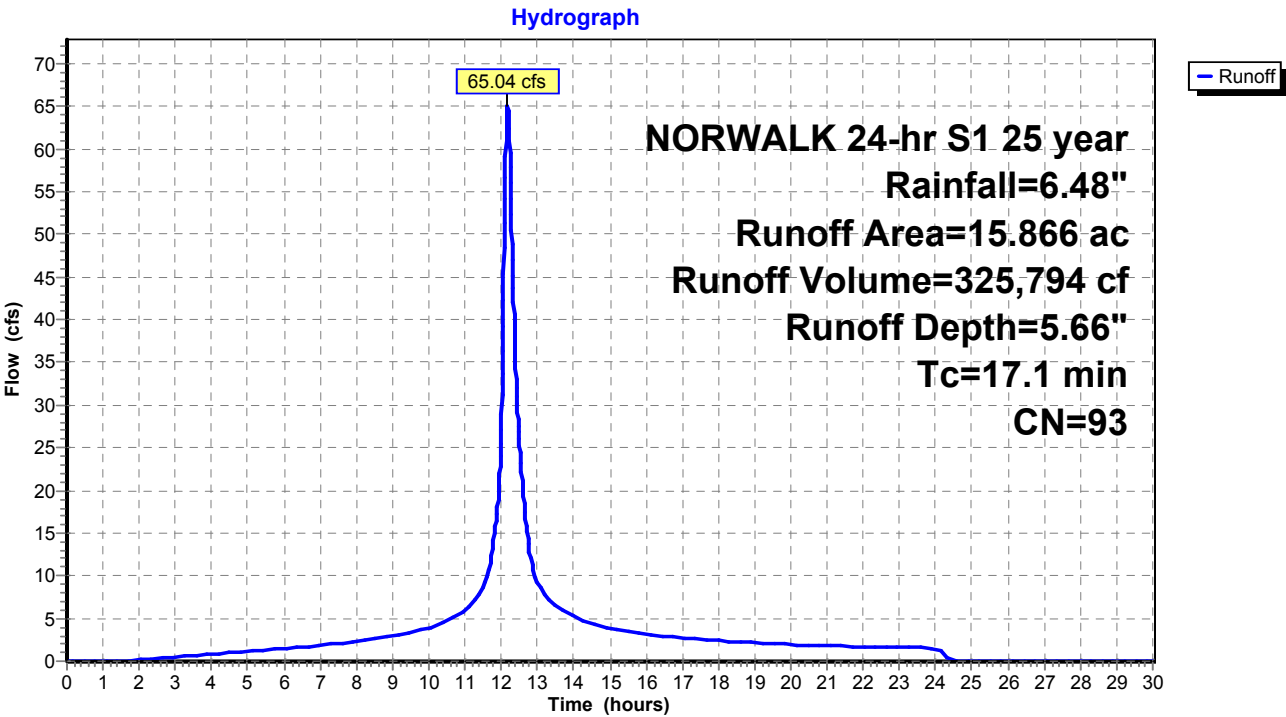
Runoff = 65.04 cfs @ 12.18 hrs, Volume= 325,794 cf, Depth= 5.66"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
3.905	79	50-75% Grass cover, Fair, HSG C
11.961	98	Paved roads w/curbs & sewers, HSG C
15.866	93	Weighted Average
3.905		24.61% Pervious Area
11.961		75.39% Impervious Area

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

Subcatchment 10AS: Area 10A



Summary for Subcatchment 10BS: Area 10B

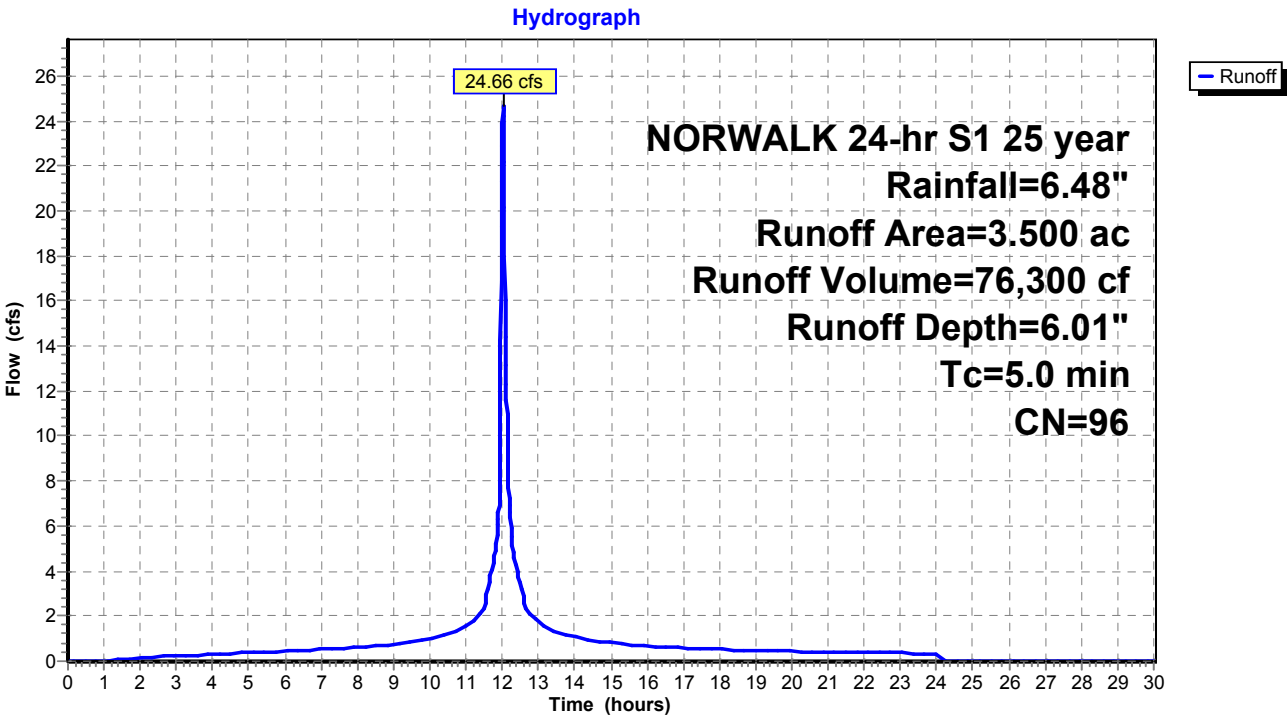
Runoff = 24.66 cfs @ 12.03 hrs, Volume= 76,300 cf, Depth= 6.01"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
3.308	98	Paved parking & roofs
0.192	61	>75% Grass cover, Good, HSG B
3.500	96	Weighted Average
0.192		5.49% Pervious Area
3.308		94.51% Impervious Area

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

Subcatchment 10BS: Area 10B



Summary for Subcatchment 10CS: Area 10C

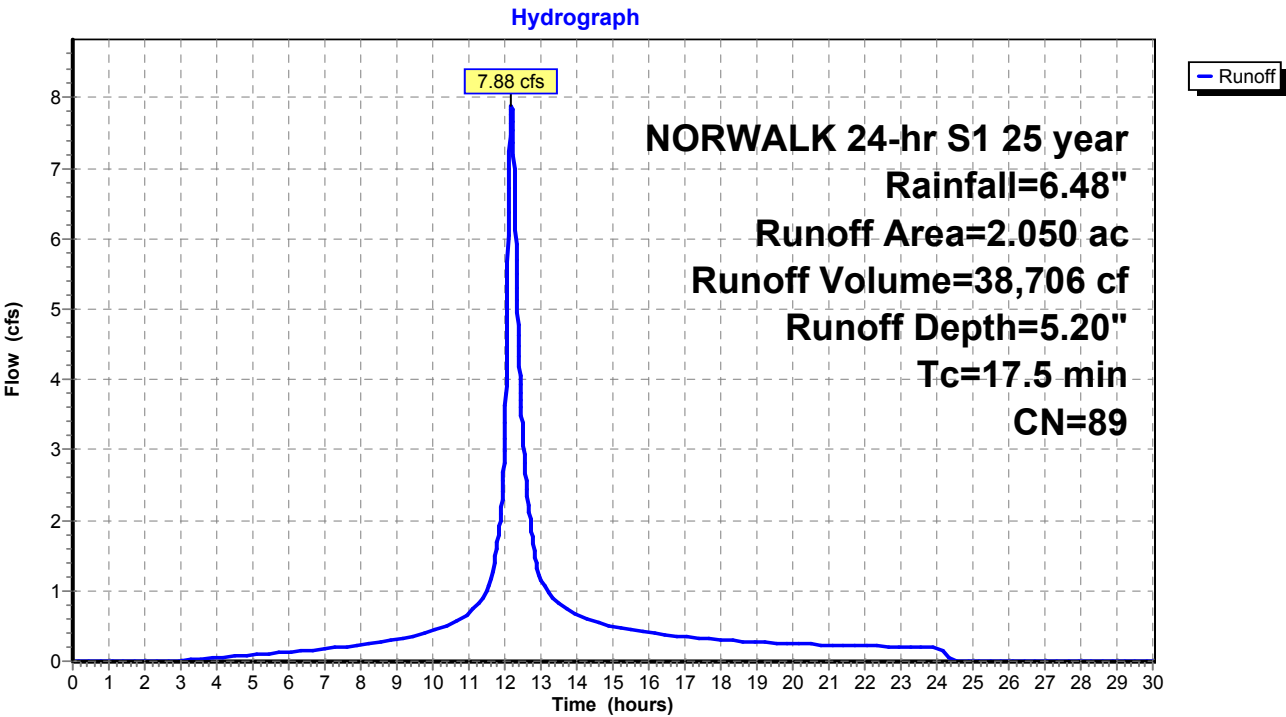
Runoff = 7.88 cfs @ 12.19 hrs, Volume= 38,706 cf, Depth= 5.20"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
1.526	98	Paved parking & roofs
0.524	61	>75% Grass cover, Good, HSG B
2.050	89	Weighted Average
0.524		25.56% Pervious Area
1.526		74.44% Impervious Area

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

Subcatchment 10CS: Area 10C



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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 10DS: Area 10D

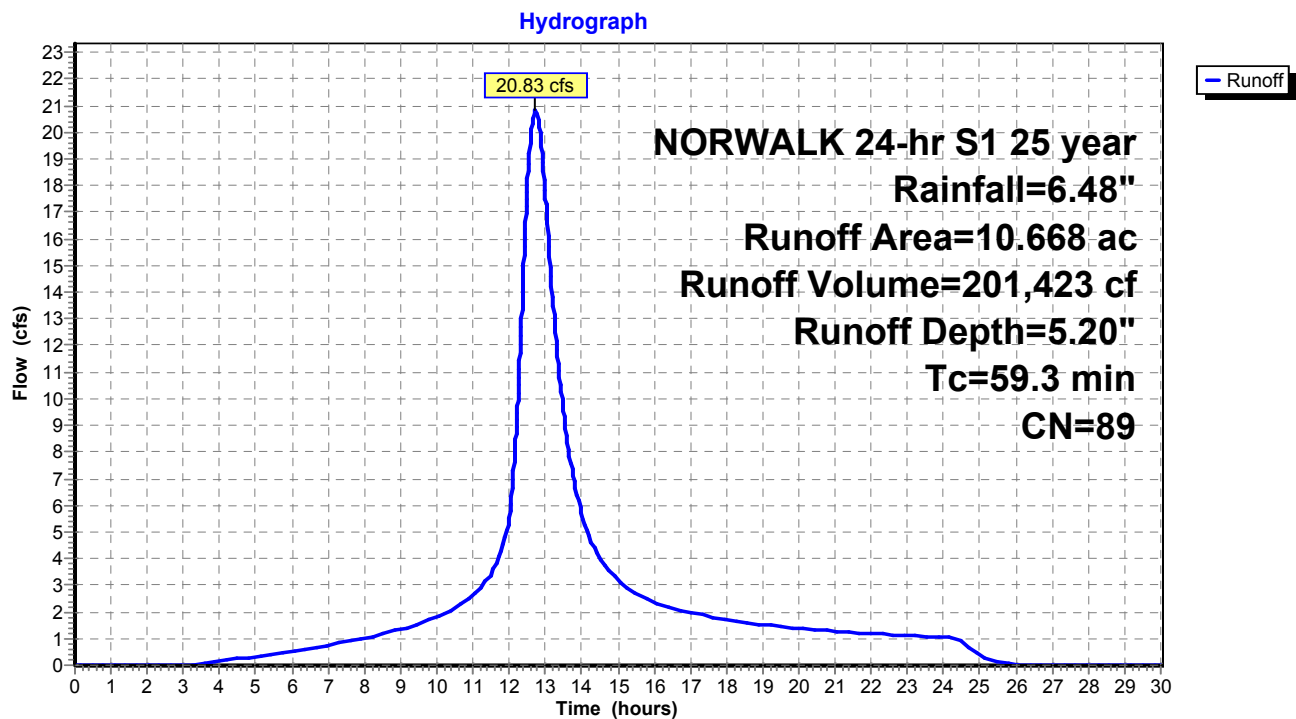
Runoff = 20.83 cfs @ 12.72 hrs, Volume= 201,423 cf, Depth= 5.20"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
5.033	79	50-75% Grass cover, Fair, HSG C
5.635	98	Paved parking, HSG C
10.668	89	Weighted Average
5.033		47.18% Pervious Area
5.635		52.82% Impervious Area

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

Subcatchment 10DS: Area 10D



Summary for Subcatchment 10ES: Area 10E

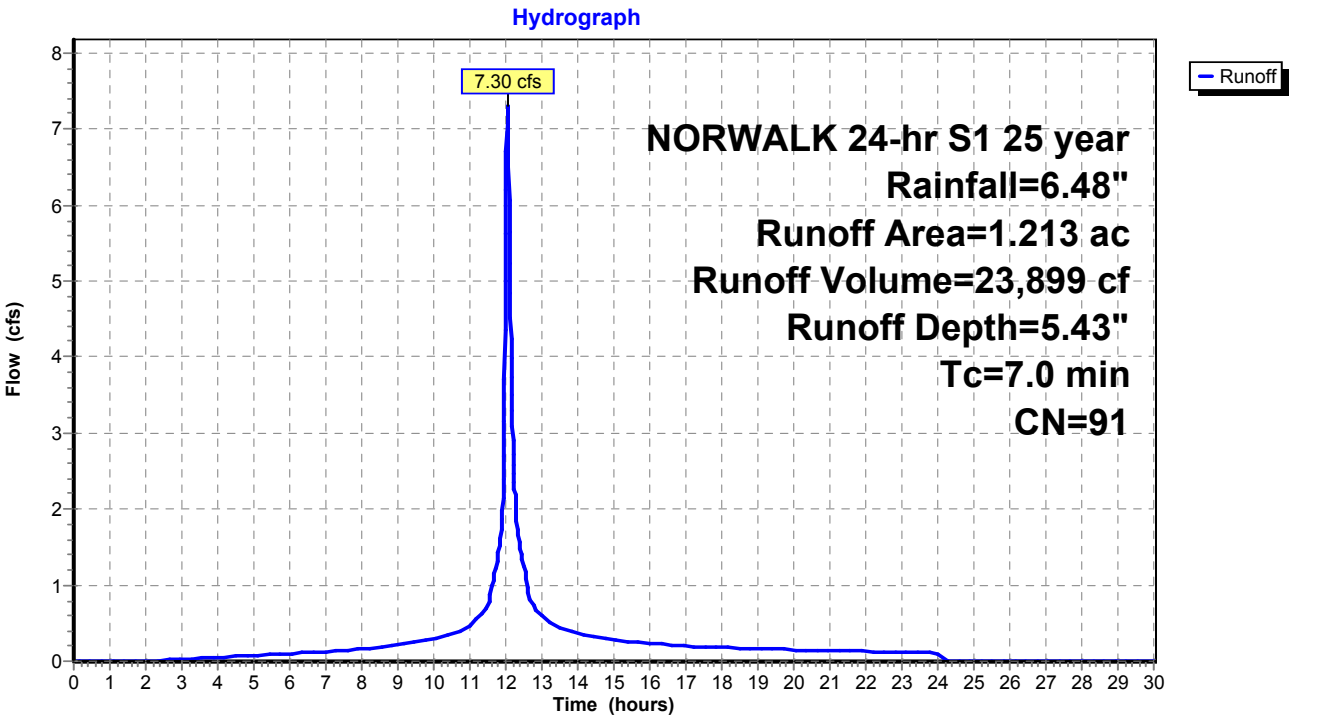
Runoff = 7.30 cfs @ 12.05 hrs, Volume= 23,899 cf, Depth= 5.43"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.781	98	Paved parking, HSG C
0.432	79	50-75% Grass cover, Fair, HSG C
1.213	91	Weighted Average
0.432		35.61% Pervious Area
0.781		64.39% Impervious Area

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

Subcatchment 10ES: Area 10E



Summary for Subcatchment 10FS: Area 10F

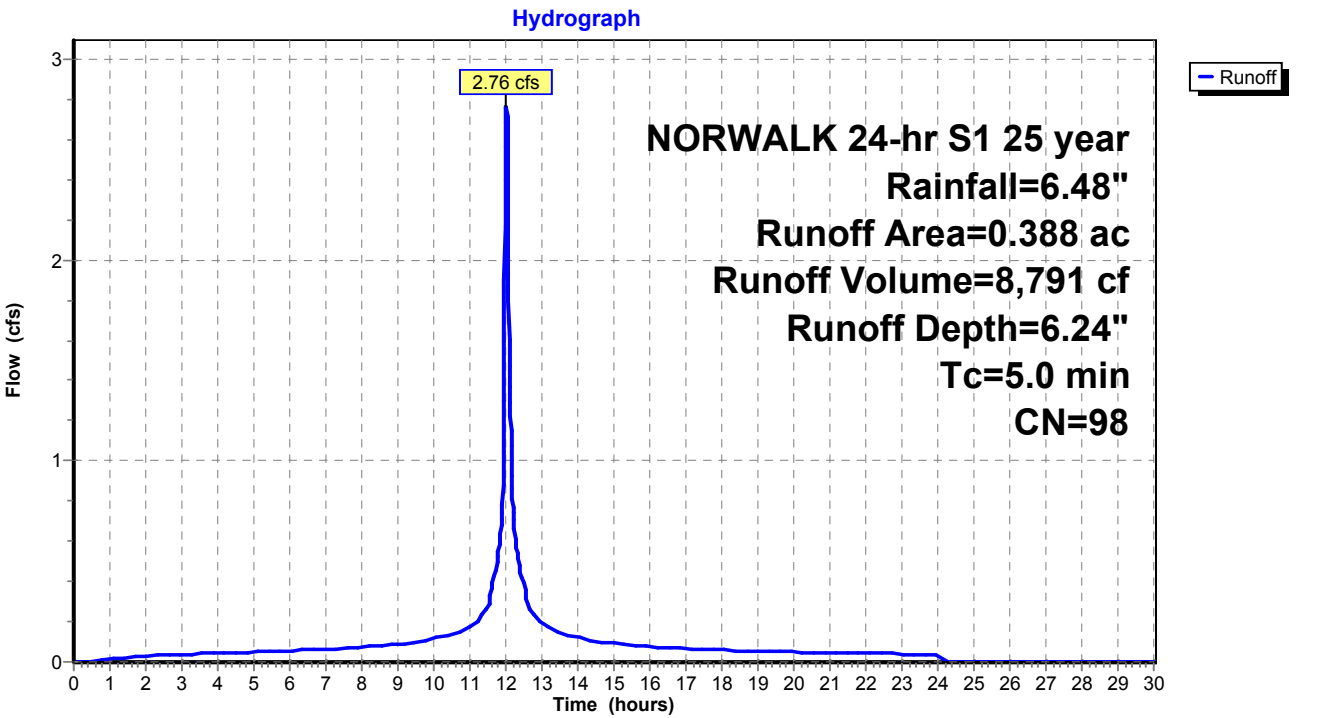
Runoff = 2.76 cfs @ 12.03 hrs, Volume= 8,791 cf, Depth= 6.24"
Routed to Pond P : ADS Stormtech

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.388	98	Paved roads w/curbs & sewers, HSG C
0.388		100.00% Impervious Area

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

Subcatchment 10FS: Area 10F



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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 10GS: Area 10G

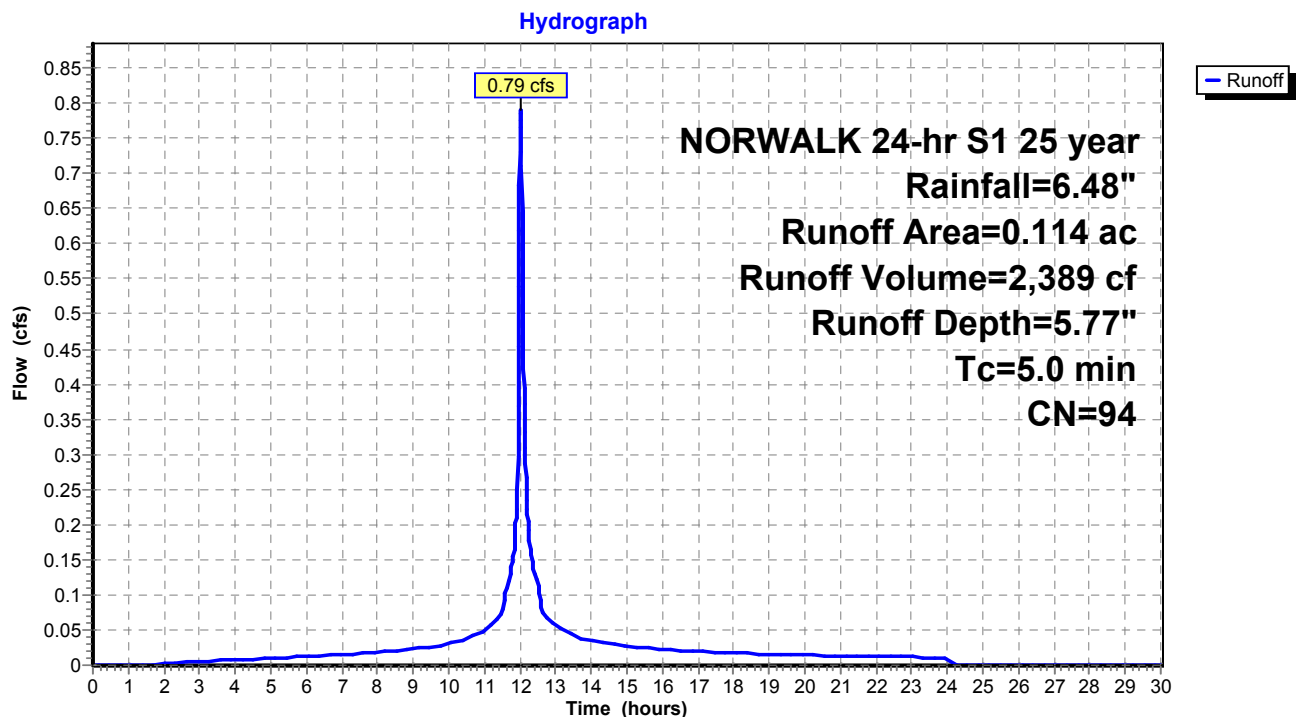
Runoff = 0.79 cfs @ 12.03 hrs, Volume= 2,389 cf, Depth= 5.77"
Routed to Pond 20P : ADS Stormtech (160LP)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
* 0.092	98	Paved parking, HSG C
* 0.022	79	50-75% Grass cover, Fair, HSG C
0.114	94	Weighted Average
0.022		19.30% Pervious Area
0.092		80.70% Impervious Area

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

Subcatchment 10GS: Area 10G



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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 11S: Area 11

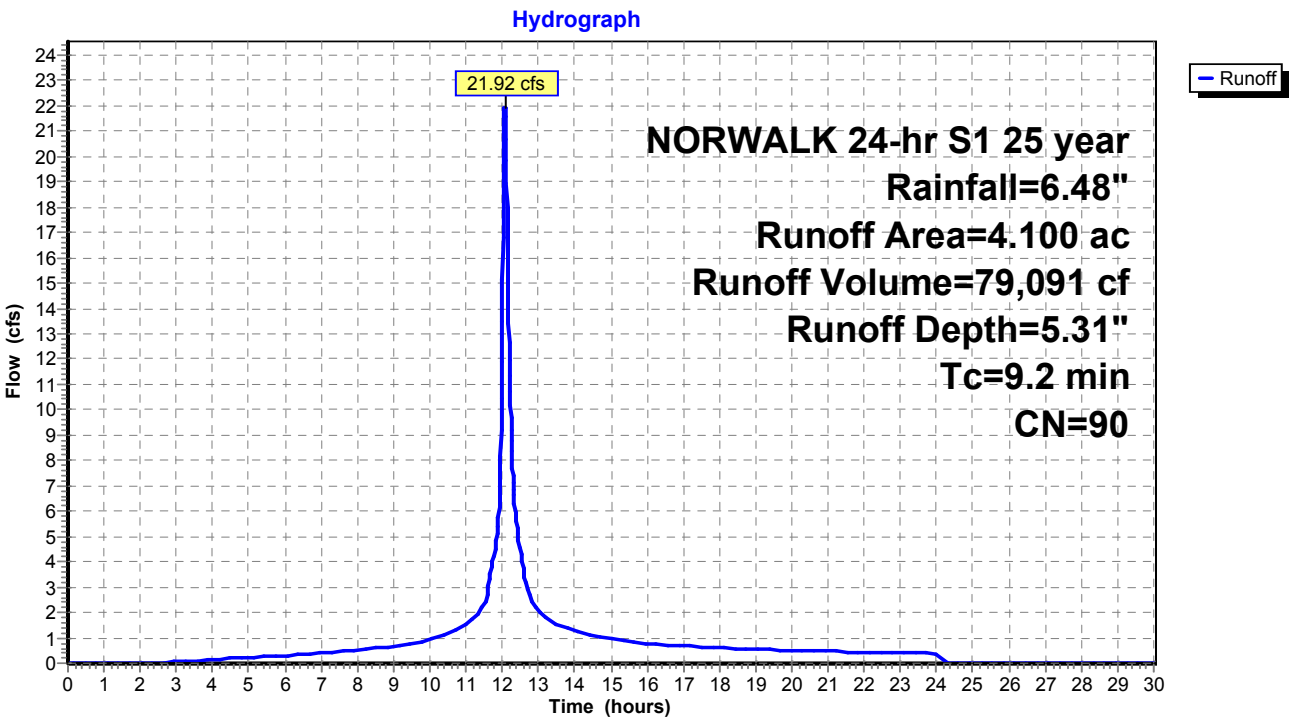
Runoff = 21.92 cfs @ 12.07 hrs, Volume= 79,091 cf, Depth= 5.31"
Routed to Pond 17P : DET 12 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
1.450	74	>75% Grass cover, Good, HSG C
2.650	98	Paved parking & roofs
4.100	90	Weighted Average
1.450		35.37% Pervious Area
2.650		64.63% Impervious Area

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

Subcatchment 11S: Area 11



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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 12S: Area 12

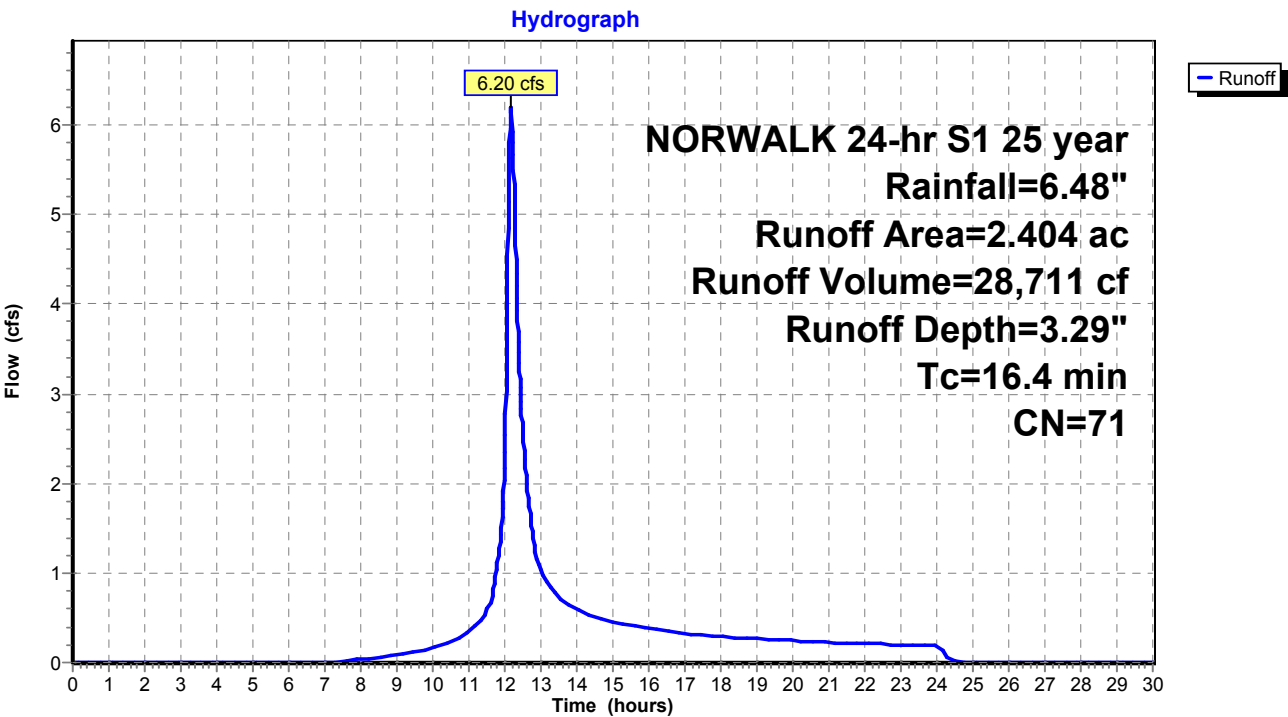
Runoff = 6.20 cfs @ 12.18 hrs, Volume= 28,711 cf, Depth= 3.29"
Routed to Pond 17P : DET 12 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
2.054	70	Woods, Good, HSG C
0.350	77	Woods, Good, HSG D
2.404	71	Weighted Average
2.404		100.00% Pervious Area

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

Subcatchment 12S: Area 12



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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 13S: Area 13

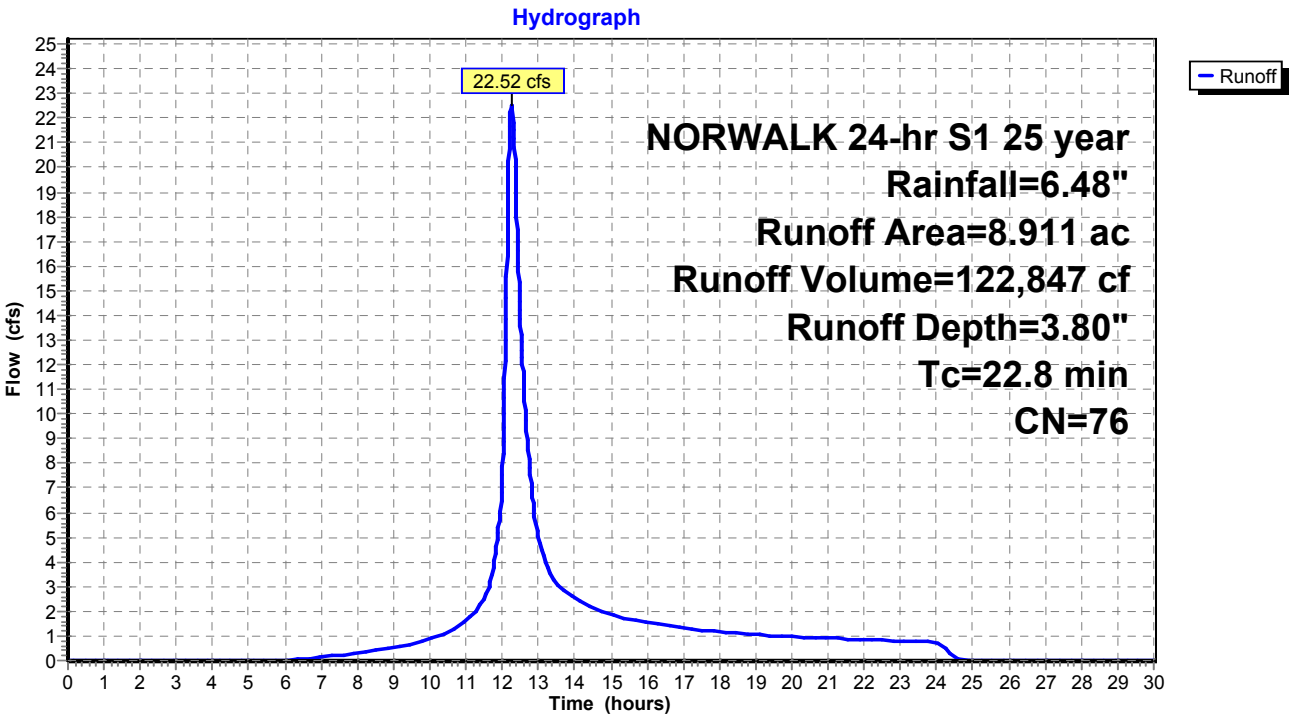
Runoff = 22.52 cfs @ 12.26 hrs, Volume= 122,847 cf, Depth= 3.80"
Routed to Pond 1P : RR Culvert 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
1.220	70	Woods, Good, HSG C
7.691	77	Woods, Good, HSG D
8.911	76	Weighted Average
8.911		100.00% Pervious Area

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

Subcatchment 13S: Area 13



Summary for Subcatchment 14S: Area 14

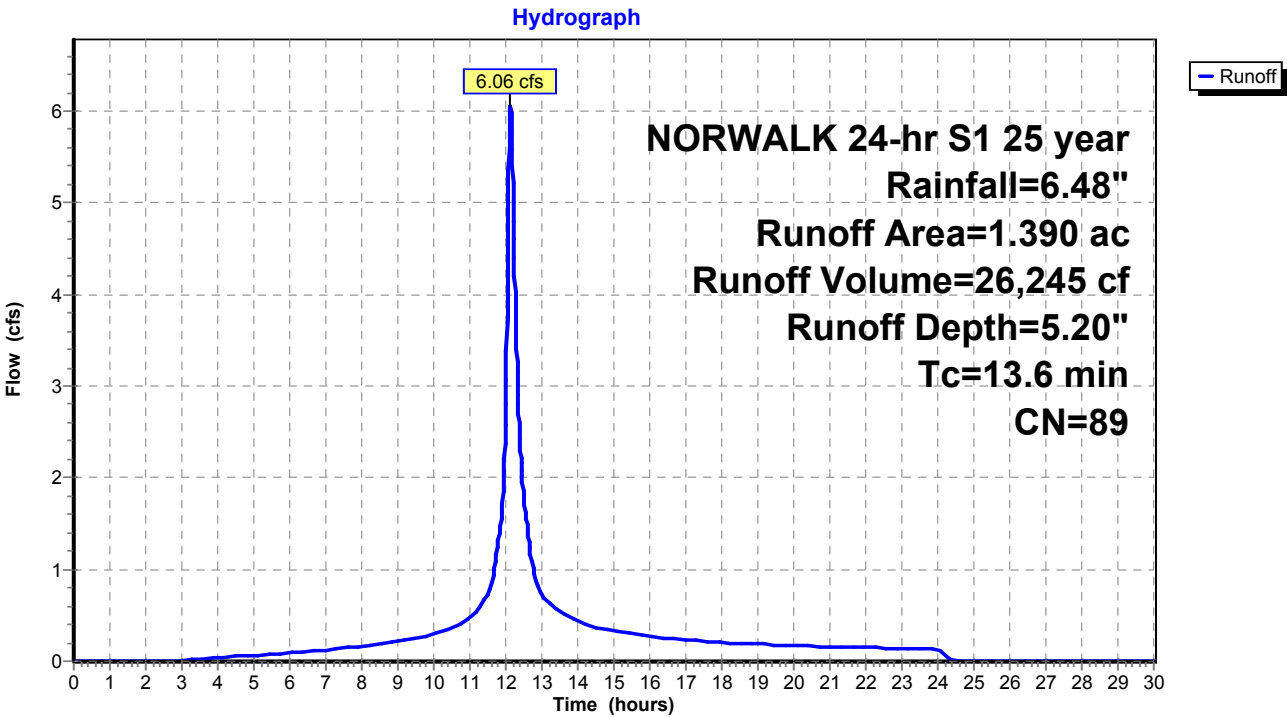
Runoff = 6.06 cfs @ 12.13 hrs, Volume= 26,245 cf, Depth= 5.20"
Routed to Pond 26P : DET 16 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.510	74	>75% Grass cover, Good, HSG C
0.880	98	Paved parking & roofs
1.390	89	Weighted Average
0.510		36.69% Pervious Area
0.880		63.31% Impervious Area

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

Subcatchment 14S: Area 14



Summary for Subcatchment 15S: Area 15

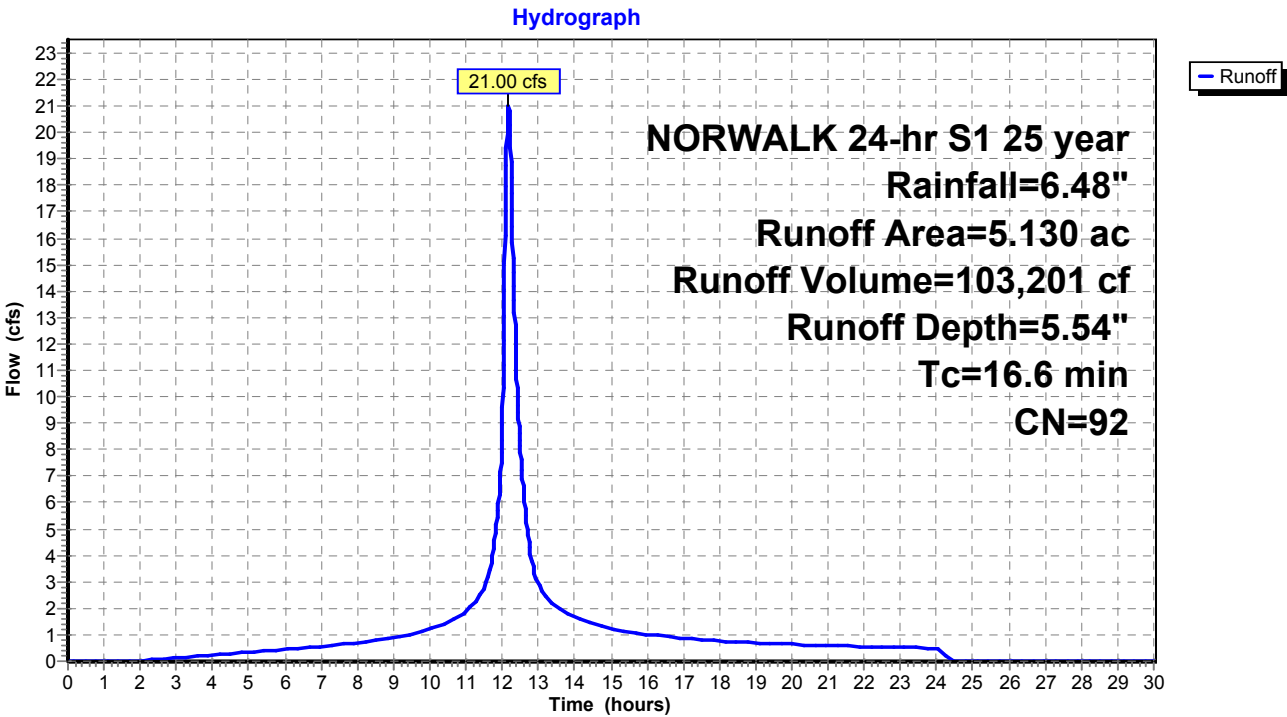
Runoff = 21.00 cfs @ 12.17 hrs, Volume= 103,201 cf, Depth= 5.54"
Routed to Pond 27P : DET 17 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
1.250	74	>75% Grass cover, Good, HSG C
3.880	98	Paved parking & roofs
5.130	92	Weighted Average
1.250		24.37% Pervious Area
3.880		75.63% Impervious Area

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

Subcatchment 15S: Area 15



Summary for Subcatchment 16S: Area 16A

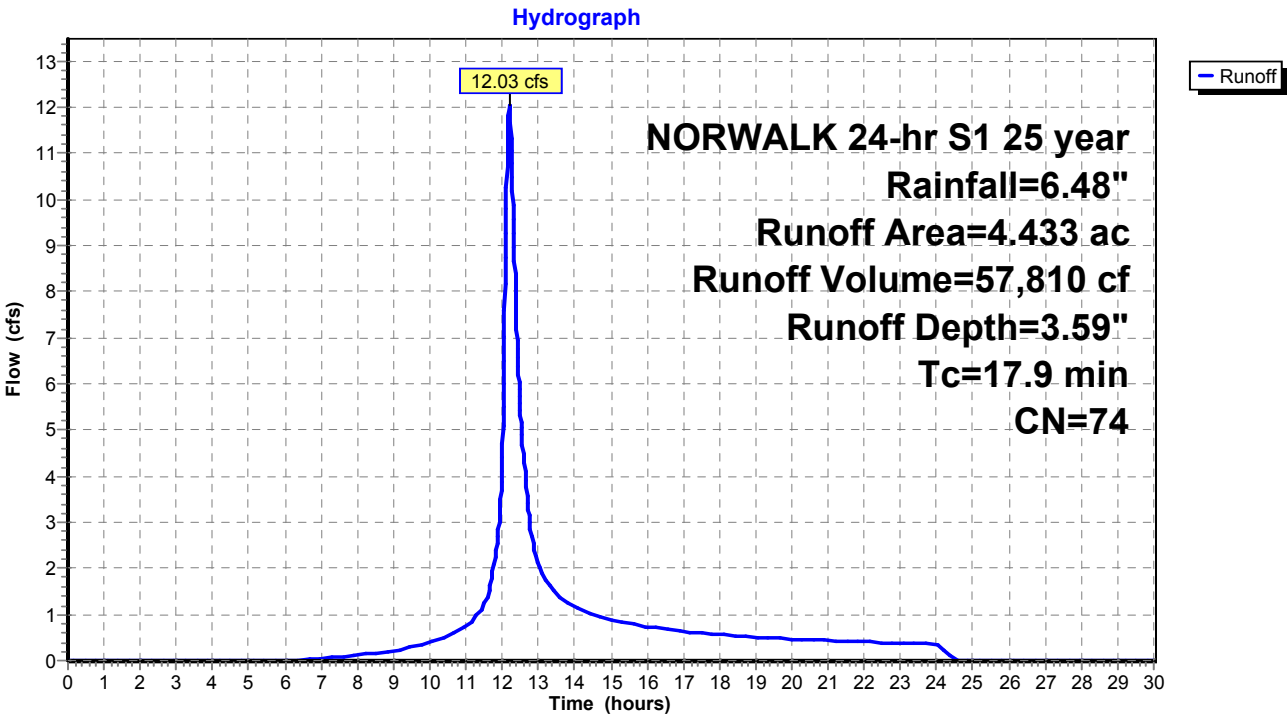
Runoff = 12.03 cfs @ 12.19 hrs, Volume= 57,810 cf, Depth= 3.59"
Routed to Pond 26P : DET 16 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
2.030	70	Woods, Good, HSG C
2.060	77	Woods, Good, HSG D
0.150	89	Gravel roads, HSG C
0.193	74	>75% Grass cover, Good, HSG C
4.433	74	Weighted Average
4.433		100.00% Pervious Area

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

Subcatchment 16S: Area 16A



Summary for Subcatchment 17S: Area 17

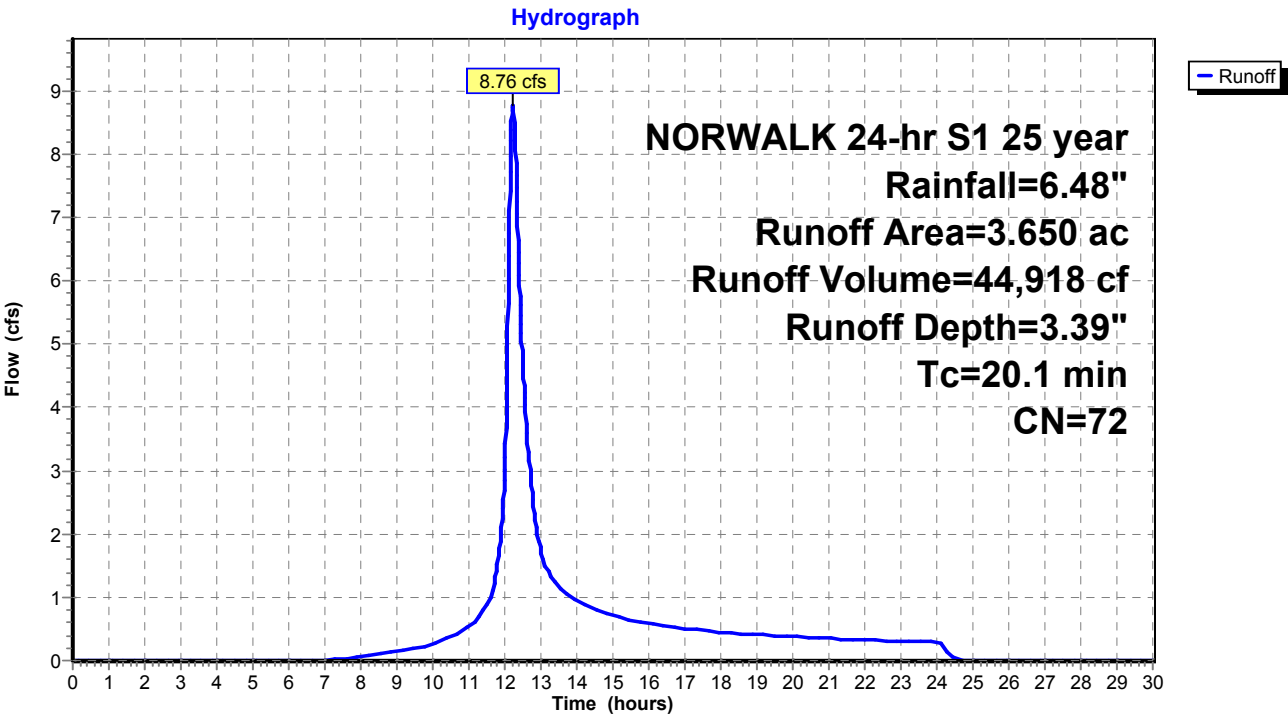
Runoff = 8.76 cfs @ 12.22 hrs, Volume= 44,918 cf, Depth= 3.39"
Routed to Pond 27P : DET 17 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
2.630	70	Woods, Good, HSG C
0.960	77	Woods, Good, HSG D
0.060	98	Paved parking & roofs
3.650	72	Weighted Average
3.590		98.36% Pervious Area
0.060		1.64% Impervious Area

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

Subcatchment 17S: Area 17



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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 20S: Area 20

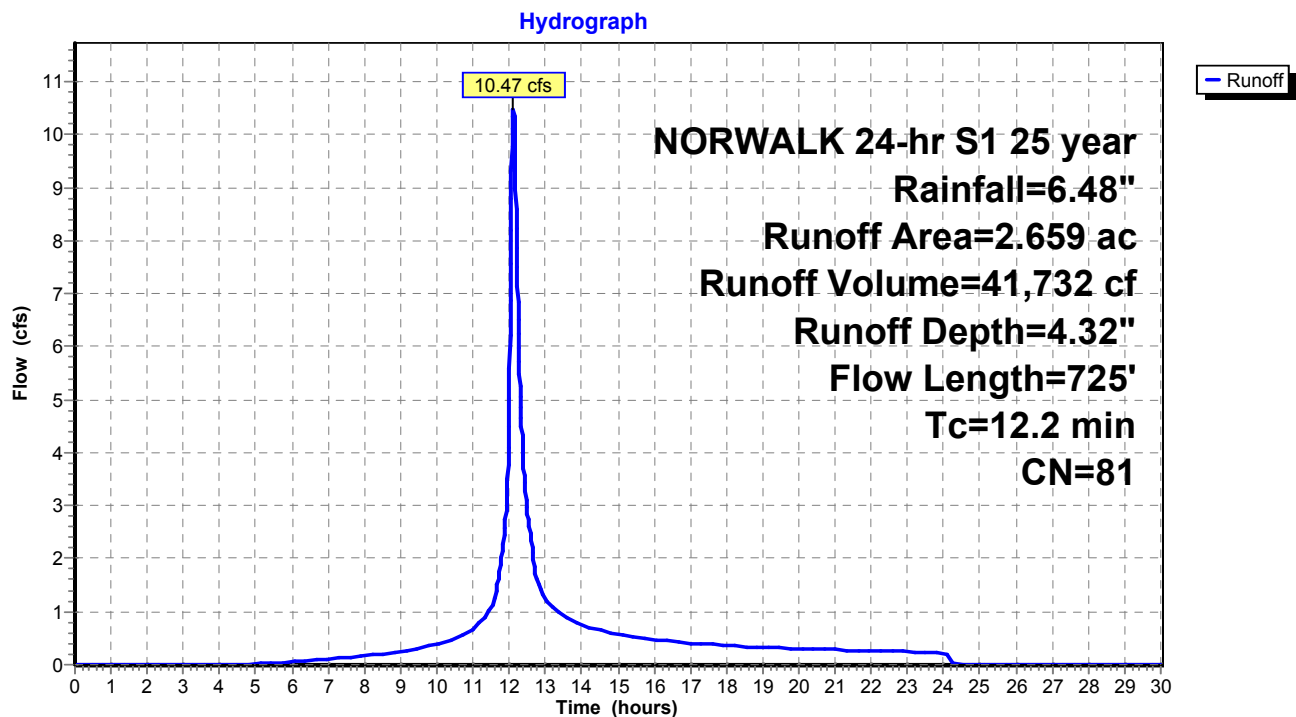
Runoff = 10.47 cfs @ 12.12 hrs, Volume= 41,732 cf, Depth= 4.32"
Routed to Pond 16P : MH-Q

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
1.030	98	Paved parking & roofs
1.629	70	Woods, Good, HSG C
2.659	81	Weighted Average
1.629		61.26% Pervious Area
1.030		38.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	125	0.2400	0.19		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.40"
1.2	600	0.0200	8.41	14.86	Pipe Channel, 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
12.2	725	Total			

Subcatchment 20S: Area 20



Summary for Subcatchment 21S: Area 21

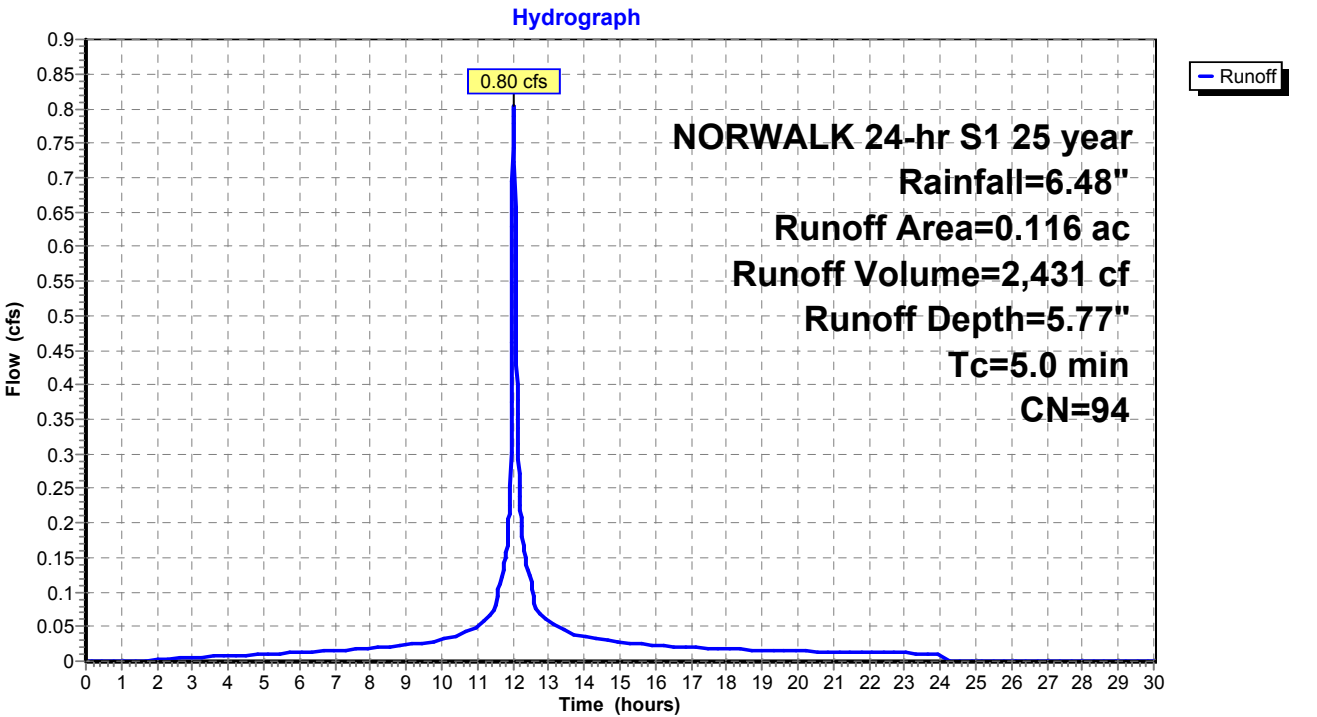
Runoff = 0.80 cfs @ 12.03 hrs, Volume= 2,431 cf, Depth= 5.77"
Routed to Pond 15P : MH-P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.020	74	>75% Grass cover, Good, HSG C
0.096	98	Paved parking & roofs
0.116	94	Weighted Average
0.020		17.24% Pervious Area
0.096		82.76% Impervious Area

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

Subcatchment 21S: Area 21



Summary for Subcatchment 22S: Area 22

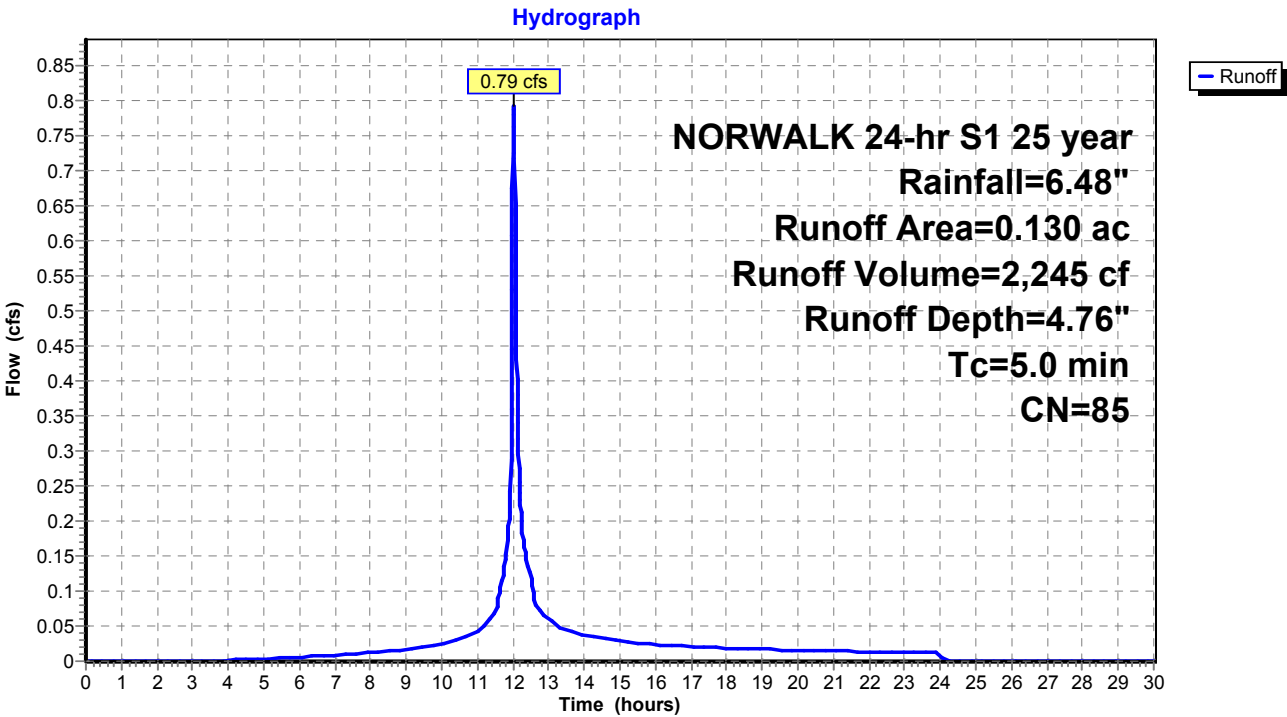
Runoff = 0.79 cfs @ 12.03 hrs, Volume= 2,245 cf, Depth= 4.76"
Routed to Pond 15P : MH-P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.068	74	>75% Grass cover, Good, HSG C
0.062	98	Paved parking & roofs
0.130	85	Weighted Average
0.068		52.31% Pervious Area
0.062		47.69% Impervious Area

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

Subcatchment 22S: Area 22



Summary for Subcatchment 23S: Area 23

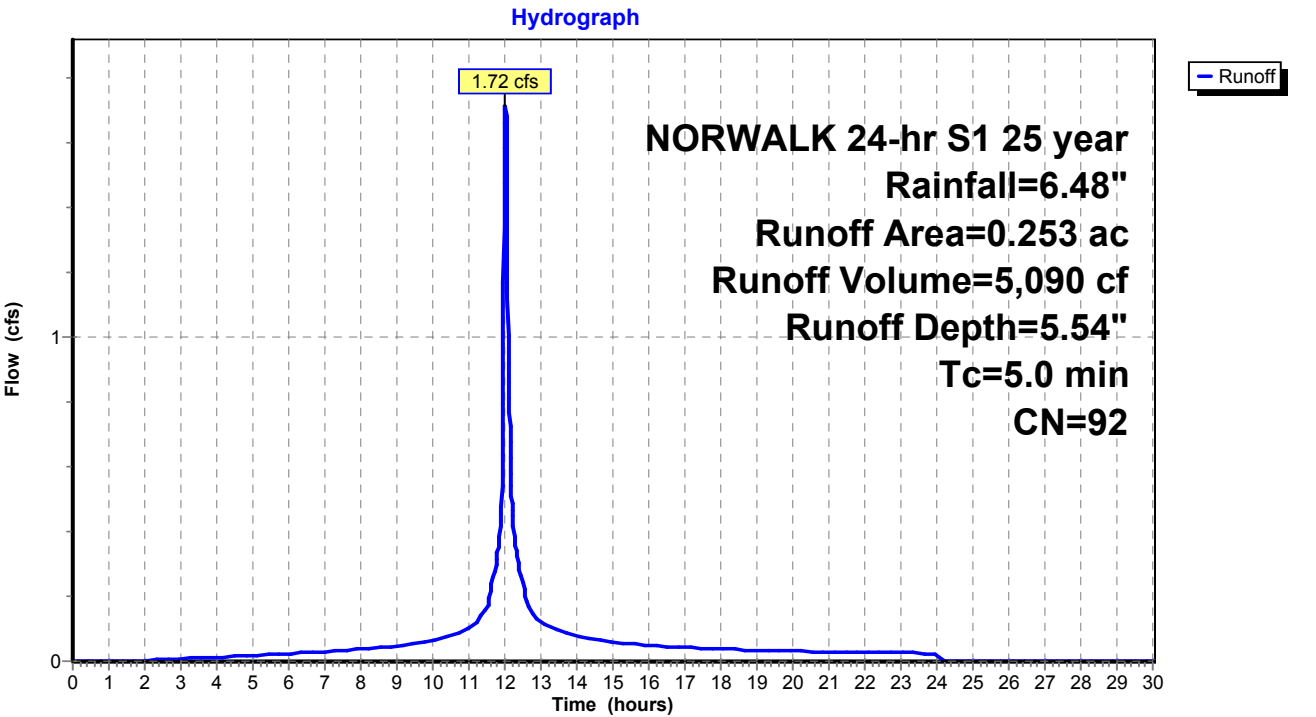
Runoff = 1.72 cfs @ 12.03 hrs, Volume= 5,090 cf, Depth= 5.54"
Routed to Pond 14P : MH-O

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.188	98	Paved parking & roofs
0.065	74	>75% Grass cover, Good, HSG C
0.253	92	Weighted Average
0.065		25.69% Pervious Area
0.188		74.31% Impervious Area

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

Subcatchment 23S: Area 23



Summary for Subcatchment 24S: Area 24

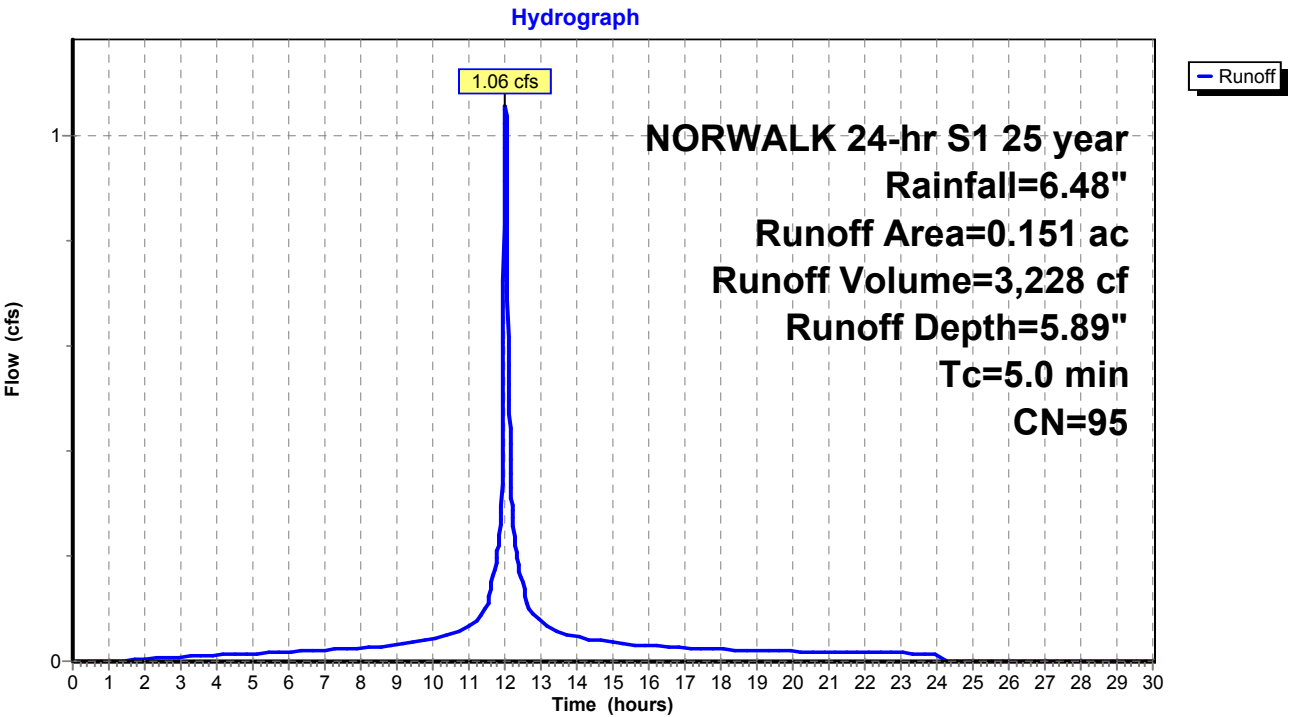
Runoff = 1.06 cfs @ 12.03 hrs, Volume= 3,228 cf, Depth= 5.89"
Routed to Pond 14P : MH-O

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.125	98	Paved parking & roofs
0.026	80	>75% Grass cover, Good, HSG D
0.151	95	Weighted Average
0.026		17.22% Pervious Area
0.125		82.78% Impervious Area

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

Subcatchment 24S: Area 24



Summary for Subcatchment 25S: Area 25

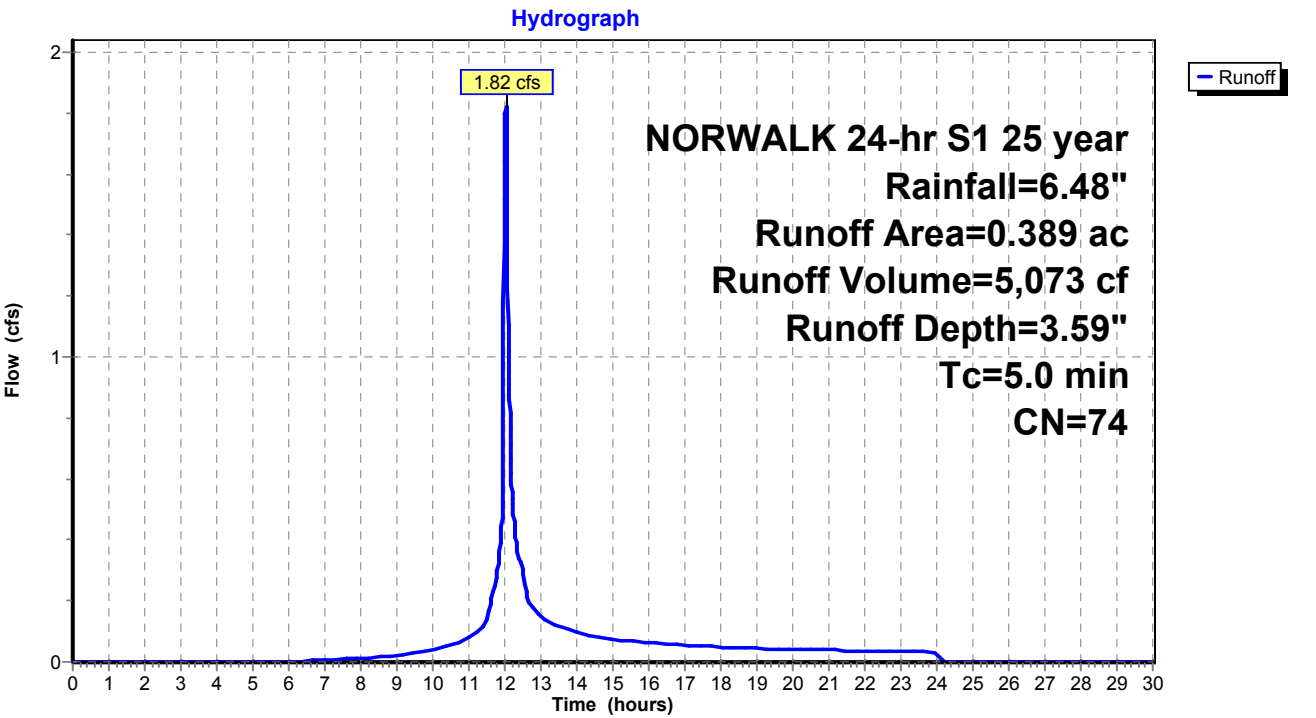
Runoff = 1.82 cfs @ 12.03 hrs, Volume= 5,073 cf, Depth= 3.59"
Routed to Pond 3P : DETENTION BASIN #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.389	74	>75% Grass cover, Good, HSG C
0.389		100.00% Pervious Area

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

Subcatchment 25S: Area 25



Summary for Subcatchment 26S: Area 26

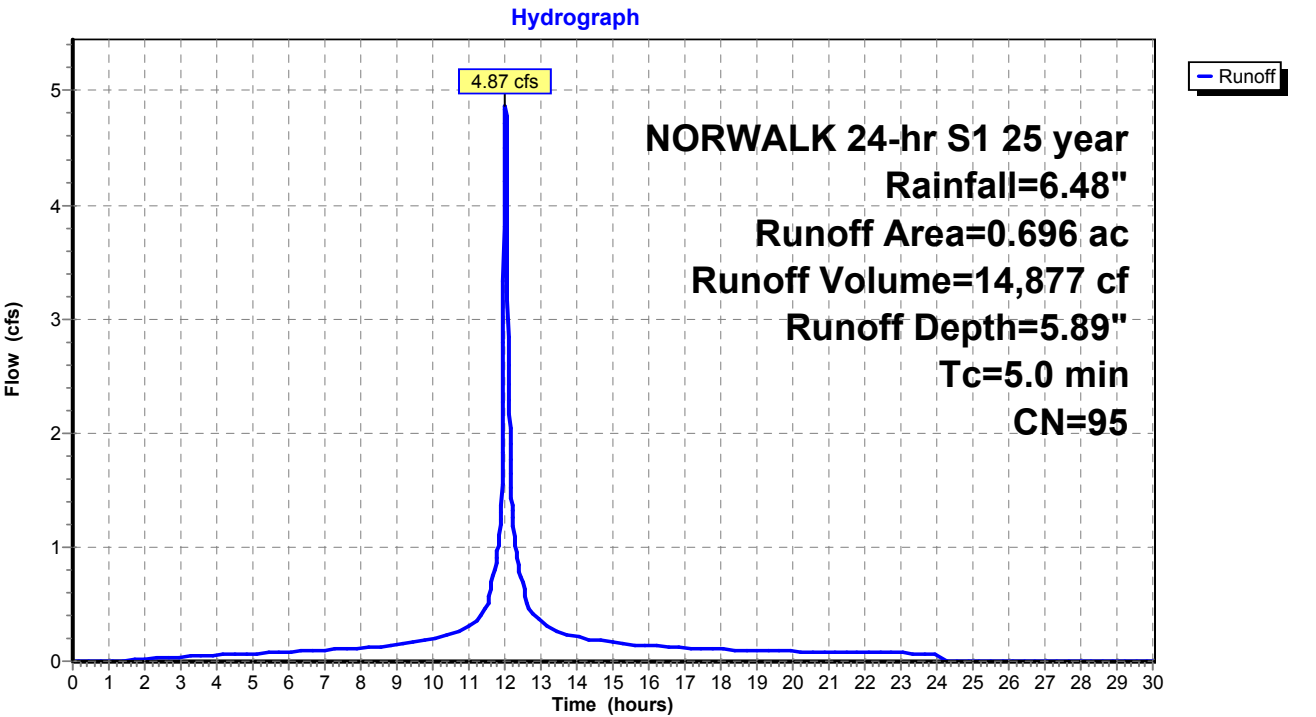
Runoff = 4.87 cfs @ 12.03 hrs, Volume= 14,877 cf, Depth= 5.89"
Routed to Pond 9P : MH-K

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.612	98	Paved parking & roofs
0.084	74	>75% Grass cover, Good, HSG C
0.696	95	Weighted Average
0.084		12.07% Pervious Area
0.612		87.93% Impervious Area

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

Subcatchment 26S: Area 26



Summary for Subcatchment 27S: Area 27

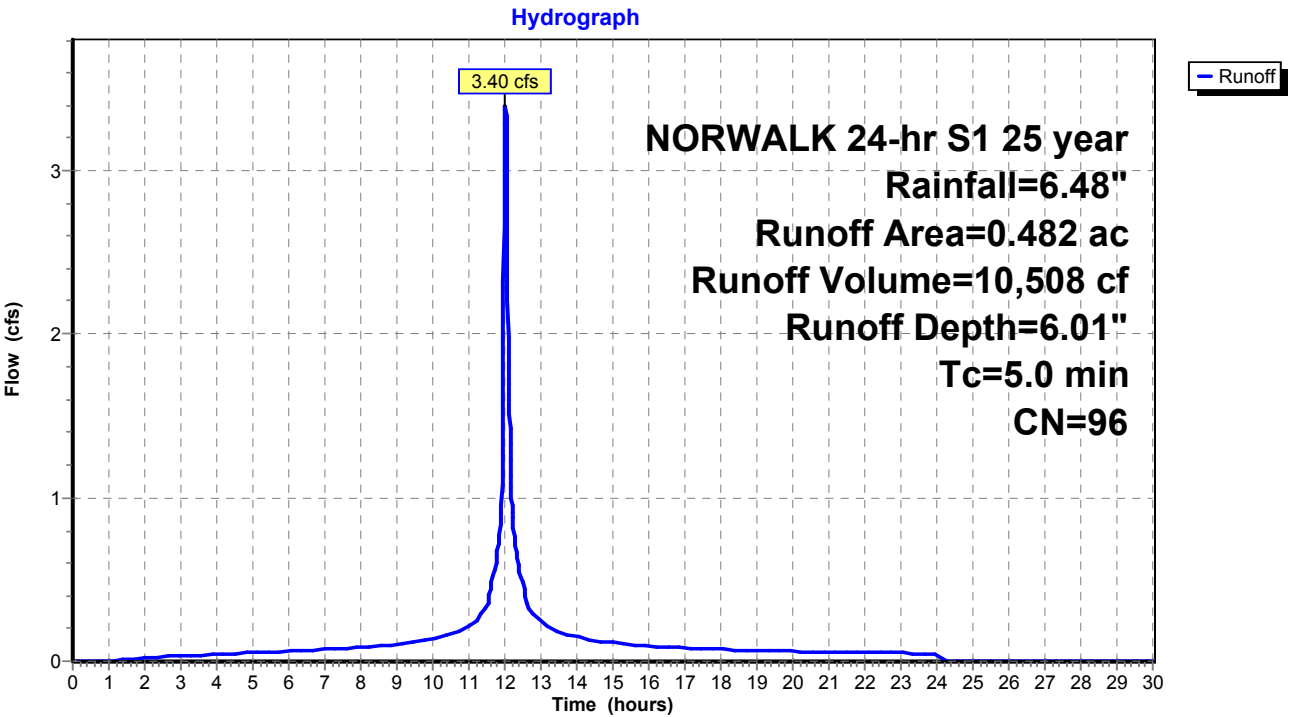
Runoff = 3.40 cfs @ 12.03 hrs, Volume= 10,508 cf, Depth= 6.01"
Routed to Pond 11P : Pipe Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.436	98	Paved parking & roofs
0.046	74	>75% Grass cover, Good, HSG C
0.482	96	Weighted Average
0.046		9.54% Pervious Area
0.436		90.46% Impervious Area

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

Subcatchment 27S: Area 27



Summary for Subcatchment 28S: Area 28

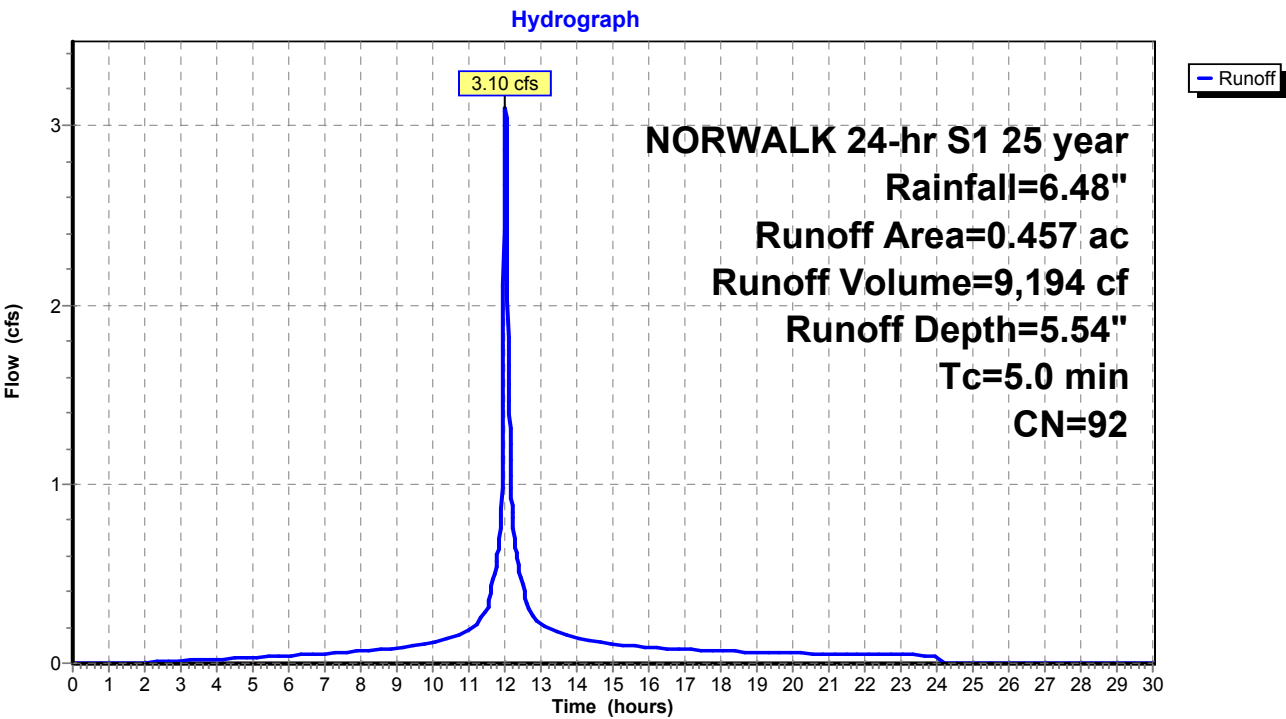
Runoff = 3.10 cfs @ 12.03 hrs, Volume= 9,194 cf, Depth= 5.54"
Routed to Pond 11P : Pipe Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.342	98	Paved parking & roofs
0.115	74	>75% Grass cover, Good, HSG C
0.457	92	Weighted Average
0.115		25.16% Pervious Area
0.342		74.84% Impervious Area

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

Subcatchment 28S: Area 28



Proposed Conditions

Prepared by Tighe & Bond

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment 29S: Area 29

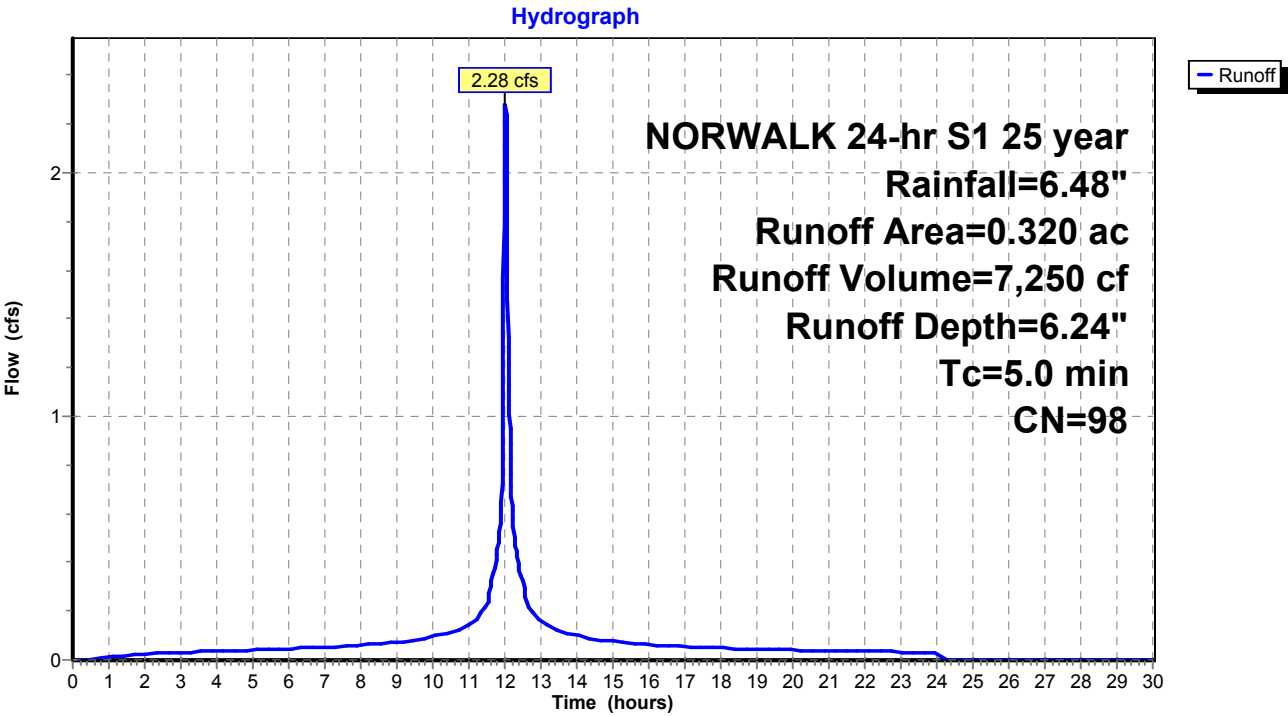
Runoff = 2.28 cfs @ 12.03 hrs, Volume= 7,250 cf, Depth= 6.24"
Routed to Pond 12P : MH-M

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.320	98	Paved parking & roofs
0.320		100.00% Impervious Area

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

Subcatchment 29S: Area 29



Summary for Subcatchment 30S: Area 30

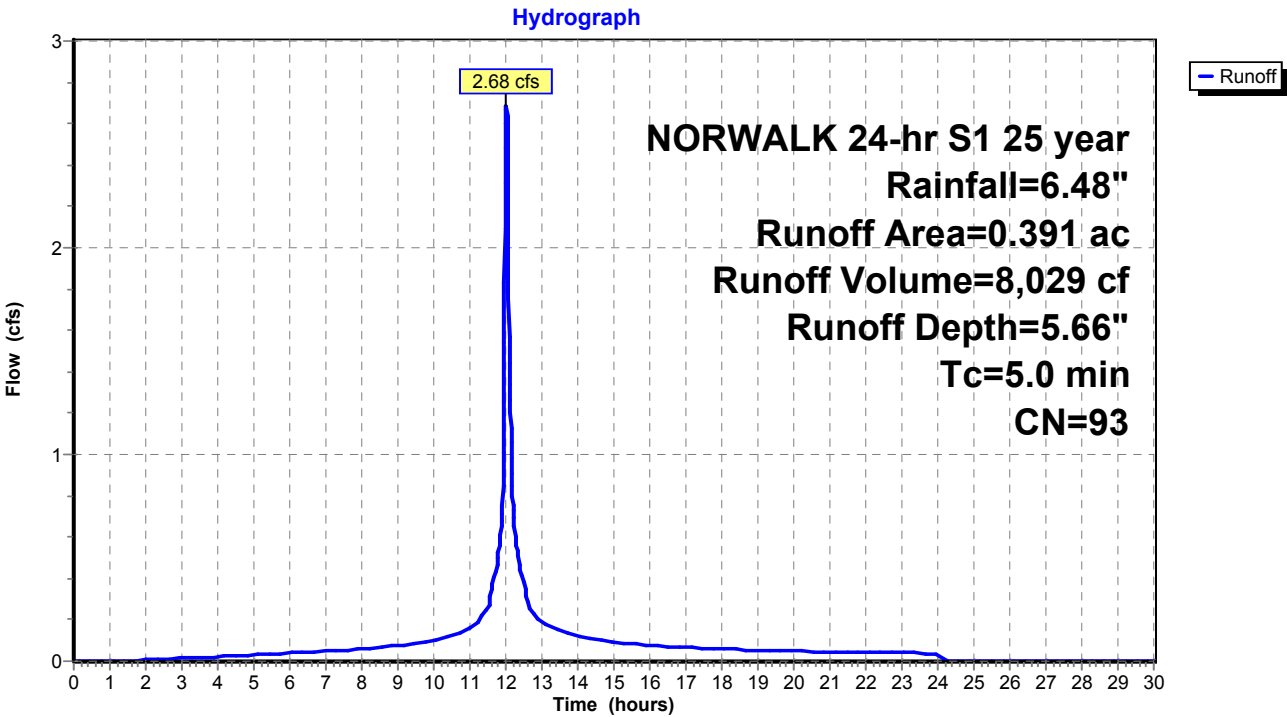
Runoff = 2.68 cfs @ 12.03 hrs, Volume= 8,029 cf, Depth= 5.66"
Routed to Pond 13P : MH-J

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.309	98	Paved parking & roofs
0.082	74	>75% Grass cover, Good, HSG C
0.391	93	Weighted Average
0.082		20.97% Pervious Area
0.309		79.03% Impervious Area

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

Subcatchment 30S: Area 30



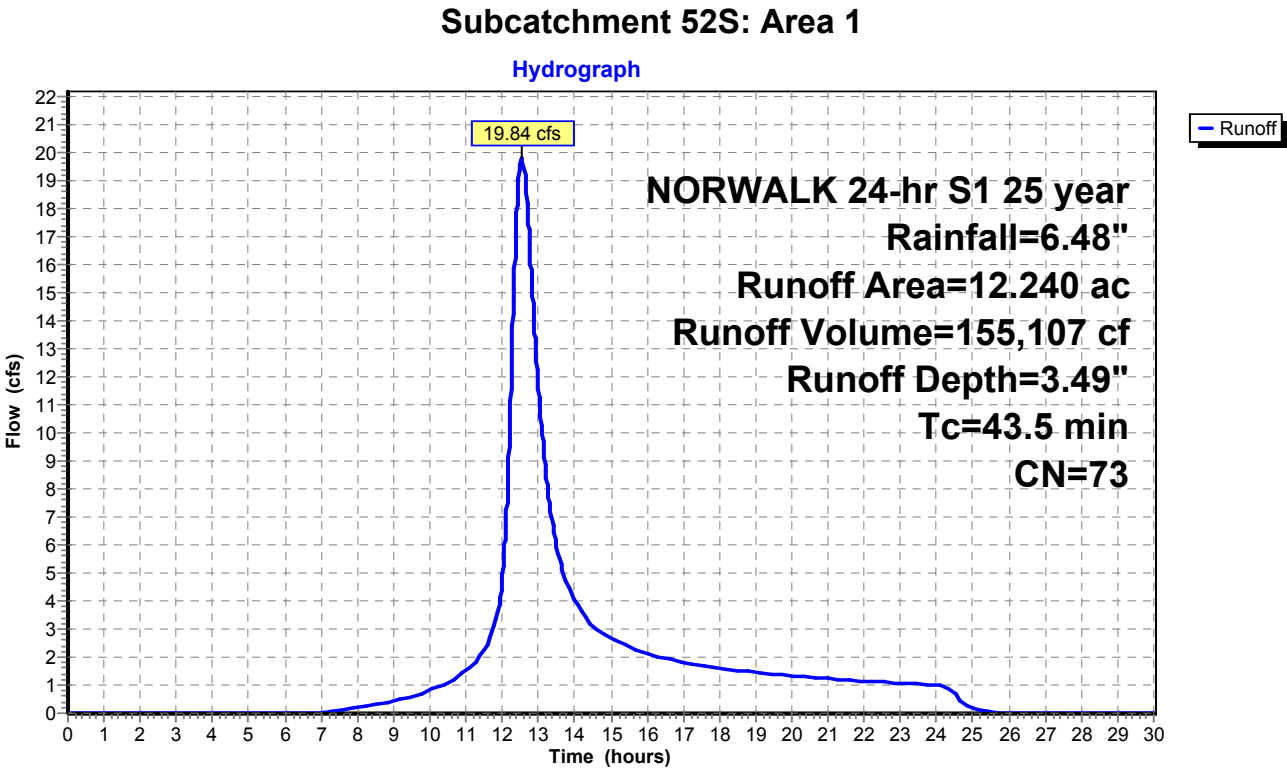
Summary for Subcatchment 52S: Area 1

Runoff = 19.84 cfs @ 12.52 hrs, Volume= 155,107 cf, Depth= 3.49"
Routed to Pond 21P : DET 1 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
9.070	70	1/2 acre lots, 25% imp, HSG B
3.170	80	1/2 acre lots, 25% imp, HSG C
12.240	73	Weighted Average
9.180		75.00% Pervious Area
3.060		25.00% Impervious Area

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



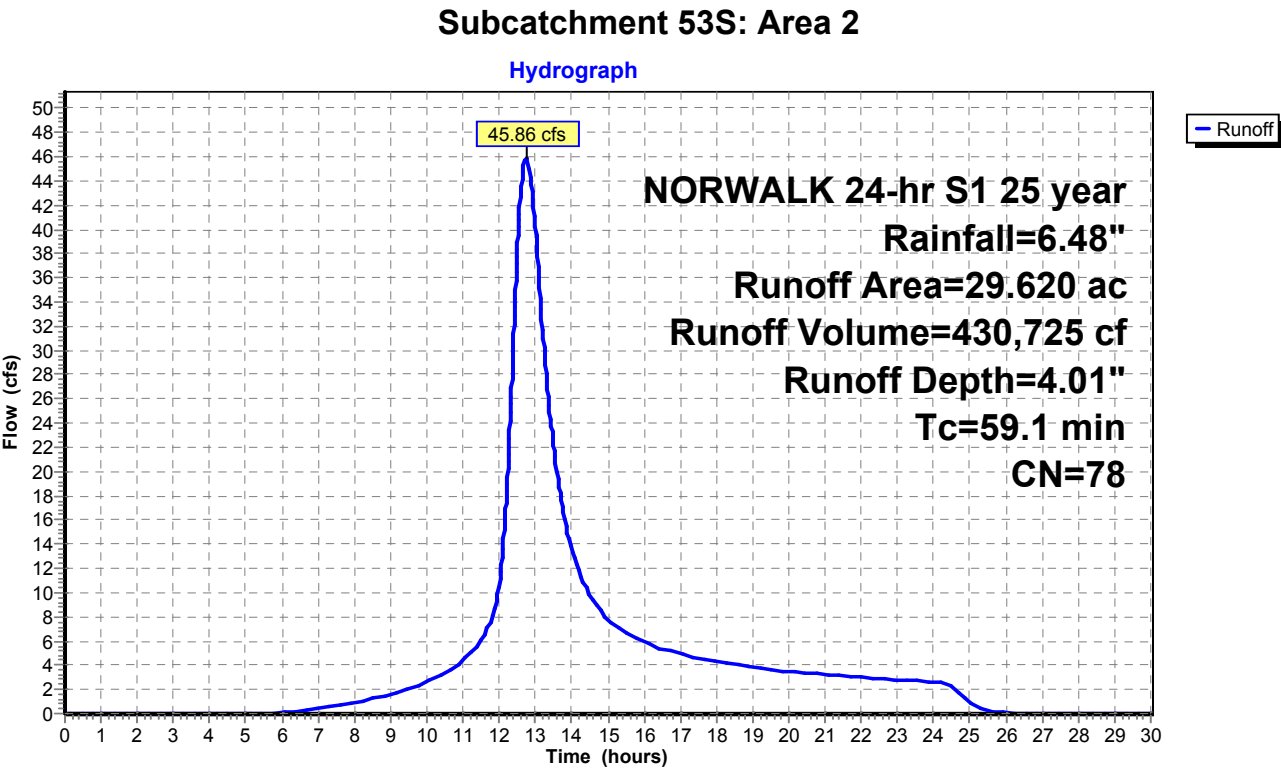
Summary for Subcatchment 53S: Area 2

Runoff = 45.86 cfs @ 12.74 hrs, Volume= 430,725 cf, Depth= 4.01"
Routed to Pond 22P : DET 2 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
7.290	70	1/2 acre lots, 25% imp, HSG B
19.200	80	1/2 acre lots, 25% imp, HSG C
3.130	85	1/2 acre lots, 25% imp, HSG D
29.620	78	Weighted Average
22.215		75.00% Pervious Area
7.405		25.00% Impervious Area

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



Summary for Subcatchment 54S: Area 3

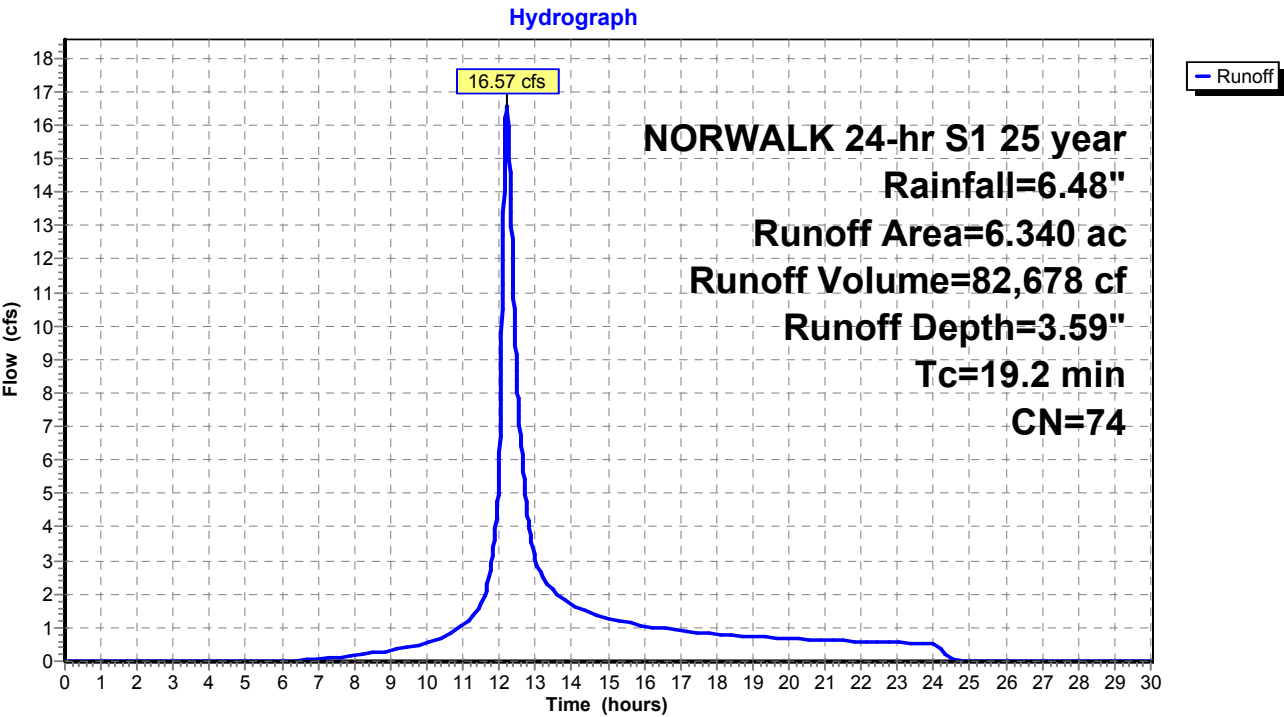
Runoff = 16.57 cfs @ 12.22 hrs, Volume= 82,678 cf, Depth= 3.59"
Routed to Pond 23P : DET 3 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
3.500	70	1/2 acre lots, 25% imp, HSG B
2.840	80	1/2 acre lots, 25% imp, HSG C
6.340	74	Weighted Average
4.755		75.00% Pervious Area
1.585		25.00% Impervious Area

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

Subcatchment 54S: Area 3



Summary for Subcatchment 56S: Area 35

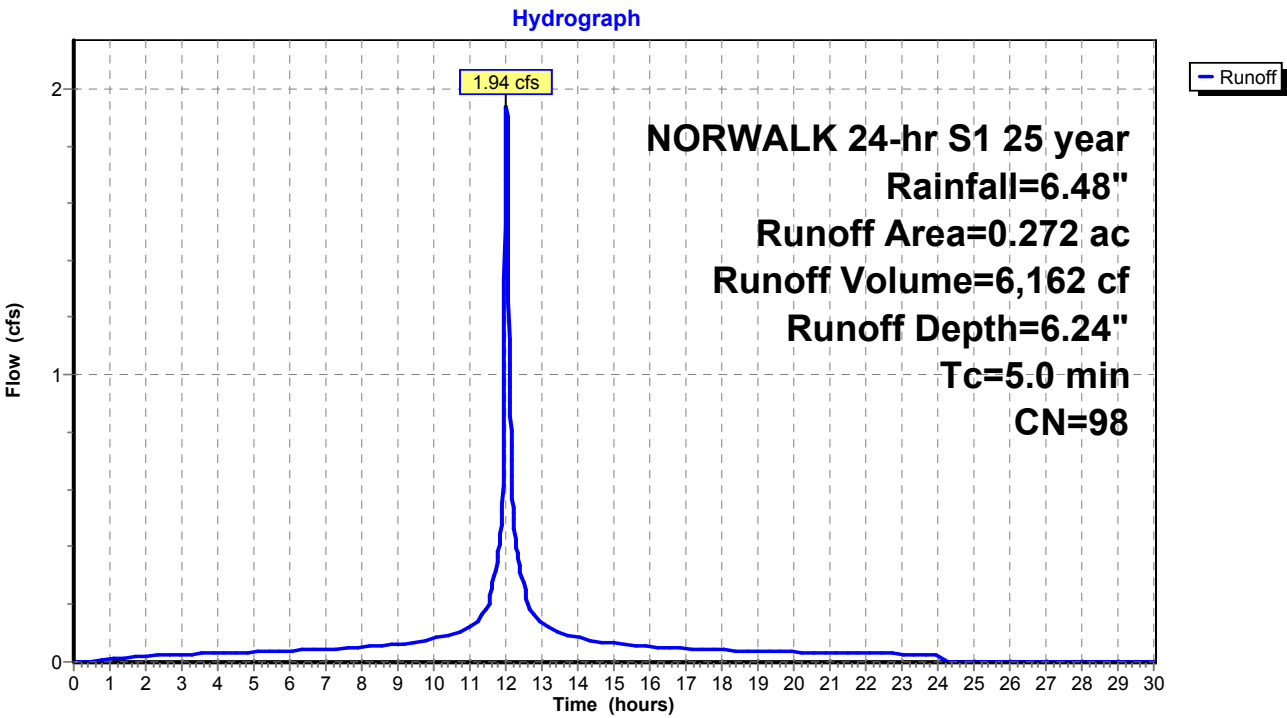
Runoff = 1.94 cfs @ 12.03 hrs, Volume= 6,162 cf, Depth= 6.24"
Routed to Pond 57P : CB-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.272	98	Paved parking & roofs
0.272		100.00% Impervious Area

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

Subcatchment 56S: Area 35



Summary for Subcatchment 60S: Area 37

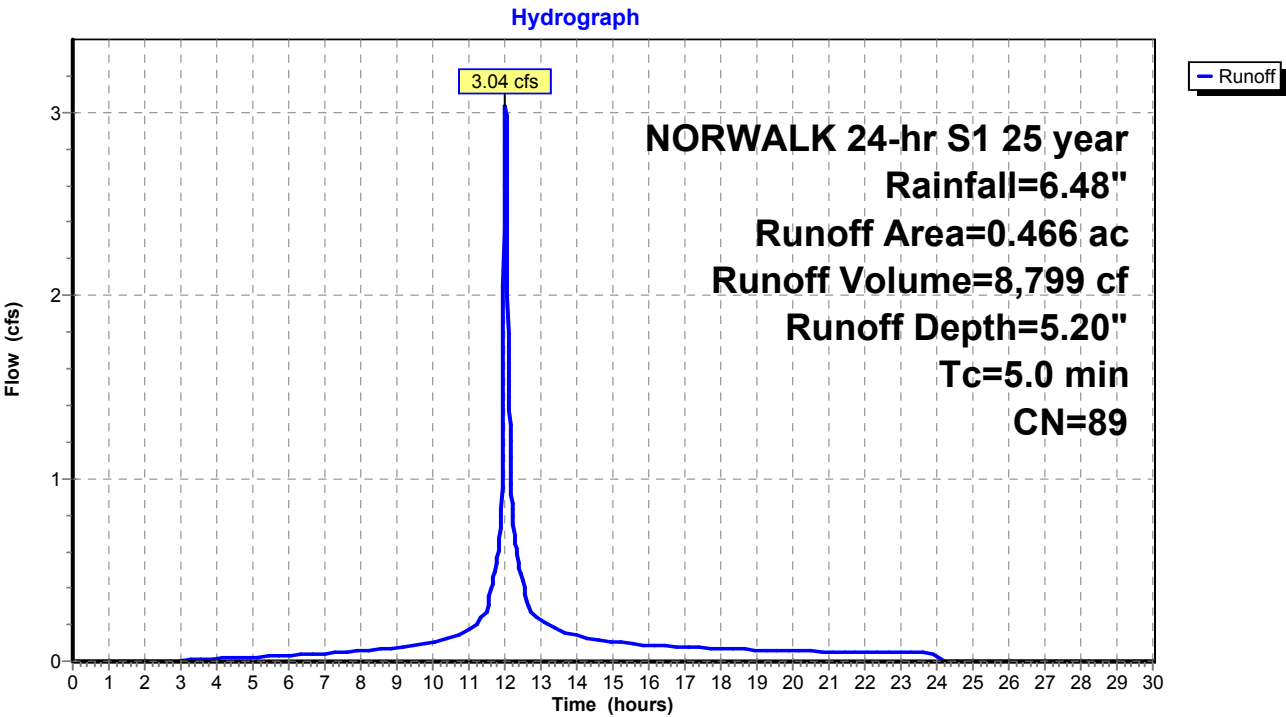
Runoff = 3.04 cfs @ 12.03 hrs, Volume= 8,799 cf, Depth= 5.20"
Routed to Pond 59P : CB-7

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.294	98	Paved parking & roofs
0.172	74	>75% Grass cover, Good, HSG C
0.466	89	Weighted Average
0.172		36.91% Pervious Area
0.294		63.09% Impervious Area

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

Subcatchment 60S: Area 37



Summary for Subcatchment 62S: Area 38

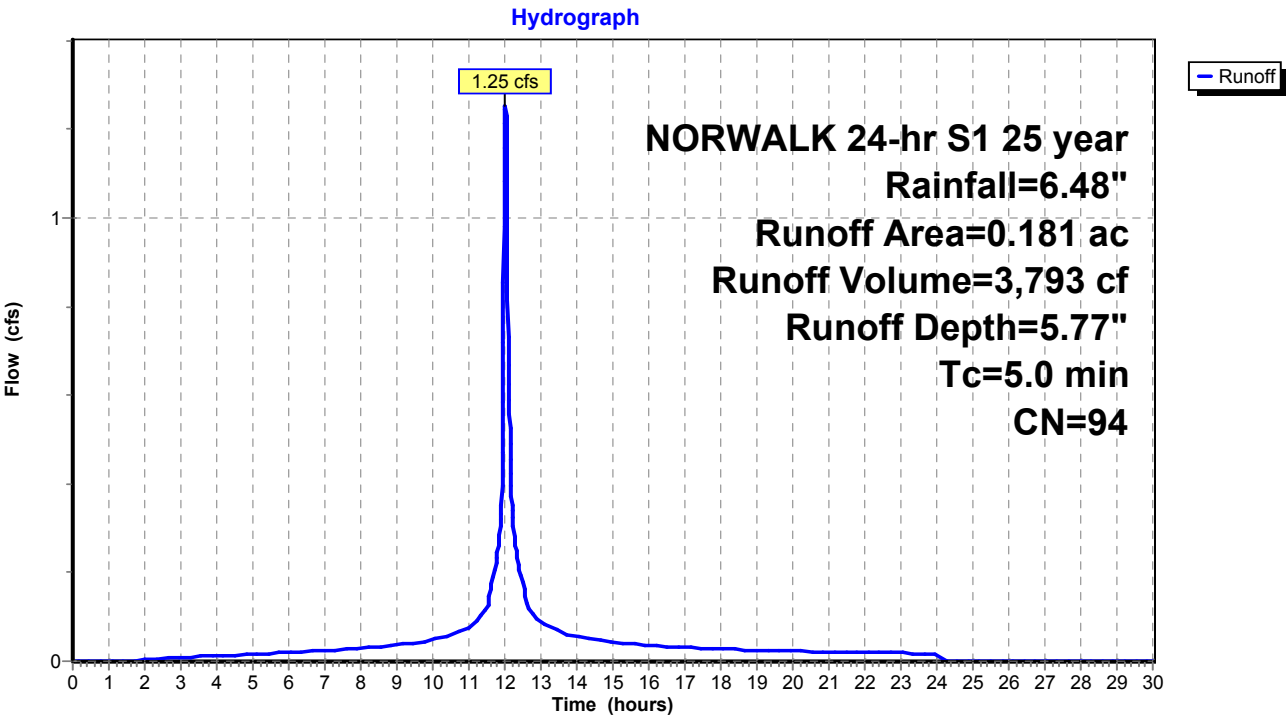
Runoff = 1.25 cfs @ 12.03 hrs, Volume= 3,793 cf, Depth= 5.77"
Routed to Pond 61P : CB-6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.149	98	Paved parking & roofs
0.032	74	>75% Grass cover, Good, HSG C
0.181	94	Weighted Average
0.032		17.68% Pervious Area
0.149		82.32% Impervious Area

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

Subcatchment 62S: Area 38



Summary for Subcatchment 65S: Area 41

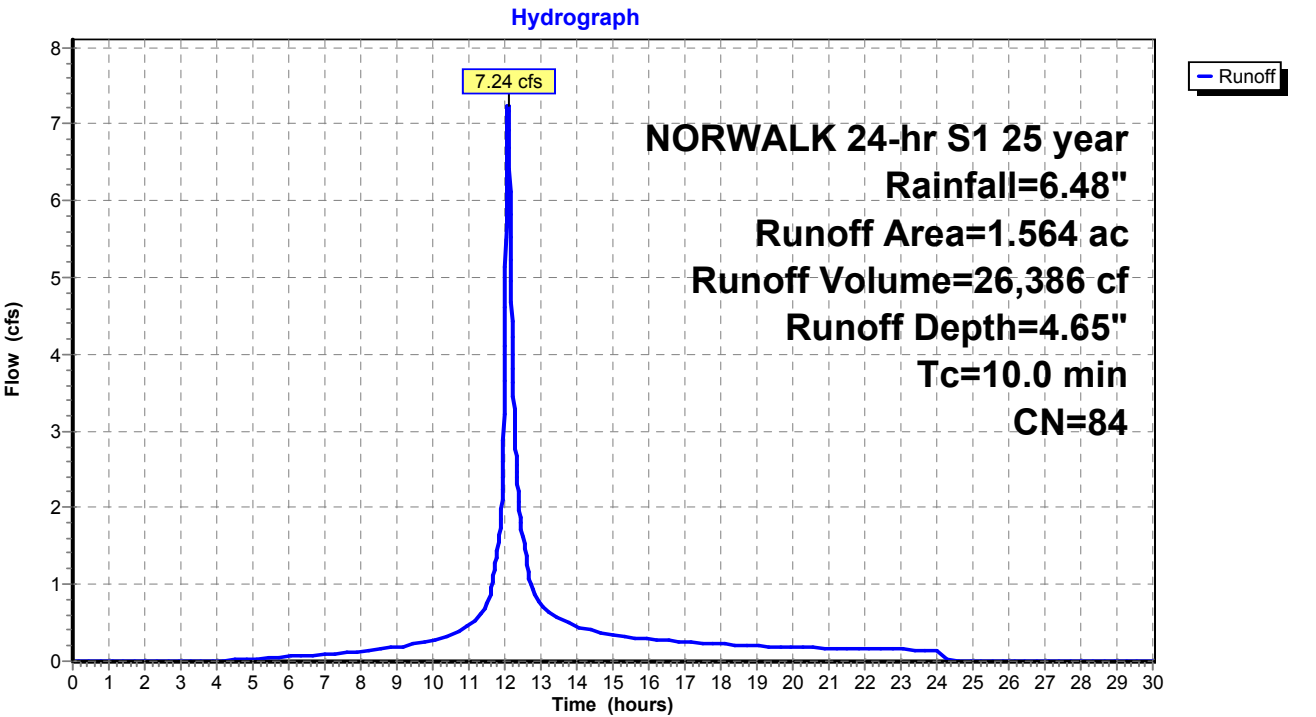
Runoff = 7.24 cfs @ 12.08 hrs, Volume= 26,386 cf, Depth= 4.65"
Routed to Pond 64P : YD

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.653	98	Paved parking & roofs
0.911	74	>75% Grass cover, Good, HSG C
1.564	84	Weighted Average
0.911		58.25% Pervious Area
0.653		41.75% Impervious Area

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

Subcatchment 65S: Area 41



Summary for Subcatchment 68S: Area 36

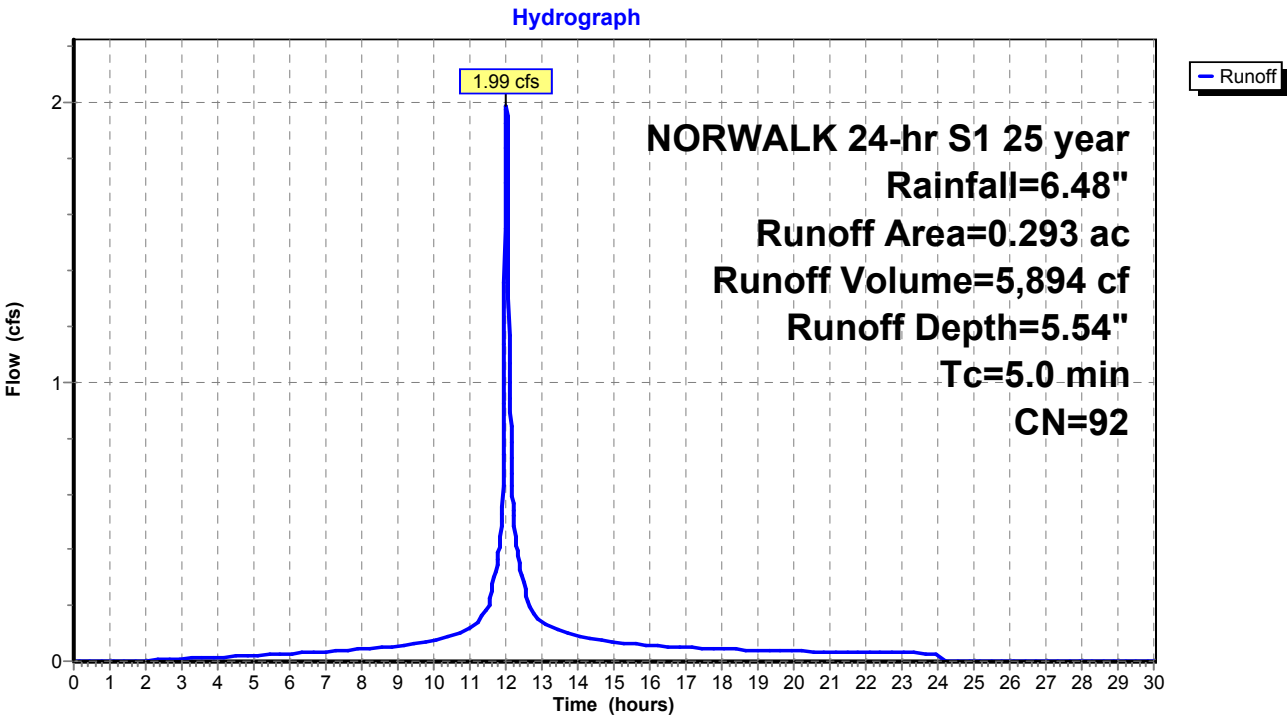
Runoff = 1.99 cfs @ 12.03 hrs, Volume= 5,894 cf, Depth= 5.54"
Routed to Pond 66P : CB-10

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.214	98	Paved parking & roofs
0.079	74	>75% Grass cover, Good, HSG C
0.293	92	Weighted Average
0.079		26.96% Pervious Area
0.214		73.04% Impervious Area

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

Subcatchment 68S: Area 36



Summary for Subcatchment 69S: Area 40

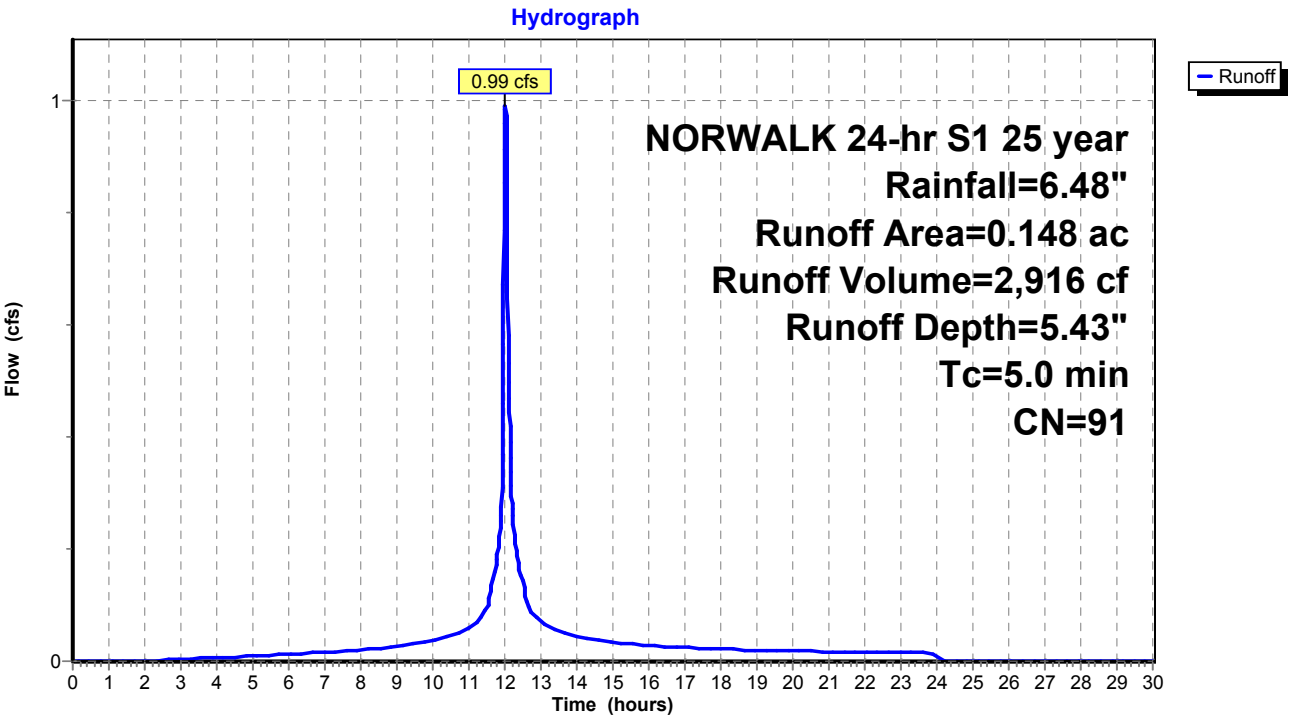
Runoff = 0.99 cfs @ 12.03 hrs, Volume= 2,916 cf, Depth= 5.43"
Routed to Pond 67P : CB-9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.103	98	Paved parking & roofs
0.045	74	>75% Grass cover, Good, HSG C
0.148	91	Weighted Average
0.045		30.41% Pervious Area
0.103		69.59% Impervious Area

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

Subcatchment 69S: Area 40



Summary for Subcatchment 71S: Area 34

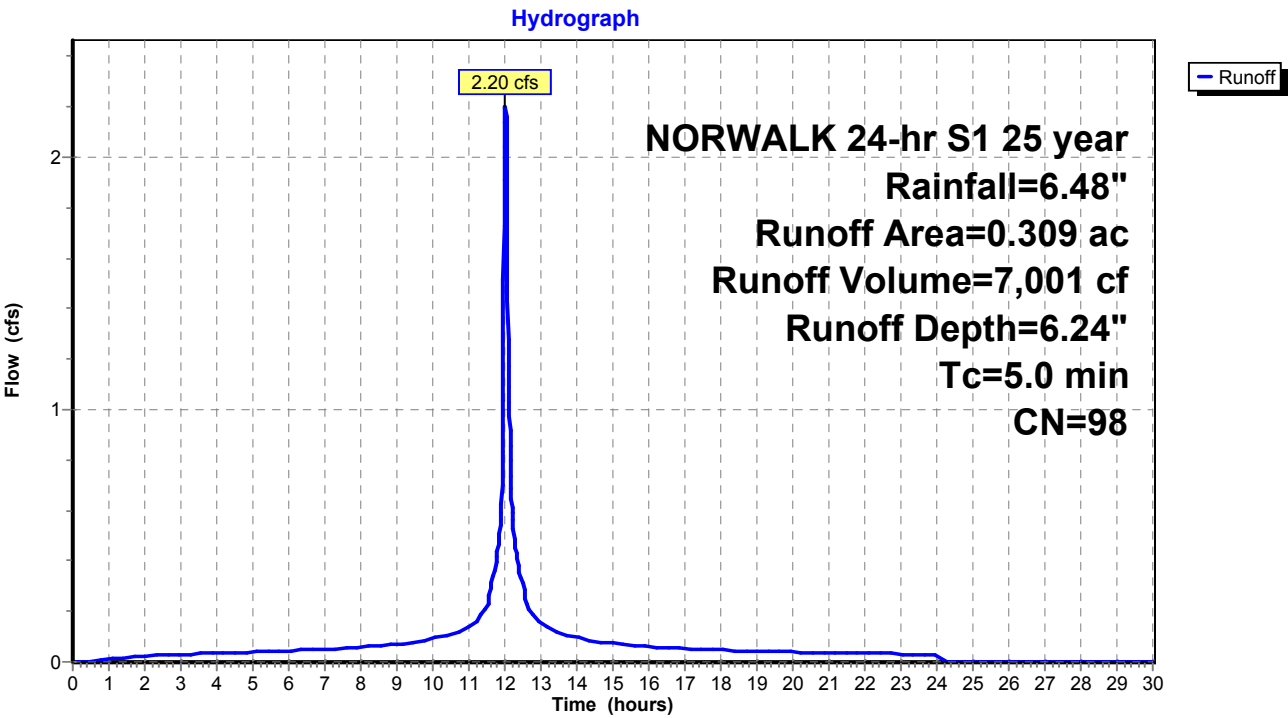
Runoff = 2.20 cfs @ 12.03 hrs, Volume= 7,001 cf, Depth= 6.24"
Routed to Pond 70P : CB-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.309	98	Paved parking & roofs
0.309		100.00% Impervious Area

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

Subcatchment 71S: Area 34



Summary for Subcatchment 75S: Area 32

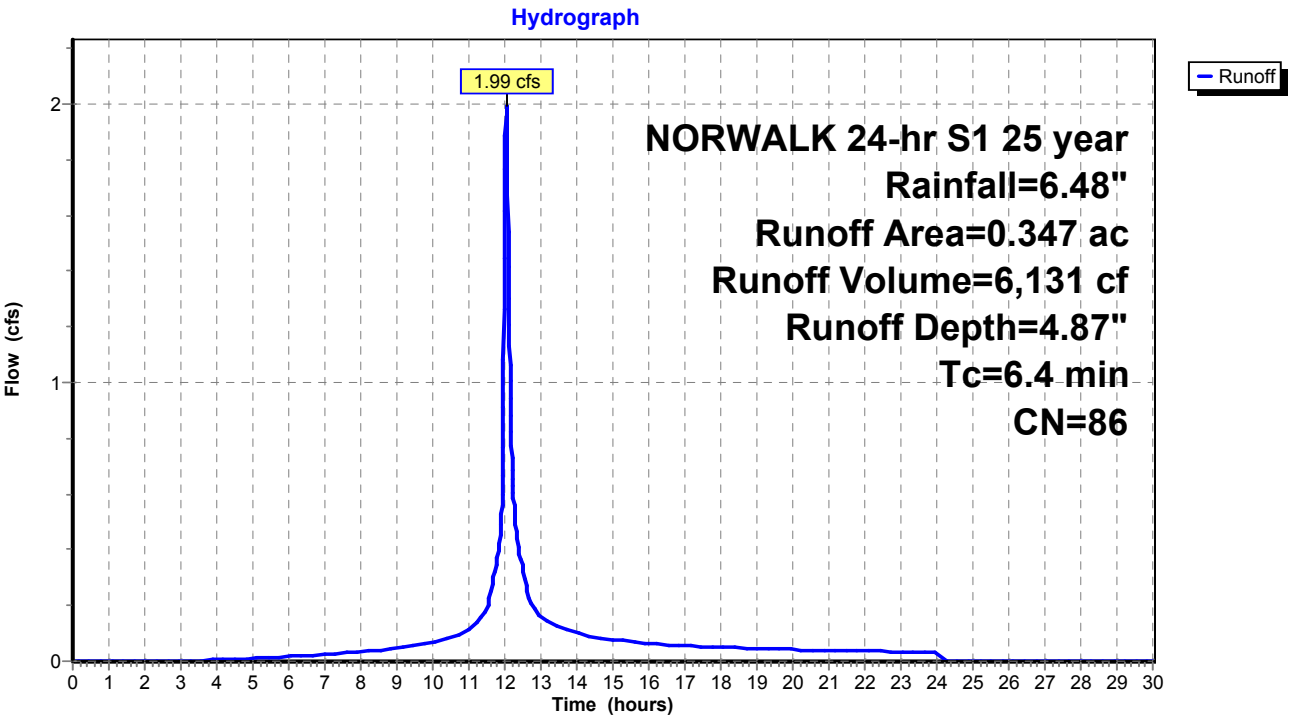
Runoff = 1.99 cfs @ 12.04 hrs, Volume= 6,131 cf, Depth= 4.87"
Routed to Pond 74P : CB-4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.196	98	Paved parking & roofs
0.151	70	Woods, Good, HSG C
0.347	86	Weighted Average
0.151		43.52% Pervious Area
0.196		56.48% Impervious Area

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

Subcatchment 75S: Area 32



Summary for Subcatchment 76S: Area 33

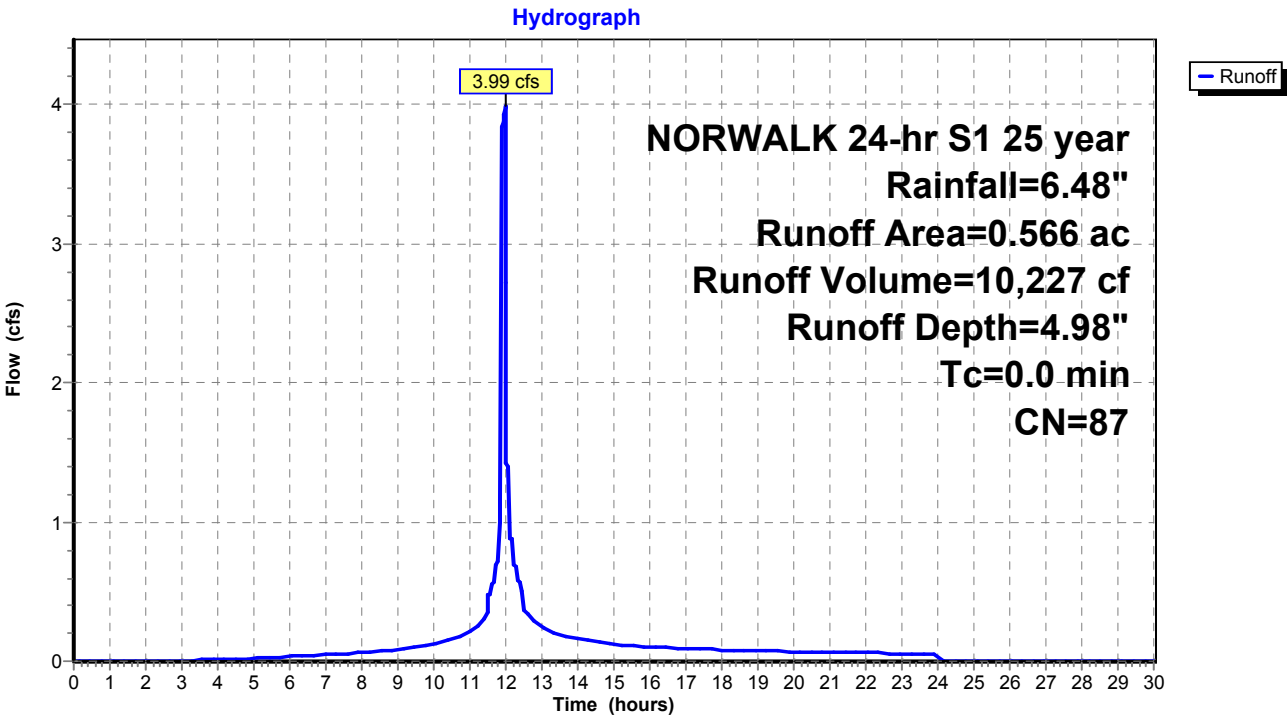
Runoff = 3.99 cfs @ 11.99 hrs, Volume= 10,227 cf, Depth= 4.98"
Routed to Pond 73P : CB-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.338	98	Paved parking & roofs
0.228	70	Woods, Good, HSG C
0.566	87	Weighted Average
0.228		40.28% Pervious Area
0.338		59.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.0					Direct Entry, 7

Subcatchment 76S: Area 33



Summary for Subcatchment 78S: Area 39

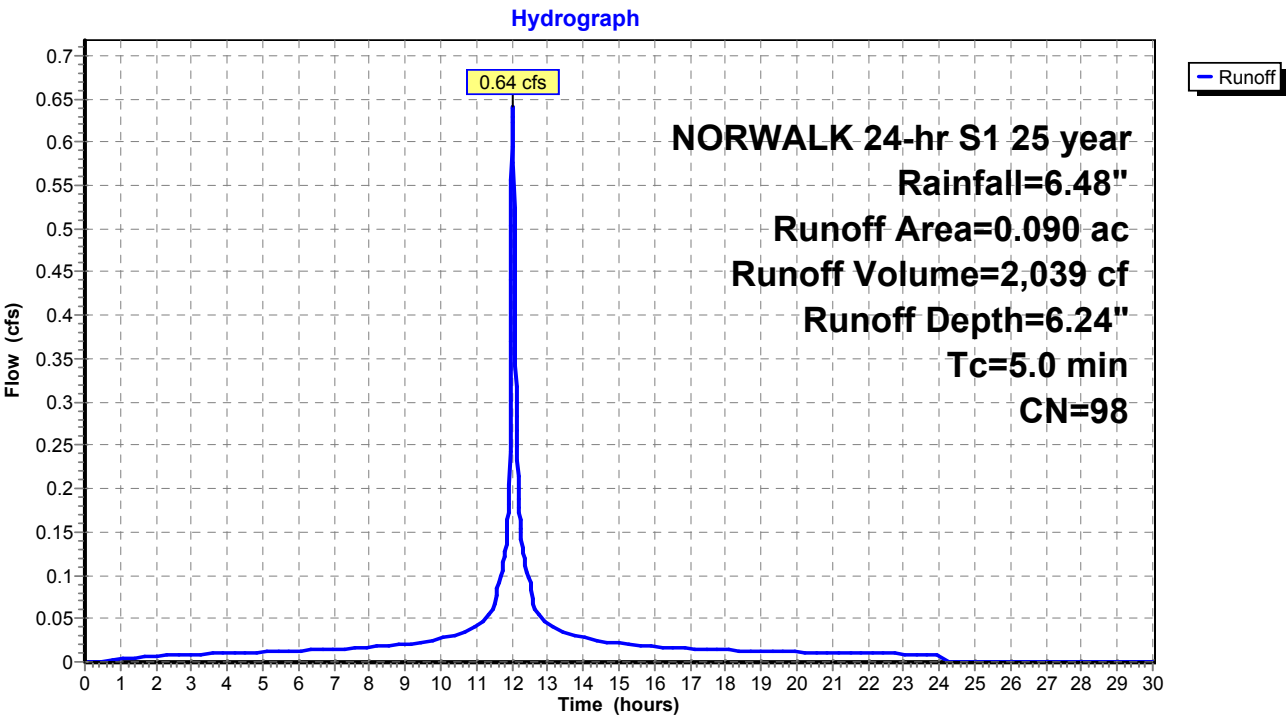
Runoff = 0.64 cfs @ 12.03 hrs, Volume= 2,039 cf, Depth= 6.24"
Routed to Pond 79P : CB-8

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.090	98	Paved parking & roofs
0.090		100.00% Impervious Area

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

Subcatchment 78S: Area 39



Summary for Subcatchment 84S: Area 31

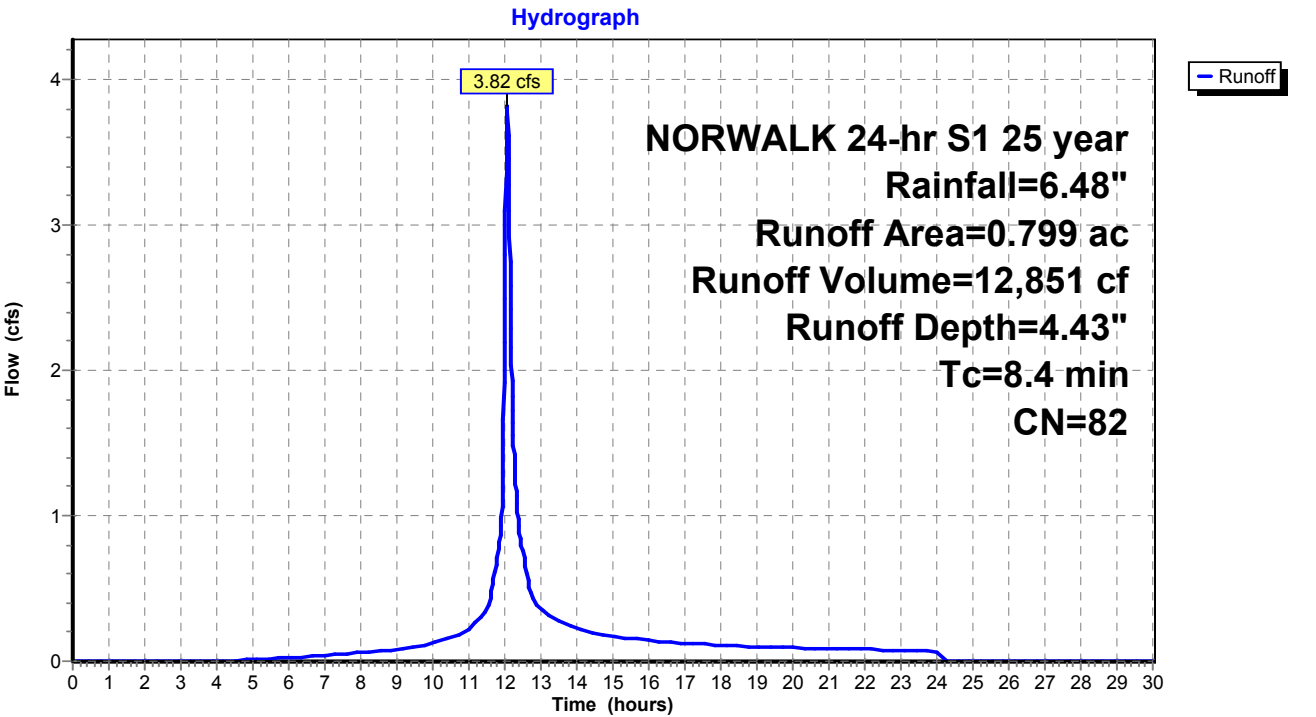
Runoff = 3.82 cfs @ 12.07 hrs, Volume= 12,851 cf, Depth= 4.43"
Routed to Pond 85P : CB-5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.337	98	Paved parking & roofs
0.462	70	Woods, Good, HSG C
0.799	82	Weighted Average
0.462		57.82% Pervious Area
0.337		42.18% Impervious Area

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

Subcatchment 84S: Area 31



Summary for Subcatchment 100S: Area 16B

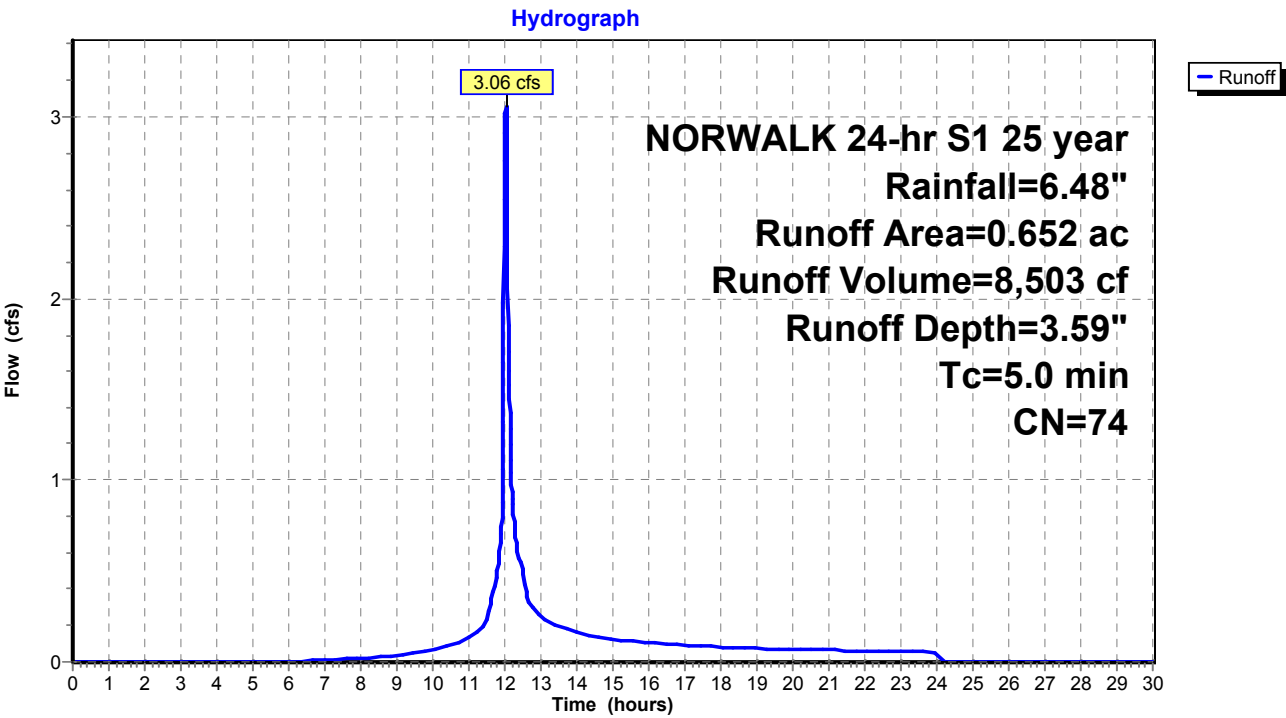
Runoff = 3.06 cfs @ 12.03 hrs, Volume= 8,503 cf, Depth= 3.59"
Routed to Pond 50P : DET BASIN #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.652	74	>75% Grass cover, Good, HSG C
0.652		100.00% Pervious Area

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

Subcatchment 100S: Area 16B



Summary for Subcatchment 105S: Area 18

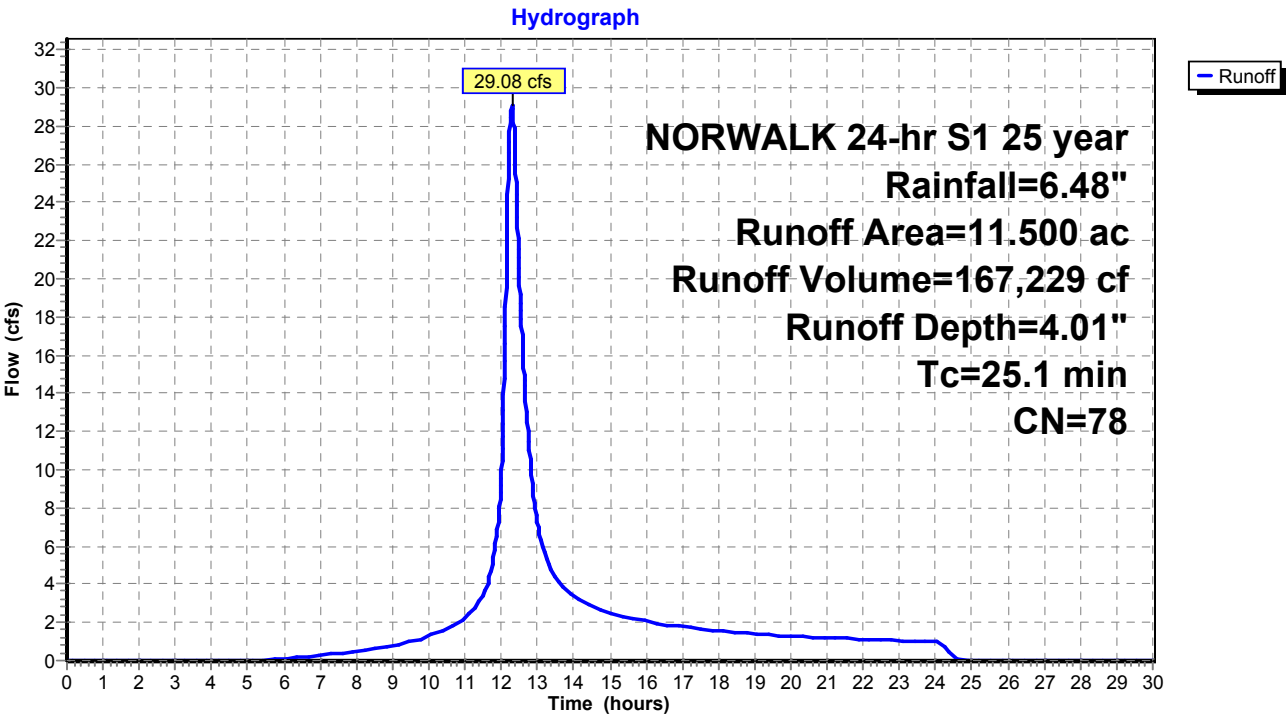
Runoff = 29.08 cfs @ 12.30 hrs, Volume= 167,229 cf, Depth= 4.01"
Routed to Pond 24P : RR Culvert 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
0.734	70	Woods, Good, HSG C
10.216	77	Woods, Good, HSG D
0.550	98	Paved parking, HSG C
11.500	78	Weighted Average
10.950		95.22% Pervious Area
0.550		4.78% Impervious Area

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

Subcatchment 105S: Area 18



Proposed Conditions

Prepared by Tighe & Bond

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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Subcatchment BLDG: EX-BLDG

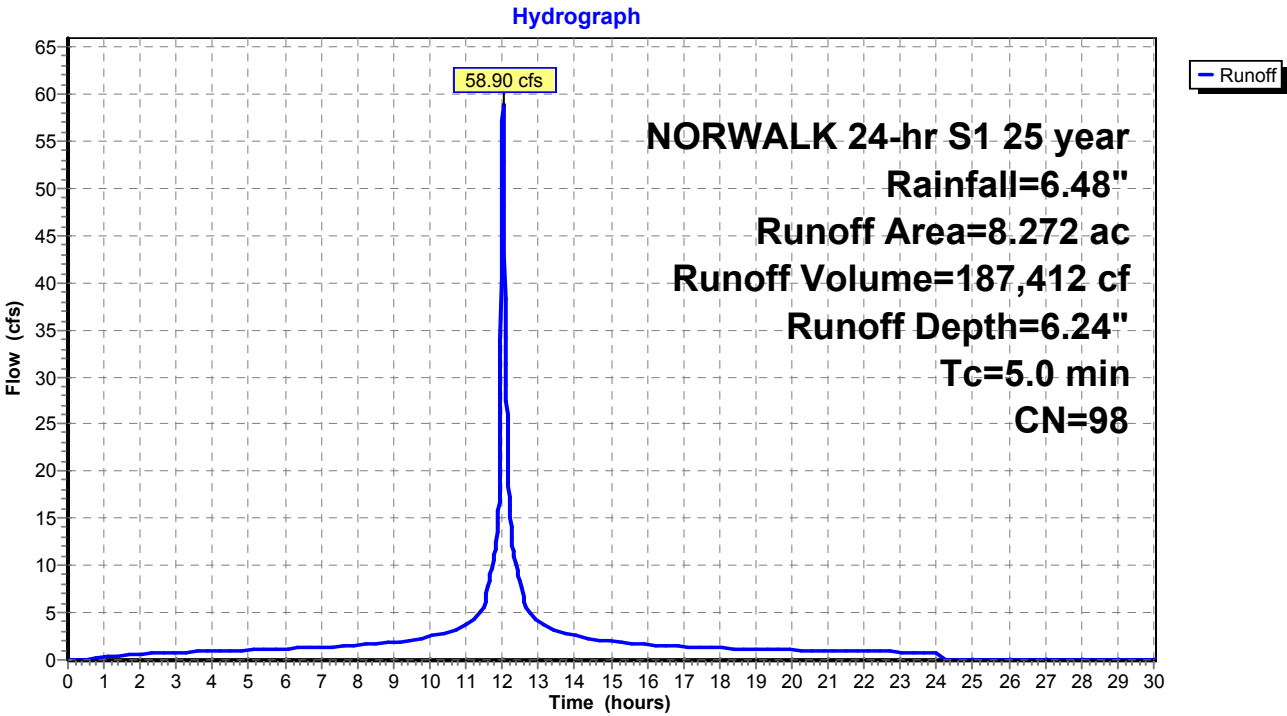
Runoff = 58.90 cfs @ 12.03 hrs, Volume= 187,412 cf, Depth= 6.24"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 25 year Rainfall=6.48"

Area (ac)	CN	Description
8.272	98	Roofs, HSG B
8.272		100.00% Impervious Area

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

Subcatchment BLDG: EX-BLDG



Summary for Pond 1P: RR Culvert 2

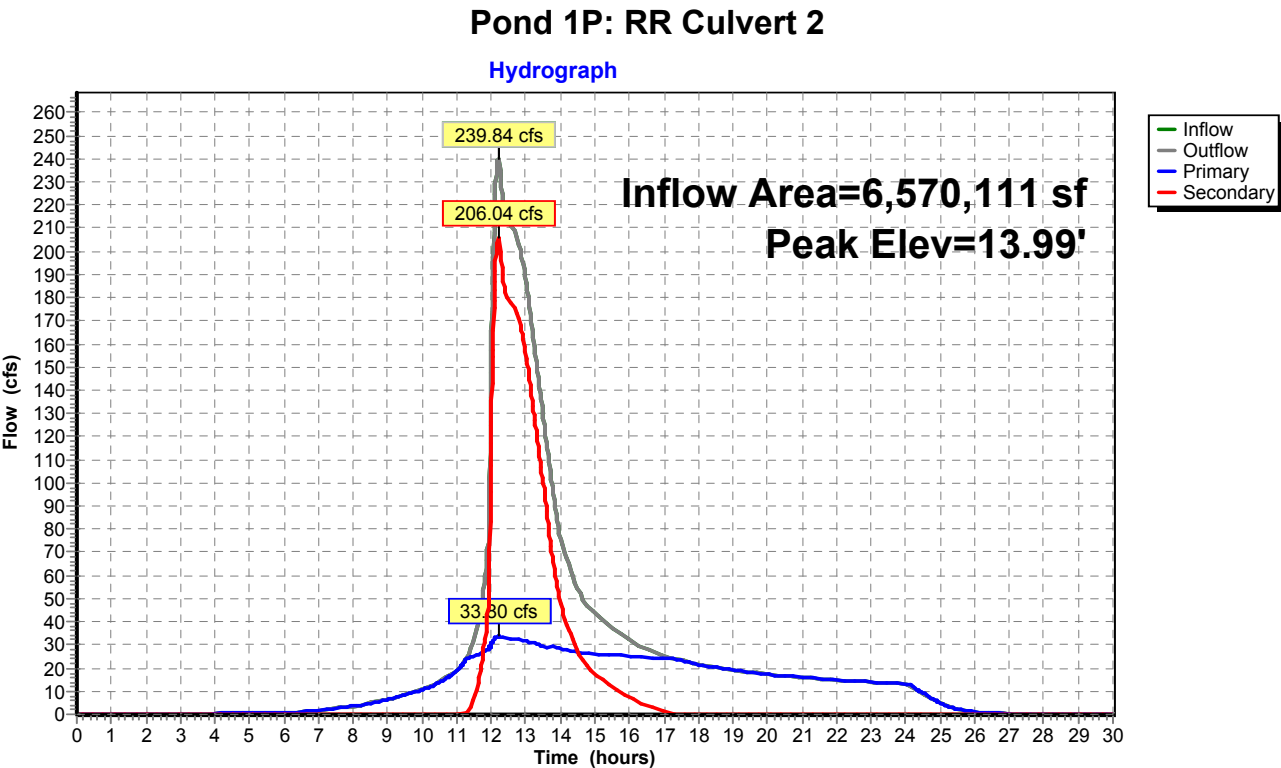
Inflow Area = 6,570,111 sf, 25.88% Impervious, Inflow Depth > 4.42" for 25 year event
Inflow = 239.84 cfs @ 12.21 hrs, Volume= 2,419,731 cf
Outflow = 239.84 cfs @ 12.21 hrs, Volume= 2,419,731 cf, Atten= 0%, Lag= 0.0 min
Primary = 33.80 cfs @ 12.21 hrs, Volume= 1,193,822 cf
Secondary = 206.04 cfs @ 12.21 hrs, Volume= 1,225,909 cf
Routed to Pond 24P : RR Culvert 3

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 13.99' @ 12.21 hrs

Device	Routing	Invert	Outlet Devices
#1	Secondary	13.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 3.00 4.00 5.00 Width (feet) 50.00 50.00 50.00 50.00 50.00 50.00
#2	Primary	9.50'	24.0" W x 36.0" H Box Culvert L= 135.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.50' / 9.50' S= 0.0000 '/' Cc= 0.900 n= 0.014, Flow Area= 6.00 sf

Primary OutFlow Max=33.80 cfs @ 12.21 hrs HW=13.99' (Free Discharge)
 ↑**2=Culvert** (Barrel Controls 33.80 cfs @ 5.63 fps)

Secondary OutFlow Max=205.98 cfs @ 12.21 hrs HW=13.99' (Free Discharge)
 ↑**1=Custom Weir/Orifice** (Weir Controls 205.98 cfs @ 4.15 fps)



Proposed Conditions

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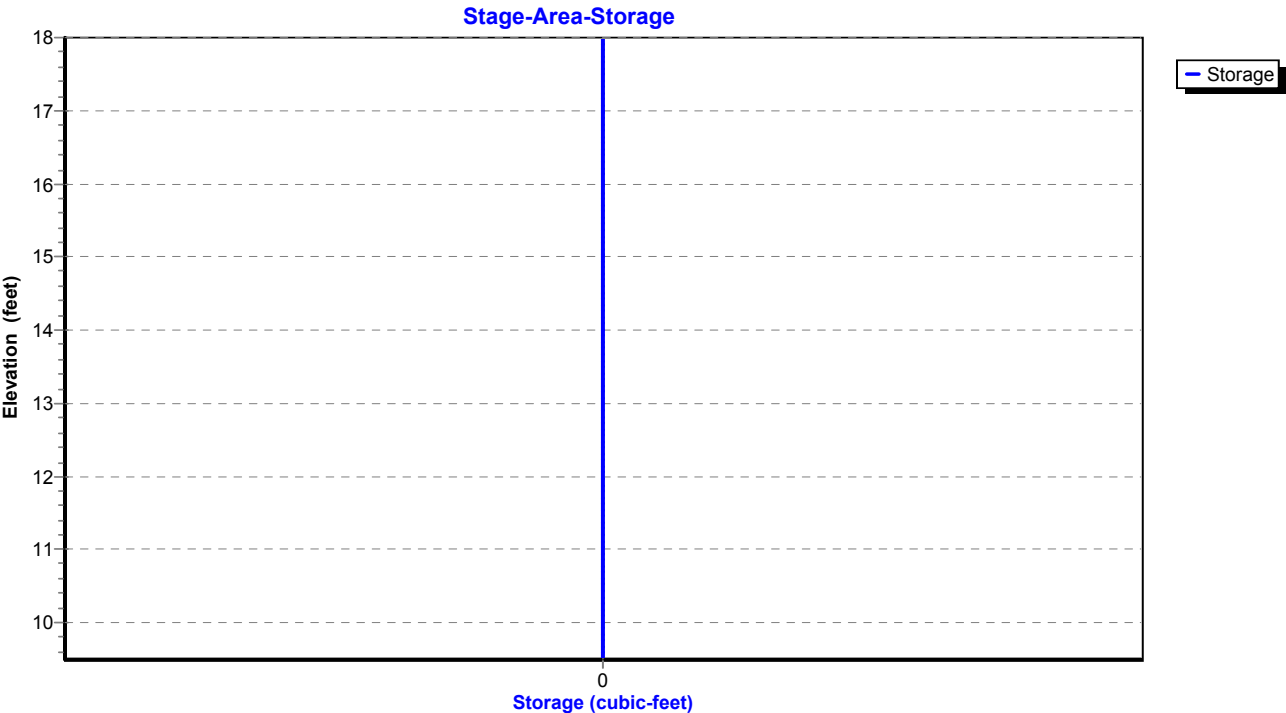
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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Pond 1P: RR Culvert 2



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Summary for Pond 2P: RR Culvert 1

Inflow Area = 3,416,890 sf, 54.67% Impervious, Inflow Depth = 4.99" for 25 year event
Inflow = 153.33 cfs @ 12.04 hrs, Volume= 1,419,742 cf
Outflow = 153.33 cfs @ 12.04 hrs, Volume= 1,419,742 cf, Atten= 0%, Lag= 0.0 min
Primary = 52.74 cfs @ 12.04 hrs, Volume= 1,060,096 cf
Secondary = 100.59 cfs @ 12.04 hrs, Volume= 359,647 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 29.85' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	25.00'	28.8" W x 28.8" H Box Culvert L= 123.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.00' / 23.60' S= 0.0114 '/' Cc= 0.900 n= 0.014, Flow Area= 5.76 sf
#2	Secondary	27.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 Width (feet) 6.00 6.00 6.00

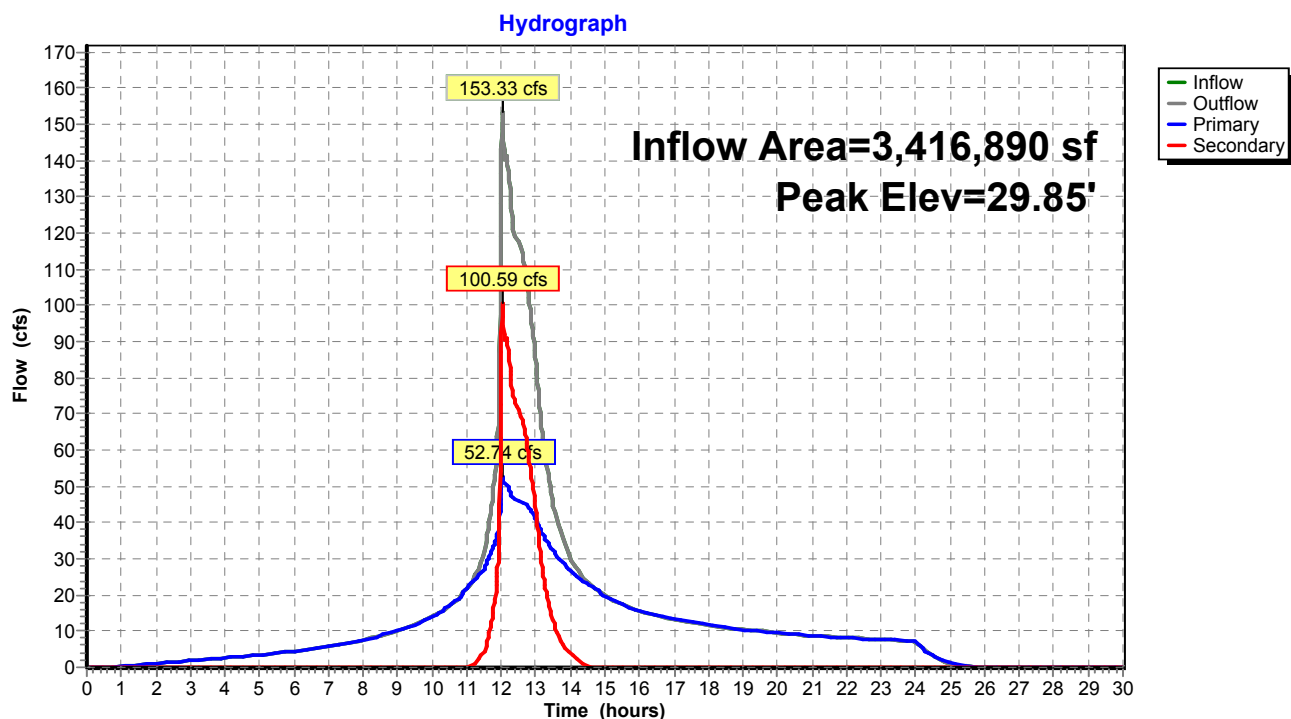
Primary OutFlow Max=52.73 cfs @ 12.04 hrs HW=29.85' (Free Discharge)

↑1=Culvert (Inlet Controls 52.73 cfs @ 9.15 fps)

Secondary OutFlow Max=100.53 cfs @ 12.04 hrs HW=29.85' (Free Discharge)

↑2=Custom Weir/Orifice (Orifice Controls 100.53 cfs @ 8.38 fps)

Pond 2P: RR Culvert 1



Proposed Conditions

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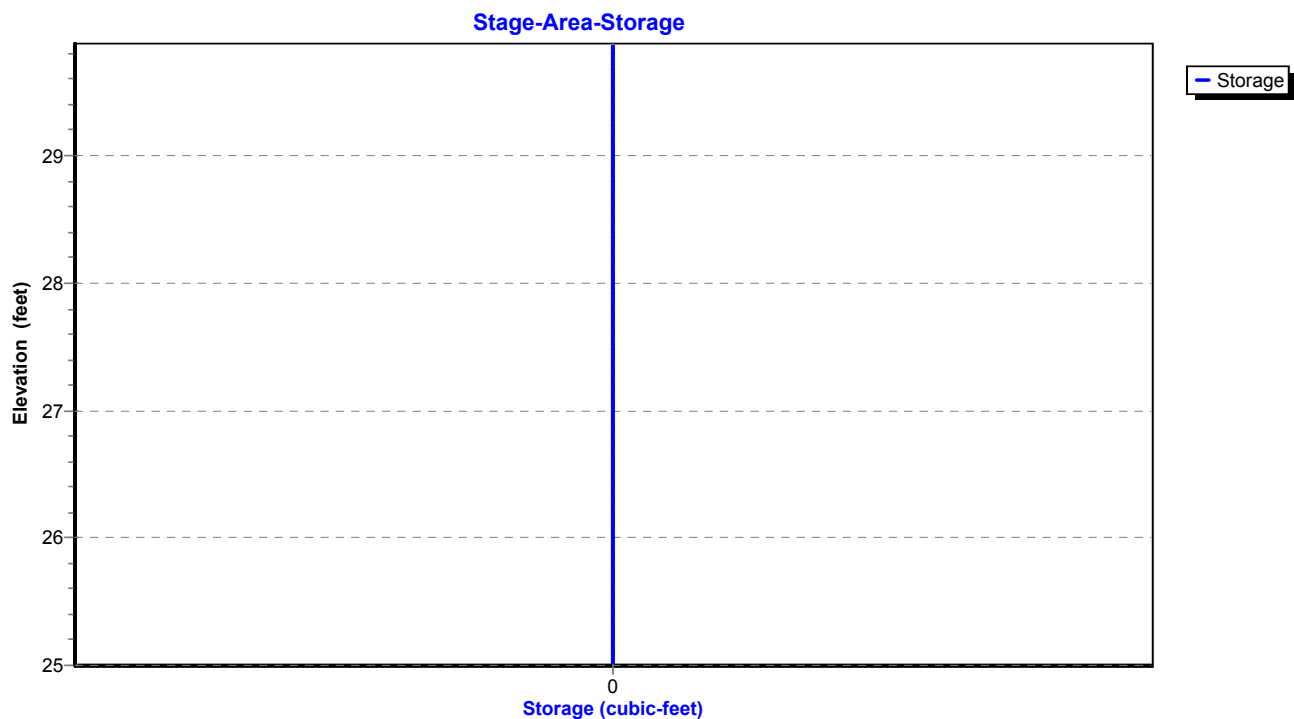
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Pond 2P: RR Culvert 1



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Summary for Pond 3P: DETENTION BASIN #2

Inflow Area = 263,277 sf, 58.24% Impervious, Inflow Depth = 4.45" for 25 year event
Inflow = 29.16 cfs @ 12.03 hrs, Volume= 97,738 cf
Outflow = 4.45 cfs @ 12.61 hrs, Volume= 81,966 cf, Atten= 85%, Lag= 34.4 min
Primary = 4.45 cfs @ 12.61 hrs, Volume= 81,966 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 50.29' @ 12.61 hrs Surf.Area= 12,581 sf Storage= 47,206 cf

Plug-Flow detention time= 218.9 min calculated for 81,939 cf (84% of inflow)
Center-of-Mass det. time= 140.4 min (937.2 - 796.8)

Volume	Invert	Avail.Storage	Storage Description
#1	44.00'	56,637 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.00	2,637	0	0
46.00	6,000	8,637	8,637
48.00	8,500	14,500	23,137
50.00	12,000	20,500	43,637
51.00	14,000	13,000	56,637

Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	18.0" Round Culvert L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.00' / 30.00' S= 0.1750 ' / Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	47.00'	10.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	50.40'	16.2" x 55.4" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.45 cfs @ 12.61 hrs HW=50.29' (Free Discharge)

1=Culvert (Passes 4.45 cfs of 20.03 cfs potential flow)
2=Orifice/Grate (Orifice Controls 4.45 cfs @ 8.16 fps)
3=Orifice/Grate (Controls 0.00 cfs)

Proposed Conditions

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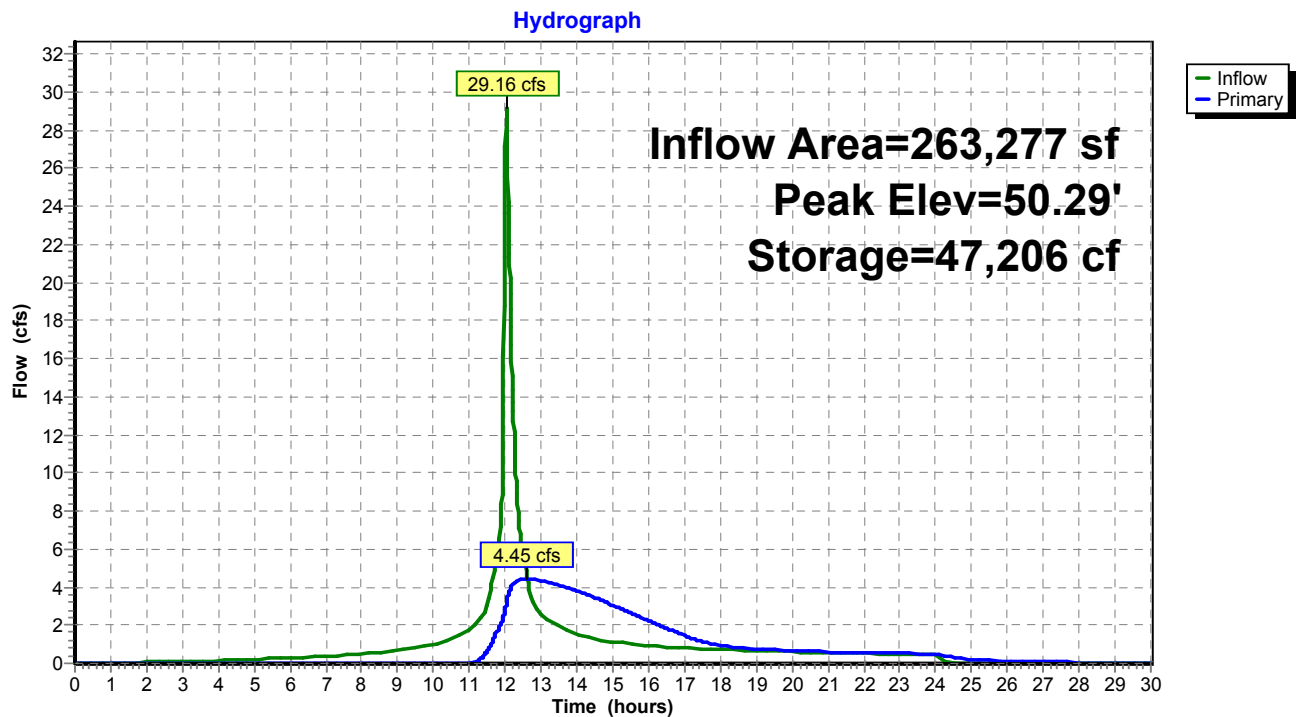
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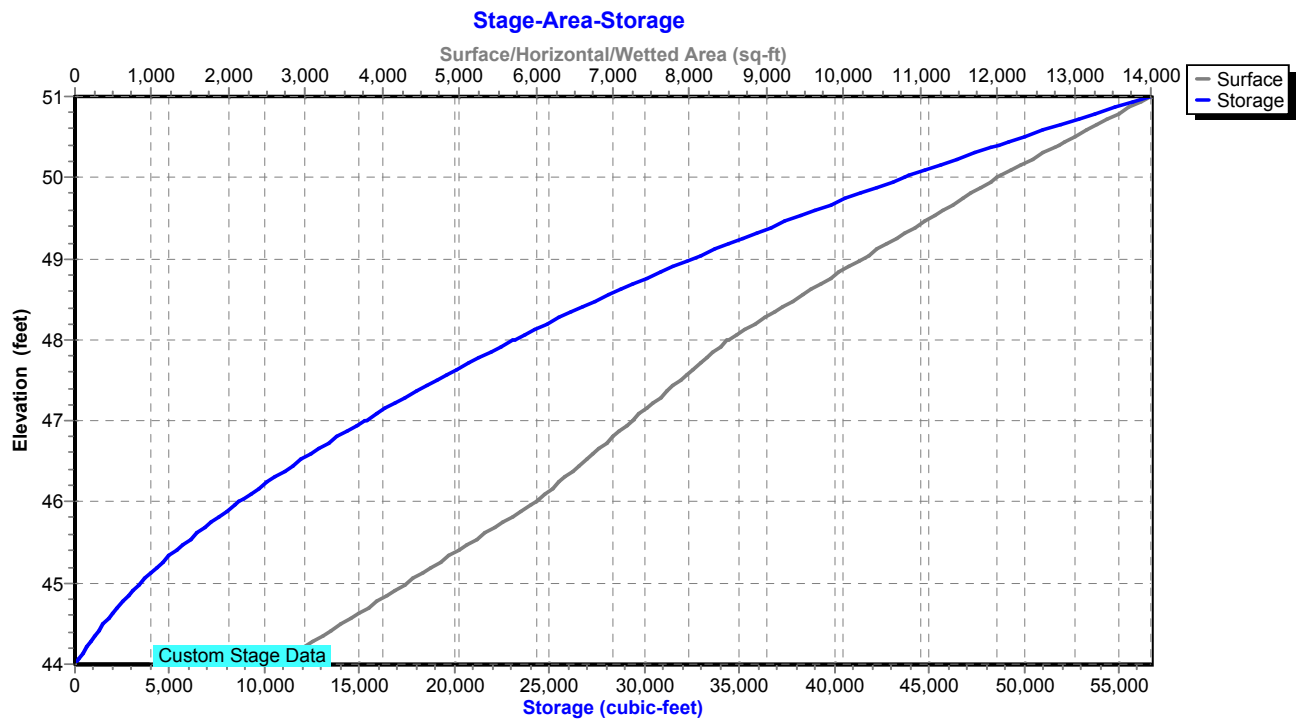
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Pond 3P: DETENTION BASIN #2



Pond 3P: DETENTION BASIN #2



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Summary for Pond 5P: DET 5 Culvert

Inflow Area = 541,015 sf, 16.51% Impervious, Inflow Depth = 3.49" for 25 year event
 Inflow = 22.21 cfs @ 12.45 hrs, Volume= 157,388 cf
 Outflow = 18.94 cfs @ 12.63 hrs, Volume= 157,387 cf, Atten= 15%, Lag= 10.6 min
 Primary = 18.94 cfs @ 12.63 hrs, Volume= 157,387 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 80.78' @ 12.63 hrs Storage= 8,732 cf

Plug-Flow detention time= 6.3 min calculated for 157,387 cf (100% of inflow)

Center-of-Mass det. time= 6.3 min (887.5 - 881.2)

Volume	Invert	Avail.Storage	Storage Description
#1	78.00'	62,584 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
78.00	0	0
79.00	1,179	1,179
80.00	3,009	4,188
81.00	5,795	9,983
82.00	9,335	19,318
83.00	16,518	35,836
84.00	26,748	62,584

Device	Routing	Invert	Outlet Devices
#1	Primary	78.00'	24.0" Round Culvert L= 224.0' Ke= 0.600 Inlet / Outlet Invert= 78.00' / 72.40' S= 0.0250 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=18.94 cfs @ 12.63 hrs HW=80.78' (Free Discharge)↑**1=Culvert** (Inlet Controls 18.94 cfs @ 6.03 fps)

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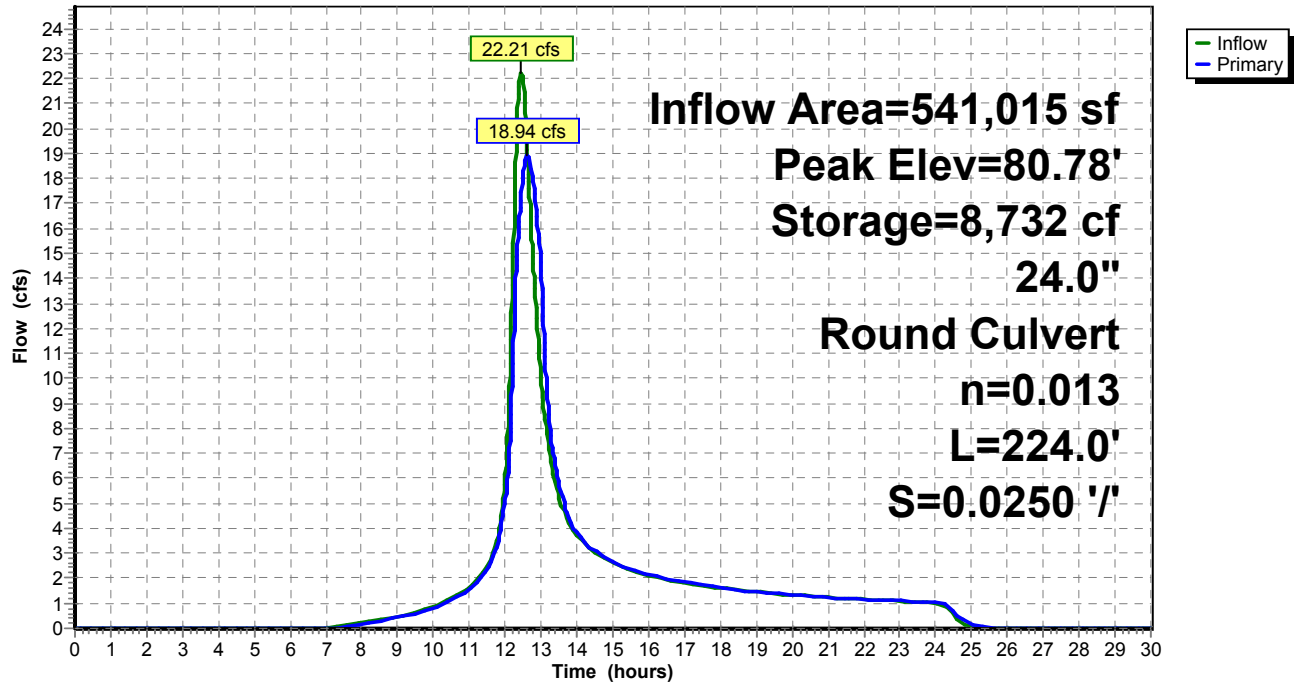
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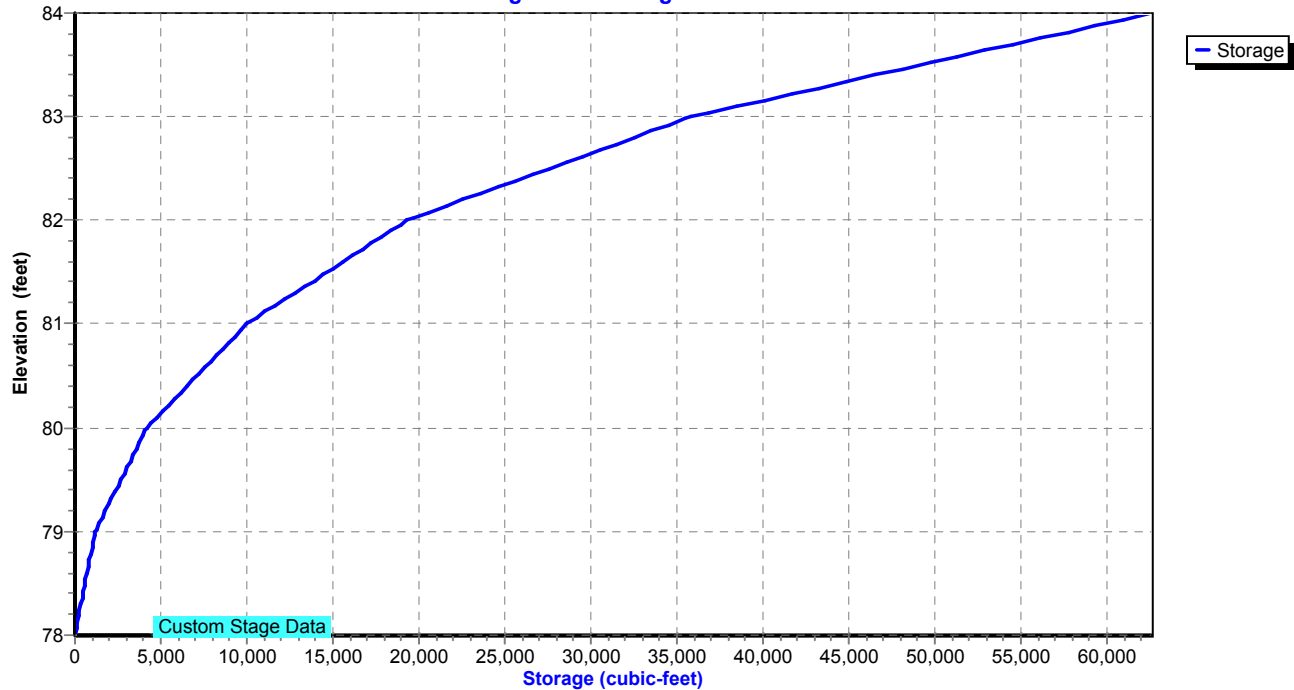
Pond 5P: DET 5 Culvert

Hydrograph



Pond 5P: DET 5 Culvert

Stage-Area-Storage



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Summary for Pond 6P: DET 6 Culvert

Inflow Area = 747,054 sf, 37.20% Impervious, Inflow Depth = 4.43" for 25 year event
 Inflow = 30.81 cfs @ 12.70 hrs, Volume= 275,844 cf
 Outflow = 30.74 cfs @ 12.71 hrs, Volume= 275,844 cf, Atten= 0%, Lag= 0.7 min
 Primary = 30.74 cfs @ 12.71 hrs, Volume= 275,844 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 91.67' @ 12.71 hrs Storage= 1,138 cf

Plug-Flow detention time= 0.5 min calculated for 275,844 cf (100% of inflow)

Center-of-Mass det. time= 0.4 min (869.5 - 869.0)

Volume	Invert	Avail.Storage	Storage Description
#1	88.50'	5,954 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
88.50	0	0
90.00	154	154
92.00	1,175	1,329
93.00	4,625	5,954

Device	Routing	Invert	Outlet Devices
#1	Primary	88.50'	30.0" Round Culvert L= 180.0' Ke= 0.600 Inlet / Outlet Invert= 88.50' / 86.00' S= 0.0139 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=30.74 cfs @ 12.71 hrs HW=91.67' (Free Discharge)↑ **1=Culvert** (Inlet Controls 30.74 cfs @ 6.26 fps)

Proposed Conditions

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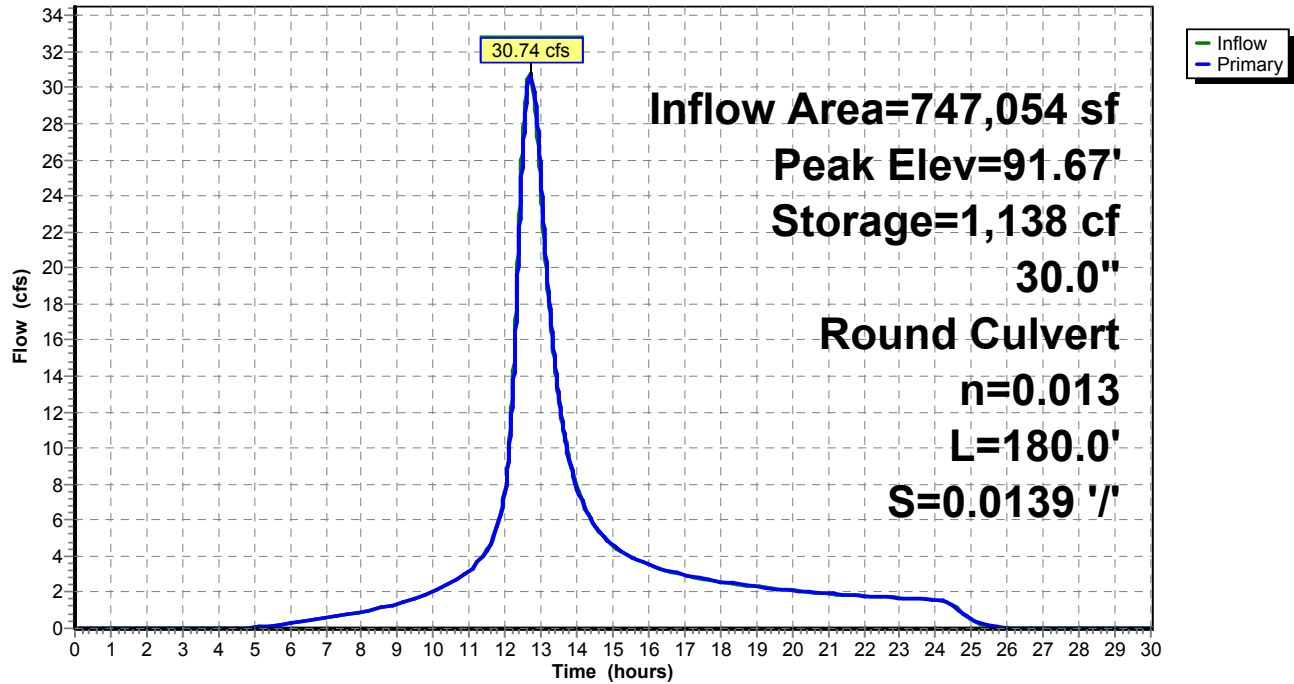
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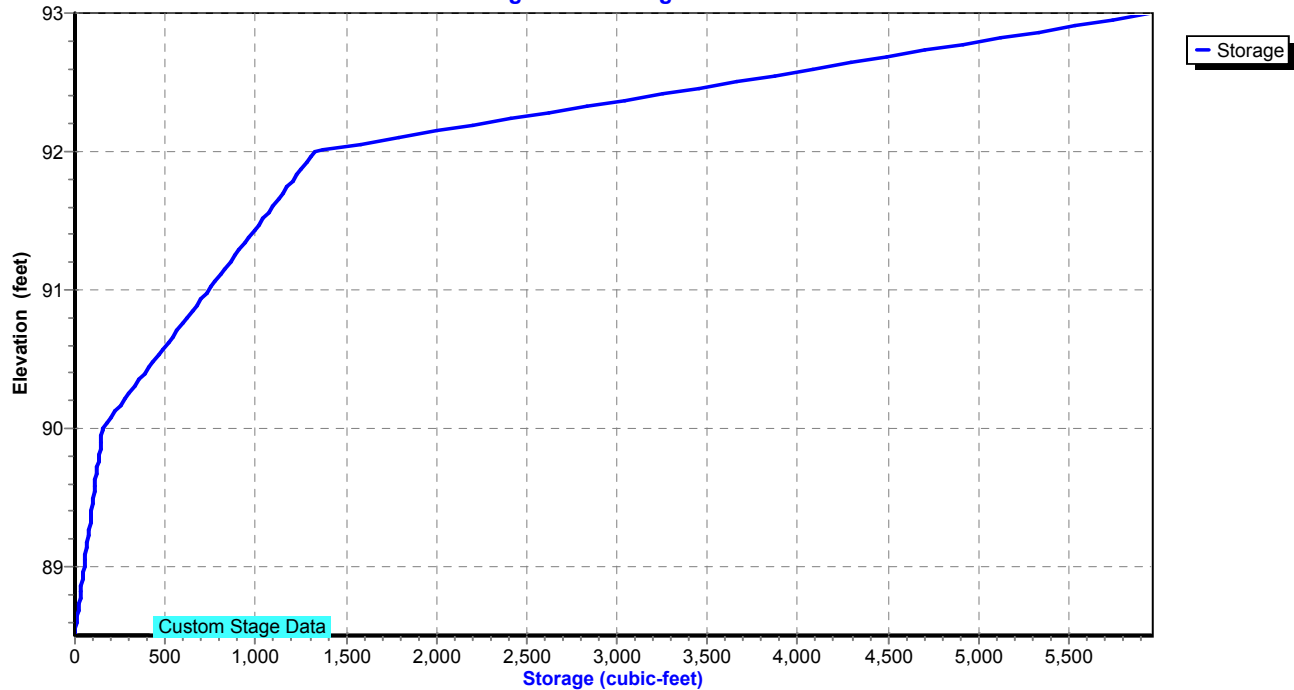
Pond 6P: DET 6 Culvert

Hydrograph



Pond 6P: DET 6 Culvert

Stage-Area-Storage



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Summary for Pond 7P: DET 7 Culvert

Inflow Area = 64,033 sf, 0.00% Impervious, Inflow Depth = 4.32" for 25 year event
 Inflow = 4.22 cfs @ 12.26 hrs, Volume= 23,071 cf
 Outflow = 2.81 cfs @ 12.46 hrs, Volume= 23,071 cf, Atten= 33%, Lag= 12.2 min
 Primary = 2.81 cfs @ 12.46 hrs, Volume= 23,071 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 93.39' @ 12.46 hrs Storage= 2,350 cf

Plug-Flow detention time= 6.6 min calculated for 23,071 cf (100% of inflow)

Center-of-Mass det. time= 6.6 min (849.3 - 842.7)

Volume	Invert	Avail.Storage	Storage Description
#1	92.50'	5,874 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
92.50	0	0
93.00	103	103
94.00	5,771	5,874

Device	Routing	Invert	Outlet Devices
#1	Primary	92.50'	15.0" Round Culvert L= 202.0' Ke= 0.600 Inlet / Outlet Invert= 92.50' / 89.11' S= 0.0168 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=2.81 cfs @ 12.46 hrs HW=93.39' (Free Discharge)↑ **1=Culvert** (Inlet Controls 2.81 cfs @ 3.01 fps)

Proposed Conditions

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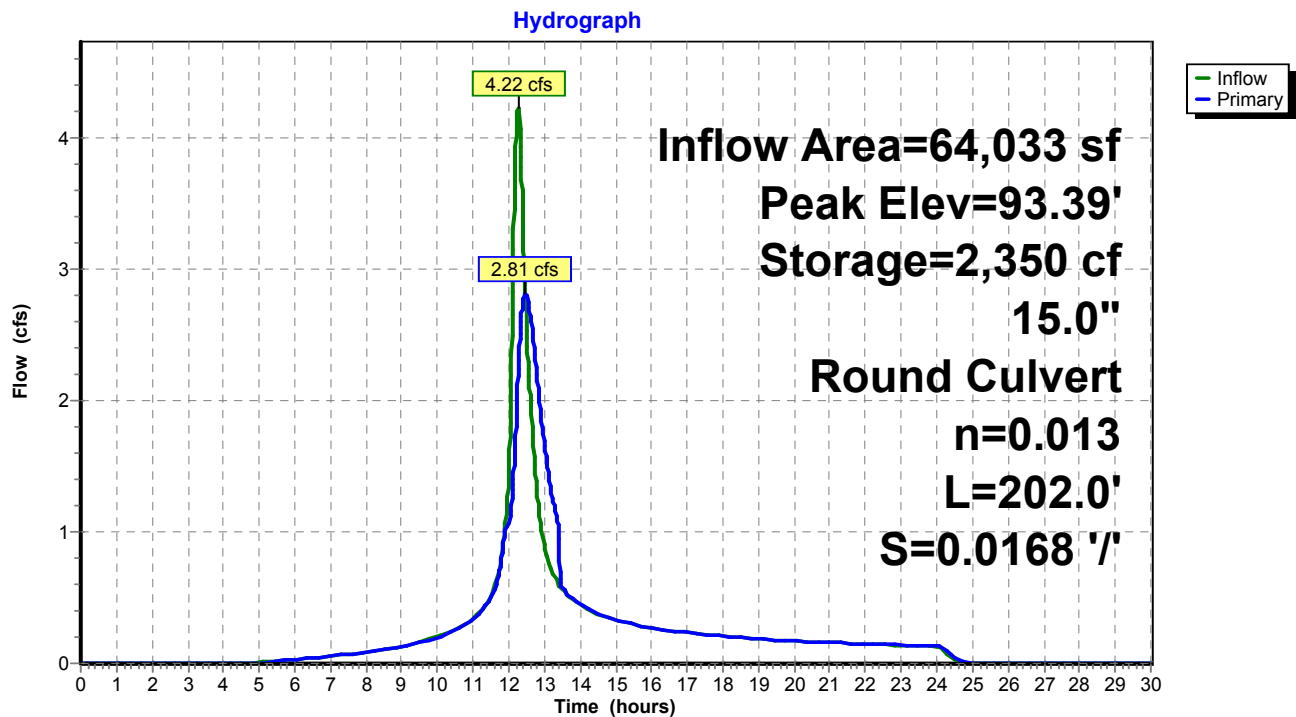
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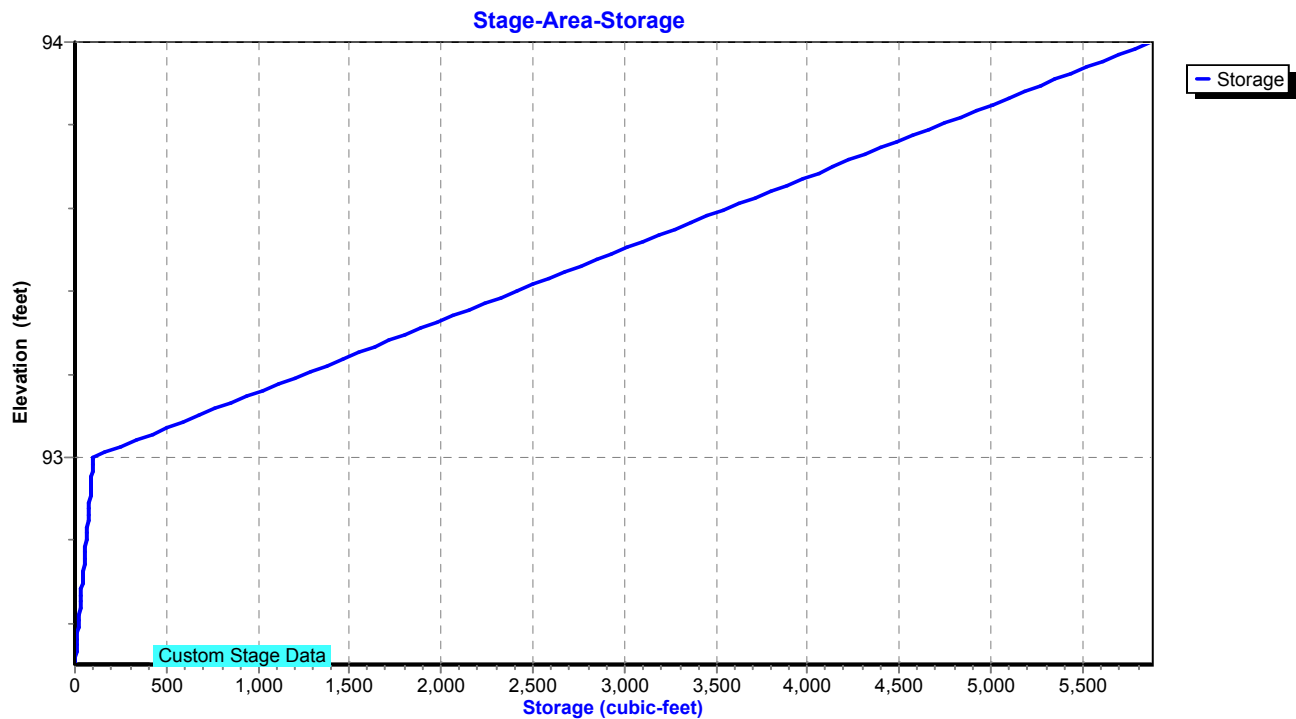
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Pond 7P: DET 7 Culvert



Pond 7P: DET 7 Culvert



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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Pond 8P: Comb. 5,6,7,8,9

Inflow Area = 1,584,277 sf, 30.02% Impervious, Inflow Depth = 4.20" for 25 year event
 Inflow = 62.19 cfs @ 12.67 hrs, Volume= 555,099 cf
 Outflow = 62.19 cfs @ 12.67 hrs, Volume= 555,099 cf, Atten= 0%, Lag= 0.1 min
 Primary = 62.19 cfs @ 12.67 hrs, Volume= 555,099 cf
 Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 71.95' @ 12.67 hrs Storage= 164 cf

Plug-Flow detention time= 0.0 min calculated for 555,099 cf (100% of inflow)

Center-of-Mass det. time= 0.0 min (866.3 - 866.3)

Volume	Invert	Avail.Storage	Storage Description
#1	68.40'	5,234 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.40	0	0
71.00	52	52
72.00	118	170
73.00	471	641
74.00	1,318	1,959
75.00	3,275	5,234

Device	Routing	Invert	Outlet Devices
#1	Primary	68.40'	42.0" Round Culvert L= 900.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 68.40' / 36.99' S= 0.0349 ' / Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=62.19 cfs @ 12.67 hrs HW=71.95' (Free Discharge)↑ **1=Culvert** (Inlet Controls 62.19 cfs @ 6.46 fps)

Proposed Conditions

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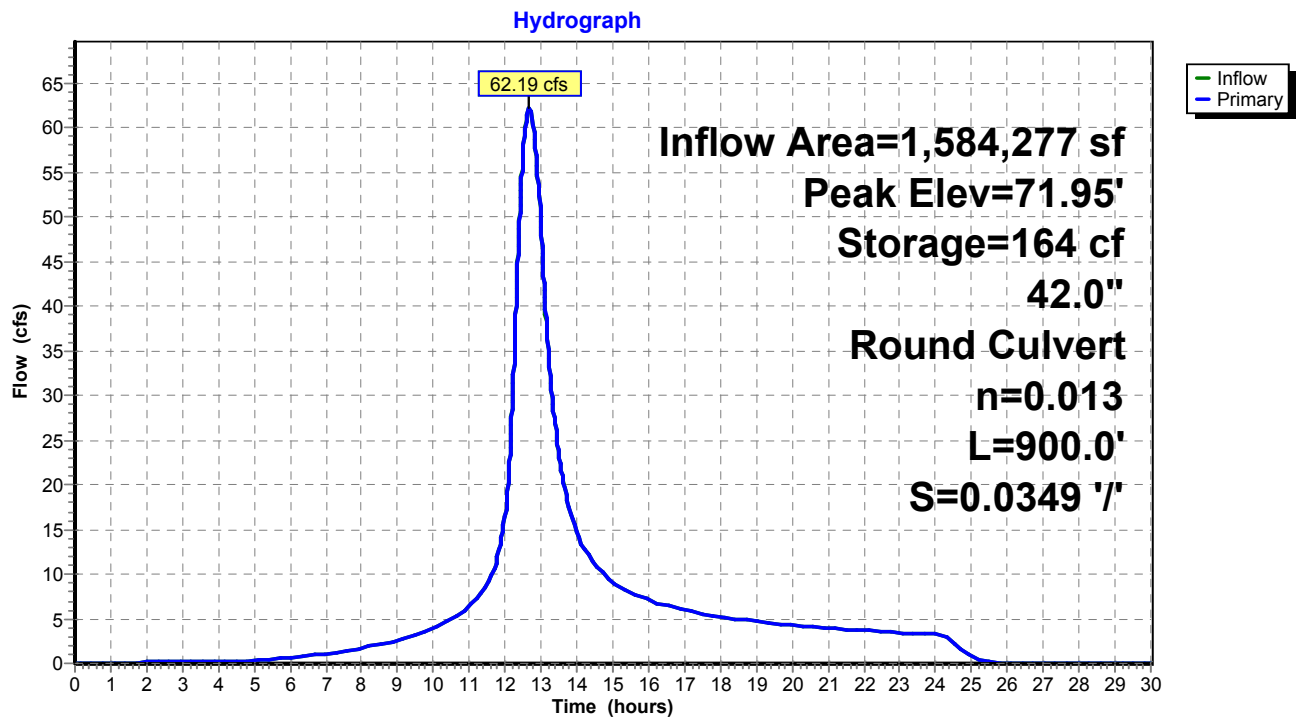
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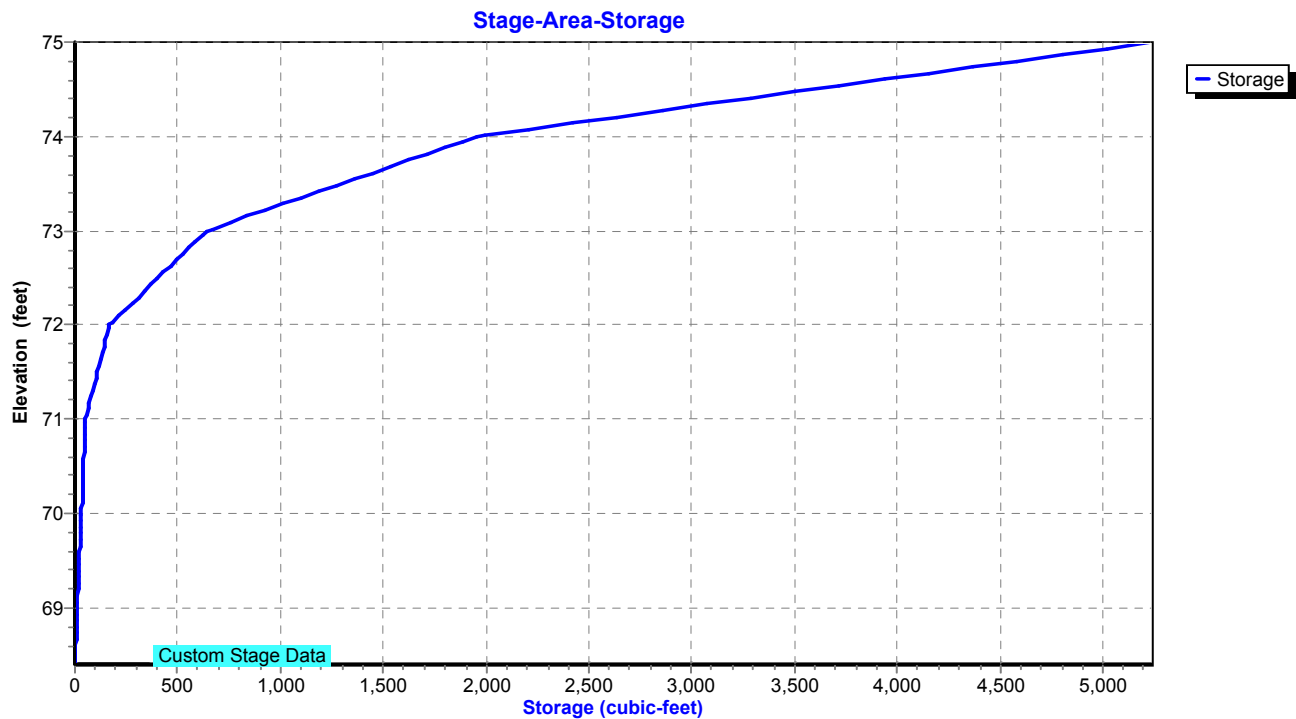
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Pond 8P: Comb. 5,6,7,8,9



Pond 8P: Comb. 5,6,7,8,9



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Summary for Pond 9P: MH-K

Inflow Area = 246,332 sf, 62.25% Impervious, Inflow Depth = 4.51" for 25 year event
Inflow = 27.36 cfs @ 12.04 hrs, Volume= 92,665 cf
Outflow = 27.36 cfs @ 12.04 hrs, Volume= 92,665 cf, Atten= 0%, Lag= 0.0 min
Primary = 27.36 cfs @ 12.04 hrs, Volume= 92,665 cf
Routed to Pond 3P : DETENTION BASIN #2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 51.45' @ 12.04 hrs

Flood Elev= 51.80'

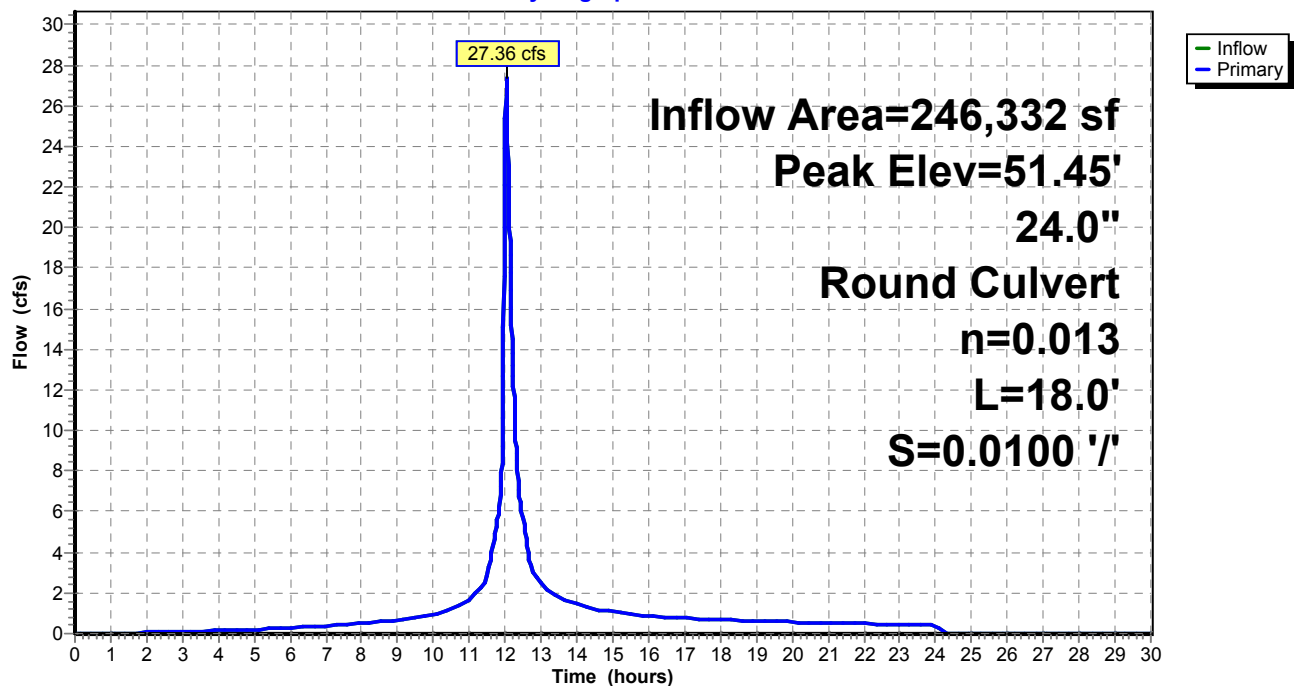
Device	Routing	Invert	Outlet Devices
#1	Primary	47.18'	24.0" Round Culvert L= 18.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.18' / 47.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=27.27 cfs @ 12.04 hrs HW=51.43' (Free Discharge)

↑1=Culvert (Inlet Controls 27.27 cfs @ 8.68 fps)

Pond 9P: MH-K

Hydrograph



Proposed Conditions

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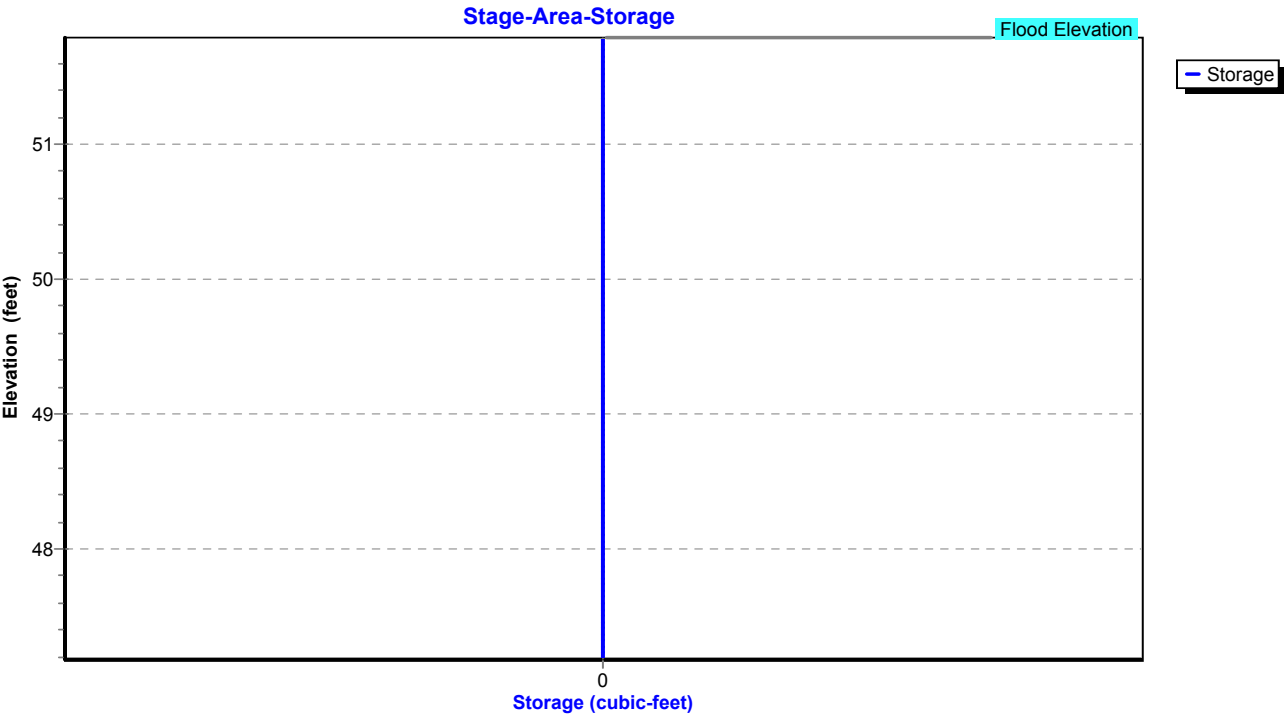
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Pond 9P: MH-K



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Summary for Pond 10P: MH-L

Inflow Area = 71,874 sf, 85.27% Impervious, Inflow Depth = 3.85" for 25 year event
Inflow = 11.21 cfs @ 12.03 hrs, Volume= 23,062 cf
Outflow = 11.21 cfs @ 12.03 hrs, Volume= 23,062 cf, Atten= 0%, Lag= 0.0 min
Primary = 11.21 cfs @ 12.03 hrs, Volume= 23,062 cf
Routed to Pond 9P : MH-K

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.93' @ 12.03 hrs

Flood Elev= 53.00'

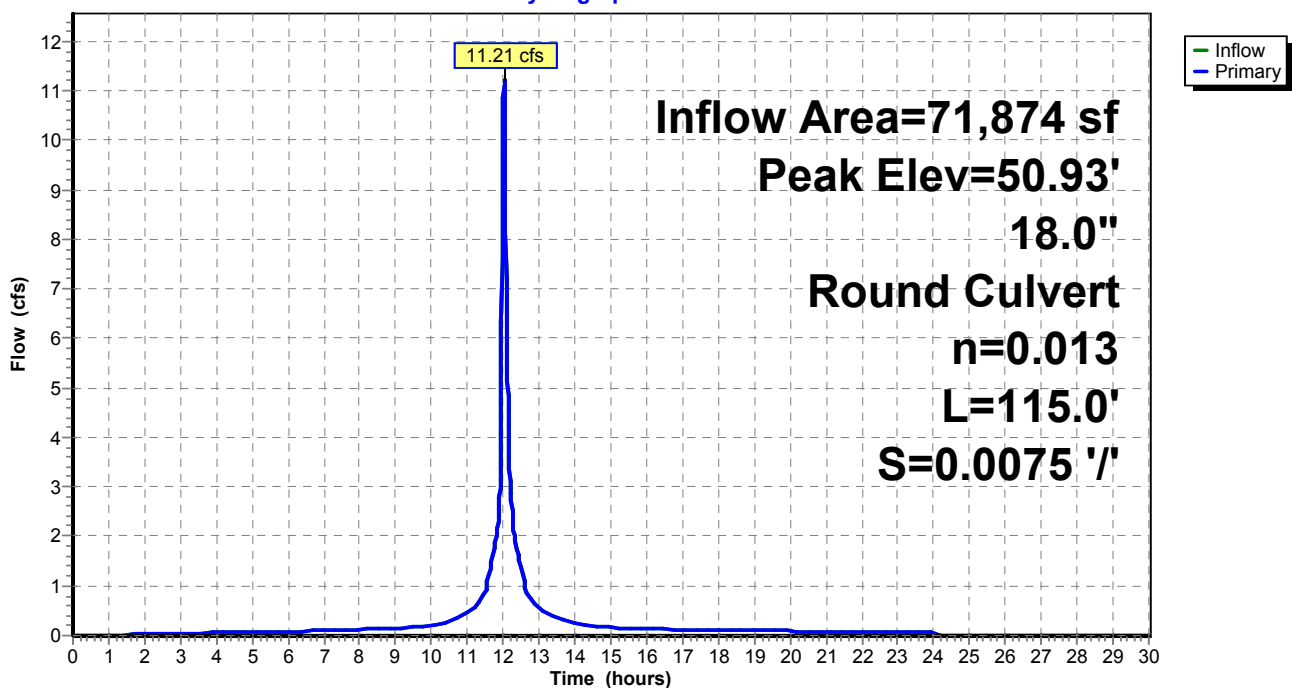
Device	Routing	Invert	Outlet Devices
#1	Primary	48.04'	18.0" Round Culvert L= 115.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.04' / 47.18' S= 0.0075 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=11.16 cfs @ 12.03 hrs HW=50.91' (Free Discharge)

↑1=Culvert (Barrel Controls 11.16 cfs @ 6.32 fps)

Pond 10P: MH-L

Hydrograph



Proposed Conditions

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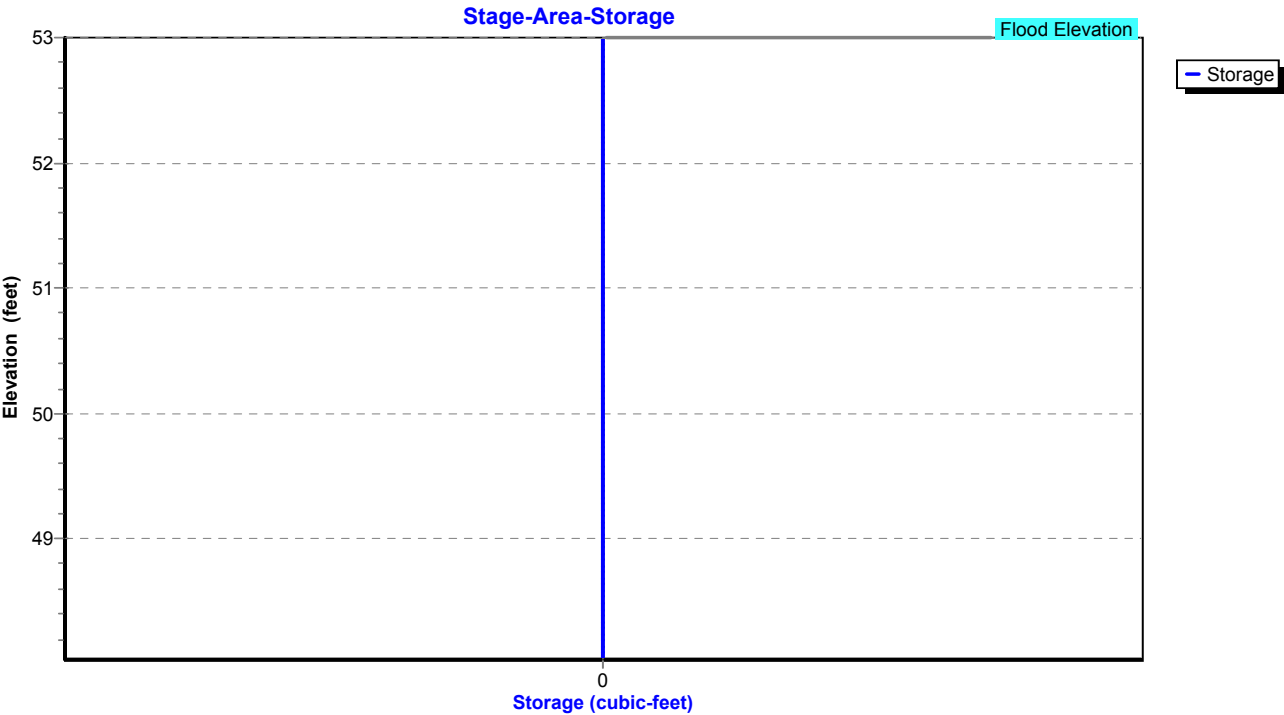
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Pond 10P: MH-L



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Summary for Pond 11P: Pipe Storage

Inflow Area = 40,903 sf, 82.85% Impervious, Inflow Depth = 5.78" for 25 year event
Inflow = 6.50 cfs @ 12.03 hrs, Volume= 19,701 cf
Outflow = 6.25 cfs @ 12.03 hrs, Volume= 7,784 cf, Atten= 4%, Lag= 0.0 min
Primary = 6.25 cfs @ 12.03 hrs, Volume= 7,784 cf
Routed to Pond 10P : MH-L

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 52.02' @ 12.03 hrs Storage= 0.081 af

Plug-Flow detention time= 146.8 min calculated for 7,781 cf (39% of inflow)

Center-of-Mass det. time= (not calculated: outflow precedes inflow)

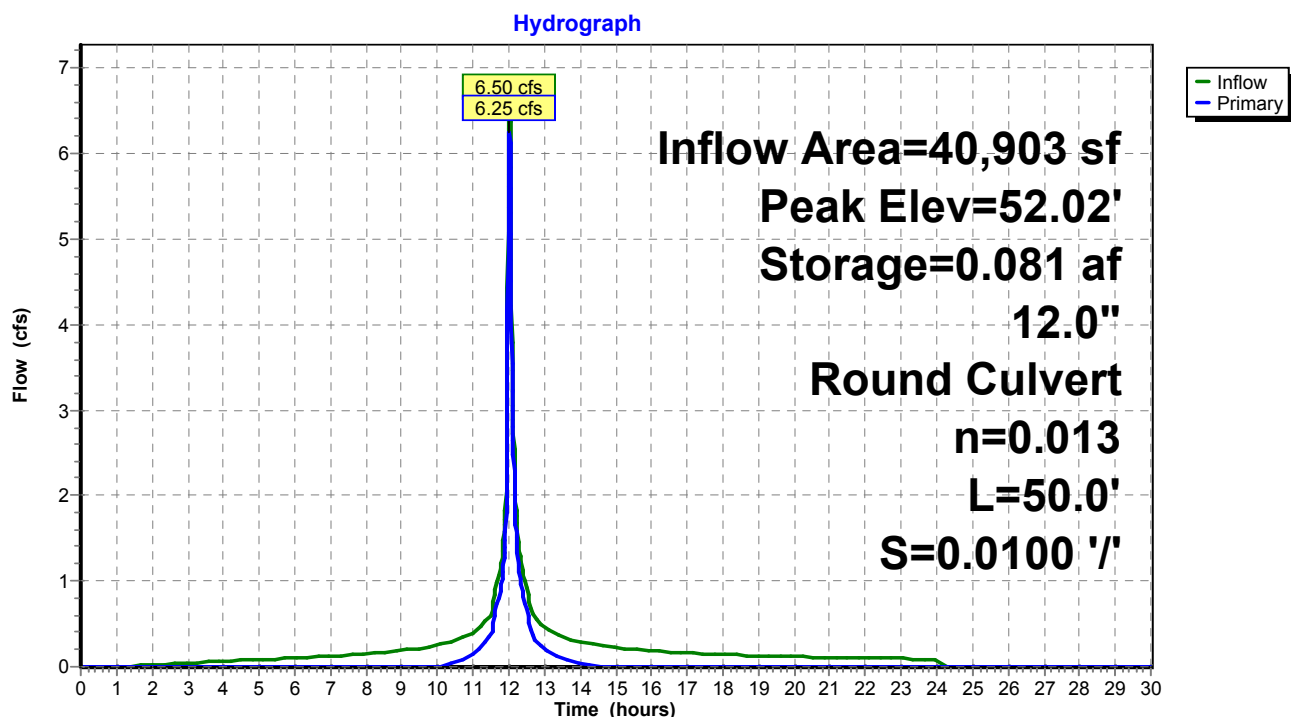
Volume	Invert	Avail.Storage	Storage Description
#1	45.50'	0.081 af	36.0" Round Pipe Storage x 2 L= 250.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.50'	12.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.50' / 48.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

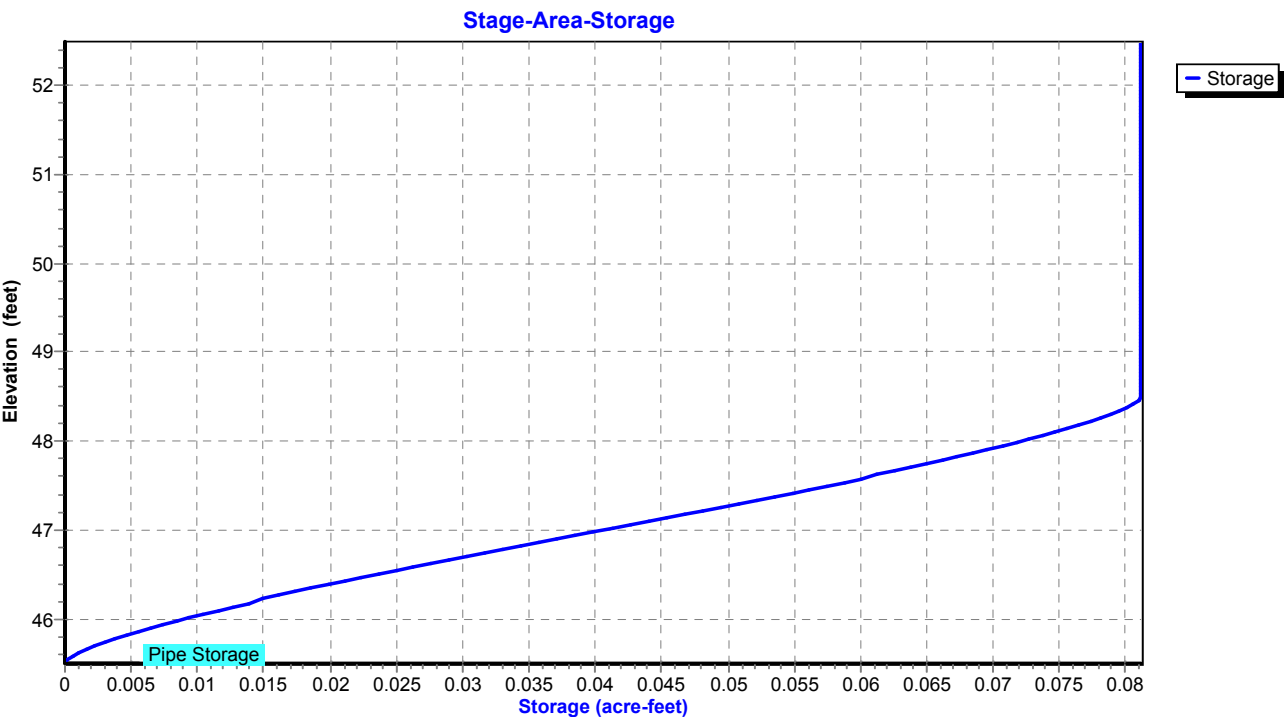
Primary OutFlow Max=6.22 cfs @ 12.03 hrs HW=51.99' (Free Discharge)

↑1=Culvert (Barrel Controls 6.22 cfs @ 7.92 fps)

Pond 11P: Pipe Storage



Pond 11P: Pipe Storage



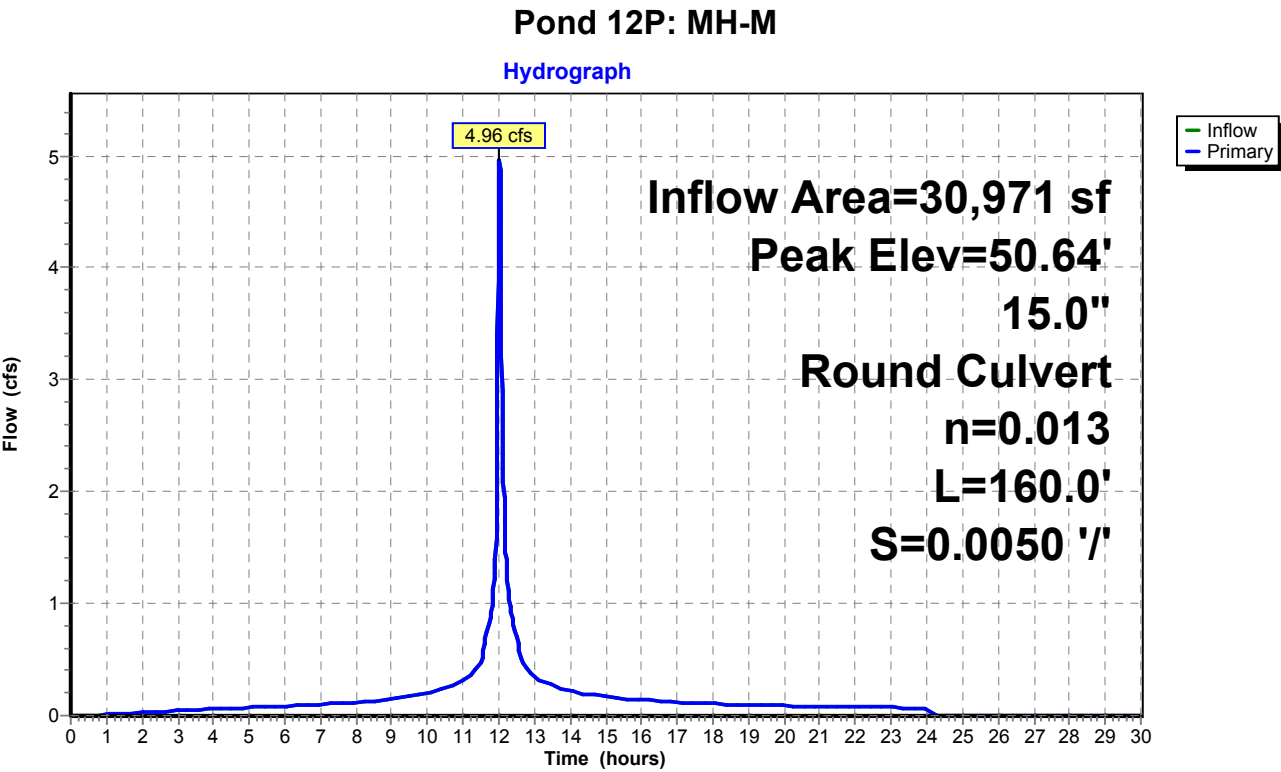
Summary for Pond 12P: MH-M

Inflow Area = 30,971 sf, 88.47% Impervious, Inflow Depth = 5.92" for 25 year event
Inflow = 4.96 cfs @ 12.03 hrs, Volume= 15,279 cf
Outflow = 4.96 cfs @ 12.03 hrs, Volume= 15,279 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.96 cfs @ 12.03 hrs, Volume= 15,279 cf
Routed to Pond 10P : MH-L

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 50.64' @ 12.03 hrs
Flood Elev= 54.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.84'	15.0" Round Culvert L= 160.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.84' / 48.04' S= 0.0050 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=4.94 cfs @ 12.03 hrs HW=50.61' (Free Discharge)
1=Culvert (Barrel Controls 4.94 cfs @ 4.03 fps)



Proposed Conditions

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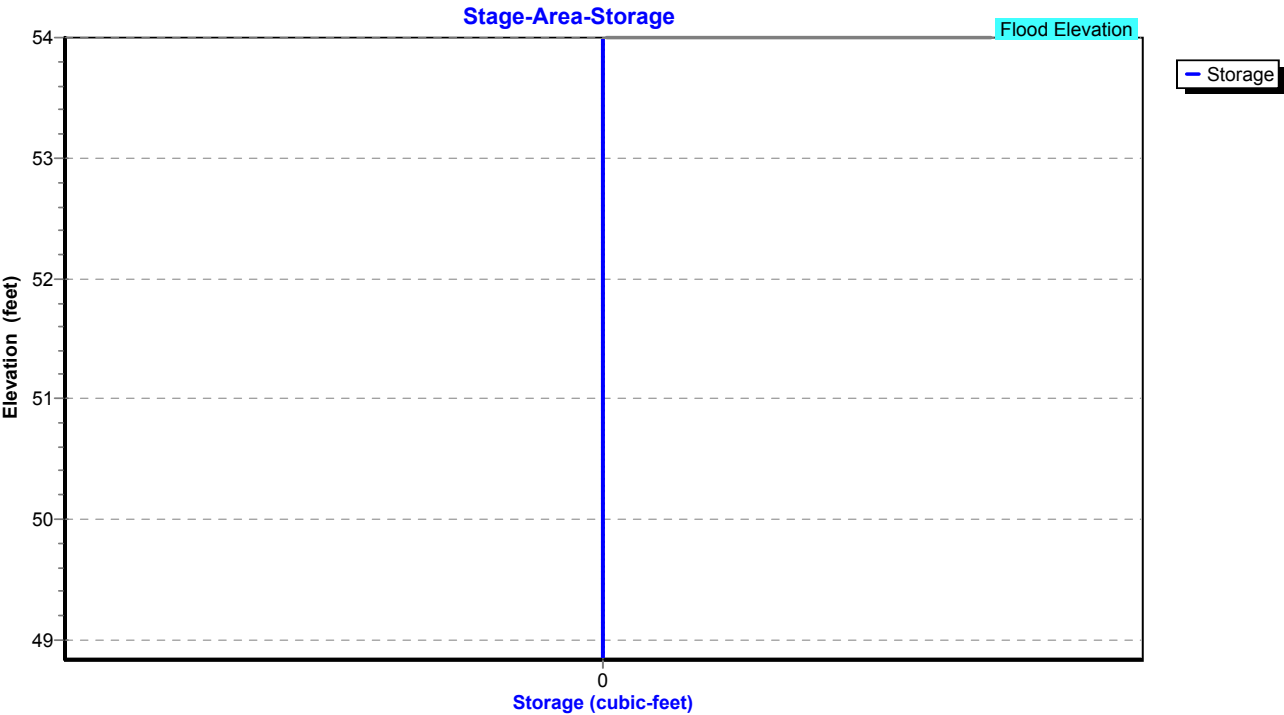
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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Pond 12P: MH-M



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Summary for Pond 13P: MH-J

Inflow Area = 17,032 sf, 79.03% Impervious, Inflow Depth = 5.66" for 25 year event
Inflow = 2.68 cfs @ 12.03 hrs, Volume= 8,029 cf
Outflow = 2.68 cfs @ 12.03 hrs, Volume= 8,029 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.68 cfs @ 12.03 hrs, Volume= 8,029 cf
Routed to Pond 12P : MH-M

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

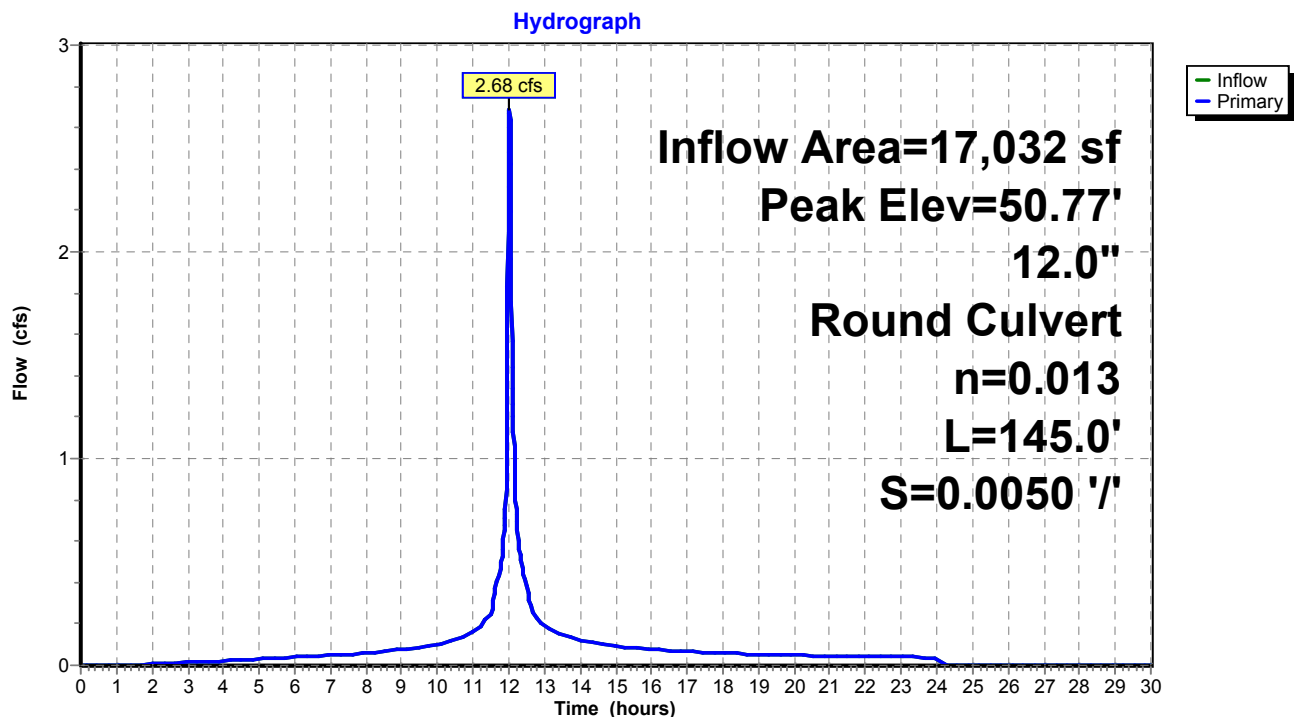
Peak Elev= 50.77' @ 12.03 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	49.57'	12.0" Round Culvert L= 145.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.57' / 48.84' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=2.67 cfs @ 12.03 hrs HW=50.76' (Free Discharge)

↑1=Culvert (Barrel Controls 2.67 cfs @ 3.61 fps)

Pond 13P: MH-J



Proposed Conditions

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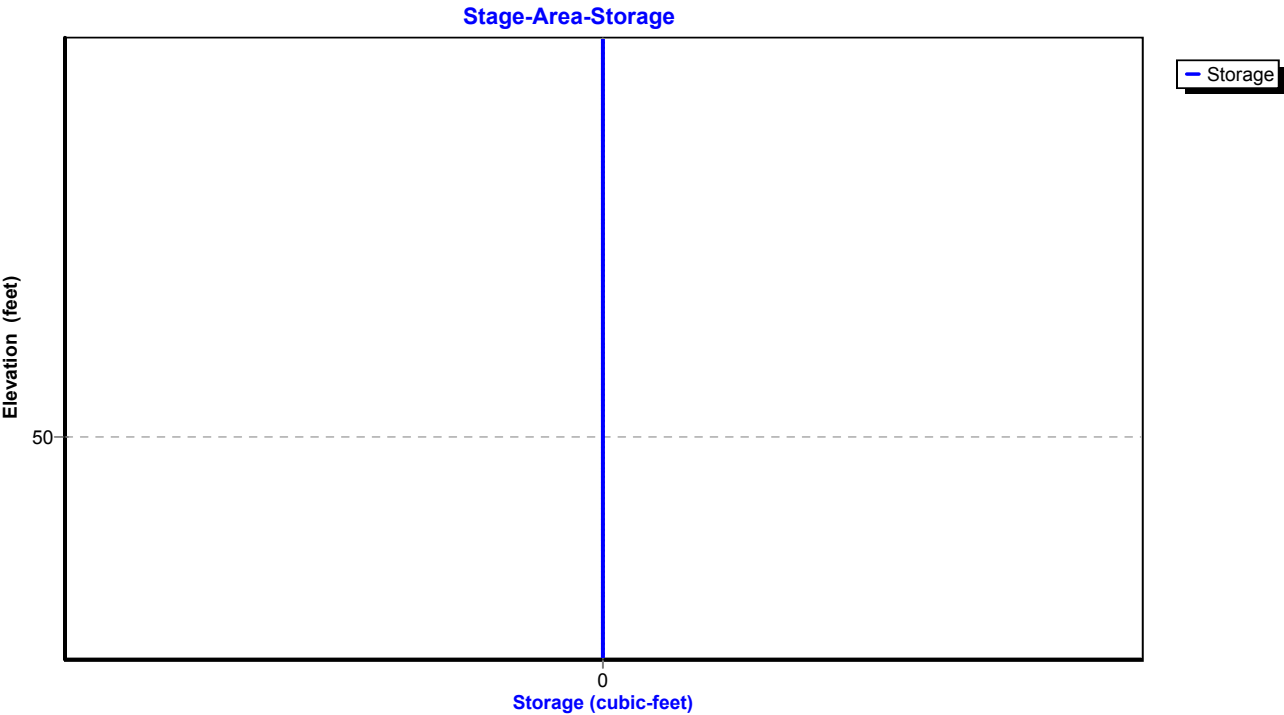
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Pond 13P: MH-J



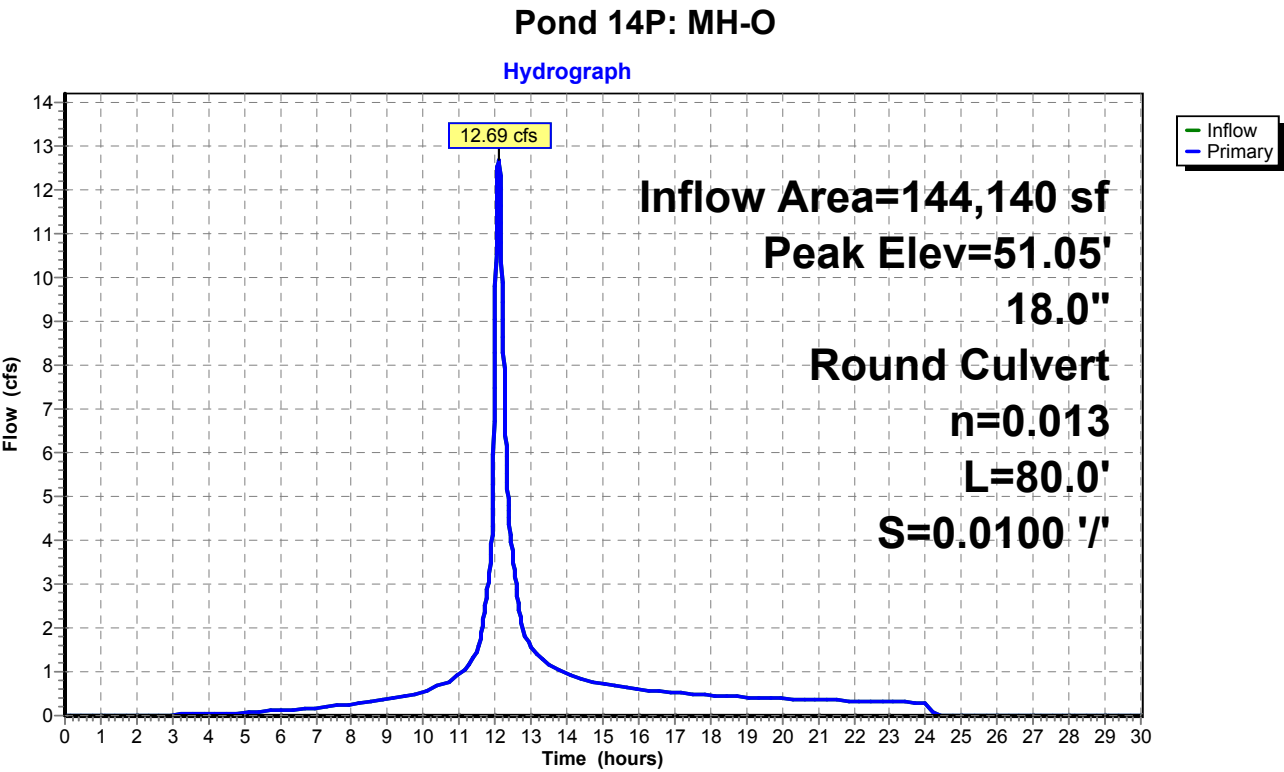
Summary for Pond 14P: MH-O

Inflow Area = 144,140 sf, 45.36% Impervious, Inflow Depth = 4.56" for 25 year event
Inflow = 12.69 cfs @ 12.10 hrs, Volume= 54,725 cf
Outflow = 12.69 cfs @ 12.10 hrs, Volume= 54,725 cf, Atten= 0%, Lag= 0.0 min
Primary = 12.69 cfs @ 12.10 hrs, Volume= 54,725 cf
Routed to Pond 9P : MH-K

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 51.05' @ 12.10 hrs
Flood Elev= 51.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.98'	18.0" Round Culvert L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.98' / 47.18' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=12.68 cfs @ 12.10 hrs HW=51.05' (Free Discharge)
1=Culvert (Barrel Controls 12.68 cfs @ 7.18 fps)



Proposed Conditions

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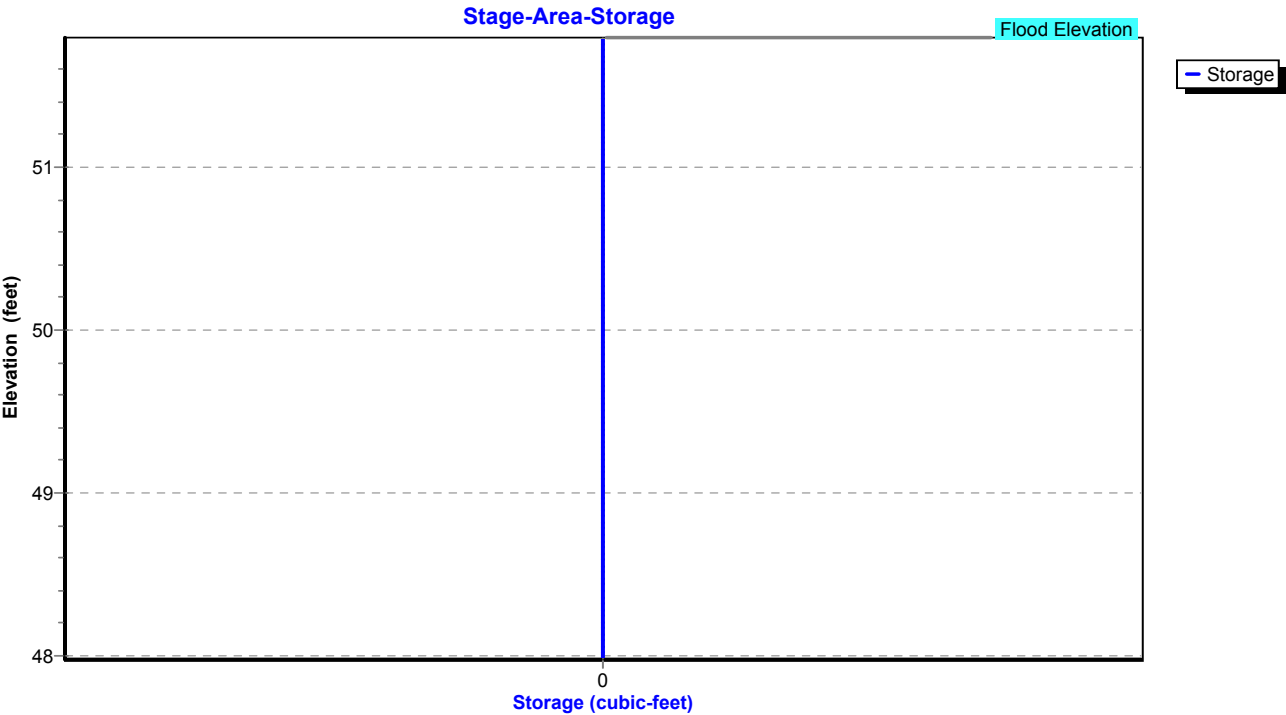
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Pond 14P: MH-O



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Summary for Pond 15P: MH-P

Inflow Area = 126,542 sf, 40.90% Impervious, Inflow Depth = 4.40" for 25 year event
Inflow = 11.27 cfs @ 12.11 hrs, Volume= 46,408 cf
Outflow = 11.27 cfs @ 12.11 hrs, Volume= 46,408 cf, Atten= 0%, Lag= 0.0 min
Primary = 11.27 cfs @ 12.11 hrs, Volume= 46,408 cf
Routed to Pond 14P : MH-O

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 52.33' @ 12.11 hrs

Flood Elev= 53.90'

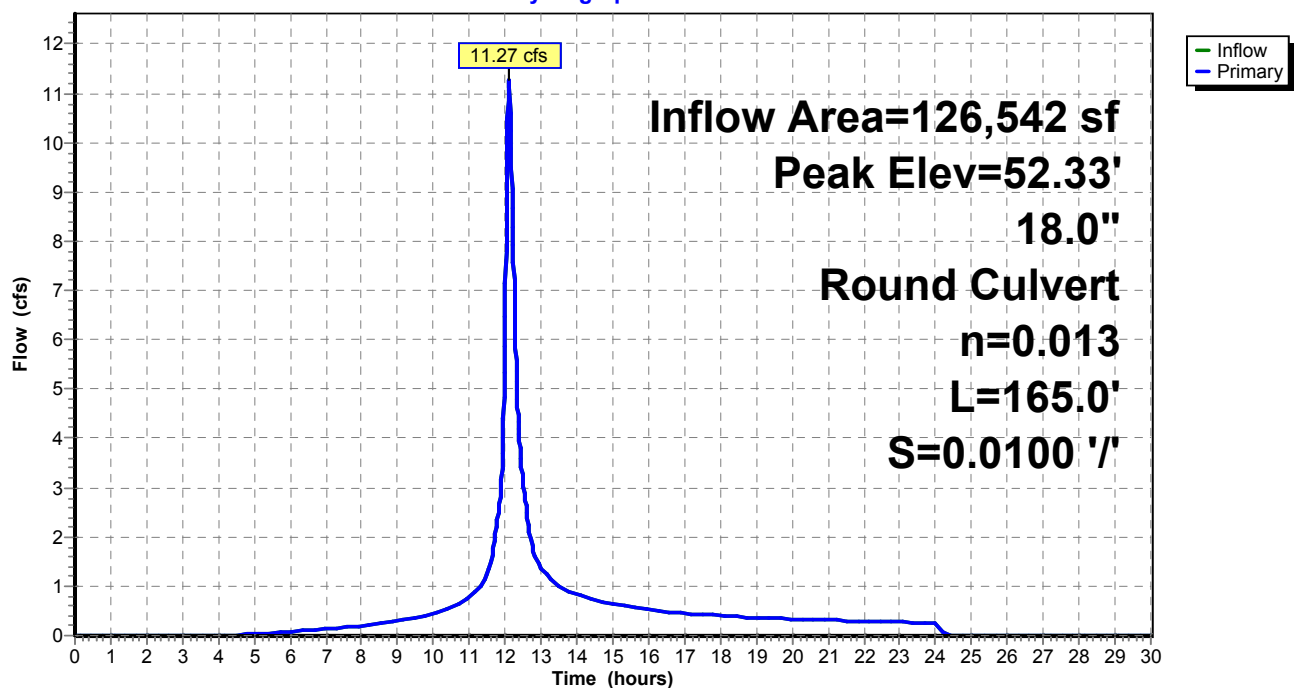
Device	Routing	Invert	Outlet Devices
#1	Primary	49.63'	18.0" Round Culvert L= 165.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.63' / 47.98' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=11.26 cfs @ 12.11 hrs HW=52.33' (Free Discharge)

↑1=Culvert (Barrel Controls 11.26 cfs @ 6.37 fps)

Pond 15P: MH-P

Hydrograph



Proposed Conditions

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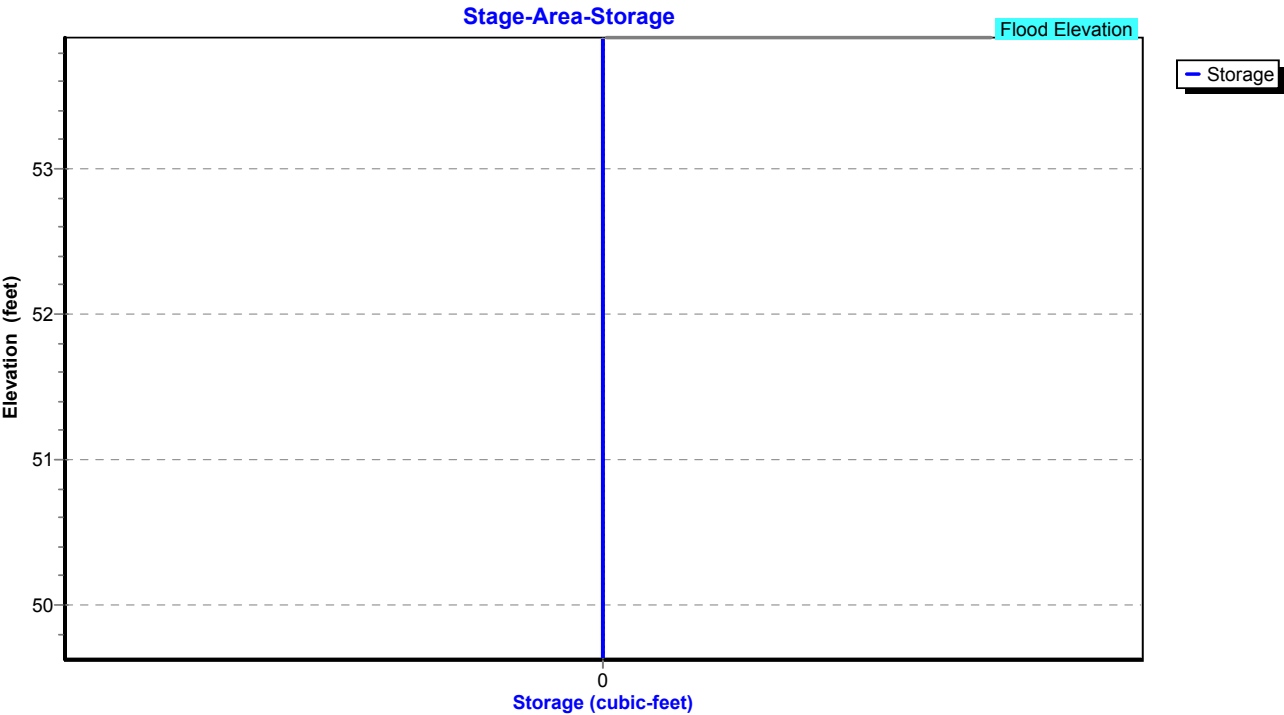
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Pond 15P: MH-P



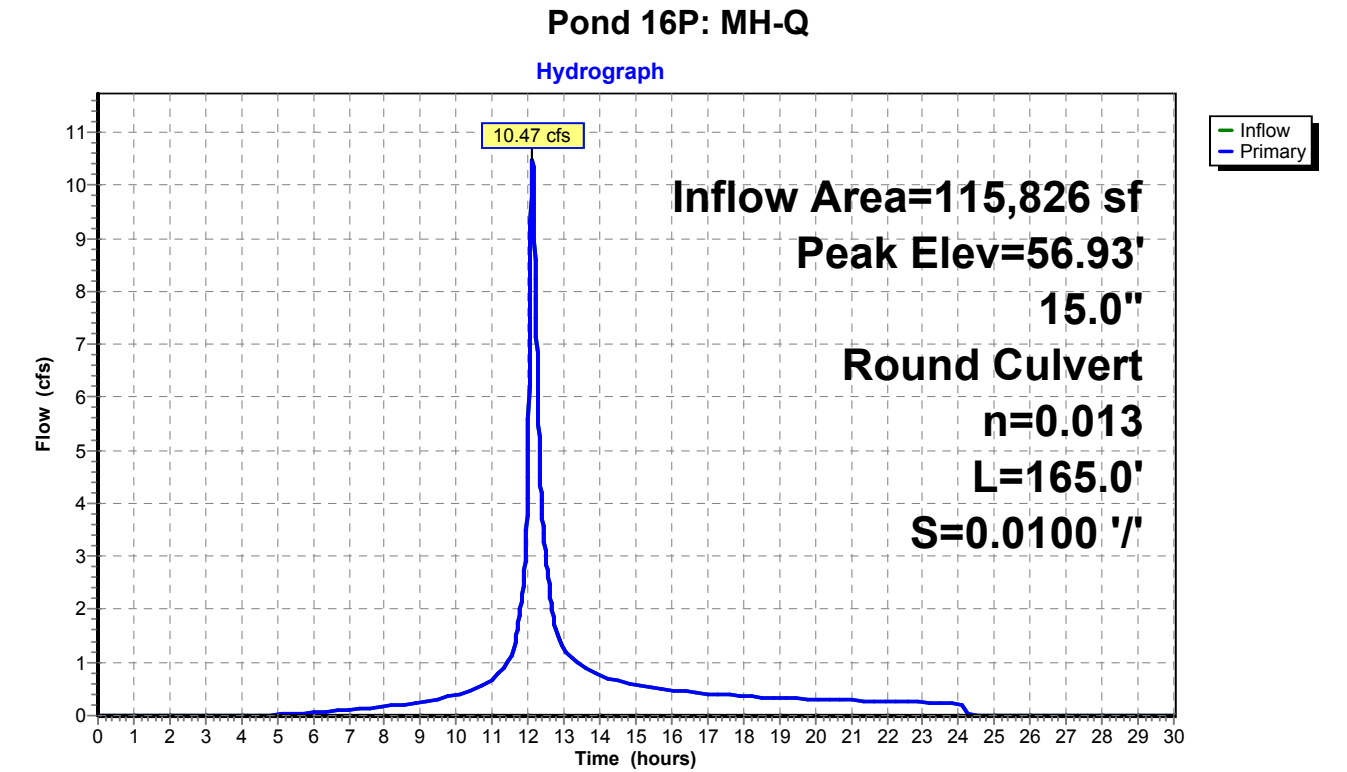
Summary for Pond 16P: MH-Q

Inflow Area = 115,826 sf, 38.74% Impervious, Inflow Depth = 4.32" for 25 year event
Inflow = 10.47 cfs @ 12.12 hrs, Volume= 41,732 cf
Outflow = 10.47 cfs @ 12.12 hrs, Volume= 41,732 cf, Atten= 0%, Lag= 0.0 min
Primary = 10.47 cfs @ 12.12 hrs, Volume= 41,732 cf
Routed to Pond 15P : MH-P

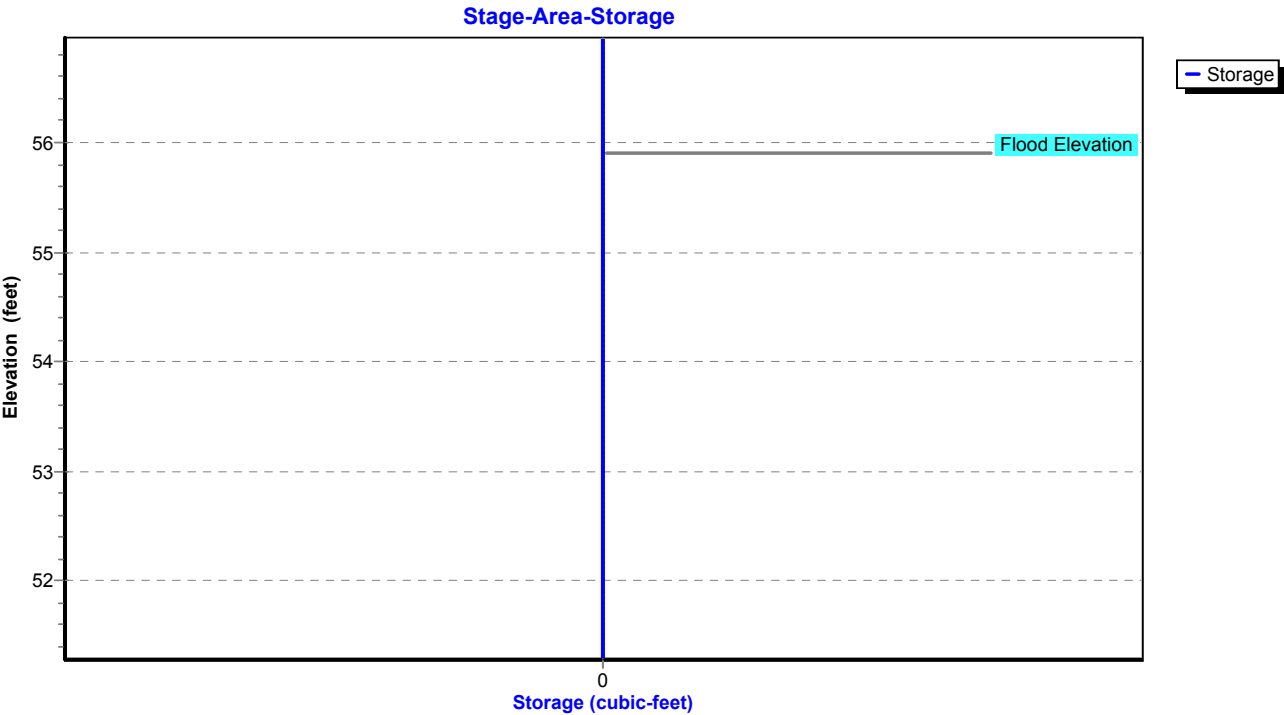
Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 56.93' @ 12.12 hrs
Flood Elev= 55.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.28'	15.0" Round Culvert L= 165.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 51.28' / 49.63' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=10.46 cfs @ 12.12 hrs HW=56.92' (Free Discharge)
1=Culvert (Barrel Controls 10.46 cfs @ 8.53 fps)



Pond 16P: MH-Q



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Summary for Pond 17P: DET 12 Culvert

Inflow Area = 2,935,247 sf, 23.28% Impervious, Inflow Depth = 3.59" for 25 year event
 Inflow = 69.40 cfs @ 13.09 hrs, Volume= 879,283 cf
 Outflow = 69.26 cfs @ 13.13 hrs, Volume= 879,283 cf, Atten= 0%, Lag= 2.1 min
 Primary = 69.26 cfs @ 13.13 hrs, Volume= 879,283 cf
 Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 46.88' @ 13.13 hrs Surf.Area= 4,315 sf Storage= 6,218 cf

Plug-Flow detention time= 1.6 min calculated for 879,283 cf (100% of inflow)
 Center-of-Mass det. time= 1.6 min (913.1 - 911.5)

Volume	Invert	Avail.Storage	Storage Description
#1	43.80'	45,995 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
43.80	222	0	0
44.00	709	93	93
45.00	1,401	1,055	1,148
46.00	2,634	2,018	3,166
47.00	4,548	3,591	6,757
48.00	6,960	5,754	12,511
49.00	9,390	8,175	20,686
50.00	12,553	10,972	31,657
51.00	16,122	14,338	45,995

Device	Routing	Invert	Outlet Devices
#1	Primary	43.80'	54.0" Round Culvert L= 281.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 43.80' / 23.20' S= 0.0733 ' / Cc= 0.900 n= 0.013, Flow Area= 15.90 sf

Primary OutFlow Max=69.26 cfs @ 13.13 hrs HW=46.88' (Free Discharge)
 ↑**1=Culvert** (Inlet Controls 69.26 cfs @ 5.97 fps)

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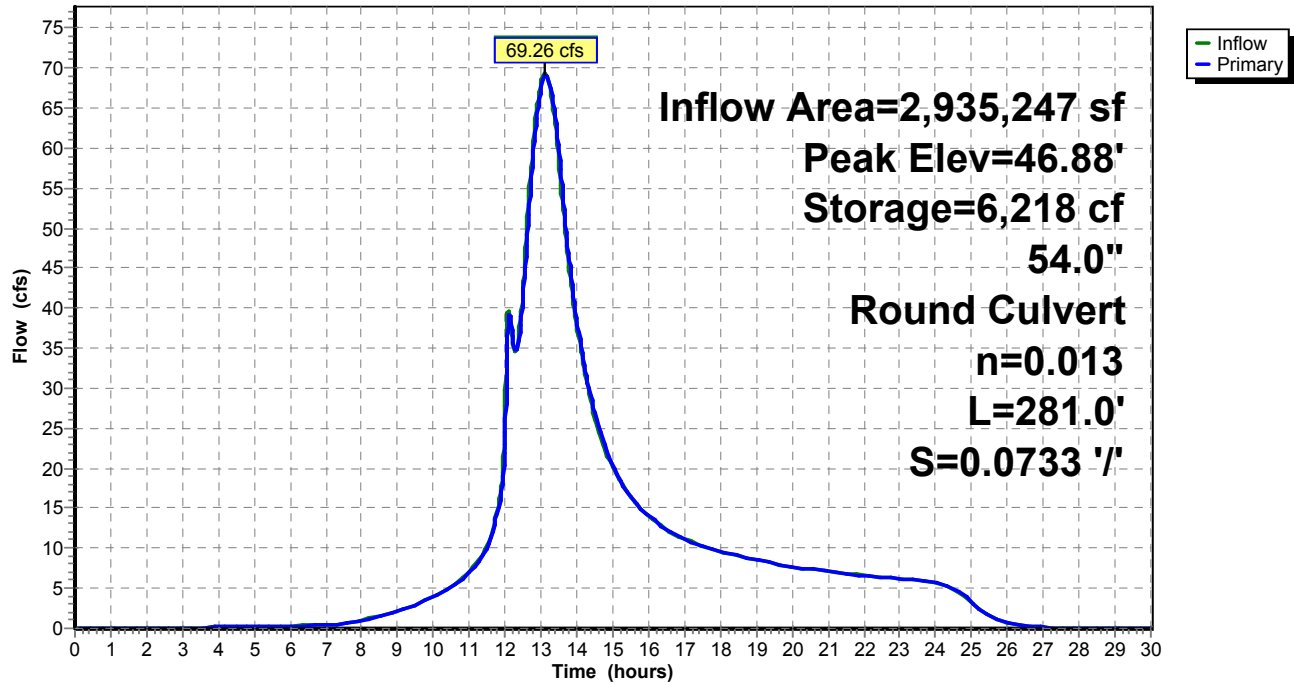
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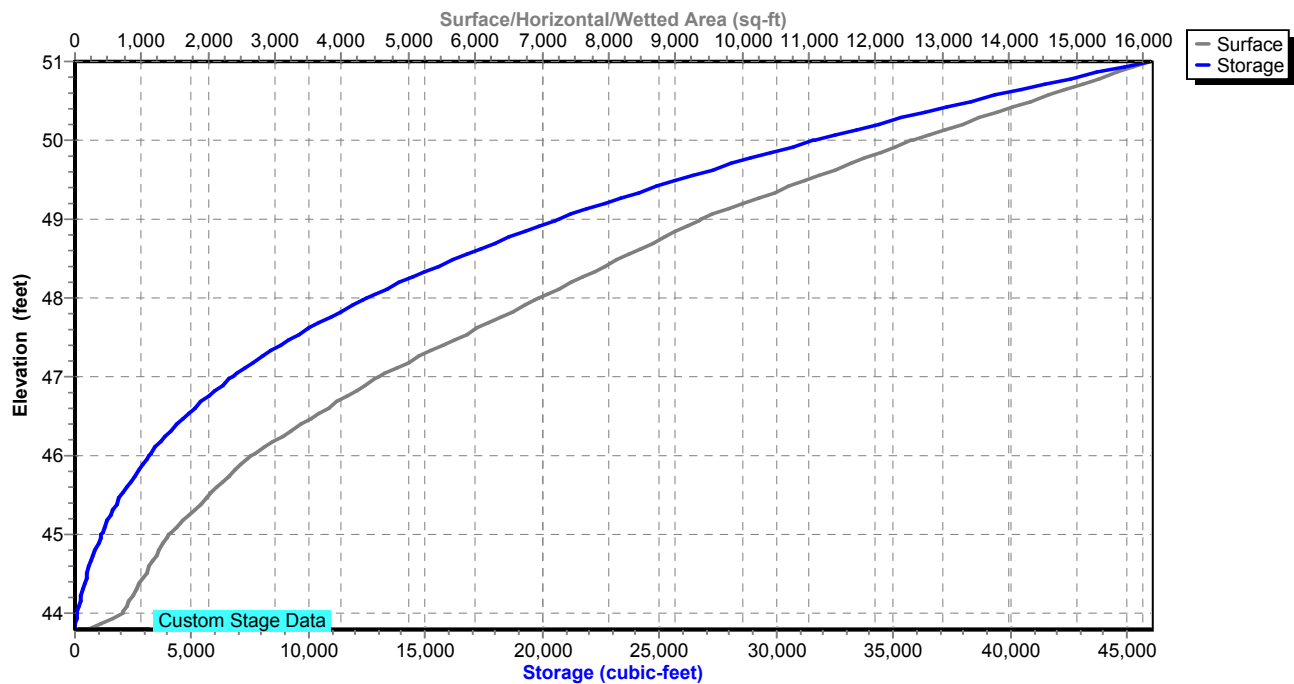
Pond 17P: DET 12 Culvert

Hydrograph



Pond 17P: DET 12 Culvert

Stage-Area-Storage



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Summary for Pond 18P: DET 4 Culvert

Inflow Area = 2,651,933 sf, 21.42% Impervious, Inflow Depth = 3.49" for 25 year event
 Inflow = 66.85 cfs @ 13.07 hrs, Volume= 771,480 cf
 Outflow = 66.55 cfs @ 13.10 hrs, Volume= 771,480 cf, Atten= 0%, Lag= 2.1 min
 Primary = 66.55 cfs @ 13.10 hrs, Volume= 771,480 cf
 Routed to Pond 17P : DET 12 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 67.32' @ 13.10 hrs Surf.Area= 1,191 sf Storage= 2,181 cf

Plug-Flow detention time= 0.2 min calculated for 771,480 cf (100% of inflow)
 Center-of-Mass det. time= 0.2 min (925.0 - 924.8)

Volume	Invert	Avail.Storage	Storage Description
#1	62.00'	13,716 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.00	10	0	0
65.00	292	453	453
66.00	695	494	947
67.00	1,049	872	1,819
68.00	1,488	1,269	3,087
69.00	2,004	1,746	4,833
70.00	2,550	2,277	7,110
71.00	3,178	2,864	9,974
72.00	4,305	3,742	13,716

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	36.0" Round Culvert L= 213.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 62.00' / 50.90' S= 0.0521 ' / S= 0.0521 ' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=66.55 cfs @ 13.10 hrs HW=67.32' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 66.55 cfs @ 9.42 fps)

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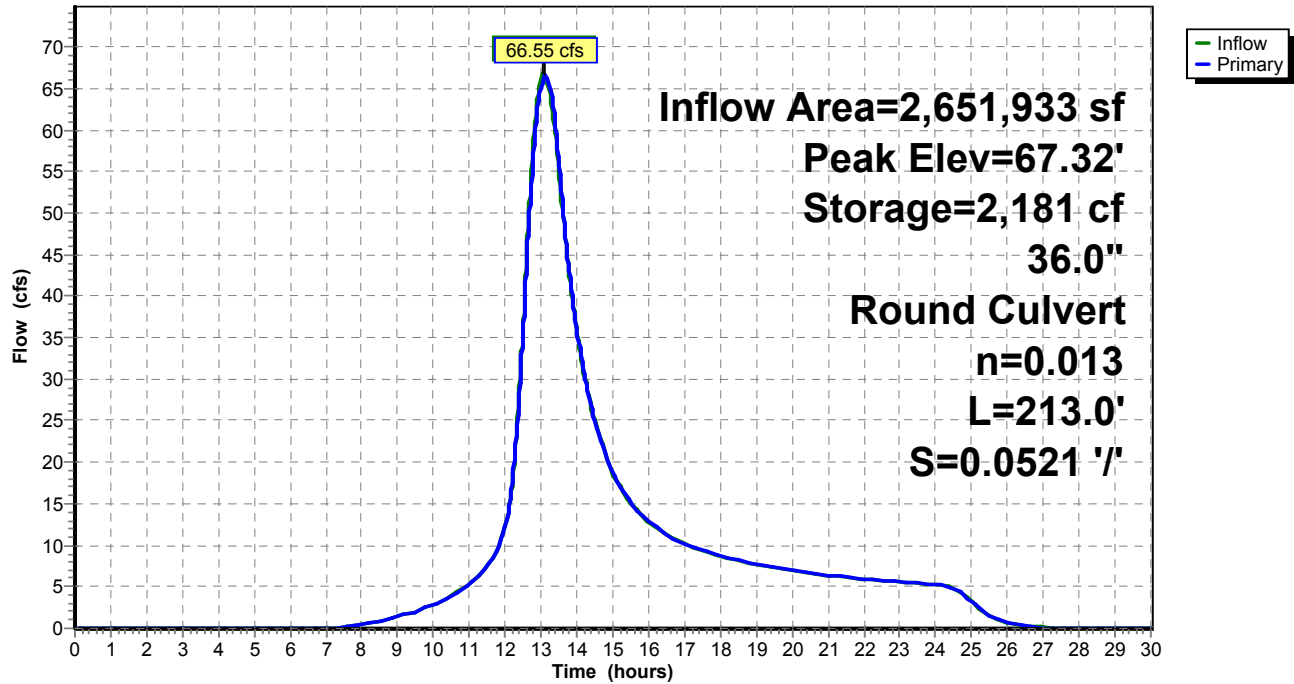
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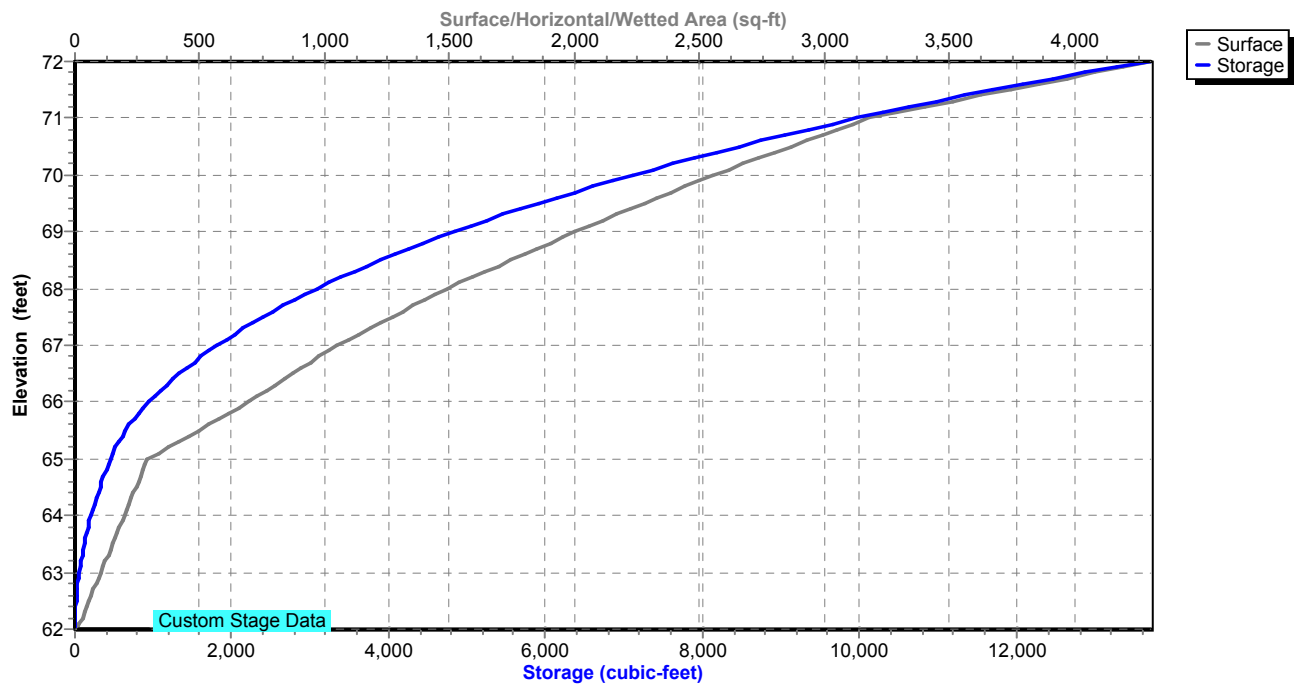
Pond 18P: DET 4 Culvert

Hydrograph



Pond 18P: DET 4 Culvert

Stage-Area-Storage



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Summary for Pond 20P: ADS Stormtech (160LP)

Inflow Area = 4,966 sf, 80.70% Impervious, Inflow Depth = 5.77" for 25 year event
 Inflow = 0.79 cfs @ 12.03 hrs, Volume= 2,389 cf
 Outflow = 0.53 cfs @ 12.08 hrs, Volume= 2,320 cf, Atten= 33%, Lag= 3.2 min
 Primary = 0.53 cfs @ 12.08 hrs, Volume= 2,320 cf
 Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 74.79' @ 12.08 hrs Surf.Area= 365 sf Storage= 343 cf

Plug-Flow detention time= 47.8 min calculated for 2,320 cf (97% of inflow)
 Center-of-Mass det. time= 29.2 min (800.4 - 771.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	73.00'	227 cf	14.50'W x 23.83'L x 2.00'H Field A 691 cf Overall - 123 cf Embedded = 568 cf x 40.0% Voids
#2A	73.50'	123 cf	ADS_StormTech SC-160LP +Cap x 18 Inside #1 Effective Size= 18.0"W x 12.0"H => 0.96 sf x 7.12'L = 6.8 cf Overall Size= 25.0"W x 12.0"H x 7.56'L with 0.44' Overlap 18 Chambers in 6 Rows
#3	73.50'	22 cf	5.00'D x 1.10'H OCS
		372 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	73.50'	12.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 73.50' / 73.00' S= 0.0313 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	74.40'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 2.75 2.75 Width (feet) 0.33 0.33 5.00
#3	Device 1	73.00'	3.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.53 cfs @ 12.08 hrs HW=74.79' (Free Discharge)

- 1=Culvert (Passes 0.53 cfs of 3.36 cfs potential flow)
- 2=Custom Weir/Orifice (Weir Controls 0.26 cfs @ 2.04 fps)
- 3=Orifice/Grate (Orifice Controls 0.27 cfs @ 5.47 fps)

Proposed Conditions

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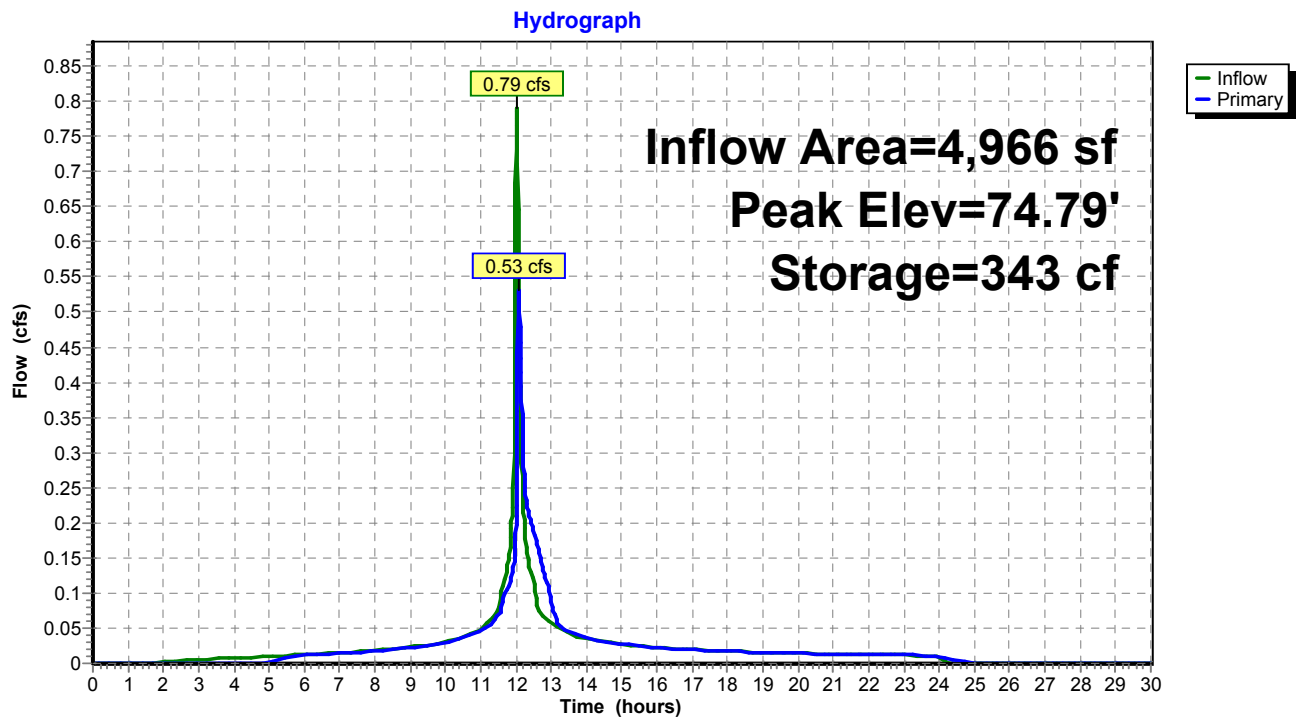
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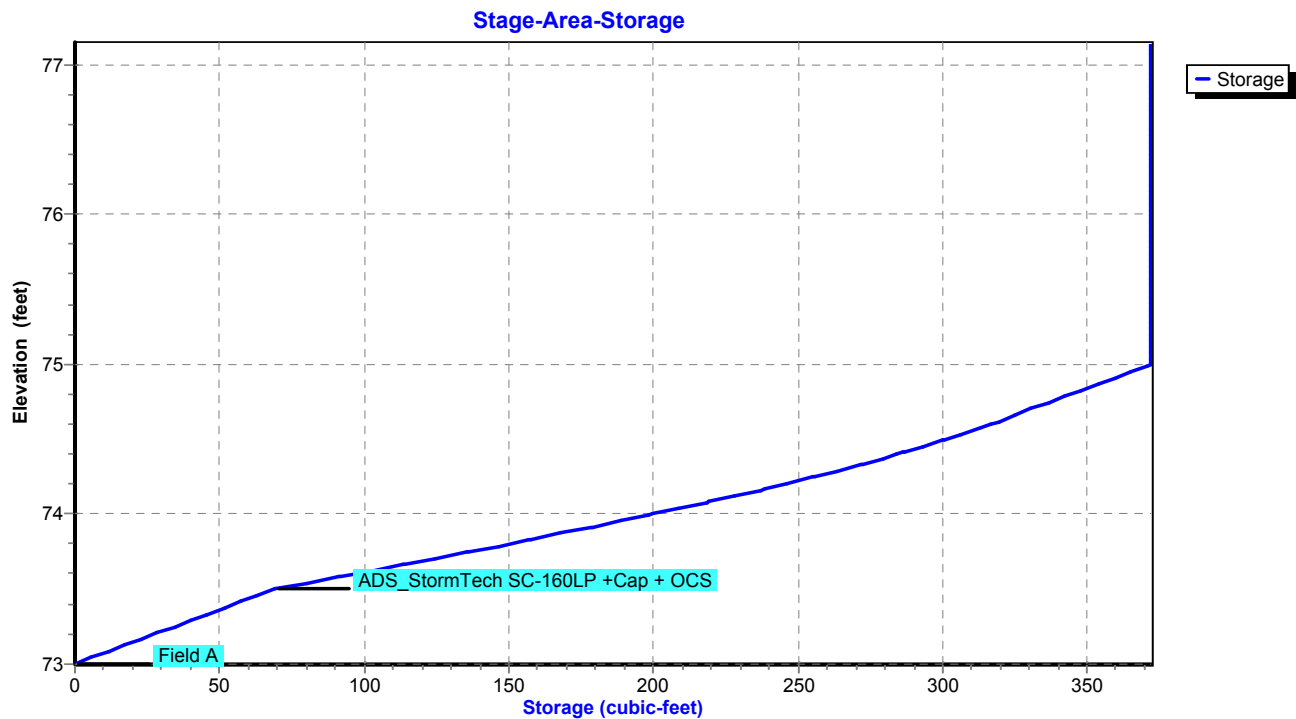
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Pond 20P: ADS Stormtech (160LP)



Pond 20P: ADS Stormtech (160LP)



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Summary for Pond 21P: DET 1 Culvert

Inflow Area = 533,174 sf, 25.00% Impervious, Inflow Depth = 3.49" for 25 year event
 Inflow = 19.84 cfs @ 12.52 hrs, Volume= 155,107 cf
 Outflow = 19.57 cfs @ 12.60 hrs, Volume= 155,107 cf, Atten= 1%, Lag= 4.5 min
 Primary = 19.57 cfs @ 12.60 hrs, Volume= 155,107 cf
 Routed to Pond 27P : DET 17 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 39.67' @ 12.60 hrs Surf.Area= 1,331 sf Storage= 1,087 cf

Plug-Flow detention time= 0.6 min calculated for 155,055 cf (100% of inflow)
 Center-of-Mass det. time= 0.6 min (888.3 - 887.8)

Volume	Invert	Avail.Storage	Storage Description
#1	37.00'	1,591 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
37.00	66	0	0
38.00	213	140	140
39.00	470	342	481
40.00	1,750	1,110	1,591

Device	Routing	Invert	Outlet Devices
#1	Primary	37.00'	24.0" Round Culvert L= 206.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 37.00' / 27.01' S= 0.0485 ' S= 0.0485 ' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=19.56 cfs @ 12.60 hrs HW=39.67' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 19.56 cfs @ 6.23 fps)

Proposed Conditions

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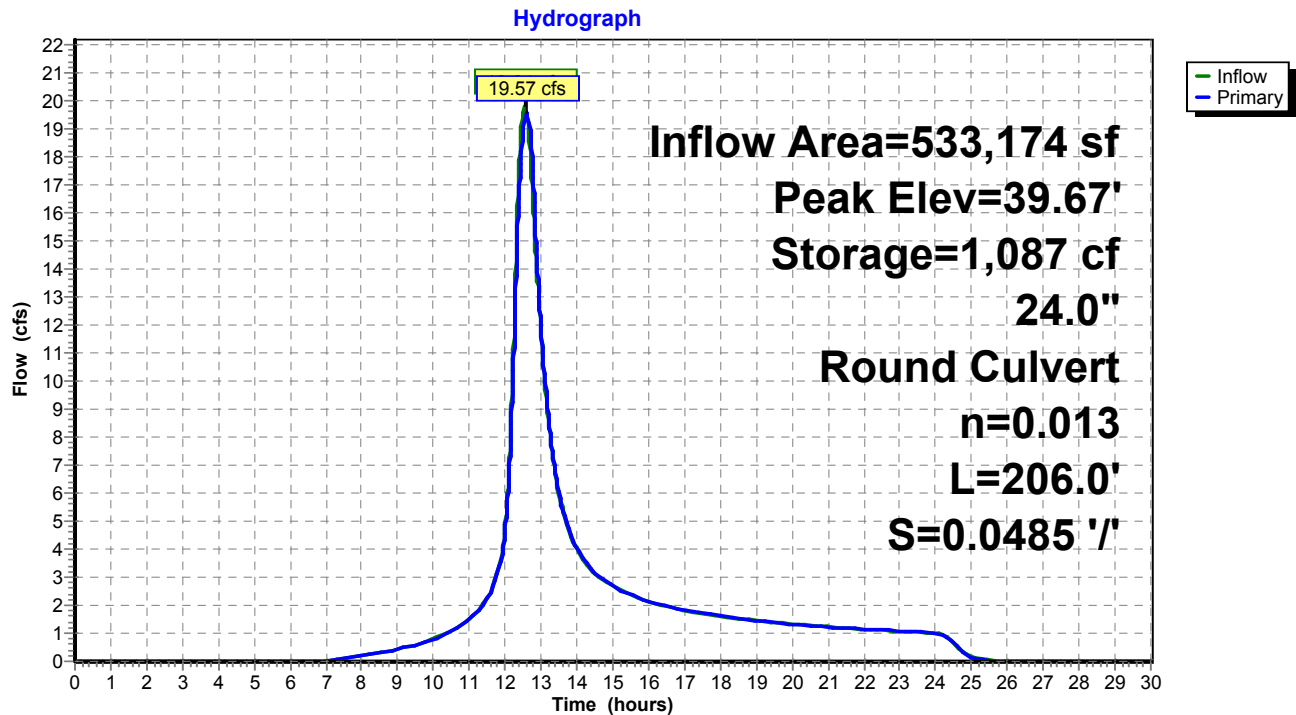
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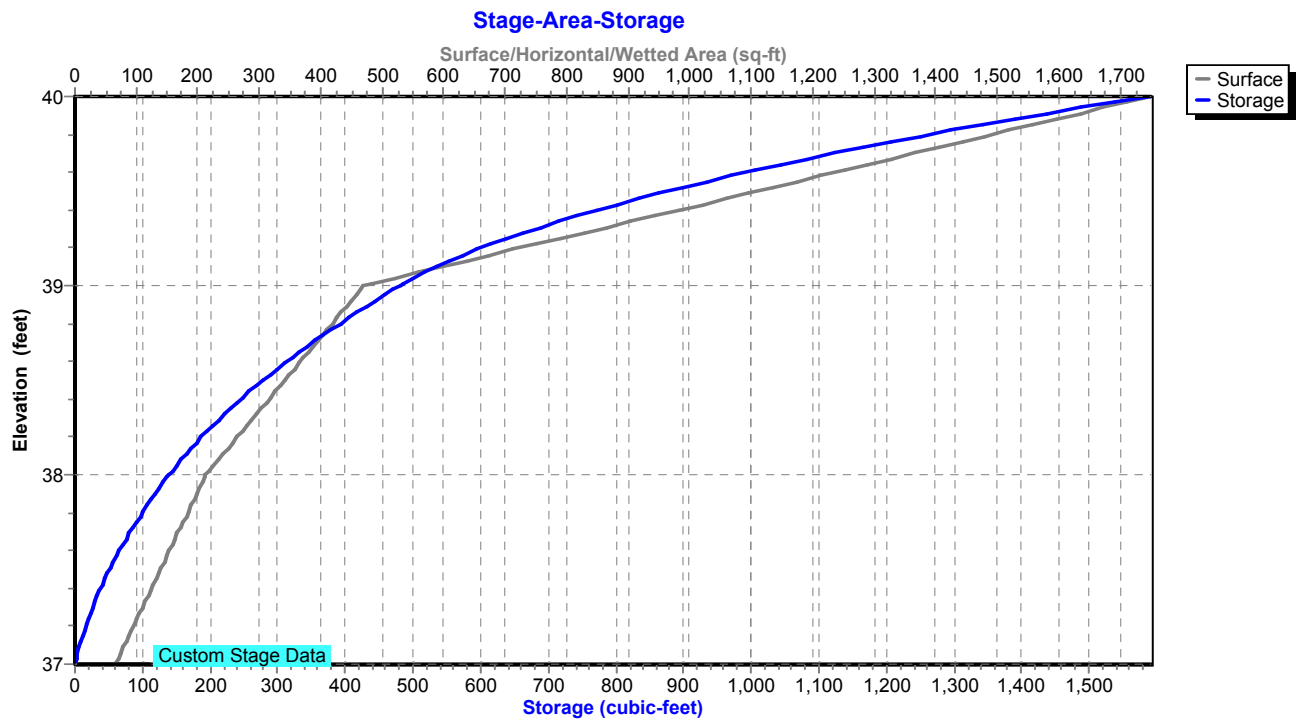
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Pond 21P: DET 1 Culvert



Pond 21P: DET 1 Culvert



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Summary for Pond 22P: DET 2 Culvert

Inflow Area = 1,290,247 sf, 25.00% Impervious, Inflow Depth = 4.01" for 25 year event
 Inflow = 45.86 cfs @ 12.74 hrs, Volume= 430,725 cf
 Outflow = 39.05 cfs @ 13.02 hrs, Volume= 430,725 cf, Atten= 15%, Lag= 17.0 min
 Primary = 39.05 cfs @ 13.02 hrs, Volume= 430,725 cf
 Routed to Pond 27P : DET 17 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 38.78' @ 13.02 hrs Surf.Area= 14,427 sf Storage= 24,760 cf

Plug-Flow detention time= 5.4 min calculated for 430,725 cf (100% of inflow)
 Center-of-Mass det. time= 5.4 min (891.8 - 886.5)

Volume	Invert	Avail.Storage	Storage Description
#1	34.80'	46,687 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.80	185	0	0
35.00	813	100	100
36.00	2,345	1,579	1,679
37.00	6,398	4,372	6,050
38.00	11,111	8,755	14,805
39.00	15,364	13,238	28,042
40.00	21,926	18,645	46,687

Device	Routing	Invert	Outlet Devices
#1	Primary	34.80'	30.0" Round Culvert L= 198.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.80' / 28.07' S= 0.0340 ' / Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=39.05 cfs @ 13.02 hrs HW=38.78' (Free Discharge)
 ↑**1=Culvert** (Inlet Controls 39.05 cfs @ 7.95 fps)

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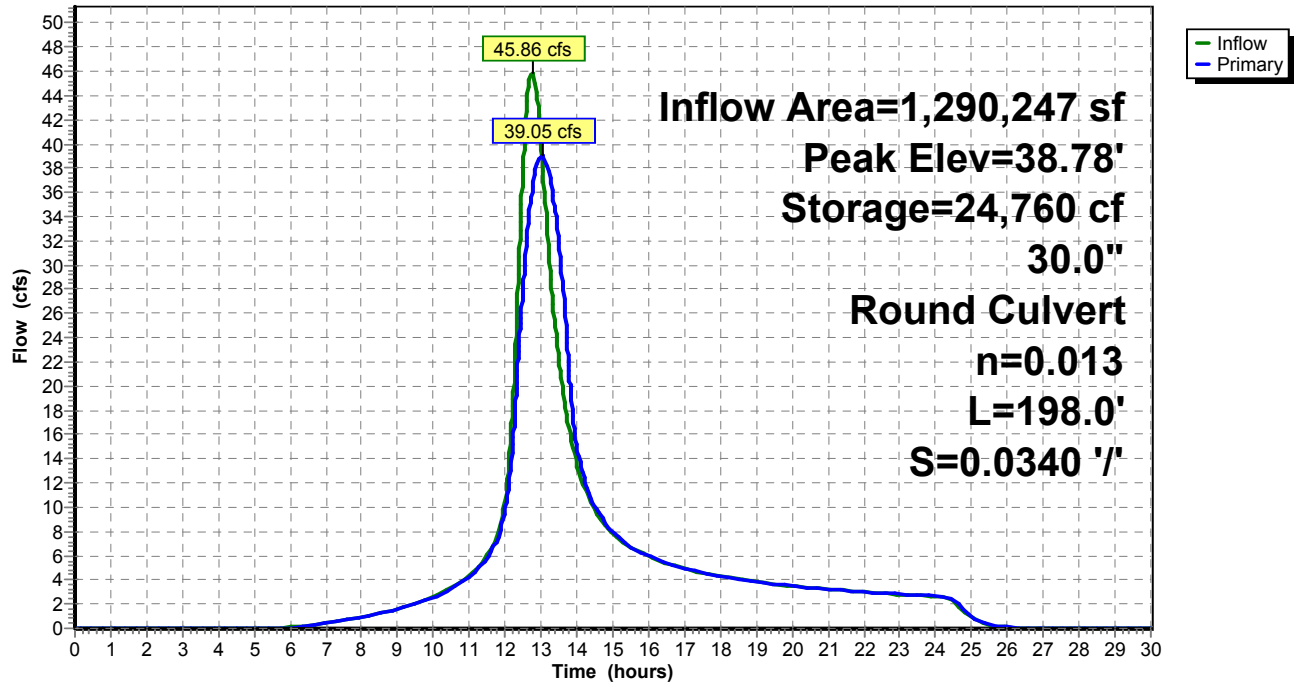
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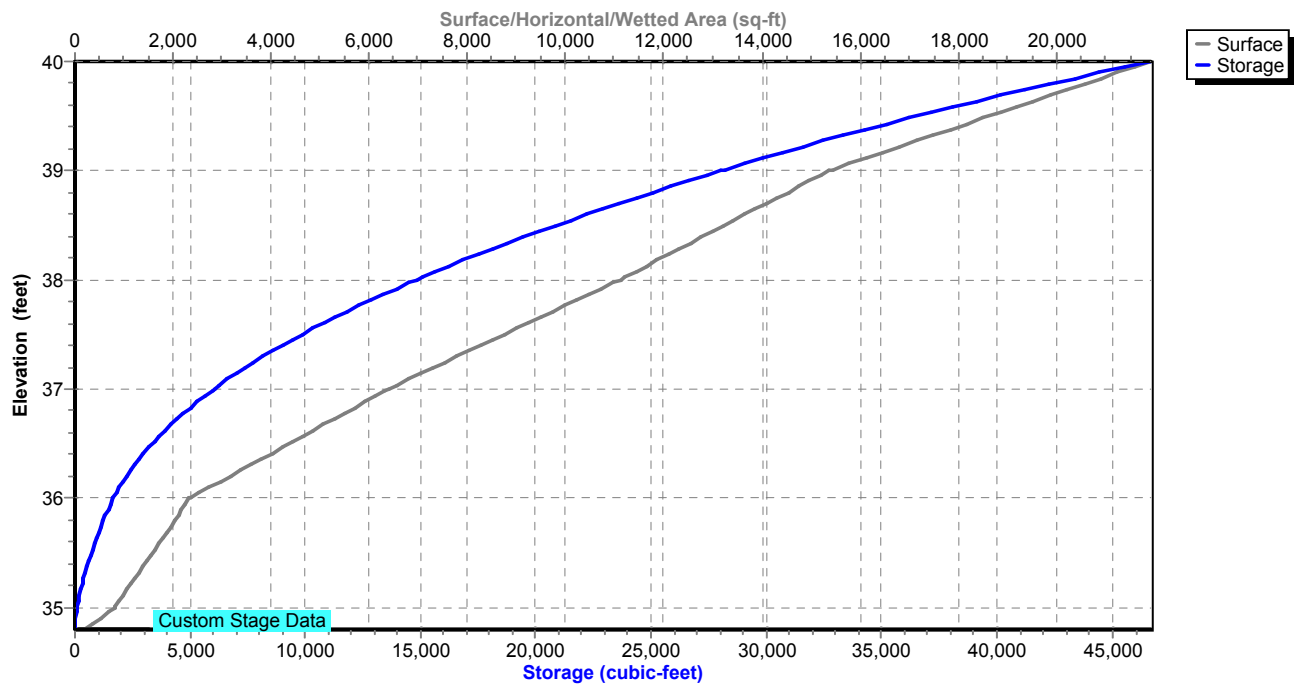
Pond 22P: DET 2 Culvert

Hydrograph



Pond 22P: DET 2 Culvert

Stage-Area-Storage



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Summary for Pond 23P: DET 3 Culvert

Inflow Area = 276,170 sf, 25.00% Impervious, Inflow Depth = 3.59" for 25 year event
 Inflow = 16.57 cfs @ 12.22 hrs, Volume= 82,678 cf
 Outflow = 16.10 cfs @ 12.25 hrs, Volume= 82,678 cf, Atten= 3%, Lag= 2.1 min
 Primary = 16.10 cfs @ 12.25 hrs, Volume= 82,678 cf
 Routed to Pond 26P : DET 16 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 44.63' @ 12.25 hrs Surf.Area= 1,227 sf Storage= 1,006 cf

Plug-Flow detention time= 0.7 min calculated for 82,651 cf (100% of inflow)
 Center-of-Mass det. time= 0.7 min (862.8 - 862.1)

Volume	Invert	Avail.Storage	Storage Description
#1	42.50'	16,475 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
42.50	10	0	0
43.00	198	52	52
44.00	572	385	437
45.00	1,607	1,090	1,527
46.00	3,156	2,382	3,908
47.00	5,953	4,555	8,463
48.00	10,072	8,013	16,475

Device	Routing	Invert	Outlet Devices
#1	Primary	42.50'	24.0" Round Culvert L= 202.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 42.50' / 32.20' S= 0.0510 ' / Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=16.09 cfs @ 12.25 hrs HW=44.63' (Free Discharge)
 ↑**1=Culvert** (Inlet Controls 16.09 cfs @ 5.12 fps)

Proposed Conditions

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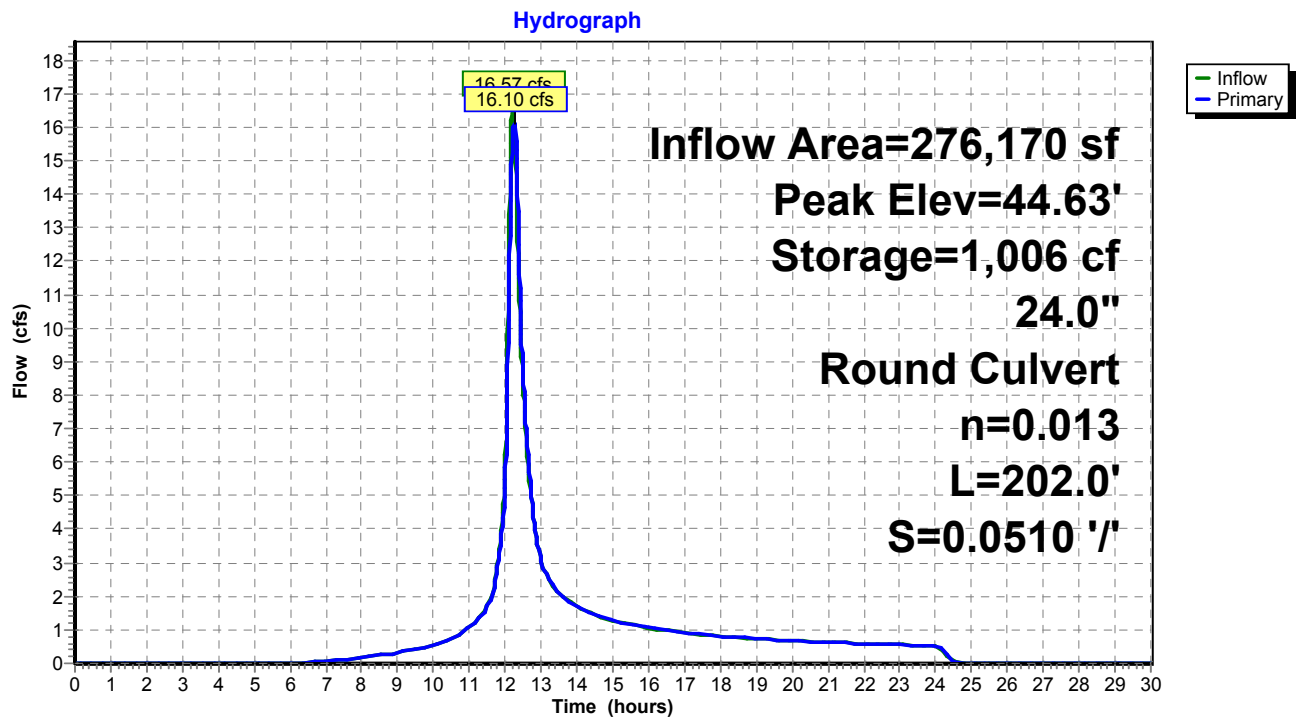
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NORWALK 24-hr S1 25 year Rainfall=6.48"

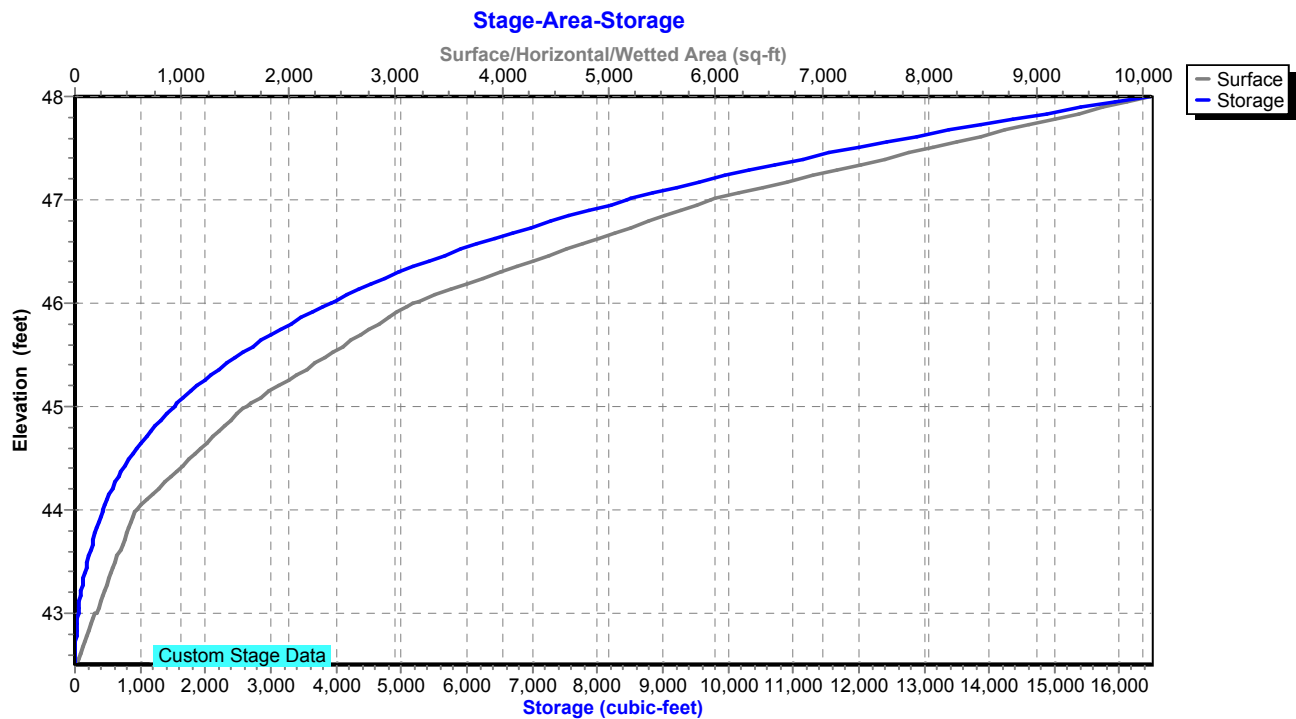
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Pond 23P: DET 3 Culvert



Pond 23P: DET 3 Culvert



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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Pond 24P: RR Culvert 3

Inflow Area = 500,940 sf, 4.78% Impervious, Inflow Depth = 33.37" for 25 year event
 Inflow = 233.21 cfs @ 12.22 hrs, Volume= 1,393,138 cf
 Outflow = 51.45 cfs @ 14.01 hrs, Volume= 1,393,192 cf, Atten= 78%, Lag= 107.3 min
 Primary = 51.45 cfs @ 14.01 hrs, Volume= 1,393,192 cf

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 13.27' @ 14.01 hrs Storage= 811,560 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 175.3 min (966.5 - 791.2)

Volume	Invert	Avail.Storage	Storage Description
#1	8.10'	2,250,385 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
8.10	0	0
9.00	9	9
10.00	148	157
11.00	64,834	64,991
12.00	244,457	309,448
13.00	383,724	693,172
14.00	435,183	1,128,355
15.00	514,834	1,643,189
16.00	607,196	2,250,385

Device	Routing	Invert	Outlet Devices
#1	Primary	8.10'	30.0" W x 42.0" H Box Culvert L= 135.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 8.10' / 7.80' S= 0.0022 ' / Cc= 0.900 n= 0.019, Flow Area= 8.75 sf

Primary OutFlow Max=51.45 cfs @ 14.01 hrs HW=13.27' (Free Discharge)

↑ **1=Culvert** (Barrel Controls 51.45 cfs @ 5.88 fps)

Proposed Conditions

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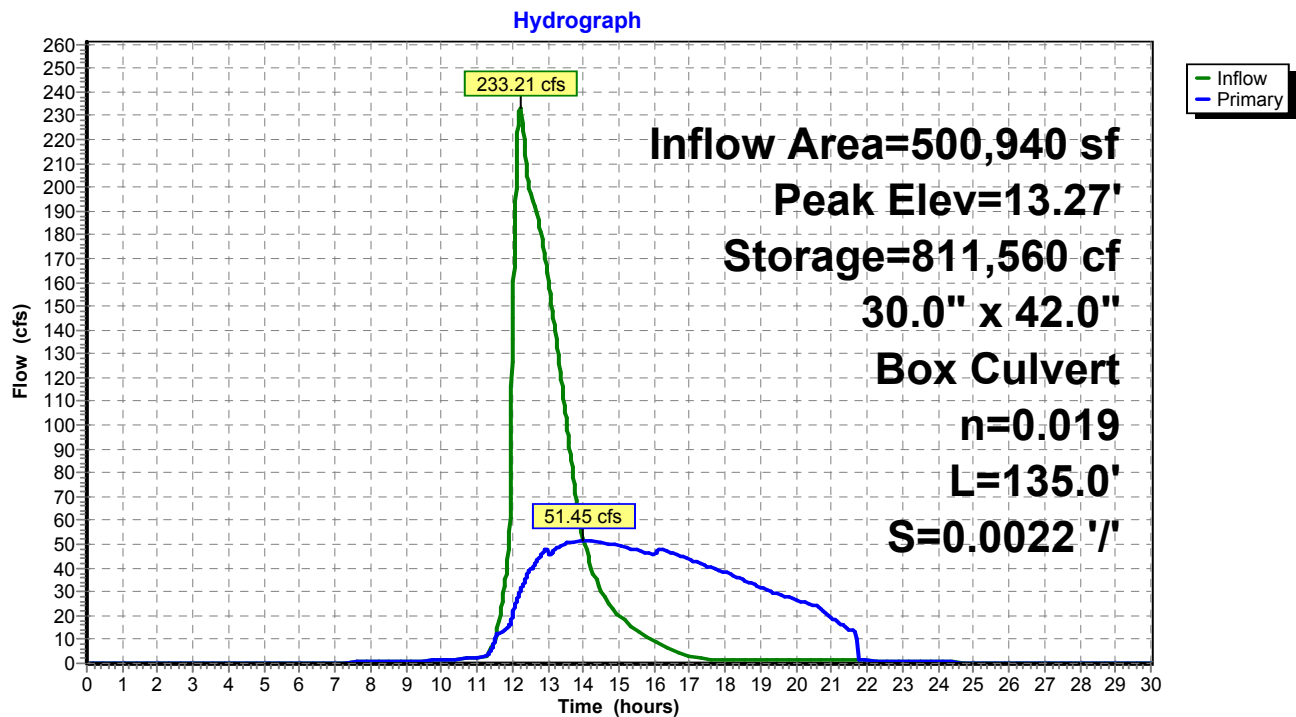
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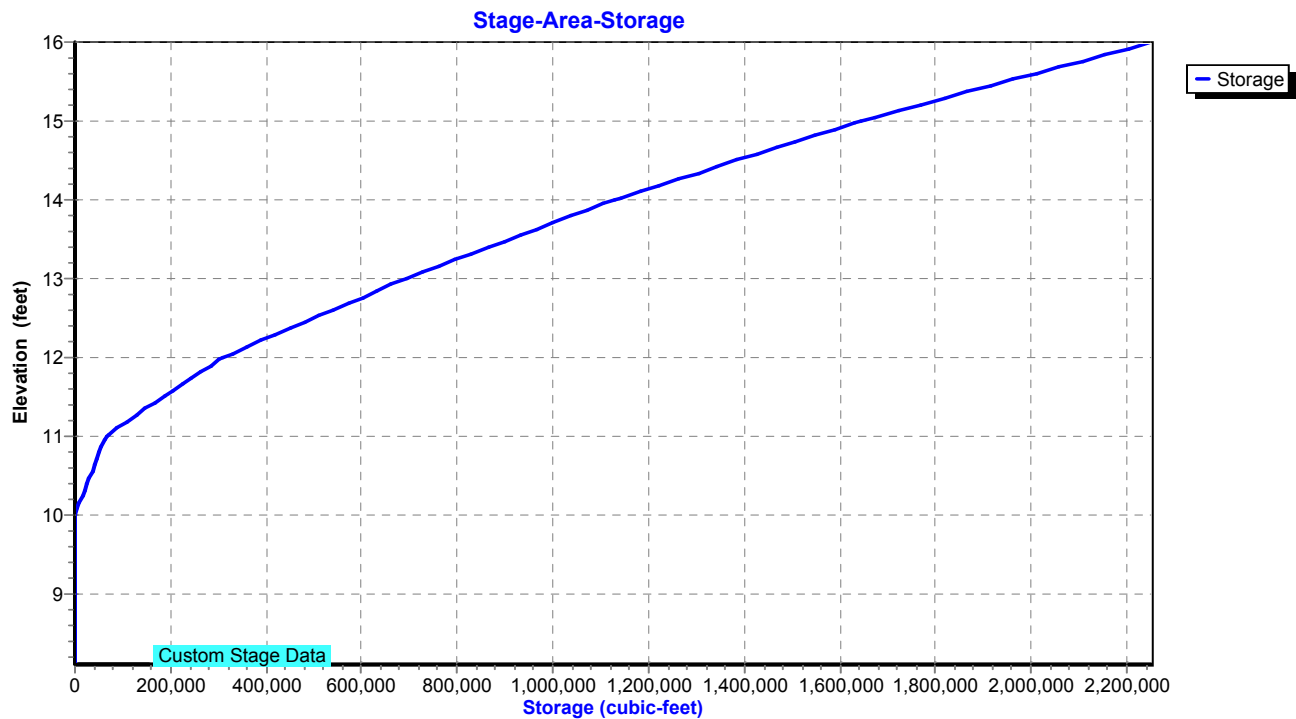
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Pond 24P: RR Culvert 3



Pond 24P: RR Culvert 3



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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Pond 26P: DET 16 Culvert

Inflow Area = 777,546 sf, 30.36% Impervious, Inflow Depth > 3.73" for 25 year event
 Inflow = 36.64 cfs @ 12.21 hrs, Volume= 241,993 cf
 Outflow = 36.63 cfs @ 12.21 hrs, Volume= 242,038 cf, Atten= 0%, Lag= 0.1 min
 Primary = 36.63 cfs @ 12.21 hrs, Volume= 242,038 cf
 Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 20.09' @ 12.21 hrs Surf.Area= 2,246 sf Storage= 2,602 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 0.7 min (889.4 - 888.8)

Volume	Invert	Avail.Storage	Storage Description
#1	17.00'	11,069 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.00	76	0	0
18.00	323	200	200
19.00	1,002	663	862
20.00	2,073	1,538	2,400
21.00	3,912	2,993	5,392
22.00	7,442	5,677	11,069

Device	Routing	Invert	Outlet Devices
#1	Primary	15.10'	15.0" Round Culvert L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 15.10' / 11.30' S= 0.0691 ' S= 0.0691 ' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Primary	20.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 Width (feet) 200.00 200.00 200.00

Primary OutFlow Max=36.33 cfs @ 12.21 hrs HW=20.09' (Free Discharge)

1=Culvert (Inlet Controls 12.35 cfs @ 10.06 fps)
 2=Custom Weir/Orifice (Weir Controls 23.98 cfs @ 1.28 fps)

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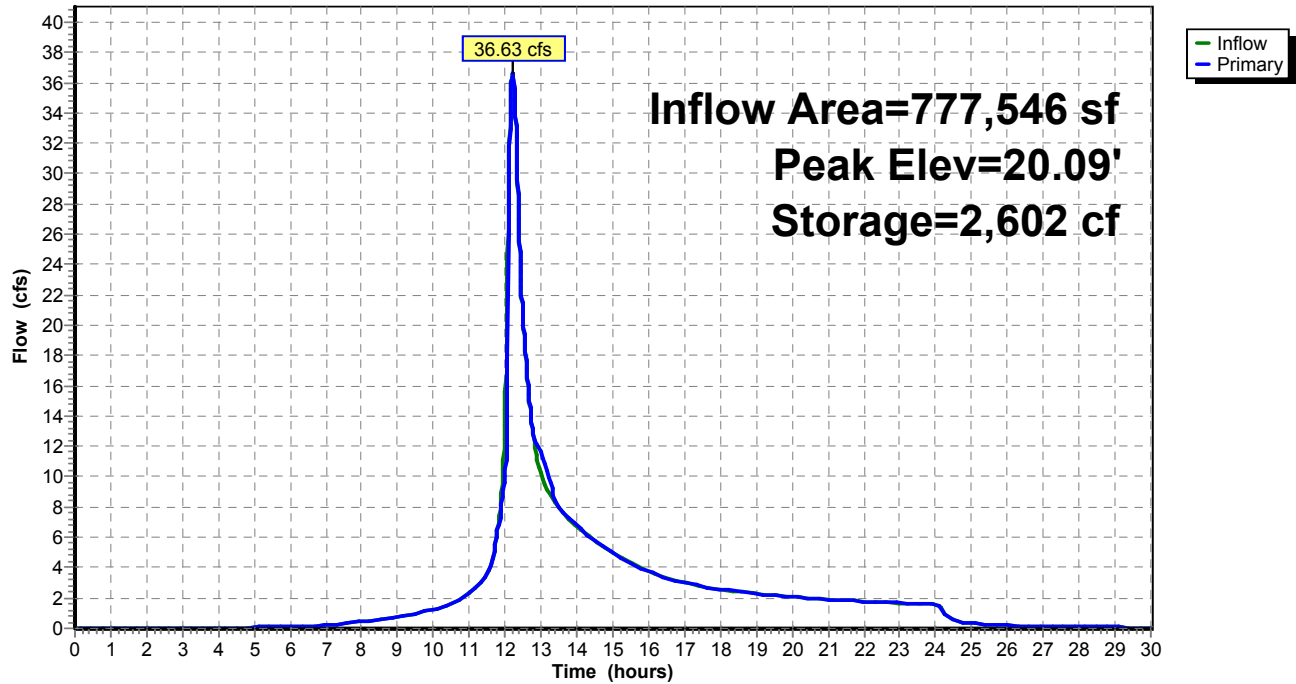
NORWALK 24-hr S1 25 year Rainfall=6.48"

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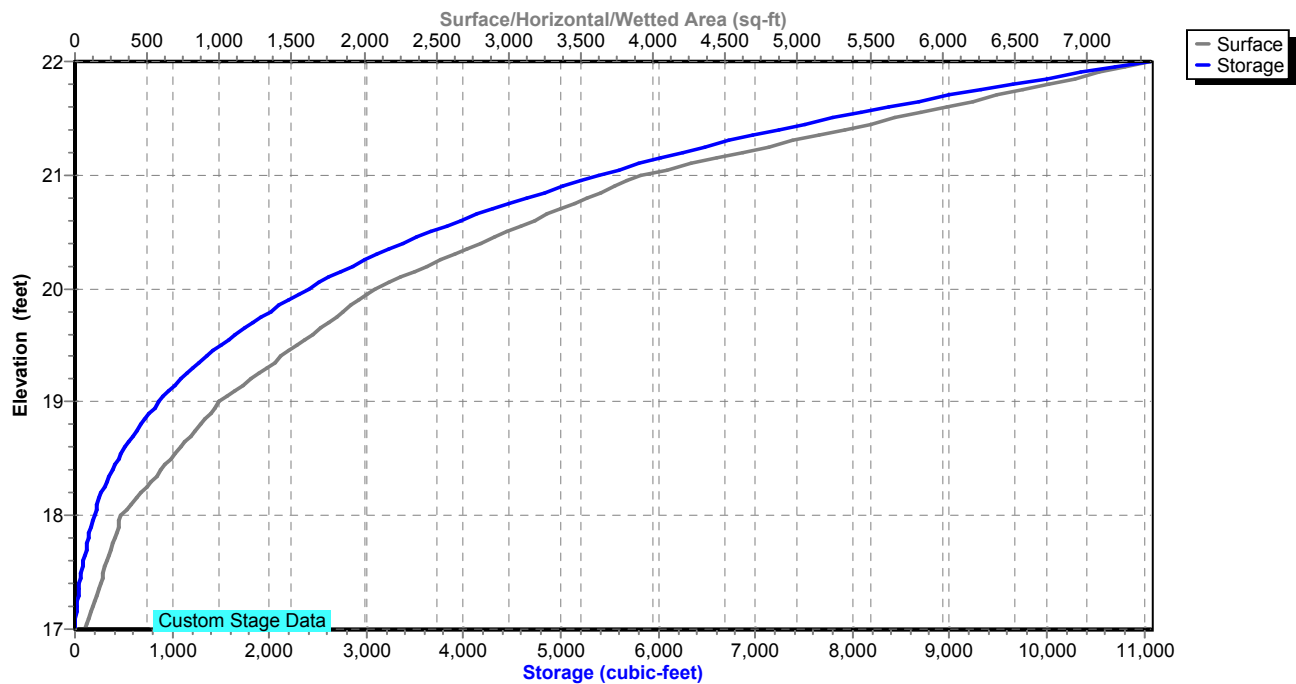
Pond 26P: DET 16 Culvert

Hydrograph



Pond 26P: DET 16 Culvert

Stage-Area-Storage



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Summary for Pond 27P: DET 17 Culvert

Inflow Area = 2,205,878 sf, 28.45% Impervious, Inflow Depth = 3.99" for 25 year event
 Inflow = 61.95 cfs @ 12.67 hrs, Volume= 733,950 cf
 Outflow = 61.94 cfs @ 12.67 hrs, Volume= 733,950 cf, Atten= 0%, Lag= 0.5 min
 Primary = 61.94 cfs @ 12.67 hrs, Volume= 733,950 cf
 Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 18.79' @ 12.67 hrs Surf.Area= 11,074 sf Storage= 10,782 cf

Plug-Flow detention time= 3.8 min calculated for 733,950 cf (100% of inflow)
 Center-of-Mass det. time= 3.8 min (879.5 - 875.8)

Volume	Invert	Avail.Storage	Storage Description
#1	16.00'	13,420 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
16.00	340	0	0
17.00	2,203	1,272	1,272
18.00	4,950	3,577	4,848
18.55	8,311	3,647	8,495
19.00	13,580	4,925	13,420

Device	Routing	Invert	Outlet Devices
#1	Primary	15.30'	18.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 15.30' / 14.90' S= 0.0100 ' / Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Primary	18.55'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 3.00 Width (feet) 100.00 100.00 100.00 100.00

Primary OutFlow Max=61.78 cfs @ 12.67 hrs HW=18.79' (Free Discharge)

1=Culvert (Inlet Controls 14.07 cfs @ 7.96 fps)

2=Custom Weir/Orifice (Weir Controls 47.71 cfs @ 2.02 fps)

Proposed Conditions

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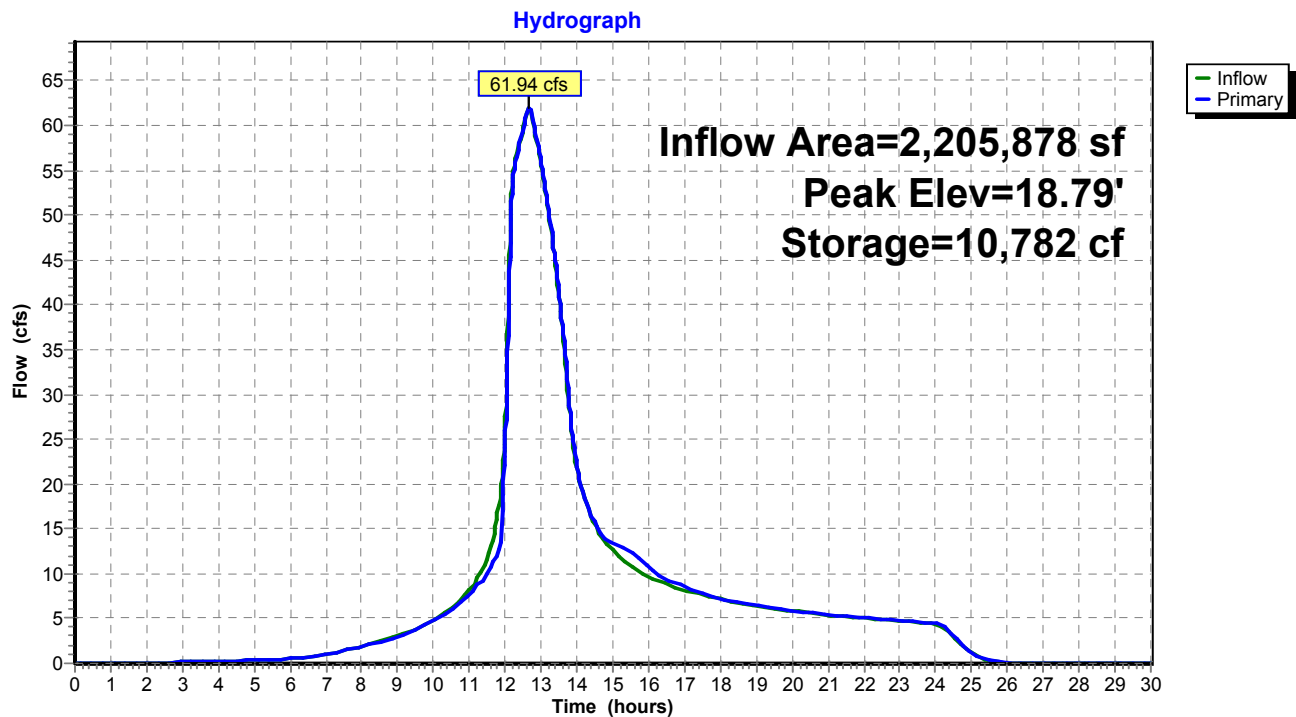
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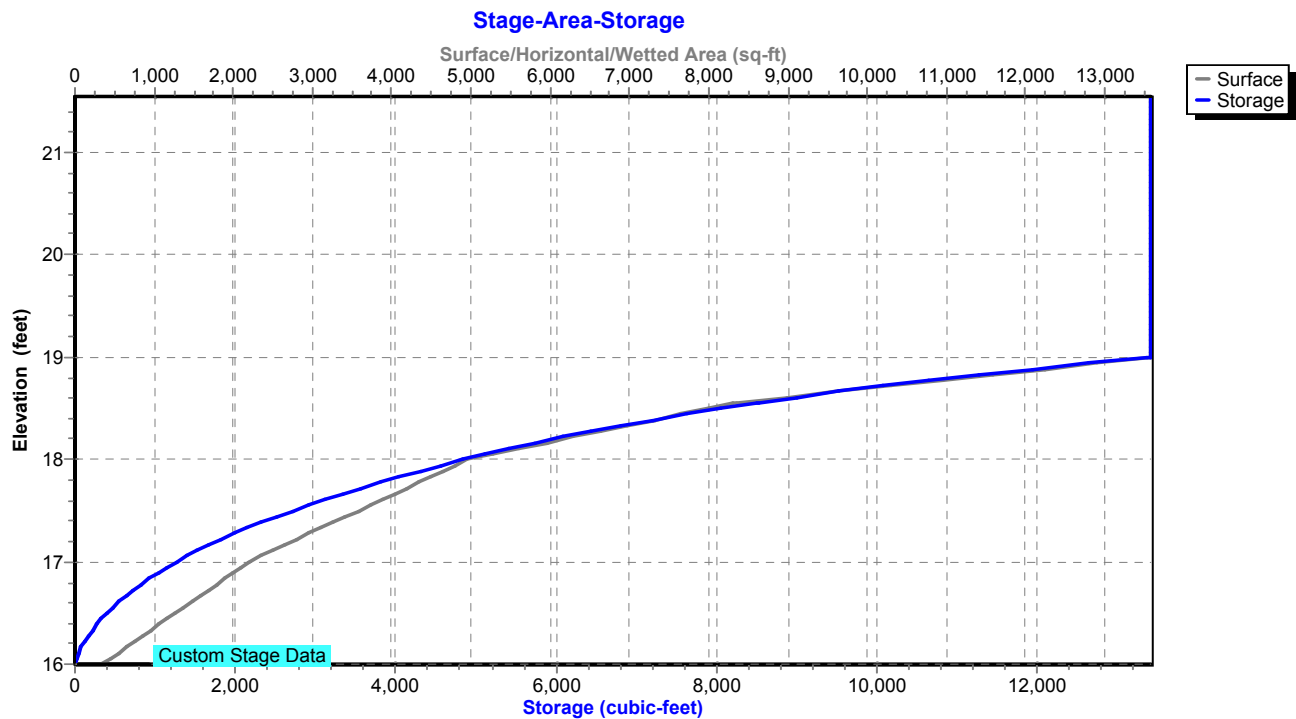
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Pond 27P: DET 17 Culvert



Pond 27P: DET 17 Culvert



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Summary for Pond 50P: DET BASIN #1

Inflow Area = 247,726 sf, 51.96% Impervious, Inflow Depth = 4.88" for 25 year event
Inflow = 27.74 cfs @ 12.04 hrs, Volume= 100,701 cf
Outflow = 4.39 cfs @ 12.59 hrs, Volume= 75,261 cf, Atten= 84%, Lag= 32.8 min
Primary = 4.39 cfs @ 12.59 hrs, Volume= 75,261 cf
Routed to Pond 26P : DET 16 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 28.35' @ 12.59 hrs Surf.Area= 16,050 sf Storage= 50,377 cf

Plug-Flow detention time= 275.1 min calculated for 75,261 cf (75% of inflow)
Center-of-Mass det. time= 166.3 min (968.3 - 802.0)

Volume	Invert	Avail.Storage	Storage Description
#1	24.00'	61,441 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
24.00	5,941	0	0
26.00	12,000	17,941	17,941
28.00	15,000	27,000	44,941
29.00	18,000	16,500	61,441

Device	Routing	Invert	Outlet Devices
#1	Primary	24.00'	18.0" Round Culvert L= 120.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 24.00' / 20.00' S= 0.0333 ' / S= 0.0333 ' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	26.50'	12.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	28.50'	16.2" x 55.4" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.39 cfs @ 12.59 hrs HW=28.35' (Free Discharge)

1=Culvert (Passes 4.39 cfs of 16.14 cfs potential flow)
2=Orifice/Grate (Orifice Controls 4.39 cfs @ 5.59 fps)
3=Orifice/Grate (Controls 0.00 cfs)

Proposed Conditions

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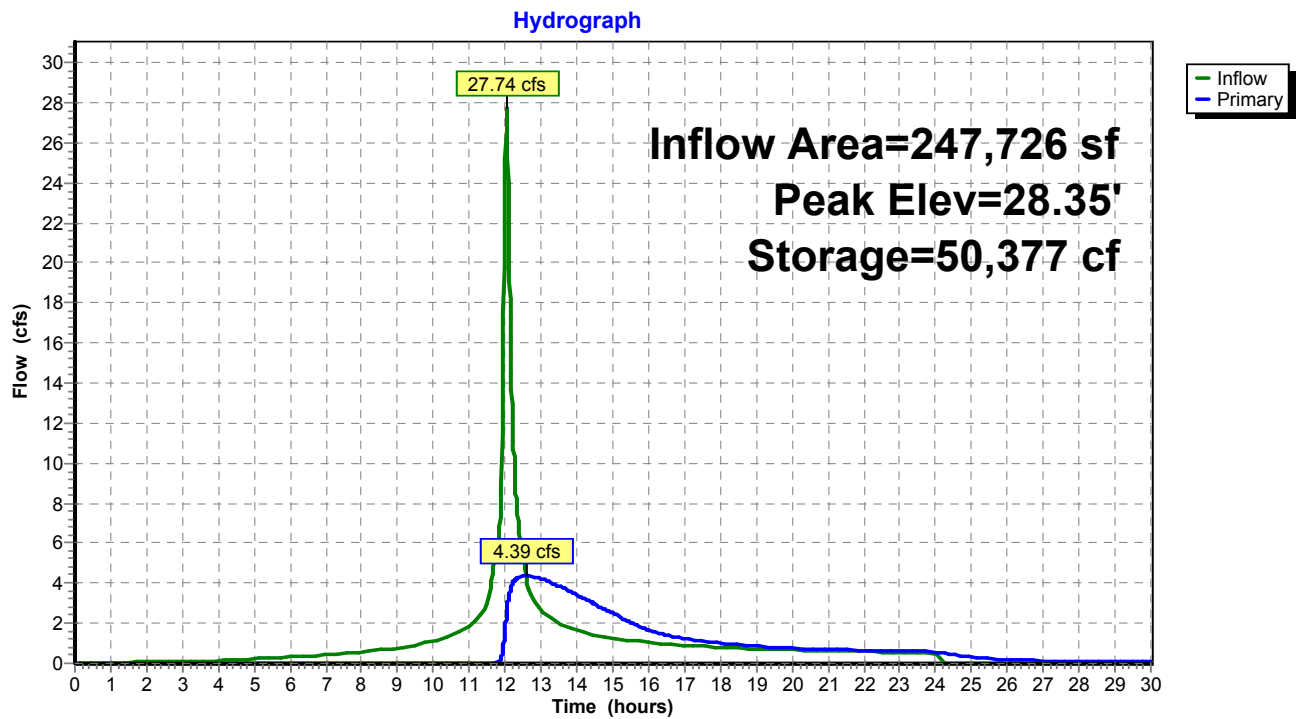
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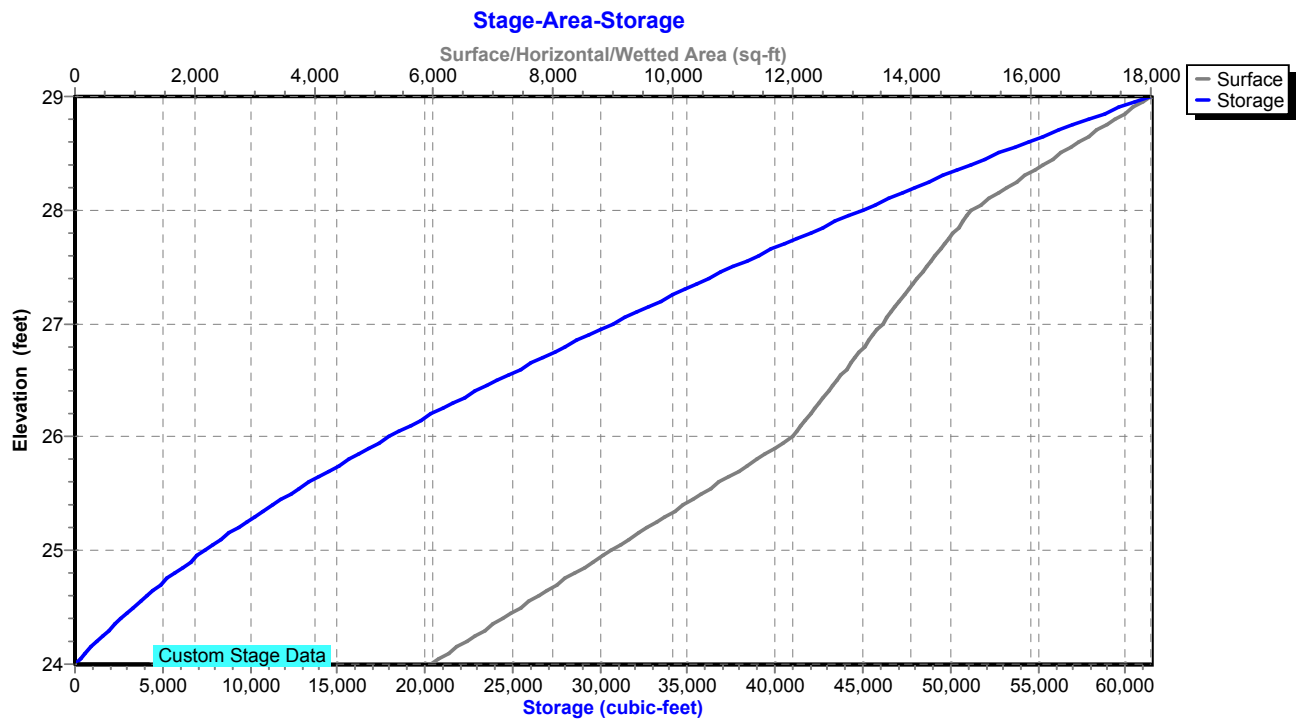
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Pond 50P: DET BASIN #1



Pond 50P: DET BASIN #1



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Summary for Pond 51P: Manhole

Inflow Area = 219,325 sf, 58.69% Impervious, Inflow Depth = 5.04" for 25 year event
Inflow = 24.76 cfs @ 12.04 hrs, Volume= 92,199 cf
Outflow = 24.76 cfs @ 12.04 hrs, Volume= 92,199 cf, Atten= 0%, Lag= 0.0 min
Primary = 24.76 cfs @ 12.04 hrs, Volume= 92,199 cf
Routed to Pond 50P : DET BASIN #1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.68' @ 12.04 hrs

Flood Elev= 51.00'

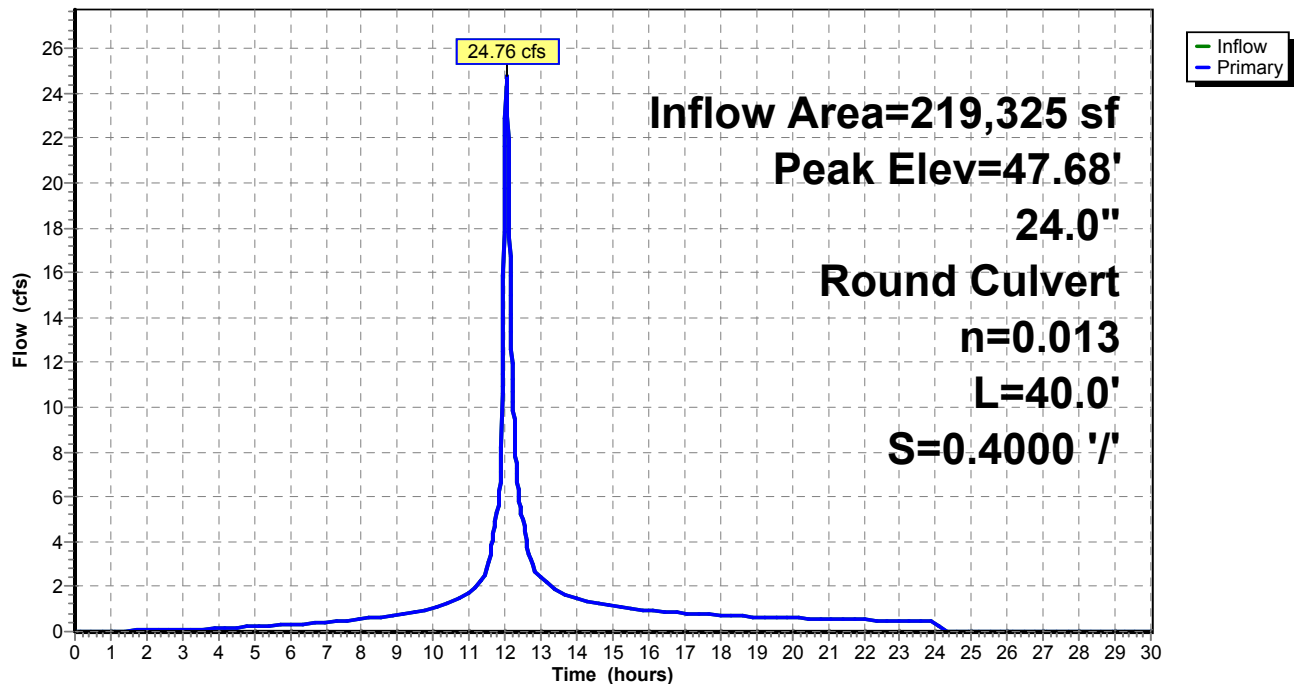
Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	24.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.00' / 28.00' S= 0.4000 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

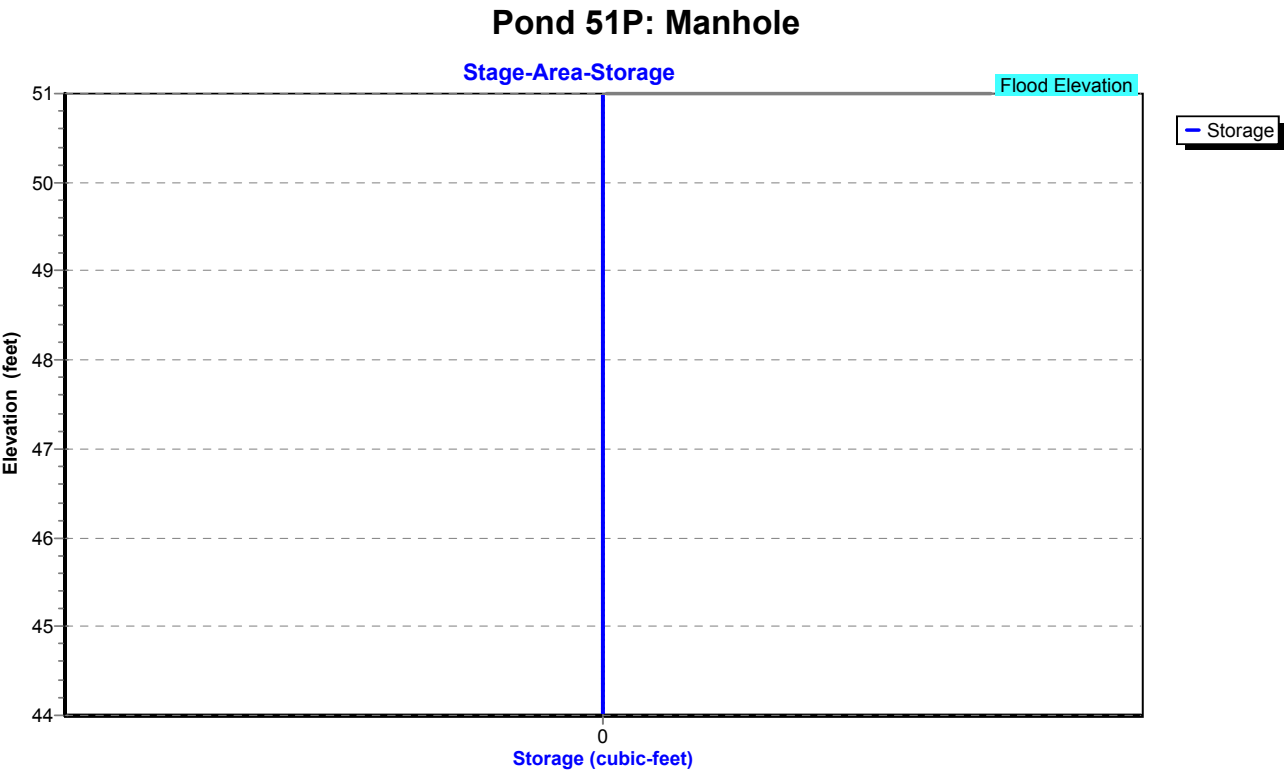
Primary OutFlow Max=24.73 cfs @ 12.04 hrs HW=47.67' (Free Discharge)

↑1=Culvert (Inlet Controls 24.73 cfs @ 7.87 fps)

Pond 51P: Manhole

Hydrograph





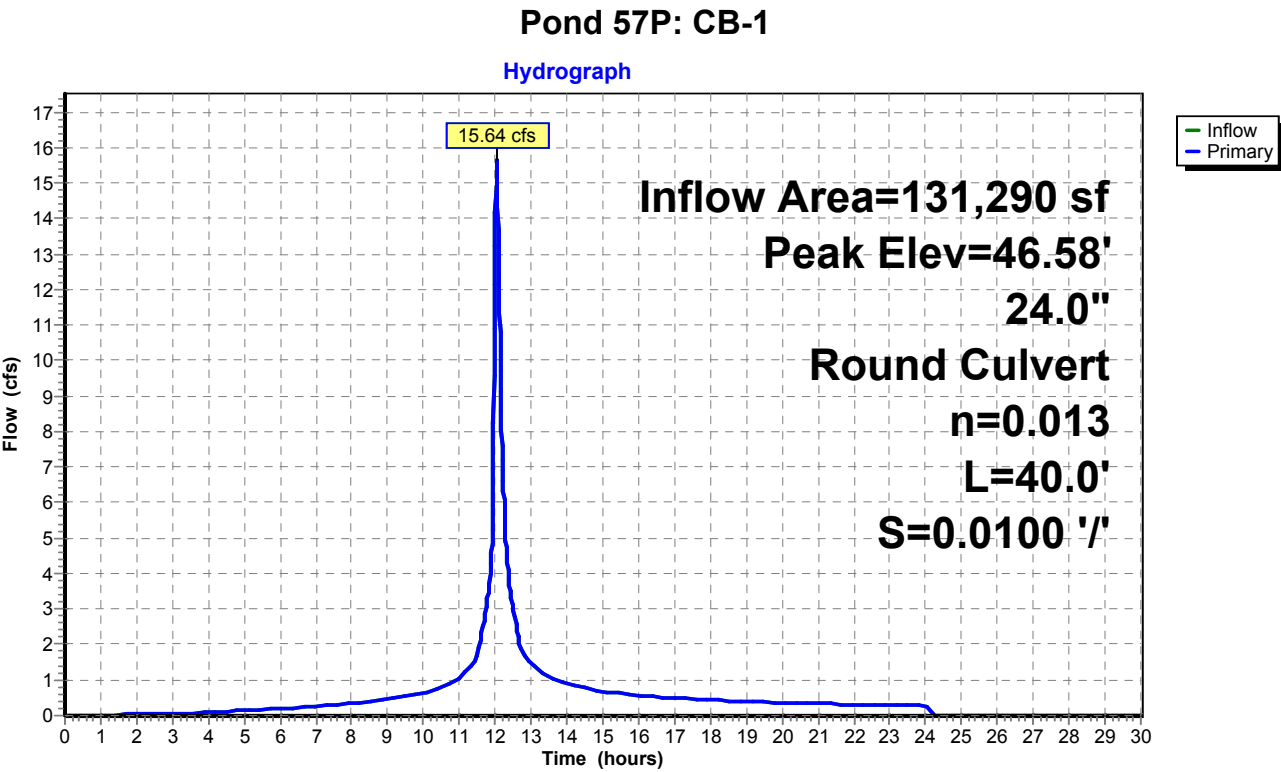
Summary for Pond 57P: CB-1

Inflow Area = 131,290 sf, 58.89% Impervious, Inflow Depth = 5.12" for 25 year event
Inflow = 15.64 cfs @ 12.04 hrs, Volume= 55,989 cf
Outflow = 15.64 cfs @ 12.04 hrs, Volume= 55,989 cf, Atten= 0%, Lag= 0.0 min
Primary = 15.64 cfs @ 12.04 hrs, Volume= 55,989 cf
Routed to Pond 51P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 46.58' @ 12.04 hrs
Flood Elev= 49.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	44.40'	24.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.40' / 44.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=15.63 cfs @ 12.04 hrs HW=46.58' (Free Discharge)
1=Culvert (Barrel Controls 15.63 cfs @ 5.68 fps)



Proposed Conditions

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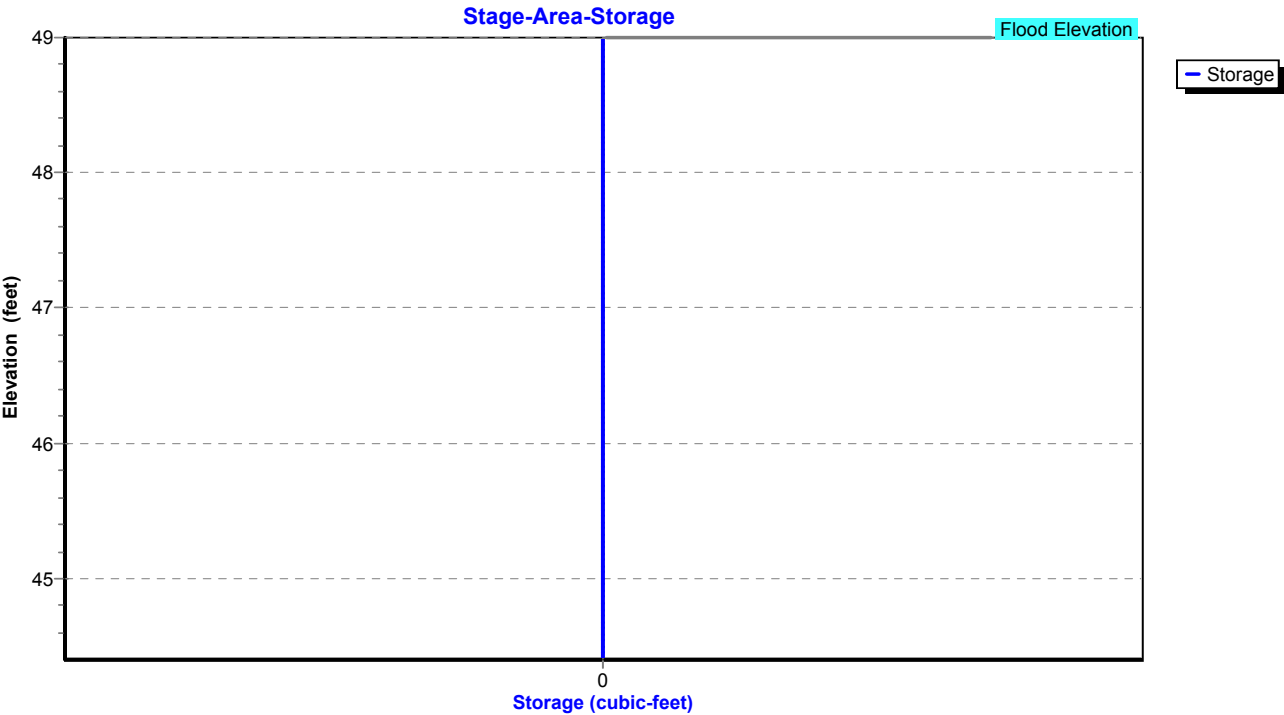
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Pond 57P: CB-1



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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Pond 58P: Manhole

Inflow Area = 119,442 sf, 54.81% Impervious, Inflow Depth = 5.01" for 25 year event
Inflow = 13.78 cfs @ 12.04 hrs, Volume= 49,826 cf
Outflow = 13.78 cfs @ 12.04 hrs, Volume= 49,826 cf, Atten= 0%, Lag= 0.0 min
Primary = 13.78 cfs @ 12.04 hrs, Volume= 49,826 cf
Routed to Pond 57P : CB-1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 48.27' @ 12.04 hrs

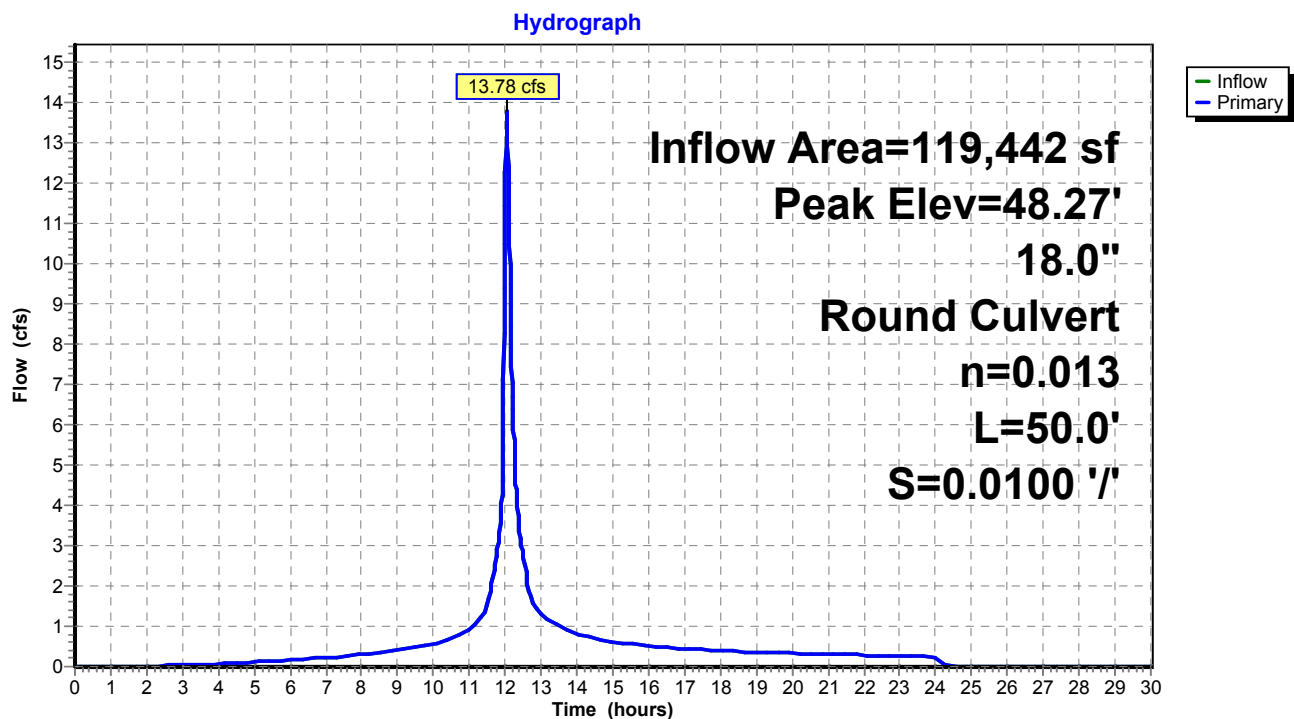
Flood Elev= 49.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	44.90'	18.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.90' / 44.40' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=13.75 cfs @ 12.04 hrs HW=48.26' (Free Discharge)

↑1=Culvert (Inlet Controls 13.75 cfs @ 7.78 fps)

Pond 58P: Manhole



Proposed Conditions

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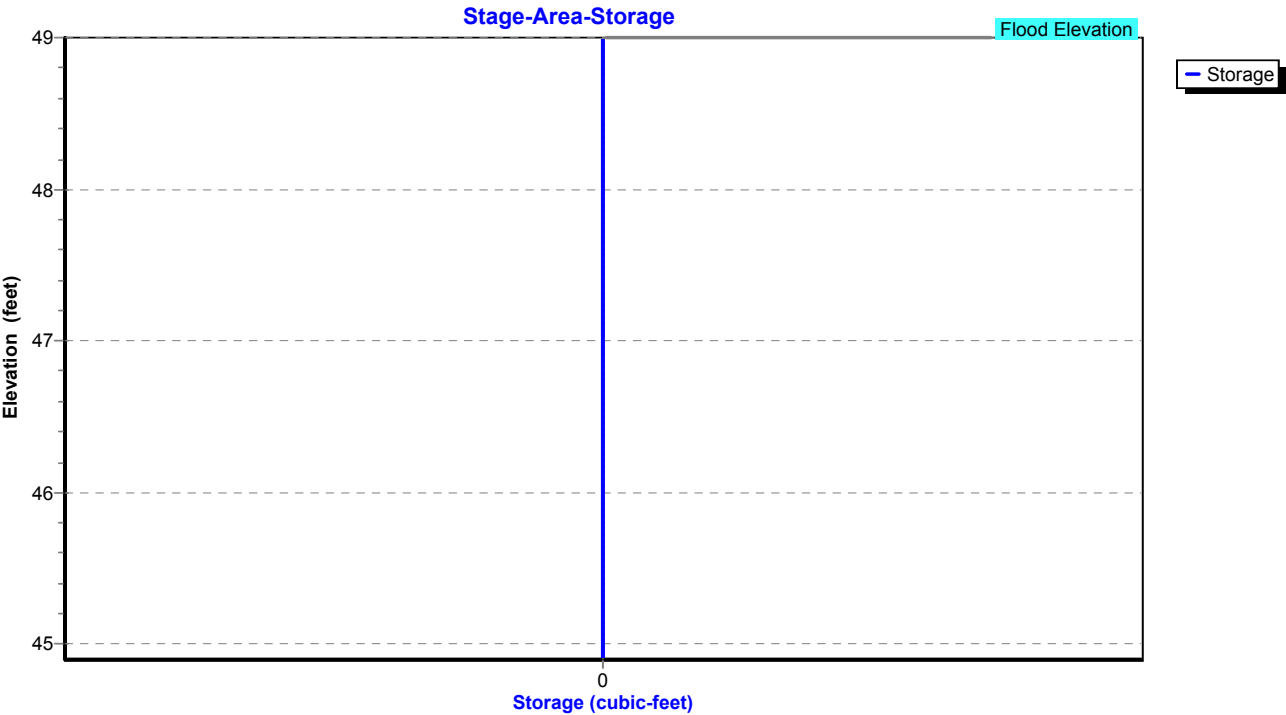
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Pond 58P: Manhole



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Summary for Pond 59P: CB-7

Inflow Area = 20,299 sf, 63.09% Impervious, Inflow Depth = 5.20" for 25 year event
Inflow = 3.04 cfs @ 12.03 hrs, Volume= 8,799 cf
Outflow = 3.04 cfs @ 12.03 hrs, Volume= 8,799 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.04 cfs @ 12.03 hrs, Volume= 8,799 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 46.54' @ 12.03 hrs

Flood Elev= 49.50'

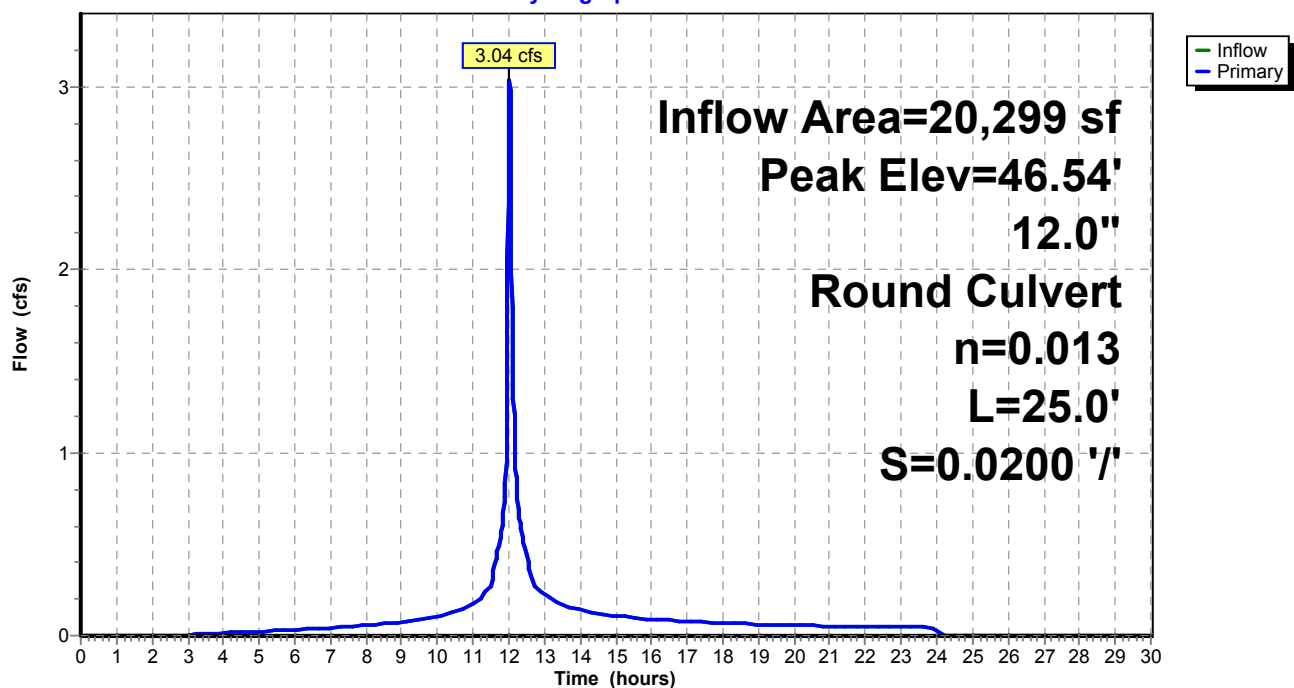
Device	Routing	Invert	Outlet Devices
#1	Primary	45.40'	12.0" Round Culvert L= 25.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.40' / 44.90' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=3.02 cfs @ 12.03 hrs HW=46.54' (Free Discharge)

↑1=Culvert (Inlet Controls 3.02 cfs @ 3.85 fps)

Pond 59P: CB-7

Hydrograph



Proposed Conditions

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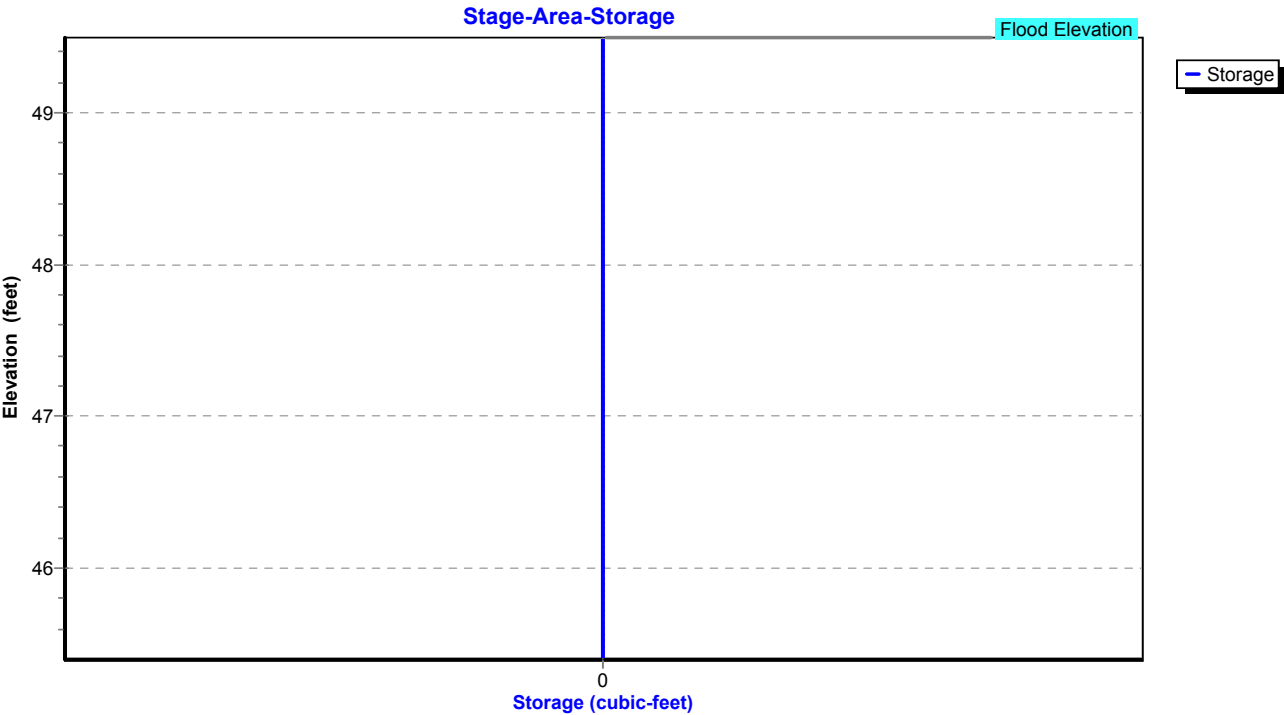
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Pond 59P: CB-7



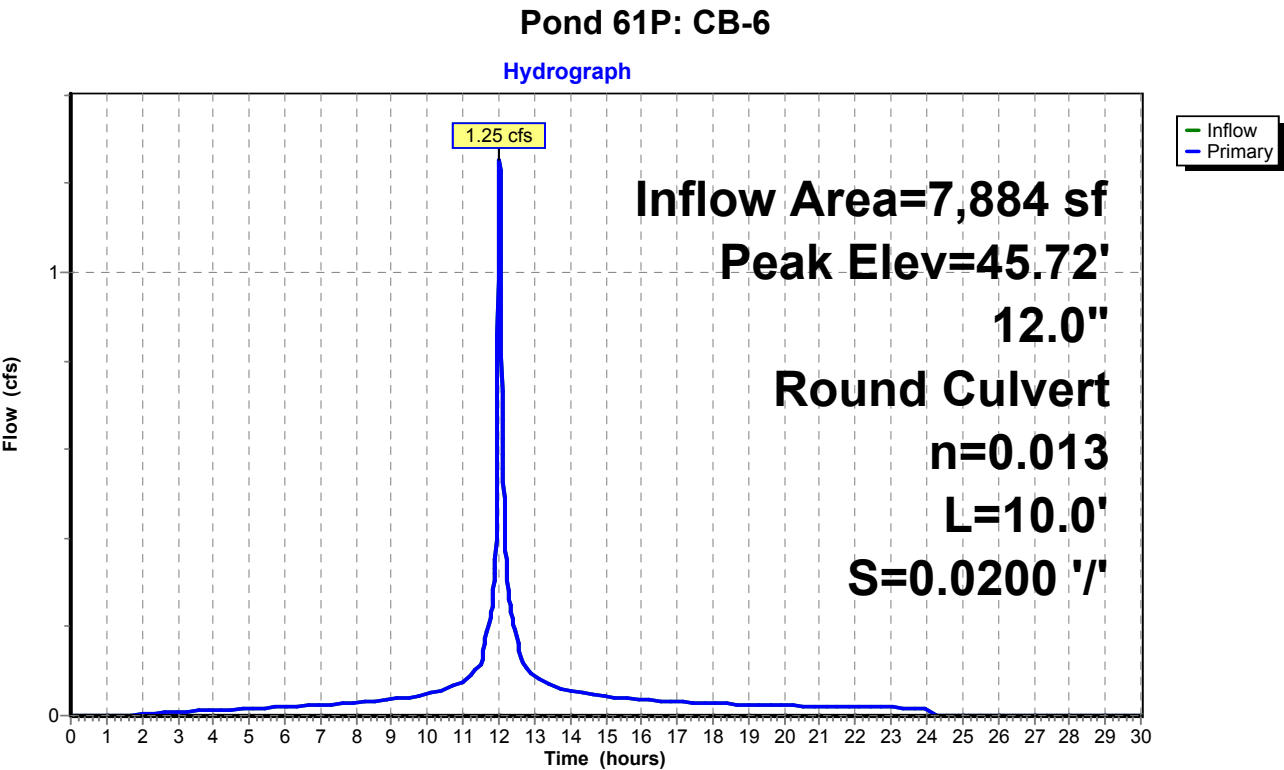
Summary for Pond 61P: CB-6

Inflow Area = 7,884 sf, 82.32% Impervious, Inflow Depth = 5.77" for 25 year event
Inflow = 1.25 cfs @ 12.03 hrs, Volume= 3,793 cf
Outflow = 1.25 cfs @ 12.03 hrs, Volume= 3,793 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.25 cfs @ 12.03 hrs, Volume= 3,793 cf
Routed to Pond 58P : Manhole

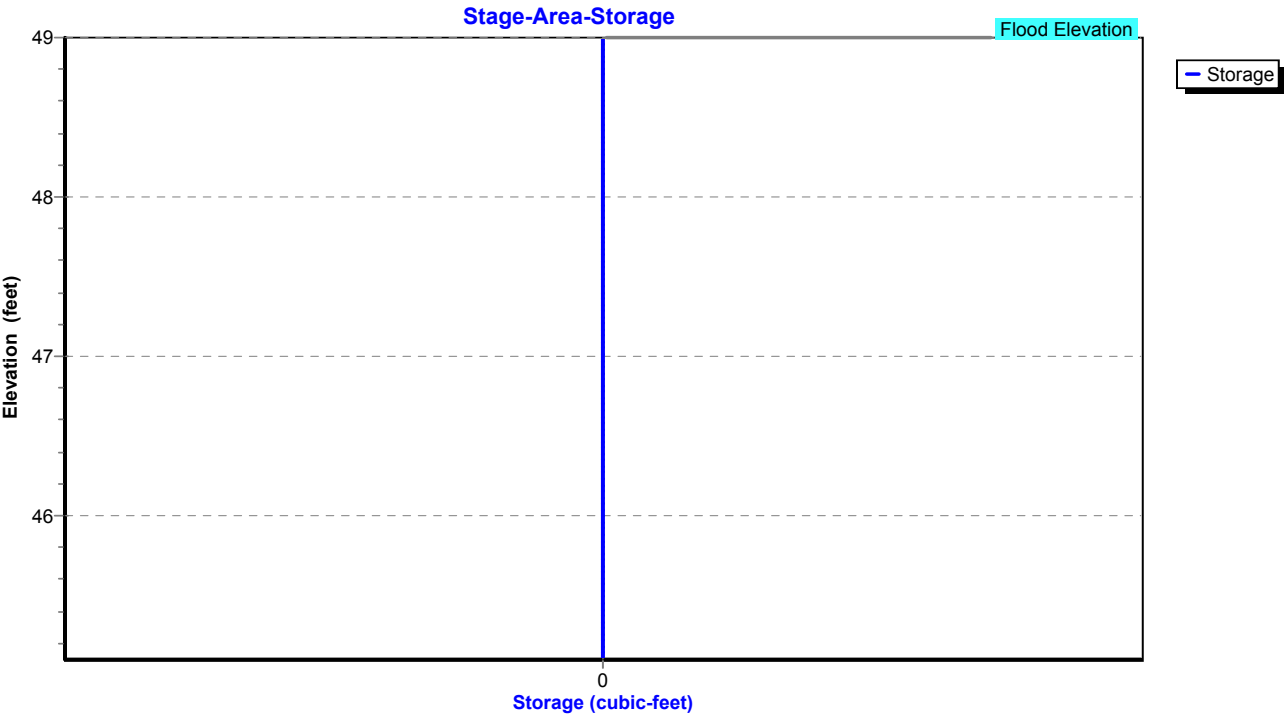
Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 45.72' @ 12.03 hrs
Flood Elev= 49.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	45.10'	12.0" Round Culvert L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.10' / 44.90' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.25 cfs @ 12.03 hrs HW=45.72' (Free Discharge)
↑1=Culvert (Barrel Controls 1.25 cfs @ 3.52 fps)



Pond 61P: CB-6



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Summary for Pond 63P: Manhole

Inflow Area = 91,258 sf, 50.60% Impervious, Inflow Depth = 4.90" for 25 year event
Inflow = 9.85 cfs @ 12.06 hrs, Volume= 37,235 cf
Outflow = 9.85 cfs @ 12.06 hrs, Volume= 37,235 cf, Atten= 0%, Lag= 0.0 min
Primary = 9.85 cfs @ 12.06 hrs, Volume= 37,235 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.68' @ 12.06 hrs

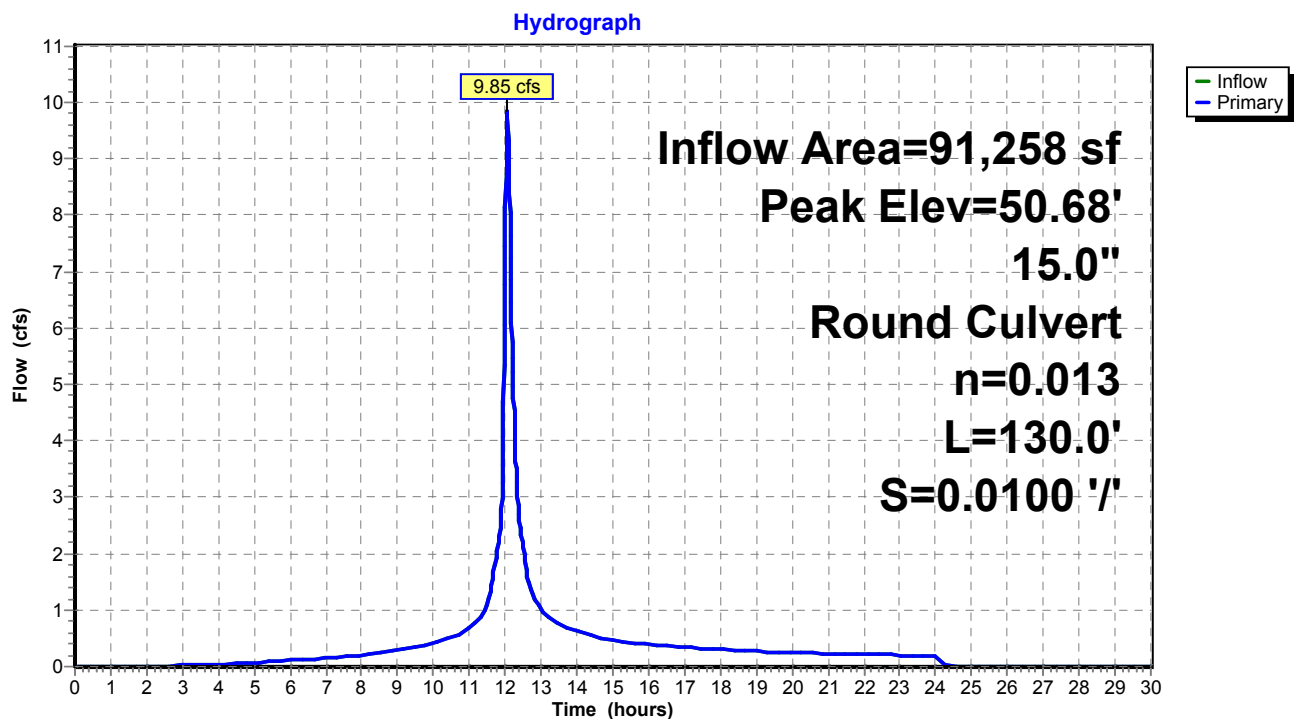
Flood Elev= 51.00'

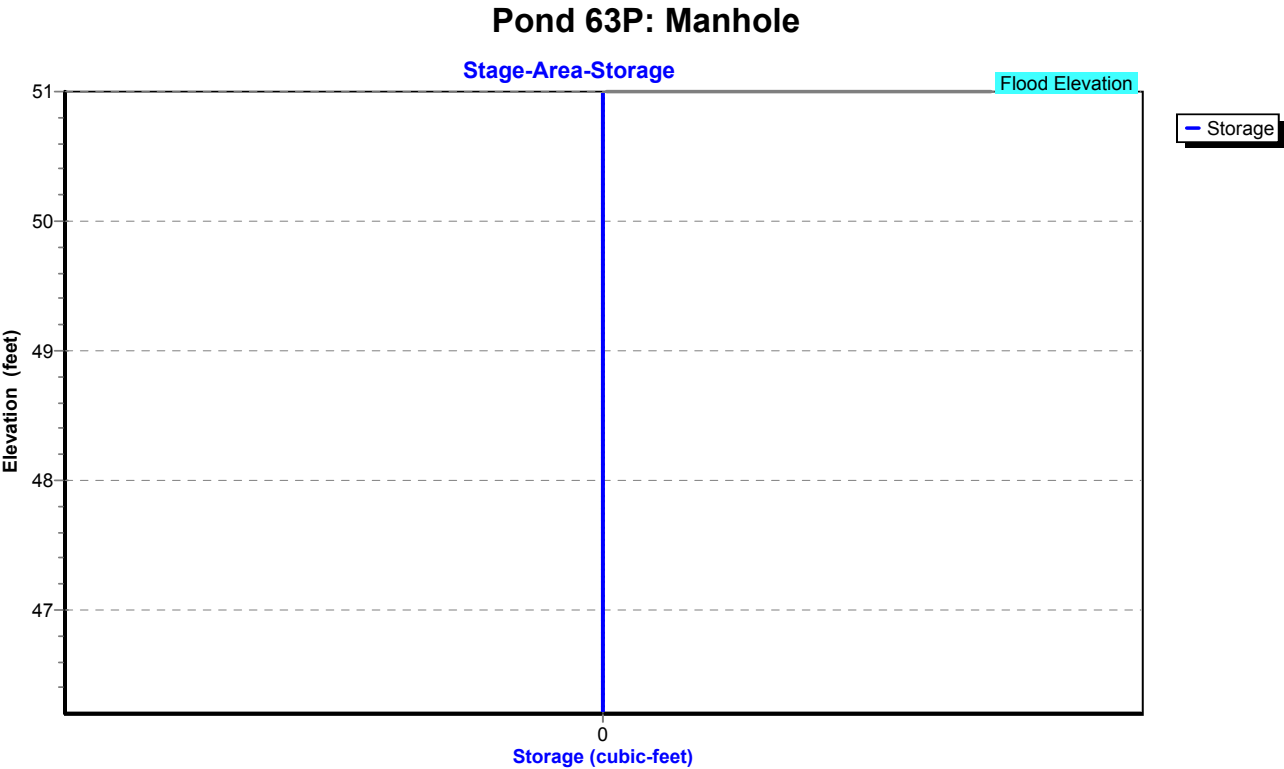
Device	Routing	Invert	Outlet Devices
#1	Primary	46.20'	15.0" Round Culvert L= 130.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.20' / 44.90' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=9.84 cfs @ 12.06 hrs HW=50.67' (Free Discharge)

↑1=Culvert (Barrel Controls 9.84 cfs @ 8.02 fps)

Pond 63P: Manhole





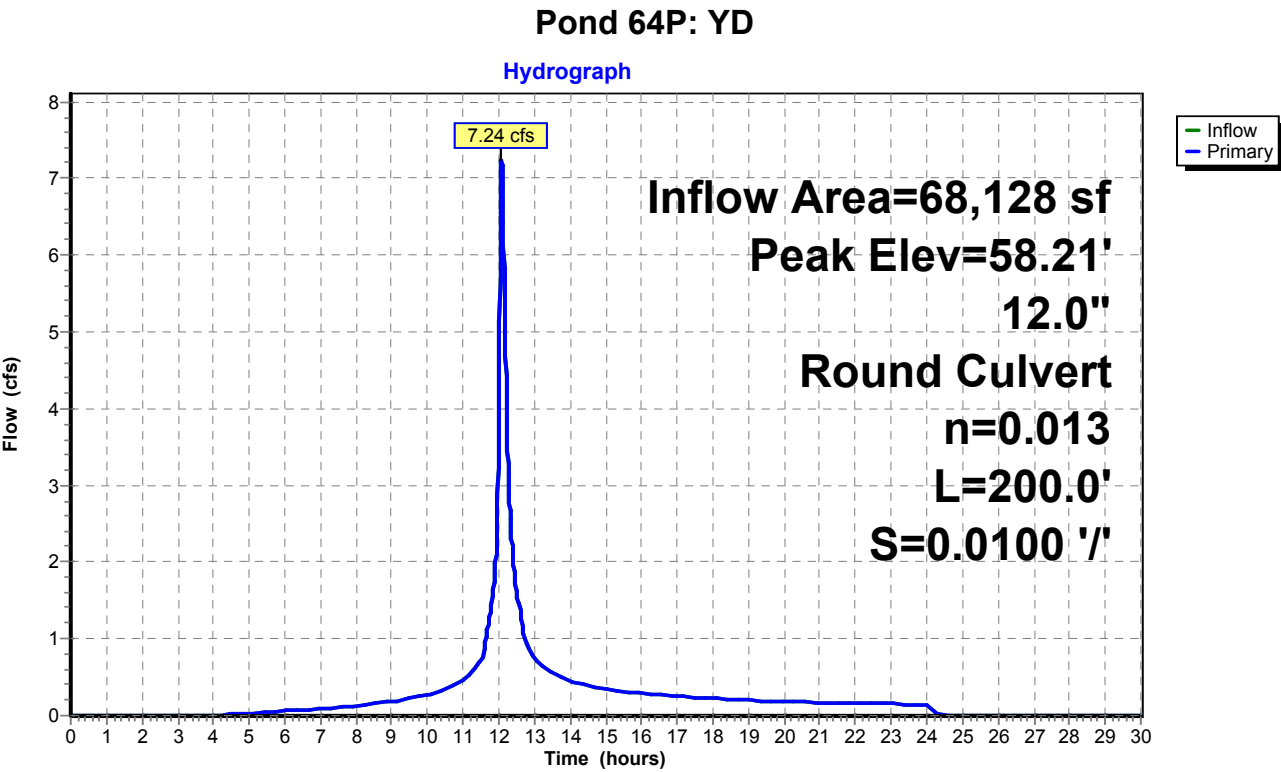
Summary for Pond 64P: YD

Inflow Area = 68,128 sf, 41.75% Impervious, Inflow Depth = 4.65" for 25 year event
Inflow = 7.24 cfs @ 12.08 hrs, Volume= 26,386 cf
Outflow = 7.24 cfs @ 12.08 hrs, Volume= 26,386 cf, Atten= 0%, Lag= 0.0 min
Primary = 7.24 cfs @ 12.08 hrs, Volume= 26,386 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 58.21' @ 12.08 hrs
Flood Elev= 54.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.95'	12.0" Round Culvert L= 200.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.95' / 46.95' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=7.22 cfs @ 12.08 hrs HW=58.17' (Free Discharge)
1=Culvert (Barrel Controls 7.22 cfs @ 9.20 fps)



Proposed Conditions

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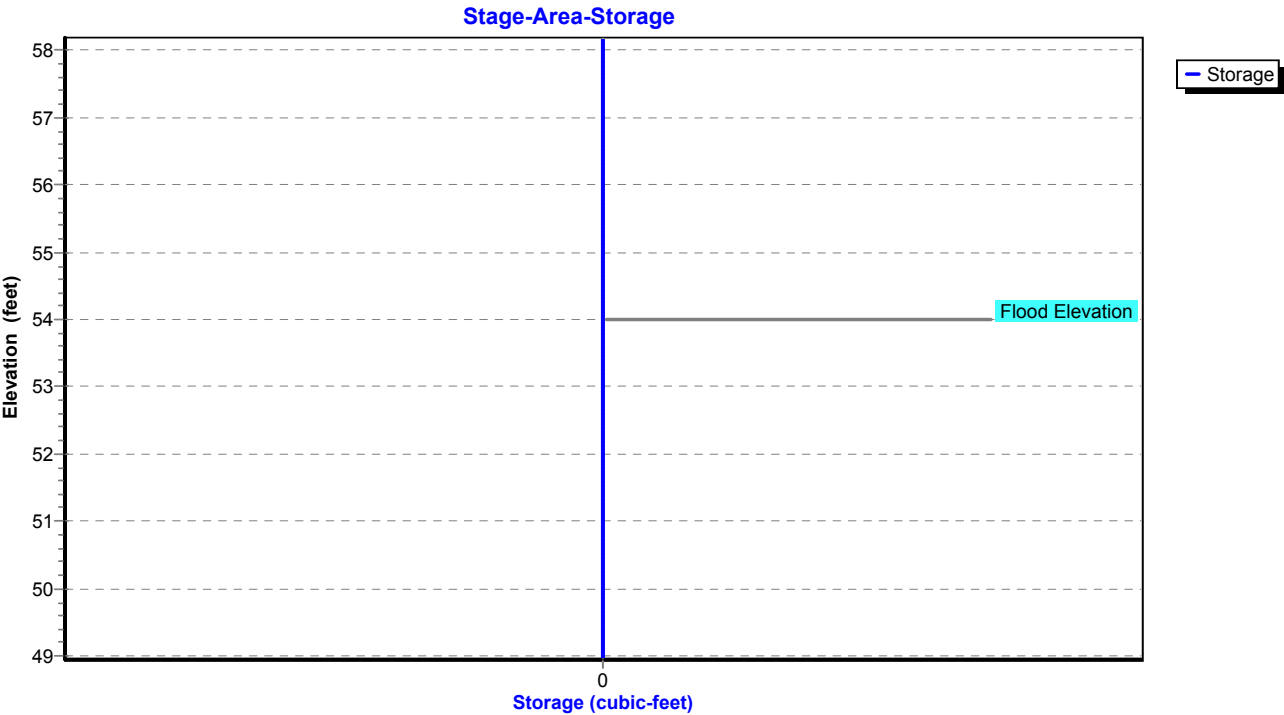
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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Pond 64P: YD



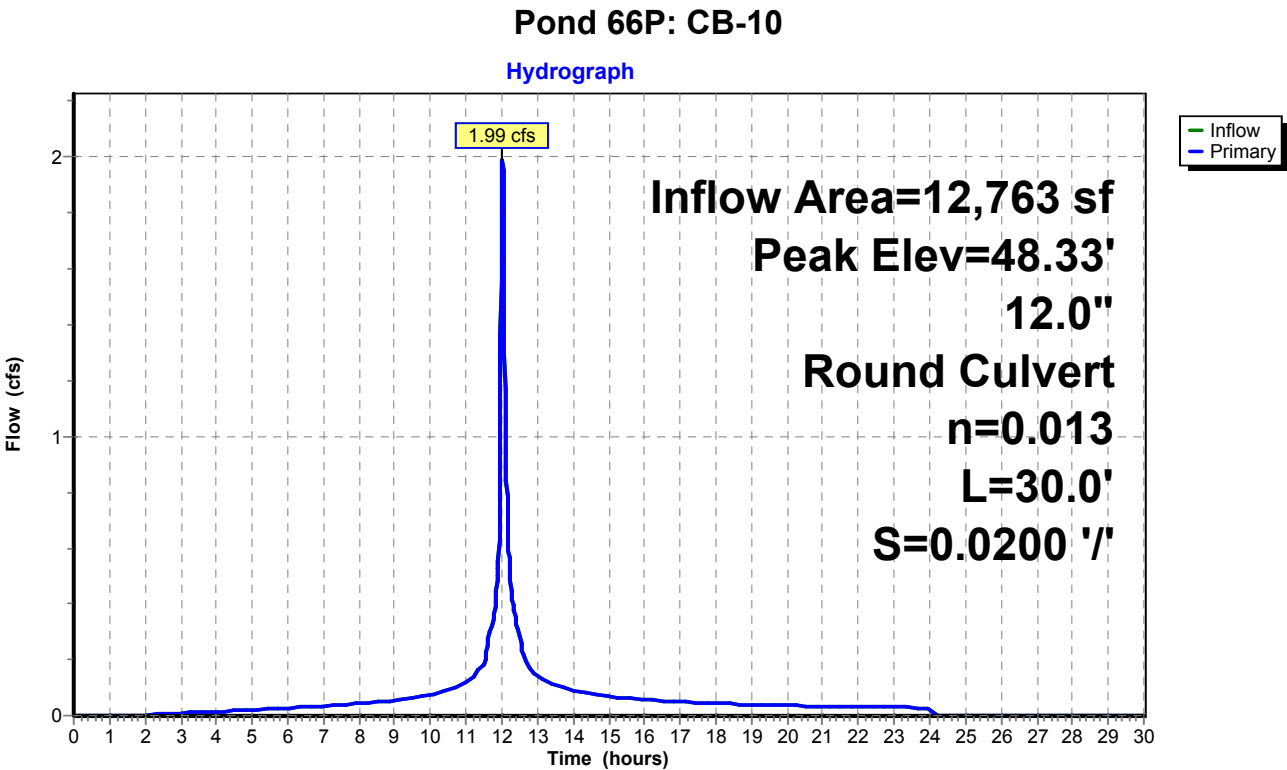
Summary for Pond 66P: CB-10

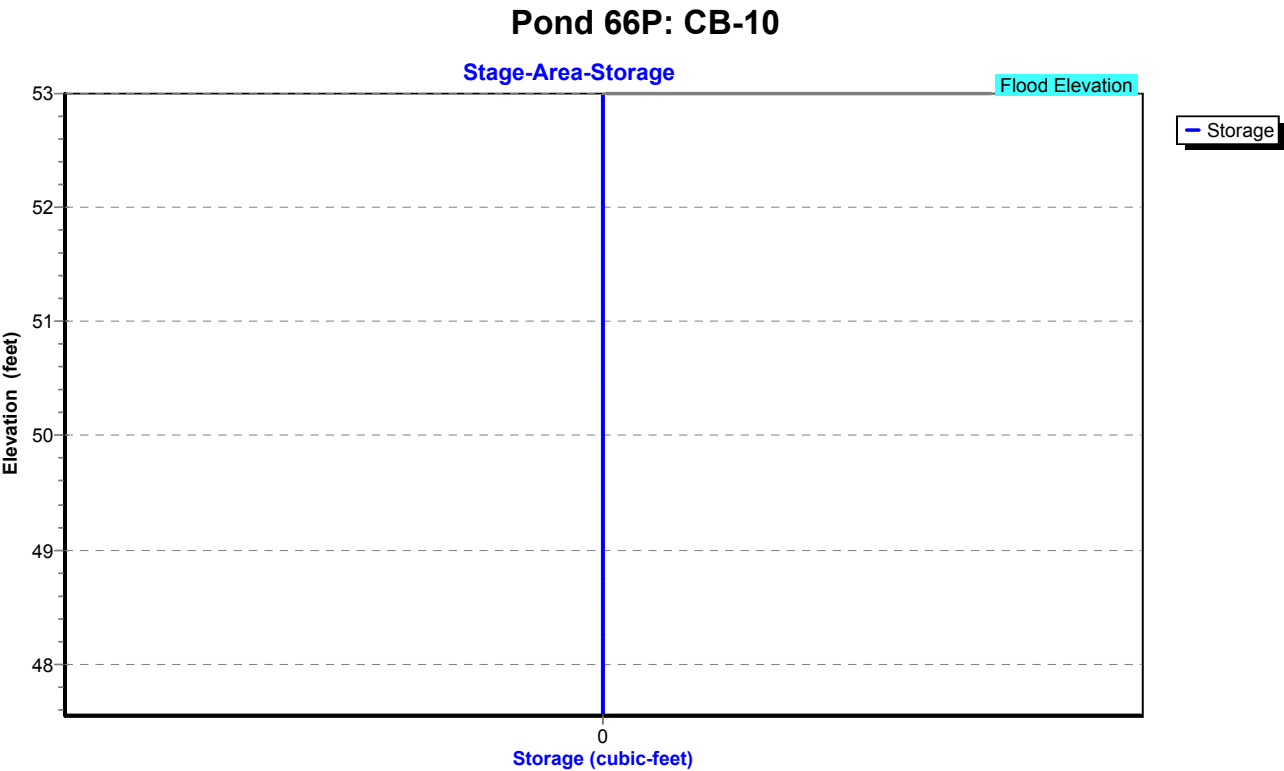
Inflow Area = 12,763 sf, 73.04% Impervious, Inflow Depth = 5.54" for 25 year event
Inflow = 1.99 cfs @ 12.03 hrs, Volume= 5,894 cf
Outflow = 1.99 cfs @ 12.03 hrs, Volume= 5,894 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.99 cfs @ 12.03 hrs, Volume= 5,894 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 48.33' @ 12.03 hrs
Flood Elev= 53.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.55'	12.0" Round Culvert L= 30.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.55' / 46.95' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.98 cfs @ 12.03 hrs HW=48.33' (Free Discharge)
↑1=Culvert (Inlet Controls 1.98 cfs @ 3.01 fps)





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Summary for Pond 67P: CB-9

Inflow Area = 6,447 sf, 69.59% Impervious, Inflow Depth = 5.43" for 25 year event
Inflow = 0.99 cfs @ 12.03 hrs, Volume= 2,916 cf
Outflow = 0.99 cfs @ 12.03 hrs, Volume= 2,916 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.99 cfs @ 12.03 hrs, Volume= 2,916 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.68' @ 12.03 hrs

Flood Elev= 52.00'

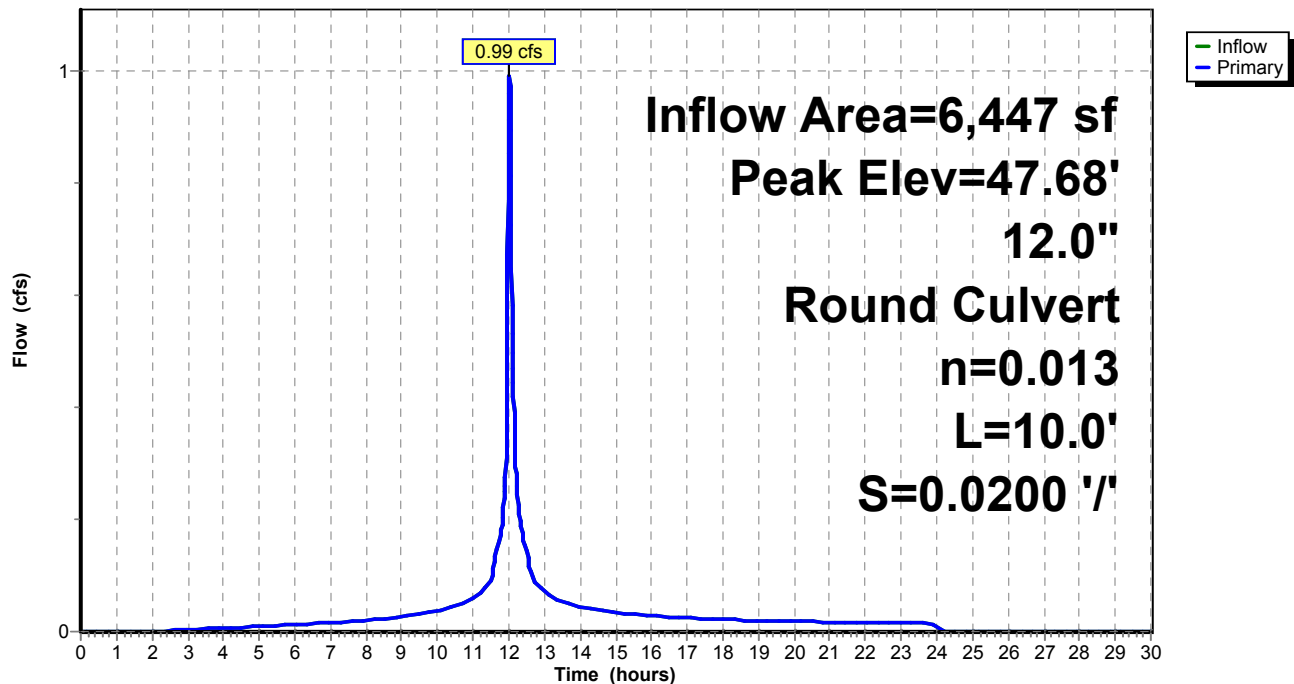
Device	Routing	Invert	Outlet Devices
#1	Primary	47.15'	12.0" Round Culvert L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.15' / 46.95' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.99 cfs @ 12.03 hrs HW=47.68' (Free Discharge)

↑1=Culvert (Barrel Controls 0.99 cfs @ 3.37 fps)

Pond 67P: CB-9

Hydrograph



Proposed Conditions

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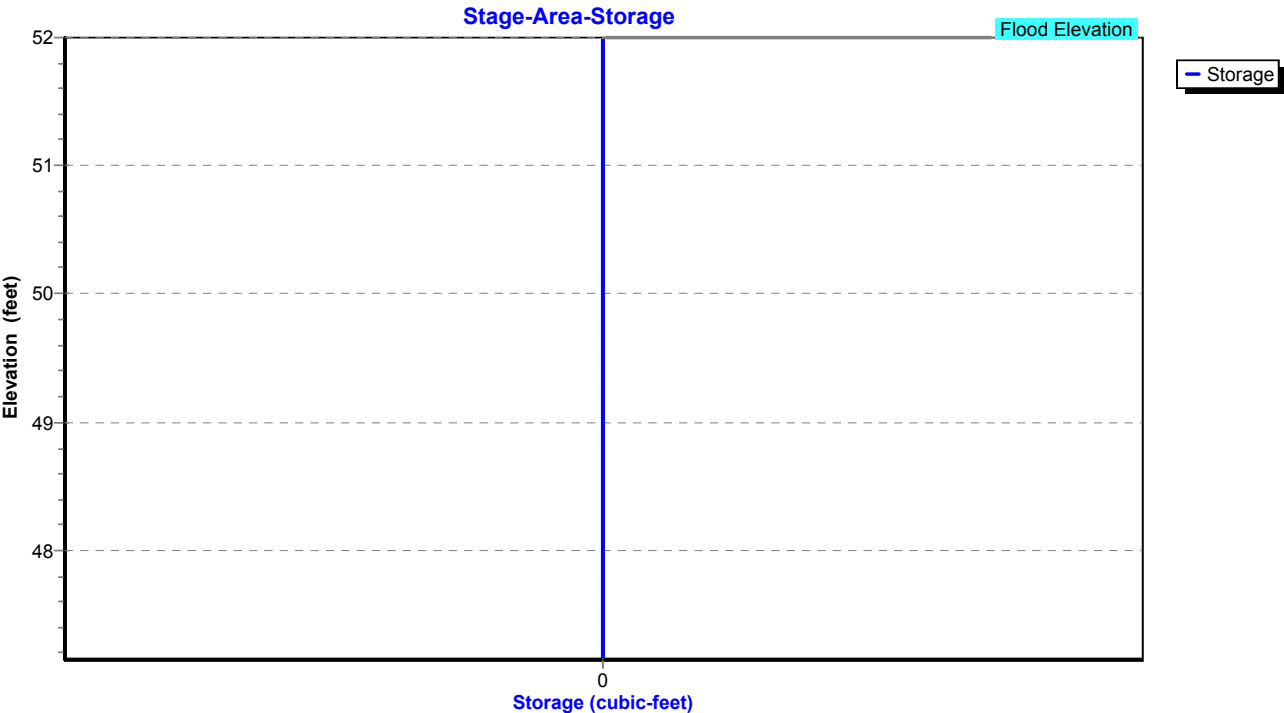
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Pond 67P: CB-9



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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Pond 70P: CB-2

Inflow Area = 88,035 sf, 58.39% Impervious, Inflow Depth = 4.94" for 25 year event
Inflow = 9.54 cfs @ 11.99 hrs, Volume= 36,210 cf
Outflow = 9.54 cfs @ 11.99 hrs, Volume= 36,210 cf, Atten= 0%, Lag= 0.0 min
Primary = 9.54 cfs @ 11.99 hrs, Volume= 36,210 cf
Routed to Pond 51P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.49' @ 11.99 hrs

Flood Elev= 53.30'

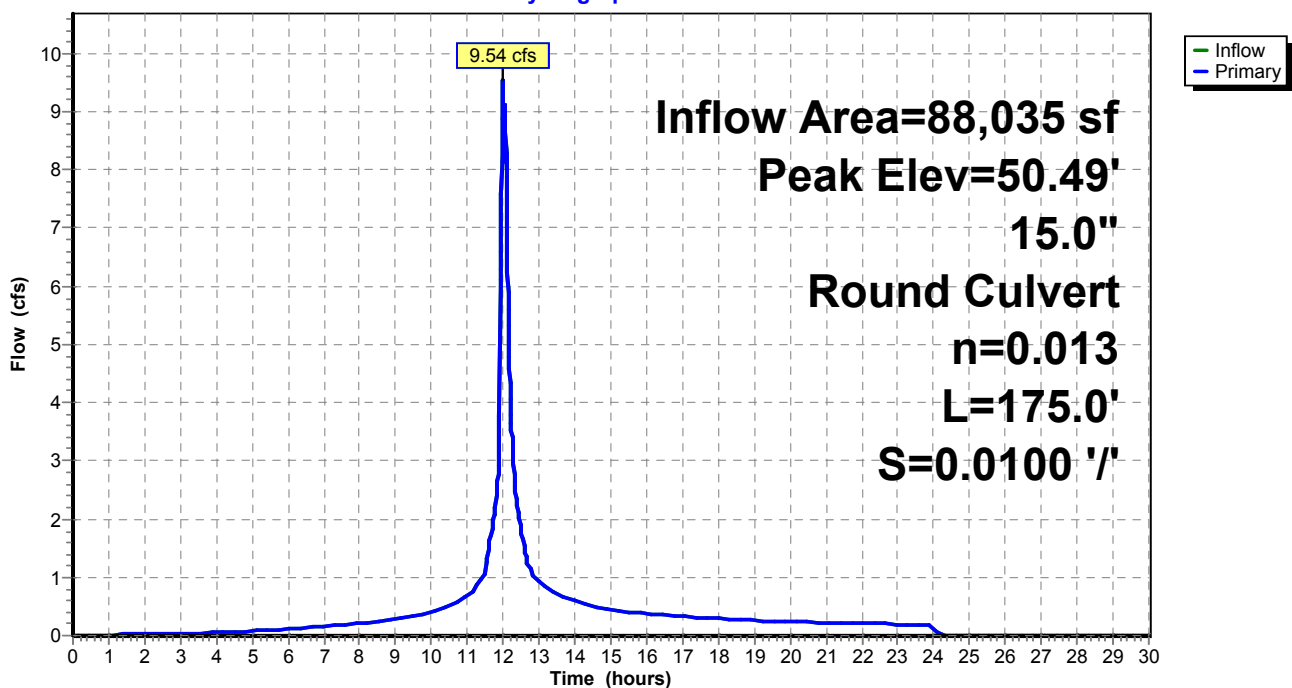
Device	Routing	Invert	Outlet Devices
#1	Primary	45.75'	15.0" Round Culvert L= 175.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.75' / 44.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=9.54 cfs @ 11.99 hrs HW=50.48' (Free Discharge)

↑1=Culvert (Barrel Controls 9.54 cfs @ 7.77 fps)

Pond 70P: CB-2

Hydrograph



Proposed Conditions

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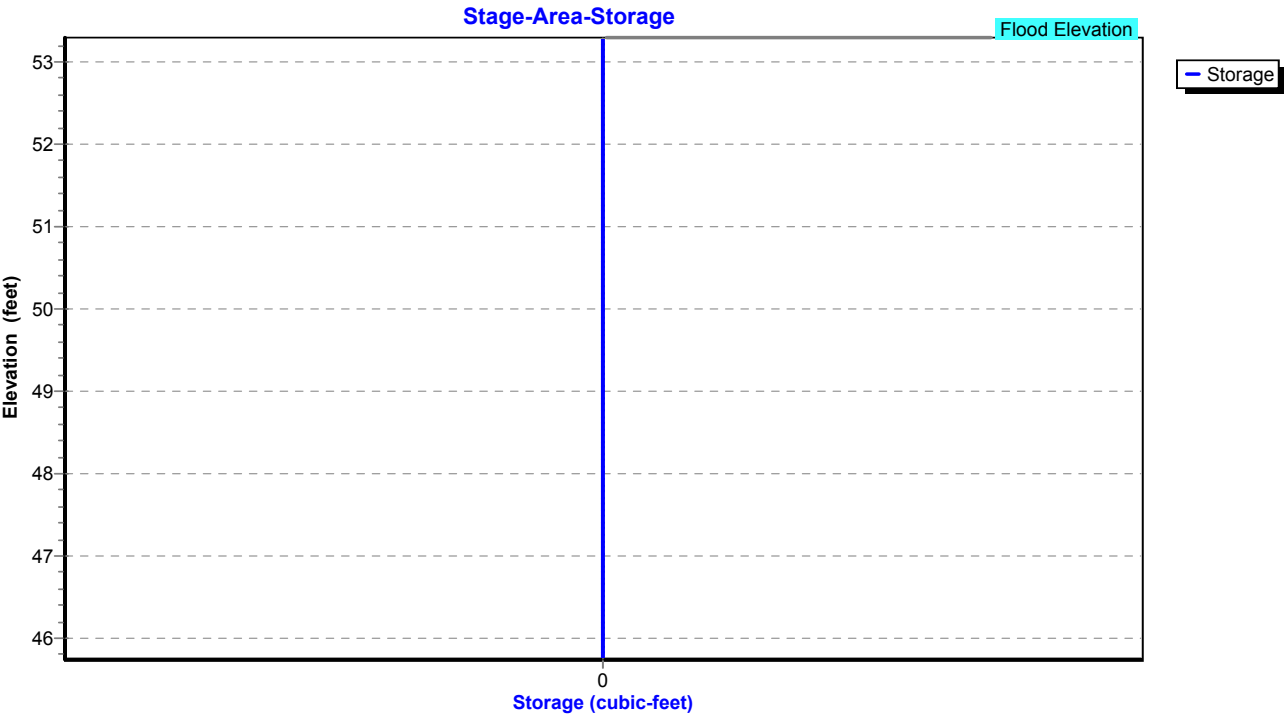
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Pond 70P: CB-2



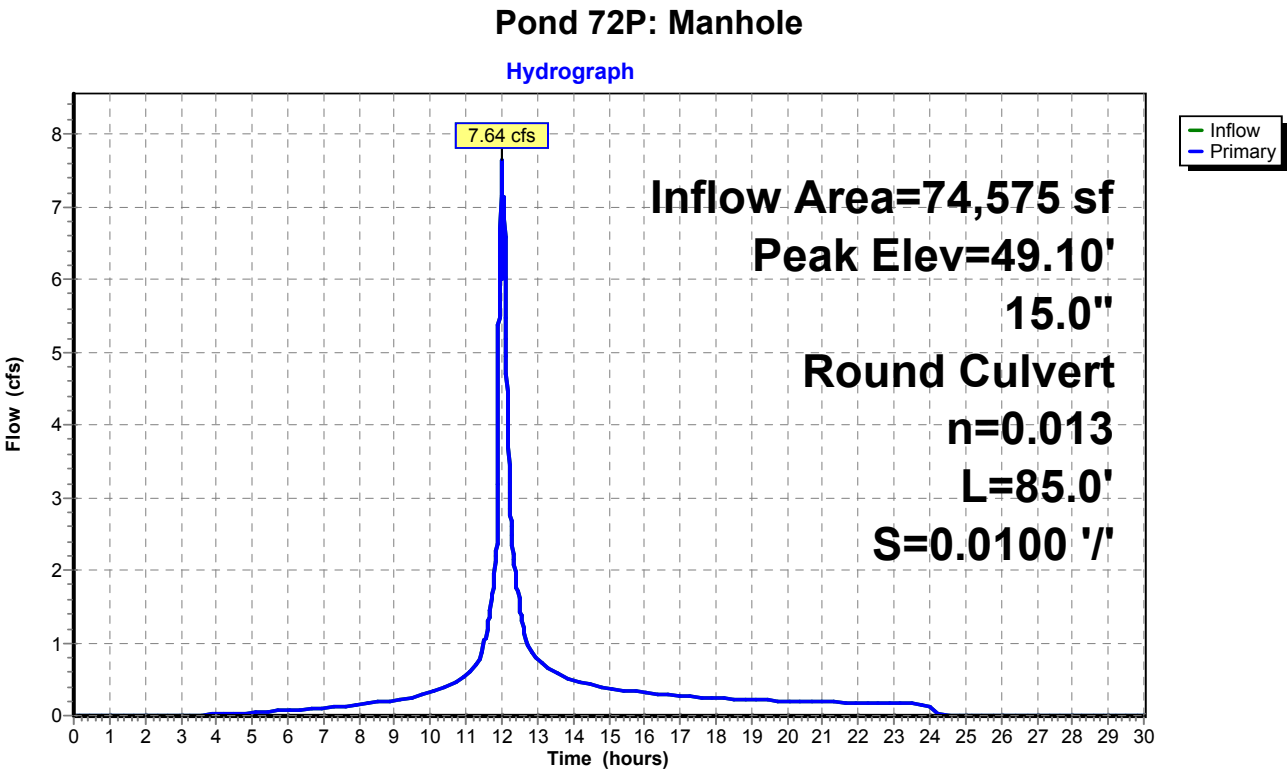
Summary for Pond 72P: Manhole

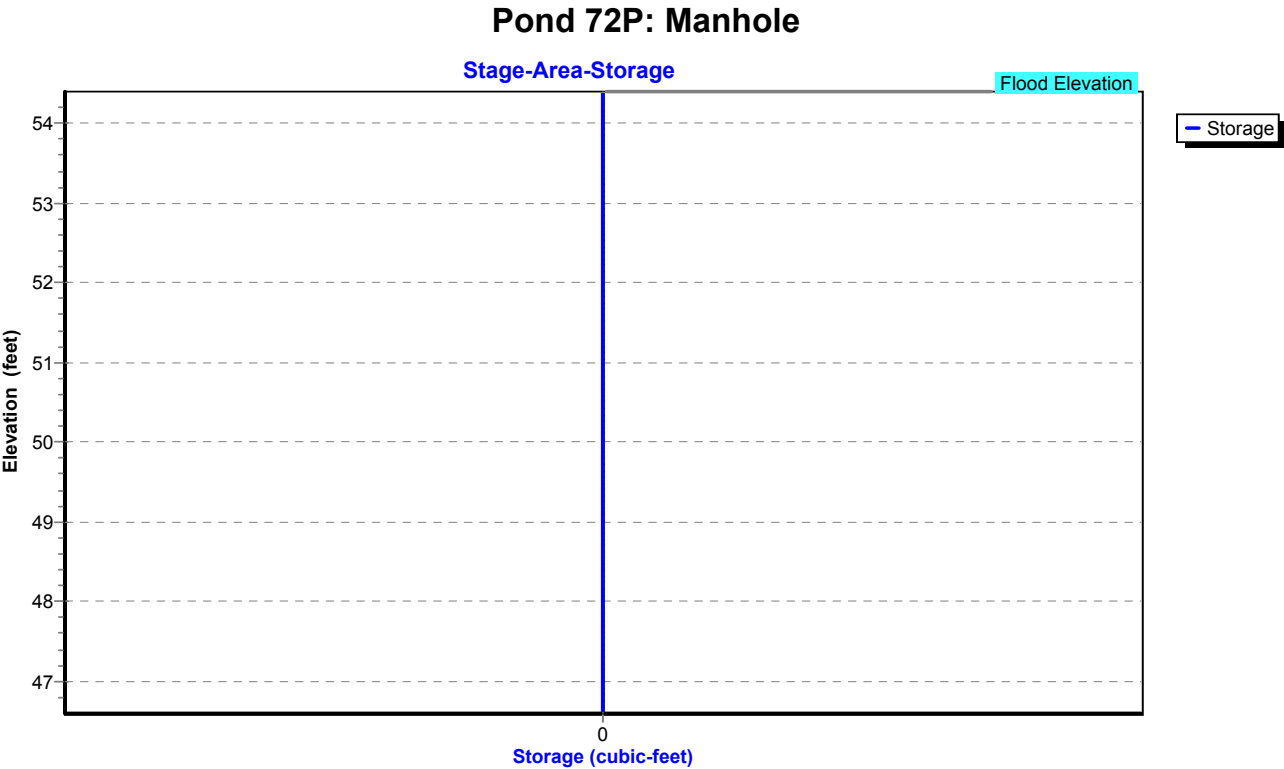
Inflow Area = 74,575 sf, 50.88% Impervious, Inflow Depth = 4.70" for 25 year event
Inflow = 7.64 cfs @ 11.99 hrs, Volume= 29,209 cf
Outflow = 7.64 cfs @ 11.99 hrs, Volume= 29,209 cf, Atten= 0%, Lag= 0.0 min
Primary = 7.64 cfs @ 11.99 hrs, Volume= 29,209 cf
Routed to Pond 70P : CB-2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 49.10' @ 11.99 hrs
Flood Elev= 54.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.60'	15.0" Round Culvert L= 85.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.60' / 45.75' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=7.57 cfs @ 11.99 hrs HW=49.06' (Free Discharge)
1=Culvert (Barrel Controls 7.57 cfs @ 6.17 fps)





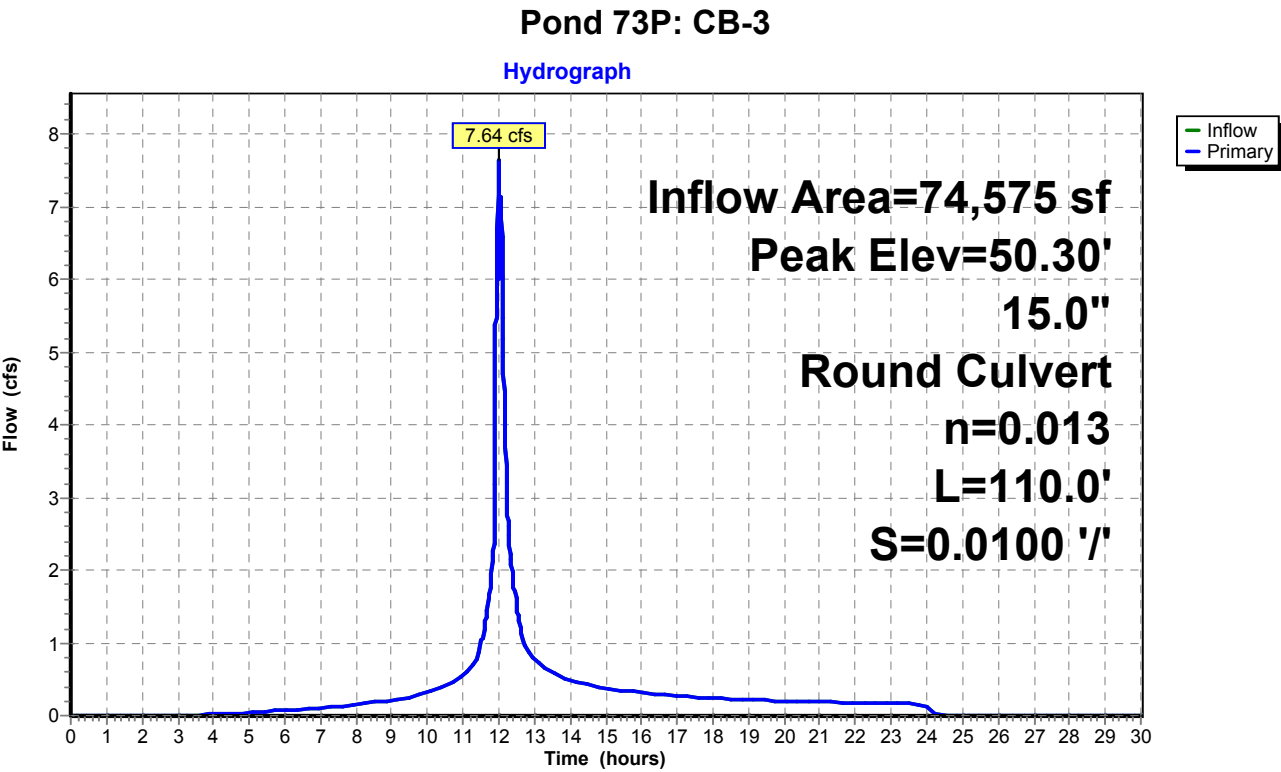
Summary for Pond 73P: CB-3

Inflow Area = 74,575 sf, 50.88% Impervious, Inflow Depth = 4.70" for 25 year event
Inflow = 7.64 cfs @ 11.99 hrs, Volume= 29,209 cf
Outflow = 7.64 cfs @ 11.99 hrs, Volume= 29,209 cf, Atten= 0%, Lag= 0.0 min
Primary = 7.64 cfs @ 11.99 hrs, Volume= 29,209 cf
Routed to Pond 72P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 50.30' @ 11.99 hrs
Flood Elev= 53.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.70'	15.0" Round Culvert L= 110.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.70' / 46.60' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=7.57 cfs @ 11.99 hrs HW=50.25' (Free Discharge)
1=Culvert (Barrel Controls 7.57 cfs @ 6.17 fps)



Proposed Conditions

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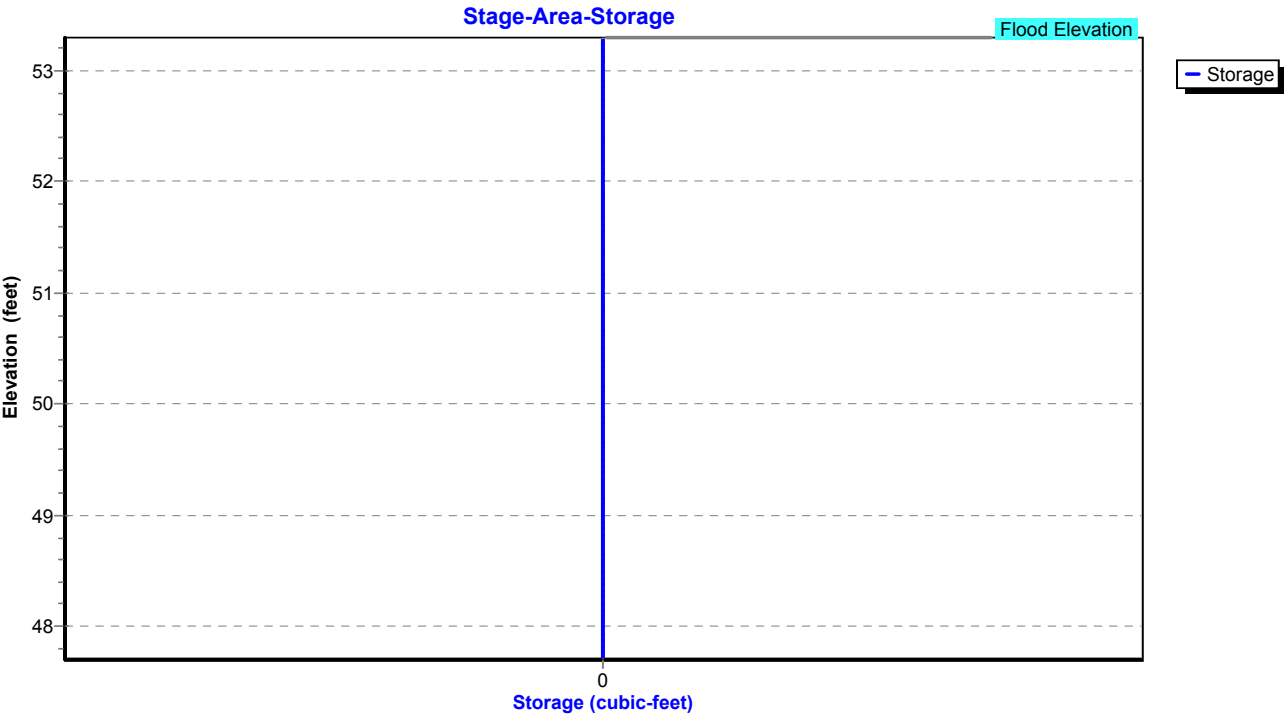
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Pond 73P: CB-3



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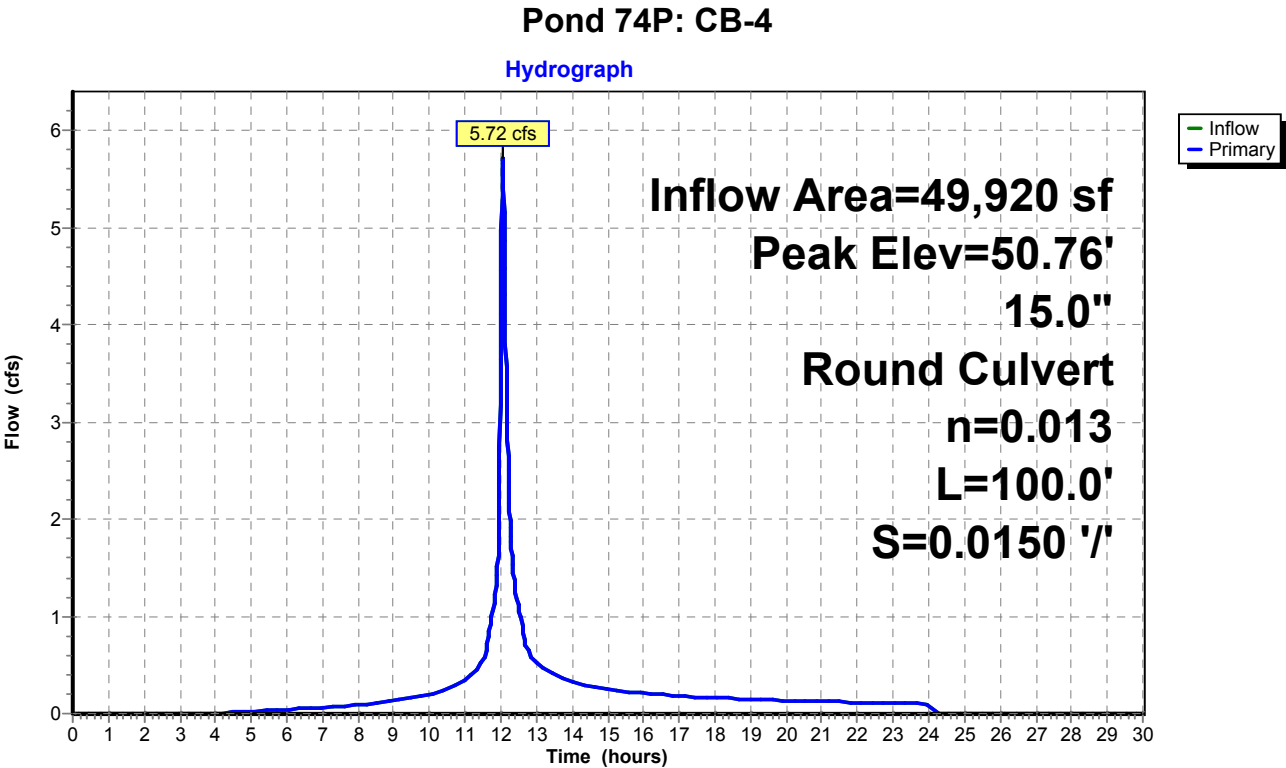
Summary for Pond 74P: CB-4

Inflow Area = 49,920 sf, 46.51% Impervious, Inflow Depth = 4.56" for 25 year event
Inflow = 5.72 cfs @ 12.06 hrs, Volume= 18,982 cf
Outflow = 5.72 cfs @ 12.06 hrs, Volume= 18,982 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.72 cfs @ 12.06 hrs, Volume= 18,982 cf
Routed to Pond 73P : CB-3

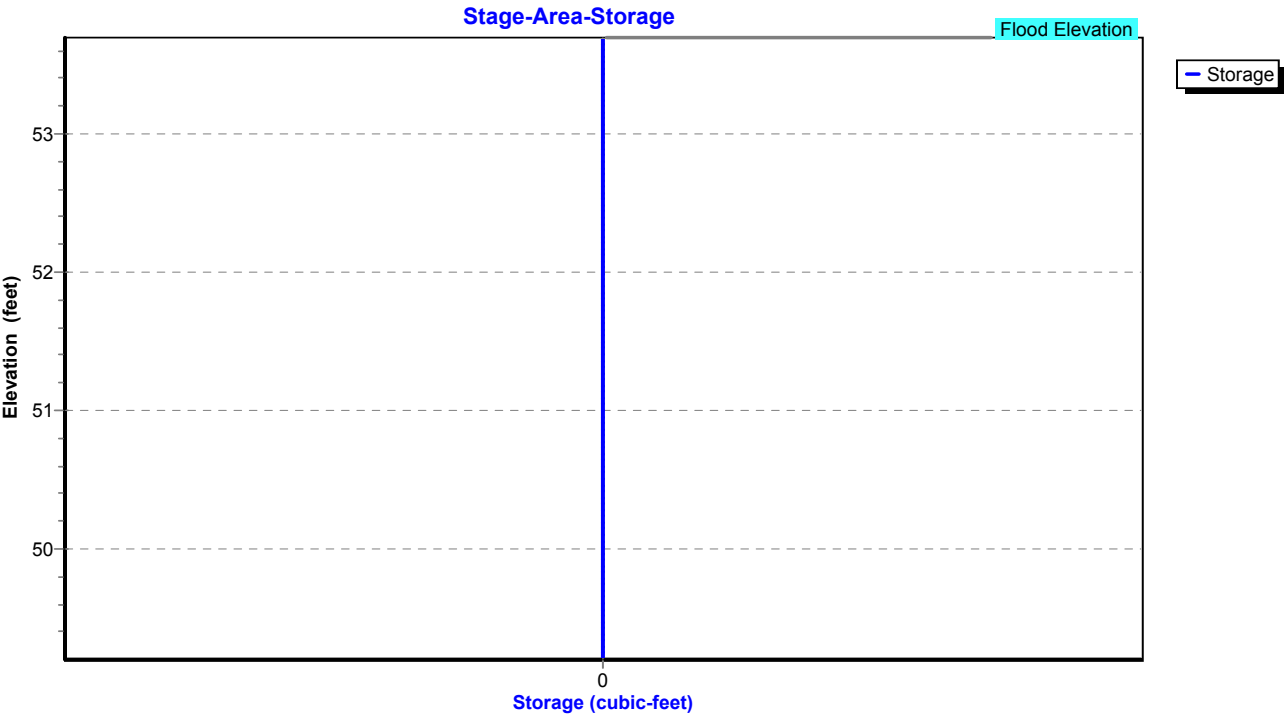
Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 50.76' @ 12.06 hrs
Flood Elev= 53.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	49.20'	15.0" Round Culvert L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.20' / 47.70' S= 0.0150 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=5.71 cfs @ 12.06 hrs HW=50.76' (Free Discharge)
↑1=Culvert (Inlet Controls 5.71 cfs @ 4.65 fps)



Pond 74P: CB-4



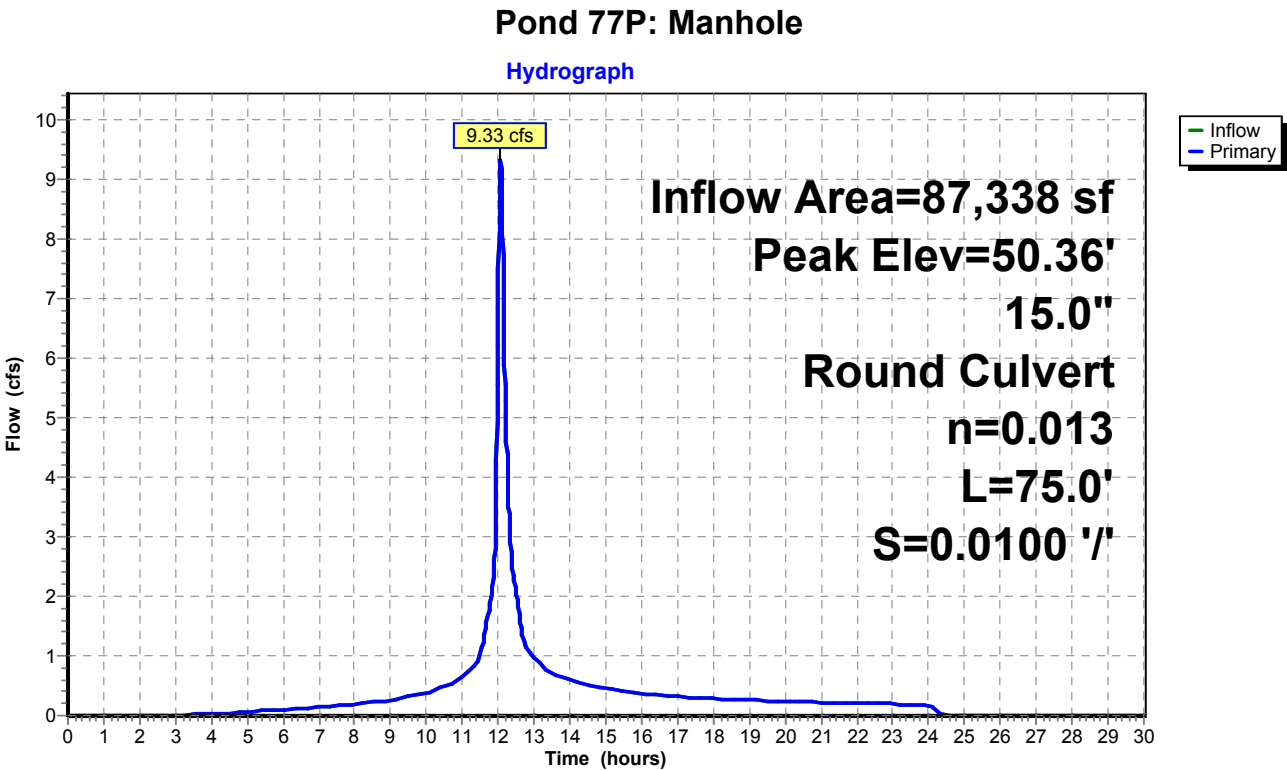
Summary for Pond 77P: Manhole

Inflow Area = 87,338 sf, 48.38% Impervious, Inflow Depth = 4.84" for 25 year event
Inflow = 9.33 cfs @ 12.06 hrs, Volume= 35,196 cf
Outflow = 9.33 cfs @ 12.06 hrs, Volume= 35,196 cf, Atten= 0%, Lag= 0.0 min
Primary = 9.33 cfs @ 12.06 hrs, Volume= 35,196 cf
Routed to Pond 63P : Manhole

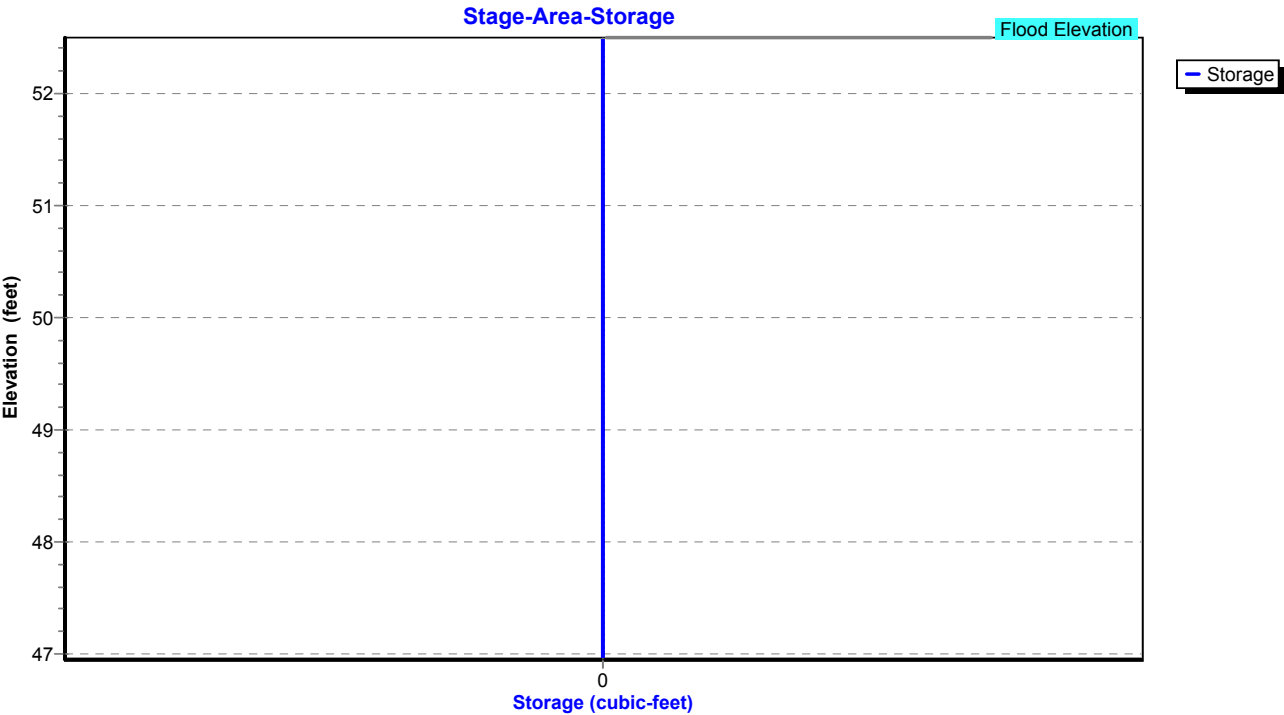
Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 50.36' @ 12.06 hrs
Flood Elev= 52.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.95'	15.0" Round Culvert L= 75.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.95' / 46.20' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=9.31 cfs @ 12.06 hrs HW=50.36' (Free Discharge)
1=Culvert (Barrel Controls 9.31 cfs @ 7.59 fps)



Pond 77P: Manhole



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Summary for Pond 79P: CB-8

Inflow Area = 3,920 sf, 100.00% Impervious, Inflow Depth = 6.24" for 25 year event
Inflow = 0.64 cfs @ 12.03 hrs, Volume= 2,039 cf
Outflow = 0.64 cfs @ 12.03 hrs, Volume= 2,039 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.64 cfs @ 12.03 hrs, Volume= 2,039 cf
Routed to Pond 63P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.60' @ 12.03 hrs

Flood Elev= 52.50'

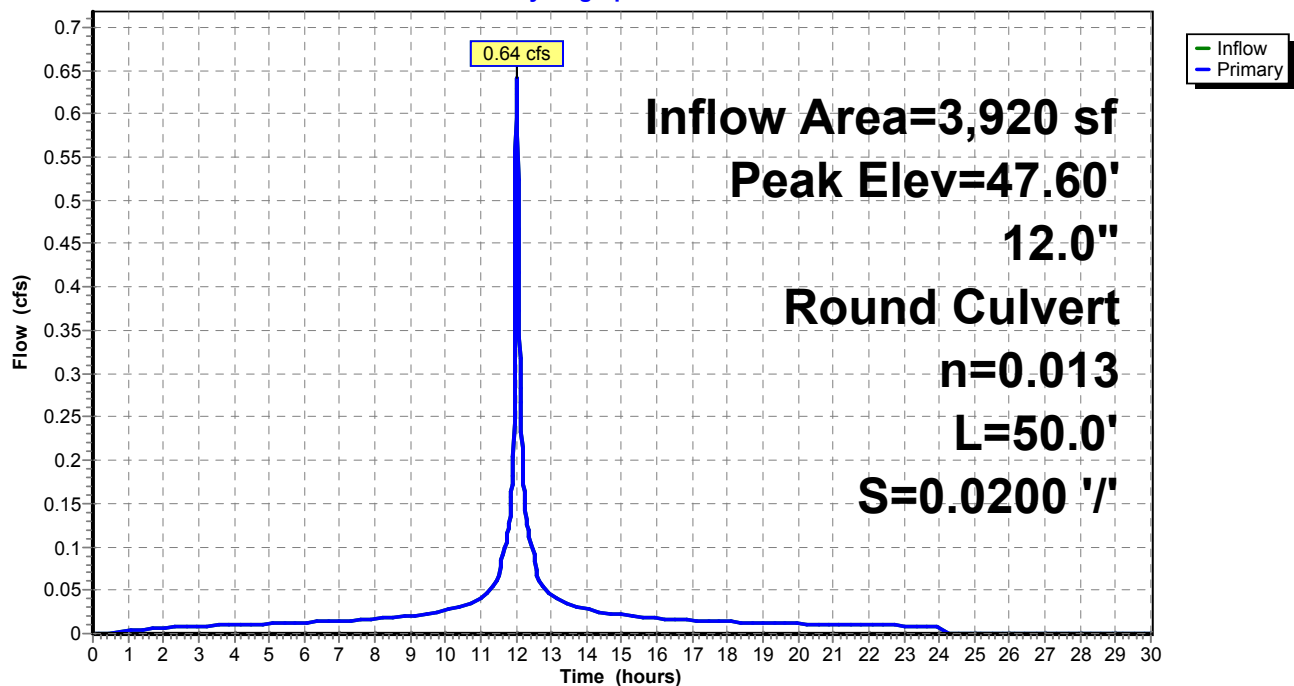
Device	Routing	Invert	Outlet Devices
#1	Primary	47.20'	12.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.20' / 46.20' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.64 cfs @ 12.03 hrs HW=47.60' (Free Discharge)

↑1=Culvert (Inlet Controls 0.64 cfs @ 2.16 fps)

Pond 79P: CB-8

Hydrograph



Proposed Conditions

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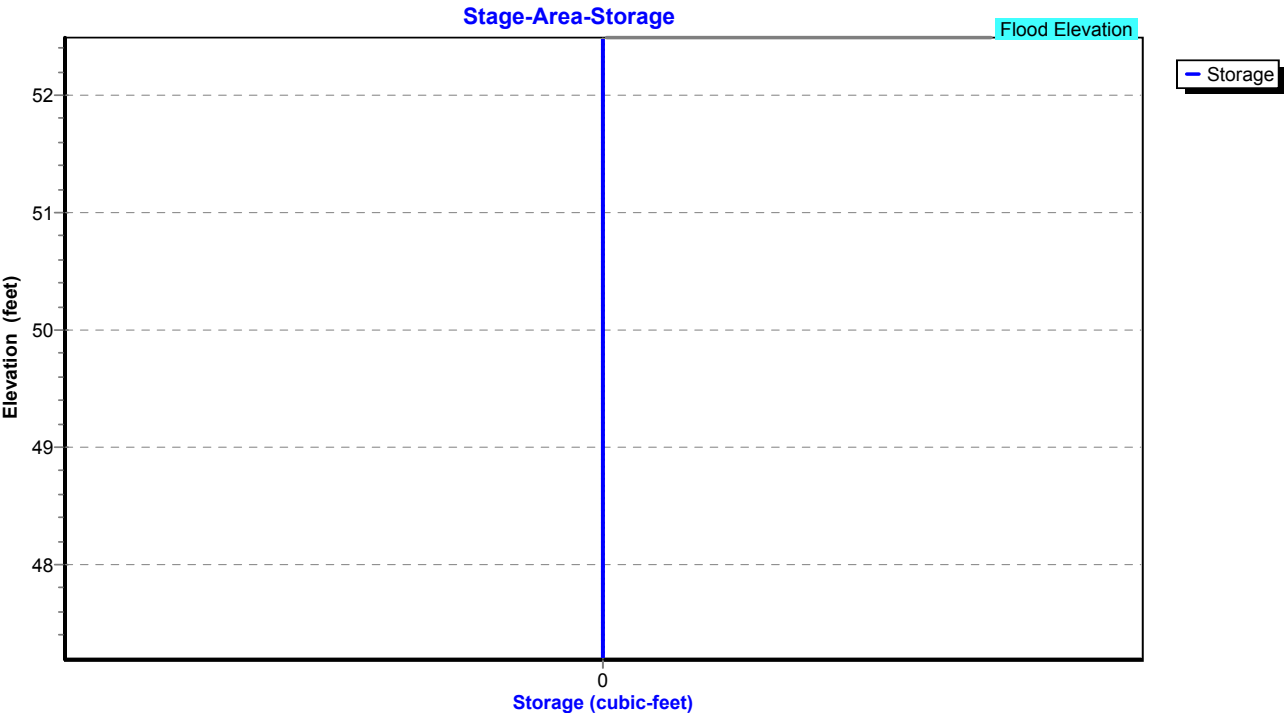
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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Pond 79P: CB-8



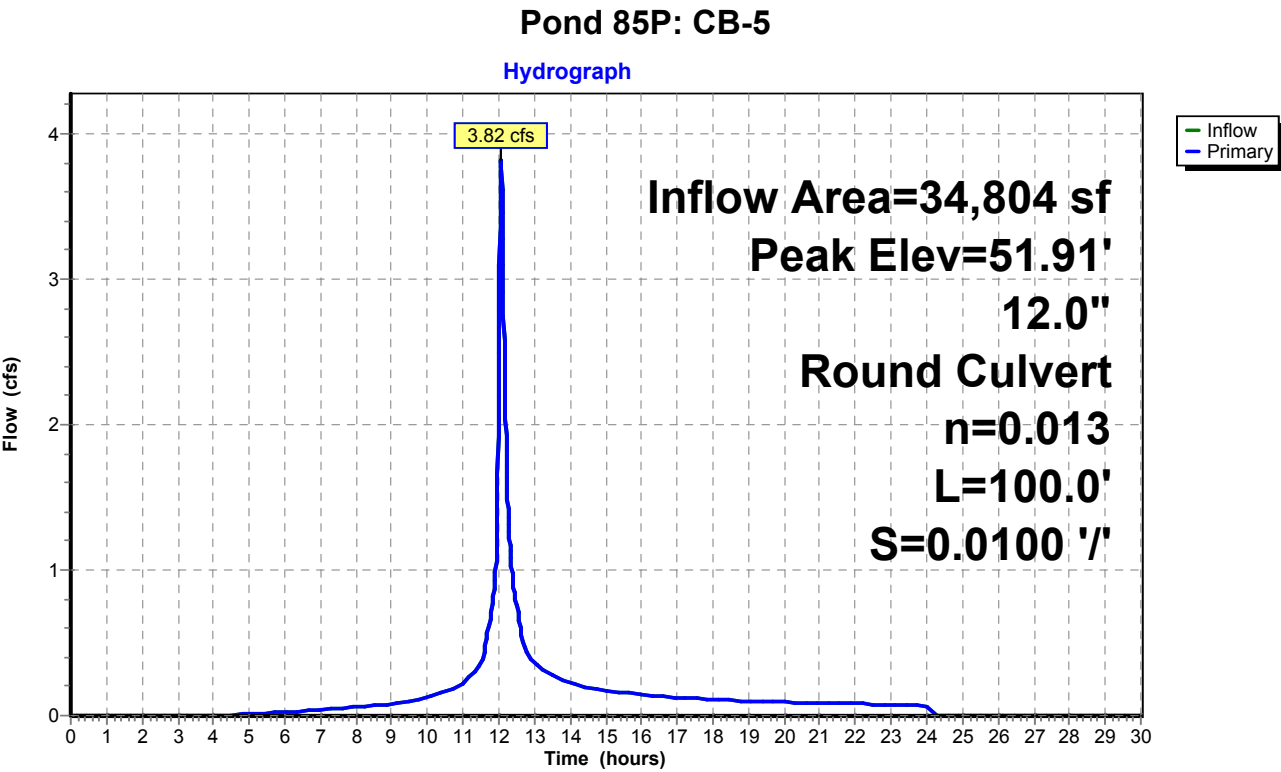
Summary for Pond 85P: CB-5

Inflow Area = 34,804 sf, 42.18% Impervious, Inflow Depth = 4.43" for 25 year event
Inflow = 3.82 cfs @ 12.07 hrs, Volume= 12,851 cf
Outflow = 3.82 cfs @ 12.07 hrs, Volume= 12,851 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.82 cfs @ 12.07 hrs, Volume= 12,851 cf
Routed to Pond 74P : CB-4

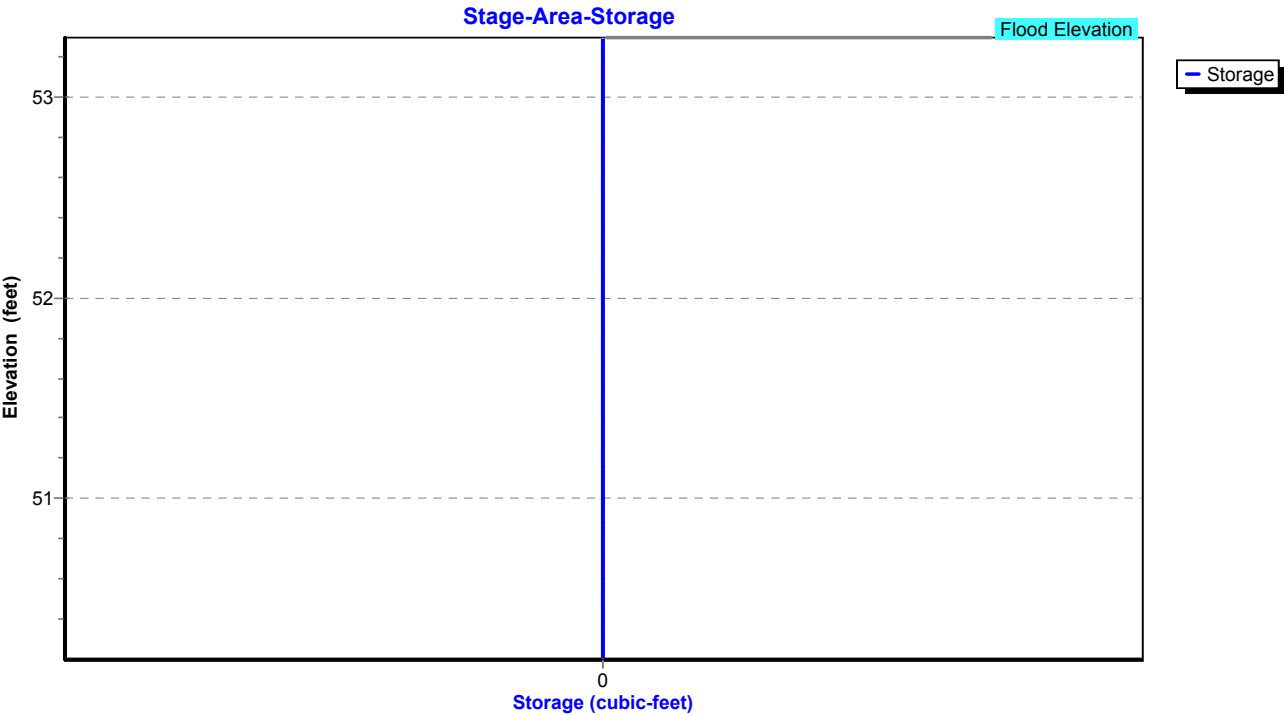
Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 51.91' @ 12.07 hrs
Flood Elev= 53.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	50.20'	12.0" Round Culvert L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 50.20' / 49.20' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=3.81 cfs @ 12.07 hrs HW=51.90' (Free Discharge)
1=Culvert (Barrel Controls 3.81 cfs @ 4.85 fps)



Pond 85P: CB-5



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NORWALK 24-hr S1 25 year Rainfall=6.48"

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Summary for Pond P: ADS Stormtech

Inflow Area = 16,901 sf, 100.00% Impervious, Inflow Depth = 6.24" for 25 year event
 Inflow = 2.76 cfs @ 12.03 hrs, Volume= 8,791 cf
 Outflow = 1.12 cfs @ 12.14 hrs, Volume= 8,791 cf, Atten= 59%, Lag= 7.2 min
 Primary = 1.12 cfs @ 12.14 hrs, Volume= 8,791 cf
 Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 54.39' @ 12.14 hrs Surf.Area= 749 sf Storage= 1,447 cf

Plug-Flow detention time= 18.6 min calculated for 8,788 cf (100% of inflow)
 Center-of-Mass det. time= 18.6 min (762.5 - 743.9)

Volume	Invert	Avail.Storage	Storage Description
#1A	51.34'	764 cf	15.75'W x 46.34'L x 3.75'H Field A 2,737 cf Overall - 827 cf Embedded = 1,910 cf x 40.0% Voids
#2A	51.84'	827 cf	ADS_StormTech SC-740 +Cap x 18 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 18 Chambers in 3 Rows
#3	51.34'	114 cf	5.00'D x 5.80'H OCS
		1,705 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	51.34'	12.0" Round Culvert L= 4.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 51.34' / 51.30' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	51.34'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	54.30'	5.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=1.10 cfs @ 12.14 hrs HW=54.39' (Free Discharge)

1=Culvert (Passes 1.10 cfs of 6.04 cfs potential flow)

2=Orifice/Grate (Orifice Controls 0.71 cfs @ 8.18 fps)

3=Broad-Crested Rectangular Weir (Weir Controls 0.39 cfs @ 0.85 fps)

Proposed Conditions

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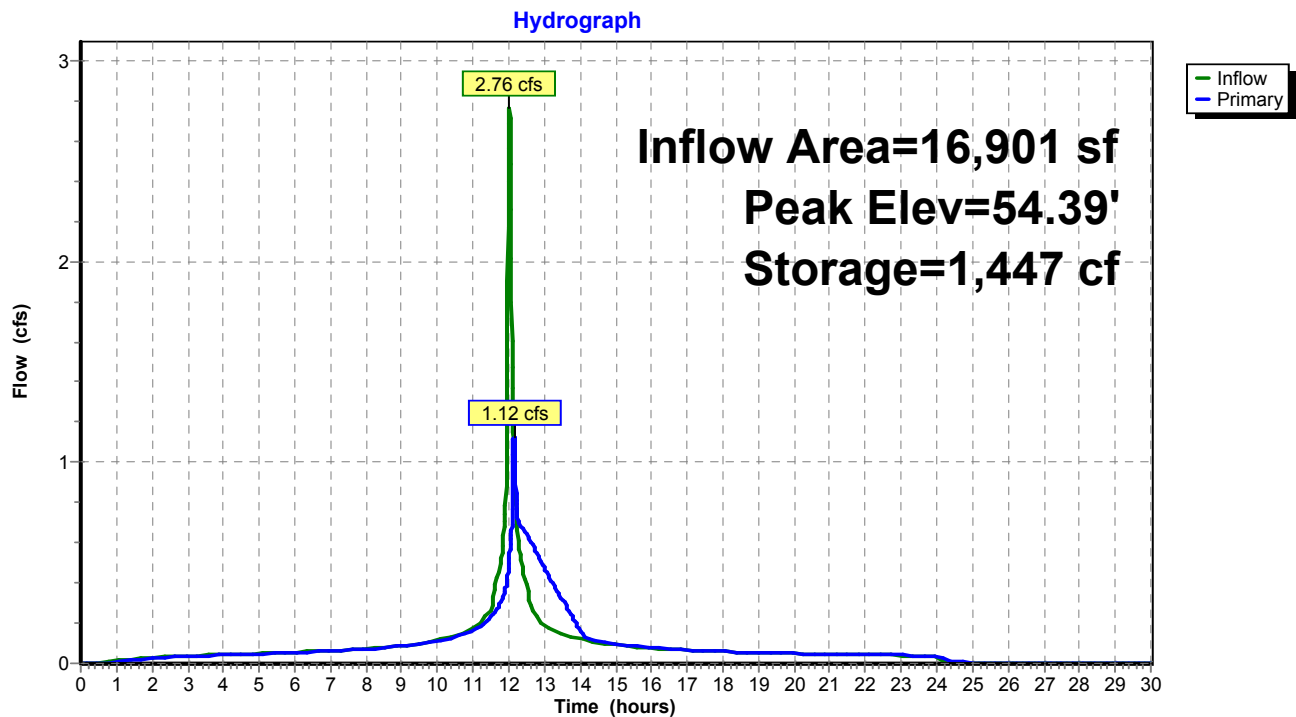
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NORWALK 24-hr S1 25 year Rainfall=6.48"

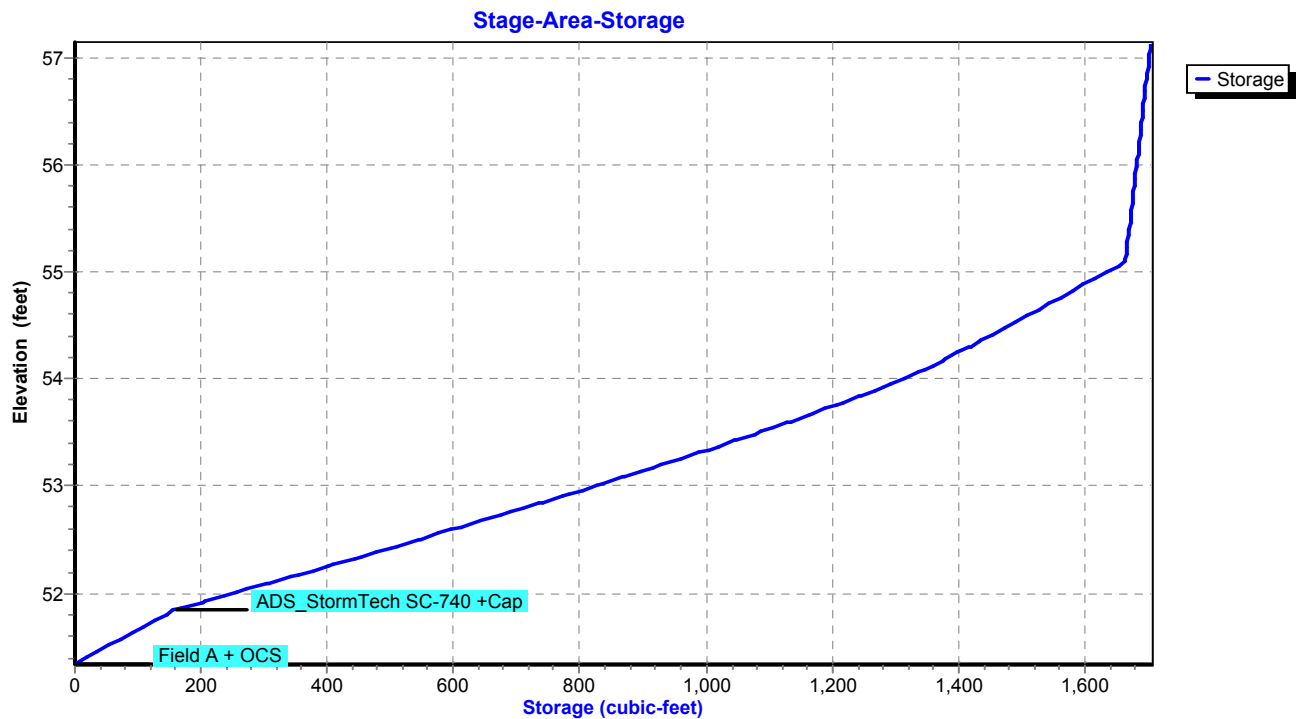
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Pond P: ADS Stormtech



Pond P: ADS Stormtech



Summary for Subcatchment 4S: Area 4

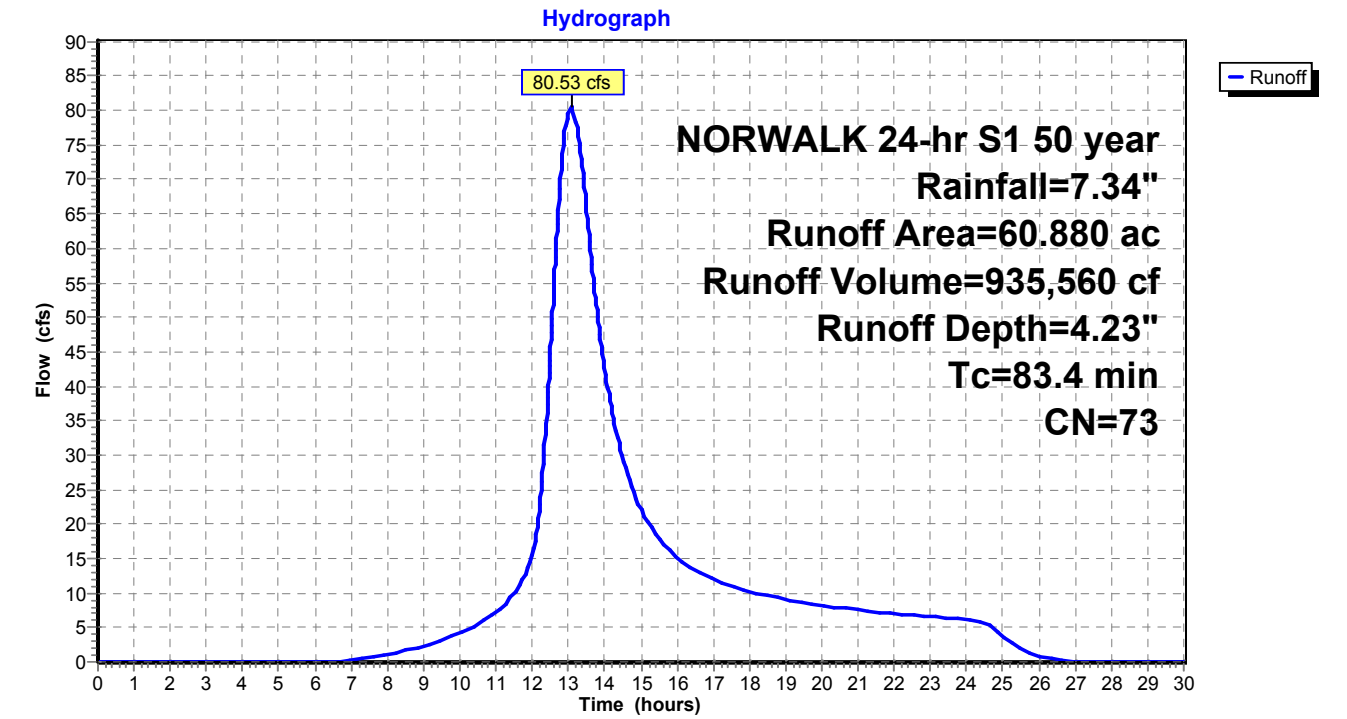
Runoff = 80.53 cfs @ 13.07 hrs, Volume= 935,560 cf, Depth= 4.23"
Routed to Pond 18P : DET 4 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
8.210	61	>75% Grass cover, Good, HSG B
0.140	74	>75% Grass cover, Good, HSG C
0.380	80	>75% Grass cover, Good, HSG D
25.920	70	1/2 acre lots, 25% imp, HSG B
22.630	80	1/2 acre lots, 25% imp, HSG C
3.600	85	1/2 acre lots, 25% imp, HSG D
60.880	73	Weighted Average
47.842		78.58% Pervious Area
13.037		21.42% Impervious Area

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

Subcatchment 4S: Area 4



Summary for Subcatchment 5S: Area 5

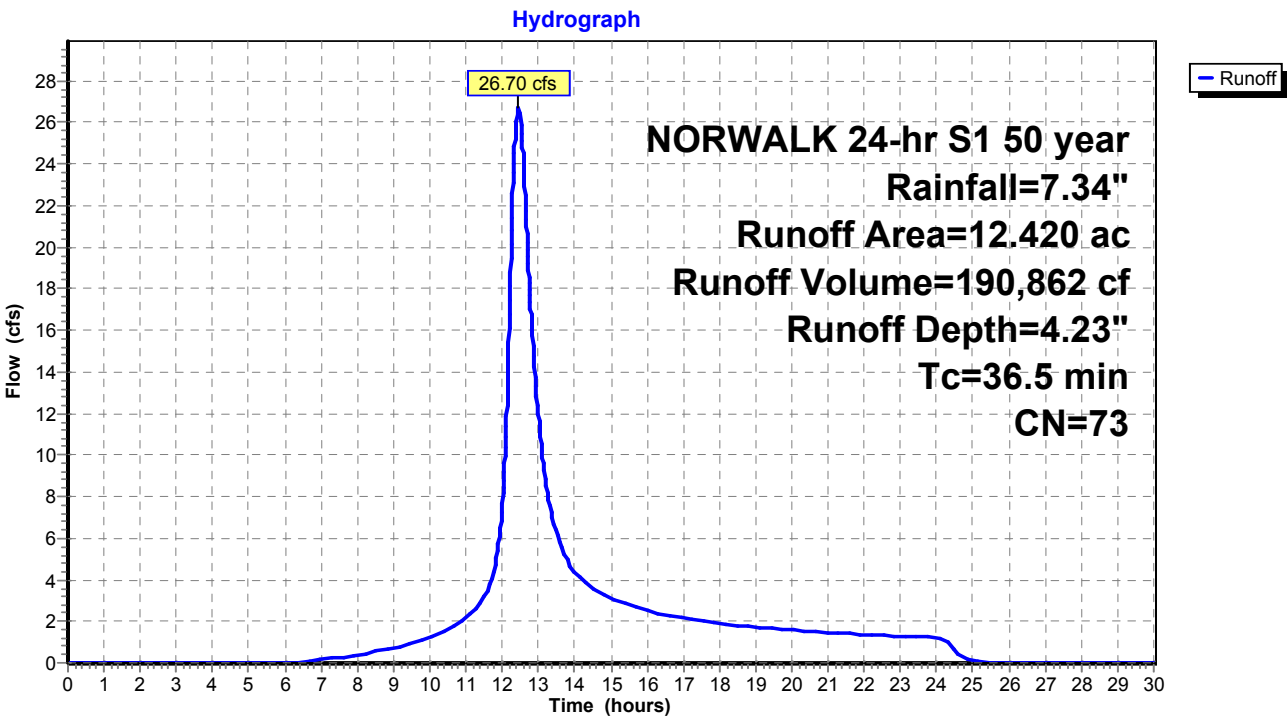
Runoff = 26.70 cfs @ 12.45 hrs, Volume= 190,862 cf, Depth= 4.23"
Routed to Pond 5P : DET 5 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
4.770	61	>75% Grass cover, Good, HSG B
5.210	74	>75% Grass cover, Good, HSG C
0.390	80	>75% Grass cover, Good, HSG D
2.050	98	Paved parking & roofs
12.420	73	Weighted Average
10.370		83.49% Pervious Area
2.050		16.51% Impervious Area

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

Subcatchment 5S: Area 5



Summary for Subcatchment 6S: Area 6

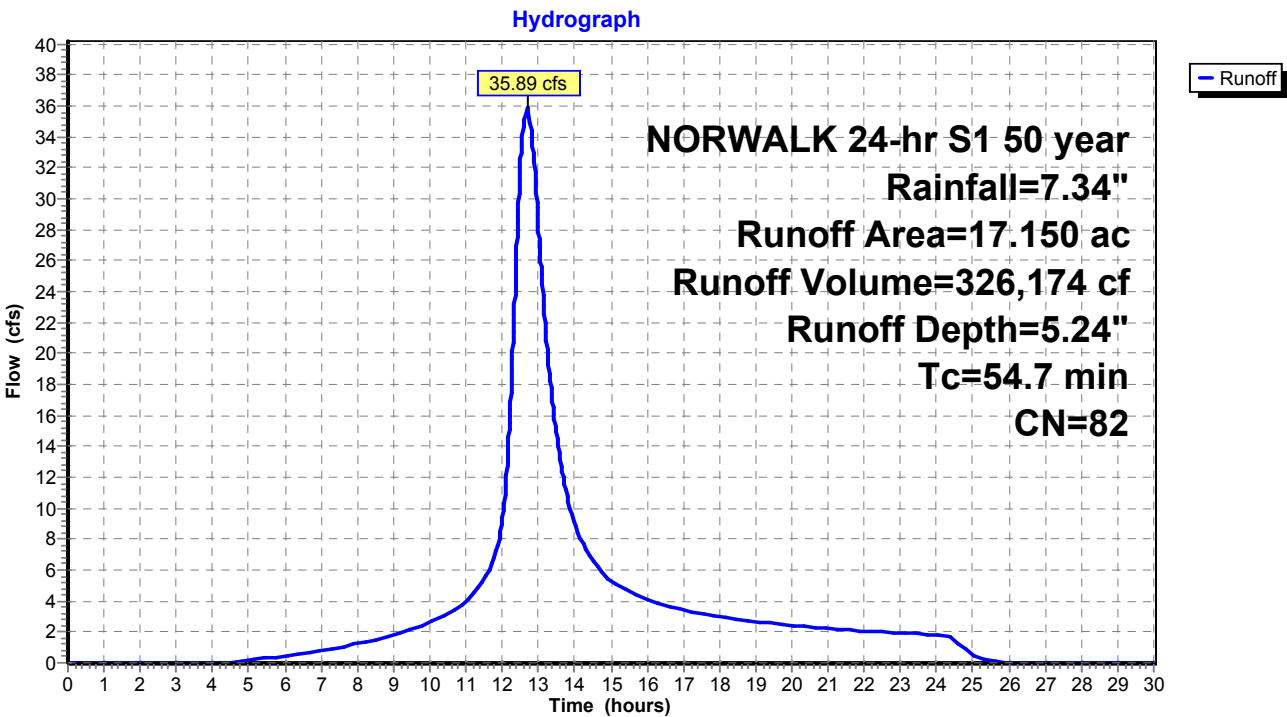
Runoff = 35.89 cfs @ 12.70 hrs, Volume= 326,174 cf, Depth= 5.24"
Routed to Pond 6P : DET 6 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
9.290	71	Meadow, non-grazed, HSG C
5.410	98	Paved parking & roofs
1.480	77	Woods, Good, HSG D
0.970	98	Paved parking & roofs
17.150	82	Weighted Average
10.770		62.80% Pervious Area
6.380		37.20% Impervious Area

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

Subcatchment 6S: Area 6



Summary for Subcatchment 7S: Area 7

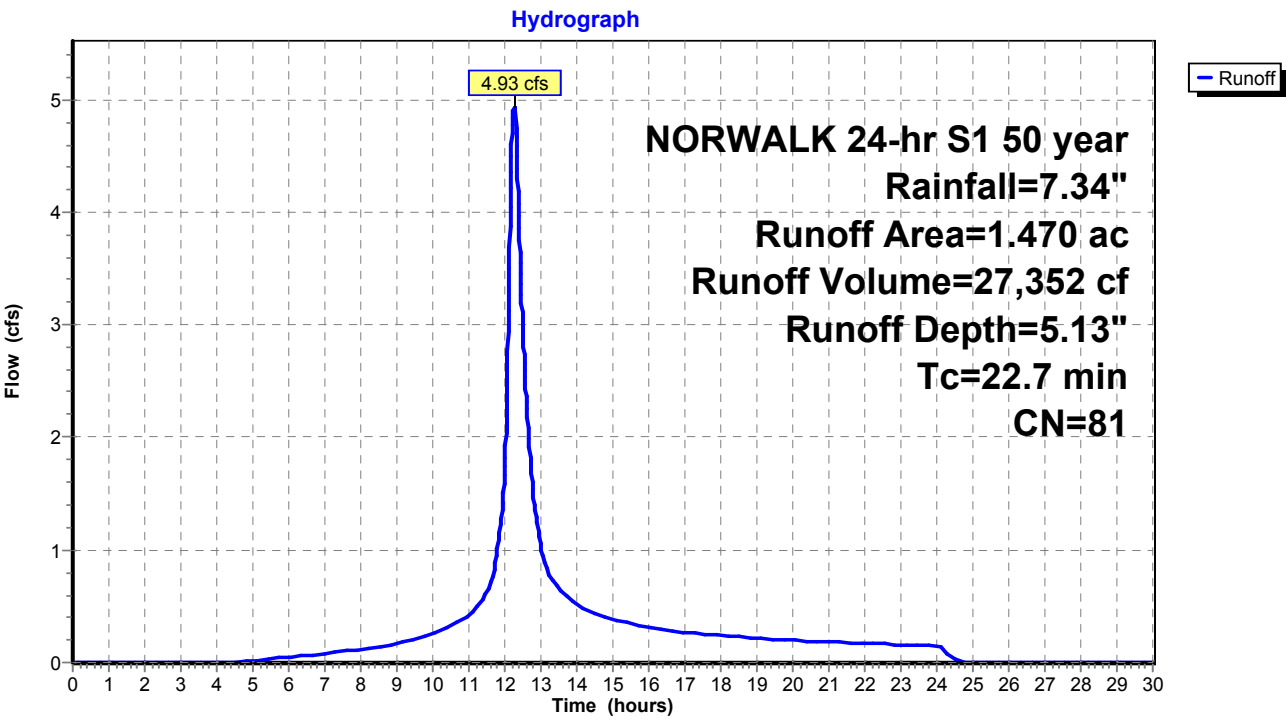
Runoff = 4.93 cfs @ 12.26 hrs, Volume= 27,352 cf, Depth= 5.13"
Routed to Pond 7P : DET 7 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.890	79	50-75% Grass cover, Fair, HSG C
0.580	84	50-75% Grass cover, Fair, HSG D
1.470	81	Weighted Average
1.470		100.00% Pervious Area

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

Subcatchment 7S: Area 7



Summary for Subcatchment 8S: Area 8

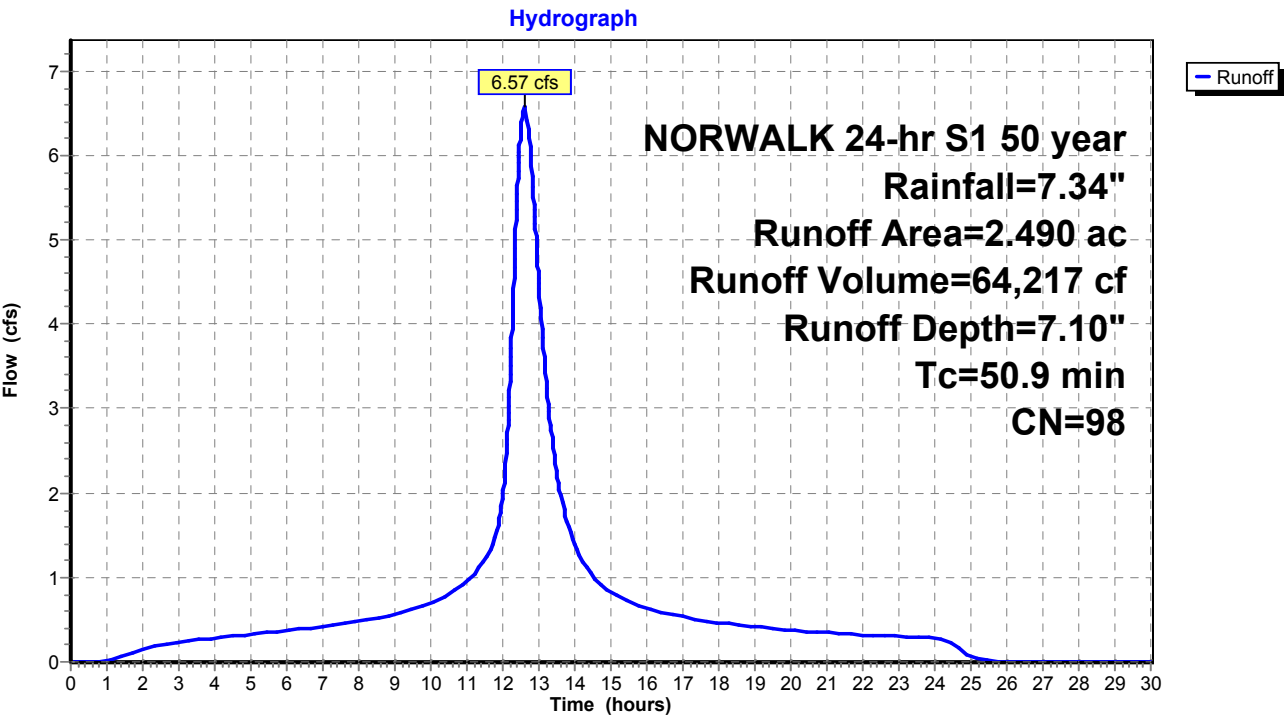
Runoff = 6.57 cfs @ 12.61 hrs, Volume= 64,217 cf, Depth= 7.10"
Routed to Pond 8P : Comb. 5,6,7,8,9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
2.490	98	Paved parking & roofs
2.490		100.00% Impervious Area

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

Subcatchment 8S: Area 8



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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 9S: Area 9

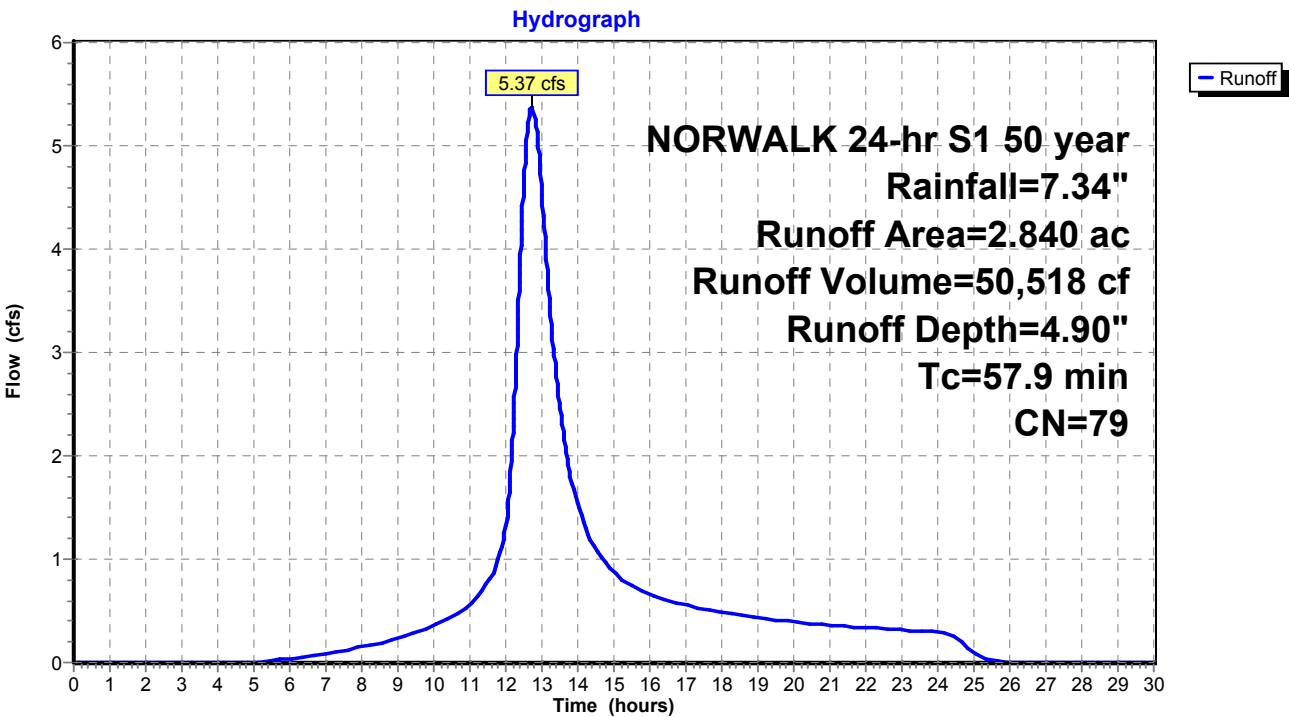
Runoff = 5.37 cfs @ 12.73 hrs, Volume= 50,518 cf, Depth= 4.90"
Routed to Pond 8P : Comb. 5,6,7,8,9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.530	74	>75% Grass cover, Good, HSG C
2.310	80	>75% Grass cover, Good, HSG D
2.840	79	Weighted Average
2.840		100.00% Pervious Area

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

Subcatchment 9S: Area 9



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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 10AS: Area 10A

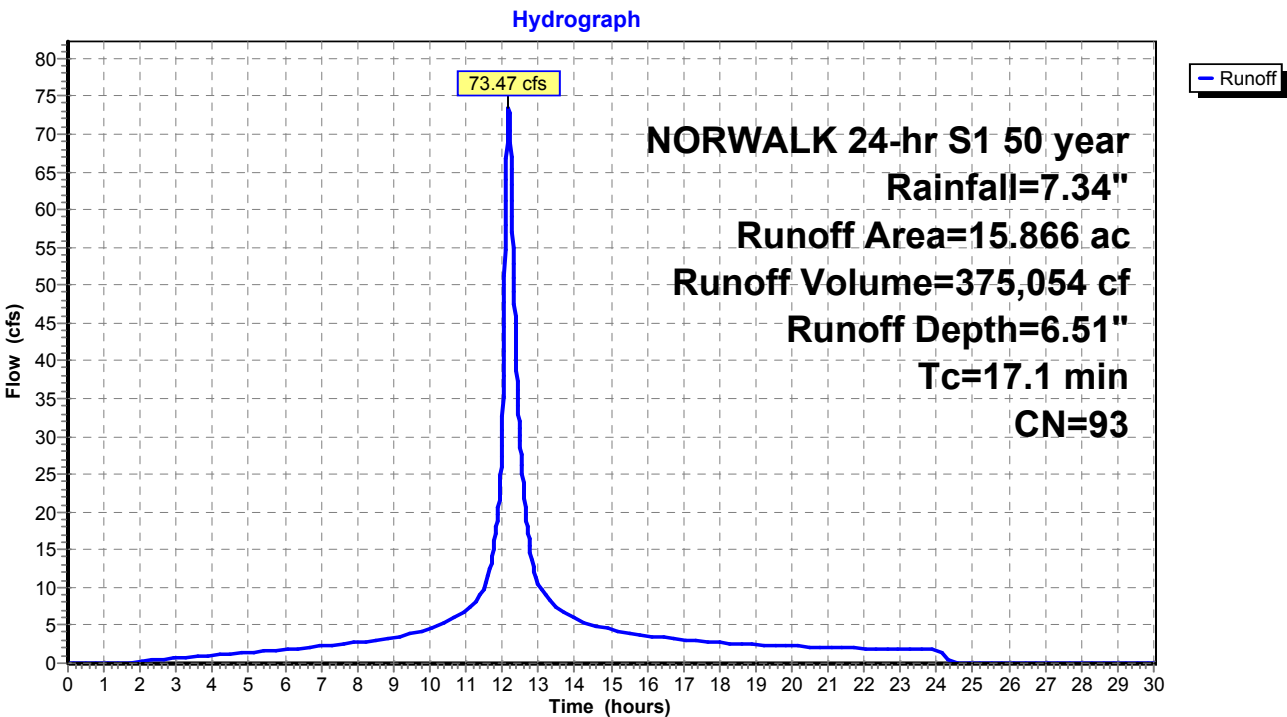
Runoff = 73.47 cfs @ 12.18 hrs, Volume= 375,054 cf, Depth= 6.51"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
3.905	79	50-75% Grass cover, Fair, HSG C
11.961	98	Paved roads w/curbs & sewers, HSG C
15.866	93	Weighted Average
3.905		24.61% Pervious Area
11.961		75.39% Impervious Area

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

Subcatchment 10AS: Area 10A



Summary for Subcatchment 10BS: Area 10B

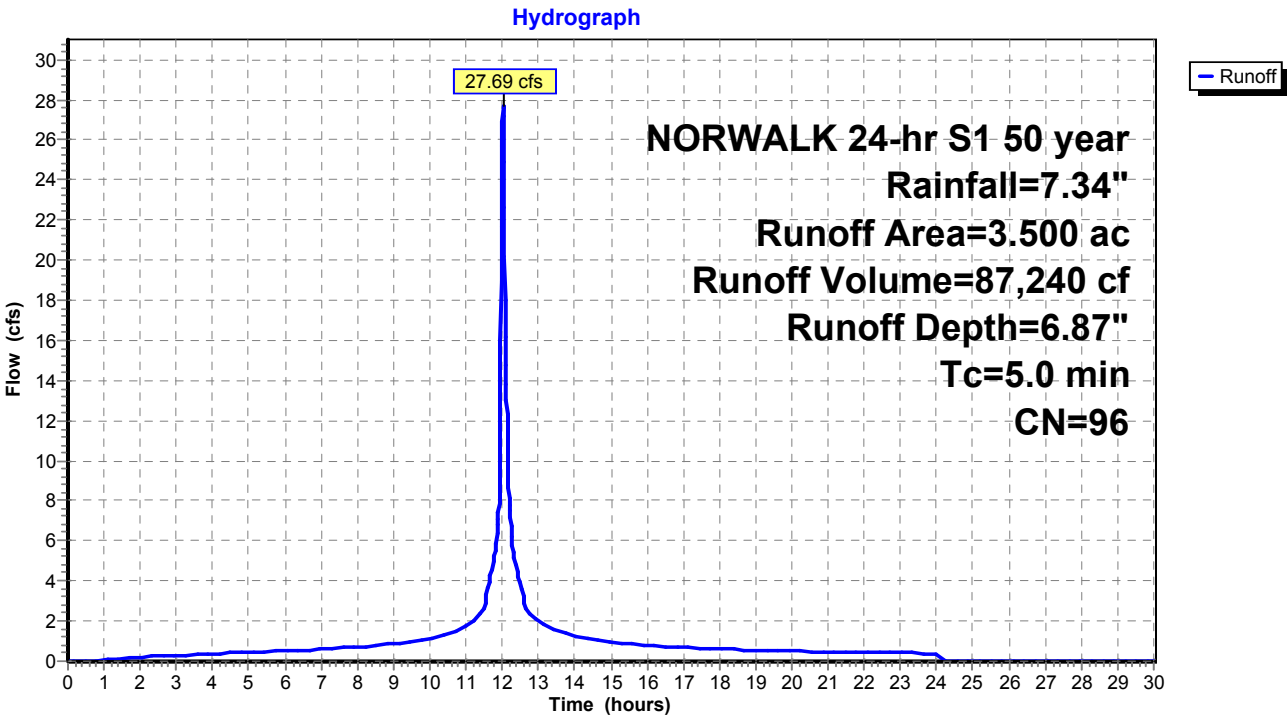
Runoff = 27.69 cfs @ 12.03 hrs, Volume= 87,240 cf, Depth= 6.87"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
3.308	98	Paved parking & roofs
0.192	61	>75% Grass cover, Good, HSG B
3.500	96	Weighted Average
0.192		5.49% Pervious Area
3.308		94.51% Impervious Area

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

Subcatchment 10BS: Area 10B



Summary for Subcatchment 10CS: Area 10C

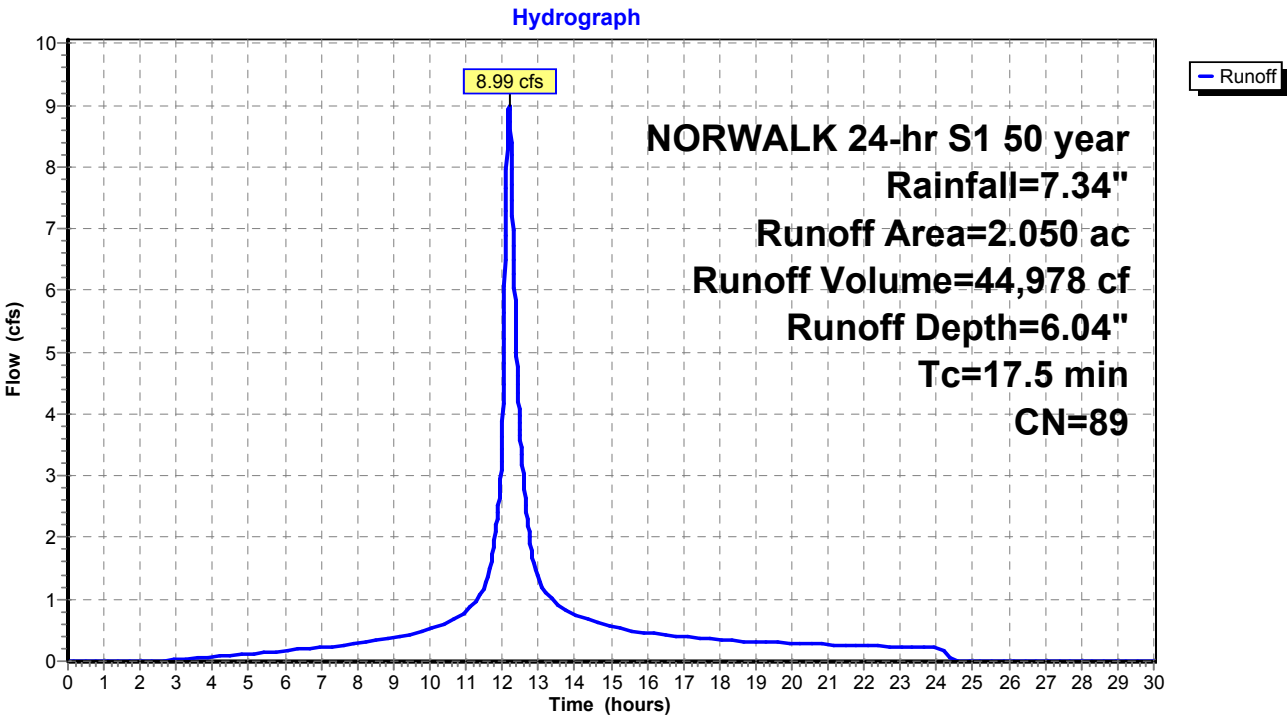
Runoff = 8.99 cfs @ 12.19 hrs, Volume= 44,978 cf, Depth= 6.04"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
1.526	98	Paved parking & roofs
0.524	61	>75% Grass cover, Good, HSG B
2.050	89	Weighted Average
0.524		25.56% Pervious Area
1.526		74.44% Impervious Area

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

Subcatchment 10CS: Area 10C



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Summary for Subcatchment 10DS: Area 10D

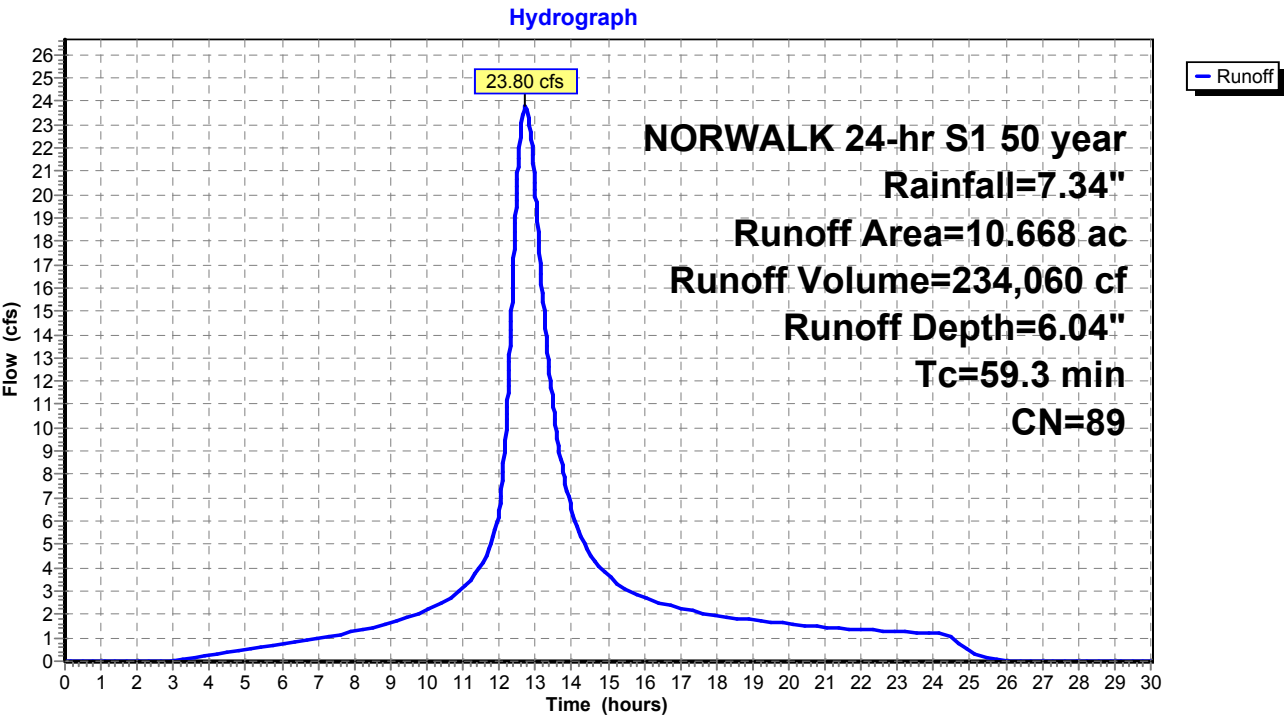
Runoff = 23.80 cfs @ 12.72 hrs, Volume= 234,060 cf, Depth= 6.04"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
5.033	79	50-75% Grass cover, Fair, HSG C
5.635	98	Paved parking, HSG C
10.668	89	Weighted Average
5.033		47.18% Pervious Area
5.635		52.82% Impervious Area

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

Subcatchment 10DS: Area 10D



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Summary for Subcatchment 10ES: Area 10E

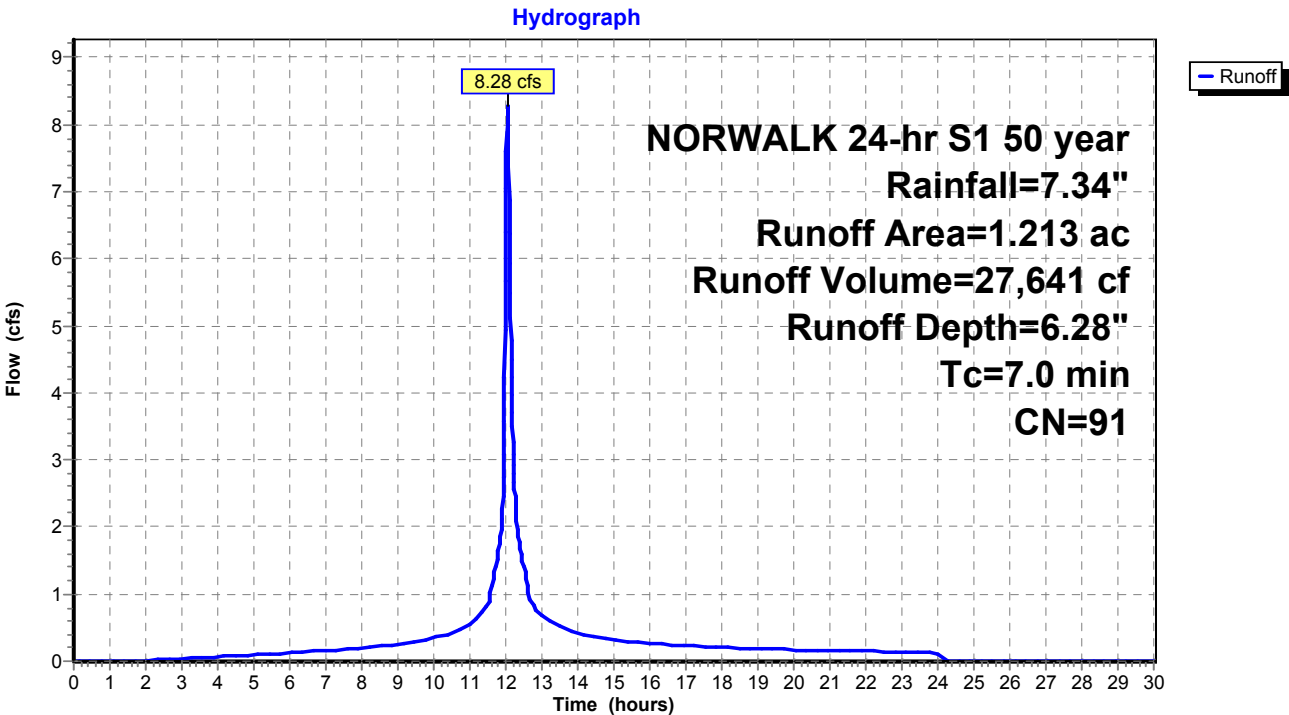
Runoff = 8.28 cfs @ 12.05 hrs, Volume= 27,641 cf, Depth= 6.28"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.781	98	Paved parking, HSG C
0.432	79	50-75% Grass cover, Fair, HSG C
1.213	91	Weighted Average
0.432		35.61% Pervious Area
0.781		64.39% Impervious Area

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

Subcatchment 10ES: Area 10E



Summary for Subcatchment 10FS: Area 10F

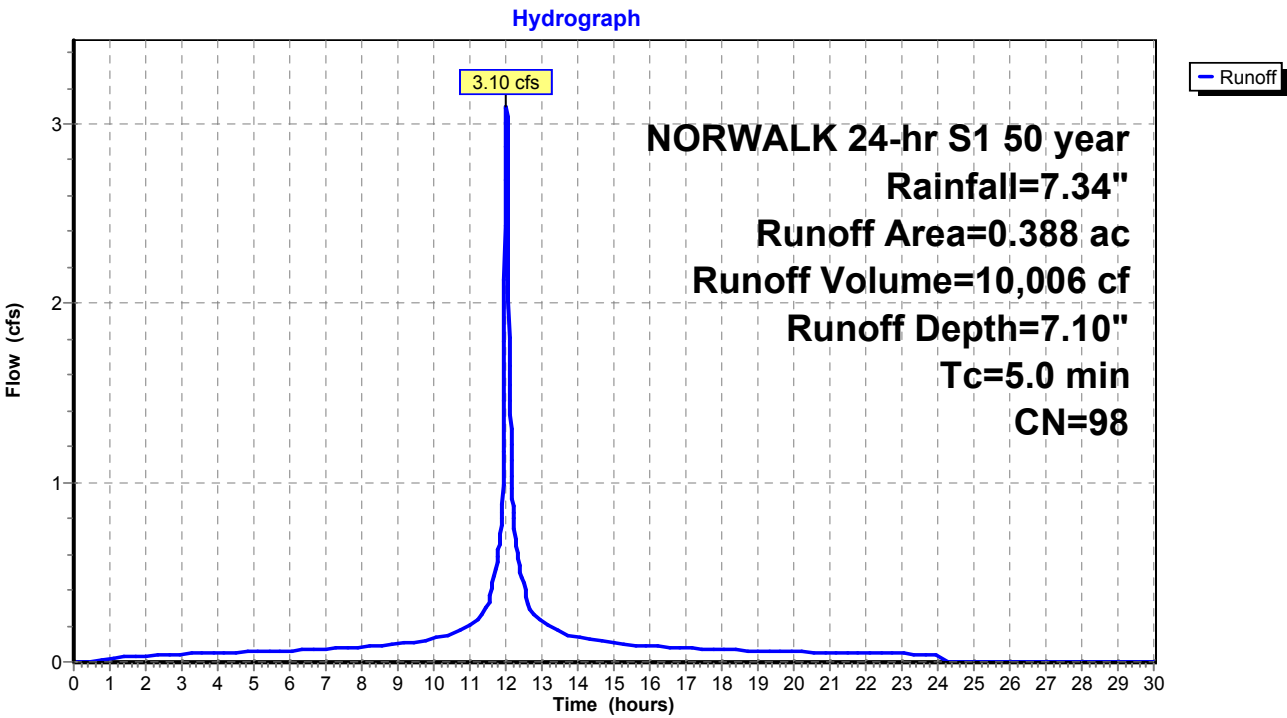
Runoff = 3.10 cfs @ 12.03 hrs, Volume= 10,006 cf, Depth= 7.10"
Routed to Pond P : ADS Stormtech

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.388	98	Paved roads w/curbs & sewers, HSG C
0.388		100.00% Impervious Area

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

Subcatchment 10FS: Area 10F



Summary for Subcatchment 10GS: Area 10G

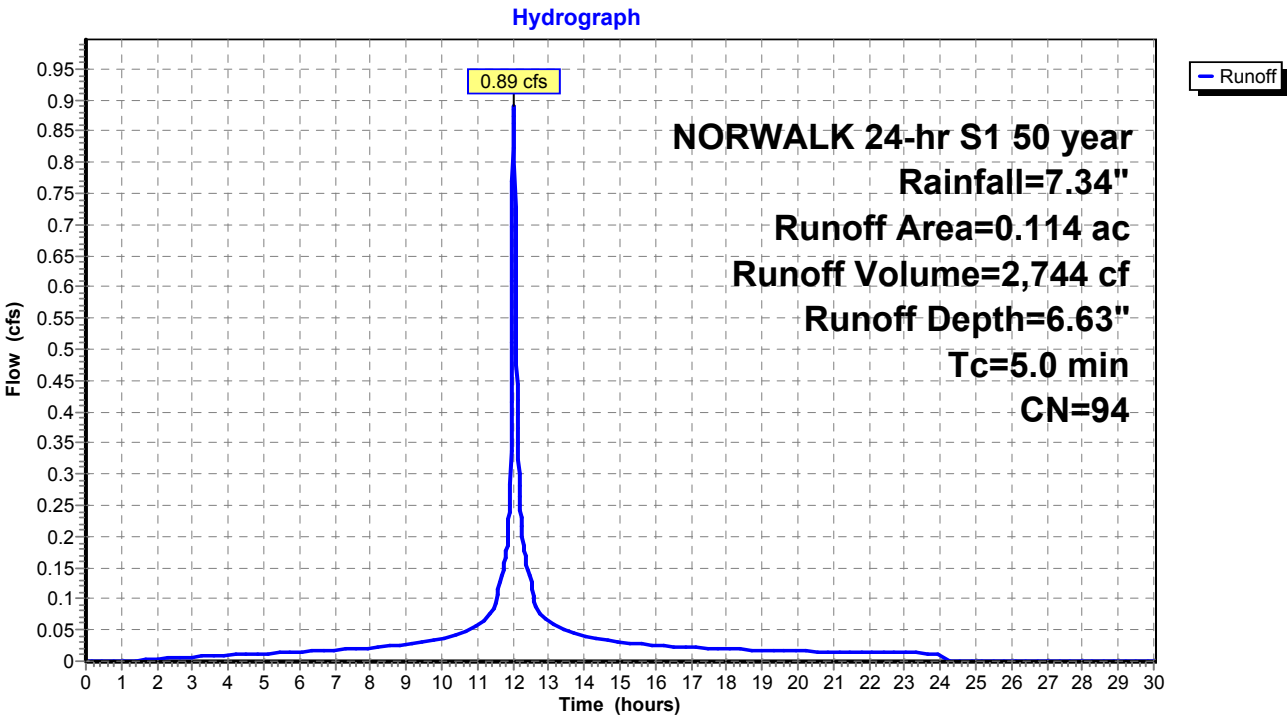
Runoff = 0.89 cfs @ 12.03 hrs, Volume= 2,744 cf, Depth= 6.63"
Routed to Pond 20P : ADS Stormtech (160LP)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

	Area (ac)	CN	Description
*	0.092	98	Paved parking, HSG C
*	0.022	79	50-75% Grass cover, Fair, HSG C
	0.114	94	Weighted Average
	0.022		19.30% Pervious Area
	0.092		80.70% Impervious Area

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

Subcatchment 10GS: Area 10G



Summary for Subcatchment 11S: Area 11

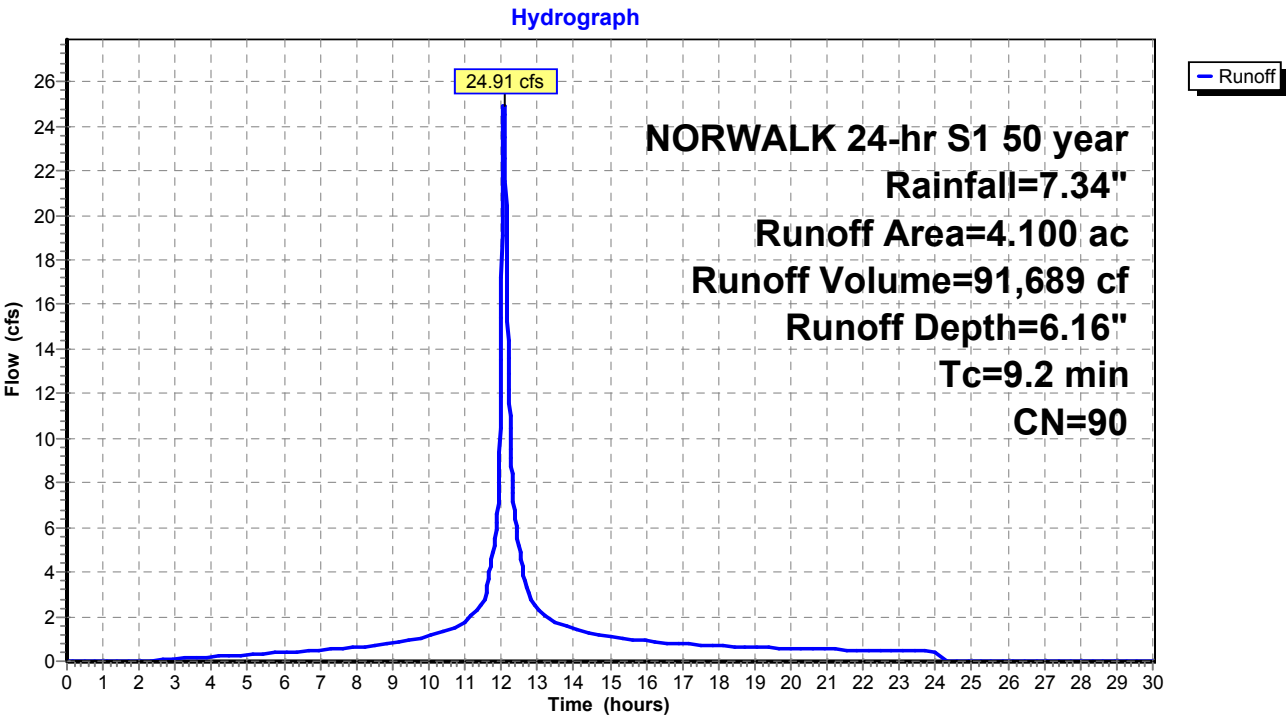
Runoff = 24.91 cfs @ 12.07 hrs, Volume= 91,689 cf, Depth= 6.16"
Routed to Pond 17P : DET 12 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
1.450	74	>75% Grass cover, Good, HSG C
2.650	98	Paved parking & roofs
4.100	90	Weighted Average
1.450		35.37% Pervious Area
2.650		64.63% Impervious Area

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

Subcatchment 11S: Area 11



Summary for Subcatchment 12S: Area 12

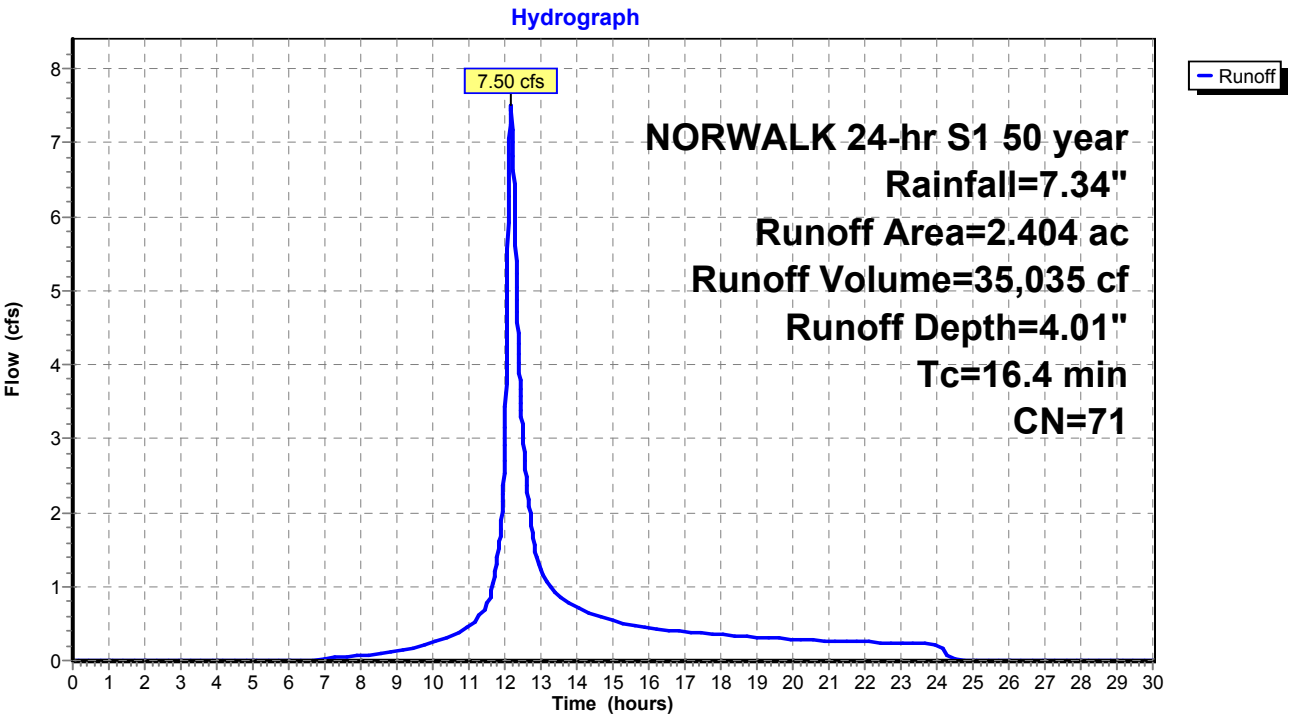
Runoff = 7.50 cfs @ 12.18 hrs, Volume= 35,035 cf, Depth= 4.01"
Routed to Pond 17P : DET 12 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
2.054	70	Woods, Good, HSG C
0.350	77	Woods, Good, HSG D
2.404	71	Weighted Average
2.404		100.00% Pervious Area

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

Subcatchment 12S: Area 12



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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 13S: Area 13

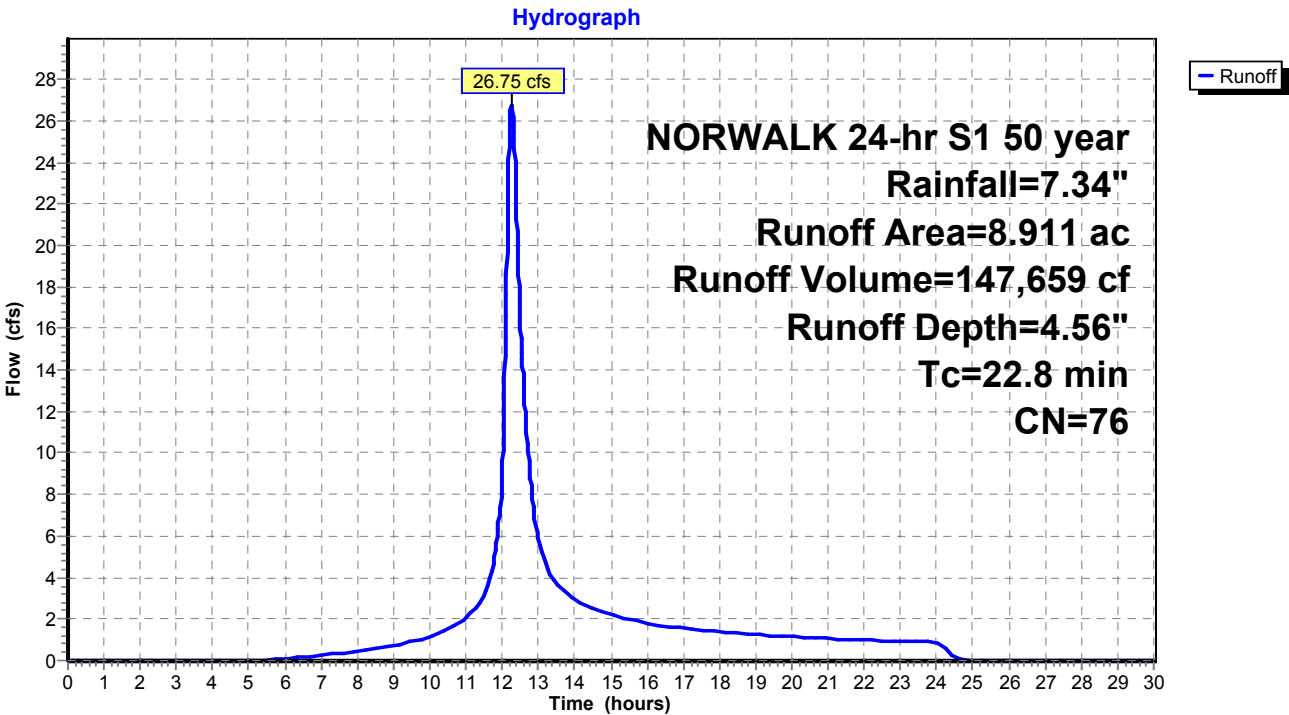
Runoff = 26.75 cfs @ 12.26 hrs, Volume= 147,659 cf, Depth= 4.56"
Routed to Pond 1P : RR Culvert 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
1.220	70	Woods, Good, HSG C
7.691	77	Woods, Good, HSG D
8.911	76	Weighted Average
8.911		100.00% Pervious Area

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

Subcatchment 13S: Area 13



Summary for Subcatchment 14S: Area 14

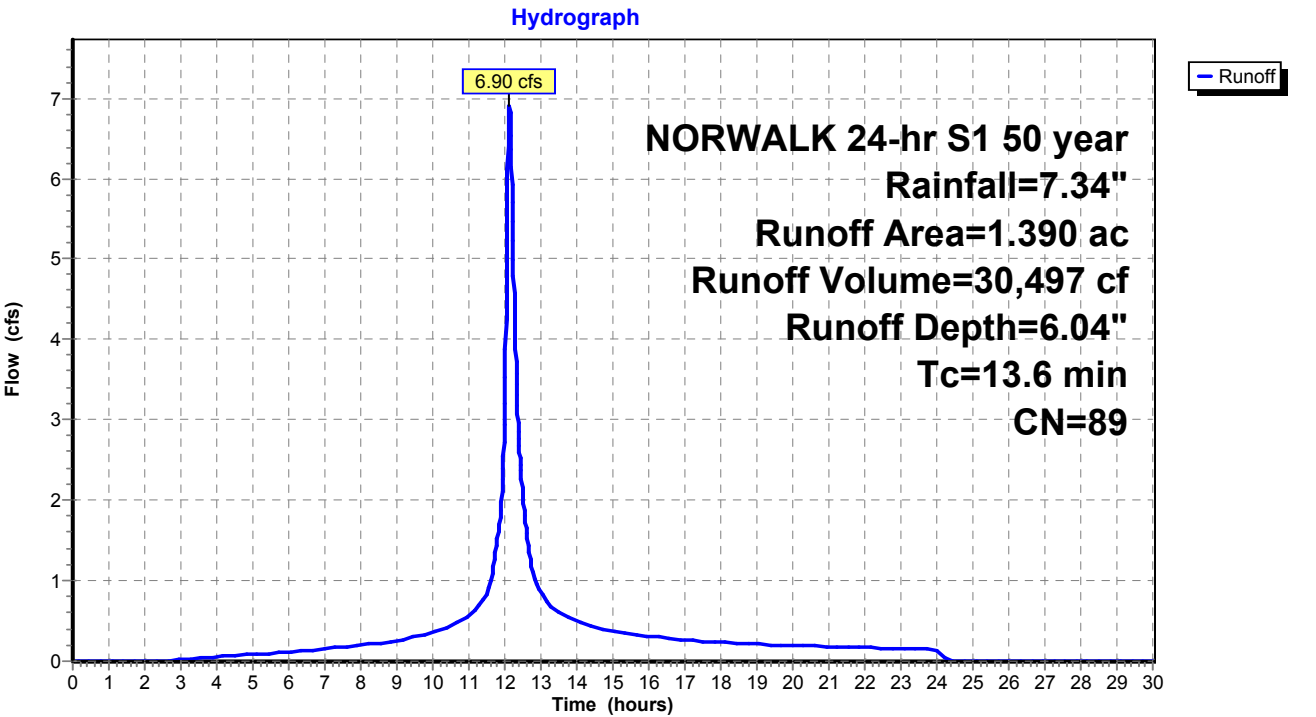
Runoff = 6.90 cfs @ 12.13 hrs, Volume= 30,497 cf, Depth= 6.04"
Routed to Pond 26P : DET 16 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.510	74	>75% Grass cover, Good, HSG C
0.880	98	Paved parking & roofs
1.390	89	Weighted Average
0.510		36.69% Pervious Area
0.880		63.31% Impervious Area

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

Subcatchment 14S: Area 14



Summary for Subcatchment 15S: Area 15

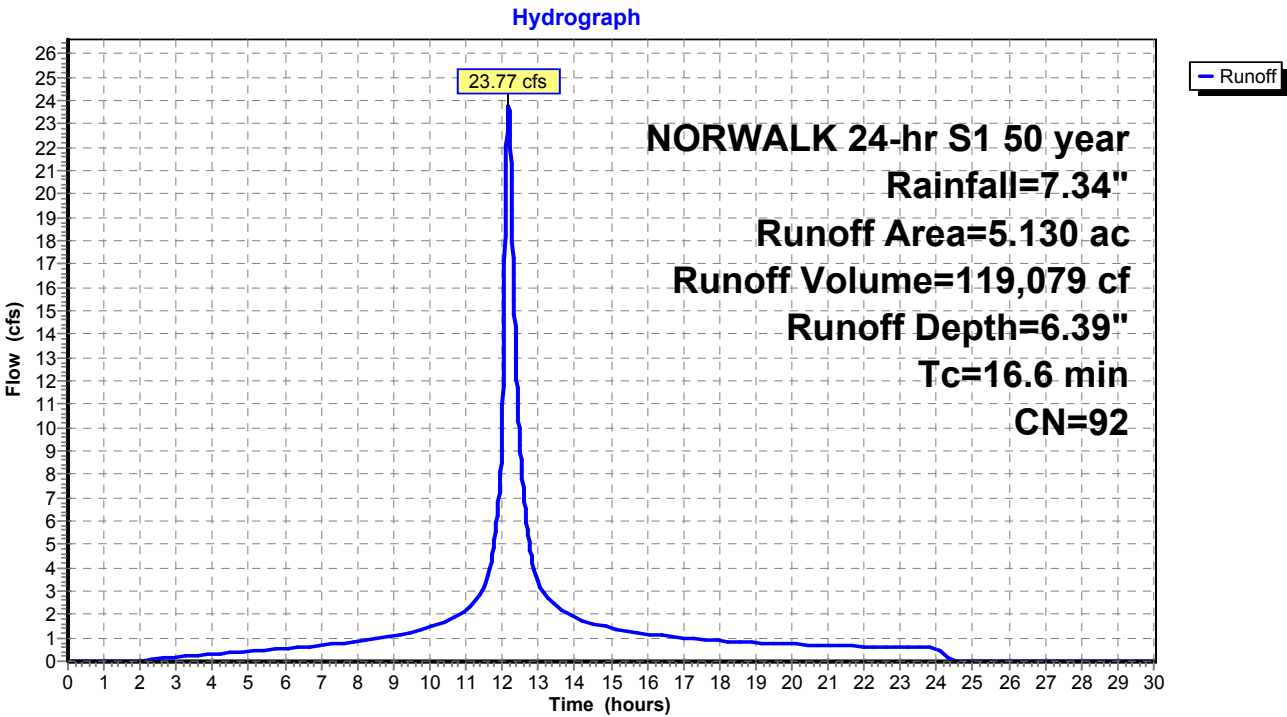
Runoff = 23.77 cfs @ 12.17 hrs, Volume= 119,079 cf, Depth= 6.39"
Routed to Pond 27P : DET 17 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
1.250	74	>75% Grass cover, Good, HSG C
3.880	98	Paved parking & roofs
5.130	92	Weighted Average
1.250		24.37% Pervious Area
3.880		75.63% Impervious Area

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

Subcatchment 15S: Area 15



Summary for Subcatchment 16S: Area 16A

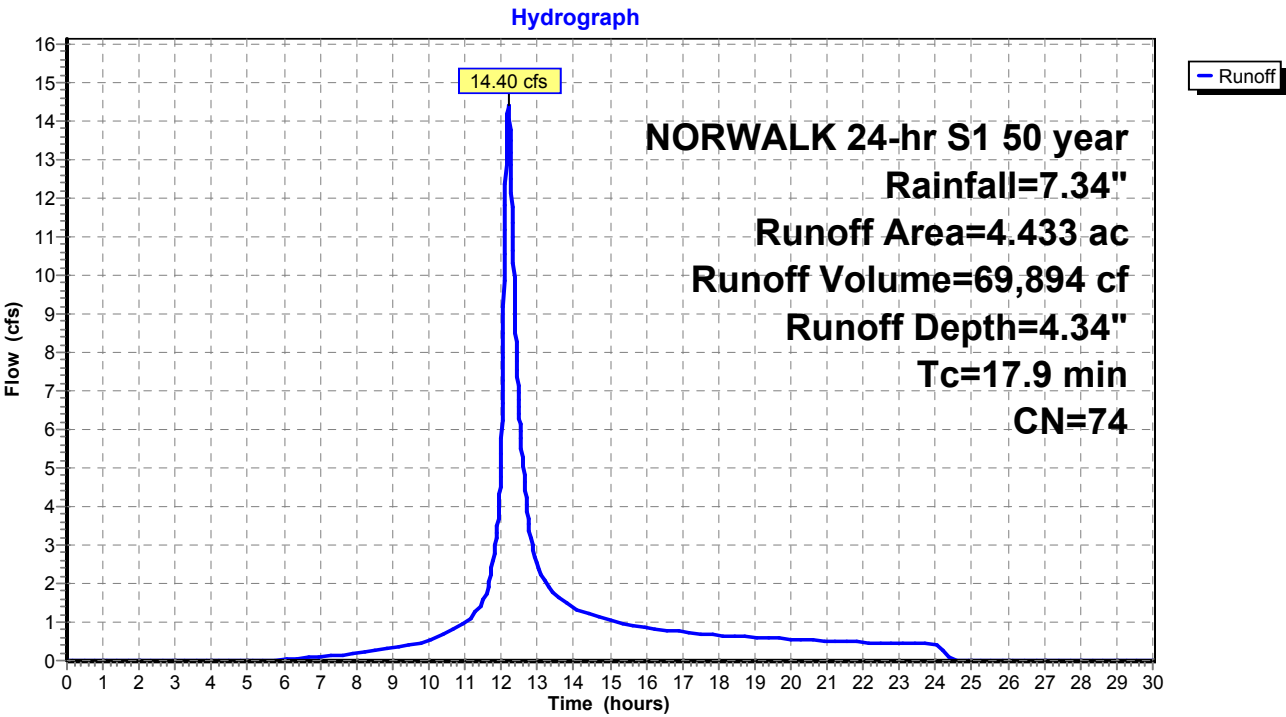
Runoff = 14.40 cfs @ 12.19 hrs, Volume= 69,894 cf, Depth= 4.34"
Routed to Pond 26P : DET 16 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
2.030	70	Woods, Good, HSG C
2.060	77	Woods, Good, HSG D
0.150	89	Gravel roads, HSG C
0.193	74	>75% Grass cover, Good, HSG C
4.433	74	Weighted Average
4.433		100.00% Pervious Area

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

Subcatchment 16S: Area 16A



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Summary for Subcatchment 17S: Area 17

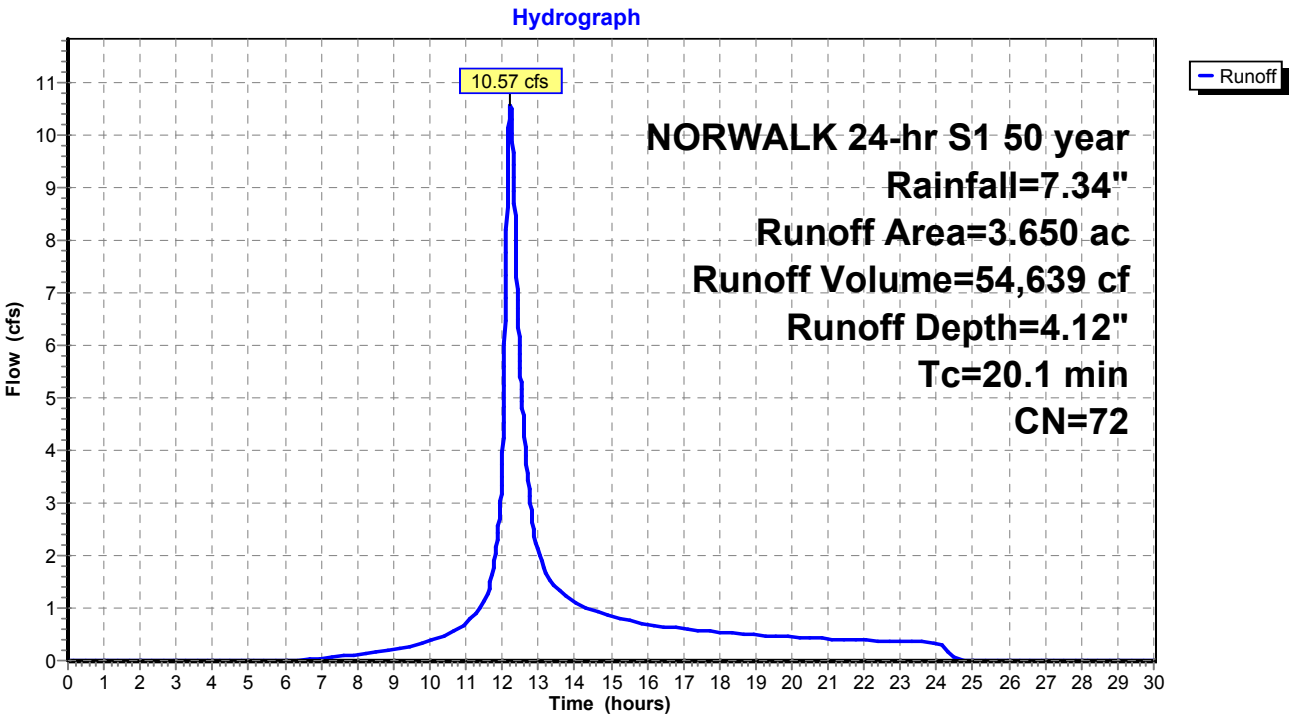
Runoff = 10.57 cfs @ 12.22 hrs, Volume= 54,639 cf, Depth= 4.12"
Routed to Pond 27P : DET 17 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
2.630	70	Woods, Good, HSG C
0.960	77	Woods, Good, HSG D
0.060	98	Paved parking & roofs
3.650	72	Weighted Average
3.590		98.36% Pervious Area
0.060		1.64% Impervious Area

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

Subcatchment 17S: Area 17



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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 20S: Area 20

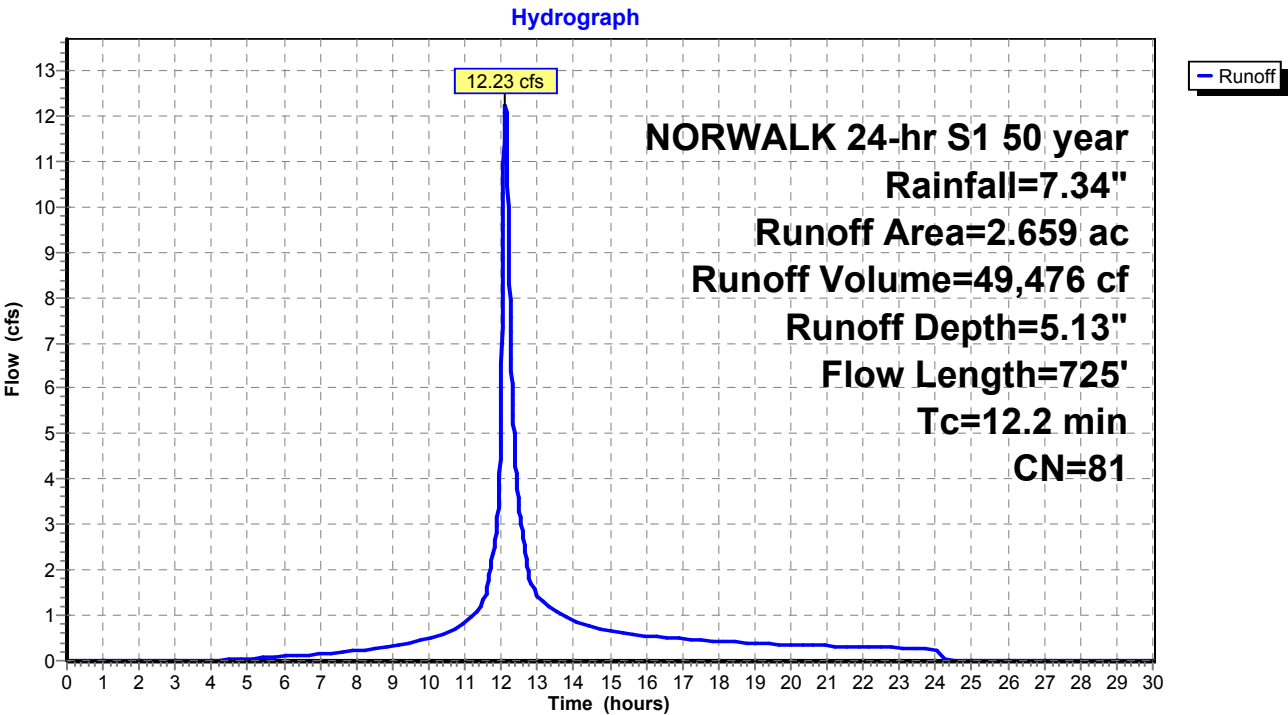
Runoff = 12.23 cfs @ 12.11 hrs, Volume= 49,476 cf, Depth= 5.13"
Routed to Pond 16P : MH-Q

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
1.030	98	Paved parking & roofs
1.629	70	Woods, Good, HSG C
2.659	81	Weighted Average
1.629		61.26% Pervious Area
1.030		38.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	125	0.2400	0.19		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.40"
1.2	600	0.0200	8.41	14.86	Pipe Channel, 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
12.2	725	Total			

Subcatchment 20S: Area 20



Summary for Subcatchment 21S: Area 21

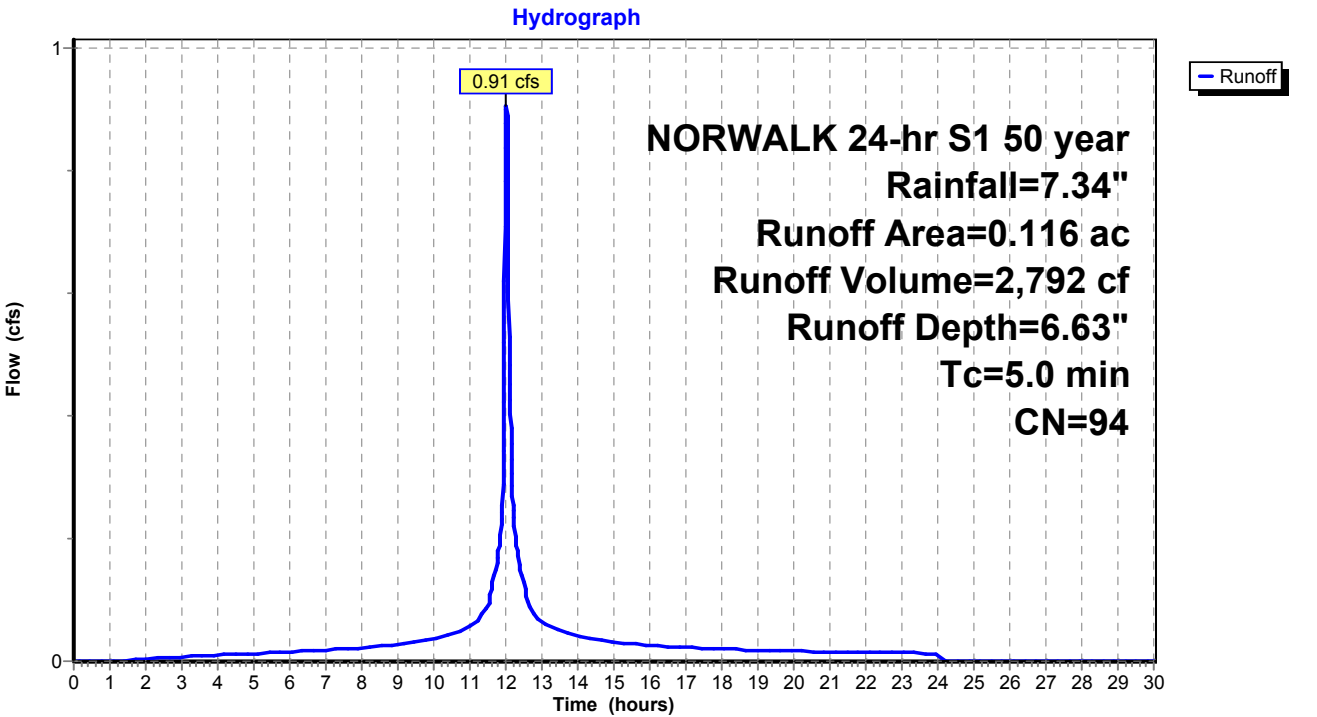
Runoff = 0.91 cfs @ 12.03 hrs, Volume= 2,792 cf, Depth= 6.63"
Routed to Pond 15P : MH-P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.020	74	>75% Grass cover, Good, HSG C
0.096	98	Paved parking & roofs
0.116	94	Weighted Average
0.020		17.24% Pervious Area
0.096		82.76% Impervious Area

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

Subcatchment 21S: Area 21



Summary for Subcatchment 22S: Area 22

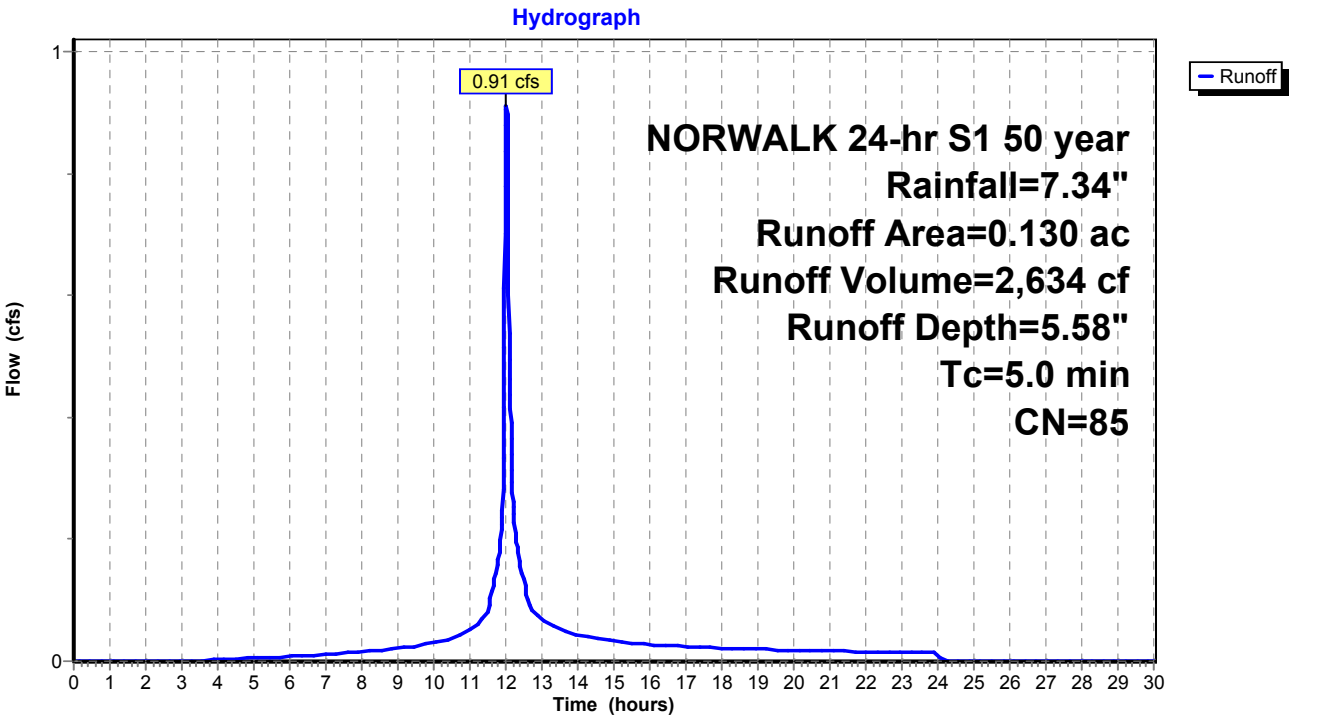
Runoff = 0.91 cfs @ 12.03 hrs, Volume= 2,634 cf, Depth= 5.58"
Routed to Pond 15P : MH-P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.068	74	>75% Grass cover, Good, HSG C
0.062	98	Paved parking & roofs
0.130	85	Weighted Average
0.068		52.31% Pervious Area
0.062		47.69% Impervious Area

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

Subcatchment 22S: Area 22



Summary for Subcatchment 23S: Area 23

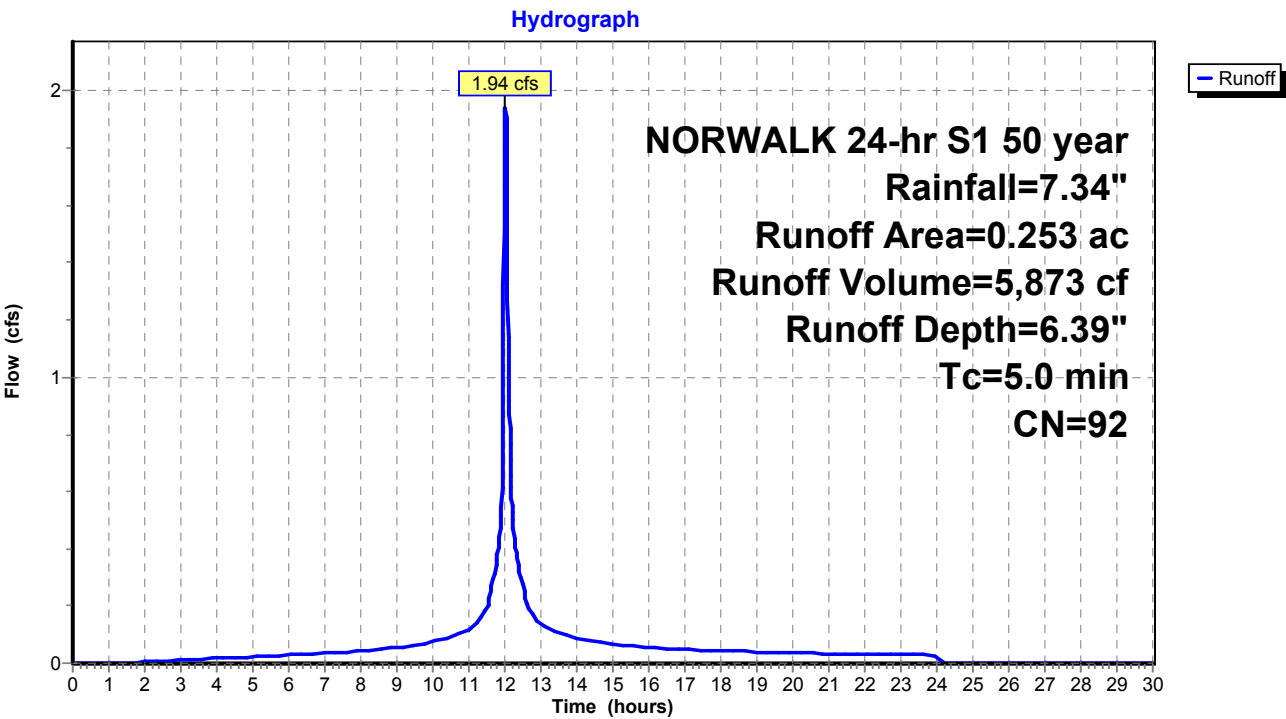
Runoff = 1.94 cfs @ 12.03 hrs, Volume= 5,873 cf, Depth= 6.39"
Routed to Pond 14P : MH-O

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.188	98	Paved parking & roofs
0.065	74	>75% Grass cover, Good, HSG C
0.253	92	Weighted Average
0.065		25.69% Pervious Area
0.188		74.31% Impervious Area

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

Subcatchment 23S: Area 23



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Summary for Subcatchment 24S: Area 24

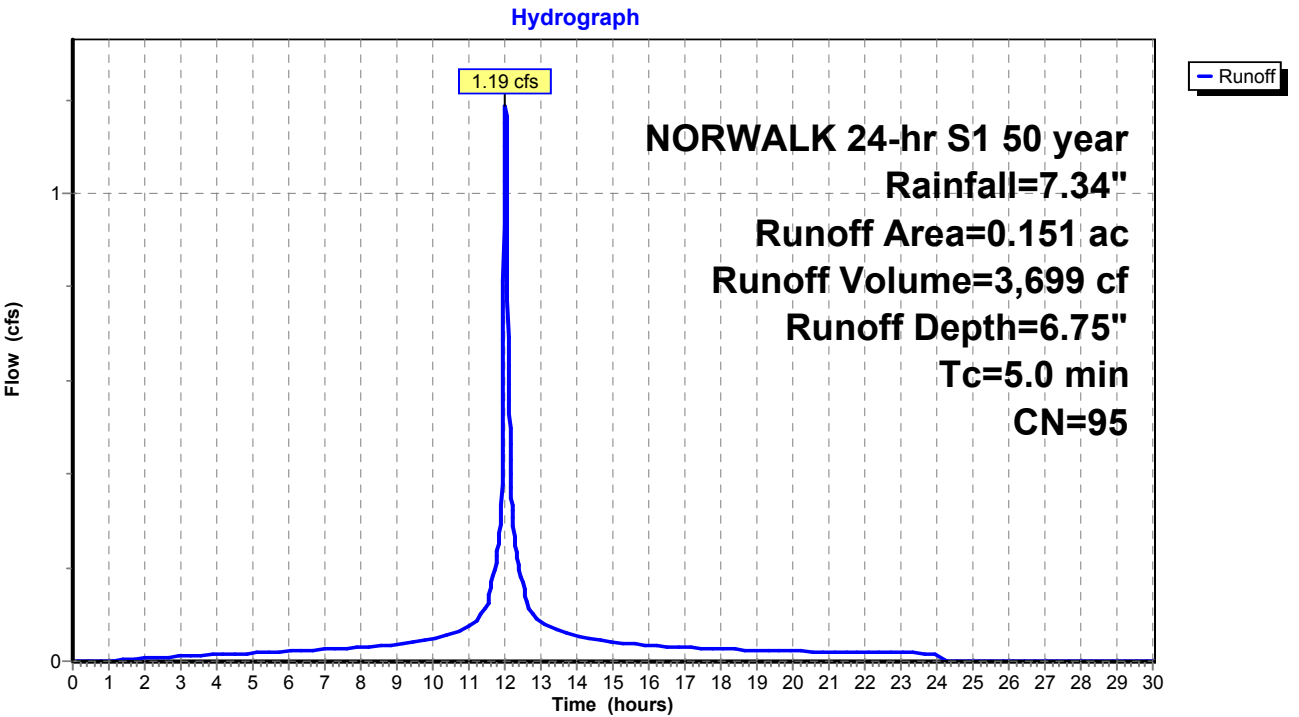
Runoff = 1.19 cfs @ 12.03 hrs, Volume= 3,699 cf, Depth= 6.75"
Routed to Pond 14P : MH-O

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.125	98	Paved parking & roofs
0.026	80	>75% Grass cover, Good, HSG D
0.151	95	Weighted Average
0.026		17.22% Pervious Area
0.125		82.78% Impervious Area

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

Subcatchment 24S: Area 24



Summary for Subcatchment 25S: Area 25

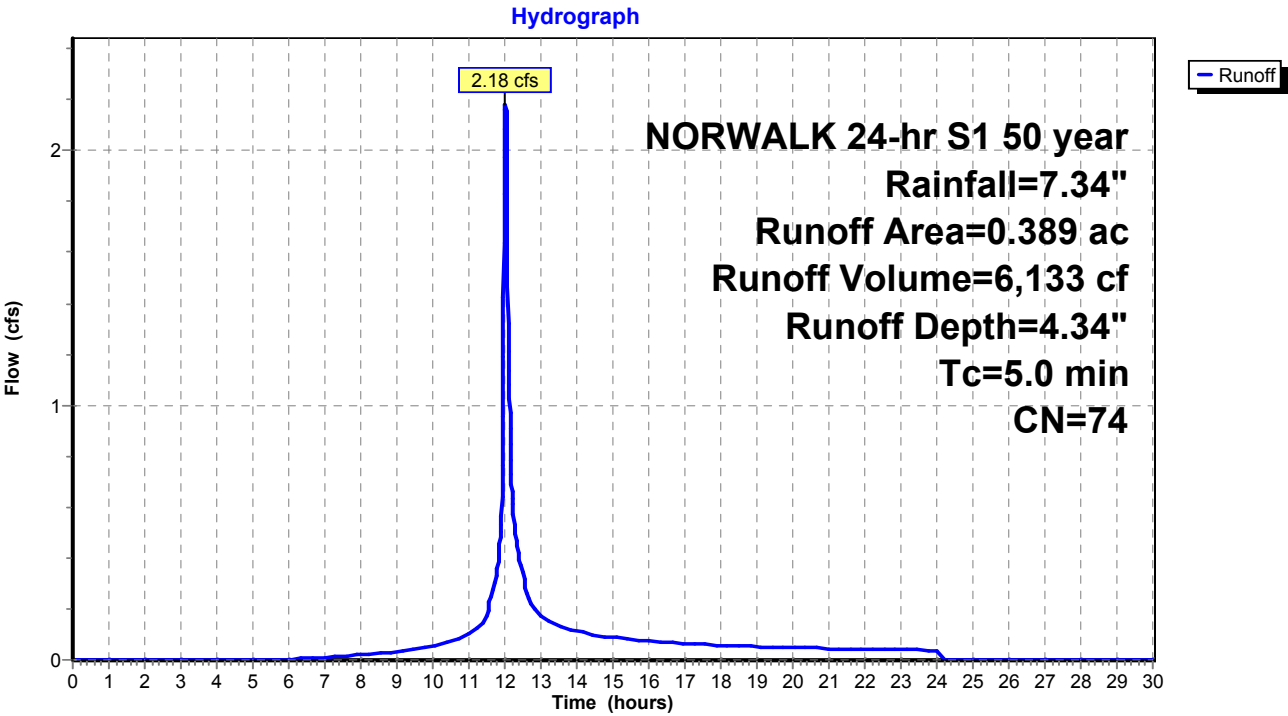
Runoff = 2.18 cfs @ 12.03 hrs, Volume= 6,133 cf, Depth= 4.34"
Routed to Pond 3P : DETENTION BASIN #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.389	74	>75% Grass cover, Good, HSG C
0.389		100.00% Pervious Area

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

Subcatchment 25S: Area 25



Summary for Subcatchment 26S: Area 26

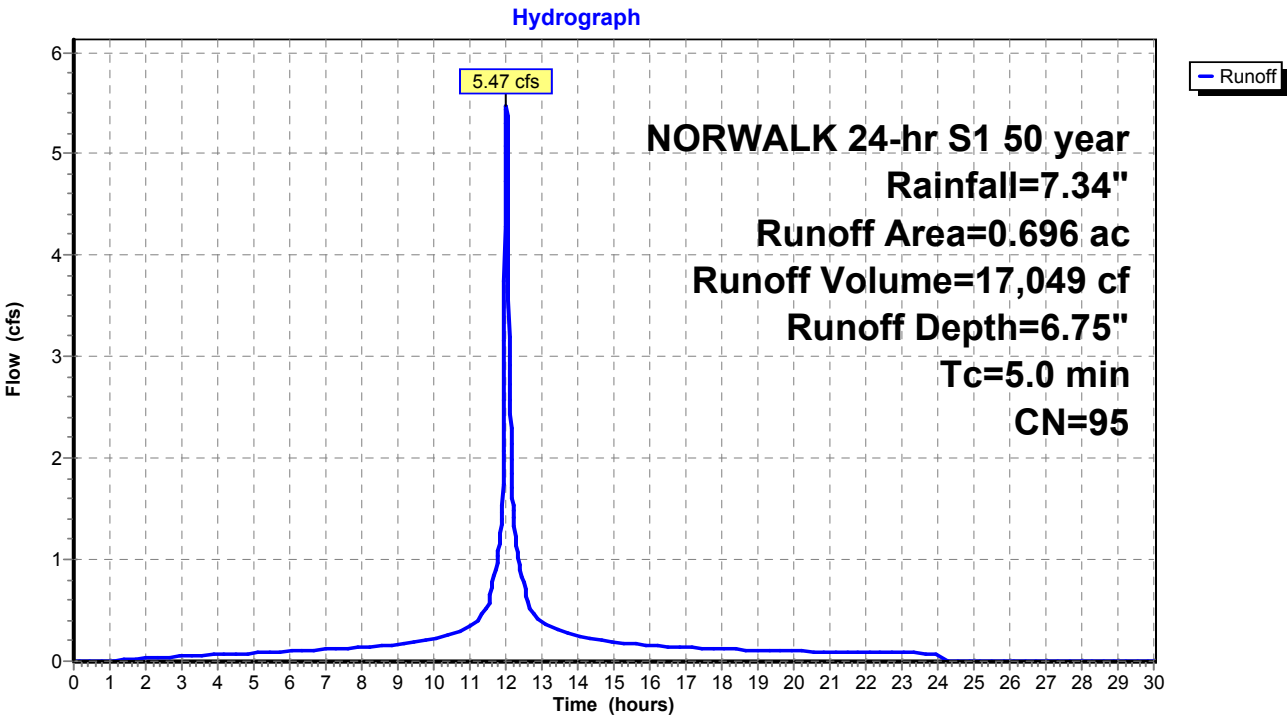
Runoff = 5.47 cfs @ 12.03 hrs, Volume= 17,049 cf, Depth= 6.75"
Routed to Pond 9P : MH-K

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.612	98	Paved parking & roofs
0.084	74	>75% Grass cover, Good, HSG C
0.696	95	Weighted Average
0.084		12.07% Pervious Area
0.612		87.93% Impervious Area

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

Subcatchment 26S: Area 26



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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 27S: Area 27

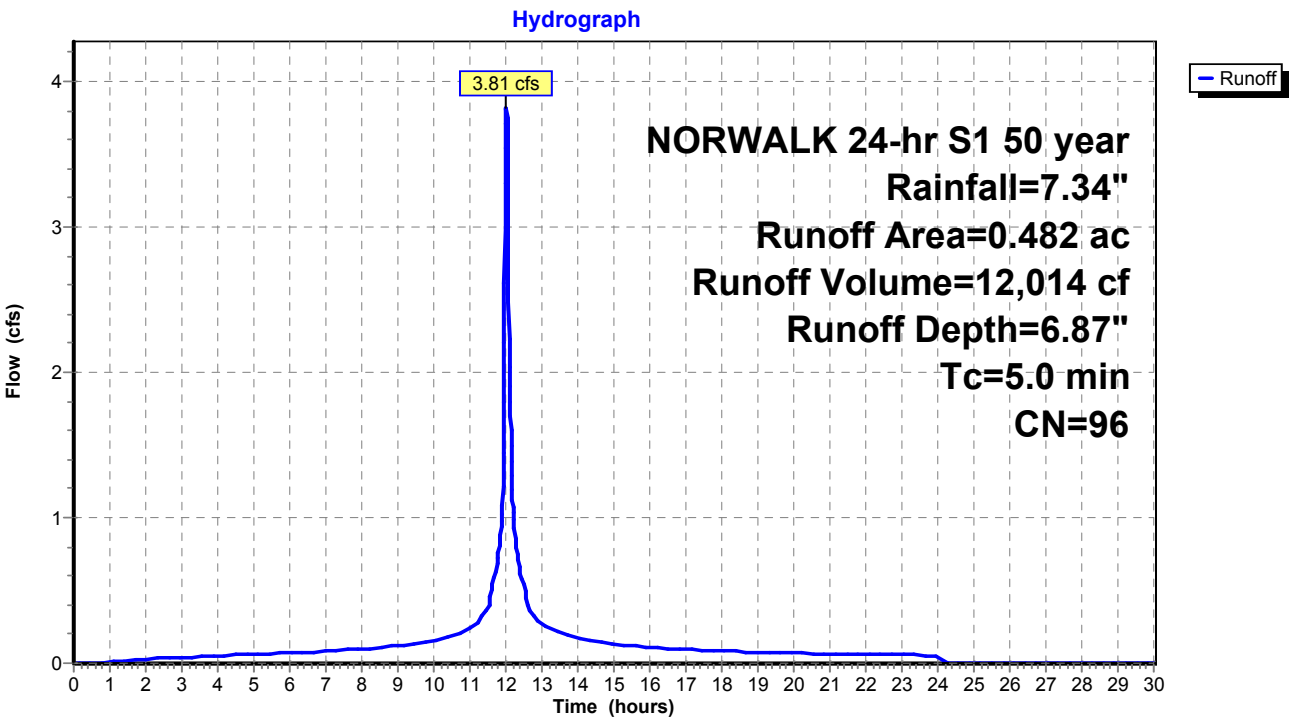
Runoff = 3.81 cfs @ 12.03 hrs, Volume= 12,014 cf, Depth= 6.87"
Routed to Pond 11P : Pipe Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.436	98	Paved parking & roofs
0.046	74	>75% Grass cover, Good, HSG C
0.482	96	Weighted Average
0.046		9.54% Pervious Area
0.436		90.46% Impervious Area

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

Subcatchment 27S: Area 27



Summary for Subcatchment 28S: Area 28

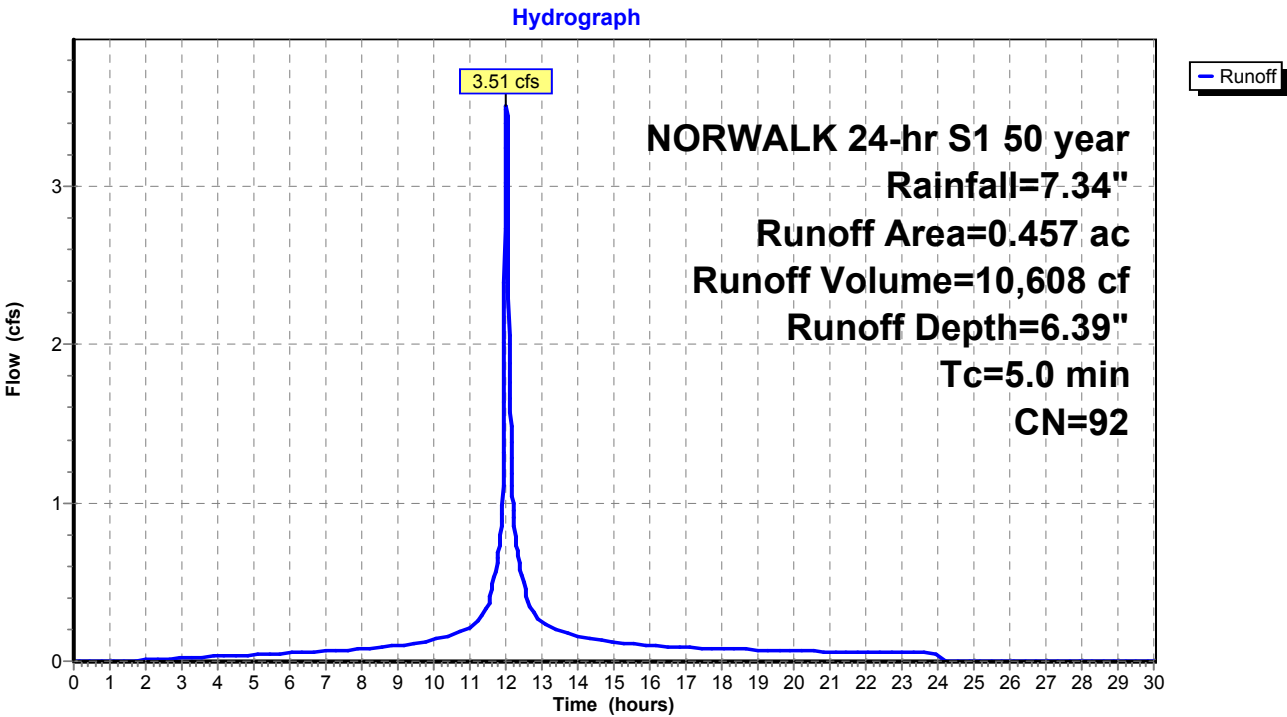
Runoff = 3.51 cfs @ 12.03 hrs, Volume= 10,608 cf, Depth= 6.39"
Routed to Pond 11P : Pipe Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.342	98	Paved parking & roofs
0.115	74	>75% Grass cover, Good, HSG C
0.457	92	Weighted Average
0.115		25.16% Pervious Area
0.342		74.84% Impervious Area

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

Subcatchment 28S: Area 28



Summary for Subcatchment 29S: Area 29

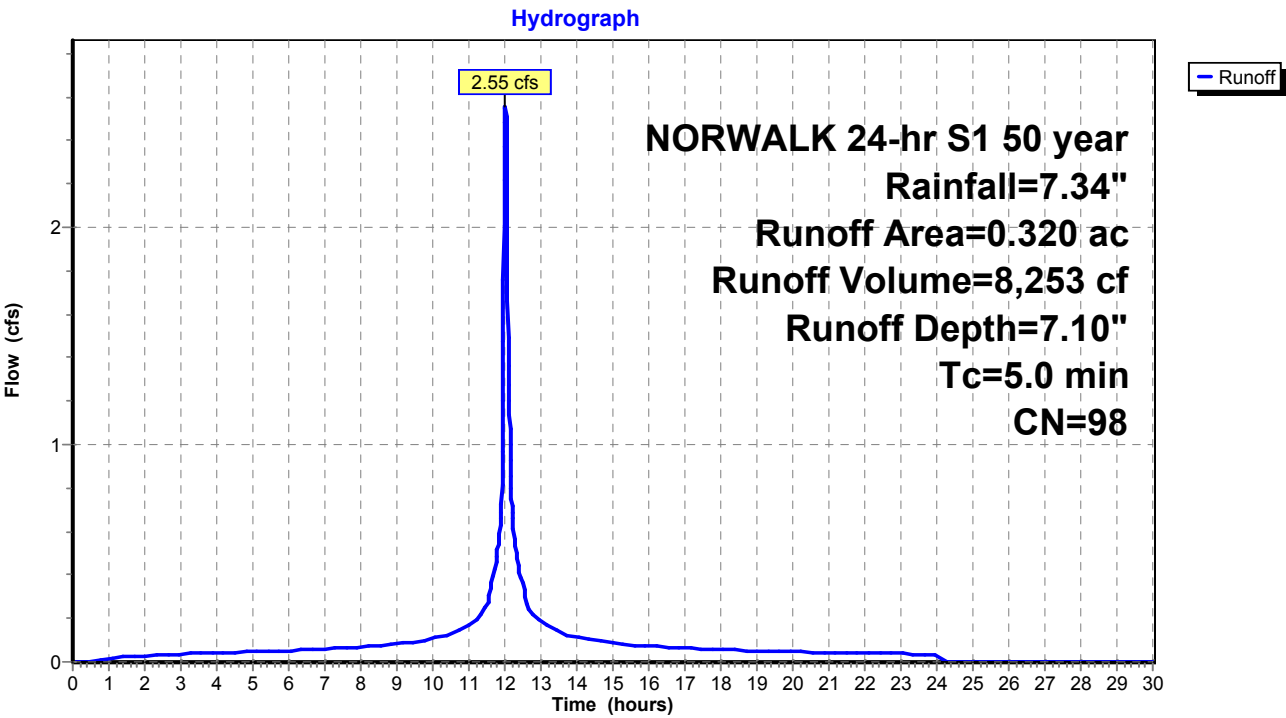
Runoff = 2.55 cfs @ 12.03 hrs, Volume= 8,253 cf, Depth= 7.10"
Routed to Pond 12P : MH-M

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.320	98	Paved parking & roofs
0.320		100.00% Impervious Area

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

Subcatchment 29S: Area 29



Summary for Subcatchment 30S: Area 30

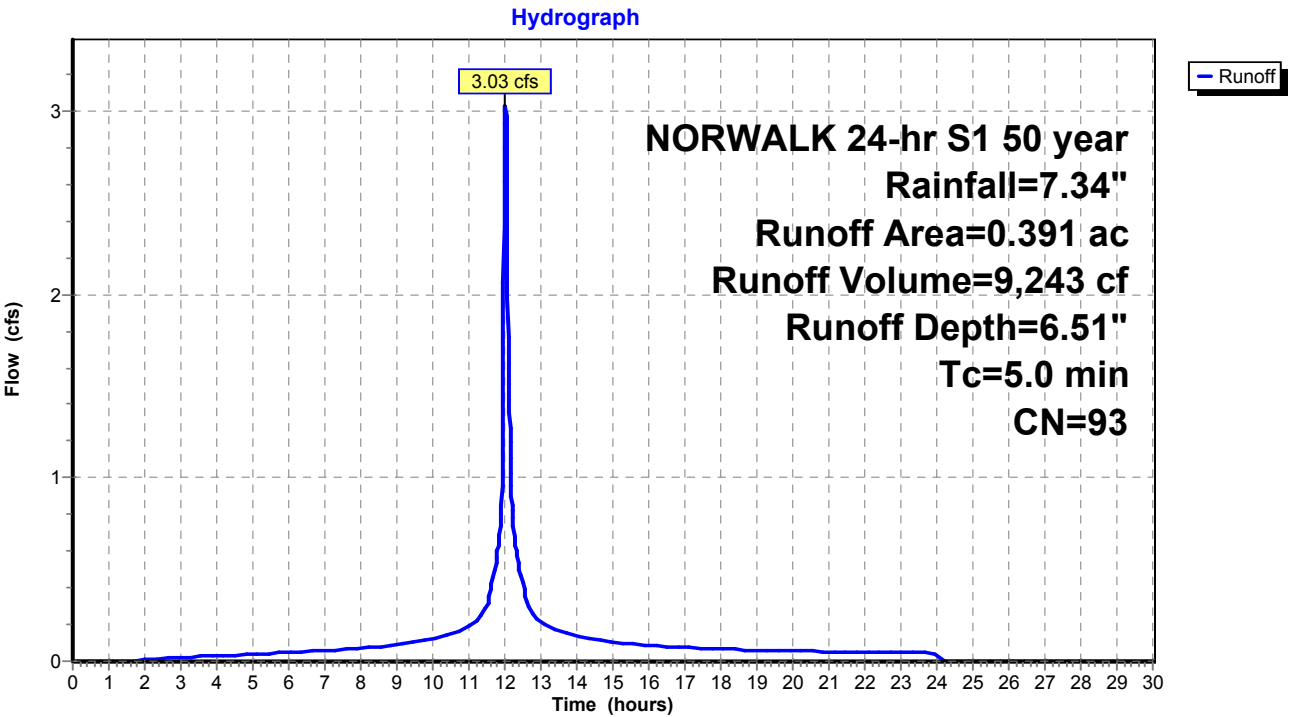
Runoff = 3.03 cfs @ 12.03 hrs, Volume= 9,243 cf, Depth= 6.51"
Routed to Pond 13P : MH-J

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.309	98	Paved parking & roofs
0.082	74	>75% Grass cover, Good, HSG C
0.391	93	Weighted Average
0.082		20.97% Pervious Area
0.309		79.03% Impervious Area

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

Subcatchment 30S: Area 30



Summary for Subcatchment 52S: Area 1

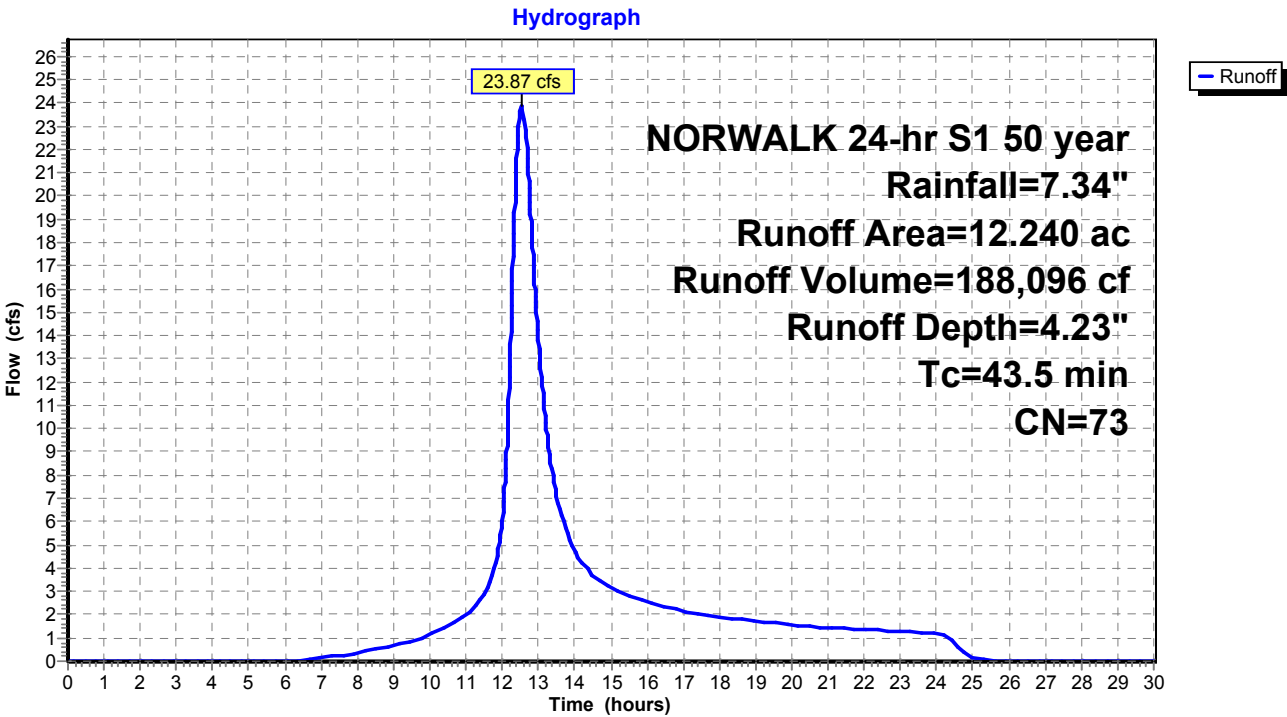
Runoff = 23.87 cfs @ 12.52 hrs, Volume= 188,096 cf, Depth= 4.23"
Routed to Pond 21P : DET 1 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
9.070	70	1/2 acre lots, 25% imp, HSG B
3.170	80	1/2 acre lots, 25% imp, HSG C
12.240	73	Weighted Average
9.180		75.00% Pervious Area
3.060		25.00% Impervious Area

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

Subcatchment 52S: Area 1



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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 53S: Area 2

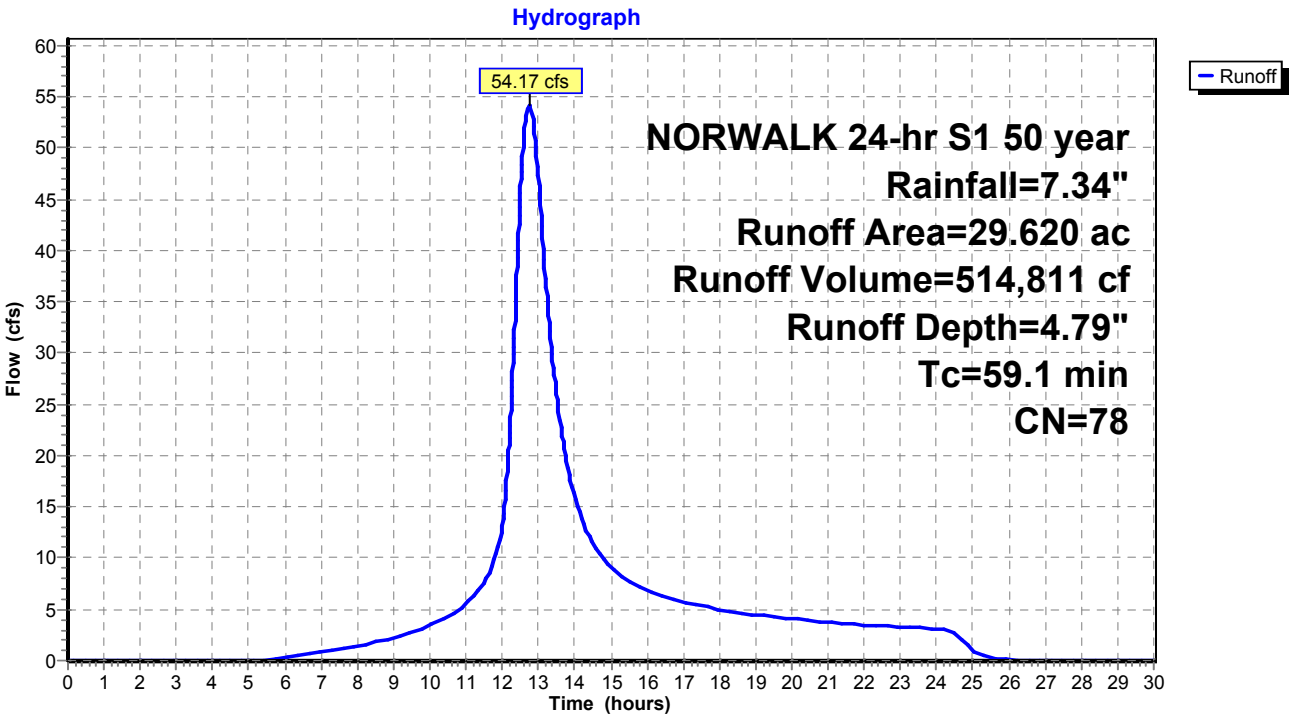
Runoff = 54.17 cfs @ 12.74 hrs, Volume= 514,811 cf, Depth= 4.79"
Routed to Pond 22P : DET 2 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
7.290	70	1/2 acre lots, 25% imp, HSG B
19.200	80	1/2 acre lots, 25% imp, HSG C
3.130	85	1/2 acre lots, 25% imp, HSG D
29.620	78	Weighted Average
22.215		75.00% Pervious Area
7.405		25.00% Impervious Area

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

Subcatchment 53S: Area 2



Summary for Subcatchment 54S: Area 3

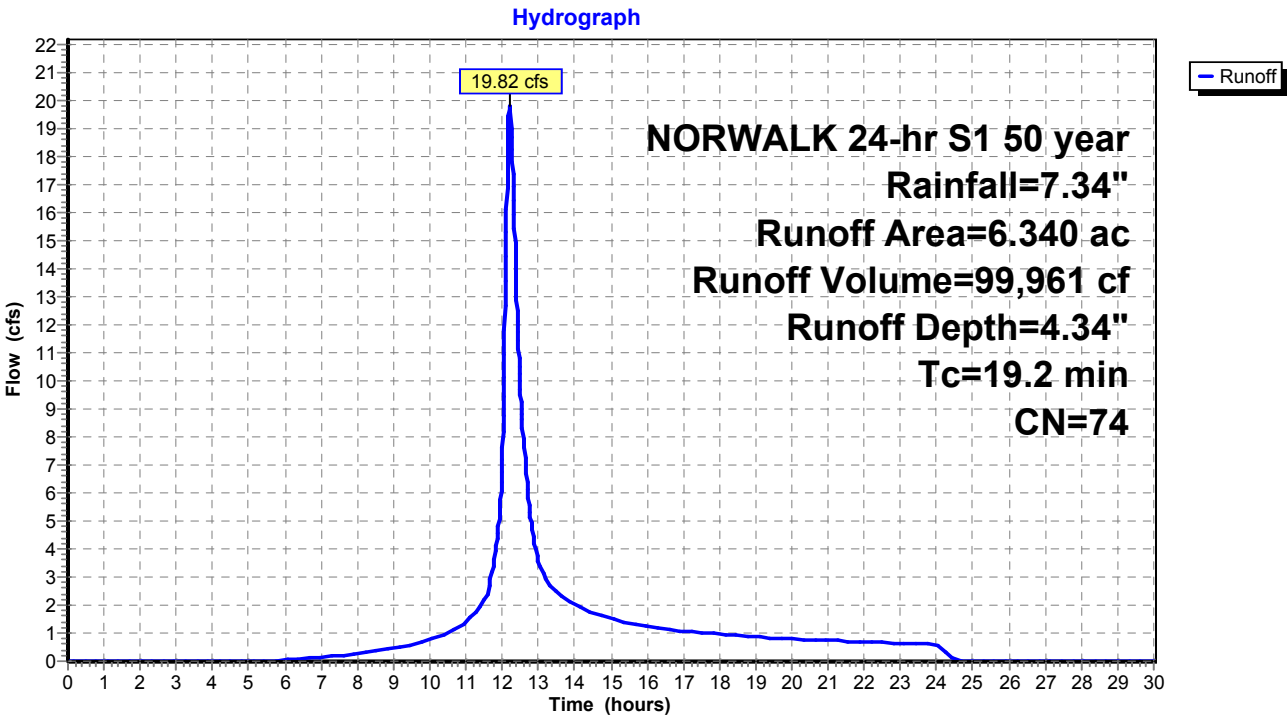
Runoff = 19.82 cfs @ 12.22 hrs, Volume= 99,961 cf, Depth= 4.34"
Routed to Pond 23P : DET 3 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
3.500	70	1/2 acre lots, 25% imp, HSG B
2.840	80	1/2 acre lots, 25% imp, HSG C
6.340	74	Weighted Average
4.755		75.00% Pervious Area
1.585		25.00% Impervious Area

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

Subcatchment 54S: Area 3



Summary for Subcatchment 56S: Area 35

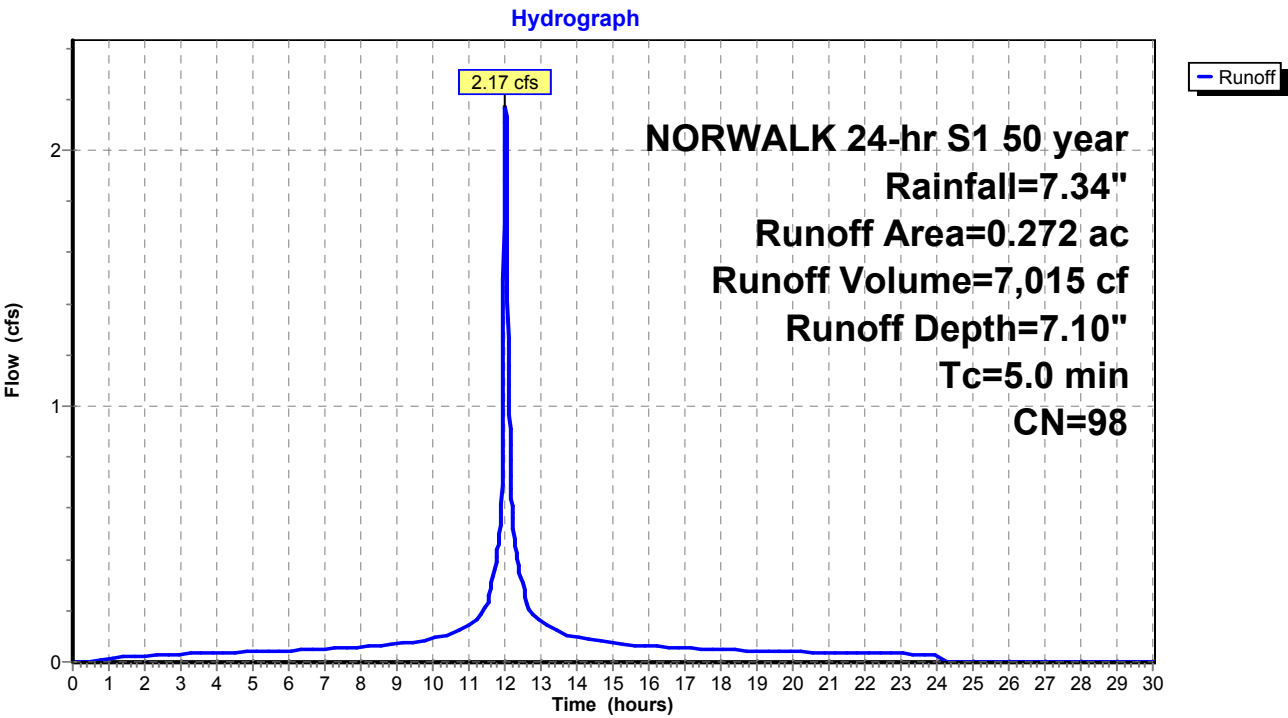
Runoff = 2.17 cfs @ 12.03 hrs, Volume= 7,015 cf, Depth= 7.10"
Routed to Pond 57P : CB-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.272	98	Paved parking & roofs
0.272		100.00% Impervious Area

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

Subcatchment 56S: Area 35



Summary for Subcatchment 60S: Area 37

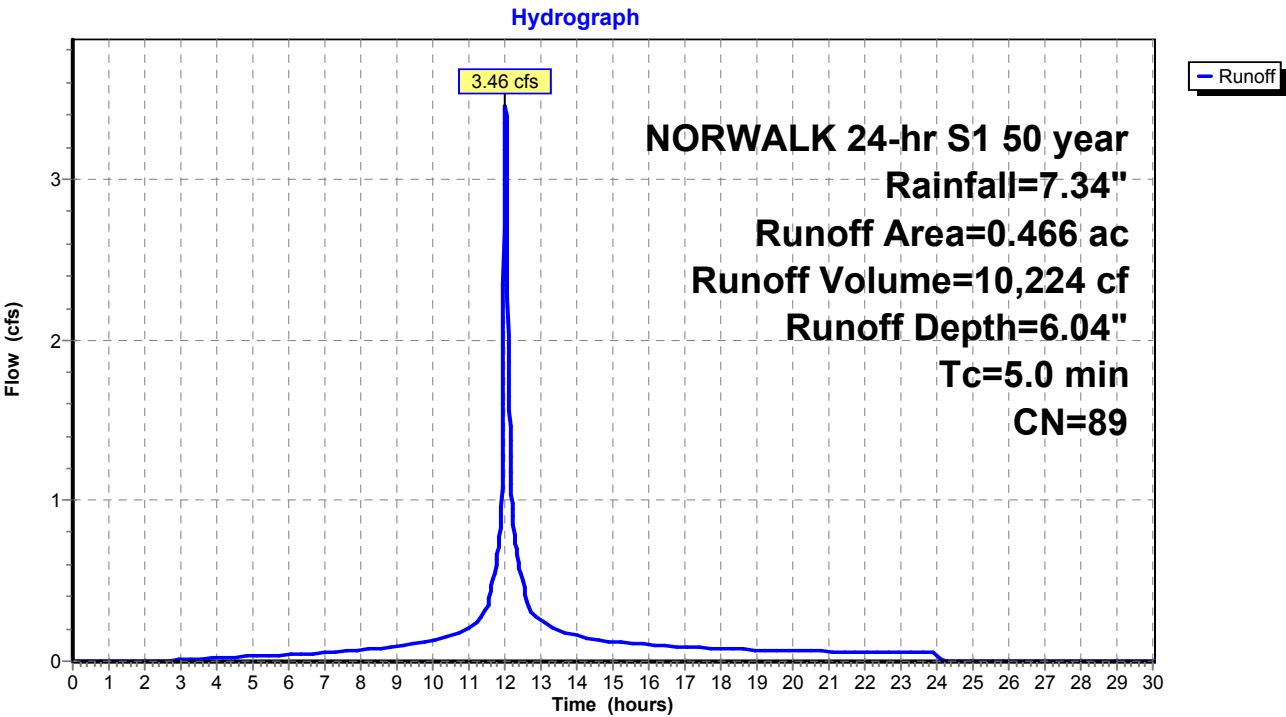
Runoff = 3.46 cfs @ 12.03 hrs, Volume= 10,224 cf, Depth= 6.04"
Routed to Pond 59P : CB-7

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.294	98	Paved parking & roofs
0.172	74	>75% Grass cover, Good, HSG C
0.466	89	Weighted Average
0.172		36.91% Pervious Area
0.294		63.09% Impervious Area

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

Subcatchment 60S: Area 37



Summary for Subcatchment 62S: Area 38

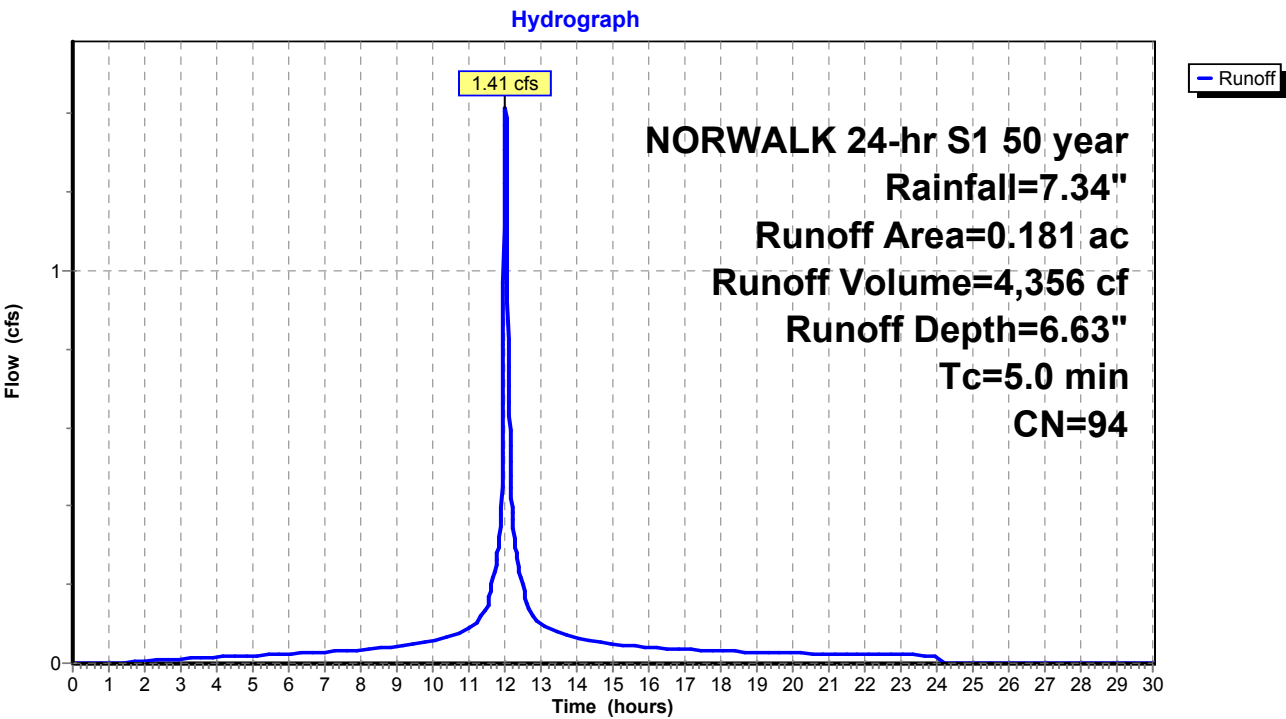
Runoff = 1.41 cfs @ 12.03 hrs, Volume= 4,356 cf, Depth= 6.63"
Routed to Pond 61P : CB-6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.149	98	Paved parking & roofs
0.032	74	>75% Grass cover, Good, HSG C
0.181	94	Weighted Average
0.032		17.68% Pervious Area
0.149		82.32% Impervious Area

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

Subcatchment 62S: Area 38



Summary for Subcatchment 65S: Area 41

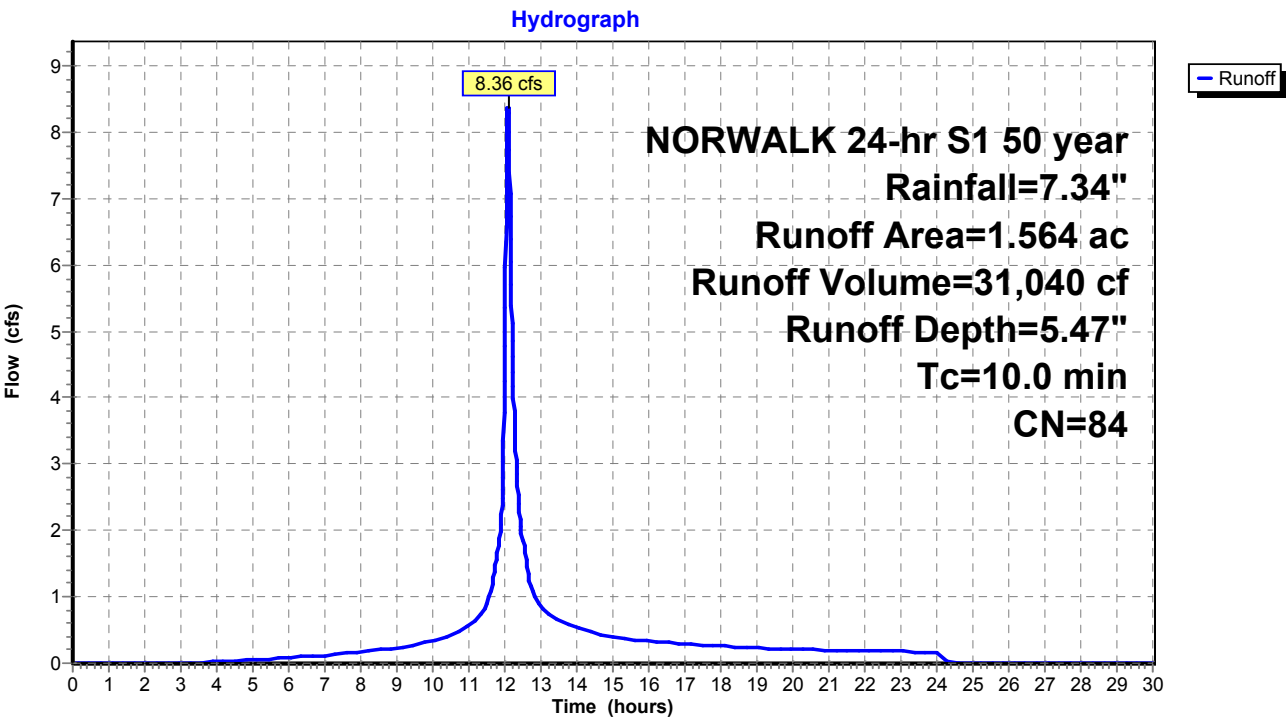
Runoff = 8.36 cfs @ 12.08 hrs, Volume= 31,040 cf, Depth= 5.47"
Routed to Pond 64P : YD

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.653	98	Paved parking & roofs
0.911	74	>75% Grass cover, Good, HSG C
1.564	84	Weighted Average
0.911		58.25% Pervious Area
0.653		41.75% Impervious Area

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

Subcatchment 65S: Area 41



Summary for Subcatchment 68S: Area 36

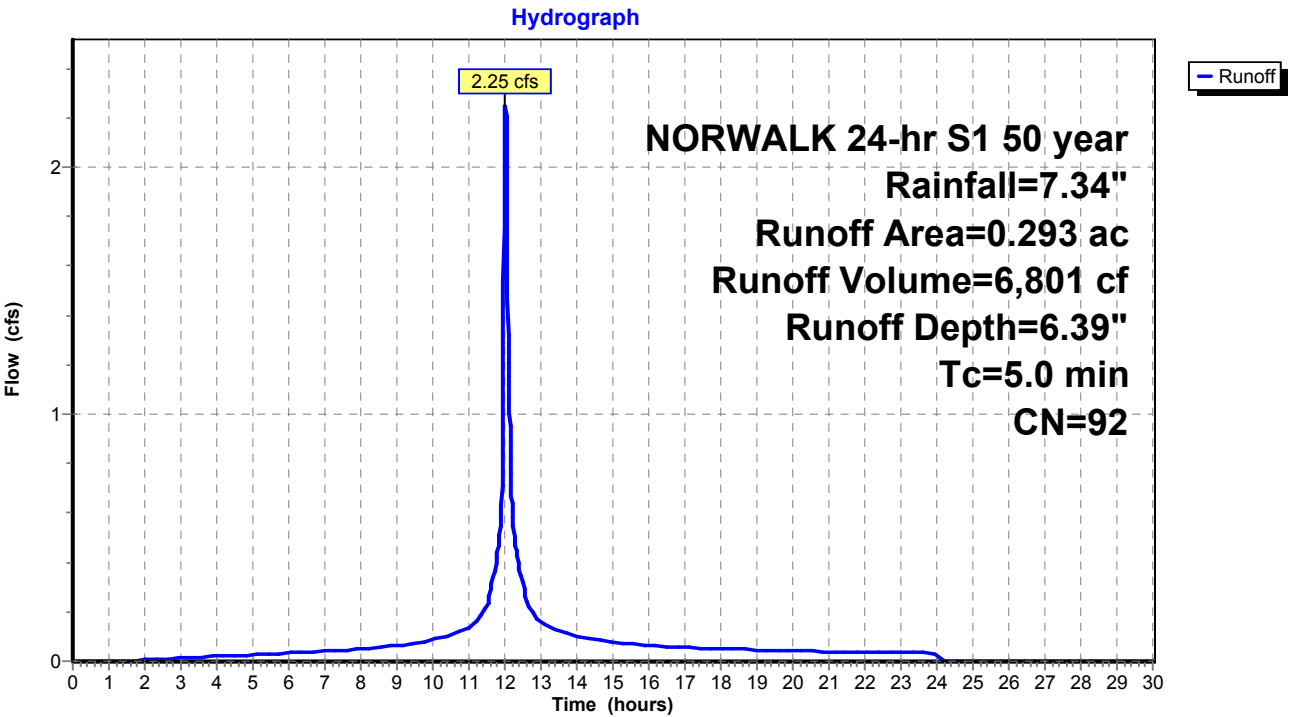
Runoff = 2.25 cfs @ 12.03 hrs, Volume= 6,801 cf, Depth= 6.39"
Routed to Pond 66P : CB-10

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.214	98	Paved parking & roofs
0.079	74	>75% Grass cover, Good, HSG C
0.293	92	Weighted Average
0.079		26.96% Pervious Area
0.214		73.04% Impervious Area

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

Subcatchment 68S: Area 36



Summary for Subcatchment 69S: Area 40

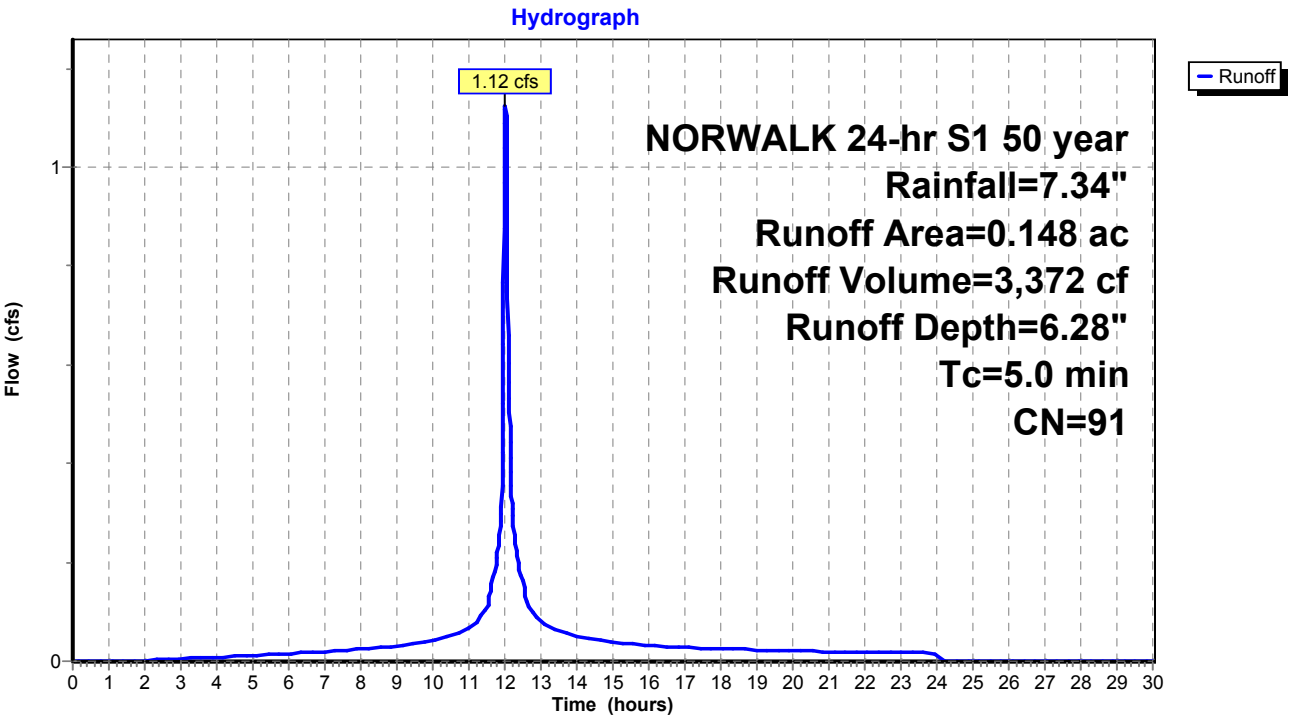
Runoff = 1.12 cfs @ 12.03 hrs, Volume= 3,372 cf, Depth= 6.28"
Routed to Pond 67P : CB-9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.103	98	Paved parking & roofs
0.045	74	>75% Grass cover, Good, HSG C
0.148	91	Weighted Average
0.045		30.41% Pervious Area
0.103		69.59% Impervious Area

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

Subcatchment 69S: Area 40



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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Subcatchment 71S: Area 34

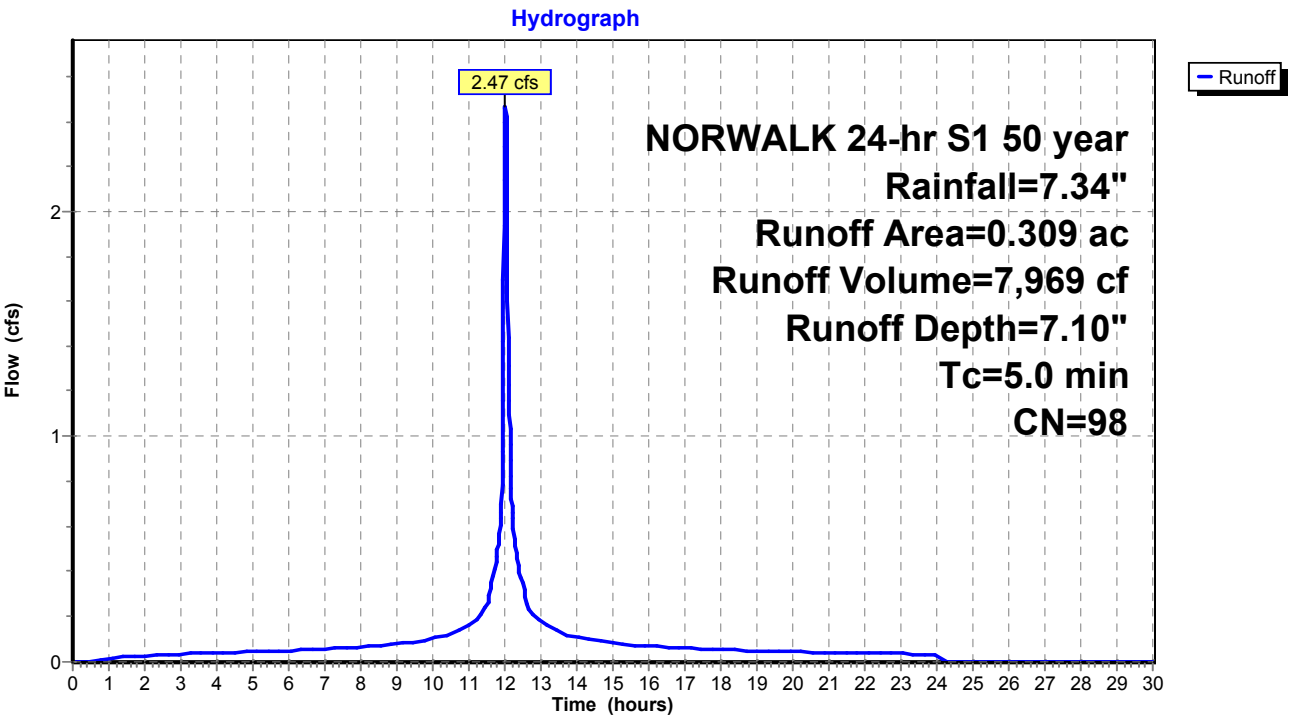
Runoff = 2.47 cfs @ 12.03 hrs, Volume= 7,969 cf, Depth= 7.10"
Routed to Pond 70P : CB-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.309	98	Paved parking & roofs
0.309		100.00% Impervious Area

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

Subcatchment 71S: Area 34



Summary for Subcatchment 75S: Area 32

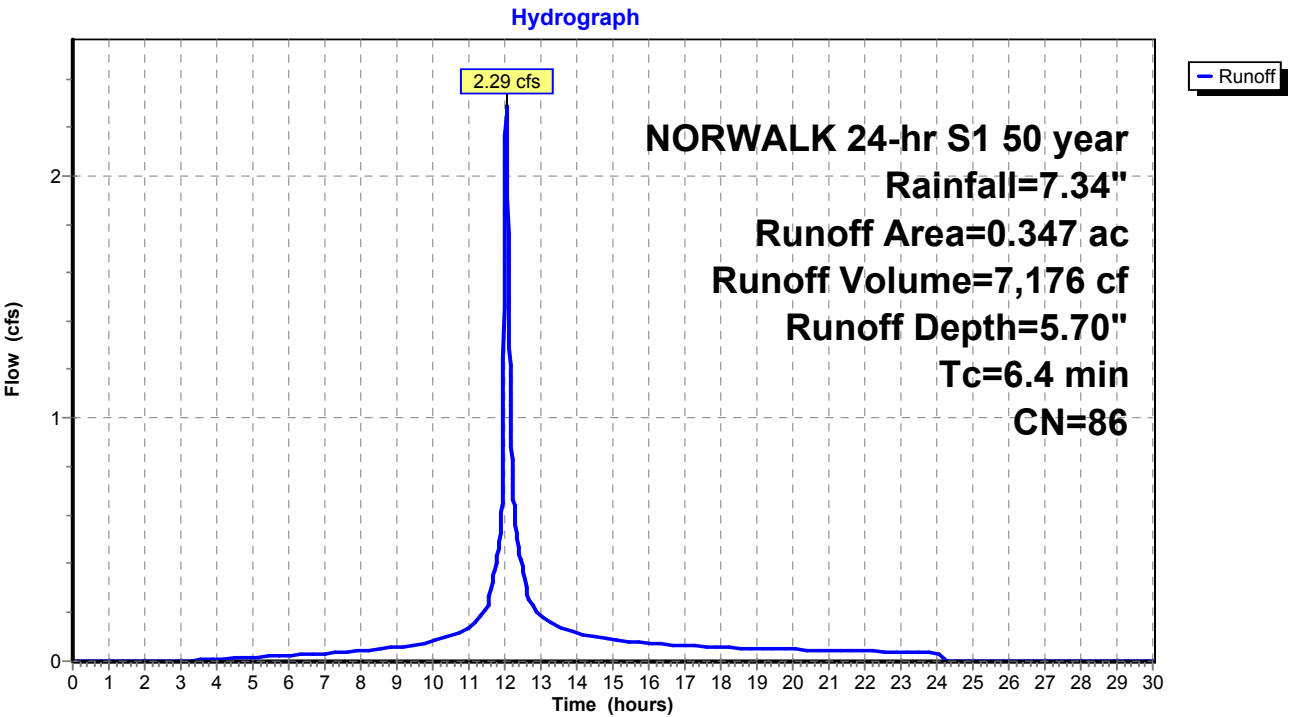
Runoff = 2.29 cfs @ 12.04 hrs, Volume= 7,176 cf, Depth= 5.70"
Routed to Pond 74P : CB-4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.196	98	Paved parking & roofs
0.151	70	Woods, Good, HSG C
0.347	86	Weighted Average
0.151		43.52% Pervious Area
0.196		56.48% Impervious Area

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

Subcatchment 75S: Area 32



Summary for Subcatchment 76S: Area 33

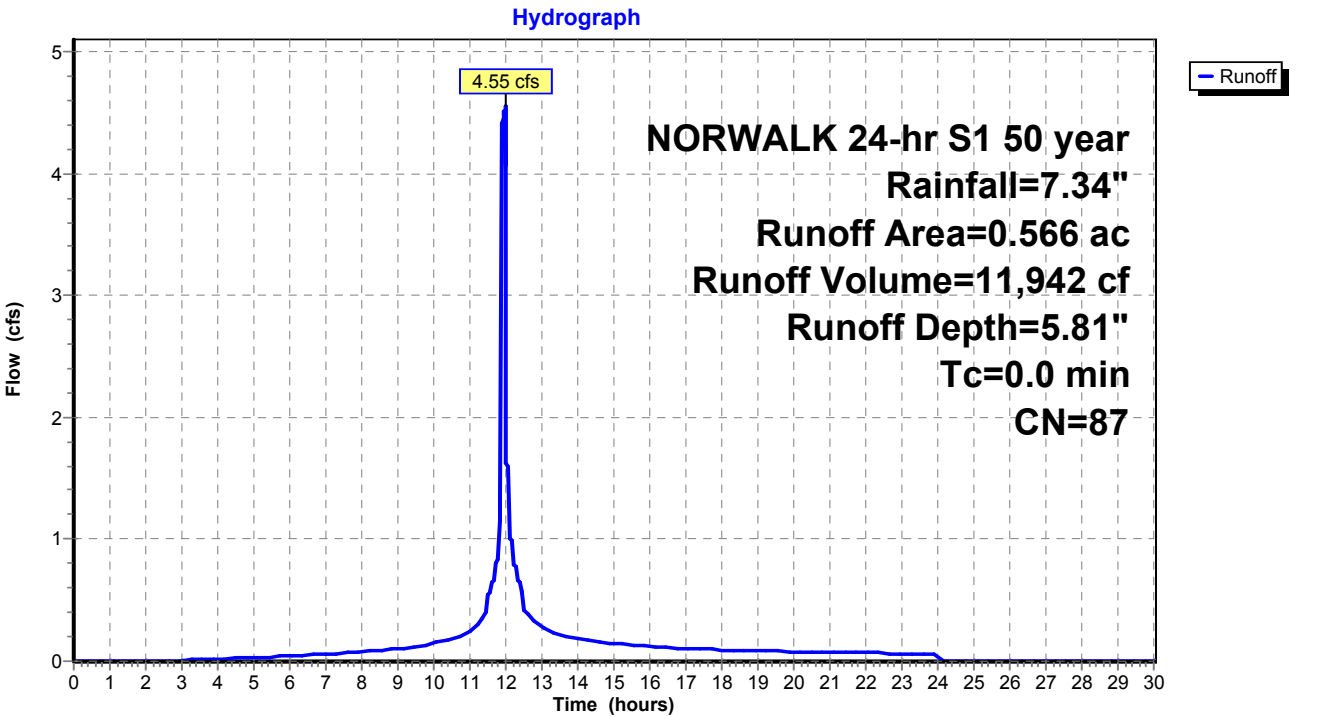
Runoff = 4.55 cfs @ 11.99 hrs, Volume= 11,942 cf, Depth= 5.81"
Routed to Pond 73P : CB-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.338	98	Paved parking & roofs
0.228	70	Woods, Good, HSG C
0.566	87	Weighted Average
0.228		40.28% Pervious Area
0.338		59.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.0					Direct Entry, 7

Subcatchment 76S: Area 33



Summary for Subcatchment 78S: Area 39

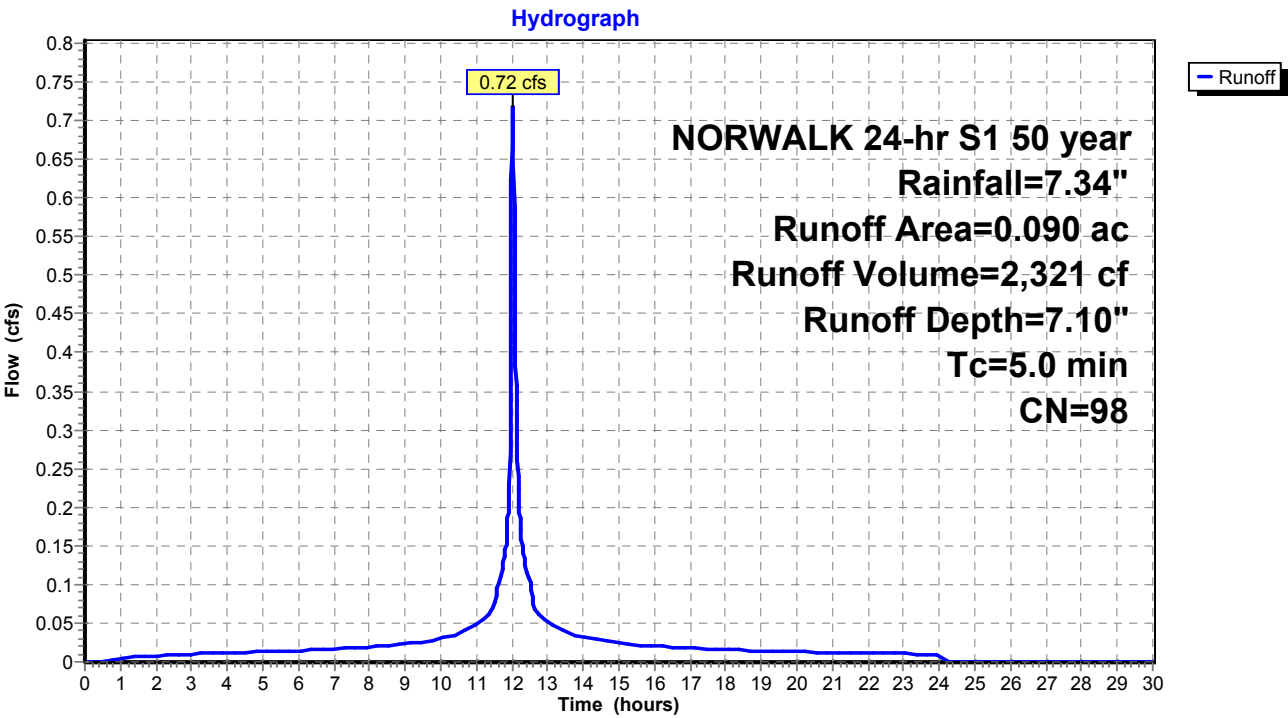
Runoff = 0.72 cfs @ 12.03 hrs, Volume= 2,321 cf, Depth= 7.10"
Routed to Pond 79P : CB-8

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.090	98	Paved parking & roofs
0.090		100.00% Impervious Area

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

Subcatchment 78S: Area 39



Summary for Subcatchment 84S: Area 31

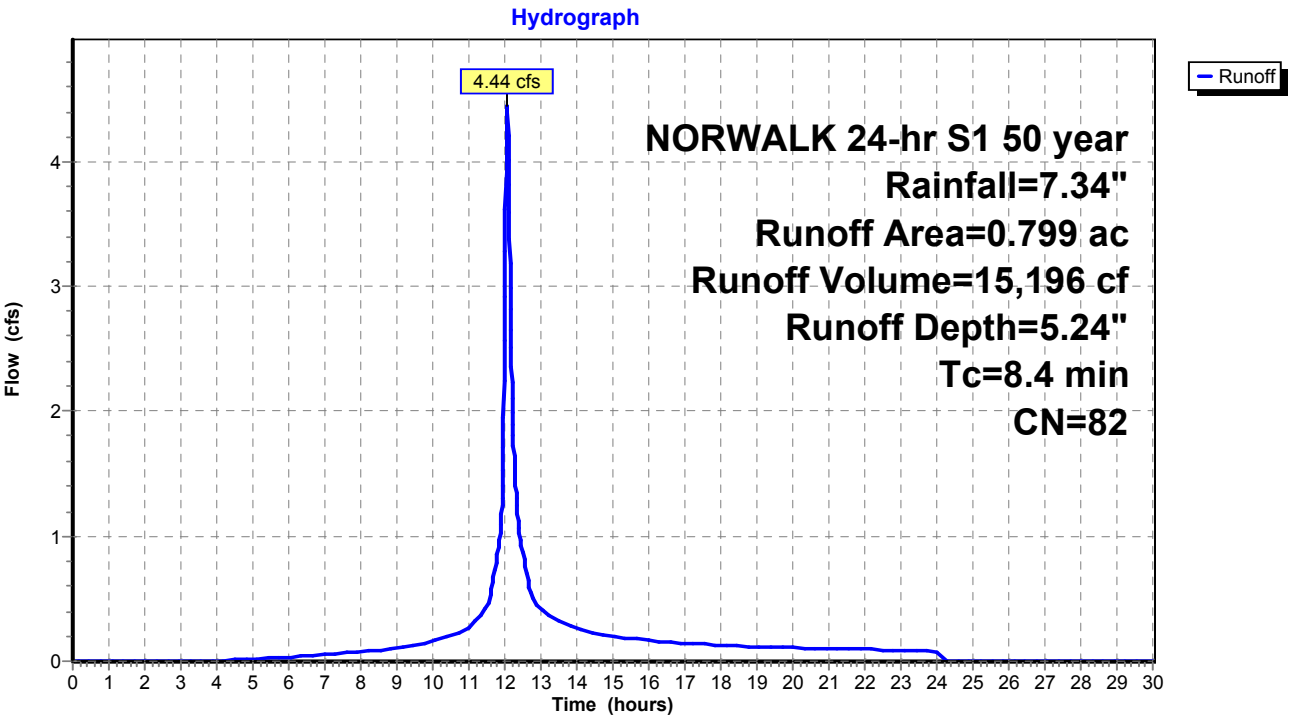
Runoff = 4.44 cfs @ 12.07 hrs, Volume= 15,196 cf, Depth= 5.24"
Routed to Pond 85P : CB-5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.337	98	Paved parking & roofs
0.462	70	Woods, Good, HSG C
0.799	82	Weighted Average
0.462		57.82% Pervious Area
0.337		42.18% Impervious Area

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

Subcatchment 84S: Area 31



Summary for Subcatchment 100S: Area 16B

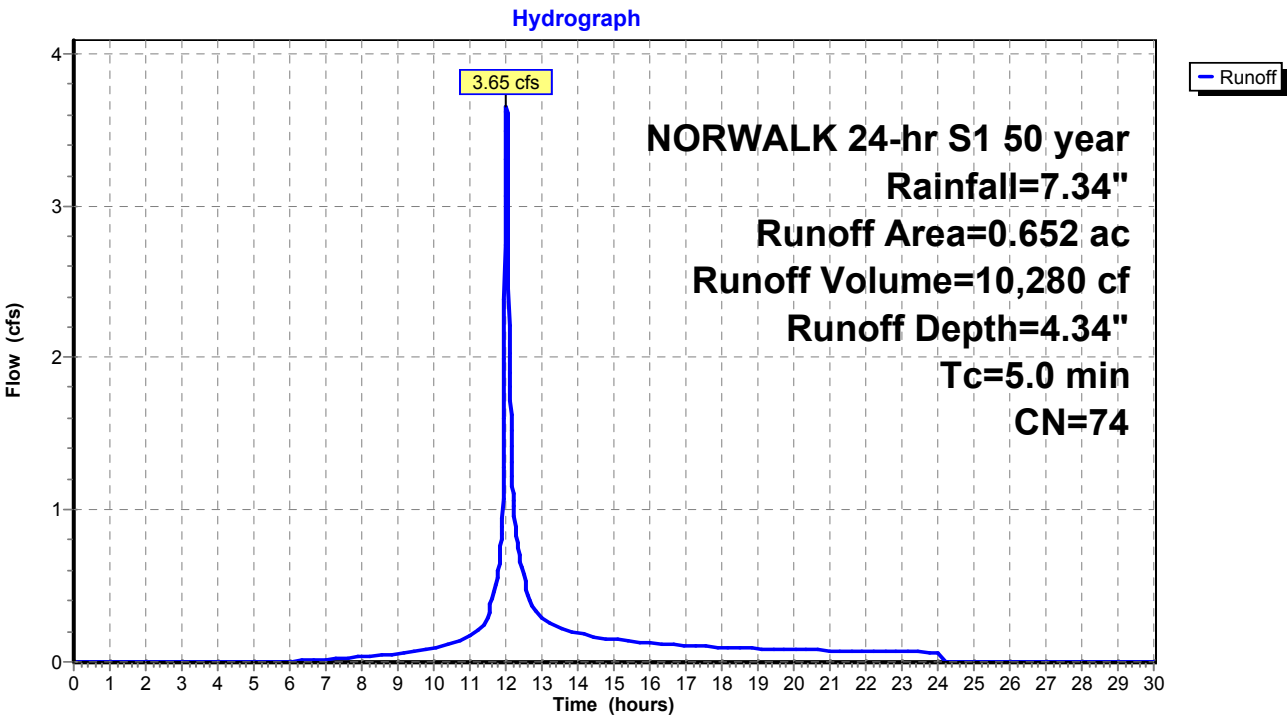
Runoff = 3.65 cfs @ 12.03 hrs, Volume= 10,280 cf, Depth= 4.34"
Routed to Pond 50P : DET BASIN #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.652	74	>75% Grass cover, Good, HSG C
0.652		100.00% Pervious Area

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

Subcatchment 100S: Area 16B



Summary for Subcatchment 105S: Area 18

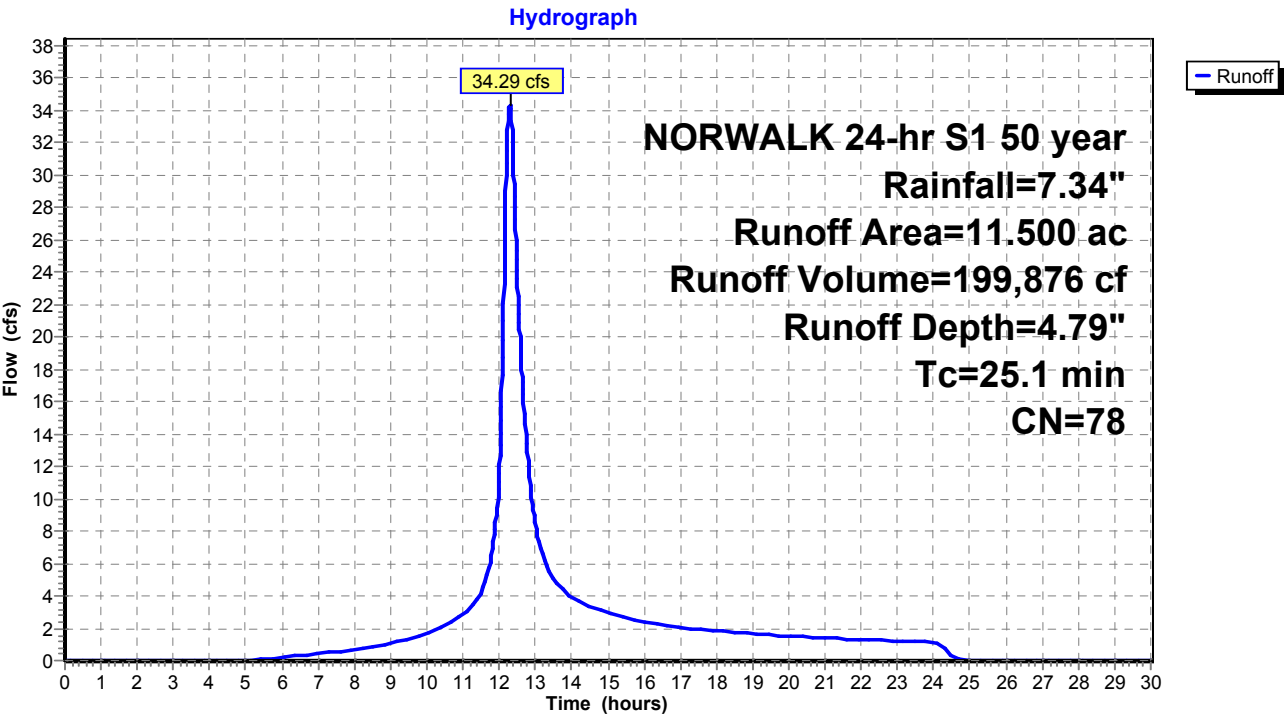
Runoff = 34.29 cfs @ 12.30 hrs, Volume= 199,876 cf, Depth= 4.79"
Routed to Pond 24P : RR Culvert 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
0.734	70	Woods, Good, HSG C
10.216	77	Woods, Good, HSG D
0.550	98	Paved parking, HSG C
11.500	78	Weighted Average
10.950		95.22% Pervious Area
0.550		4.78% Impervious Area

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

Subcatchment 105S: Area 18



Summary for Subcatchment BLDG: EX-BLDG

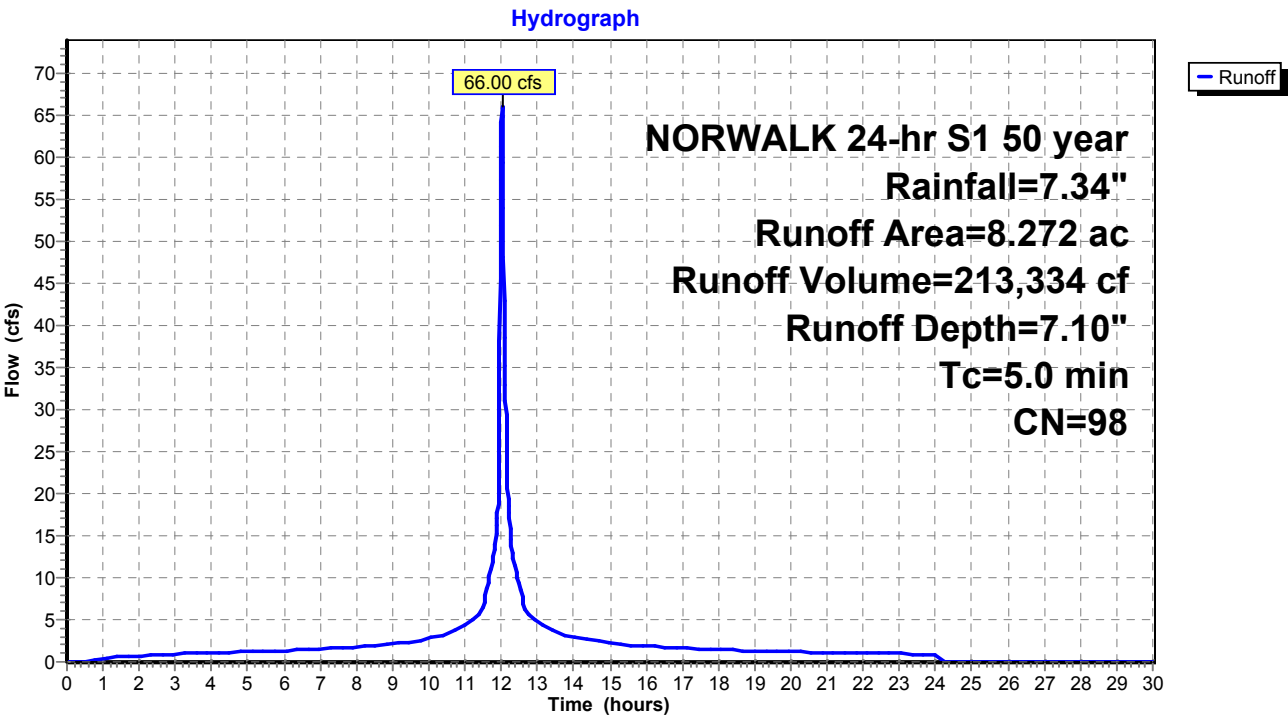
Runoff = 66.00 cfs @ 12.03 hrs, Volume= 213,334 cf, Depth= 7.10"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 50 year Rainfall=7.34"

Area (ac)	CN	Description
8.272	98	Roofs, HSG B
8.272		100.00% Impervious Area

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

Subcatchment BLDG: EX-BLDG



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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Pond 1P: RR Culvert 2

Inflow Area = 6,570,111 sf, 25.88% Impervious, Inflow Depth > 5.37" for 50 year event
Inflow = 285.46 cfs @ 12.23 hrs, Volume= 2,939,779 cf
Outflow = 285.46 cfs @ 12.23 hrs, Volume= 2,939,779 cf, Atten= 0%, Lag= 0.0 min
Primary = 35.31 cfs @ 12.23 hrs, Volume= 1,339,170 cf
Secondary = 250.15 cfs @ 12.23 hrs, Volume= 1,600,608 cf
Routed to Pond 24P : RR Culvert 3

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 14.13' @ 12.23 hrs

Device	Routing	Invert	Outlet Devices
#1	Secondary	13.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 3.00 4.00 5.00 Width (feet) 50.00 50.00 50.00 50.00 50.00 50.00
#2	Primary	9.50'	24.0" W x 36.0" H Box Culvert L= 135.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.50' / 9.50' S= 0.0000 ' / Cc= 0.900 n= 0.014, Flow Area= 6.00 sf

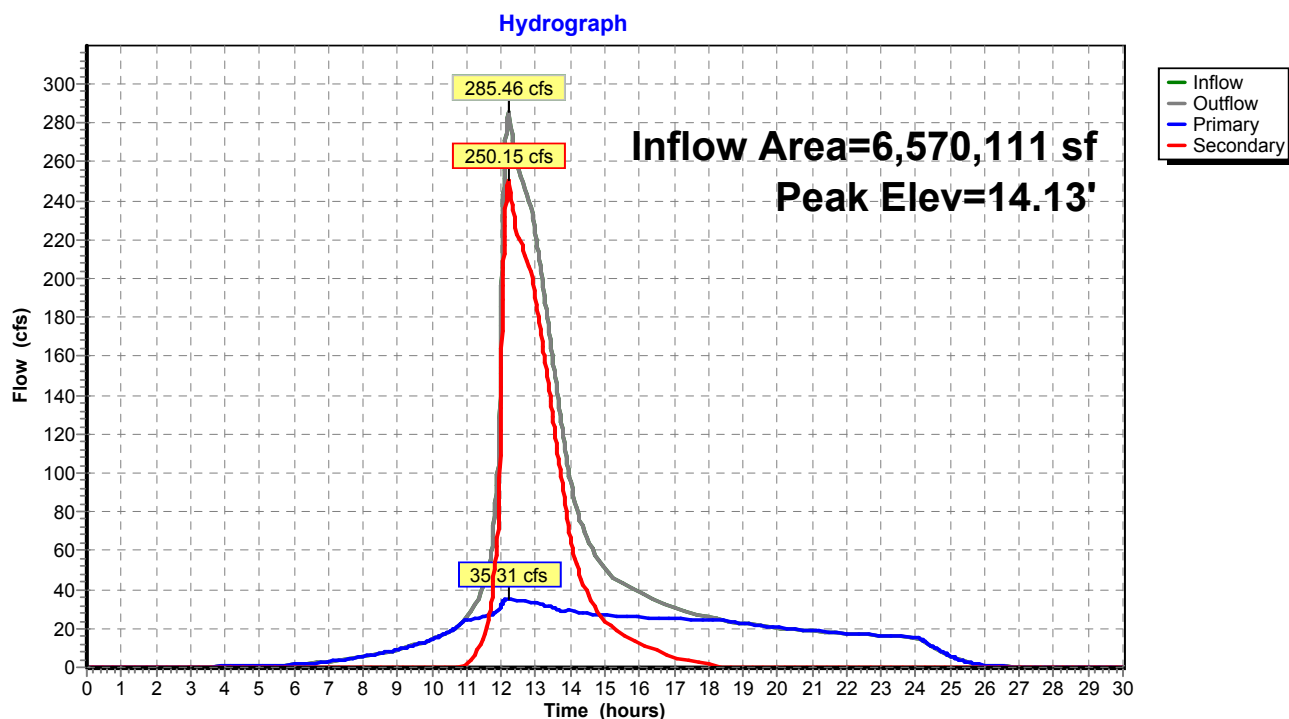
Primary OutFlow Max=35.31 cfs @ 12.23 hrs HW=14.13' (Free Discharge)

↑**2=Culvert** (Barrel Controls 35.31 cfs @ 5.89 fps)

Secondary OutFlow Max=249.96 cfs @ 12.23 hrs HW=14.13' (Free Discharge)

↑**1=Custom Weir/Orifice** (Weir Controls 249.96 cfs @ 4.42 fps)

Pond 1P: RR Culvert 2



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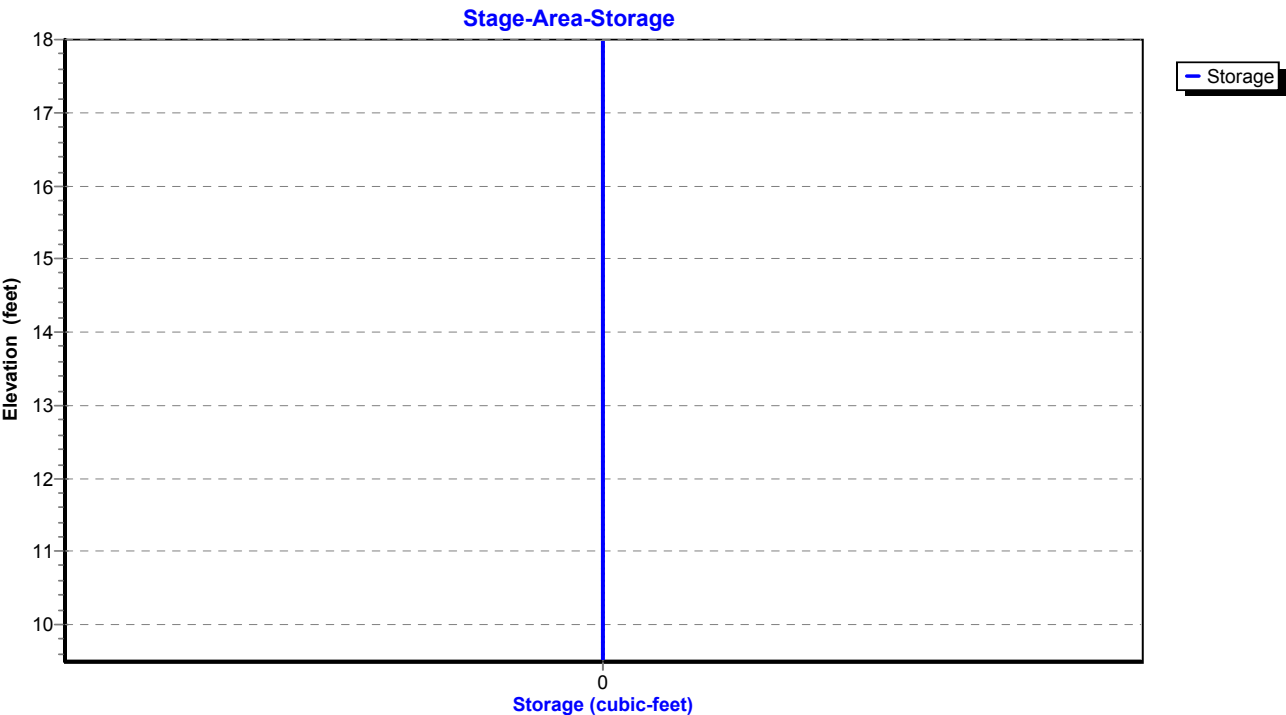
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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Pond 1P: RR Culvert 2



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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Summary for Pond 2P: RR Culvert 1

Inflow Area = 3,416,890 sf, 54.67% Impervious, Inflow Depth = 5.81" for 50 year event
Inflow = 174.22 cfs @ 12.04 hrs, Volume= 1,654,109 cf
Outflow = 174.22 cfs @ 12.04 hrs, Volume= 1,654,109 cf, Atten= 0%, Lag= 0.0 min
Primary = 57.16 cfs @ 12.04 hrs, Volume= 1,200,118 cf
Secondary = 117.06 cfs @ 12.04 hrs, Volume= 453,991 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 30.48' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	25.00'	28.8" W x 28.8" H Box Culvert L= 123.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.00' / 23.60' S= 0.0114 '/' Cc= 0.900 n= 0.014, Flow Area= 5.76 sf
#2	Secondary	27.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 Width (feet) 6.00 6.00 6.00

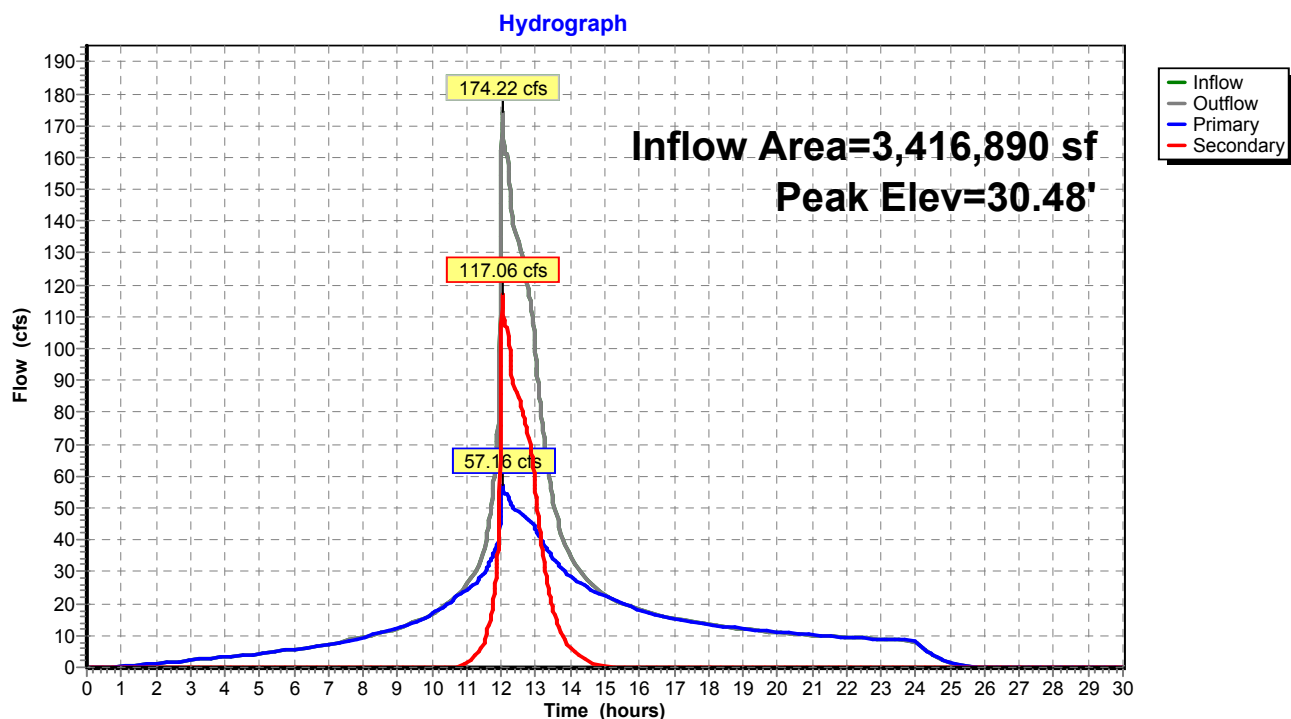
Primary OutFlow Max=57.15 cfs @ 12.04 hrs HW=30.47' (Free Discharge)

↑**1=Culvert** (Inlet Controls 57.15 cfs @ 9.92 fps)

Secondary OutFlow Max=117.03 cfs @ 12.04 hrs HW=30.47' (Free Discharge)

↑**2=Custom Weir/Orifice** (Orifice Controls 117.03 cfs @ 9.75 fps)

Pond 2P: RR Culvert 1



Proposed Conditions

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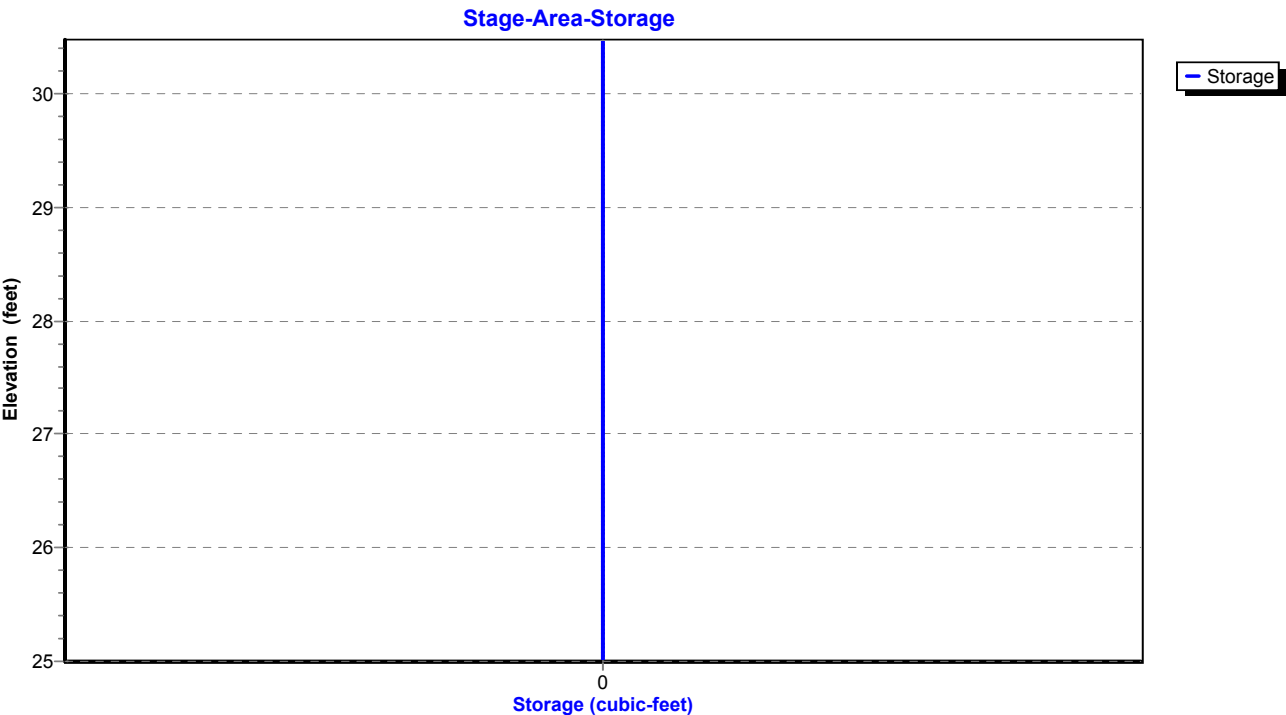
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Pond 2P: RR Culvert 1



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Summary for Pond 3P: DETENTION BASIN #2

Inflow Area = 263,277 sf, 58.24% Impervious, Inflow Depth = 5.58" for 50 year event
Inflow = 33.56 cfs @ 12.03 hrs, Volume= 122,454 cf
Outflow = 9.05 cfs @ 12.37 hrs, Volume= 106,665 cf, Atten= 73%, Lag= 20.3 min
Primary = 9.05 cfs @ 12.37 hrs, Volume= 106,665 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 50.63' @ 12.37 hrs Surf.Area= 13,260 sf Storage= 51,596 cf

Plug-Flow detention time= 198.4 min calculated for 106,665 cf (87% of inflow)
Center-of-Mass det. time= 131.2 min (932.1 - 800.8)

Volume	Invert	Avail.Storage	Storage Description
#1	44.00'	56,637 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.00	2,637	0	0
46.00	6,000	8,637	8,637
48.00	8,500	14,500	23,137
50.00	12,000	20,500	43,637
51.00	14,000	13,000	56,637

Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	18.0" Round Culvert L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.00' / 30.00' S= 0.1750 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	47.00'	10.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	50.40'	16.2" x 55.4" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=9.02 cfs @ 12.37 hrs HW=50.63' (Free Discharge)

1=Culvert (Passes 9.02 cfs of 20.63 cfs potential flow)
2=Orifice/Grate (Orifice Controls 4.71 cfs @ 8.63 fps)
3=Orifice/Grate (Weir Controls 4.31 cfs @ 1.57 fps)

Proposed Conditions

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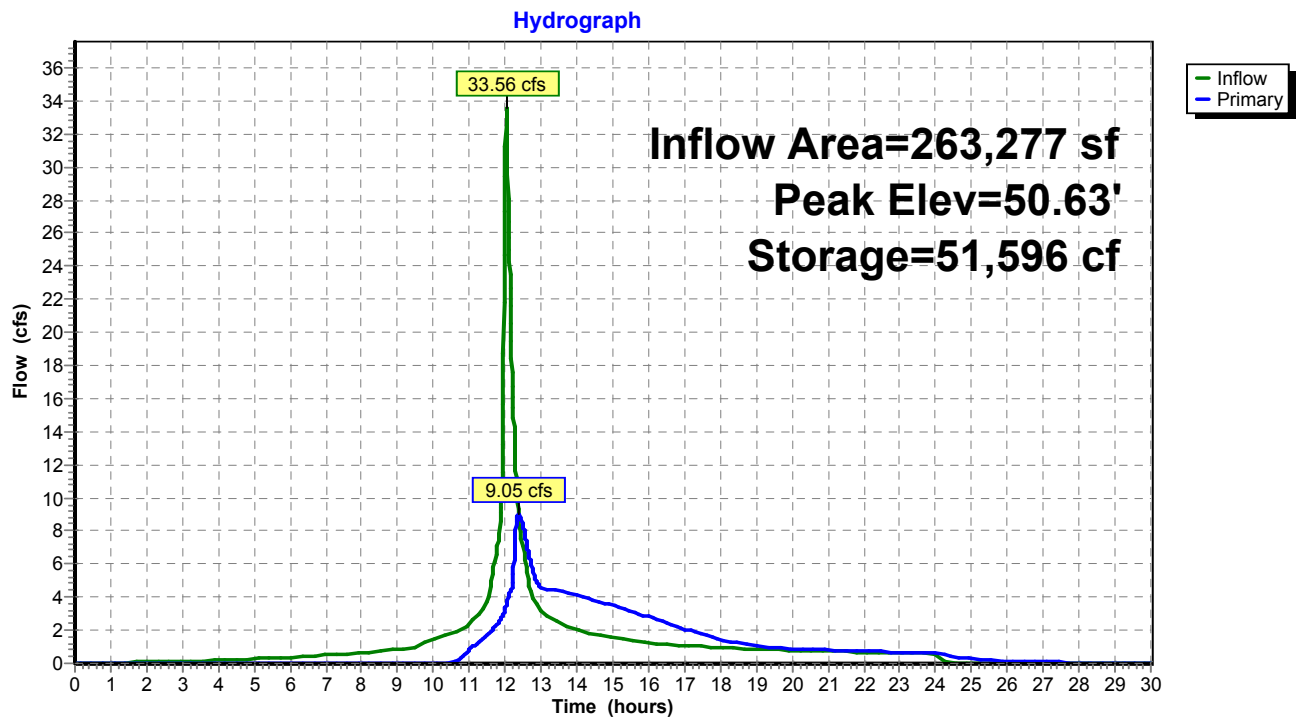
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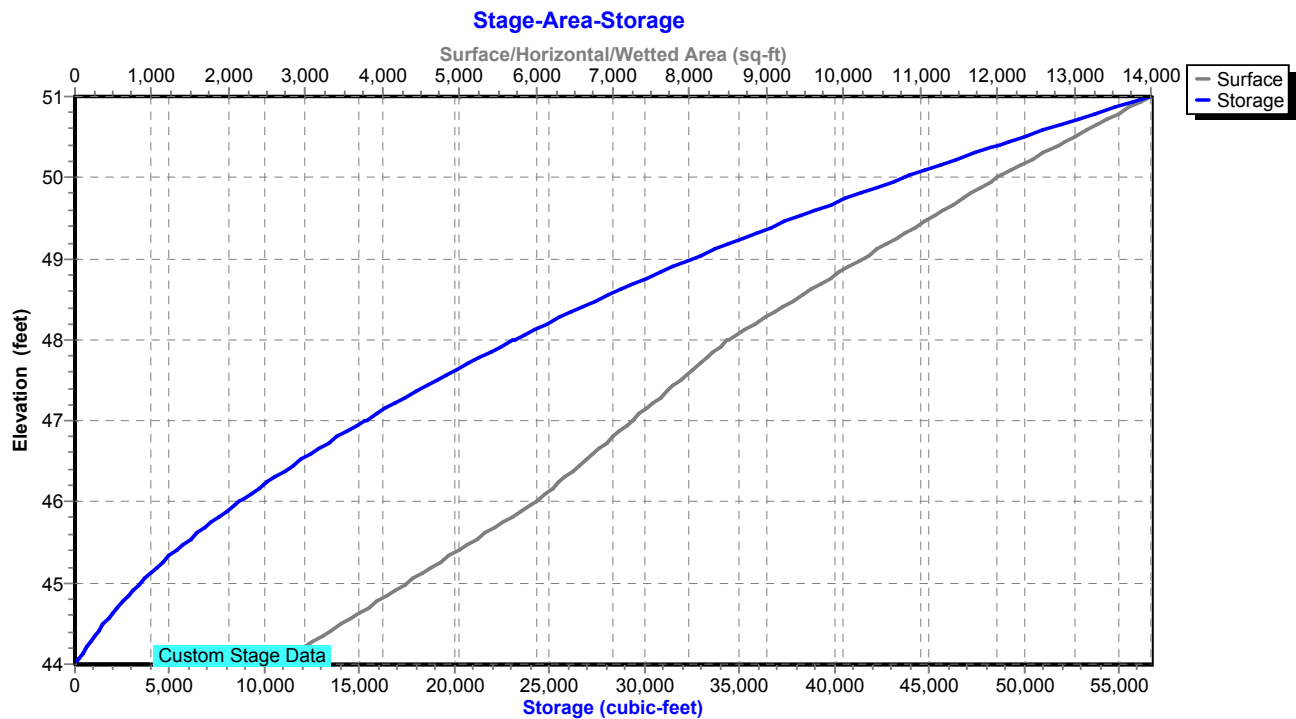
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Pond 3P: DETENTION BASIN #2



Pond 3P: DETENTION BASIN #2



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Summary for Pond 5P: DET 5 Culvert

Inflow Area = 541,015 sf, 16.51% Impervious, Inflow Depth = 4.23" for 50 year event
 Inflow = 26.70 cfs @ 12.45 hrs, Volume= 190,862 cf
 Outflow = 21.38 cfs @ 12.66 hrs, Volume= 190,861 cf, Atten= 20%, Lag= 12.6 min
 Primary = 21.38 cfs @ 12.66 hrs, Volume= 190,861 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 81.27' @ 12.66 hrs Storage= 12,522 cf

Plug-Flow detention time= 6.6 min calculated for 190,861 cf (100% of inflow)

Center-of-Mass det. time= 6.6 min (881.0 - 874.5)

Volume	Invert	Avail.Storage	Storage Description
#1	78.00'	62,584 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
78.00	0	0
79.00	1,179	1,179
80.00	3,009	4,188
81.00	5,795	9,983
82.00	9,335	19,318
83.00	16,518	35,836
84.00	26,748	62,584

Device	Routing	Invert	Outlet Devices
#1	Primary	78.00'	24.0" Round Culvert L= 224.0' Ke= 0.600 Inlet / Outlet Invert= 78.00' / 72.40' S= 0.0250 ' / Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=21.38 cfs @ 12.66 hrs HW=81.27' (Free Discharge)↑**1=Culvert** (Inlet Controls 21.38 cfs @ 6.80 fps)

Proposed Conditions

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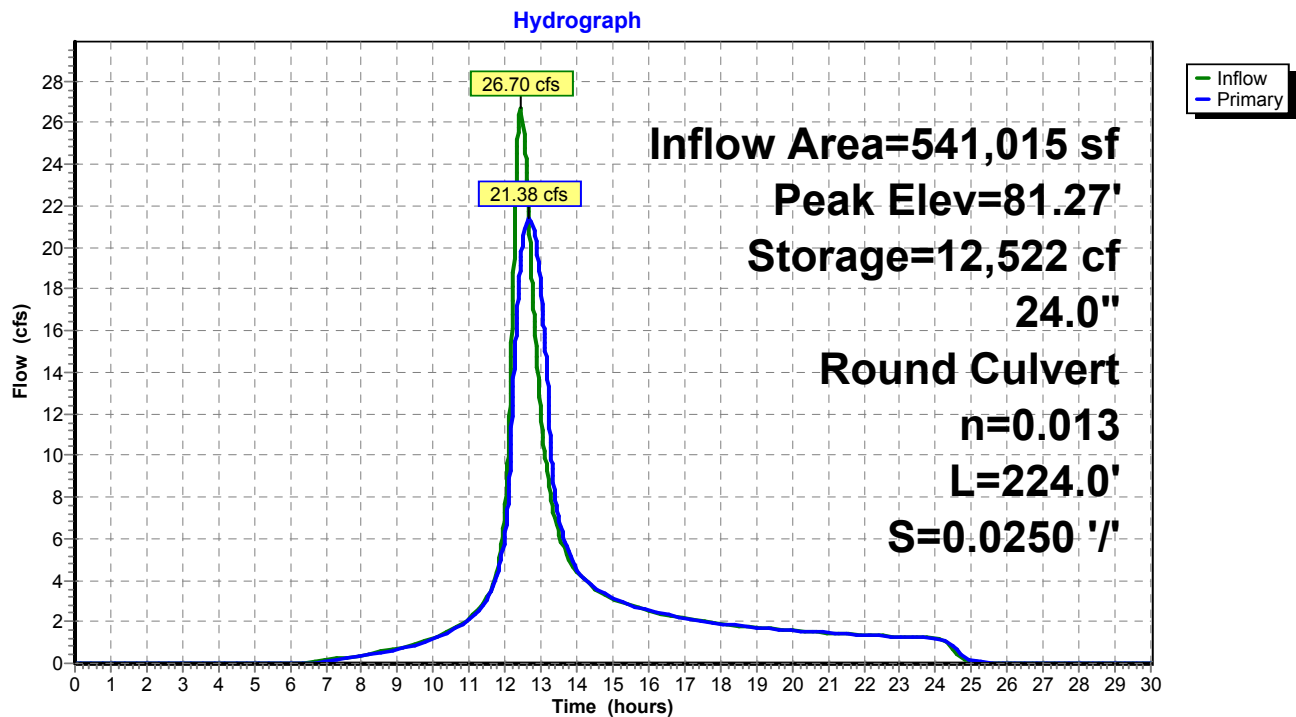
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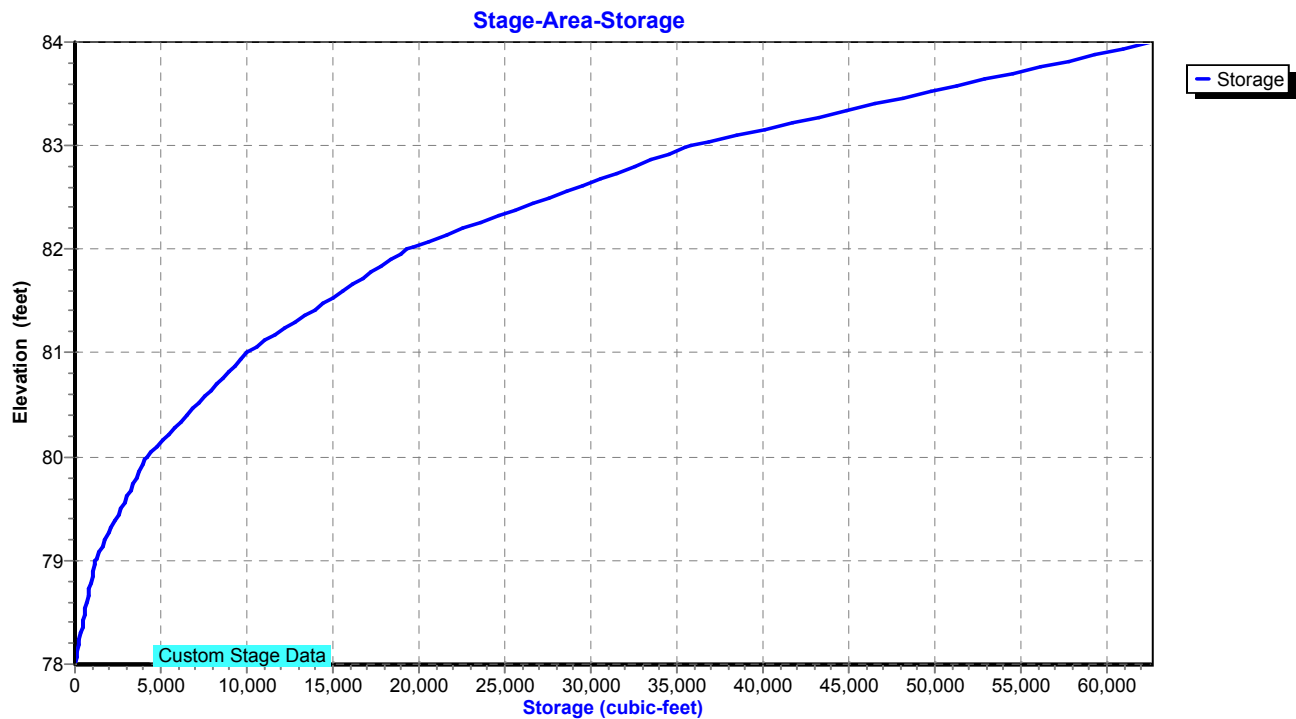
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Pond 5P: DET 5 Culvert



Pond 5P: DET 5 Culvert



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Summary for Pond 6P: DET 6 Culvert

Inflow Area = 747,054 sf, 37.20% Impervious, Inflow Depth = 5.24" for 50 year event
 Inflow = 35.89 cfs @ 12.70 hrs, Volume= 326,174 cf
 Outflow = 34.79 cfs @ 12.78 hrs, Volume= 326,174 cf, Atten= 3%, Lag= 5.1 min
 Primary = 34.79 cfs @ 12.78 hrs, Volume= 326,174 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 92.22' @ 12.78 hrs Storage= 2,324 cf

Plug-Flow detention time= 0.5 min calculated for 326,065 cf (100% of inflow)

Center-of-Mass det. time= 0.5 min (863.6 - 863.1)

Volume	Invert	Avail.Storage	Storage Description
#1	88.50'	5,954 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
88.50	0	0
90.00	154	154
92.00	1,175	1,329
93.00	4,625	5,954

Device	Routing	Invert	Outlet Devices
#1	Primary	88.50'	30.0" Round Culvert L= 180.0' Ke= 0.600 Inlet / Outlet Invert= 88.50' / 86.00' S= 0.0139 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=34.79 cfs @ 12.78 hrs HW=92.22' (Free Discharge)↑**1=Culvert** (Inlet Controls 34.79 cfs @ 7.09 fps)

Proposed Conditions

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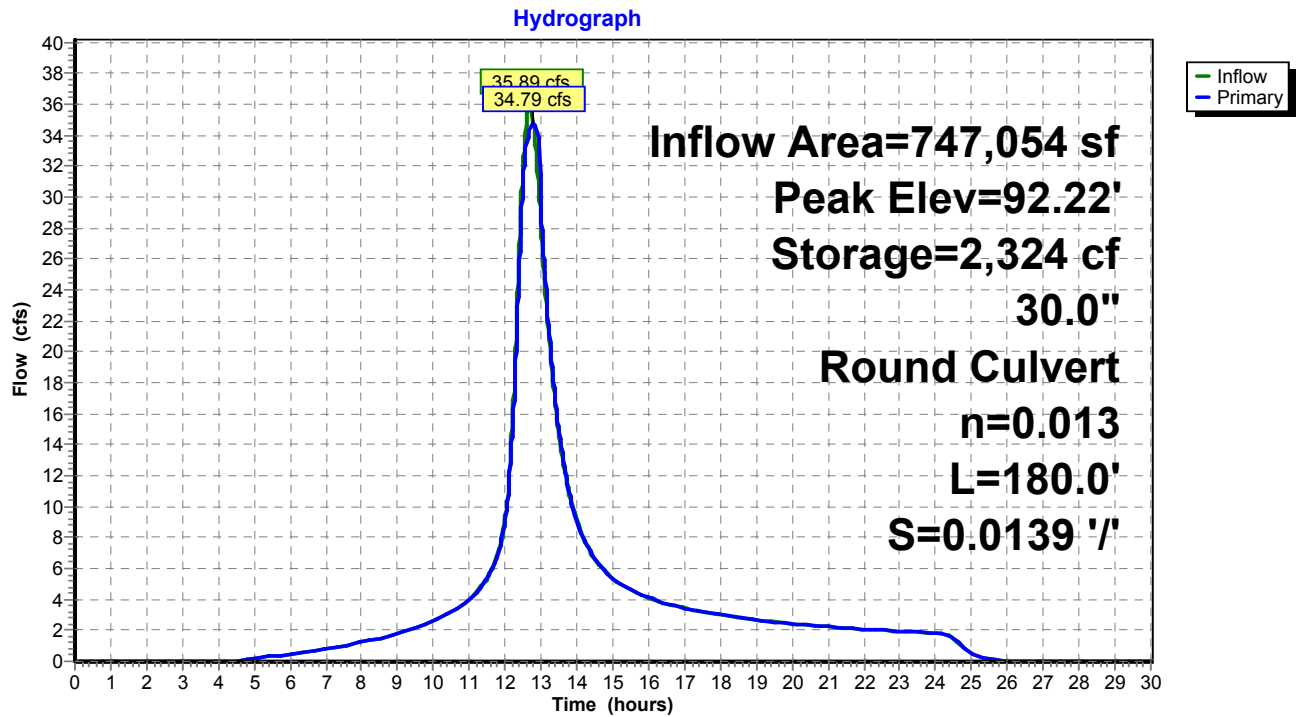
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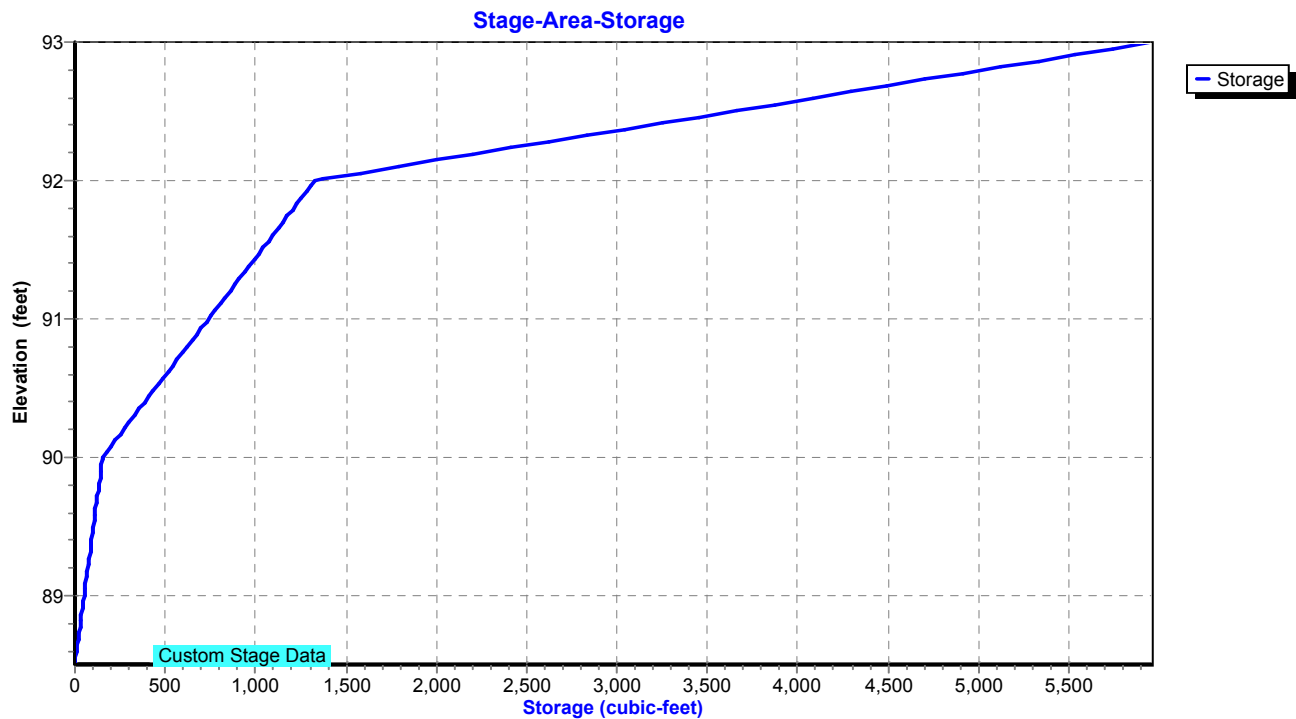
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Pond 6P: DET 6 Culvert



Pond 6P: DET 6 Culvert



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Summary for Pond 7P: DET 7 Culvert

Inflow Area = 64,033 sf, 0.00% Impervious, Inflow Depth = 5.13" for 50 year event
 Inflow = 4.93 cfs @ 12.26 hrs, Volume= 27,352 cf
 Outflow = 3.27 cfs @ 12.46 hrs, Volume= 27,352 cf, Atten= 34%, Lag= 12.2 min
 Primary = 3.27 cfs @ 12.46 hrs, Volume= 27,352 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 93.48' @ 12.46 hrs Storage= 2,887 cf

Plug-Flow detention time= 6.9 min calculated for 27,352 cf (100% of inflow)

Center-of-Mass det. time= 6.9 min (843.6 - 836.7)

Volume	Invert	Avail.Storage	Storage Description
#1	92.50'	5,874 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
92.50	0	0
93.00	103	103
94.00	5,771	5,874

Device	Routing	Invert	Outlet Devices
#1	Primary	92.50'	15.0" Round Culvert L= 202.0' Ke= 0.600 Inlet / Outlet Invert= 92.50' / 89.11' S= 0.0168 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=3.27 cfs @ 12.46 hrs HW=93.48' (Free Discharge)↑ **1=Culvert** (Inlet Controls 3.27 cfs @ 3.16 fps)

Proposed Conditions

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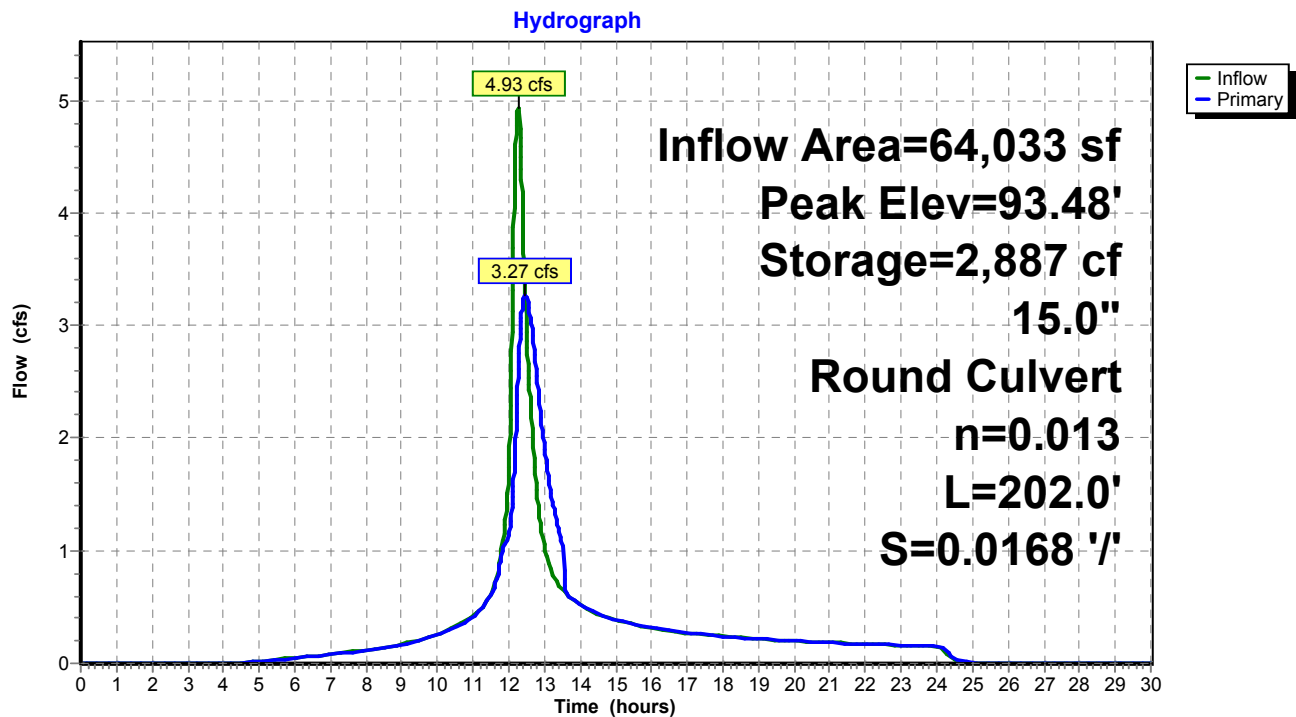
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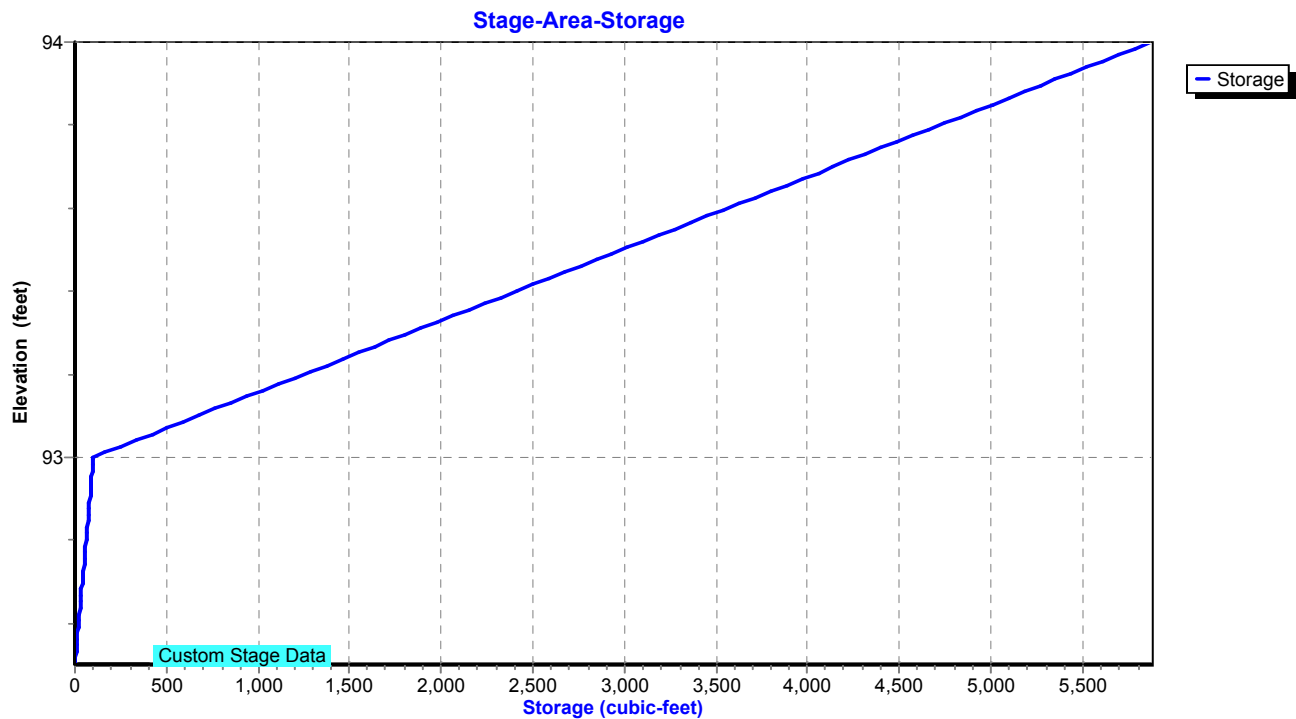
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Pond 7P: DET 7 Culvert



Pond 7P: DET 7 Culvert



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Summary for Pond 8P: Comb. 5,6,7,8,9

Inflow Area = 1,584,277 sf, 30.02% Impervious, Inflow Depth = 4.99" for 50 year event
 Inflow = 70.33 cfs @ 12.69 hrs, Volume= 659,122 cf
 Outflow = 70.32 cfs @ 12.70 hrs, Volume= 659,122 cf, Atten= 0%, Lag= 0.6 min
 Primary = 70.32 cfs @ 12.70 hrs, Volume= 659,122 cf
 Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 72.45' @ 12.70 hrs Storage= 384 cf

Plug-Flow detention time= 0.0 min calculated for 658,902 cf (100% of inflow)

Center-of-Mass det. time= 0.0 min (861.1 - 861.1)

Volume	Invert	Avail.Storage	Storage Description
#1	68.40'	5,234 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.40	0	0
71.00	52	52
72.00	118	170
73.00	471	641
74.00	1,318	1,959
75.00	3,275	5,234

Device	Routing	Invert	Outlet Devices
#1	Primary	68.40'	42.0" Round Culvert L= 900.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 68.40' / 36.99' S= 0.0349 ' / S= 0.0349 ' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=70.33 cfs @ 12.70 hrs HW=72.45' (Free Discharge)↑**1=Culvert** (Inlet Controls 70.33 cfs @ 7.31 fps)

Proposed Conditions

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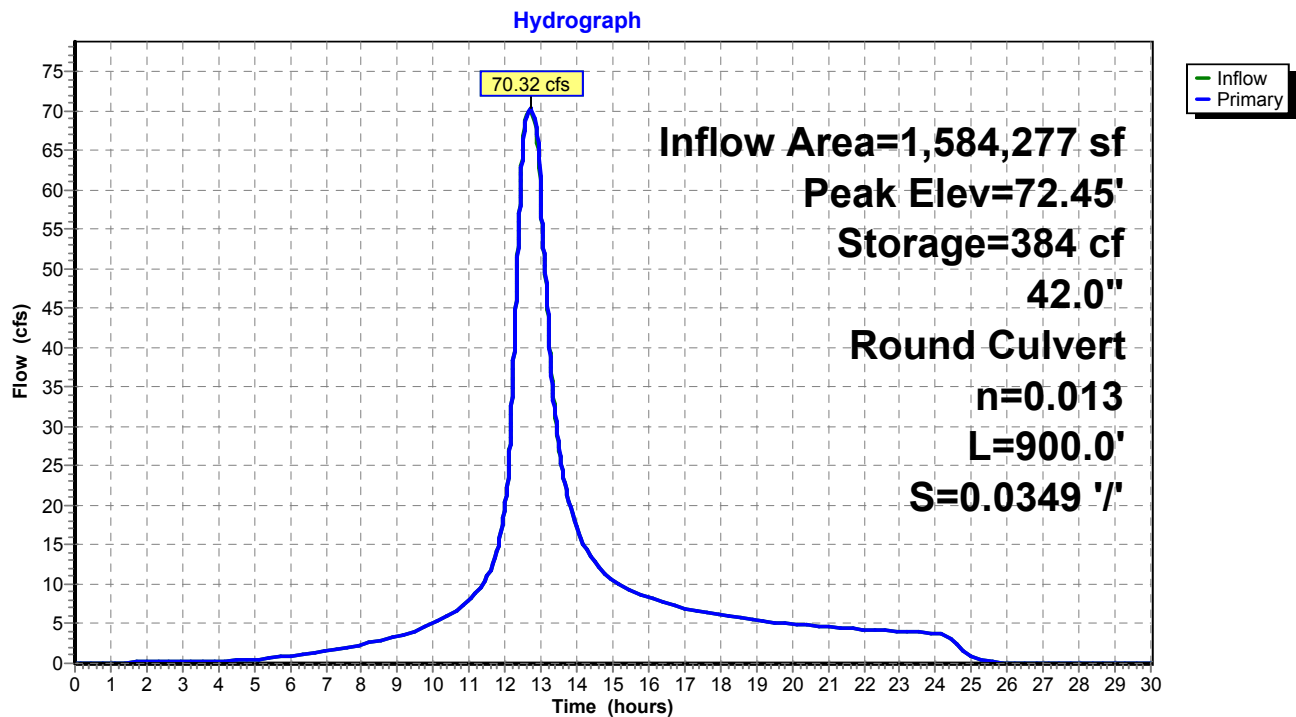
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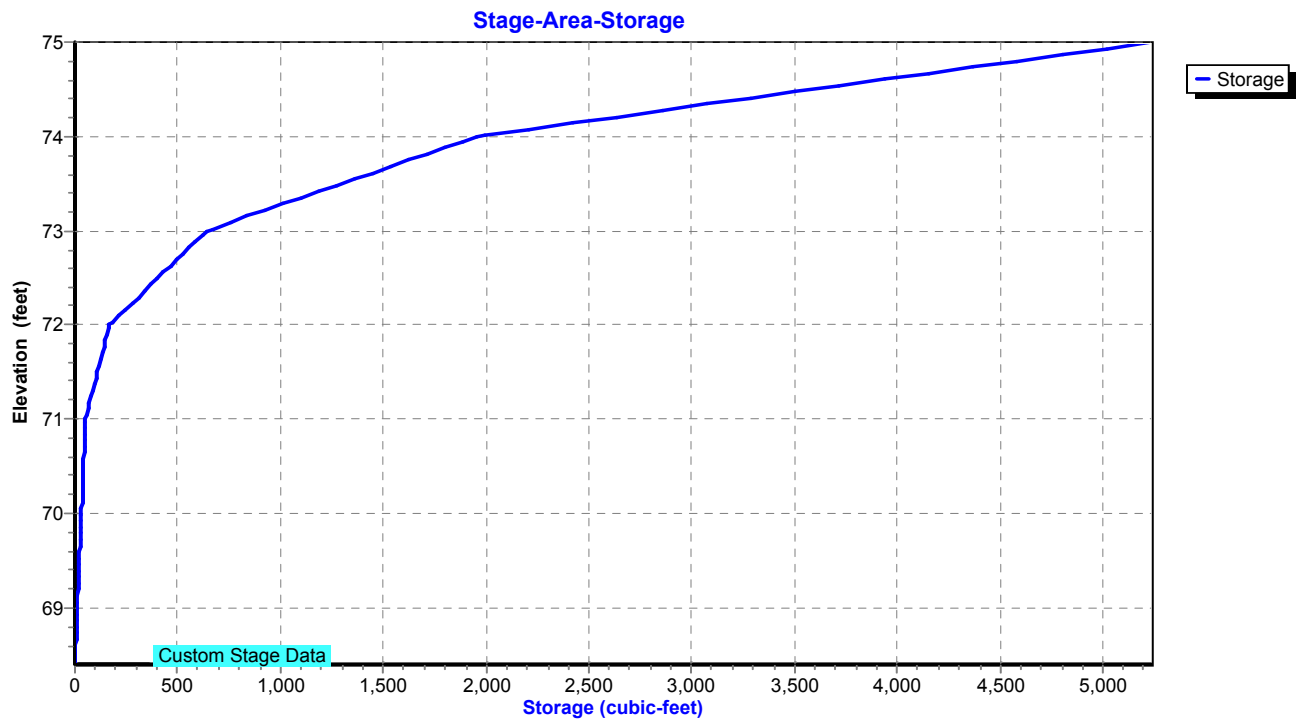
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Pond 8P: Comb. 5,6,7,8,9



Pond 8P: Comb. 5,6,7,8,9



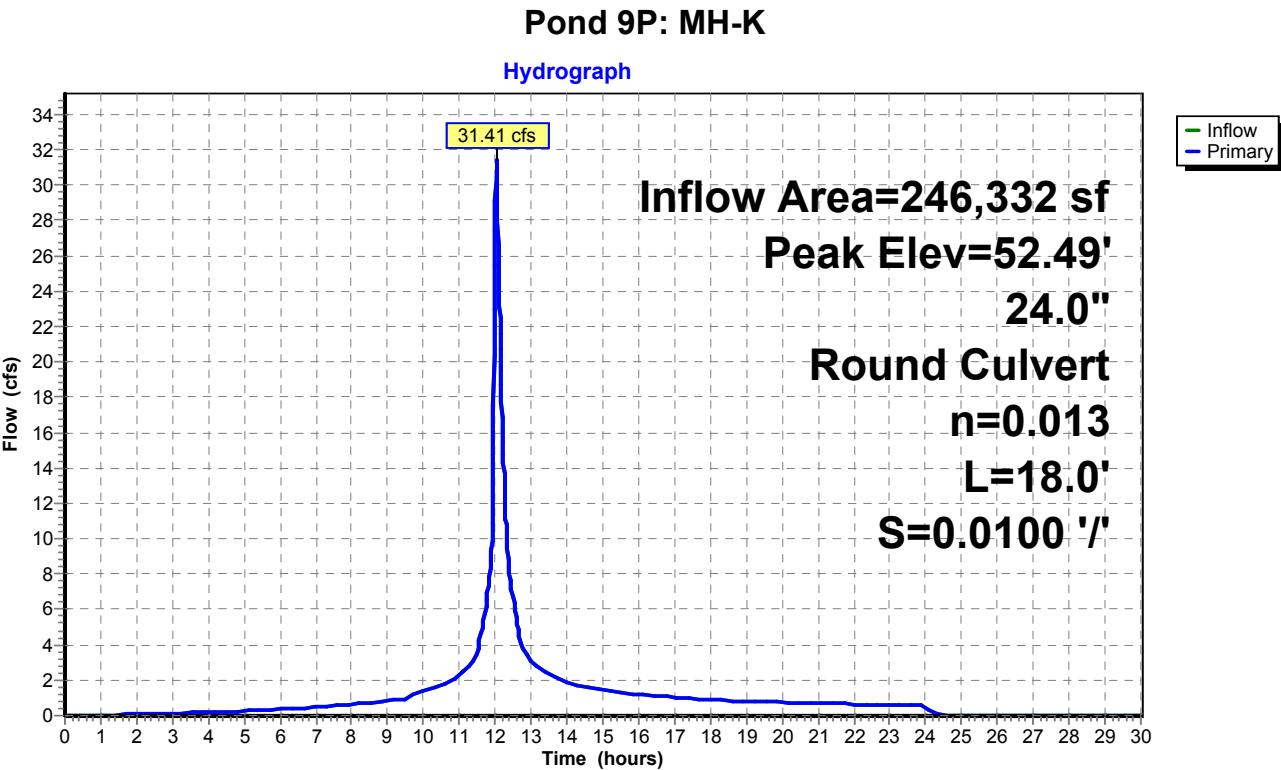
Summary for Pond 9P: MH-K

Inflow Area = 246,332 sf, 62.25% Impervious, Inflow Depth = 5.67" for 50 year event
Inflow = 31.41 cfs @ 12.04 hrs, Volume= 116,321 cf
Outflow = 31.41 cfs @ 12.04 hrs, Volume= 116,321 cf, Atten= 0%, Lag= 0.0 min
Primary = 31.41 cfs @ 12.04 hrs, Volume= 116,321 cf
Routed to Pond 3P : DETENTION BASIN #2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 52.49' @ 12.04 hrs
Flood Elev= 51.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.18'	24.0" Round Culvert L= 18.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.18' / 47.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=31.31 cfs @ 12.04 hrs HW=52.46' (Free Discharge)
1=Culvert (Inlet Controls 31.31 cfs @ 9.97 fps)



Proposed Conditions

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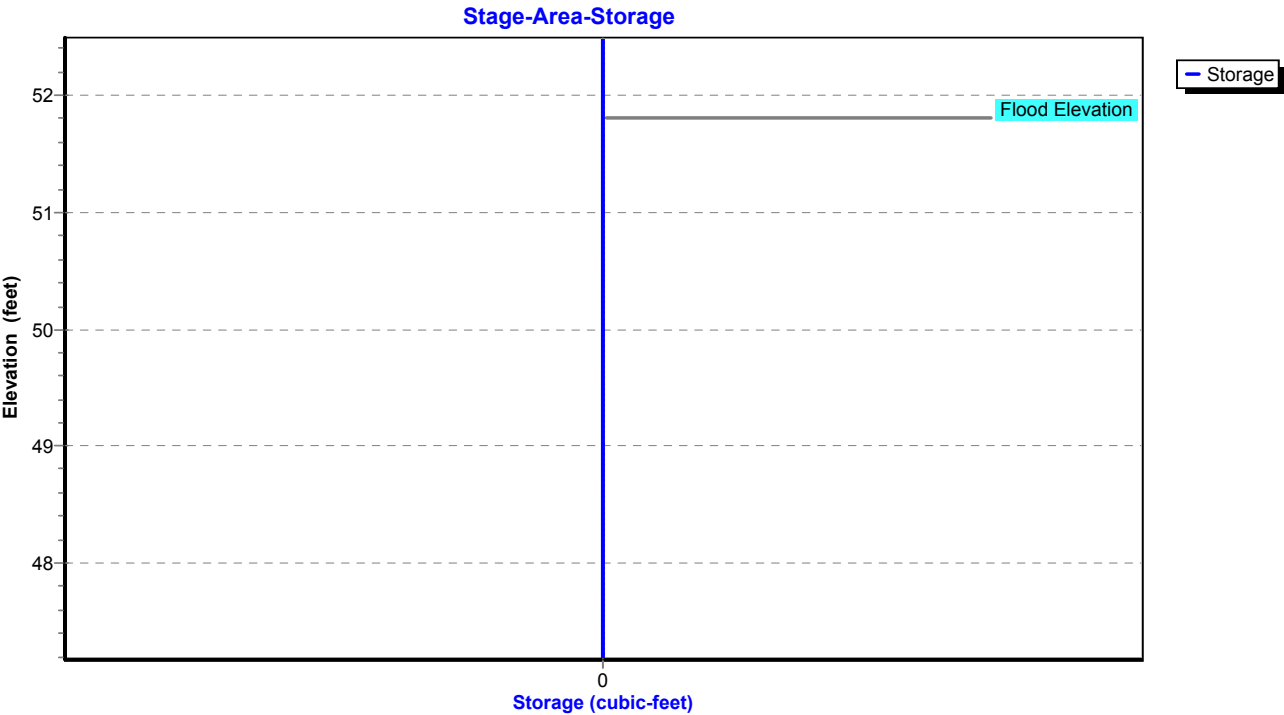
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Pond 9P: MH-K



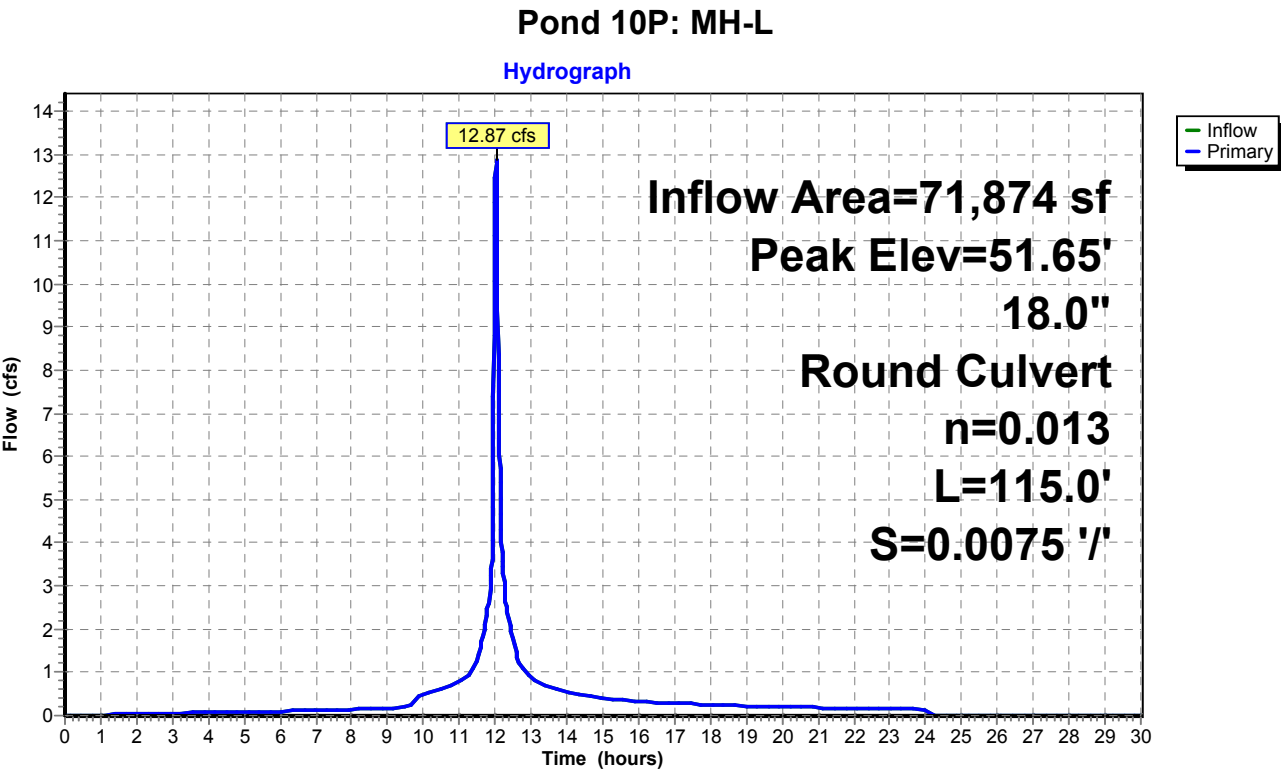
Summary for Pond 10P: MH-L

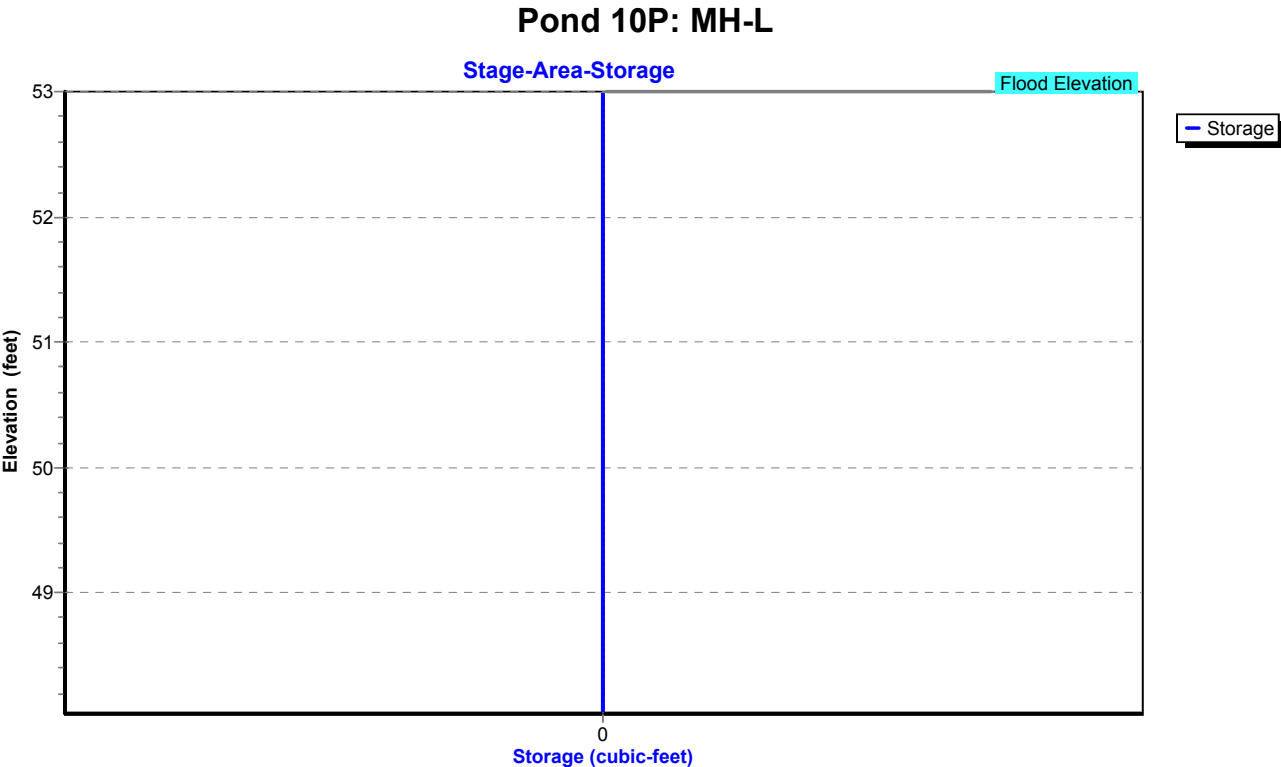
Inflow Area = 71,874 sf, 85.27% Impervious, Inflow Depth = 5.81" for 50 year event
Inflow = 12.87 cfs @ 12.03 hrs, Volume= 34,798 cf
Outflow = 12.87 cfs @ 12.03 hrs, Volume= 34,798 cf, Atten= 0%, Lag= 0.0 min
Primary = 12.87 cfs @ 12.03 hrs, Volume= 34,798 cf
Routed to Pond 9P : MH-K

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 51.65' @ 12.03 hrs
Flood Elev= 53.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.04'	18.0" Round Culvert L= 115.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.04' / 47.18' S= 0.0075 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=12.81 cfs @ 12.03 hrs HW=51.62' (Free Discharge)
1=Culvert (Barrel Controls 12.81 cfs @ 7.25 fps)





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Summary for Pond 11P: Pipe Storage

Inflow Area = 40,903 sf, 82.85% Impervious, Inflow Depth = 6.64" for 50 year event
Inflow = 7.32 cfs @ 12.03 hrs, Volume= 22,622 cf
Outflow = 7.29 cfs @ 12.03 hrs, Volume= 17,303 cf, Atten= 0%, Lag= 0.0 min
Primary = 7.29 cfs @ 12.03 hrs, Volume= 17,303 cf
Routed to Pond 10P : MH-L

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 53.10' @ 12.03 hrs Storage= 0.081 af

Plug-Flow detention time= 153.6 min calculated for 17,303 cf (76% of inflow)

Center-of-Mass det. time= 47.8 min (813.8 - 766.0)

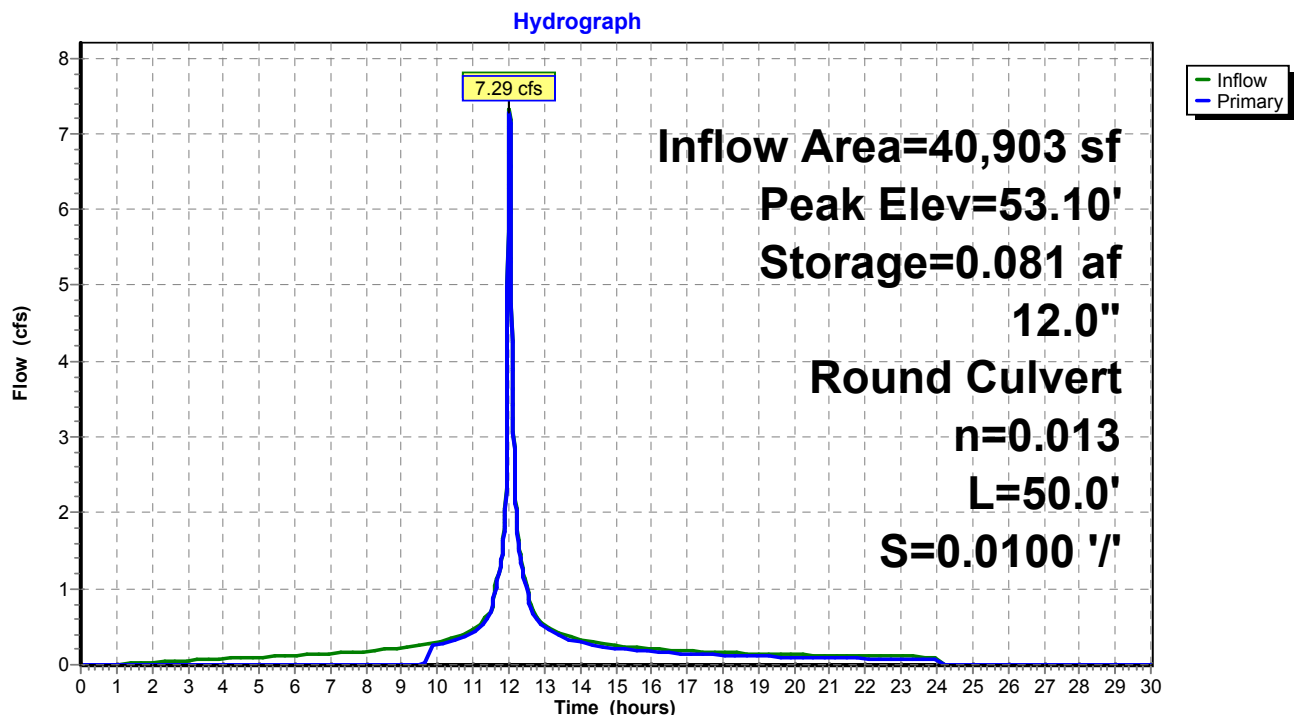
Volume	Invert	Avail.Storage	Storage Description
#1	45.50'	0.081 af	36.0" Round Pipe Storage x 2 L= 250.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.50'	12.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.50' / 48.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

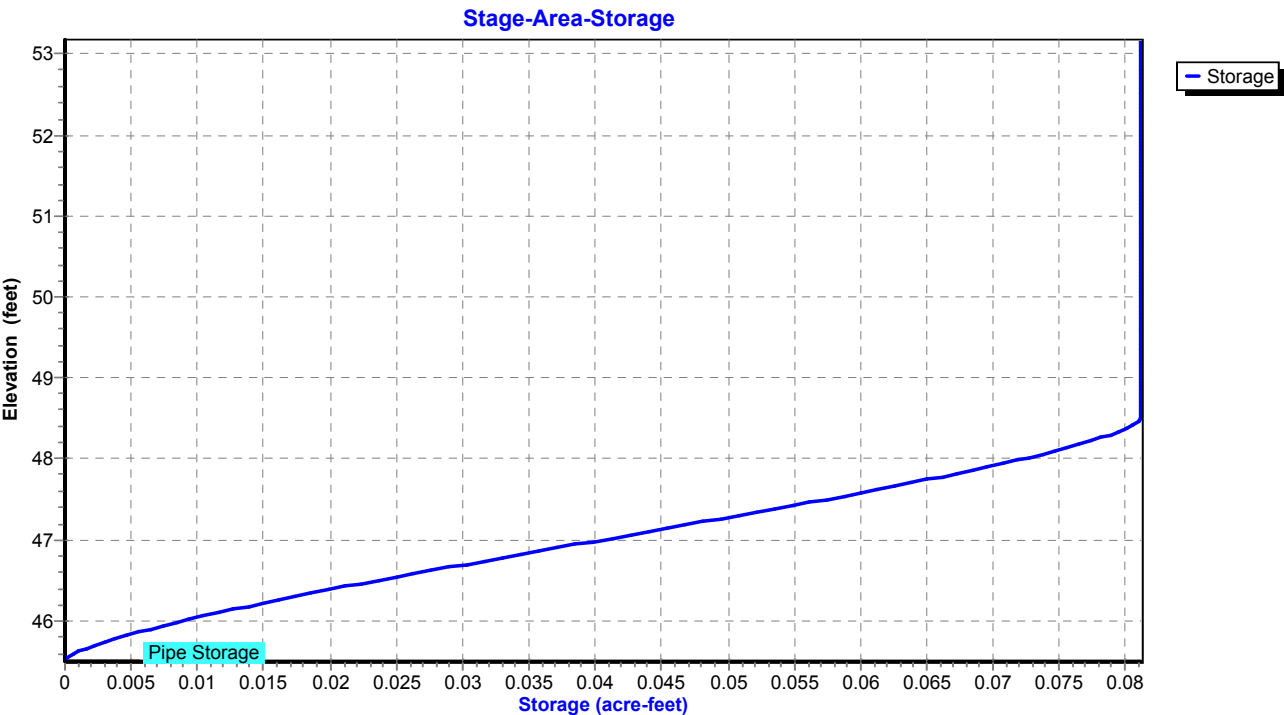
Primary OutFlow Max=7.26 cfs @ 12.03 hrs HW=53.07' (Free Discharge)

←1=Culvert (Barrel Controls 7.26 cfs @ 9.24 fps)

Pond 11P: Pipe Storage



Pond 11P: Pipe Storage



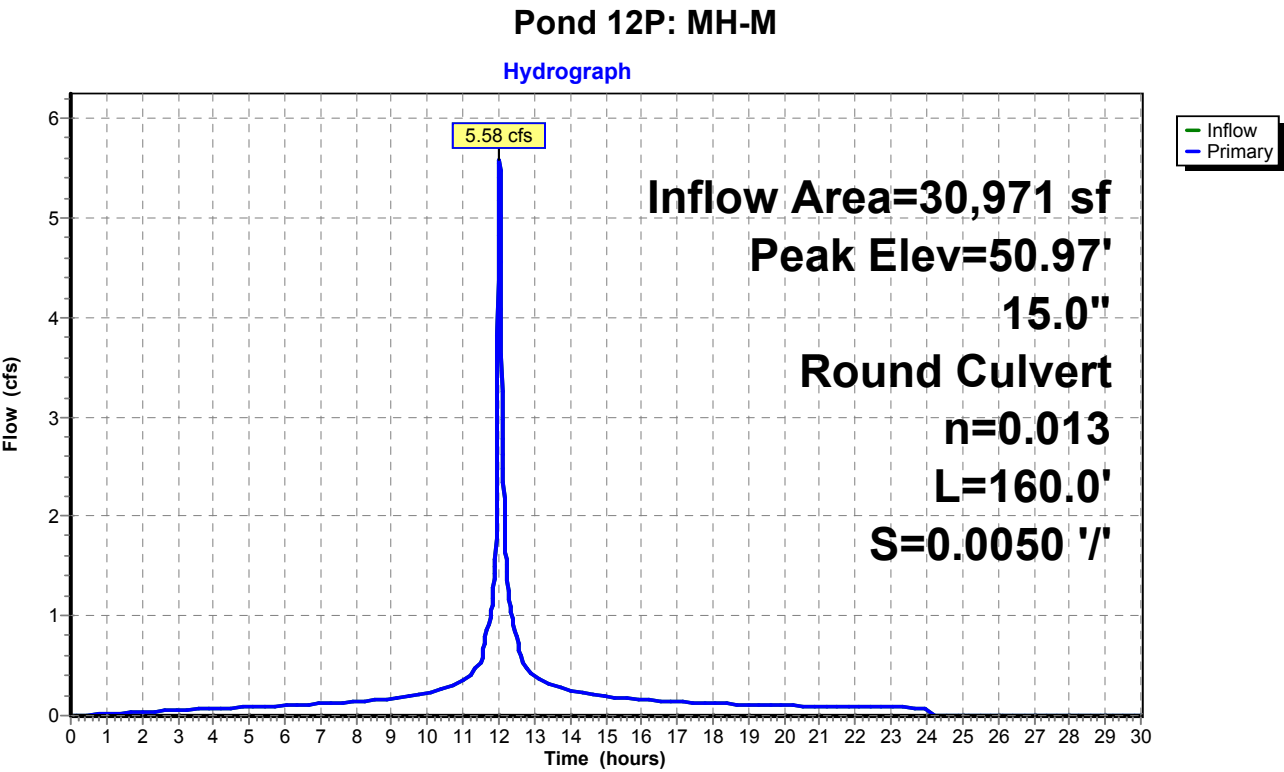
Summary for Pond 12P: MH-M

Inflow Area = 30,971 sf, 88.47% Impervious, Inflow Depth = 6.78" for 50 year event
Inflow = 5.58 cfs @ 12.03 hrs, Volume= 17,496 cf
Outflow = 5.58 cfs @ 12.03 hrs, Volume= 17,496 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.58 cfs @ 12.03 hrs, Volume= 17,496 cf
Routed to Pond 10P : MH-L

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 50.97' @ 12.03 hrs
Flood Elev= 54.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.84'	15.0" Round Culvert L= 160.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.84' / 48.04' S= 0.0050 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=5.56 cfs @ 12.03 hrs HW=50.96' (Free Discharge)
1=Culvert (Barrel Controls 5.56 cfs @ 4.53 fps)



Proposed Conditions

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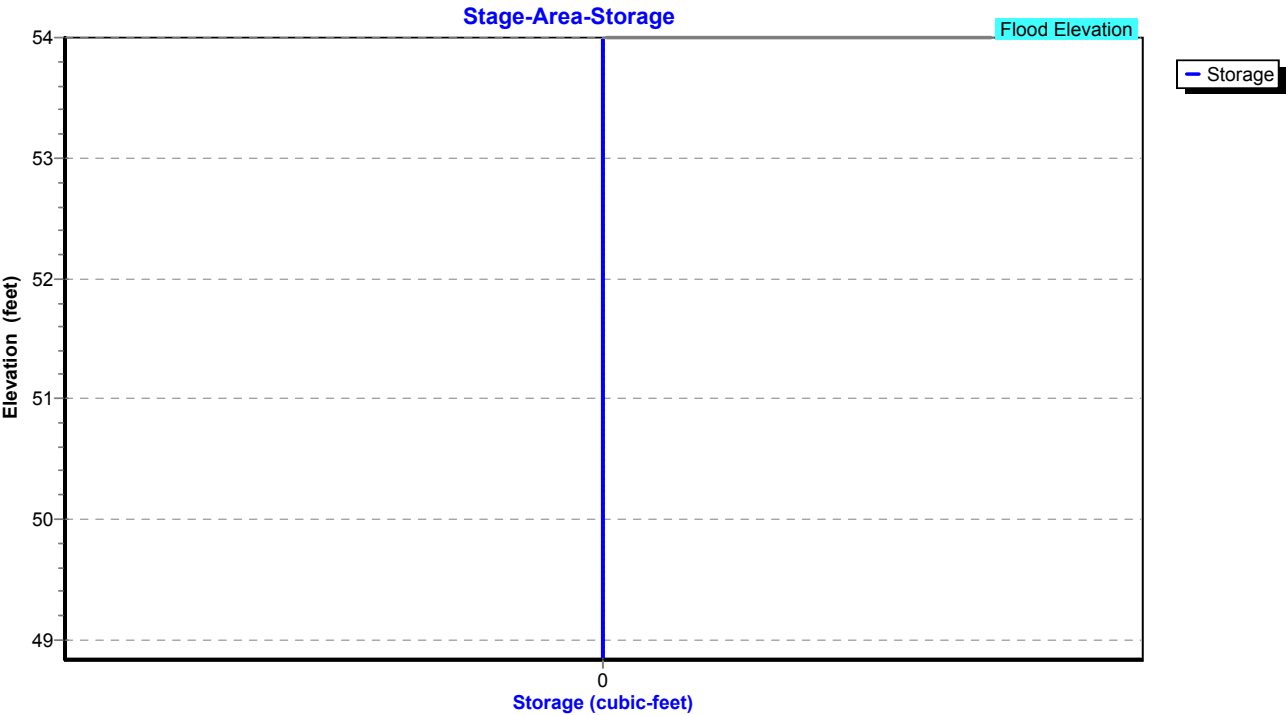
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Pond 12P: MH-M



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Summary for Pond 13P: MH-J

Inflow Area = 17,032 sf, 79.03% Impervious, Inflow Depth = 6.51" for 50 year event
Inflow = 3.03 cfs @ 12.03 hrs, Volume= 9,243 cf
Outflow = 3.03 cfs @ 12.03 hrs, Volume= 9,243 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.03 cfs @ 12.03 hrs, Volume= 9,243 cf
Routed to Pond 12P : MH-M

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 51.24' @ 12.03 hrs

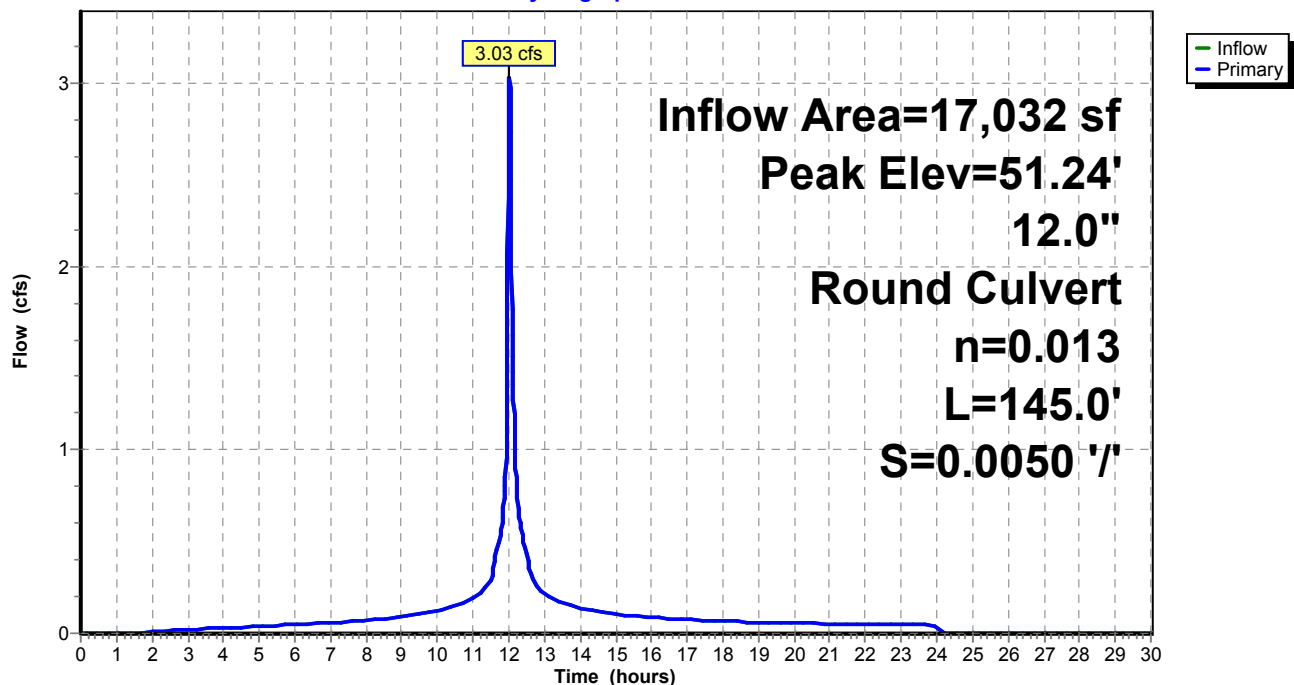
Device	Routing	Invert	Outlet Devices
#1	Primary	49.57'	12.0" Round Culvert L= 145.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.57' / 48.84' S= 0.0050 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=3.02 cfs @ 12.03 hrs HW=51.23' (Free Discharge)

↑1=Culvert (Barrel Controls 3.02 cfs @ 3.84 fps)

Pond 13P: MH-J

Hydrograph



Proposed Conditions

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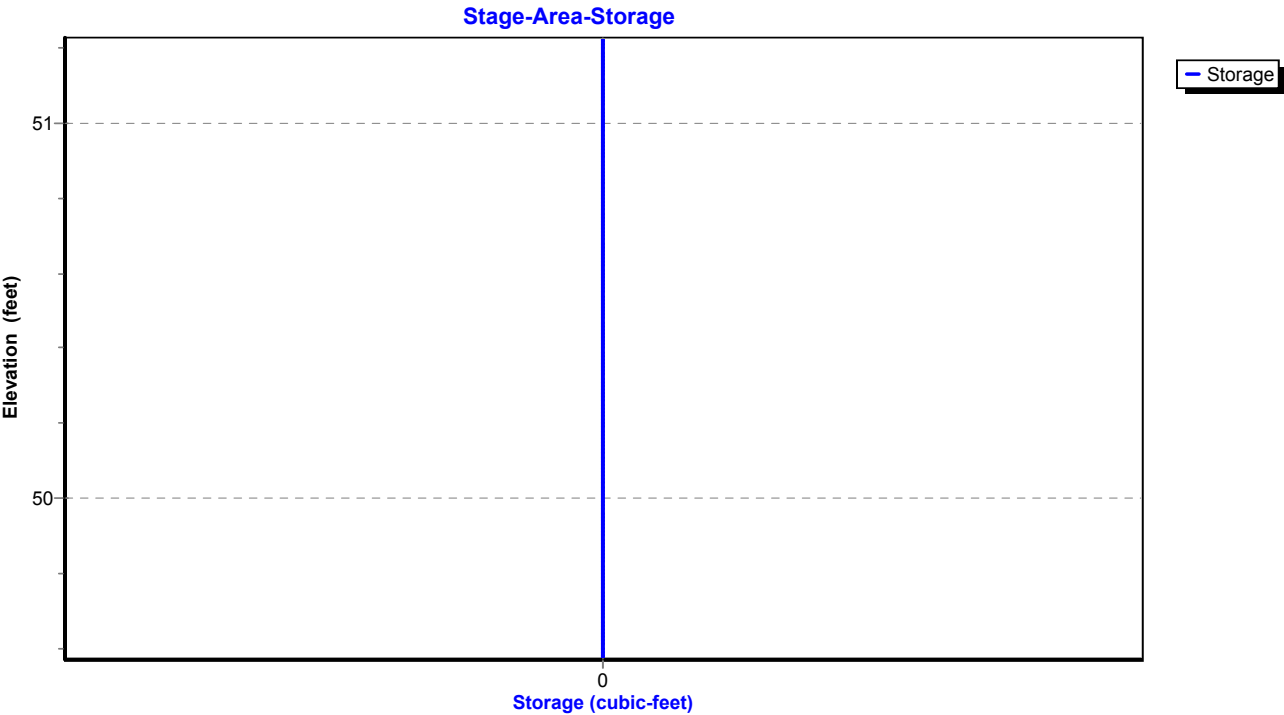
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Pond 13P: MH-J



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Summary for Pond 14P: MH-O

Inflow Area = 144,140 sf, 45.36% Impervious, Inflow Depth = 5.37" for 50 year event
Inflow = 14.73 cfs @ 12.10 hrs, Volume= 64,474 cf
Outflow = 14.73 cfs @ 12.10 hrs, Volume= 64,474 cf, Atten= 0%, Lag= 0.0 min
Primary = 14.73 cfs @ 12.10 hrs, Volume= 64,474 cf
Routed to Pond 9P : MH-K

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 51.88' @ 12.10 hrs

Flood Elev= 51.80'

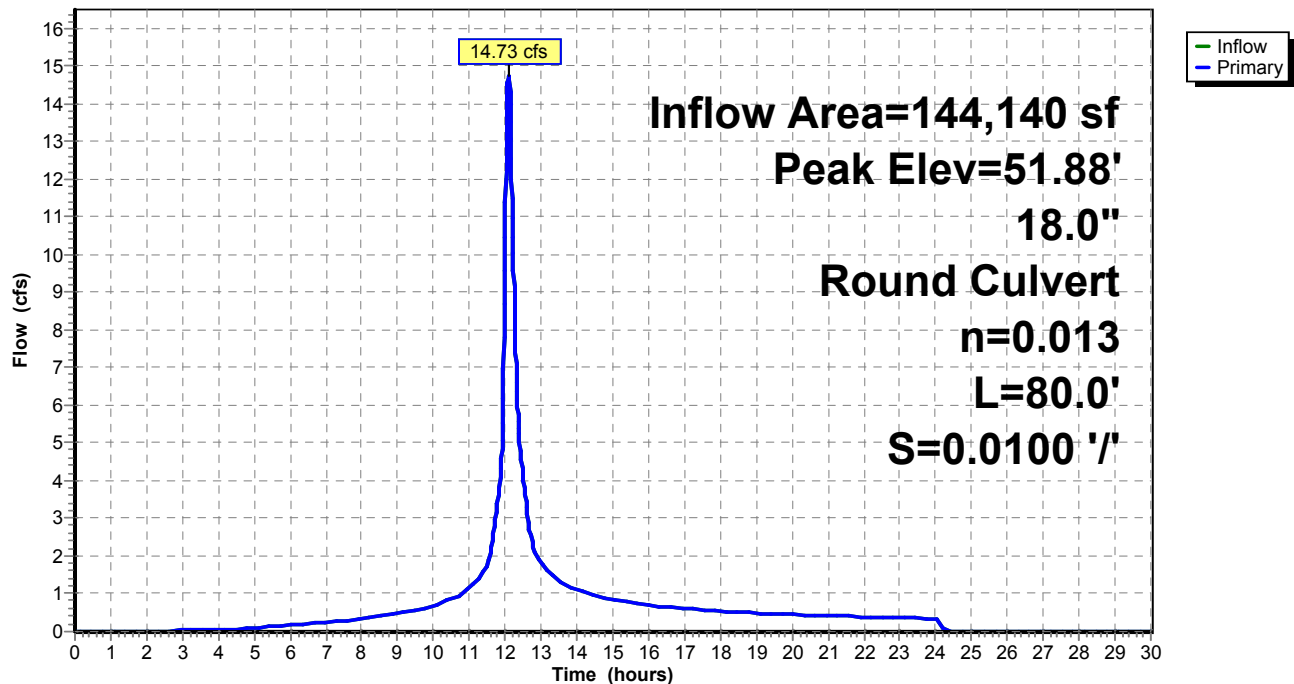
Device	Routing	Invert	Outlet Devices
#1	Primary	47.98'	18.0" Round Culvert L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.98' / 47.18' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=14.73 cfs @ 12.10 hrs HW=51.88' (Free Discharge)

↑1=Culvert (Barrel Controls 14.73 cfs @ 8.33 fps)

Pond 14P: MH-O

Hydrograph



Proposed Conditions

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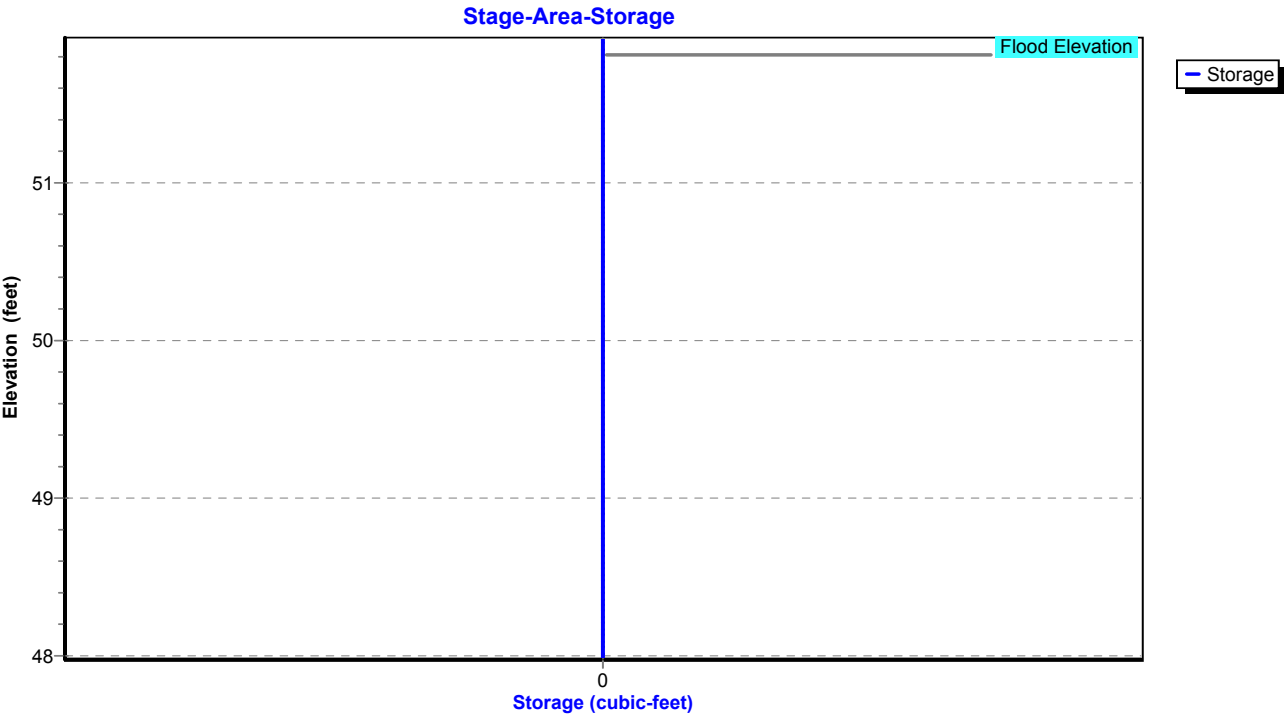
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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Pond 14P: MH-O



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Summary for Pond 15P: MH-P

Inflow Area = 126,542 sf, 40.90% Impervious, Inflow Depth = 5.21" for 50 year event
Inflow = 13.12 cfs @ 12.11 hrs, Volume= 54,902 cf
Outflow = 13.12 cfs @ 12.11 hrs, Volume= 54,902 cf, Atten= 0%, Lag= 0.0 min
Primary = 13.12 cfs @ 12.11 hrs, Volume= 54,902 cf
Routed to Pond 14P : MH-O

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 53.35' @ 12.11 hrs

Flood Elev= 53.90'

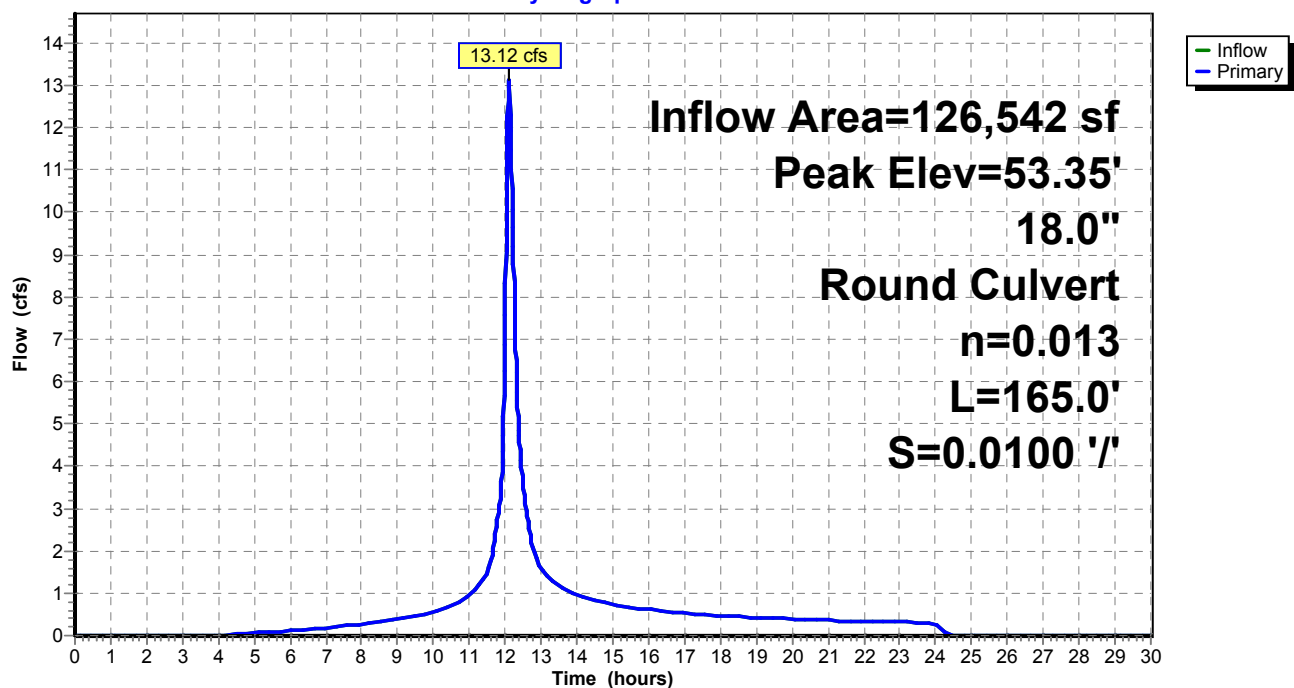
Device	Routing	Invert	Outlet Devices
#1	Primary	49.63'	18.0" Round Culvert L= 165.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.63' / 47.98' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

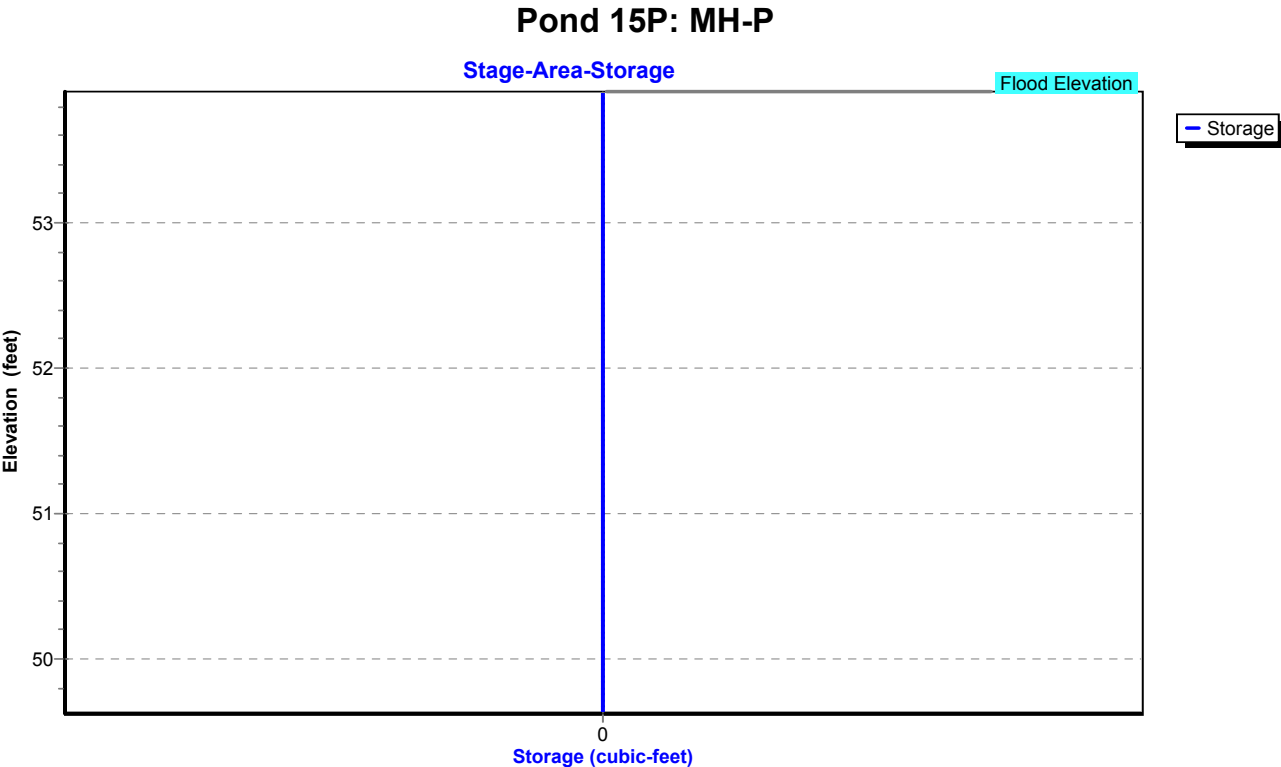
Primary OutFlow Max=13.12 cfs @ 12.11 hrs HW=53.35' (Free Discharge)

↑1=Culvert (Barrel Controls 13.12 cfs @ 7.42 fps)

Pond 15P: MH-P

Hydrograph





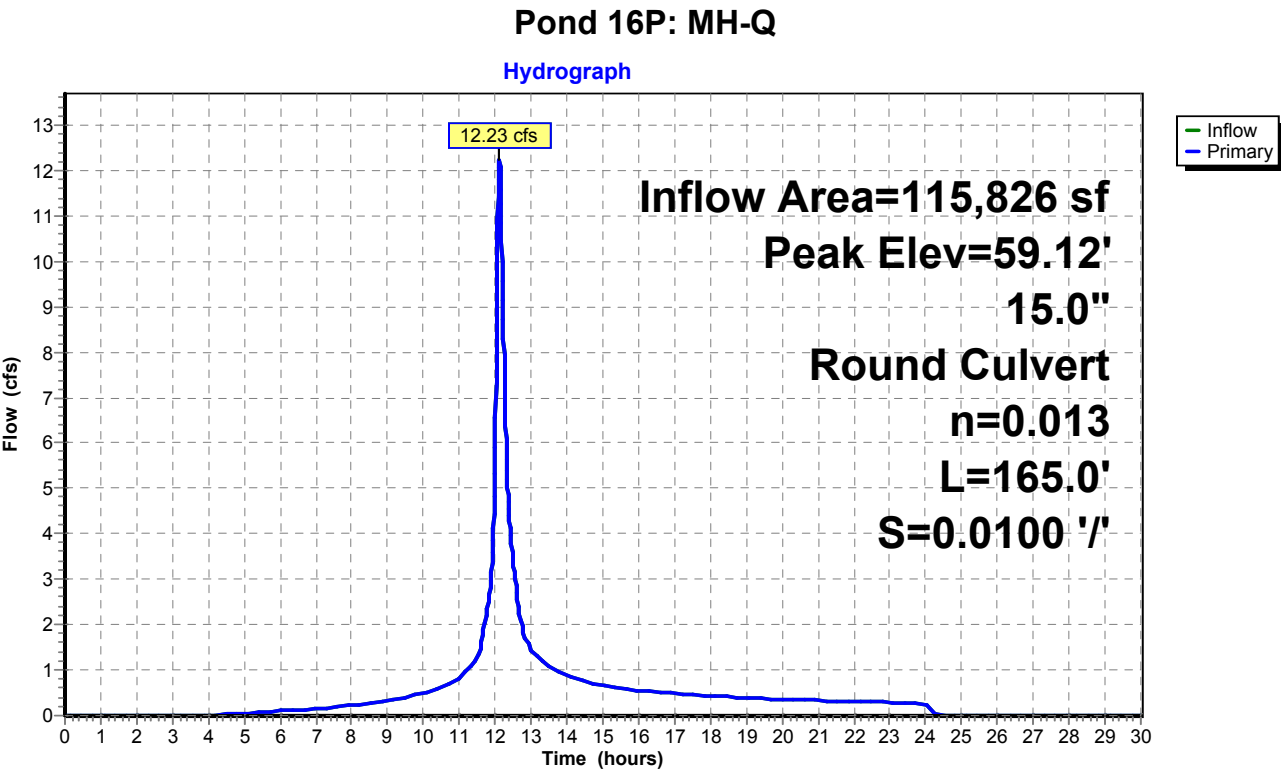
Summary for Pond 16P: MH-Q

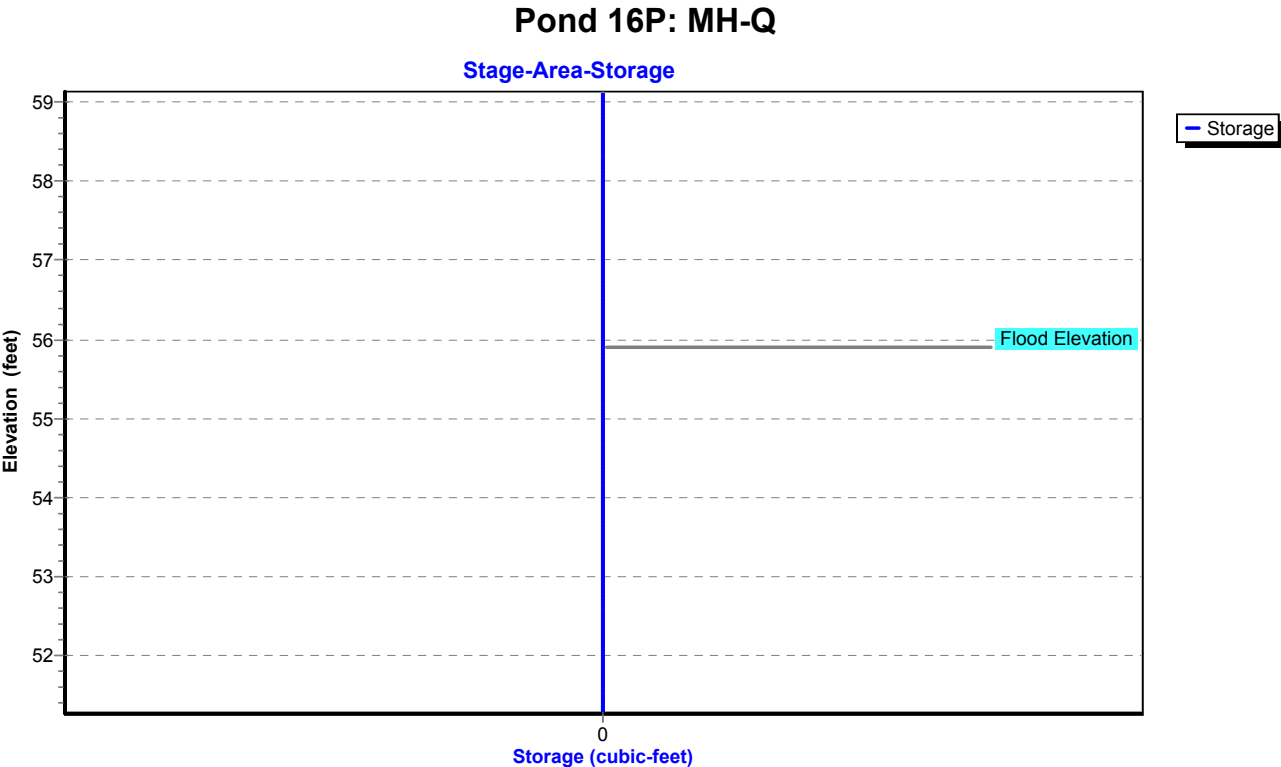
Inflow Area = 115,826 sf, 38.74% Impervious, Inflow Depth = 5.13" for 50 year event
Inflow = 12.23 cfs @ 12.11 hrs, Volume= 49,476 cf
Outflow = 12.23 cfs @ 12.11 hrs, Volume= 49,476 cf, Atten= 0%, Lag= 0.0 min
Primary = 12.23 cfs @ 12.11 hrs, Volume= 49,476 cf
Routed to Pond 15P : MH-P

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 59.12' @ 12.11 hrs
Flood Elev= 55.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.28'	15.0" Round Culvert L= 165.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 51.28' / 49.63' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=12.21 cfs @ 12.11 hrs HW=59.10' (Free Discharge)
1=Culvert (Barrel Controls 12.21 cfs @ 9.95 fps)





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Summary for Pond 17P: DET 12 Culvert

Inflow Area = 2,935,247 sf, 23.28% Impervious, Inflow Depth = 4.34" for 50 year event
 Inflow = 82.95 cfs @ 13.12 hrs, Volume= 1,062,284 cf
 Outflow = 82.80 cfs @ 13.17 hrs, Volume= 1,062,284 cf, Atten= 0%, Lag= 2.6 min
 Primary = 82.80 cfs @ 13.17 hrs, Volume= 1,062,284 cf
 Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 47.25' @ 13.17 hrs Surf.Area= 5,155 sf Storage= 7,977 cf

Plug-Flow detention time= 1.5 min calculated for 1,061,930 cf (100% of inflow)
 Center-of-Mass det. time= 1.6 min (907.0 - 905.4)

Volume	Invert	Avail.Storage	Storage Description
#1	43.80'	45,995 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
43.80	222	0	0
44.00	709	93	93
45.00	1,401	1,055	1,148
46.00	2,634	2,018	3,166
47.00	4,548	3,591	6,757
48.00	6,960	5,754	12,511
49.00	9,390	8,175	20,686
50.00	12,553	10,972	31,657
51.00	16,122	14,338	45,995

Device	Routing	Invert	Outlet Devices
#1	Primary	43.80'	54.0" Round Culvert L= 281.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 43.80' / 23.20' S= 0.0733 ' / Cc= 0.900 n= 0.013, Flow Area= 15.90 sf

Primary OutFlow Max=82.80 cfs @ 13.17 hrs HW=47.25' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 82.80 cfs @ 6.33 fps)

Proposed Conditions

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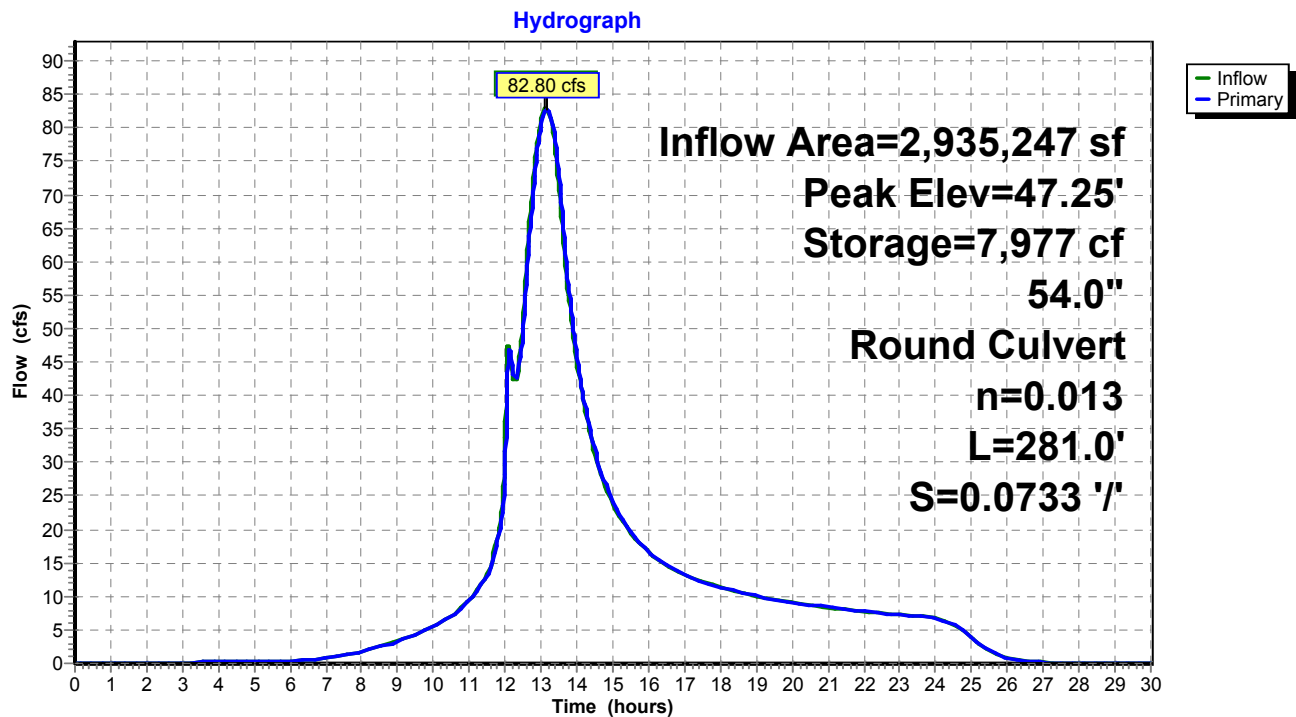
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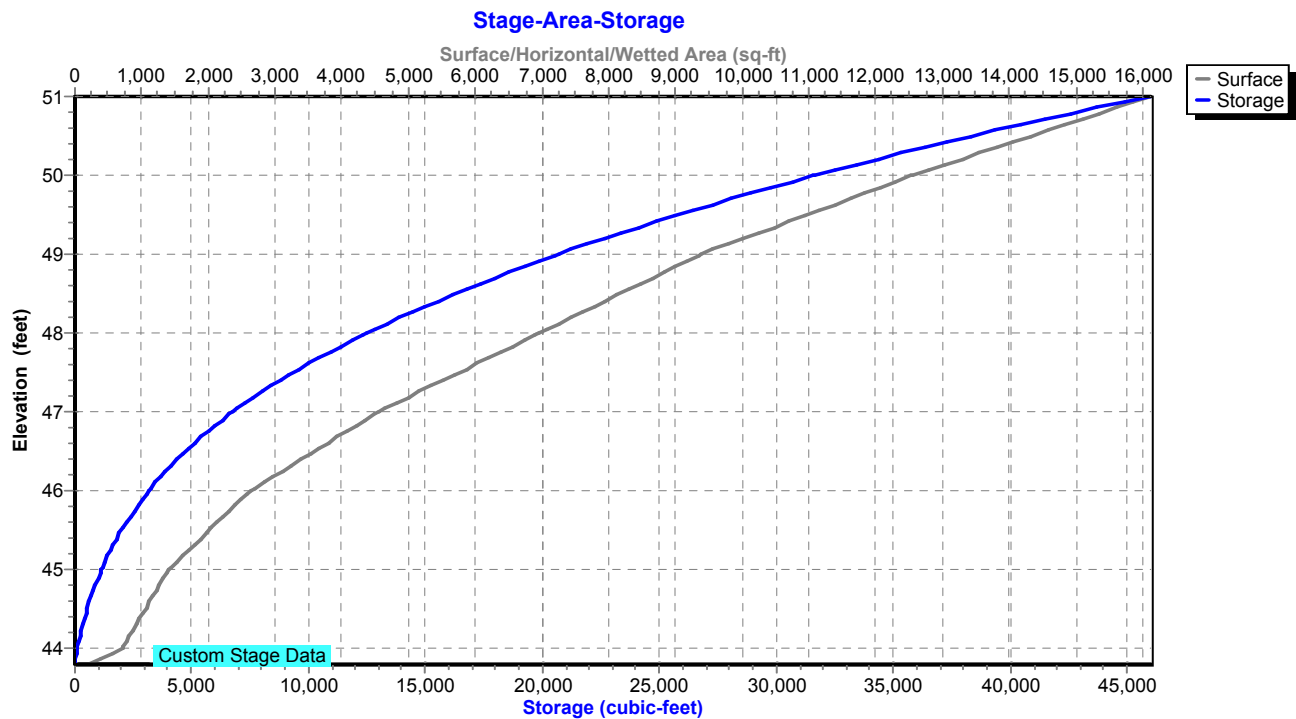
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Pond 17P: DET 12 Culvert



Pond 17P: DET 12 Culvert



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Summary for Pond 18P: DET 4 Culvert

Inflow Area = 2,651,933 sf, 21.42% Impervious, Inflow Depth = 4.23" for 50 year event
 Inflow = 80.53 cfs @ 13.07 hrs, Volume= 935,560 cf
 Outflow = 79.72 cfs @ 13.13 hrs, Volume= 935,560 cf, Atten= 1%, Lag= 4.0 min
 Primary = 79.72 cfs @ 13.13 hrs, Volume= 935,560 cf
 Routed to Pond 17P : DET 12 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 68.99' @ 13.13 hrs Surf.Area= 1,997 sf Storage= 4,806 cf

Plug-Flow detention time= 0.3 min calculated for 935,249 cf (100% of inflow)
 Center-of-Mass det. time= 0.3 min (918.3 - 918.0)

Volume	Invert	Avail.Storage	Storage Description
#1	62.00'	13,716 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.00	10	0	0
65.00	292	453	453
66.00	695	494	947
67.00	1,049	872	1,819
68.00	1,488	1,269	3,087
69.00	2,004	1,746	4,833
70.00	2,550	2,277	7,110
71.00	3,178	2,864	9,974
72.00	4,305	3,742	13,716

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	36.0" Round Culvert L= 213.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 62.00' / 50.90' S= 0.0521 ' / Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=79.72 cfs @ 13.13 hrs HW=68.99' (Free Discharge)

↑**1=Culvert** (Inlet Controls 79.72 cfs @ 11.28 hrs)

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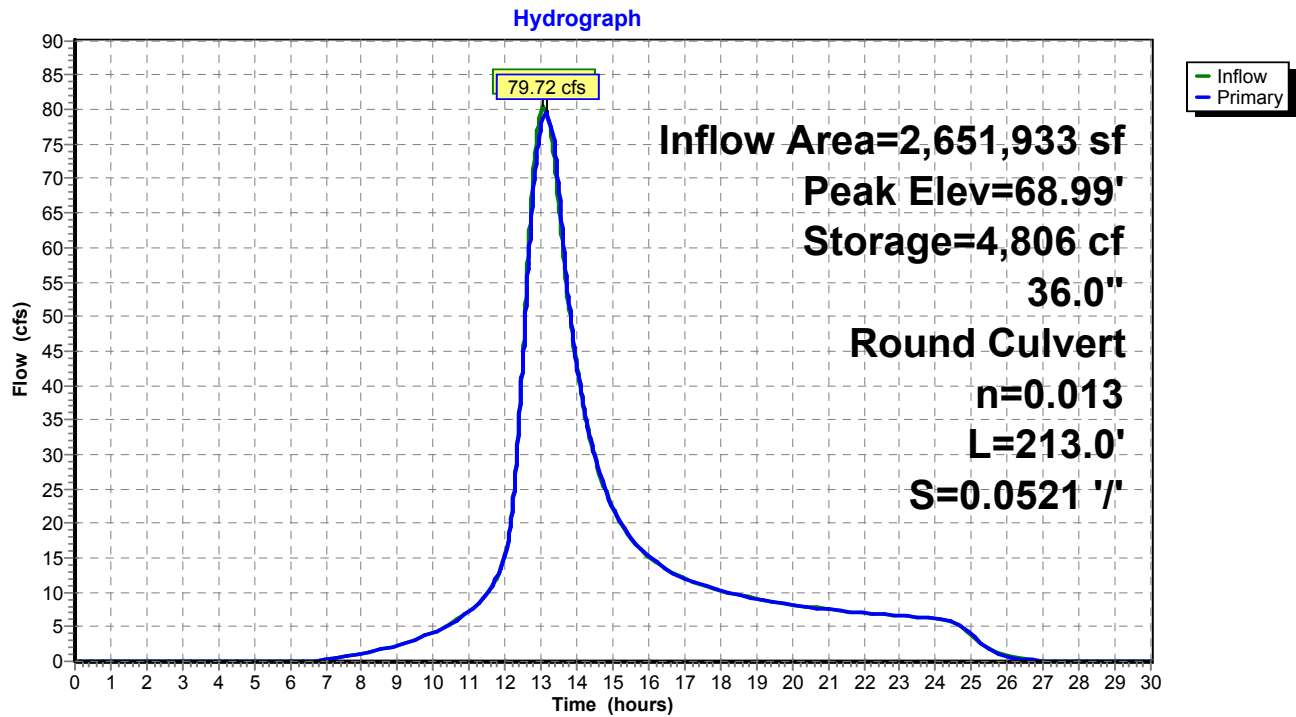
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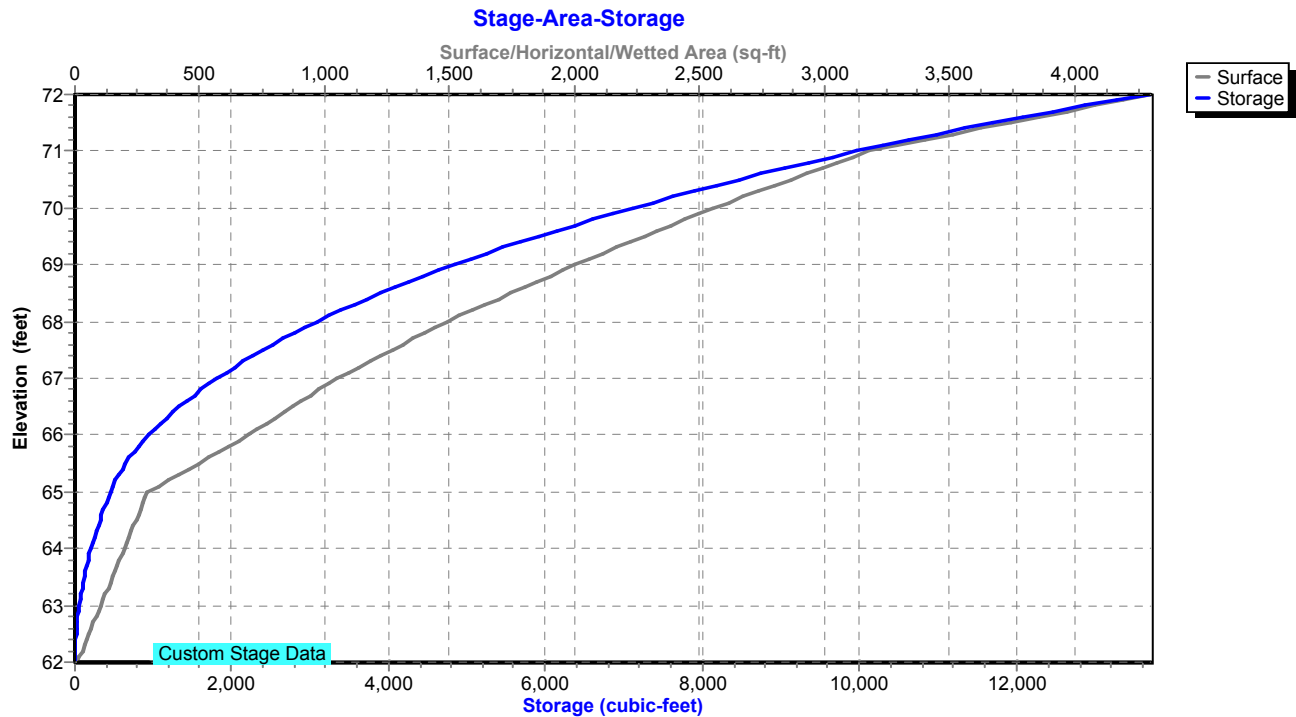
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Pond 18P: DET 4 Culvert



Pond 18P: DET 4 Culvert



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Summary for Pond 20P: ADS Stormtech (160LP)

Inflow Area = 4,966 sf, 80.70% Impervious, Inflow Depth = 6.63" for 50 year event
 Inflow = 0.89 cfs @ 12.03 hrs, Volume= 2,744 cf
 Outflow = 0.68 cfs @ 12.07 hrs, Volume= 2,674 cf, Atten= 24%, Lag= 2.5 min
 Primary = 0.68 cfs @ 12.07 hrs, Volume= 2,674 cf
 Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 74.91' @ 12.07 hrs Surf.Area= 365 sf Storage= 360 cf

Plug-Flow detention time= 43.4 min calculated for 2,674 cf (97% of inflow)
 Center-of-Mass det. time= 27.0 min (794.4 - 767.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	73.00'	227 cf	14.50'W x 23.83'L x 2.00'H Field A 691 cf Overall - 123 cf Embedded = 568 cf x 40.0% Voids
#2A	73.50'	123 cf	ADS_StormTech SC-160LP +Cap x 18 Inside #1 Effective Size= 18.0"W x 12.0"H => 0.96 sf x 7.12'L = 6.8 cf Overall Size= 25.0"W x 12.0"H x 7.56'L with 0.44' Overlap 18 Chambers in 6 Rows
#3	73.50'	22 cf	5.00'D x 1.10'H OCS
		372 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	73.50'	12.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 73.50' / 73.00' S= 0.0313 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	74.40'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 2.75 2.75 Width (feet) 0.33 0.33 5.00
#3	Device 1	73.00'	3.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.67 cfs @ 12.07 hrs HW=74.91' (Free Discharge)

- 1=Culvert (Passes 0.67 cfs of 3.61 cfs potential flow)
- 2=Custom Weir/Orifice (Weir Controls 0.39 cfs @ 2.34 fps)
- 3=Orifice/Grate (Orifice Controls 0.28 cfs @ 5.72 fps)

Proposed Conditions

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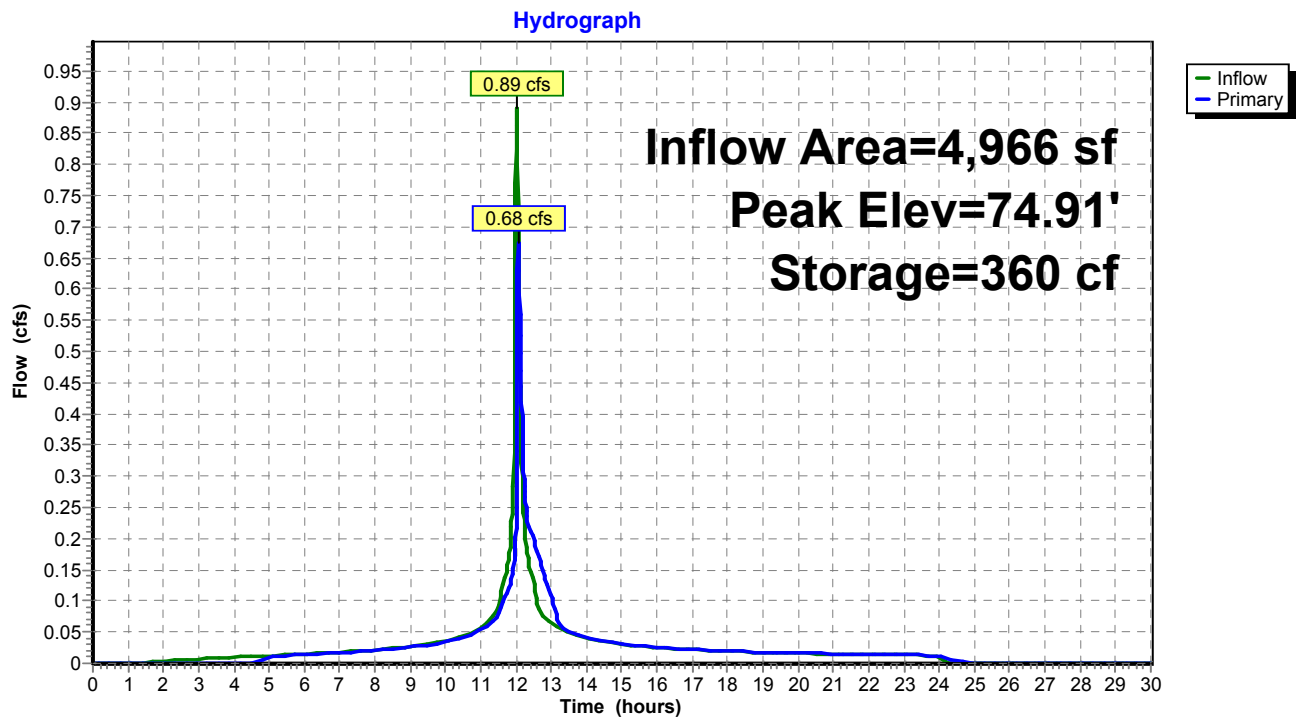
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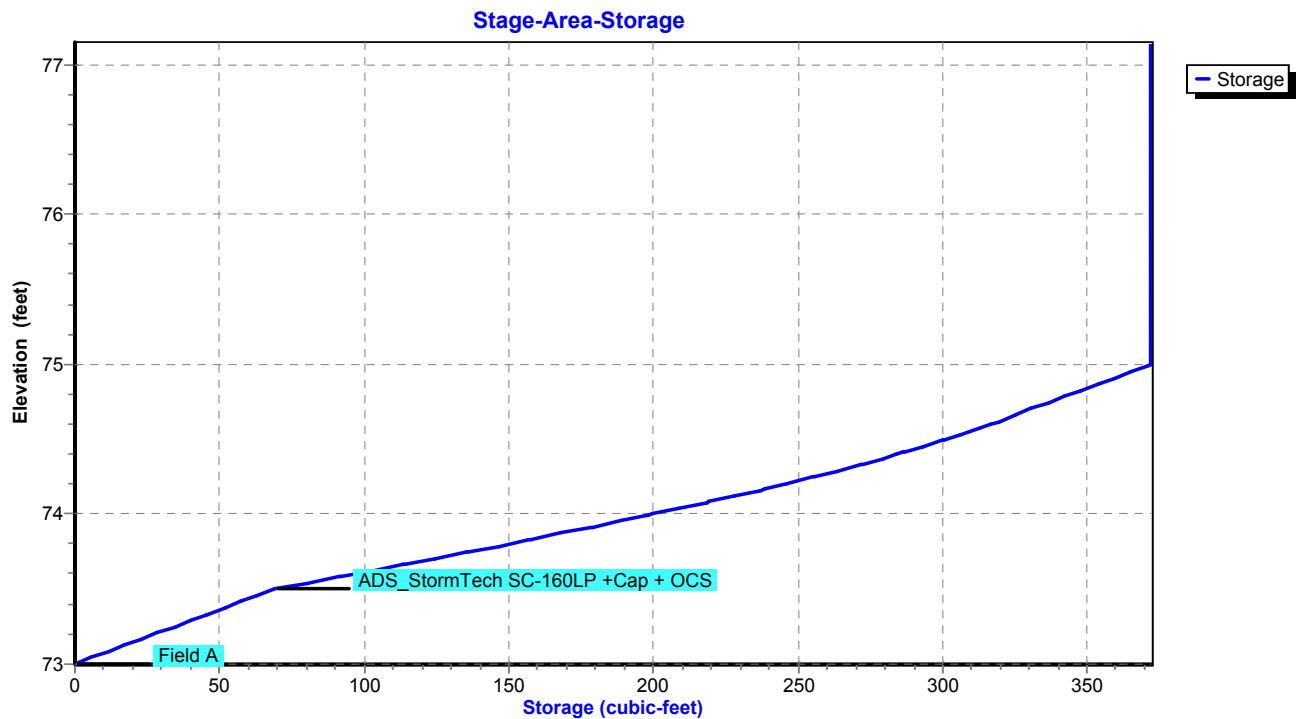
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Pond 20P: ADS Stormtech (160LP)



Pond 20P: ADS Stormtech (160LP)



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Summary for Pond 21P: DET 1 Culvert

Inflow Area = 533,174 sf, 25.00% Impervious, Inflow Depth = 4.23" for 50 year event
 Inflow = 23.87 cfs @ 12.52 hrs, Volume= 188,096 cf
 Outflow = 24.57 cfs @ 12.52 hrs, Volume= 188,096 cf, Atten= 0%, Lag= 0.0 min
 Primary = 24.57 cfs @ 12.52 hrs, Volume= 188,096 cf
 Routed to Pond 27P : DET 17 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 40.64' @ 12.52 hrs Surf.Area= 1,750 sf Storage= 1,591 cf

Plug-Flow detention time= 0.6 min calculated for 188,033 cf (100% of inflow)
 Center-of-Mass det. time= 0.7 min (881.6 - 881.0)

Volume	Invert	Avail.Storage	Storage Description
#1	37.00'	1,591 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
37.00	66	0	0
38.00	213	140	140
39.00	470	342	481
40.00	1,750	1,110	1,591

Device	Routing	Invert	Outlet Devices
#1	Primary	37.00'	24.0" Round Culvert L= 206.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 37.00' / 27.01' S= 0.0485 ' S= 0.0485 ' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=24.55 cfs @ 12.52 hrs HW=40.63' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 24.55 cfs @ 7.81 fps)

Proposed Conditions

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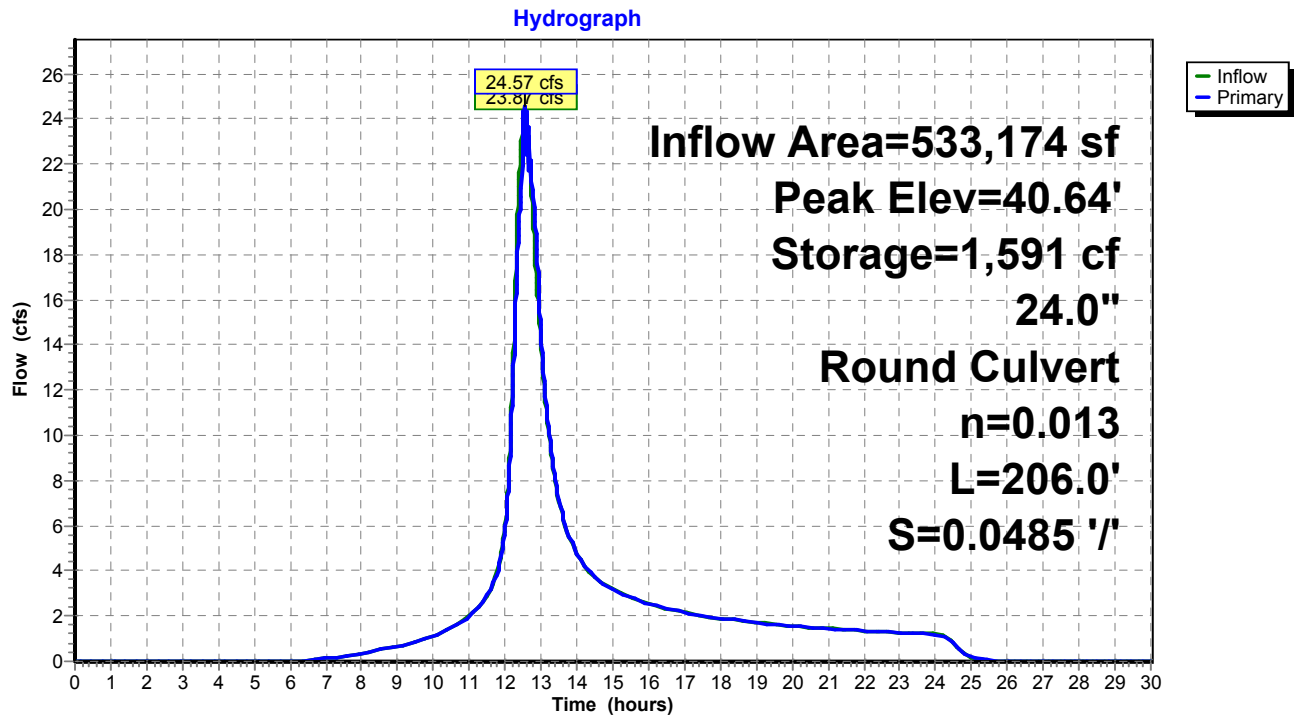
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NORWALK 24-hr S1 50 year Rainfall=7.34"

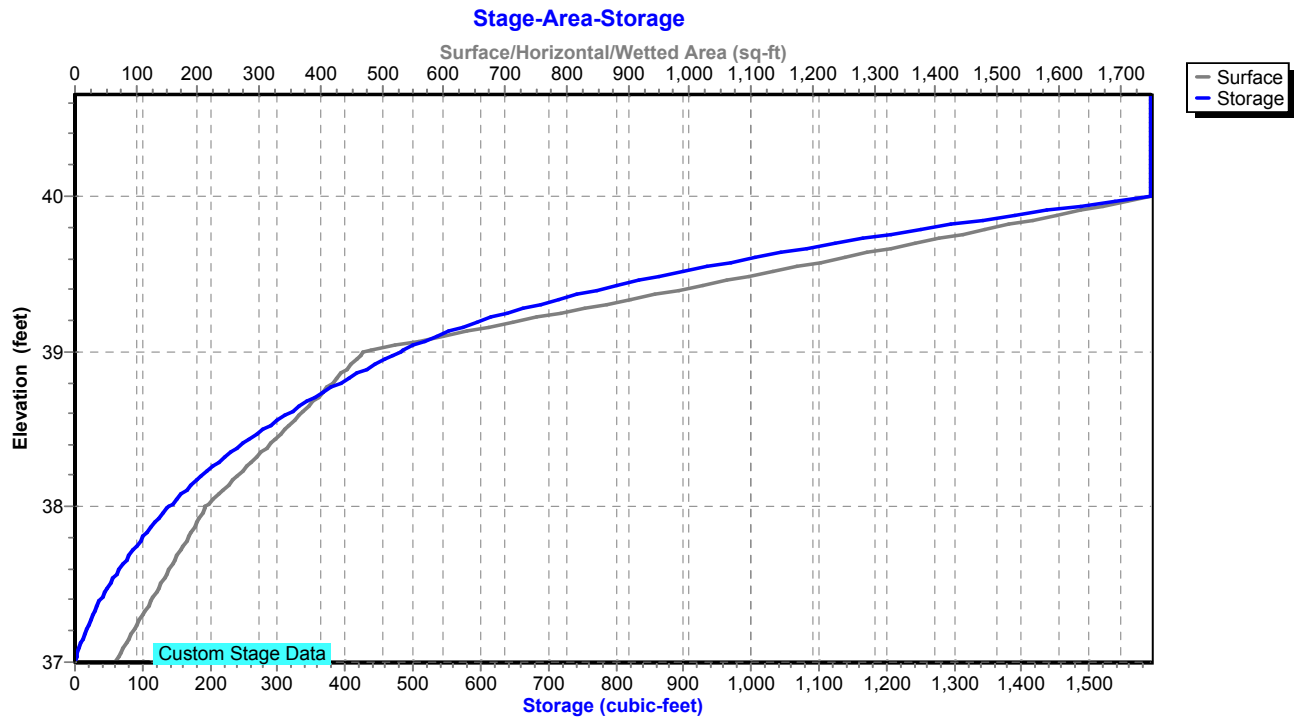
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Pond 21P: DET 1 Culvert



Pond 21P: DET 1 Culvert



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Summary for Pond 22P: DET 2 Culvert

Inflow Area = 1,290,247 sf, 25.00% Impervious, Inflow Depth = 4.79" for 50 year event
 Inflow = 54.17 cfs @ 12.74 hrs, Volume= 514,811 cf
 Outflow = 43.66 cfs @ 13.07 hrs, Volume= 514,811 cf, Atten= 19%, Lag= 19.8 min
 Primary = 43.66 cfs @ 13.07 hrs, Volume= 514,811 cf
 Routed to Pond 27P : DET 17 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 39.46' @ 13.07 hrs Surf.Area= 18,393 sf Storage= 35,833 cf

Plug-Flow detention time= 6.4 min calculated for 514,811 cf (100% of inflow)
 Center-of-Mass det. time= 6.3 min (886.5 - 880.2)

Volume	Invert	Avail.Storage	Storage Description
#1	34.80'	46,687 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.80	185	0	0
35.00	813	100	100
36.00	2,345	1,579	1,679
37.00	6,398	4,372	6,050
38.00	11,111	8,755	14,805
39.00	15,364	13,238	28,042
40.00	21,926	18,645	46,687

Device	Routing	Invert	Outlet Devices
#1	Primary	34.80'	30.0" Round Culvert L= 198.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.80' / 28.07' S= 0.0340 ' / Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=43.66 cfs @ 13.07 hrs HW=39.46' (Free Discharge)
 ↑**1=Culvert** (Inlet Controls 43.66 cfs @ 8.89 fps)

Proposed Conditions

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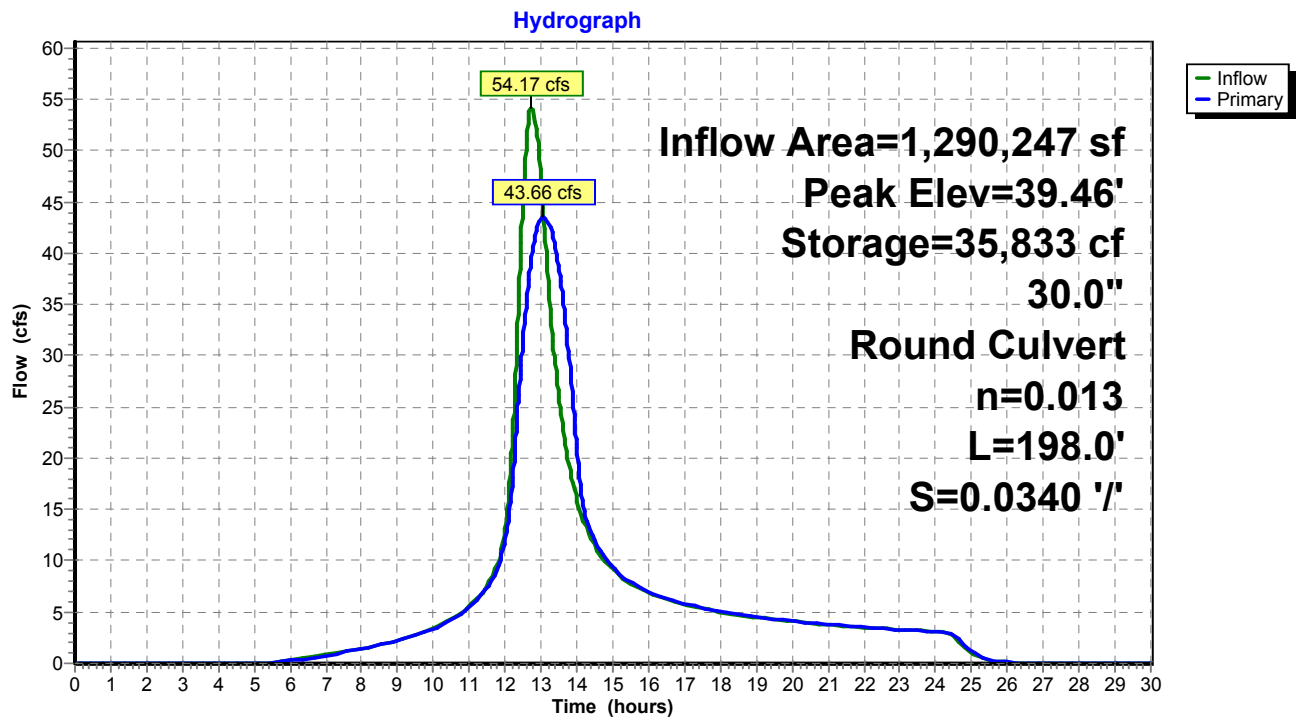
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NORWALK 24-hr S1 50 year Rainfall=7.34"

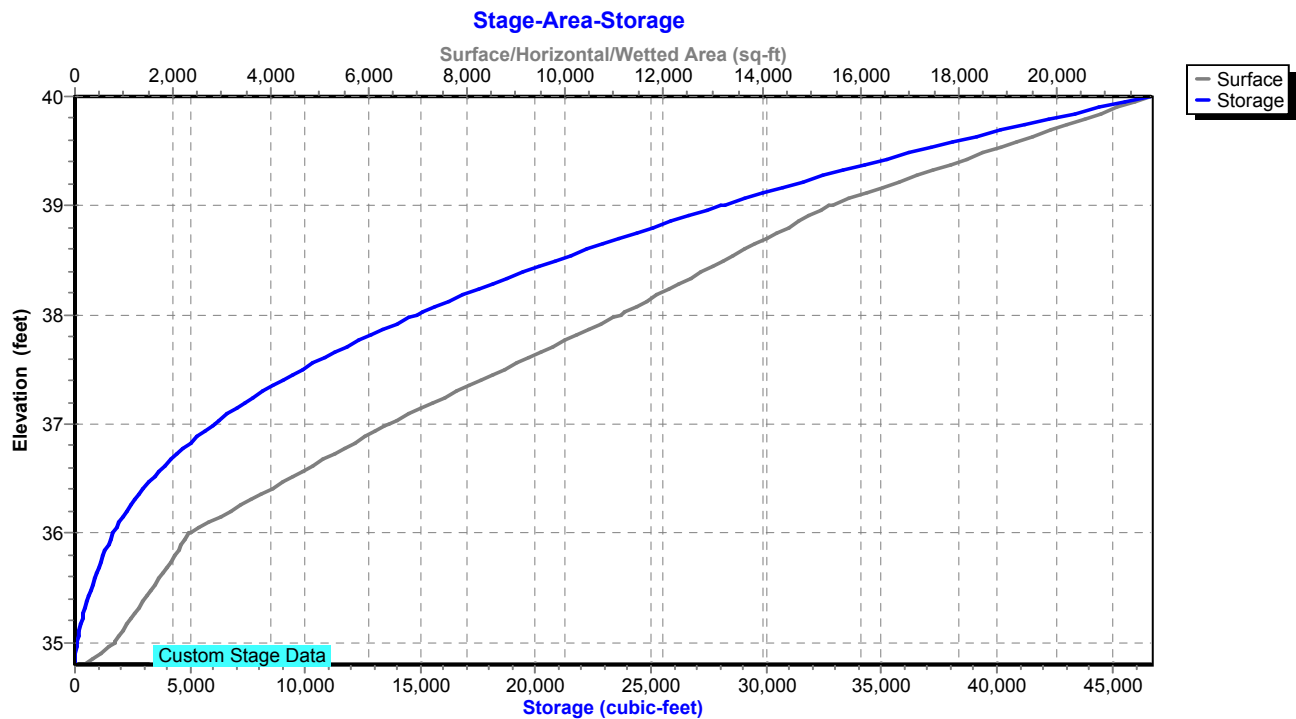
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Pond 22P: DET 2 Culvert



Pond 22P: DET 2 Culvert



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Summary for Pond 23P: DET 3 Culvert

Inflow Area = 276,170 sf, 25.00% Impervious, Inflow Depth = 4.34" for 50 year event
 Inflow = 19.82 cfs @ 12.22 hrs, Volume= 99,961 cf
 Outflow = 18.82 cfs @ 12.27 hrs, Volume= 99,961 cf, Atten= 5%, Lag= 3.0 min
 Primary = 18.82 cfs @ 12.27 hrs, Volume= 99,961 cf
 Routed to Pond 26P : DET 16 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 45.05' @ 12.27 hrs Surf.Area= 1,681 sf Storage= 1,605 cf

Plug-Flow detention time= 0.7 min calculated for 99,928 cf (100% of inflow)
 Center-of-Mass det. time= 0.7 min (856.2 - 855.5)

Volume	Invert	Avail.Storage	Storage Description
#1	42.50'	16,475 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
42.50	10	0	0
43.00	198	52	52
44.00	572	385	437
45.00	1,607	1,090	1,527
46.00	3,156	2,382	3,908
47.00	5,953	4,555	8,463
48.00	10,072	8,013	16,475

Device	Routing	Invert	Outlet Devices
#1	Primary	42.50'	24.0" Round Culvert L= 202.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 42.50' / 32.20' S= 0.0510 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=18.82 cfs @ 12.27 hrs HW=45.05' (Free Discharge)
 ↑ **1=Culvert** (Inlet Controls 18.82 cfs @ 5.99 fps)

Proposed Conditions

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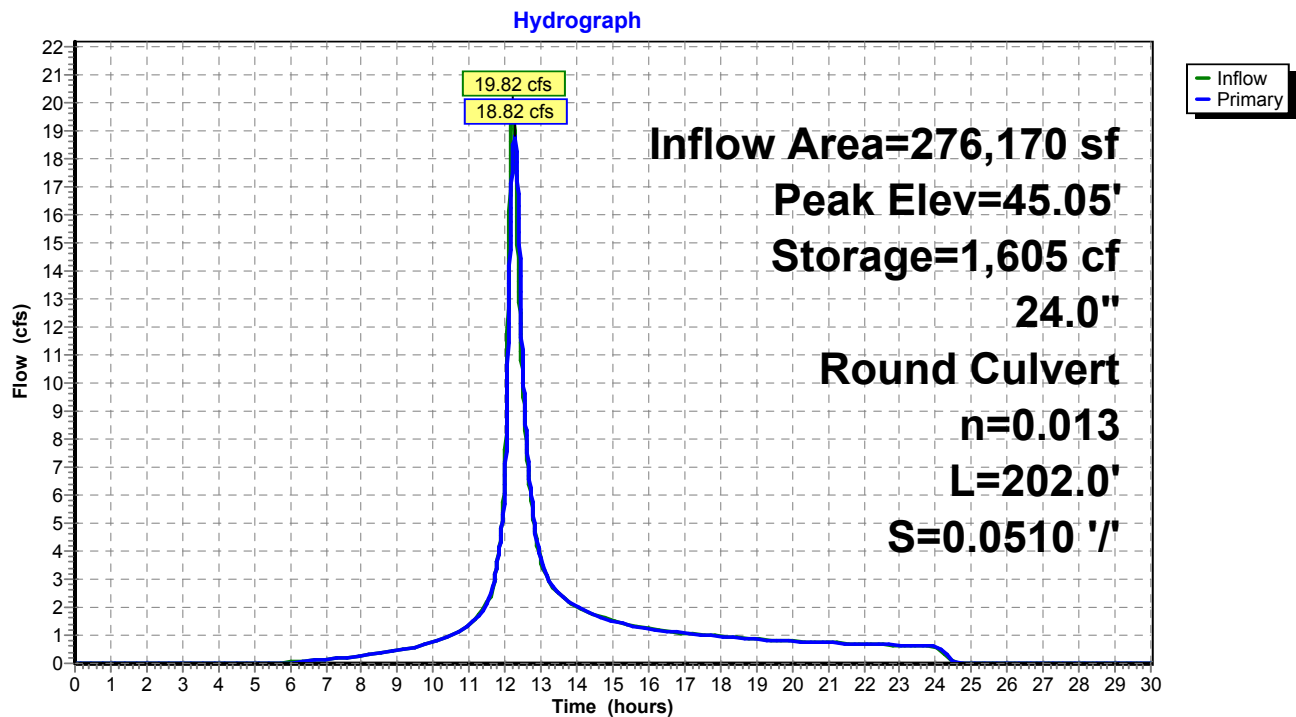
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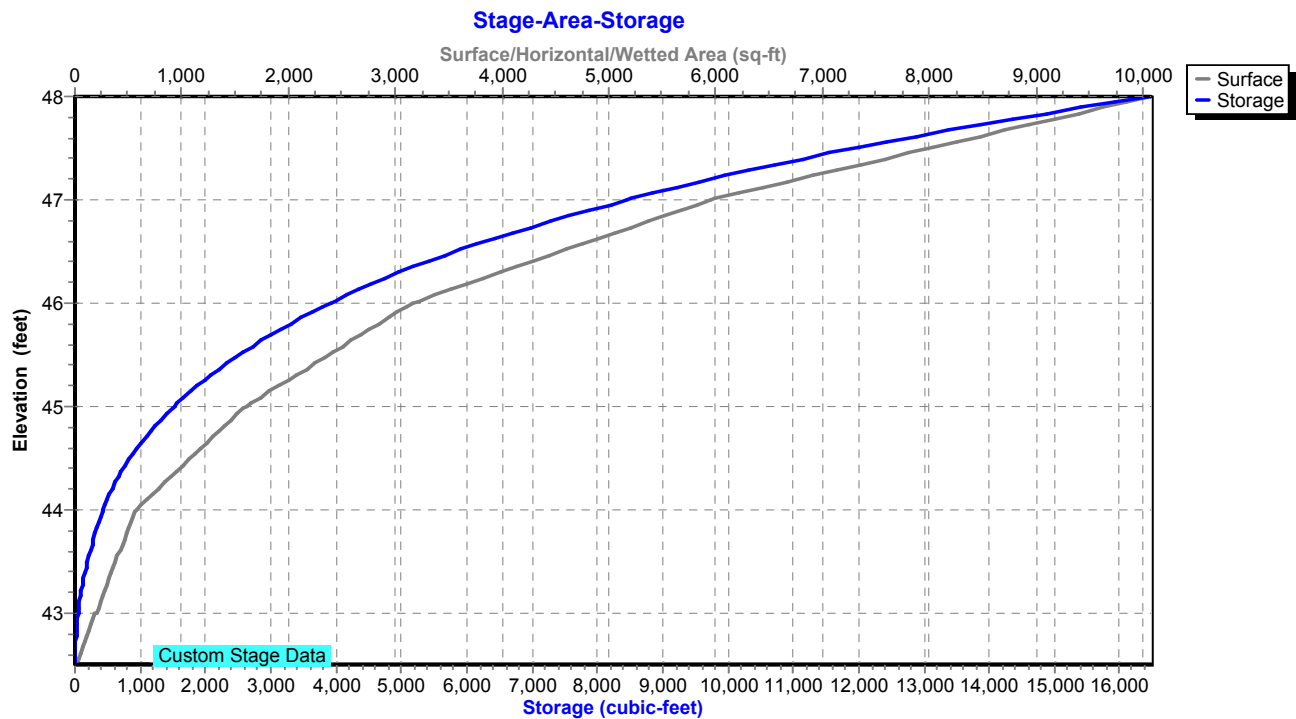
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Pond 23P: DET 3 Culvert



Pond 23P: DET 3 Culvert



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Summary for Pond 24P: RR Culvert 3

Inflow Area = 500,940 sf, 4.78% Impervious, Inflow Depth = 43.13" for 50 year event
 Inflow = 283.04 cfs @ 12.24 hrs, Volume= 1,800,484 cf
 Outflow = 58.61 cfs @ 14.15 hrs, Volume= 1,800,528 cf, Atten= 79%, Lag= 114.6 min
 Primary = 58.61 cfs @ 14.15 hrs, Volume= 1,800,528 cf

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 13.86' @ 14.15 hrs Storage= 1,067,096 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 207.1 min (1,001.0 - 793.9)

Volume	Invert	Avail.Storage	Storage Description
#1	8.10'	2,250,385 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
8.10	0	0
9.00	9	9
10.00	148	157
11.00	64,834	64,991
12.00	244,457	309,448
13.00	383,724	693,172
14.00	435,183	1,128,355
15.00	514,834	1,643,189
16.00	607,196	2,250,385

Device	Routing	Invert	Outlet Devices
#1	Primary	8.10'	30.0" W x 42.0" H Box Culvert L= 135.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 8.10' / 7.80' S= 0.0022 ' / Cc= 0.900 n= 0.019, Flow Area= 8.75 sf

Primary OutFlow Max=58.61 cfs @ 14.15 hrs HW=13.86' (Free Discharge)

↑ **1=Culvert** (Barrel Controls 58.61 cfs @ 6.70 fps)

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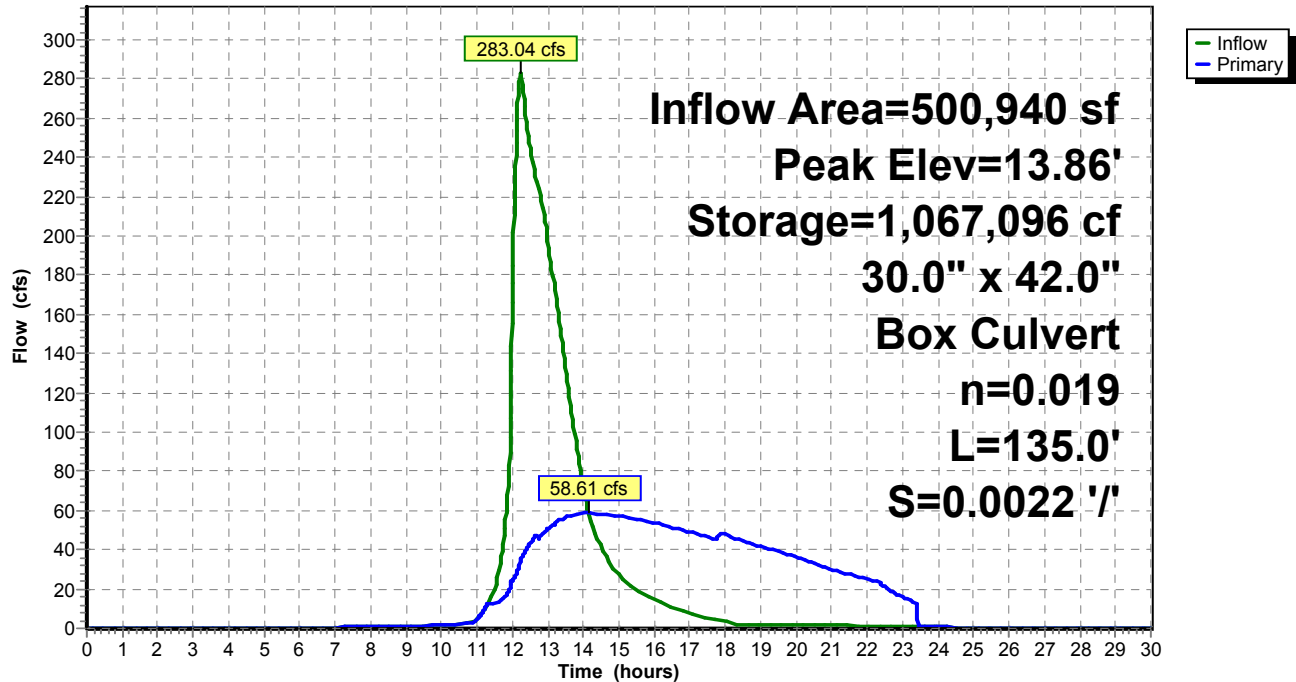
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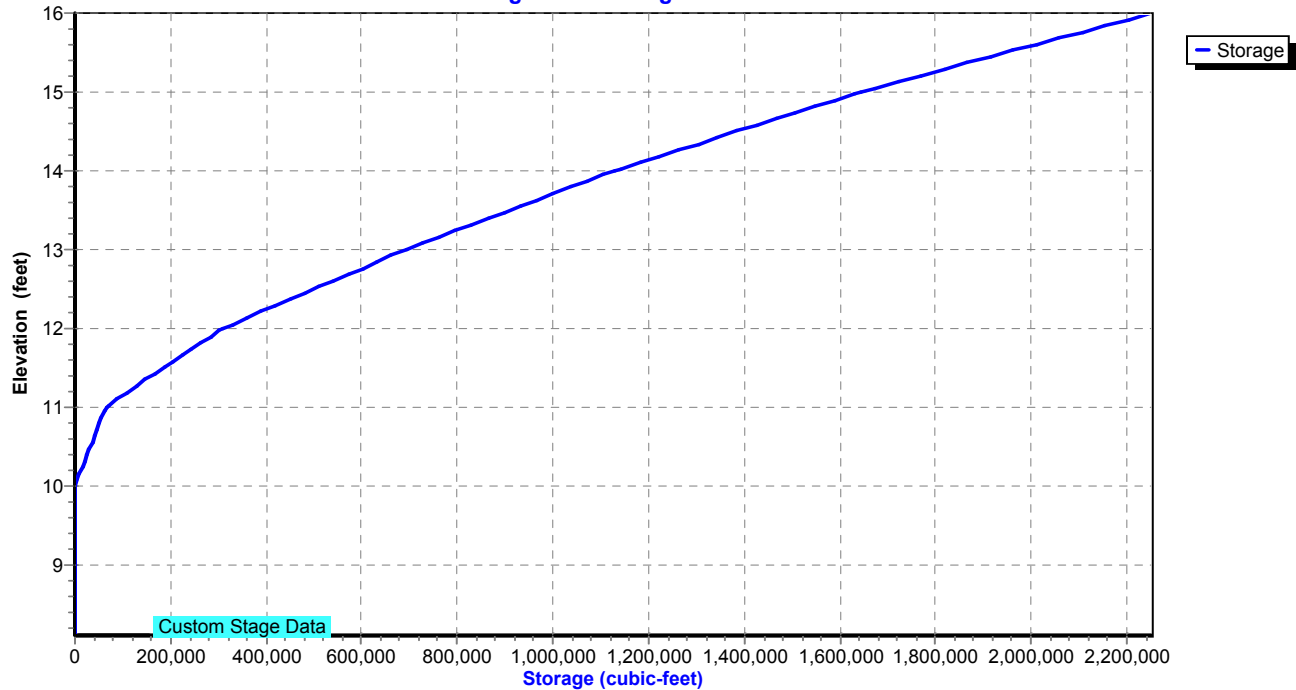
Pond 24P: RR Culvert 3

Hydrograph



Pond 24P: RR Culvert 3

Stage-Area-Storage



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Summary for Pond 26P: DET 16 Culvert

Inflow Area = 777,546 sf, 30.36% Impervious, Inflow Depth > 4.52" for 50 year event
 Inflow = 43.85 cfs @ 12.23 hrs, Volume= 292,573 cf
 Outflow = 43.84 cfs @ 12.23 hrs, Volume= 292,555 cf, Atten= 0%, Lag= 0.1 min
 Primary = 43.84 cfs @ 12.23 hrs, Volume= 292,555 cf
 Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 20.11' @ 12.23 hrs Surf.Area= 2,278 sf Storage= 2,642 cf

Plug-Flow detention time= 0.8 min calculated for 292,555 cf (100% of inflow)
 Center-of-Mass det. time= 0.7 min (881.6 - 880.9)

Volume	Invert	Avail.Storage	Storage Description
#1	17.00'	11,069 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.00	76	0	0
18.00	323	200	200
19.00	1,002	663	862
20.00	2,073	1,538	2,400
21.00	3,912	2,993	5,392
22.00	7,442	5,677	11,069

Device	Routing	Invert	Outlet Devices
#1	Primary	15.10'	15.0" Round Culvert L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 15.10' / 11.30' S= 0.0691 ' S= 0.0691 ' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Primary	20.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 Width (feet) 200.00 200.00 200.00

Primary OutFlow Max=43.44 cfs @ 12.23 hrs HW=20.11' (Free Discharge)

1=Culvert (Inlet Controls 12.38 cfs @ 10.08 fps)
 2=Custom Weir/Orifice (Weir Controls 31.06 cfs @ 1.39 fps)

Proposed Conditions

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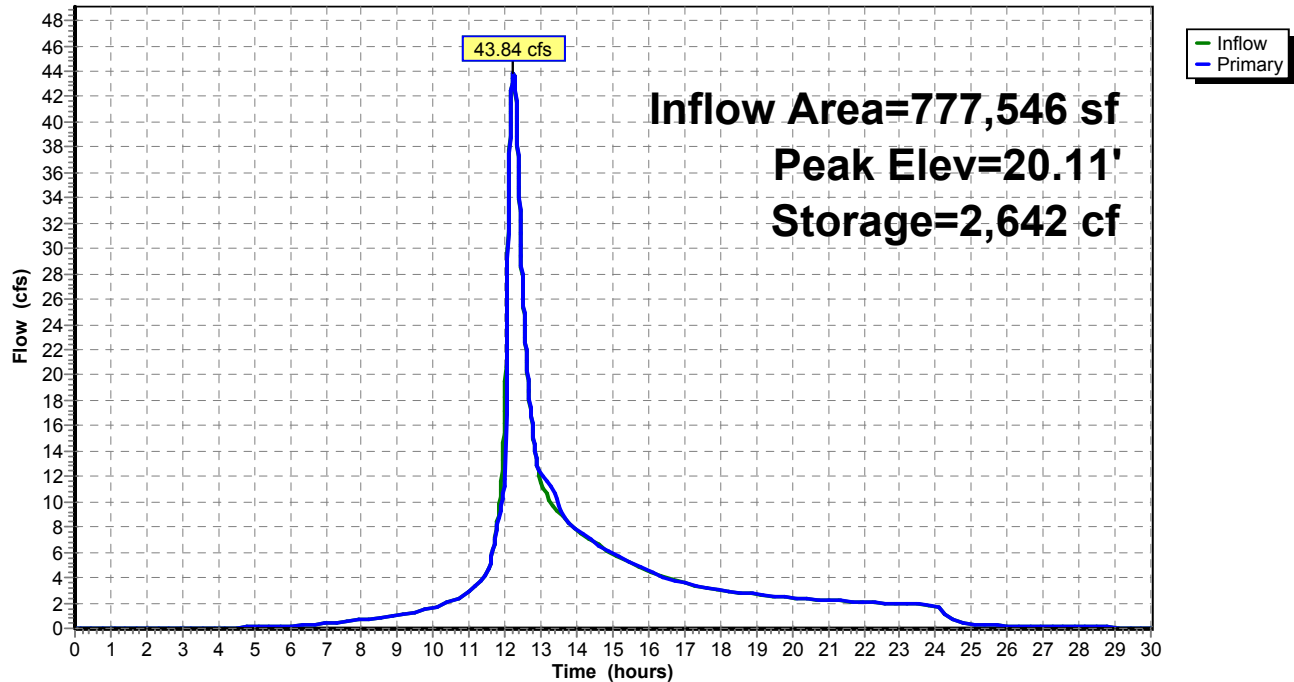
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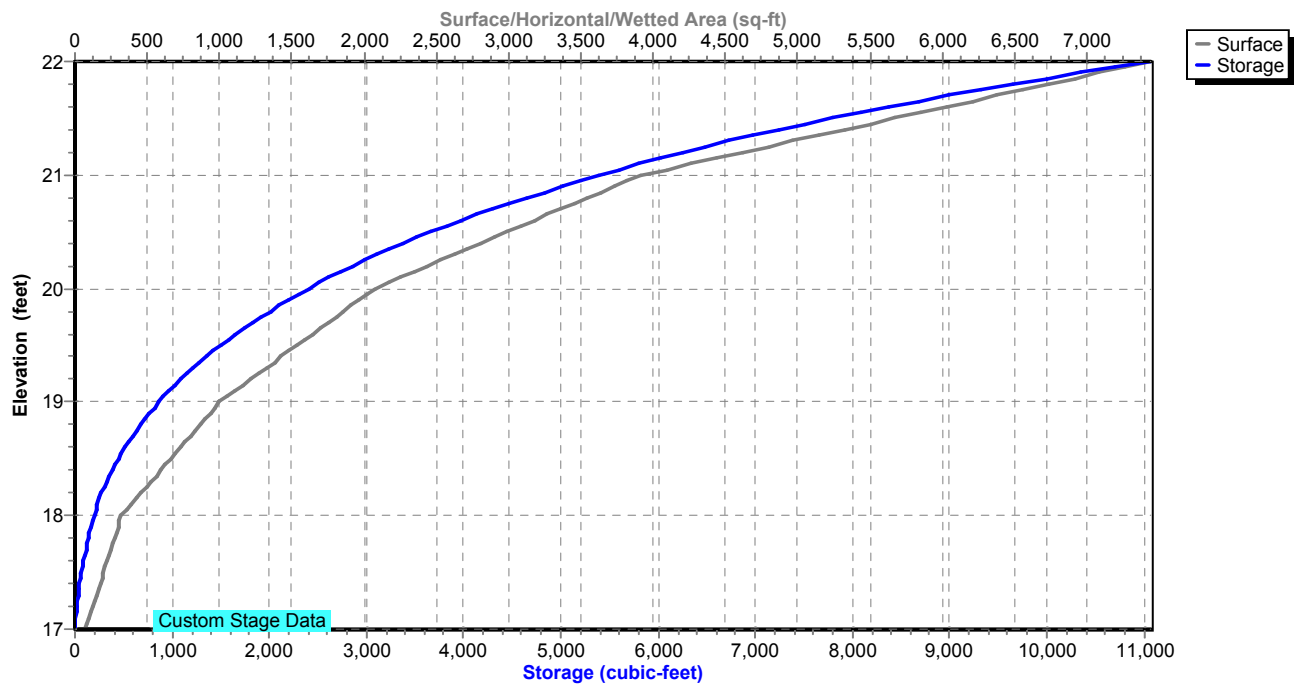
Pond 26P: DET 16 Culvert

Hydrograph



Pond 26P: DET 16 Culvert

Stage-Area-Storage



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Summary for Pond 27P: DET 17 Culvert

Inflow Area = 2,205,878 sf, 28.45% Impervious, Inflow Depth = 4.77" for 50 year event
 Inflow = 71.25 cfs @ 12.60 hrs, Volume= 876,625 cf
 Outflow = 70.56 cfs @ 12.62 hrs, Volume= 876,625 cf, Atten= 1%, Lag= 1.0 min
 Primary = 70.56 cfs @ 12.62 hrs, Volume= 876,625 cf
 Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 18.81' @ 12.62 hrs Surf.Area= 11,393 sf Storage= 11,088 cf

Plug-Flow detention time= 3.9 min calculated for 876,625 cf (100% of inflow)
 Center-of-Mass det. time= 3.9 min (874.5 - 870.6)

Volume	Invert	Avail.Storage	Storage Description
#1	16.00'	13,420 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
16.00	340	0	0
17.00	2,203	1,272	1,272
18.00	4,950	3,577	4,848
18.55	8,311	3,647	8,495
19.00	13,580	4,925	13,420

Device	Routing	Invert	Outlet Devices
#1	Primary	15.30'	18.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 15.30' / 14.90' S= 0.0100 ' / Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Primary	18.55'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 3.00 Width (feet) 100.00 100.00 100.00 100.00

Primary OutFlow Max=70.35 cfs @ 12.62 hrs HW=18.81' (Free Discharge)

1=Culvert (Inlet Controls 14.14 cfs @ 8.00 fps)

2=Custom Weir/Orifice (Weir Controls 56.20 cfs @ 2.14 fps)

Proposed Conditions

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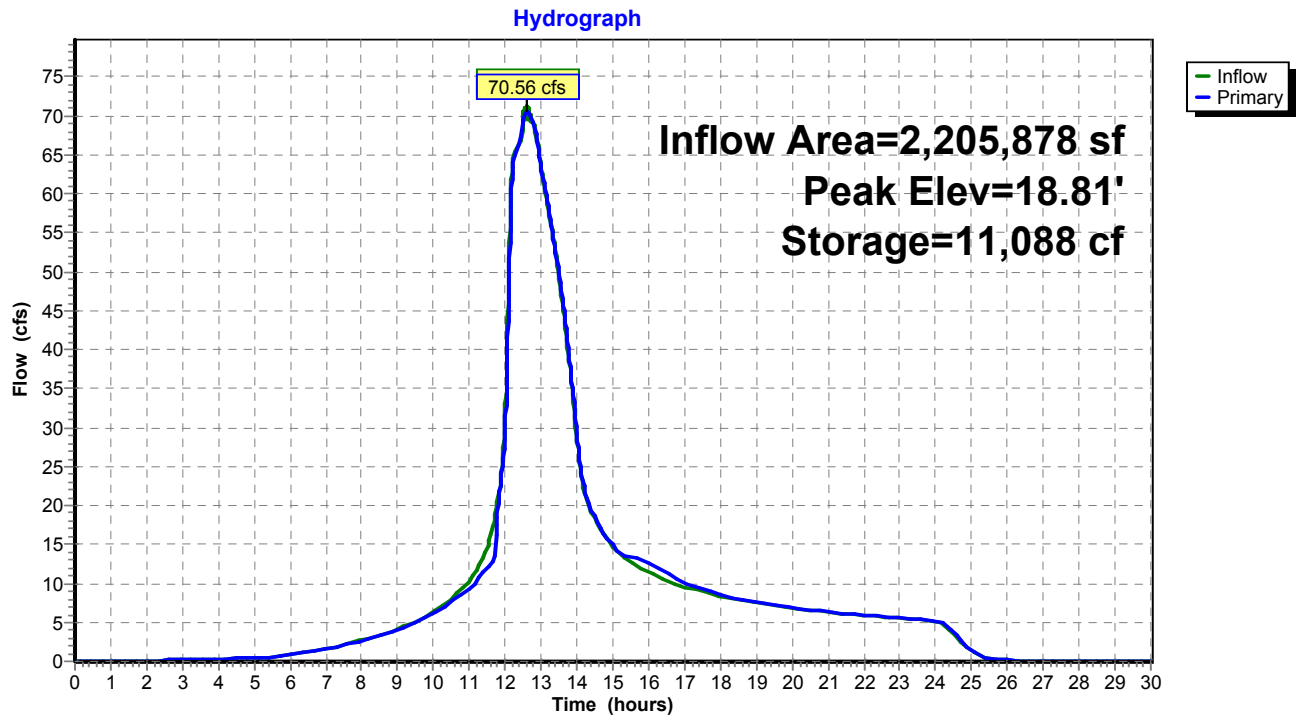
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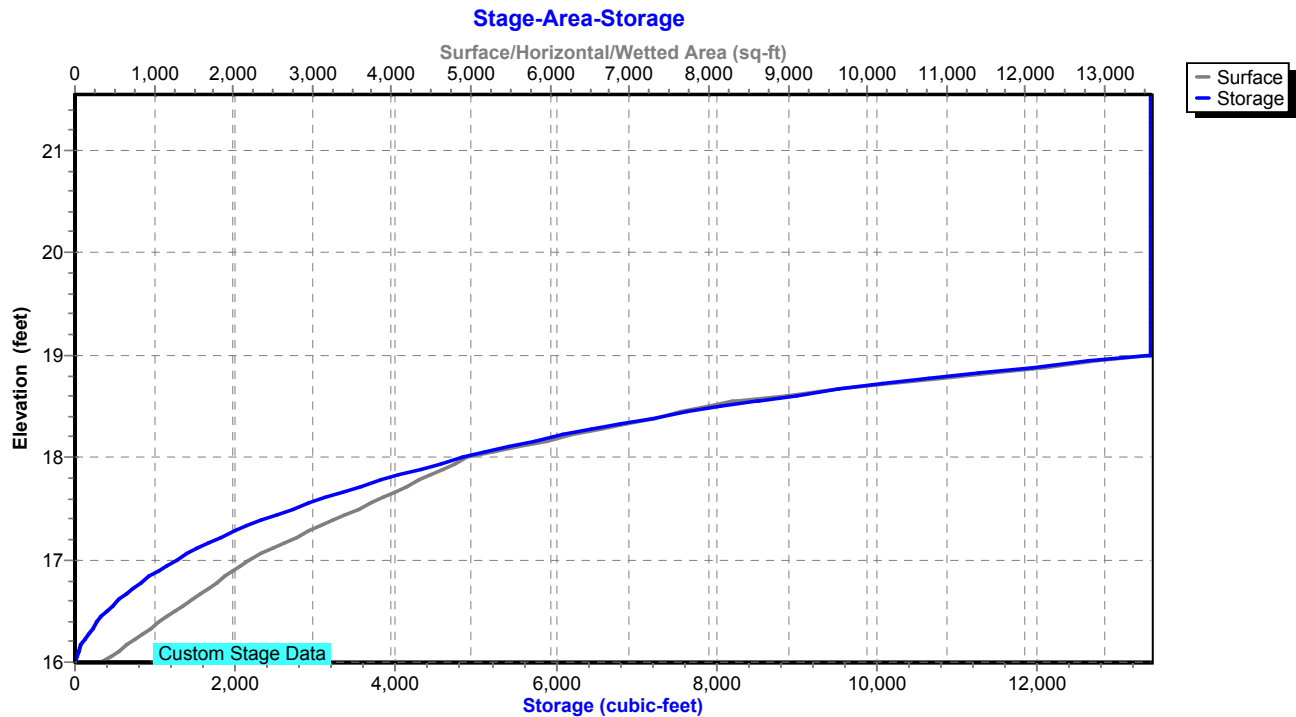
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Pond 27P: DET 17 Culvert



Pond 27P: DET 17 Culvert



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Summary for Pond 50P: DET BASIN #1

Inflow Area = 247,726 sf, 51.96% Impervious, Inflow Depth = 5.70" for 50 year event
Inflow = 31.87 cfs @ 12.04 hrs, Volume= 117,693 cf
Outflow = 7.75 cfs @ 12.38 hrs, Volume= 92,221 cf, Atten= 76%, Lag= 20.2 min
Primary = 7.75 cfs @ 12.38 hrs, Volume= 92,221 cf
Routed to Pond 26P : DET 16 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 28.67' @ 12.38 hrs Surf.Area= 17,023 sf Storage= 55,735 cf

Plug-Flow detention time= 256.6 min calculated for 92,221 cf (78% of inflow)
Center-of-Mass det. time= 157.4 min (954.9 - 797.5)

Volume	Invert	Avail.Storage	Storage Description
#1	24.00'	61,441 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
24.00	5,941	0	0
26.00	12,000	17,941	17,941
28.00	15,000	27,000	44,941
29.00	18,000	16,500	61,441

Device	Routing	Invert	Outlet Devices
#1	Primary	24.00'	18.0" Round Culvert L= 120.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 24.00' / 20.00' S= 0.0333 ' / Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	26.50'	12.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	28.50'	16.2" x 55.4" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=7.73 cfs @ 12.38 hrs HW=28.67' (Free Discharge)

1=Culvert (Passes 7.73 cfs of 16.86 cfs potential flow)
2=Orifice/Grate (Orifice Controls 4.89 cfs @ 6.23 fps)
3=Orifice/Grate (Weir Controls 2.84 cfs @ 1.36 fps)

Proposed Conditions

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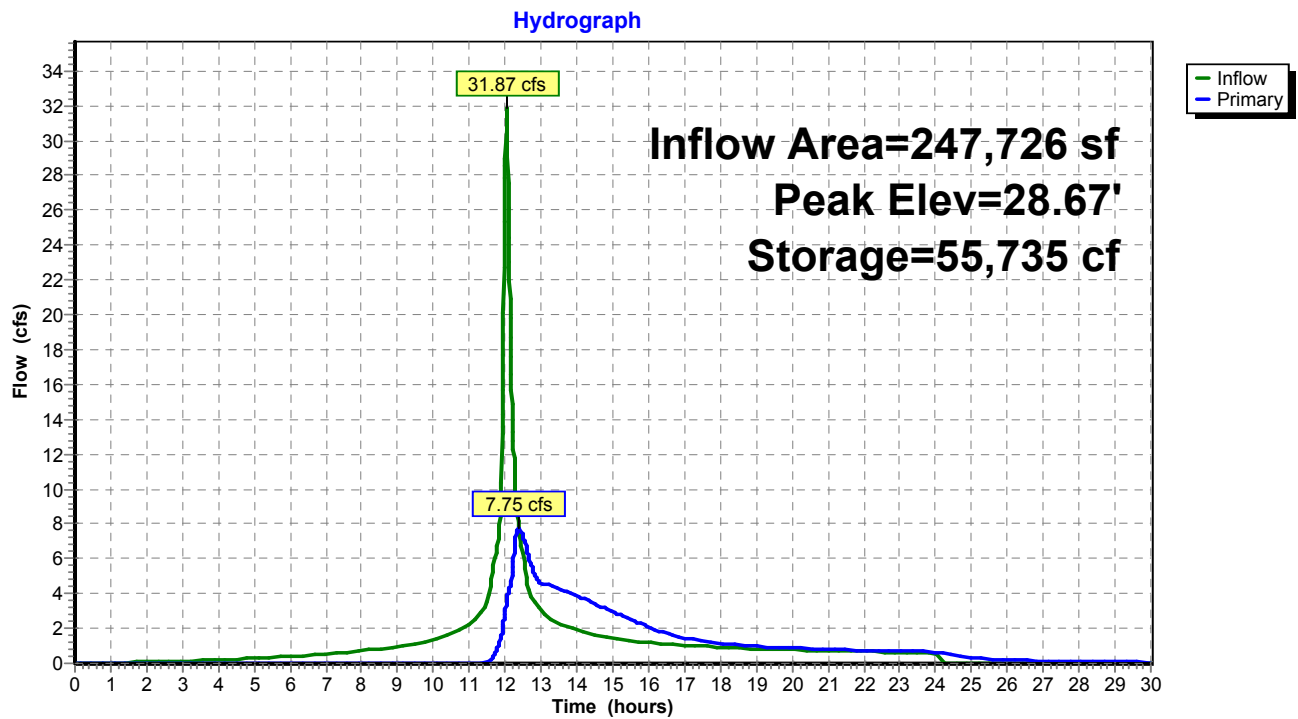
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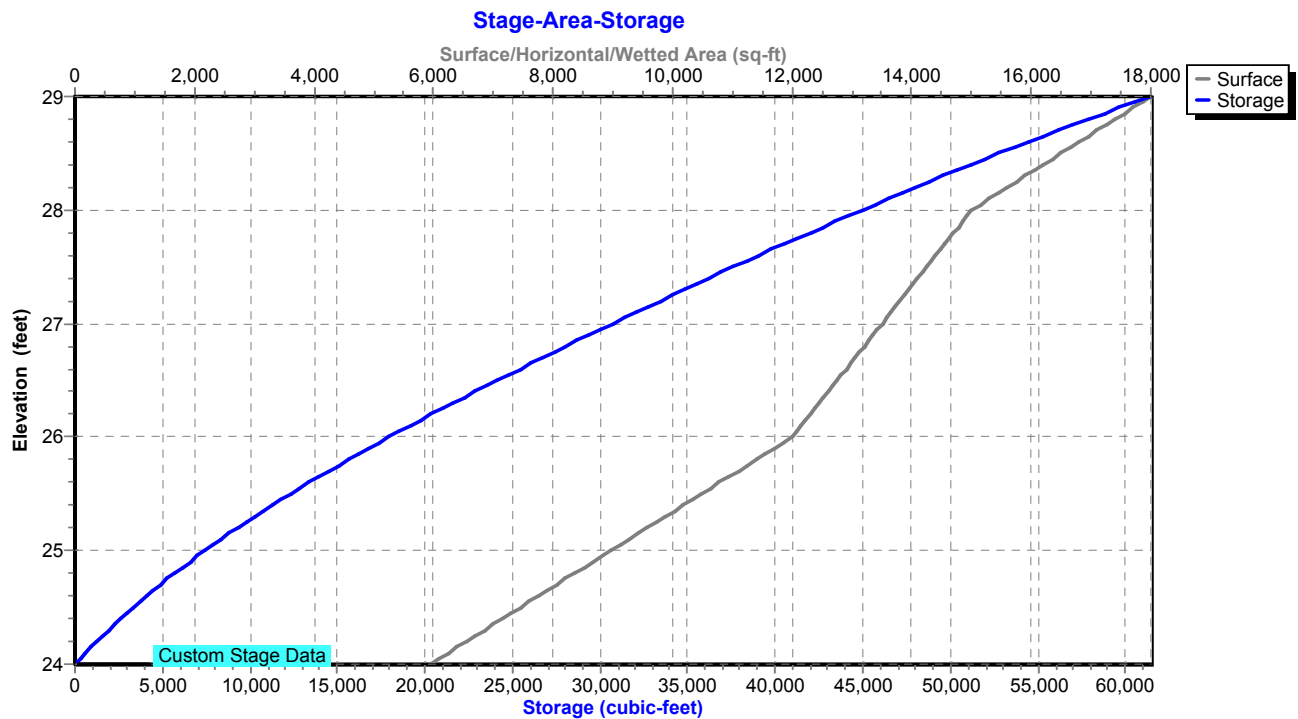
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Pond 50P: DET BASIN #1



Pond 50P: DET BASIN #1



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Summary for Pond 51P: Manhole

Inflow Area = 219,325 sf, 58.69% Impervious, Inflow Depth = 5.88" for 50 year event
Inflow = 28.31 cfs @ 12.04 hrs, Volume= 107,413 cf
Outflow = 28.31 cfs @ 12.04 hrs, Volume= 107,413 cf, Atten= 0%, Lag= 0.0 min
Primary = 28.31 cfs @ 12.04 hrs, Volume= 107,413 cf
Routed to Pond 50P : DET BASIN #1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 48.50' @ 12.04 hrs

Flood Elev= 51.00'

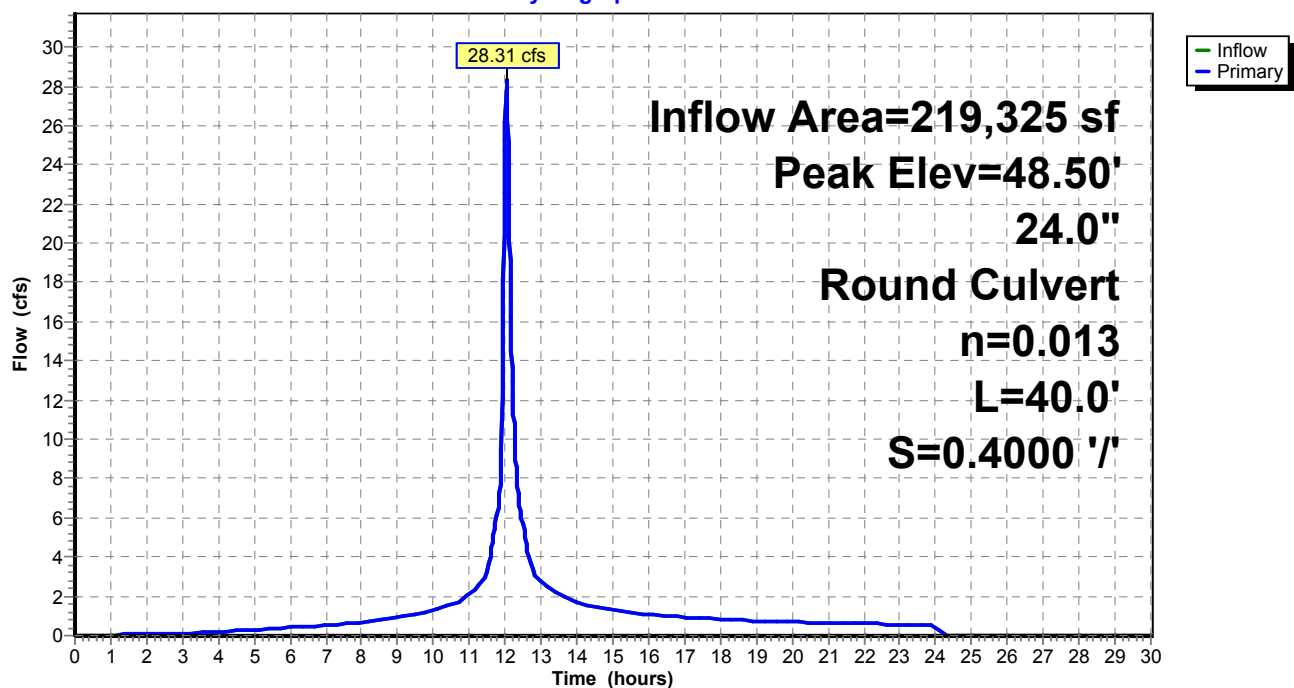
Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	24.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.00' / 28.00' S= 0.4000 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=28.28 cfs @ 12.04 hrs HW=48.49' (Free Discharge)

↑1=Culvert (Inlet Controls 28.28 cfs @ 9.00 fps)

Pond 51P: Manhole

Hydrograph



Proposed Conditions

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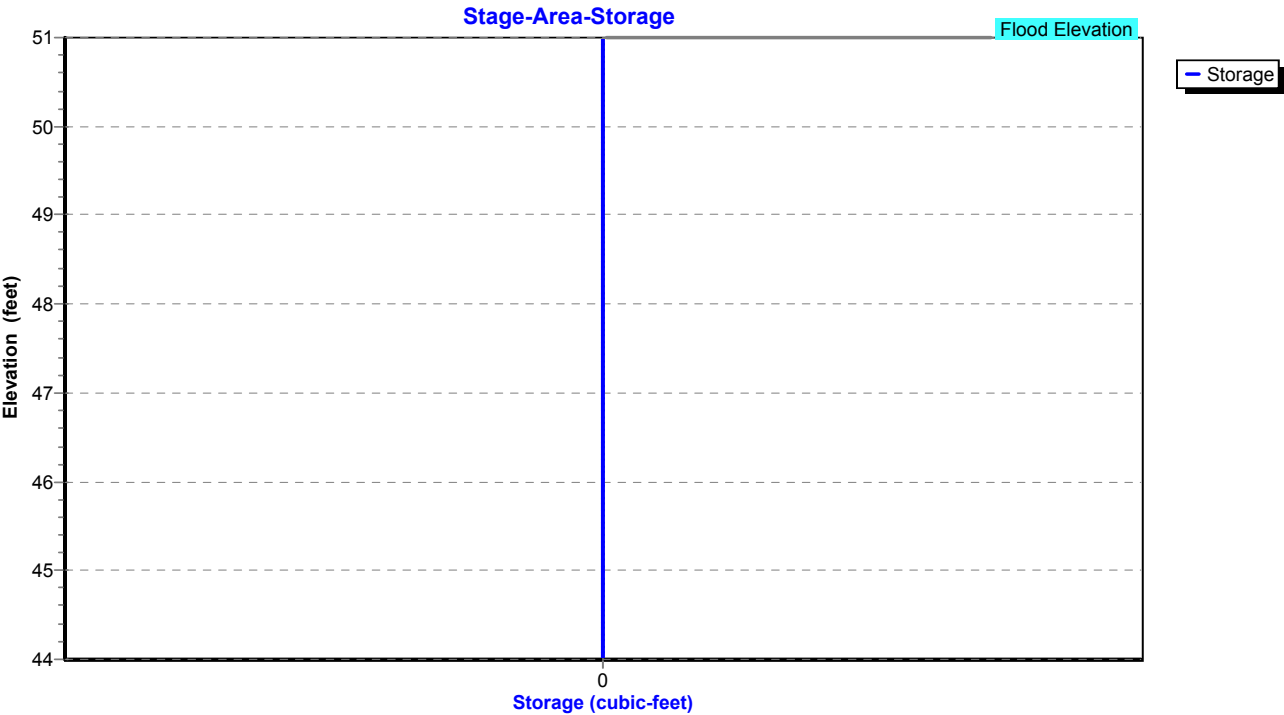
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Pond 51P: Manhole



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Summary for Pond 57P: CB-1

Inflow Area = 131,290 sf, 58.89% Impervious, Inflow Depth = 5.95" for 50 year event
Inflow = 17.85 cfs @ 12.04 hrs, Volume= 65,130 cf
Outflow = 17.85 cfs @ 12.04 hrs, Volume= 65,130 cf, Atten= 0%, Lag= 0.0 min
Primary = 17.85 cfs @ 12.04 hrs, Volume= 65,130 cf
Routed to Pond 51P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 46.88' @ 12.04 hrs

Flood Elev= 49.00'

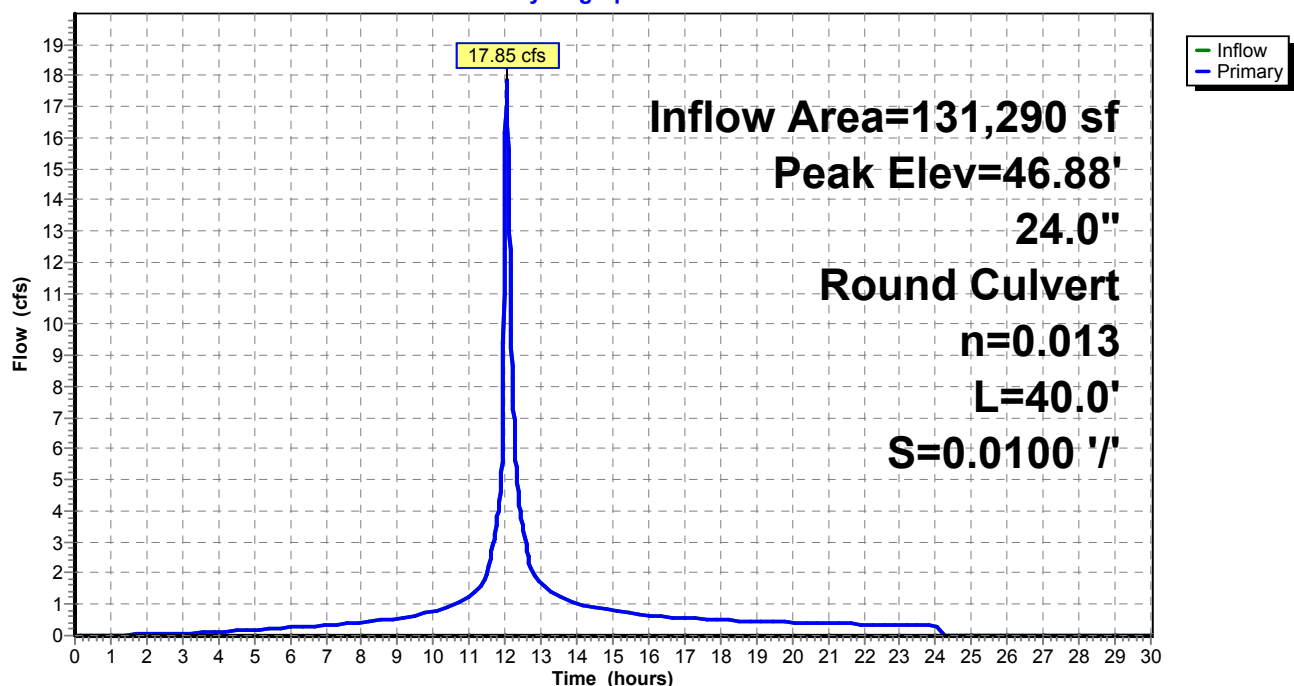
Device	Routing	Invert	Outlet Devices
#1	Primary	44.40'	24.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.40' / 44.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=17.84 cfs @ 12.04 hrs HW=46.87' (Free Discharge)

↑1=Culvert (Barrel Controls 17.84 cfs @ 5.87 fps)

Pond 57P: CB-1

Hydrograph



Proposed Conditions

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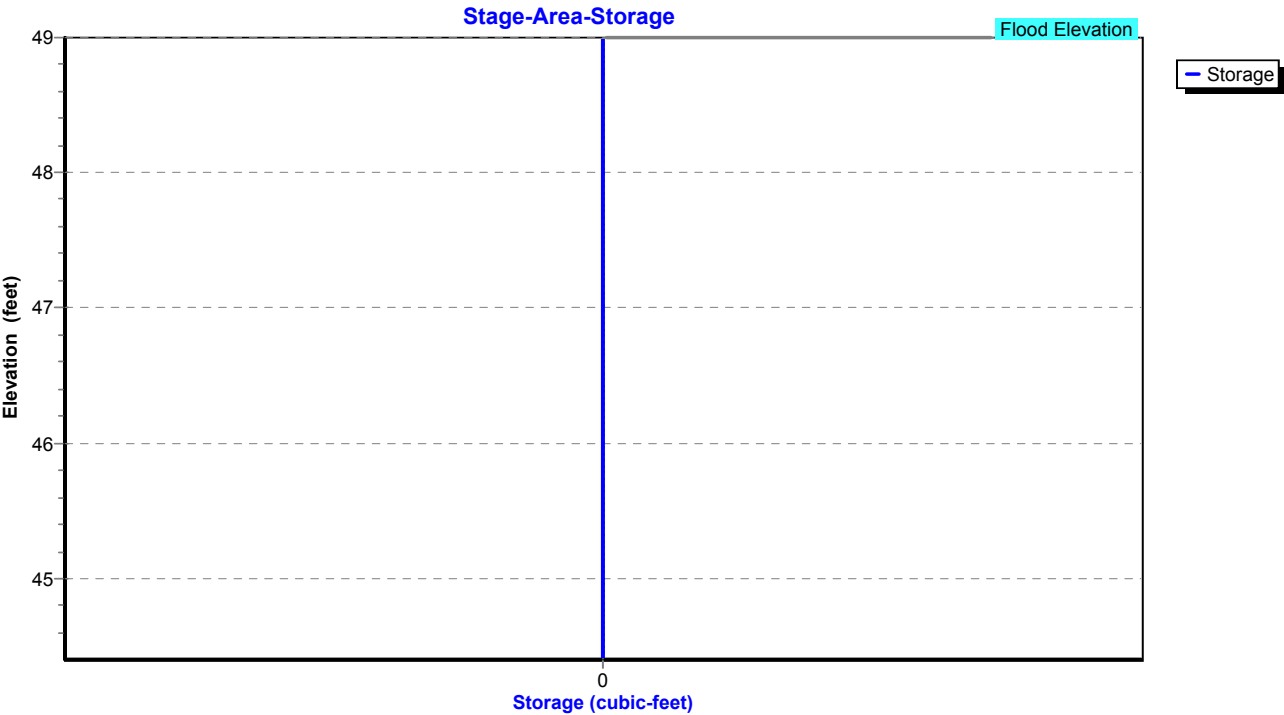
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Pond 57P: CB-1



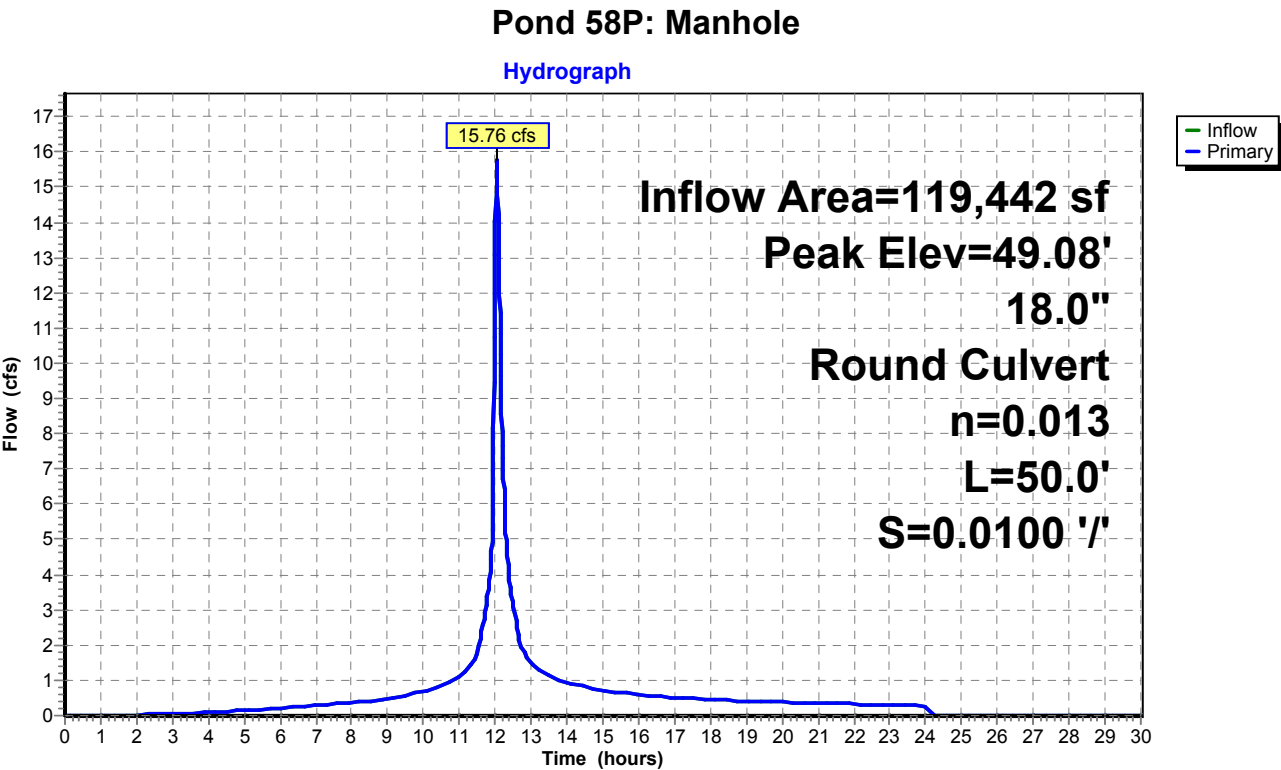
Summary for Pond 58P: Manhole

Inflow Area = 119,442 sf, 54.81% Impervious, Inflow Depth = 5.84" for 50 year event
Inflow = 15.76 cfs @ 12.04 hrs, Volume= 58,115 cf
Outflow = 15.76 cfs @ 12.04 hrs, Volume= 58,115 cf, Atten= 0%, Lag= 0.0 min
Primary = 15.76 cfs @ 12.04 hrs, Volume= 58,115 cf
Routed to Pond 57P : CB-1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 49.08' @ 12.04 hrs
Flood Elev= 49.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	44.90'	18.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.90' / 44.40' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=15.73 cfs @ 12.04 hrs HW=49.07' (Free Discharge)
1=Culvert (Inlet Controls 15.73 cfs @ 8.90 fps)



Proposed Conditions

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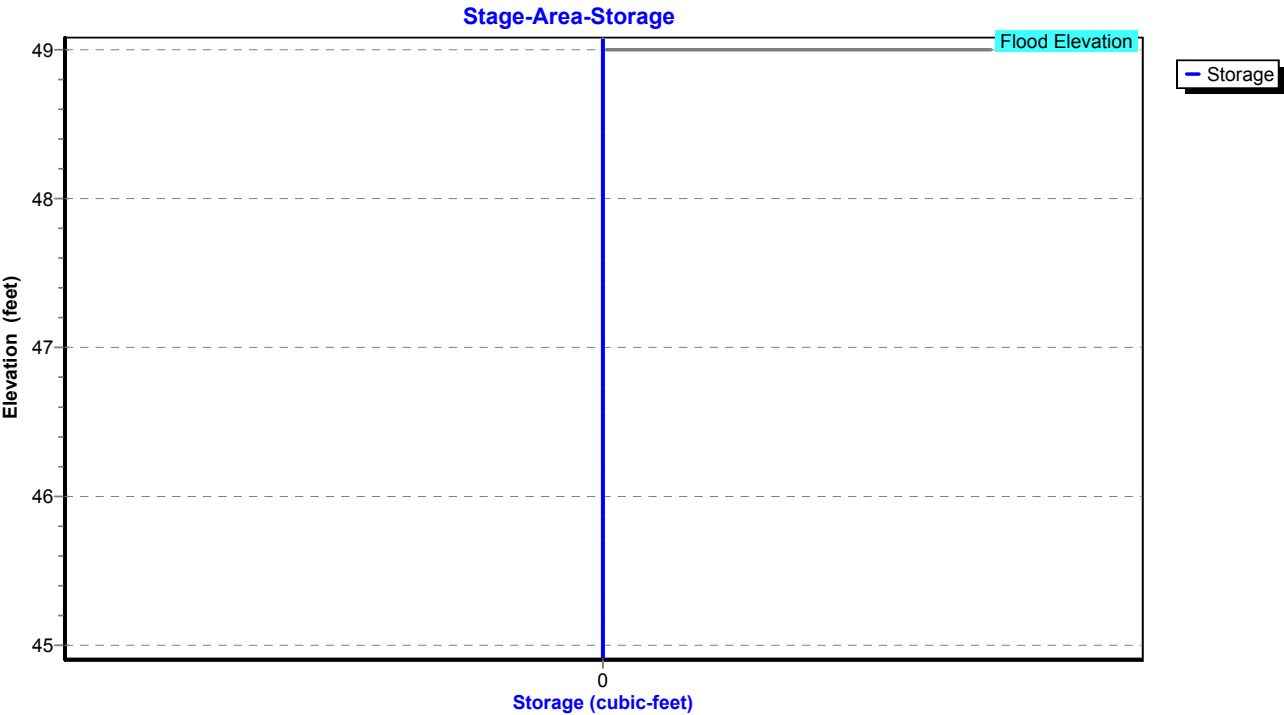
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Pond 58P: Manhole



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Summary for Pond 59P: CB-7

Inflow Area = 20,299 sf, 63.09% Impervious, Inflow Depth = 6.04" for 50 year event
Inflow = 3.46 cfs @ 12.03 hrs, Volume= 10,224 cf
Outflow = 3.46 cfs @ 12.03 hrs, Volume= 10,224 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.46 cfs @ 12.03 hrs, Volume= 10,224 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 46.74' @ 12.03 hrs

Flood Elev= 49.50'

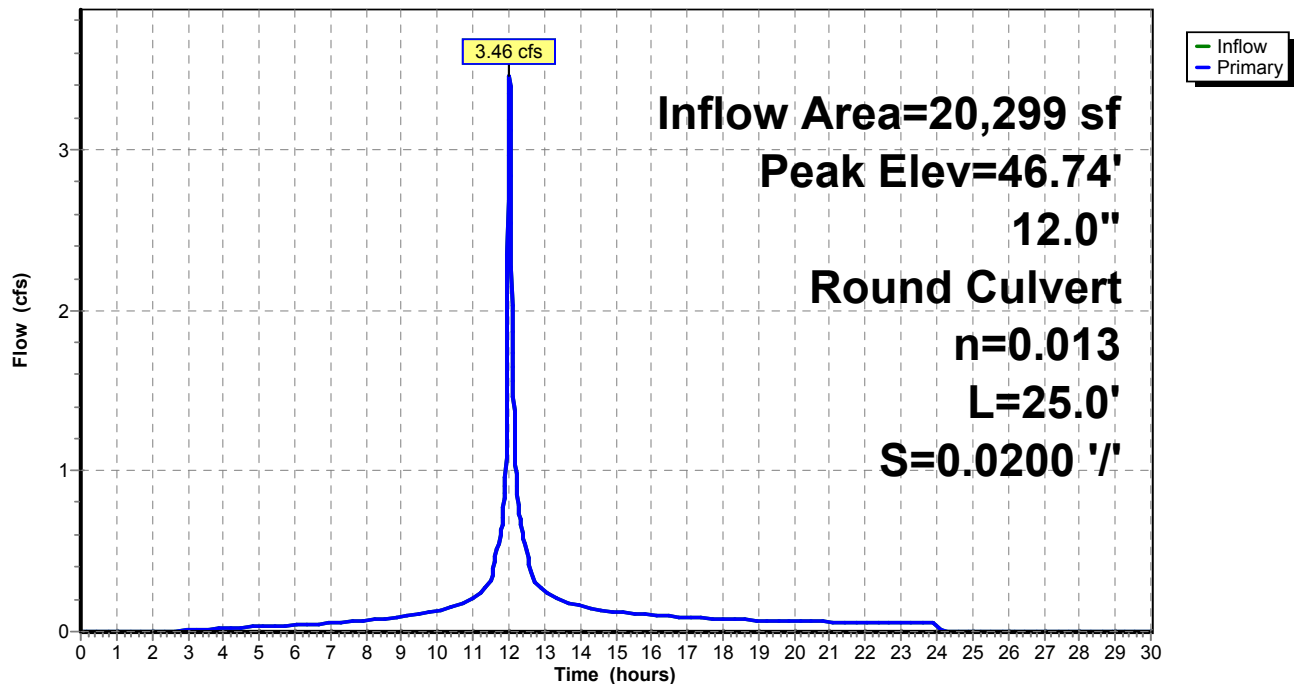
Device	Routing	Invert	Outlet Devices
#1	Primary	45.40'	12.0" Round Culvert L= 25.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.40' / 44.90' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=3.44 cfs @ 12.03 hrs HW=46.73' (Free Discharge)

↑1=Culvert (Inlet Controls 3.44 cfs @ 4.39 fps)

Pond 59P: CB-7

Hydrograph



Proposed Conditions

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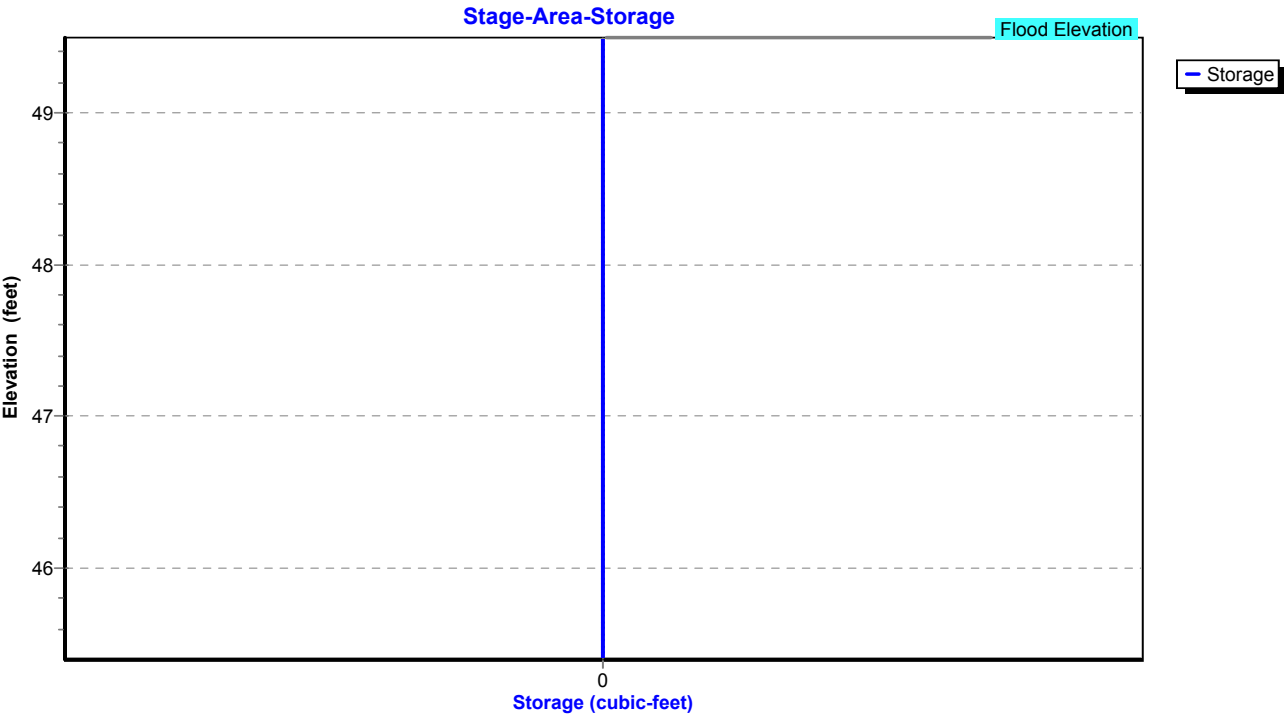
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Pond 59P: CB-7



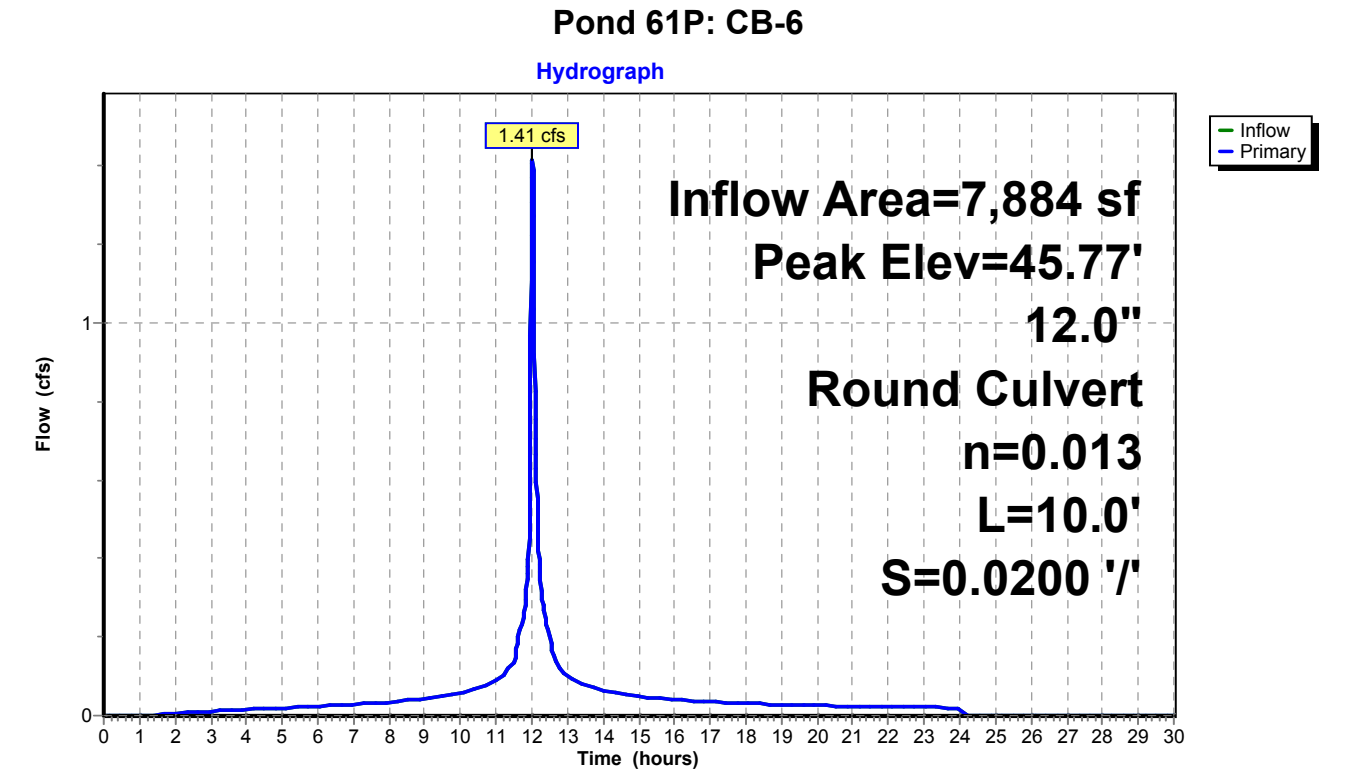
Summary for Pond 61P: CB-6

Inflow Area = 7,884 sf, 82.32% Impervious, Inflow Depth = 6.63" for 50 year event
Inflow = 1.41 cfs @ 12.03 hrs, Volume= 4,356 cf
Outflow = 1.41 cfs @ 12.03 hrs, Volume= 4,356 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.41 cfs @ 12.03 hrs, Volume= 4,356 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 45.77' @ 12.03 hrs
Flood Elev= 49.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	45.10'	12.0" Round Culvert L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.10' / 44.90' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.41 cfs @ 12.03 hrs HW=45.76' (Free Discharge)
1=Culvert (Barrel Controls 1.41 cfs @ 3.60 fps)



Proposed Conditions

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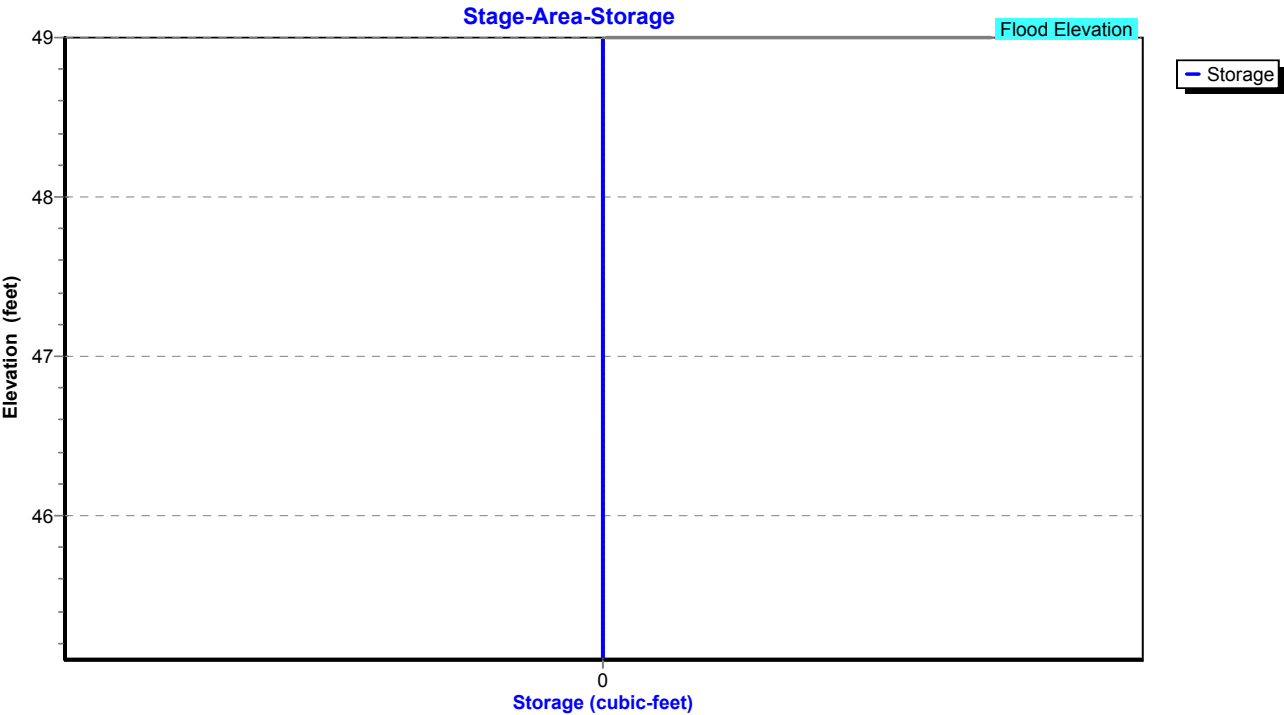
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Pond 61P: CB-6



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Summary for Pond 63P: Manhole

Inflow Area = 91,258 sf, 50.60% Impervious, Inflow Depth = 5.72" for 50 year event
Inflow = 11.31 cfs @ 12.06 hrs, Volume= 43,535 cf
Outflow = 11.31 cfs @ 12.06 hrs, Volume= 43,535 cf, Atten= 0%, Lag= 0.0 min
Primary = 11.31 cfs @ 12.06 hrs, Volume= 43,535 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 52.13' @ 12.06 hrs

Flood Elev= 51.00'

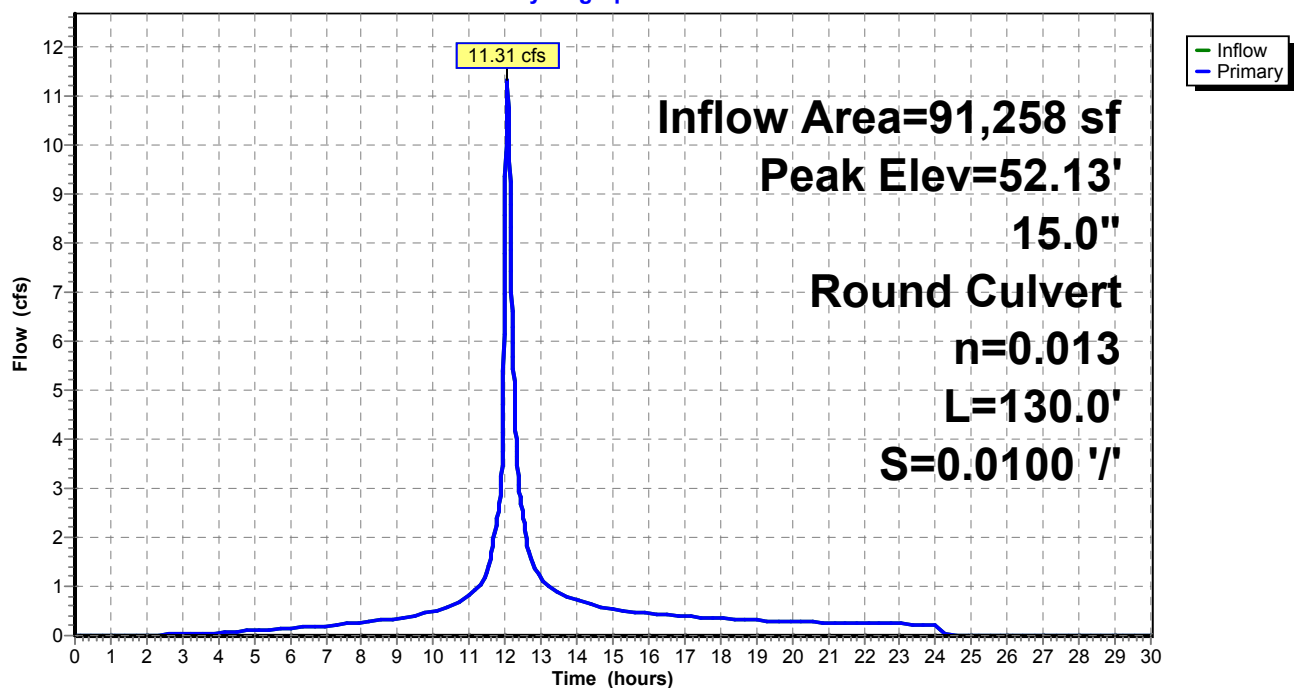
Device	Routing	Invert	Outlet Devices
#1	Primary	46.20'	15.0" Round Culvert L= 130.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.20' / 44.90' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

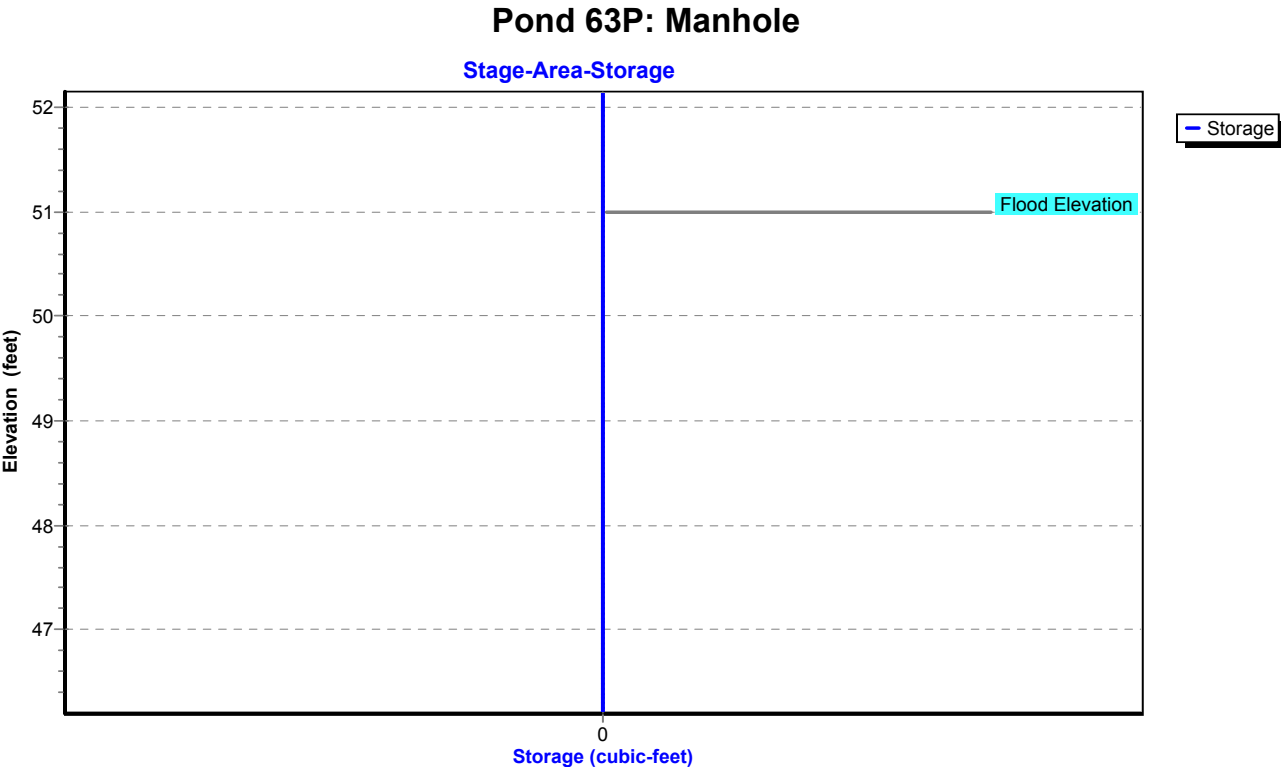
Primary OutFlow Max=11.30 cfs @ 12.06 hrs HW=52.12' (Free Discharge)

↑1=Culvert (Barrel Controls 11.30 cfs @ 9.21 fps)

Pond 63P: Manhole

Hydrograph





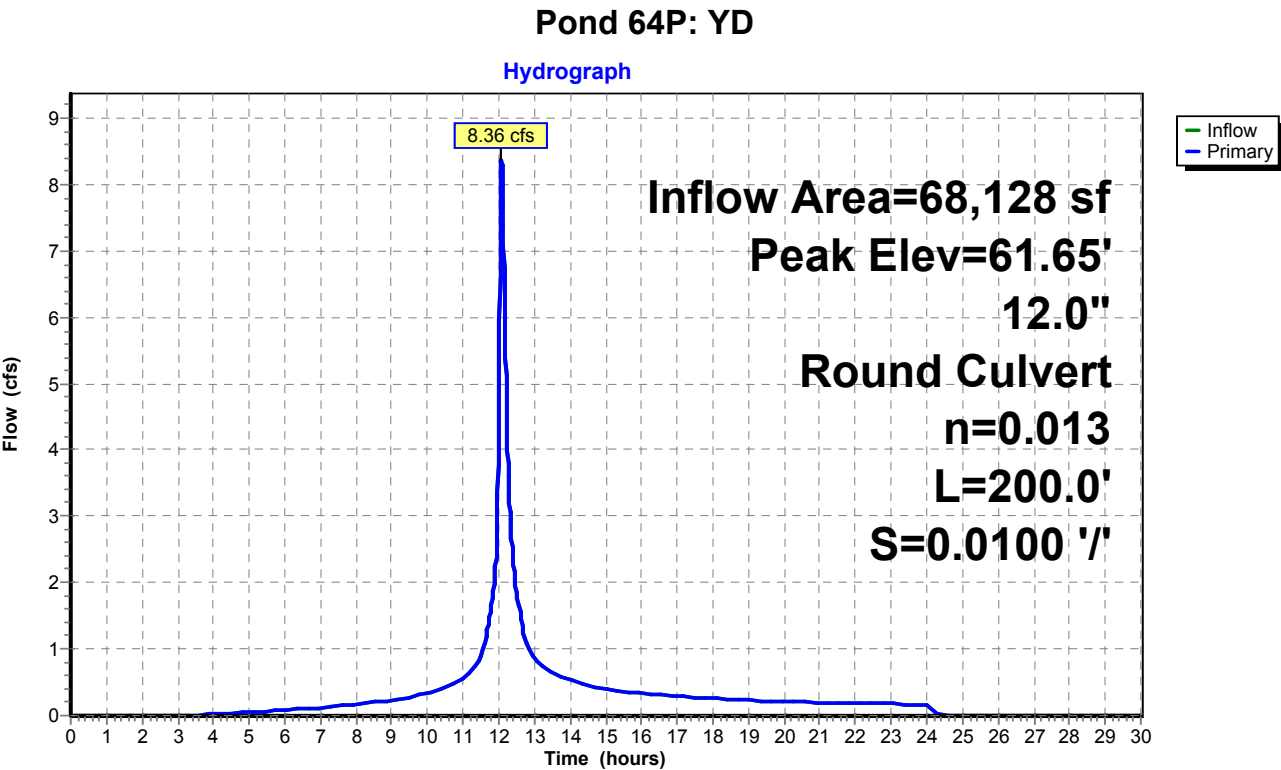
Summary for Pond 64P: YD

Inflow Area = 68,128 sf, 41.75% Impervious, Inflow Depth = 5.47" for 50 year event
Inflow = 8.36 cfs @ 12.08 hrs, Volume= 31,040 cf
Outflow = 8.36 cfs @ 12.08 hrs, Volume= 31,040 cf, Atten= 0%, Lag= 0.0 min
Primary = 8.36 cfs @ 12.08 hrs, Volume= 31,040 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 61.65' @ 12.08 hrs
Flood Elev= 54.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.95'	12.0" Round Culvert L= 200.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.95' / 46.95' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=8.35 cfs @ 12.08 hrs HW=61.59' (Free Discharge)
1=Culvert (Barrel Controls 8.35 cfs @ 10.63 fps)



Proposed Conditions

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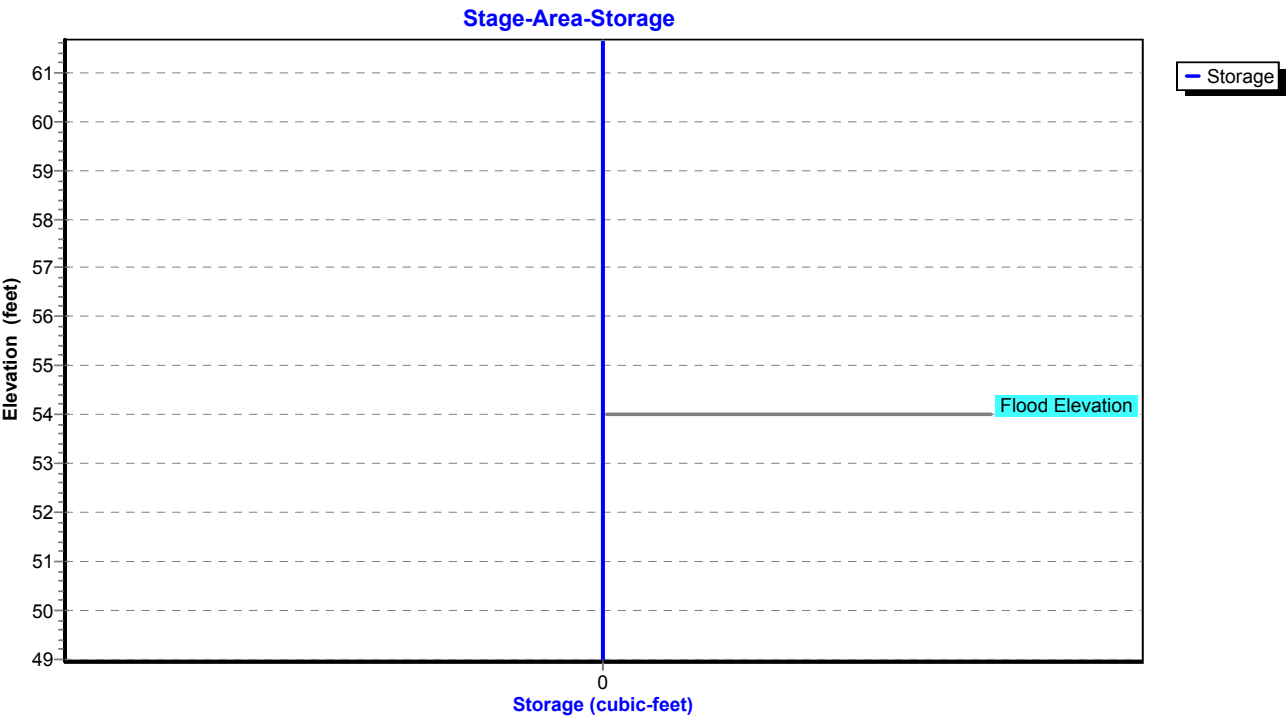
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Pond 64P: YD



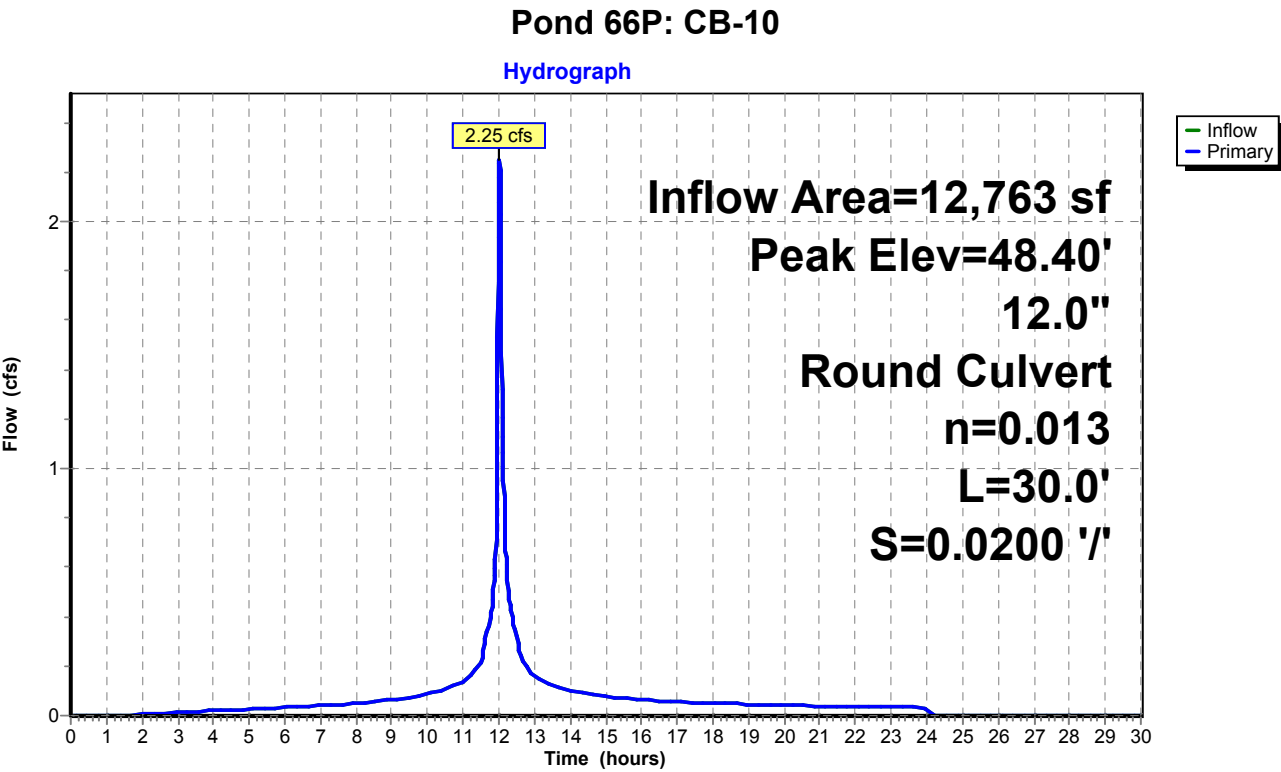
Summary for Pond 66P: CB-10

Inflow Area = 12,763 sf, 73.04% Impervious, Inflow Depth = 6.39" for 50 year event
Inflow = 2.25 cfs @ 12.03 hrs, Volume= 6,801 cf
Outflow = 2.25 cfs @ 12.03 hrs, Volume= 6,801 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.25 cfs @ 12.03 hrs, Volume= 6,801 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 48.40' @ 12.03 hrs
Flood Elev= 53.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.55'	12.0" Round Culvert L= 30.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.55' / 46.95' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=2.24 cfs @ 12.03 hrs HW=48.40' (Free Discharge)
1=Culvert (Inlet Controls 2.24 cfs @ 3.14 fps)



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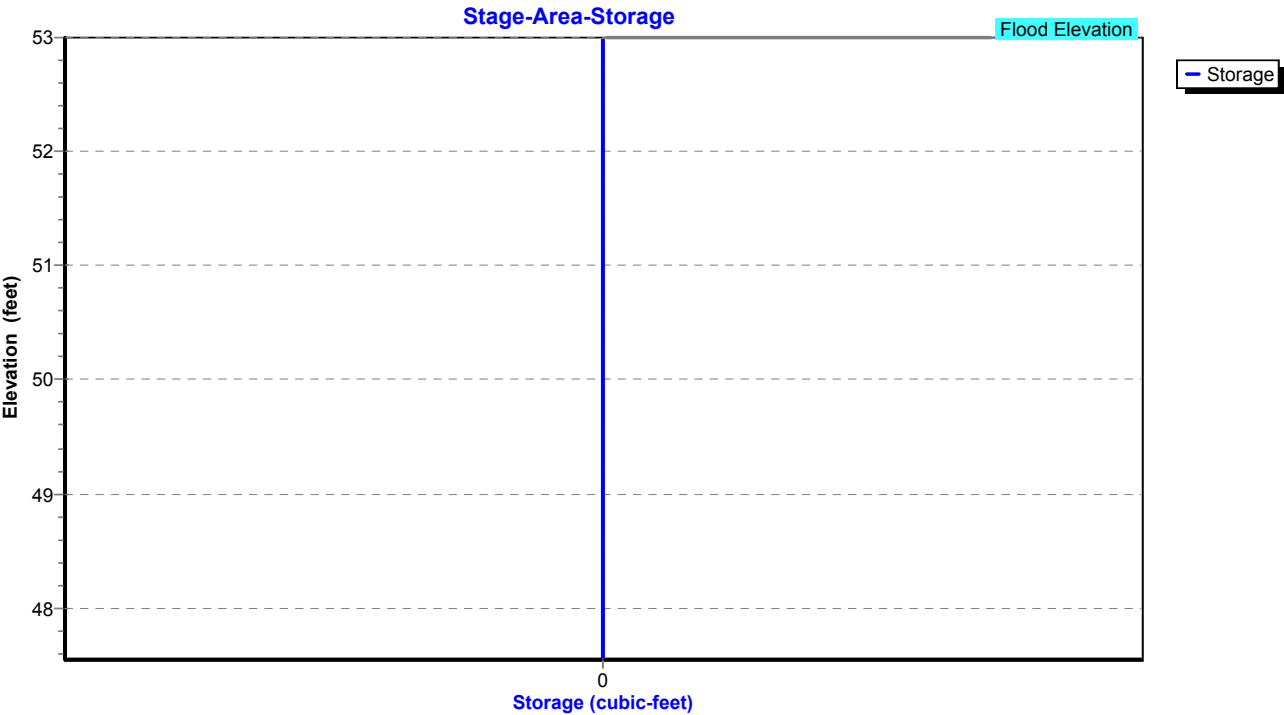
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Pond 66P: CB-10



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Summary for Pond 67P: CB-9

Inflow Area = 6,447 sf, 69.59% Impervious, Inflow Depth = 6.28" for 50 year event
Inflow = 1.12 cfs @ 12.03 hrs, Volume= 3,372 cf
Outflow = 1.12 cfs @ 12.03 hrs, Volume= 3,372 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.12 cfs @ 12.03 hrs, Volume= 3,372 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.73' @ 12.03 hrs

Flood Elev= 52.00'

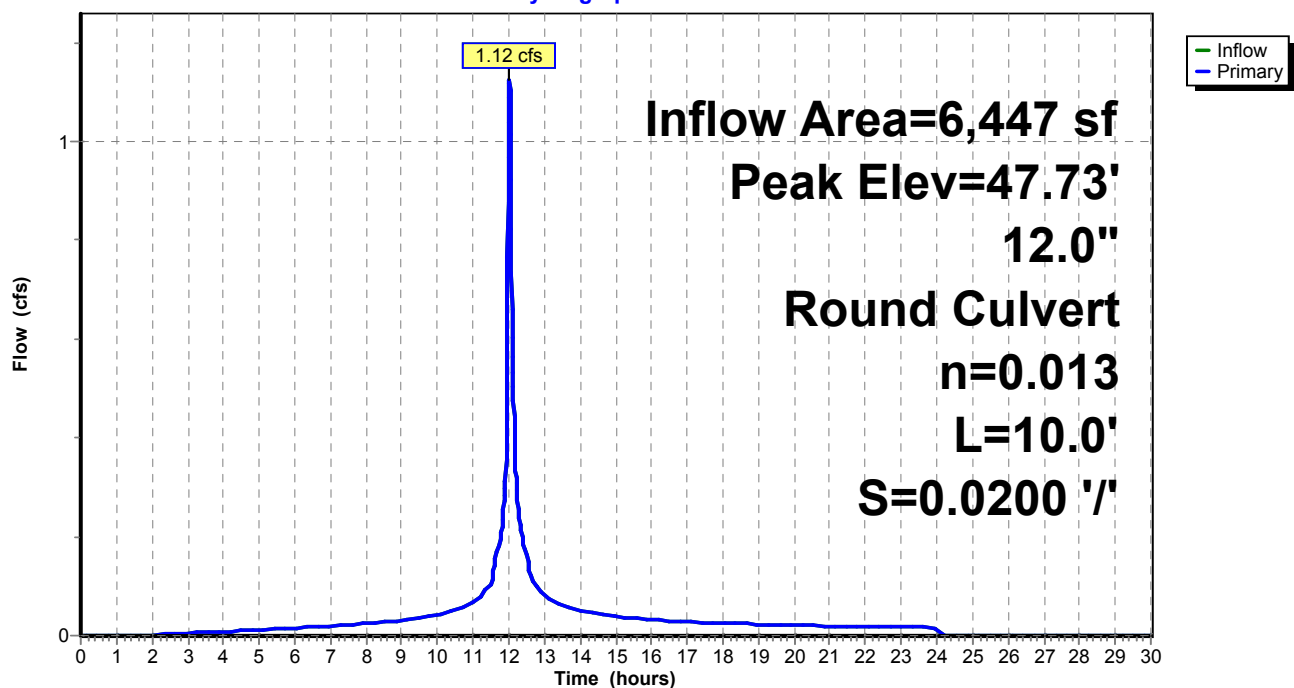
Device	Routing	Invert	Outlet Devices
#1	Primary	47.15'	12.0" Round Culvert L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.15' / 46.95' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.12 cfs @ 12.03 hrs HW=47.73' (Free Discharge)

↑1=Culvert (Barrel Controls 1.12 cfs @ 3.45 fps)

Pond 67P: CB-9

Hydrograph



Proposed Conditions

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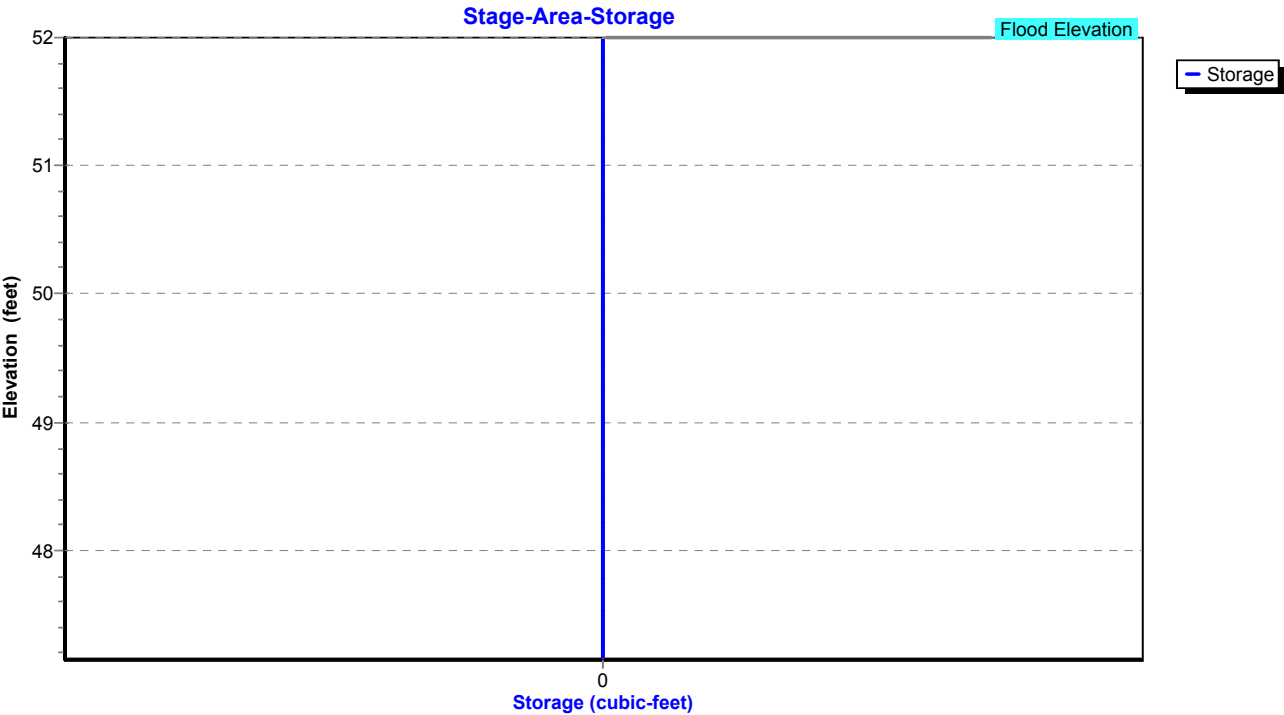
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NORWALK 24-hr S1 50 year Rainfall=7.34"

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Pond 67P: CB-9



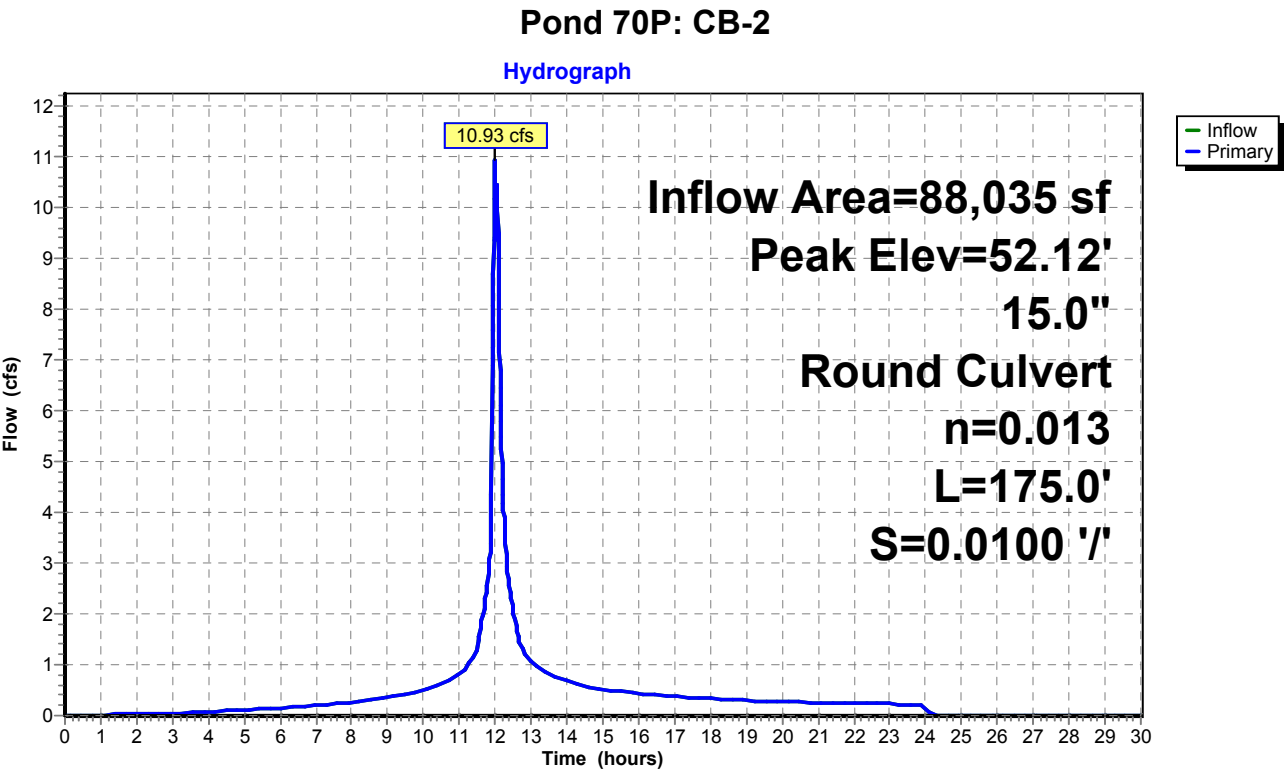
Summary for Pond 70P: CB-2

Inflow Area = 88,035 sf, 58.39% Impervious, Inflow Depth = 5.76" for 50 year event
Inflow = 10.93 cfs @ 11.99 hrs, Volume= 42,283 cf
Outflow = 10.93 cfs @ 11.99 hrs, Volume= 42,283 cf, Atten= 0%, Lag= 0.0 min
Primary = 10.93 cfs @ 11.99 hrs, Volume= 42,283 cf
Routed to Pond 51P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 52.12' @ 11.99 hrs
Flood Elev= 53.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	45.75'	15.0" Round Culvert L= 175.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.75' / 44.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=10.92 cfs @ 11.99 hrs HW=52.12' (Free Discharge)
1=Culvert (Barrel Controls 10.92 cfs @ 8.90 fps)



Proposed Conditions

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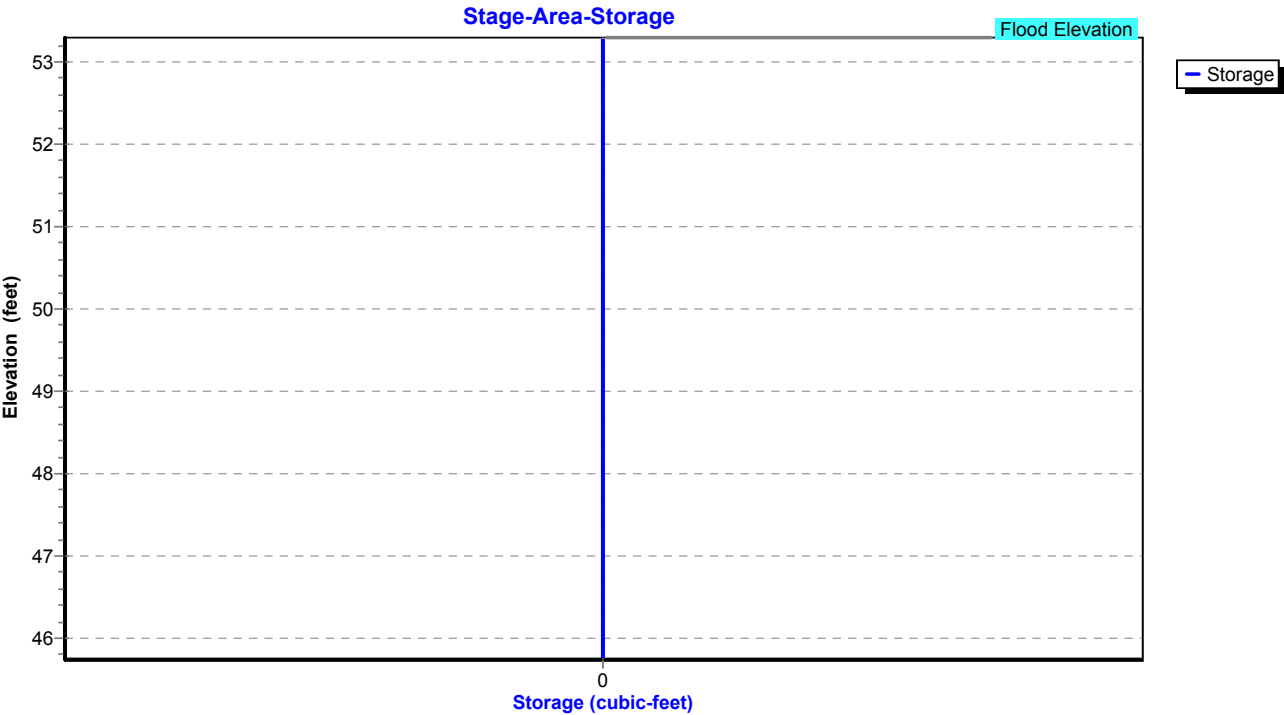
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Pond 70P: CB-2



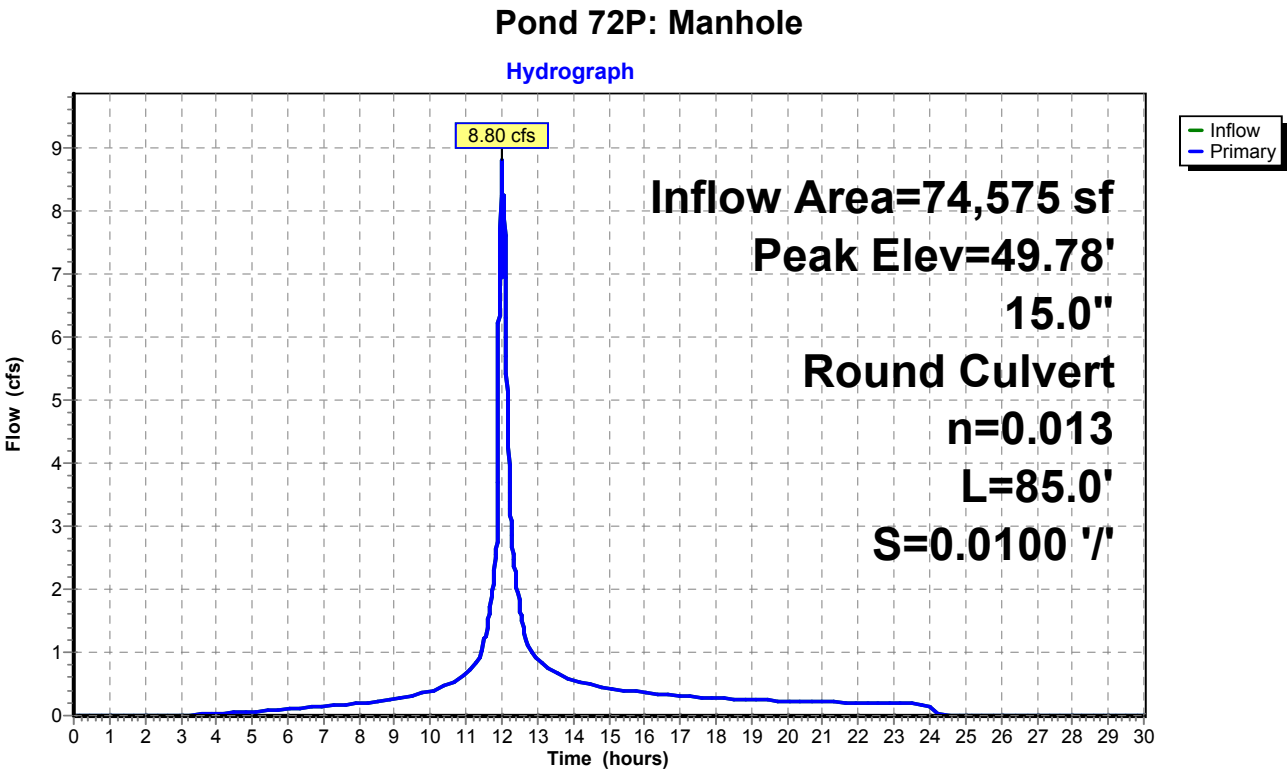
Summary for Pond 72P: Manhole

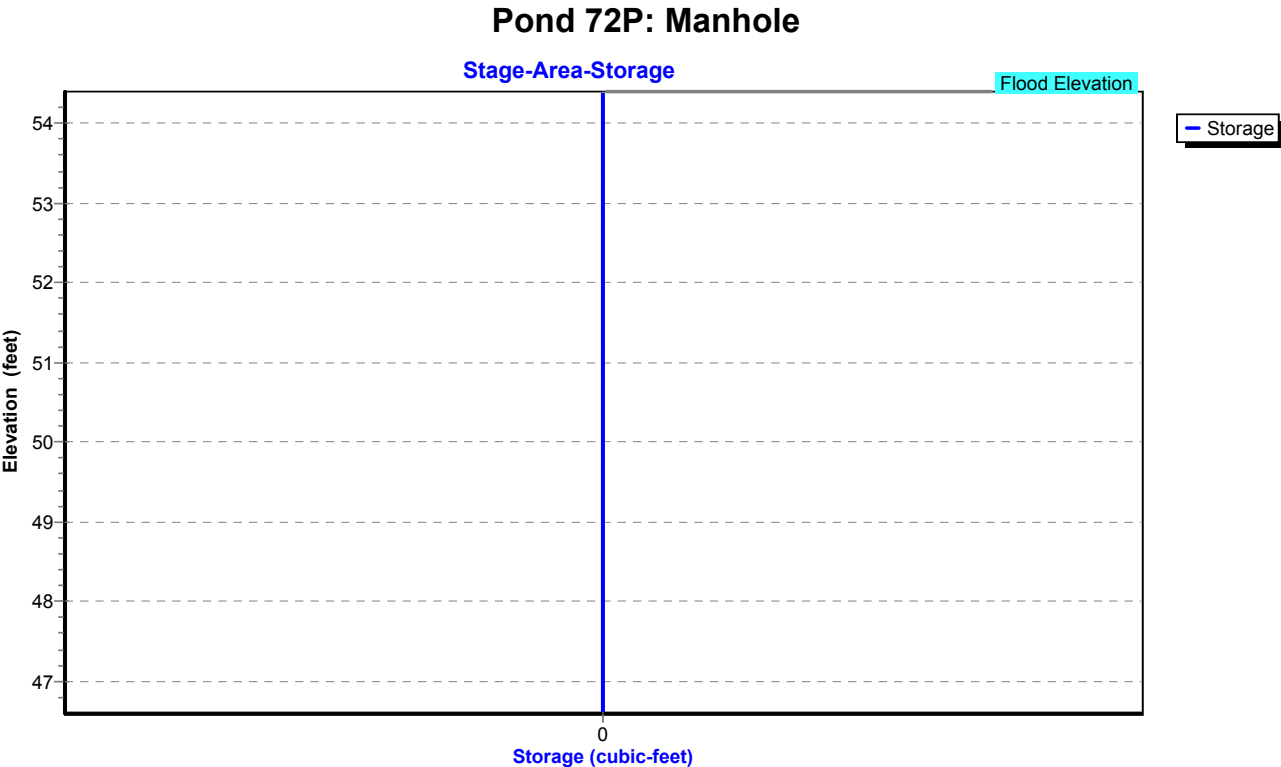
Inflow Area = 74,575 sf, 50.88% Impervious, Inflow Depth = 5.52" for 50 year event
Inflow = 8.80 cfs @ 11.99 hrs, Volume= 34,314 cf
Outflow = 8.80 cfs @ 11.99 hrs, Volume= 34,314 cf, Atten= 0%, Lag= 0.0 min
Primary = 8.80 cfs @ 11.99 hrs, Volume= 34,314 cf
Routed to Pond 70P : CB-2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 49.78' @ 11.99 hrs
Flood Elev= 54.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.60'	15.0" Round Culvert L= 85.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.60' / 45.75' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=8.72 cfs @ 11.99 hrs HW=49.73' (Free Discharge)
1=Culvert (Barrel Controls 8.72 cfs @ 7.11 fps)





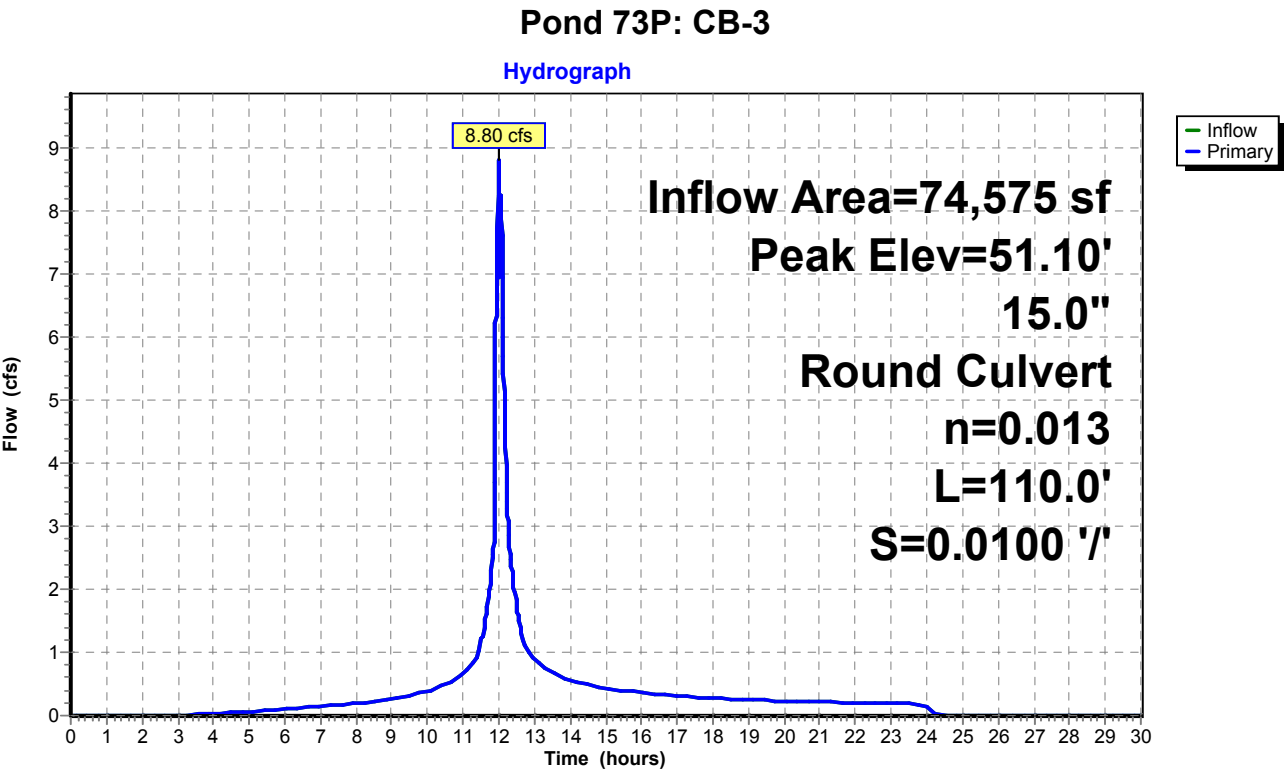
Summary for Pond 73P: CB-3

Inflow Area = 74,575 sf, 50.88% Impervious, Inflow Depth = 5.52" for 50 year event
Inflow = 8.80 cfs @ 11.99 hrs, Volume= 34,314 cf
Outflow = 8.80 cfs @ 11.99 hrs, Volume= 34,314 cf, Atten= 0%, Lag= 0.0 min
Primary = 8.80 cfs @ 11.99 hrs, Volume= 34,314 cf
Routed to Pond 72P : Manhole

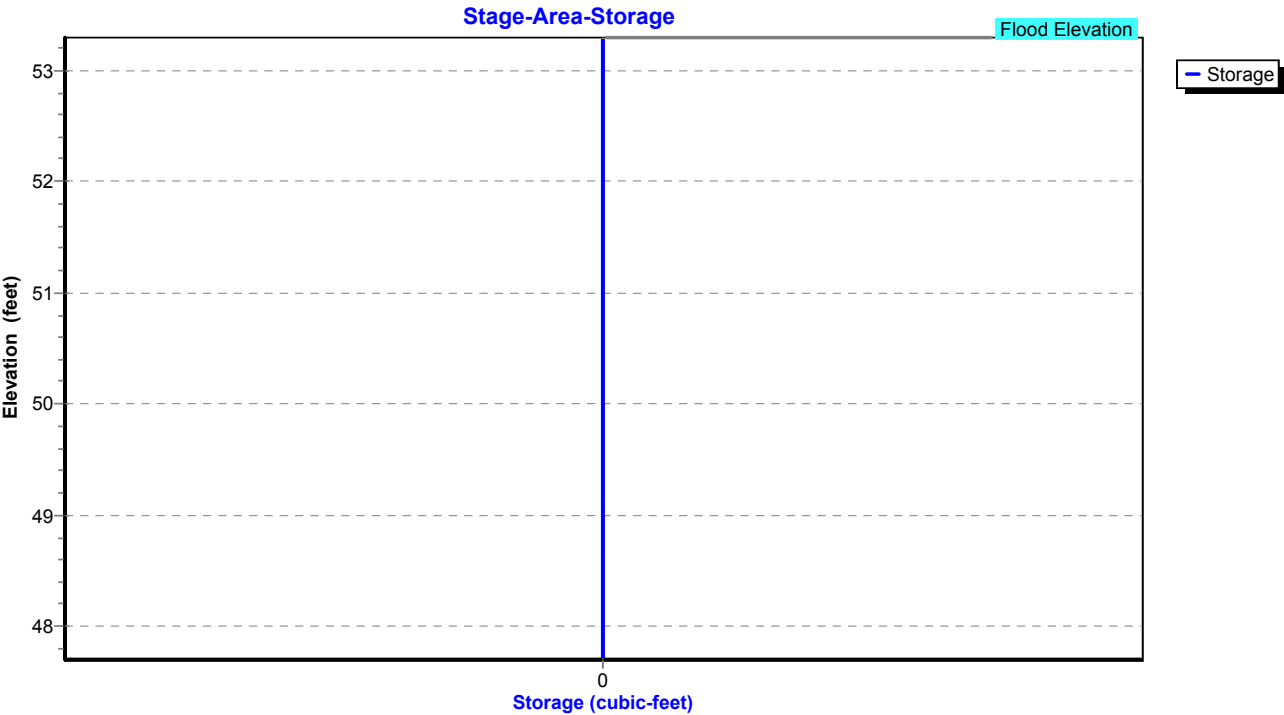
Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 51.10' @ 11.99 hrs
Flood Elev= 53.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.70'	15.0" Round Culvert L= 110.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.70' / 46.60' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=8.72 cfs @ 11.99 hrs HW=51.04' (Free Discharge)
1=Culvert (Barrel Controls 8.72 cfs @ 7.11 fps)



Pond 73P: CB-3



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Summary for Pond 74P: CB-4

Inflow Area = 49,920 sf, 46.51% Impervious, Inflow Depth = 5.38" for 50 year event
Inflow = 6.62 cfs @ 12.06 hrs, Volume= 22,372 cf
Outflow = 6.62 cfs @ 12.06 hrs, Volume= 22,372 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.62 cfs @ 12.06 hrs, Volume= 22,372 cf
Routed to Pond 73P : CB-3

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 51.08' @ 12.06 hrs

Flood Elev= 53.70'

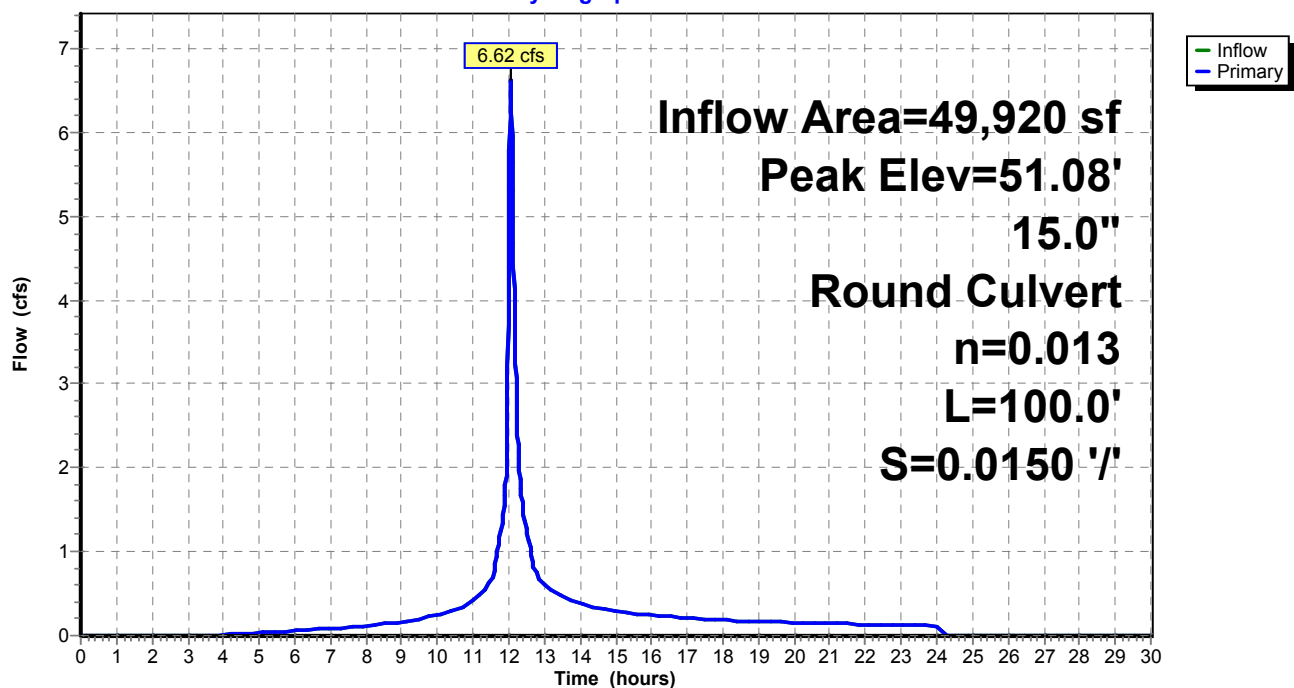
Device	Routing	Invert	Outlet Devices
#1	Primary	49.20'	15.0" Round Culvert L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.20' / 47.70' S= 0.0150 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=6.61 cfs @ 12.06 hrs HW=51.08' (Free Discharge)

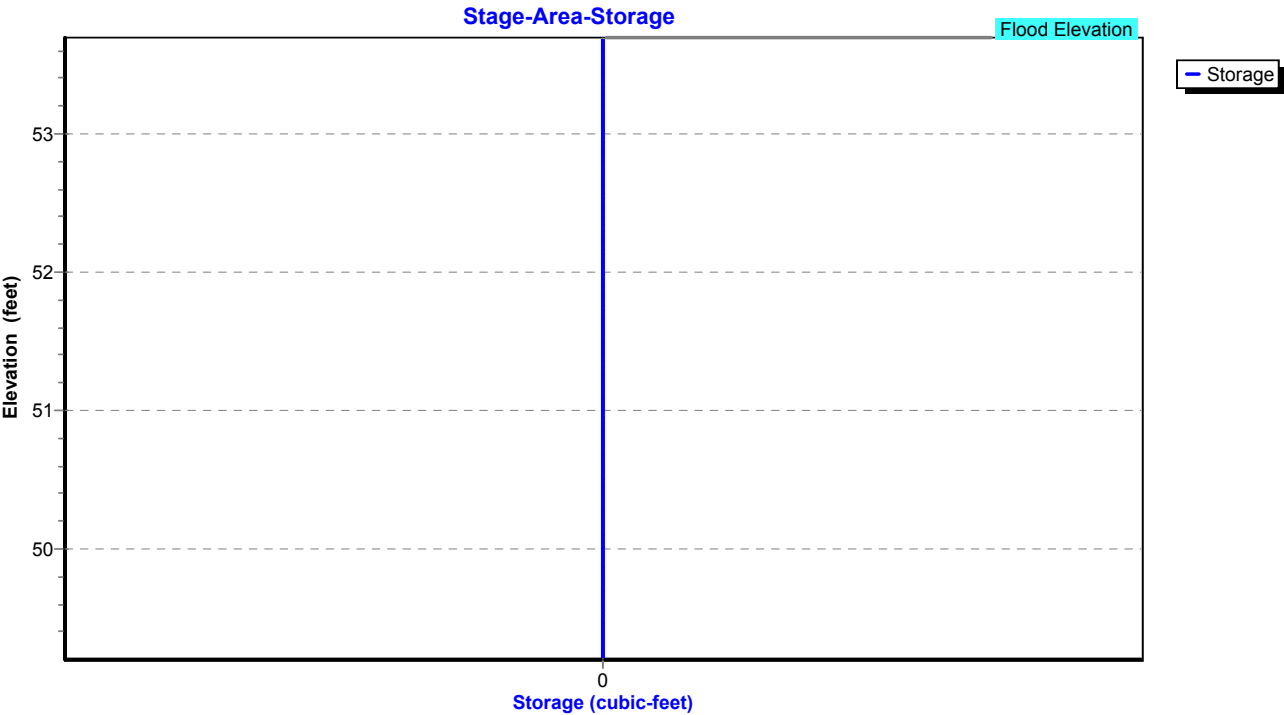
↑1=Culvert (Inlet Controls 6.61 cfs @ 5.38 fps)

Pond 74P: CB-4

Hydrograph



Pond 74P: CB-4



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Summary for Pond 77P: Manhole

Inflow Area = 87,338 sf, 48.38% Impervious, Inflow Depth = 5.66" for 50 year event
Inflow = 10.73 cfs @ 12.06 hrs, Volume= 41,214 cf
Outflow = 10.73 cfs @ 12.06 hrs, Volume= 41,214 cf, Atten= 0%, Lag= 0.0 min
Primary = 10.73 cfs @ 12.06 hrs, Volume= 41,214 cf
Routed to Pond 63P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 51.31' @ 12.06 hrs

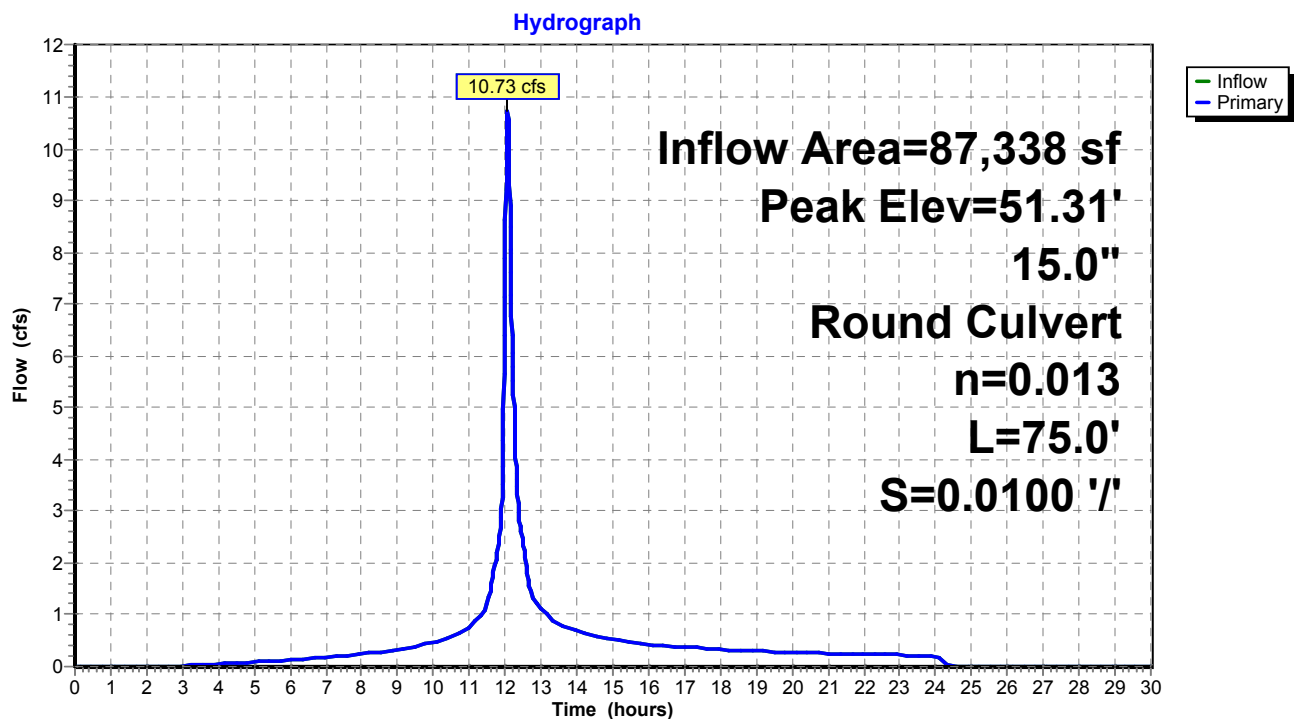
Flood Elev= 52.50'

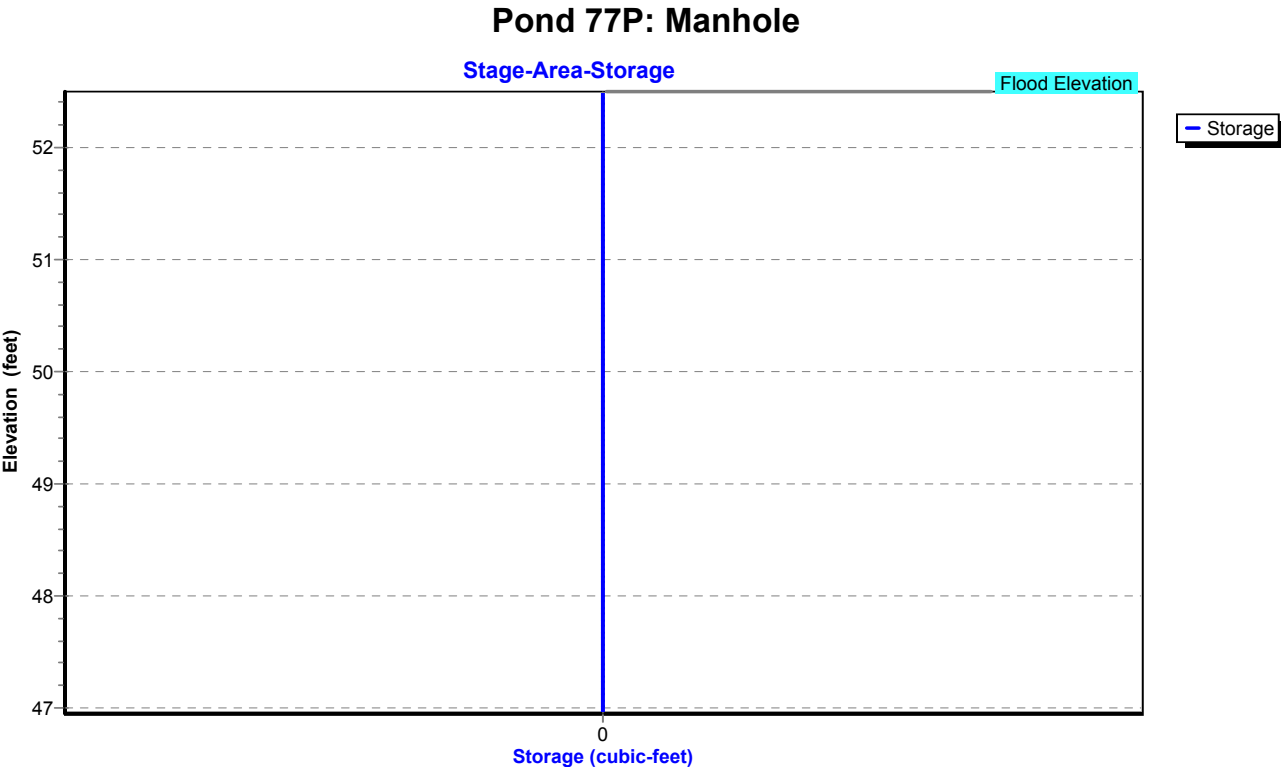
Device	Routing	Invert	Outlet Devices
#1	Primary	46.95'	15.0" Round Culvert L= 75.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.95' / 46.20' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=10.71 cfs @ 12.06 hrs HW=51.30' (Free Discharge)

↑1=Culvert (Barrel Controls 10.71 cfs @ 8.73 fps)

Pond 77P: Manhole





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Summary for Pond 79P: CB-8

Inflow Area = 3,920 sf, 100.00% Impervious, Inflow Depth = 7.10" for 50 year event
Inflow = 0.72 cfs @ 12.03 hrs, Volume= 2,321 cf
Outflow = 0.72 cfs @ 12.03 hrs, Volume= 2,321 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.72 cfs @ 12.03 hrs, Volume= 2,321 cf
Routed to Pond 63P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.63' @ 12.03 hrs

Flood Elev= 52.50'

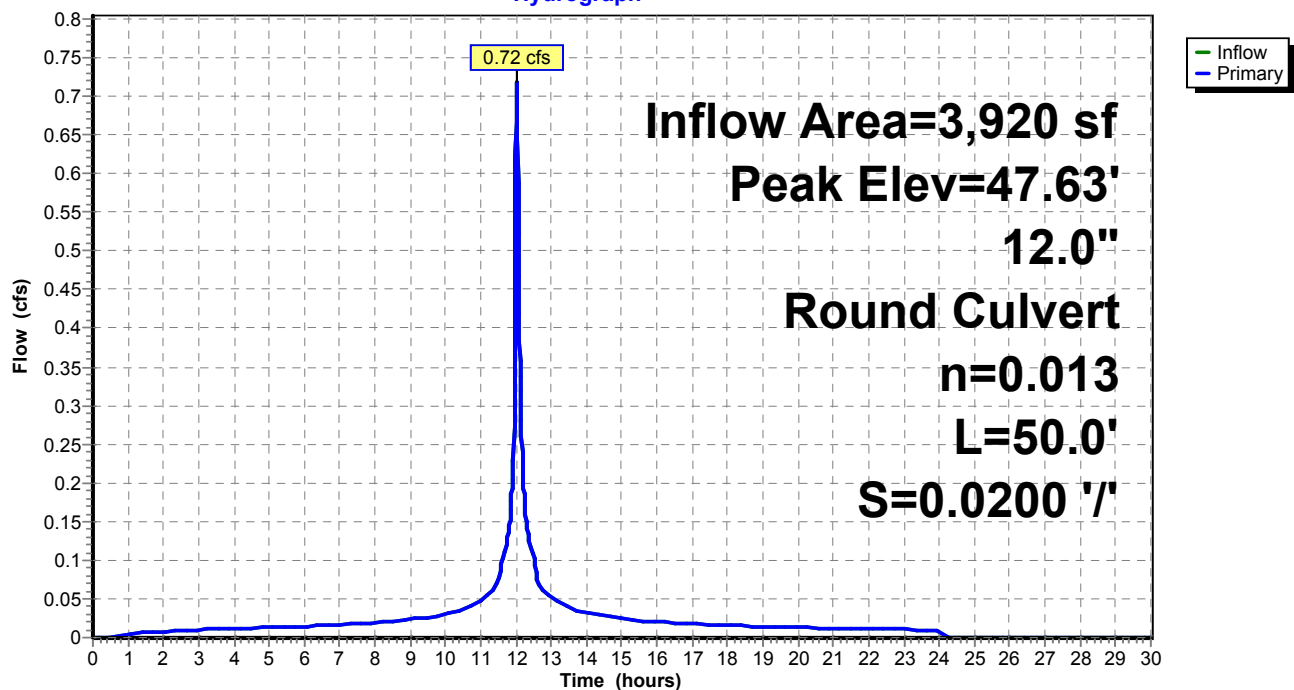
Device	Routing	Invert	Outlet Devices
#1	Primary	47.20'	12.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.20' / 46.20' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.71 cfs @ 12.03 hrs HW=47.63' (Free Discharge)

↑1=Culvert (Inlet Controls 0.71 cfs @ 2.23 fps)

Pond 79P: CB-8

Hydrograph



Proposed Conditions

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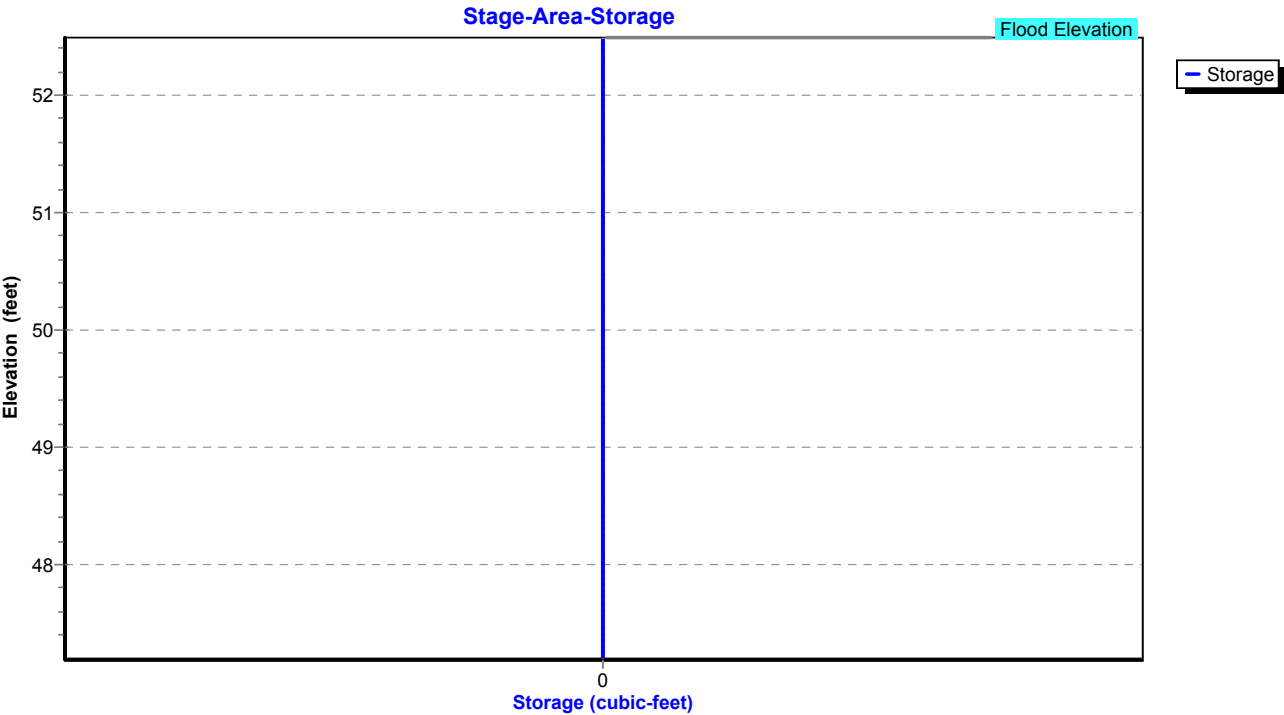
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Pond 79P: CB-8



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Summary for Pond 85P: CB-5

Inflow Area = 34,804 sf, 42.18% Impervious, Inflow Depth = 5.24" for 50 year event
Inflow = 4.44 cfs @ 12.07 hrs, Volume= 15,196 cf
Outflow = 4.44 cfs @ 12.07 hrs, Volume= 15,196 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.44 cfs @ 12.07 hrs, Volume= 15,196 cf
Routed to Pond 74P : CB-4

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 52.50' @ 12.07 hrs

Flood Elev= 53.30'

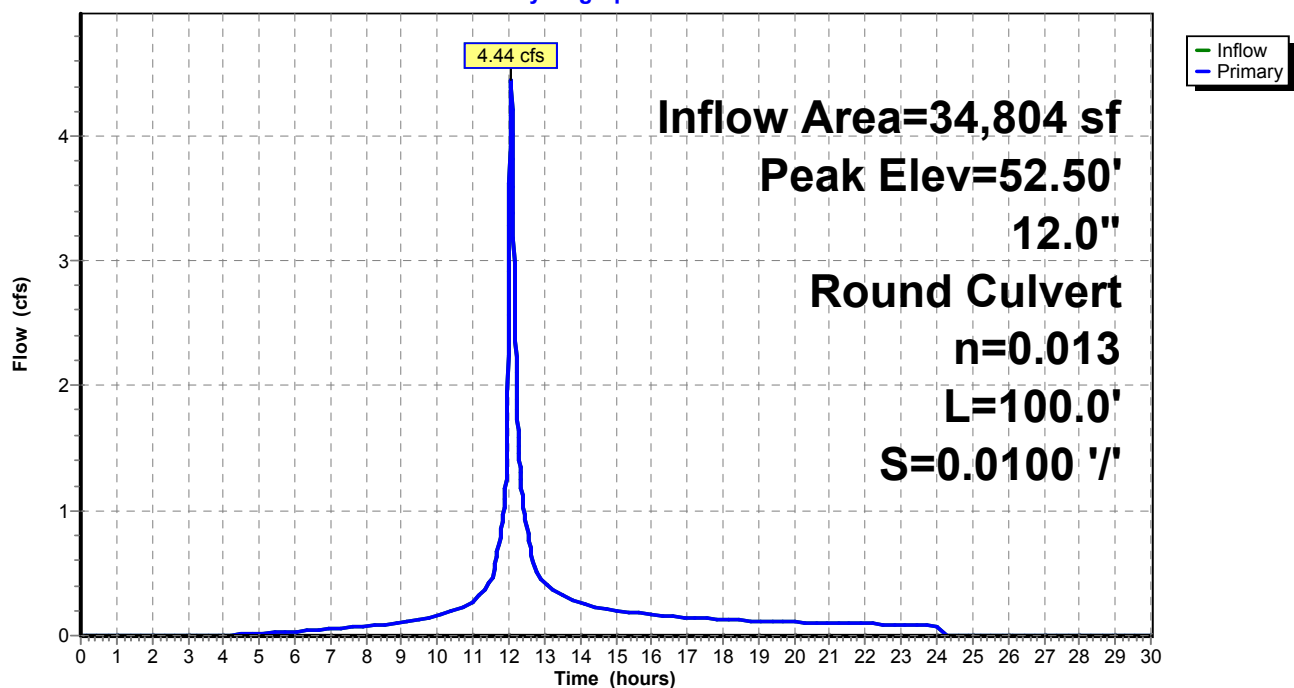
Device	Routing	Invert	Outlet Devices
#1	Primary	50.20'	12.0" Round Culvert L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 50.20' / 49.20' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=4.43 cfs @ 12.07 hrs HW=52.49' (Free Discharge)

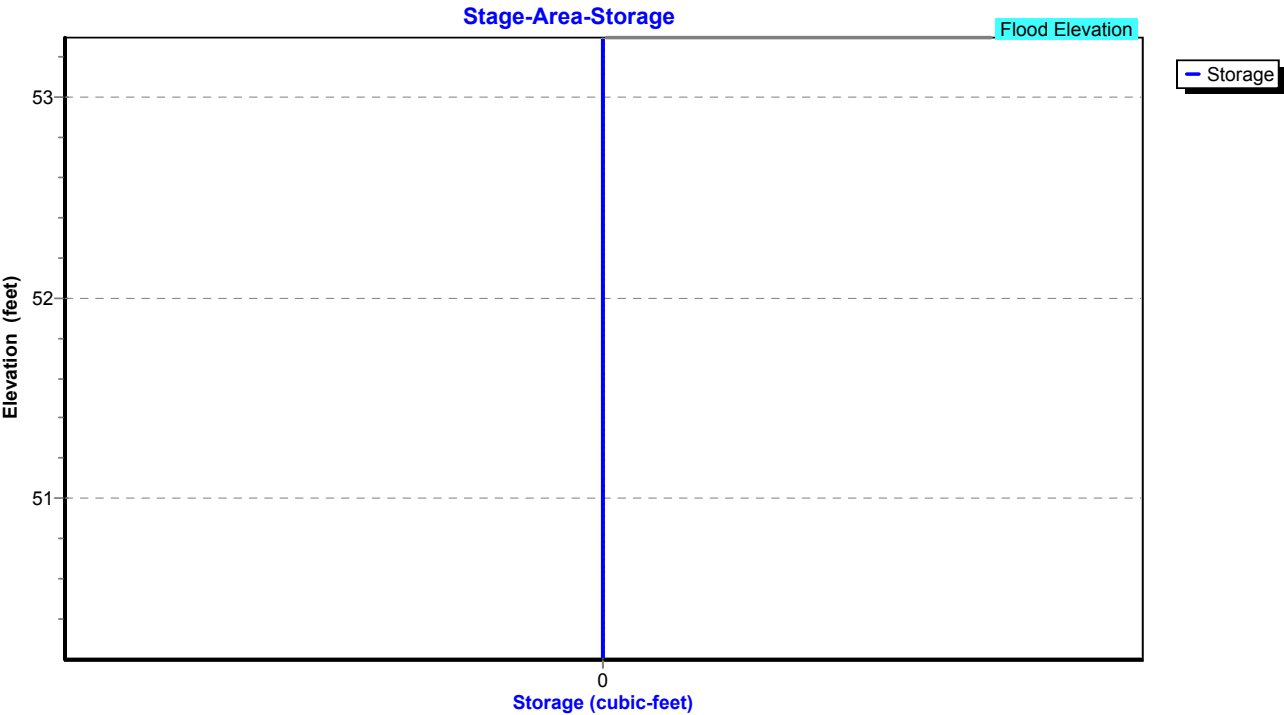
↑1=Culvert (Barrel Controls 4.43 cfs @ 5.64 fps)

Pond 85P: CB-5

Hydrograph



Pond 85P: CB-5



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Summary for Pond P: ADS Stormtech

Inflow Area = 16,901 sf, 100.00% Impervious, Inflow Depth = 7.10" for 50 year event
Inflow = 3.10 cfs @ 12.03 hrs, Volume= 10,006 cf
Outflow = 1.87 cfs @ 12.09 hrs, Volume= 10,007 cf, Atten= 40%, Lag= 3.8 min
Primary = 1.87 cfs @ 12.09 hrs, Volume= 10,007 cf
Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 54.49' @ 12.09 hrs Surf.Area= 749 sf Storage= 1,477 cf

Plug-Flow detention time= 17.7 min calculated for 10,004 cf (100% of inflow)

Center-of-Mass det. time= 17.8 min (759.8 - 742.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	51.34'	764 cf	15.75'W x 46.34'L x 3.75'H Field A 2,737 cf Overall - 827 cf Embedded = 1,910 cf x 40.0% Voids
#2A	51.84'	827 cf	ADS_StormTech SC-740 +Cap x 18 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 18 Chambers in 3 Rows
#3	51.34'	114 cf	5.00'D x 5.80'H OCS
		1,705 cf	Total Available Storage

Storage Group A created with Chamber Wizard

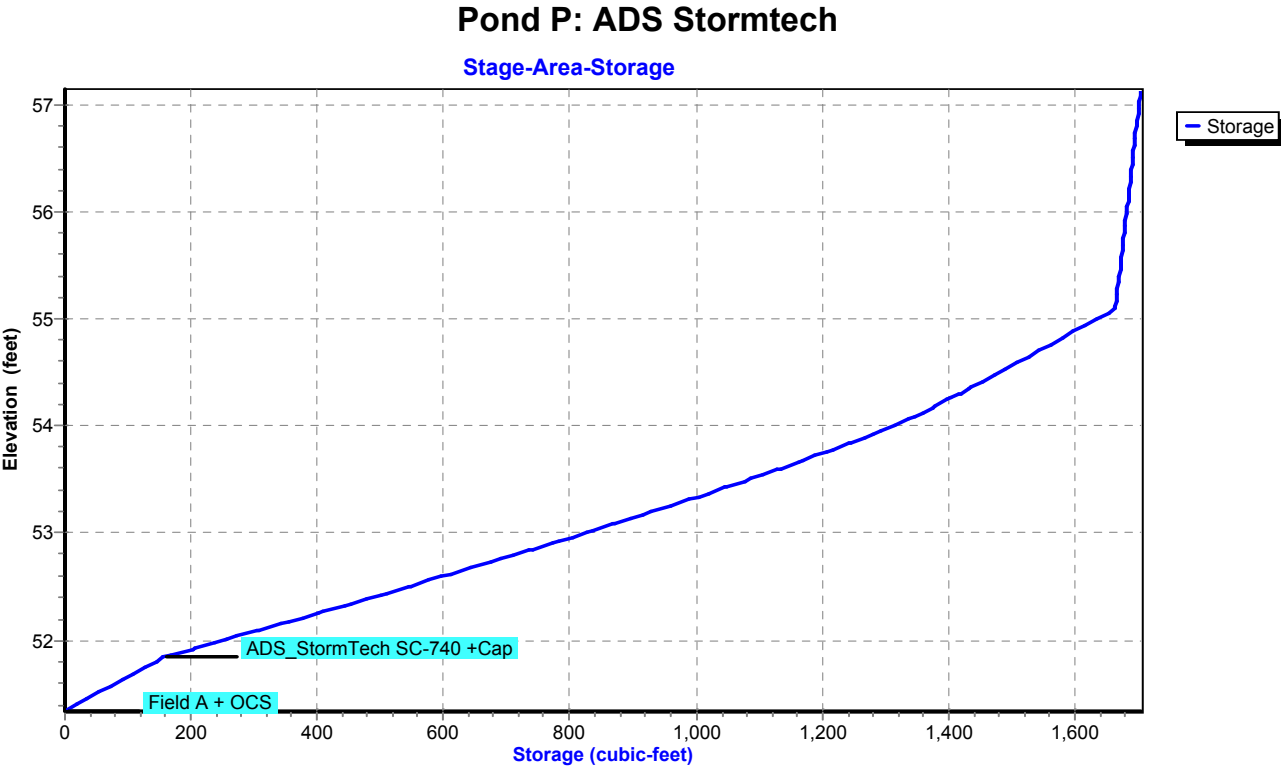
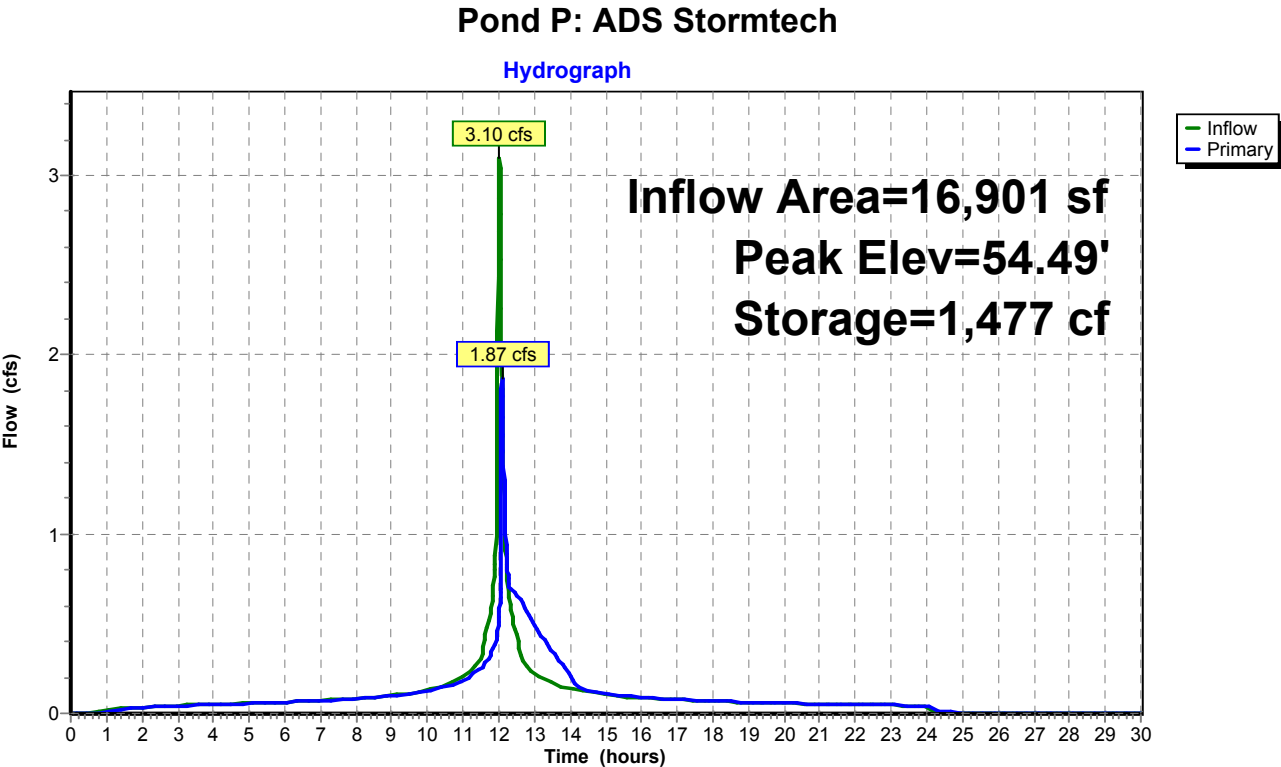
Device	Routing	Invert	Outlet Devices
#1	Primary	51.34'	12.0" Round Culvert L= 4.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 51.34' / 51.30' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	51.34'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	54.30'	5.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=1.85 cfs @ 12.09 hrs HW=54.49' (Free Discharge)

1=Culvert (Passes 1.85 cfs of 6.15 cfs potential flow)

2=Orifice/Grate (Orifice Controls 0.73 cfs @ 8.31 fps)

3=Broad-Crested Rectangular Weir (Weir Controls 1.12 cfs @ 1.21 fps)



Summary for Subcatchment 4S: Area 4

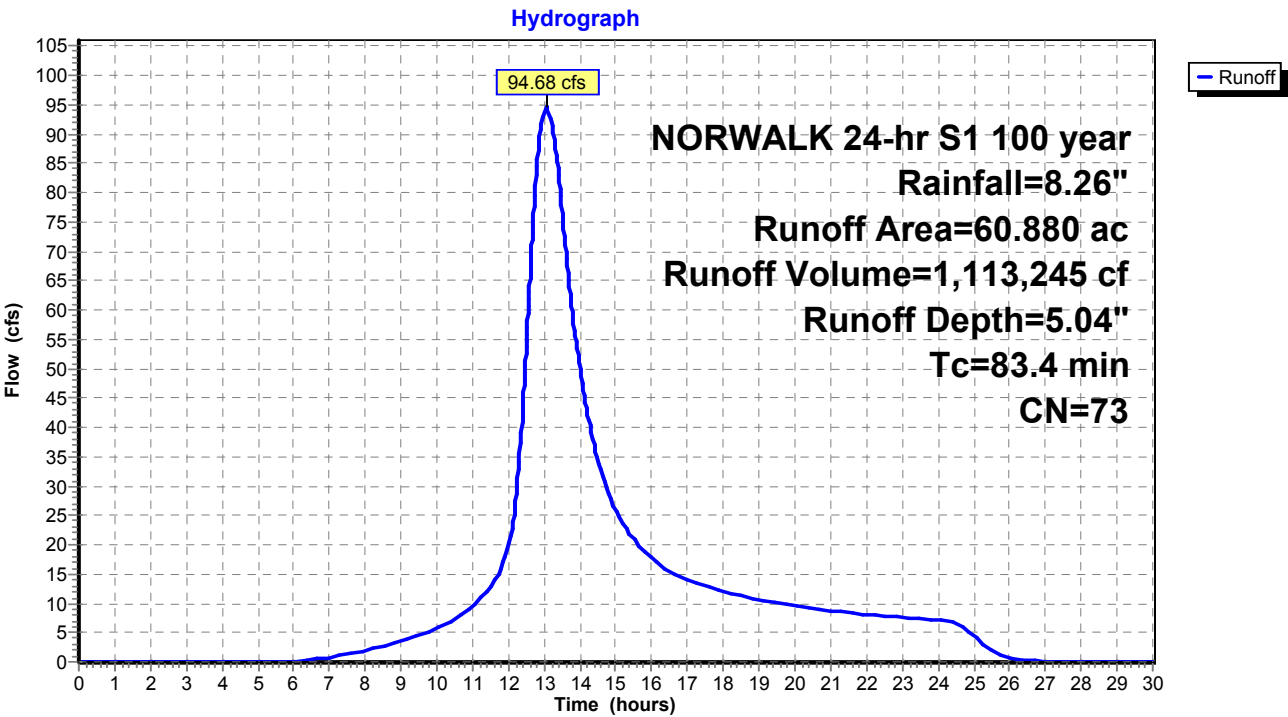
Runoff = 94.68 cfs @ 13.07 hrs, Volume= 1,113,245 cf, Depth= 5.04"
Routed to Pond 18P : DET 4 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
8.210	61	>75% Grass cover, Good, HSG B
0.140	74	>75% Grass cover, Good, HSG C
0.380	80	>75% Grass cover, Good, HSG D
25.920	70	1/2 acre lots, 25% imp, HSG B
22.630	80	1/2 acre lots, 25% imp, HSG C
3.600	85	1/2 acre lots, 25% imp, HSG D
60.880	73	Weighted Average
47.842		78.58% Pervious Area
13.037		21.42% Impervious Area

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

Subcatchment 4S: Area 4



Summary for Subcatchment 5S: Area 5

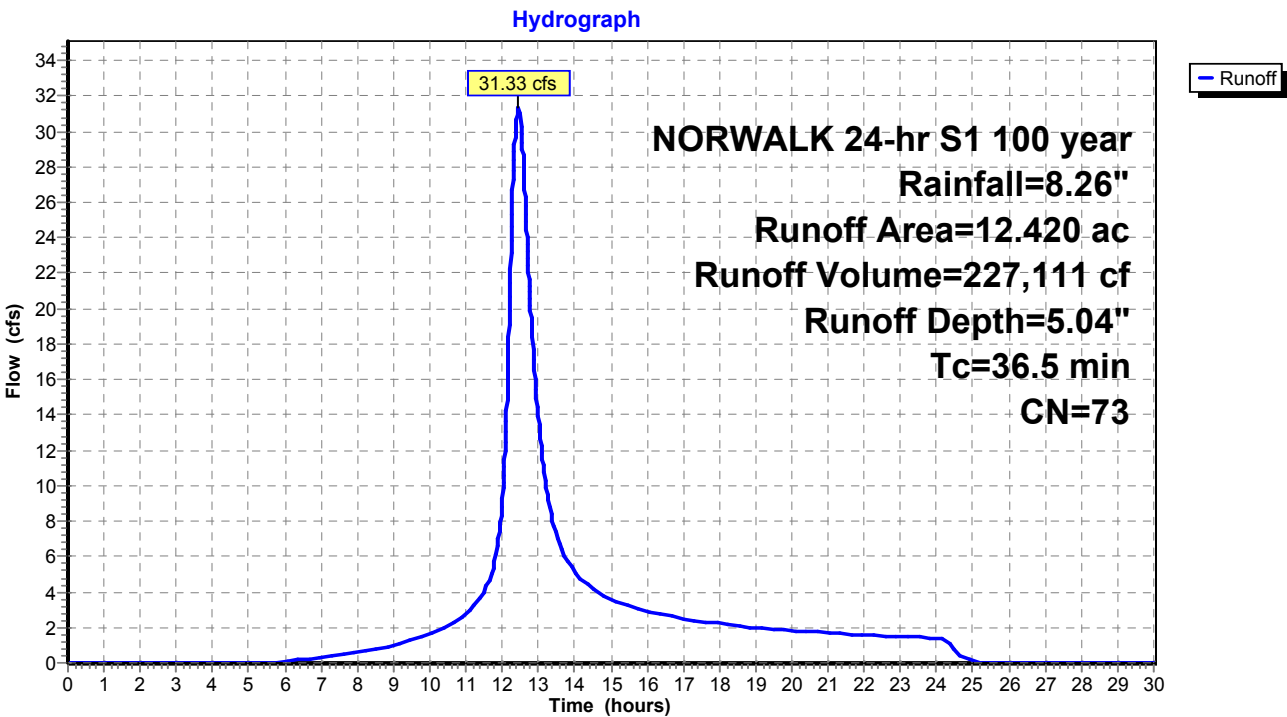
Runoff = 31.33 cfs @ 12.45 hrs, Volume= 227,111 cf, Depth= 5.04"
Routed to Pond 5P : DET 5 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
4.770	61	>75% Grass cover, Good, HSG B
5.210	74	>75% Grass cover, Good, HSG C
0.390	80	>75% Grass cover, Good, HSG D
2.050	98	Paved parking & roofs
12.420	73	Weighted Average
10.370		83.49% Pervious Area
2.050		16.51% Impervious Area

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

Subcatchment 5S: Area 5



Summary for Subcatchment 6S: Area 6

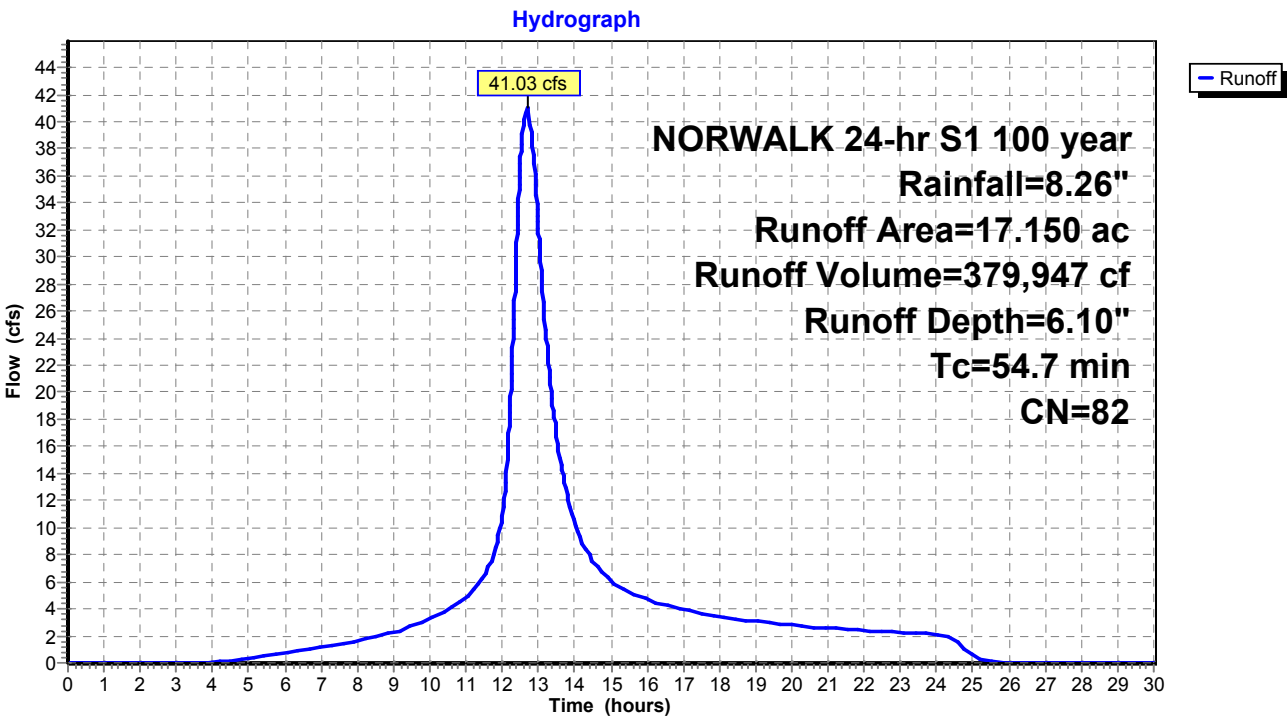
Runoff = 41.03 cfs @ 12.70 hrs, Volume= 379,947 cf, Depth= 6.10"
Routed to Pond 6P : DET 6 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
9.290	71	Meadow, non-grazed, HSG C
5.410	98	Paved parking & roofs
1.480	77	Woods, Good, HSG D
0.970	98	Paved parking & roofs
17.150	82	Weighted Average
10.770		62.80% Pervious Area
6.380		37.20% Impervious Area

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

Subcatchment 6S: Area 6



Summary for Subcatchment 7S: Area 7

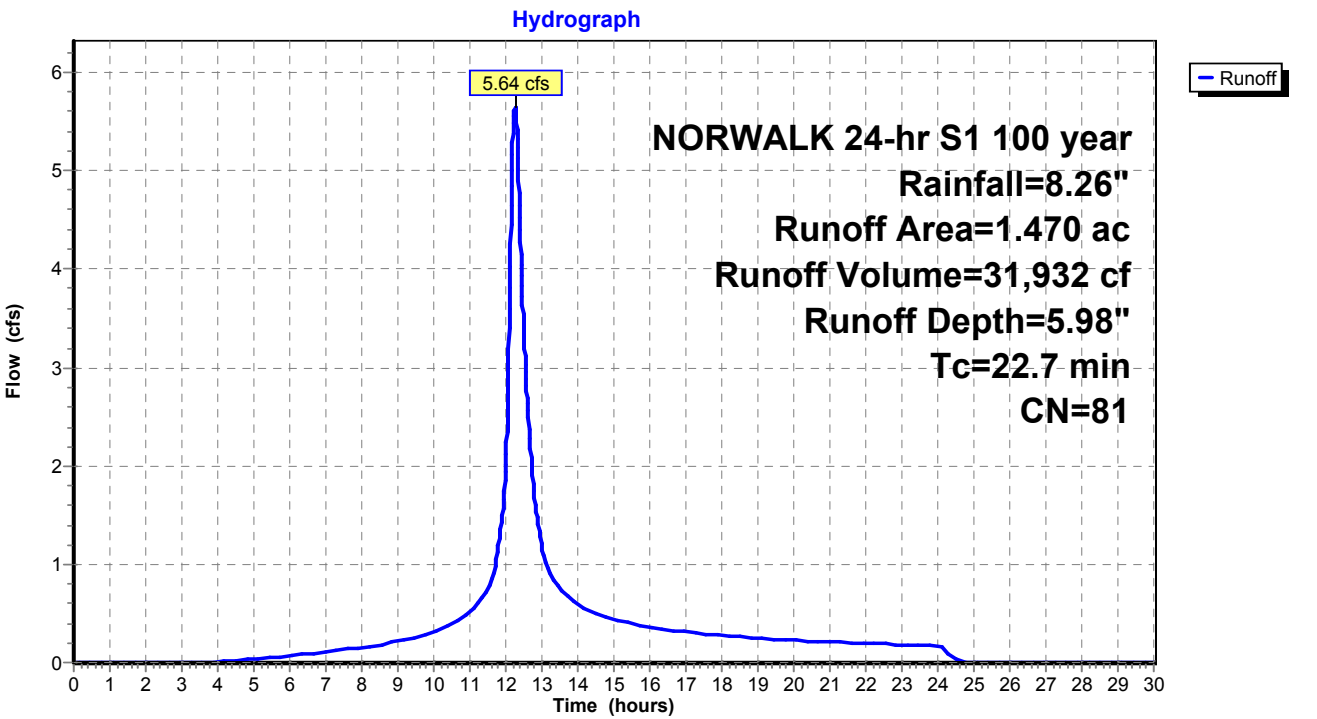
Runoff = 5.64 cfs @ 12.25 hrs, Volume= 31,932 cf, Depth= 5.98"
Routed to Pond 7P : DET 7 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.890	79	50-75% Grass cover, Fair, HSG C
0.580	84	50-75% Grass cover, Fair, HSG D
1.470	81	Weighted Average
1.470		100.00% Pervious Area

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

Subcatchment 7S: Area 7



Summary for Subcatchment 8S: Area 8

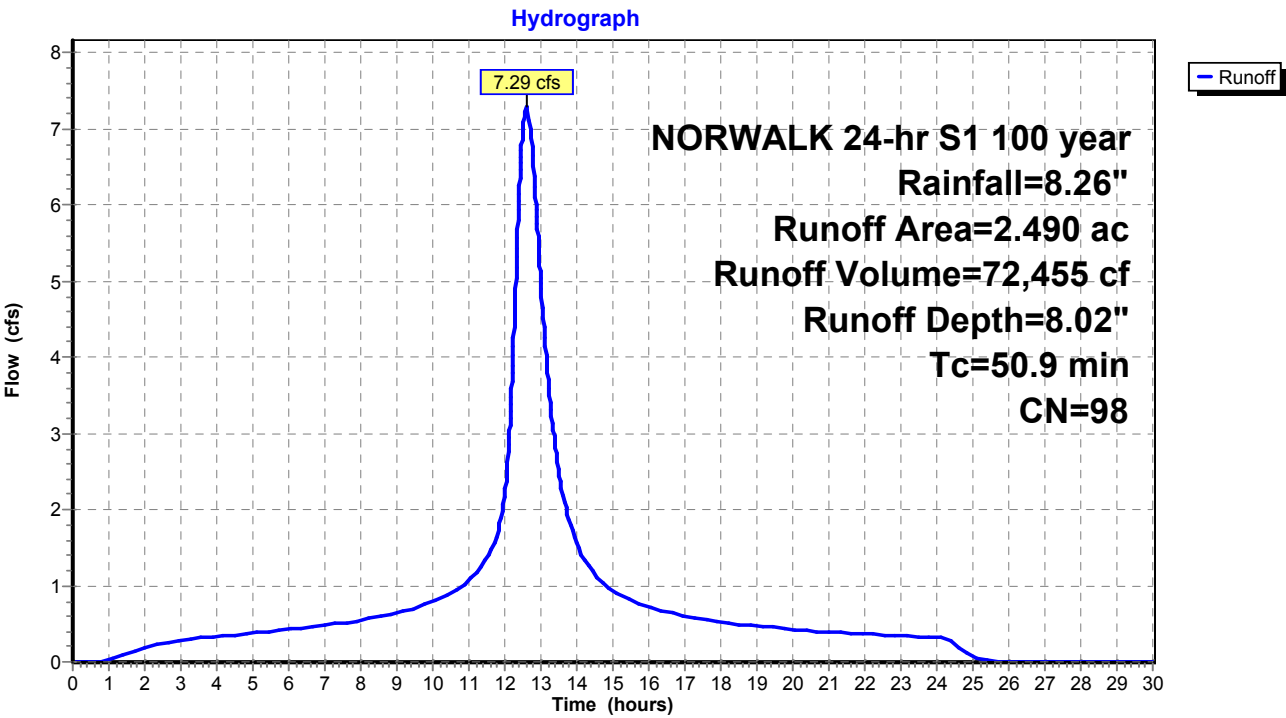
Runoff = 7.29 cfs @ 12.61 hrs, Volume= 72,455 cf, Depth= 8.02"
Routed to Pond 8P : Comb. 5,6,7,8,9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
2.490	98	Paved parking & roofs
2.490		100.00% Impervious Area

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

Subcatchment 8S: Area 8



Summary for Subcatchment 9S: Area 9

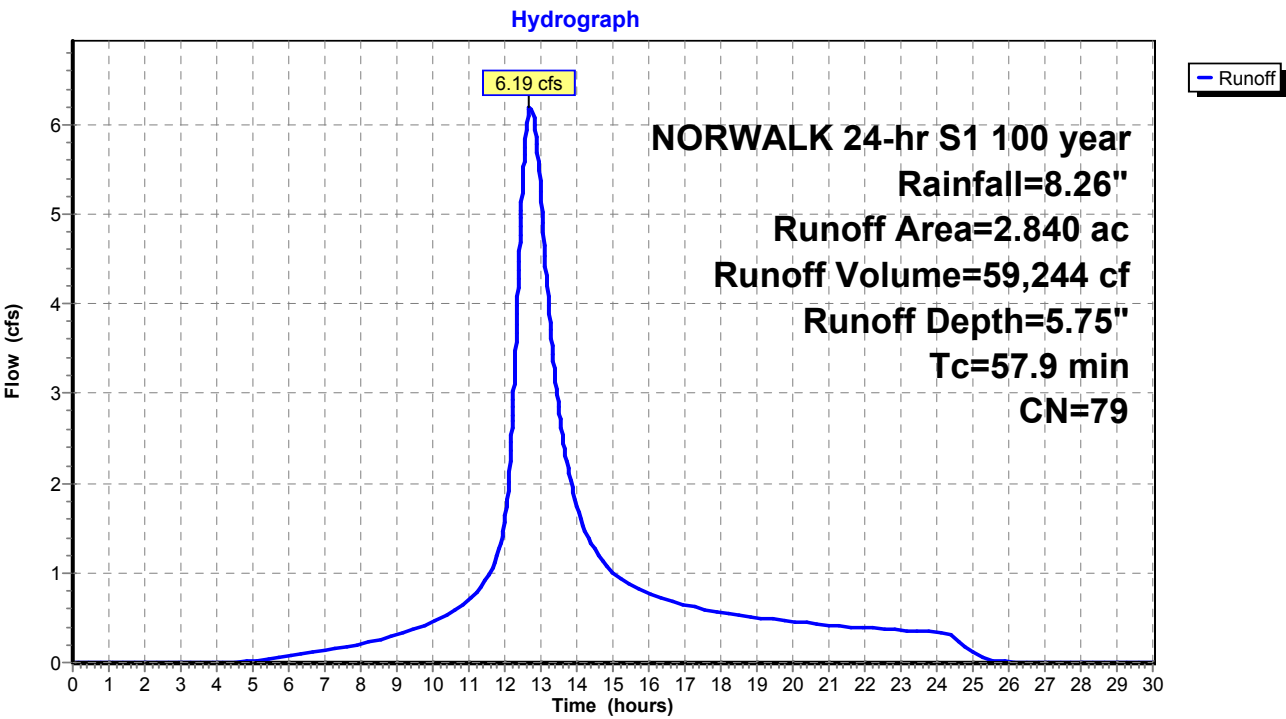
Runoff = 6.19 cfs @ 12.68 hrs, Volume= 59,244 cf, Depth= 5.75"
Routed to Pond 8P : Comb. 5,6,7,8,9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.530	74	>75% Grass cover, Good, HSG C
2.310	80	>75% Grass cover, Good, HSG D
2.840	79	Weighted Average
2.840		100.00% Pervious Area

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

Subcatchment 9S: Area 9



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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 10AS: Area 10A

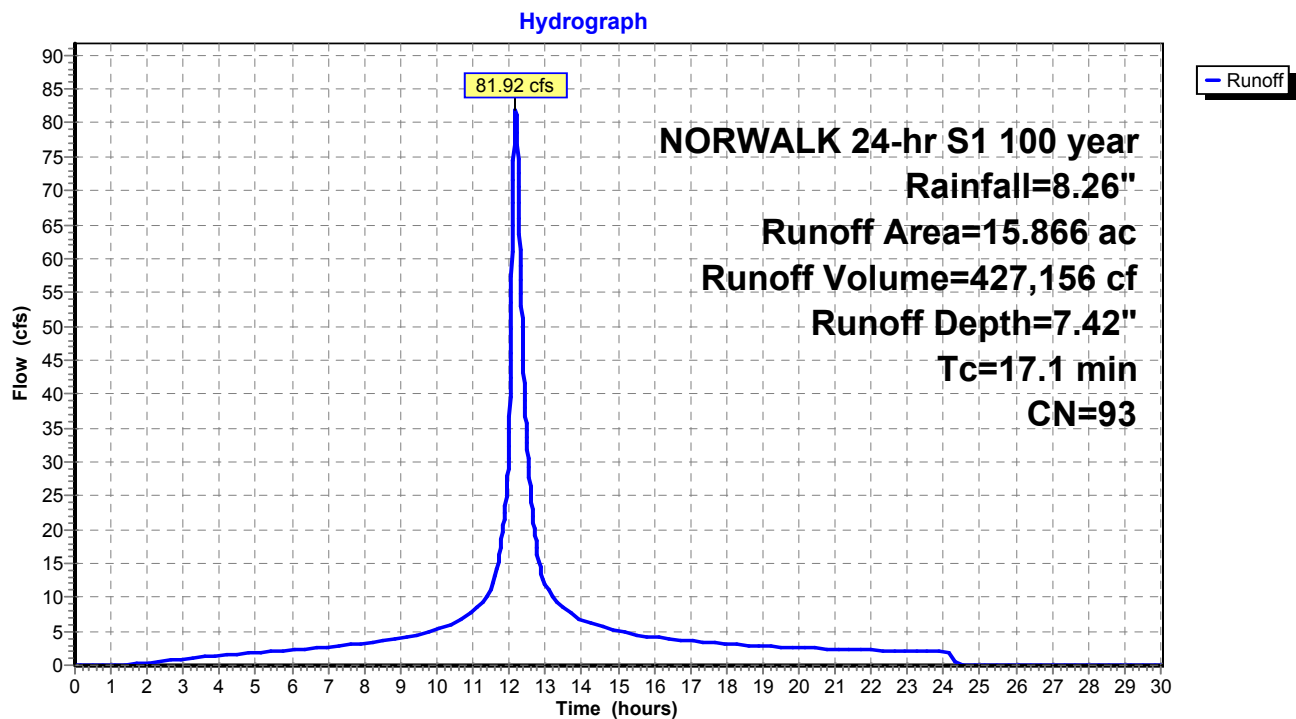
Runoff = 81.92 cfs @ 12.18 hrs, Volume= 427,156 cf, Depth= 7.42"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
3.905	79	50-75% Grass cover, Fair, HSG C
11.961	98	Paved roads w/curbs & sewers, HSG C
15.866	93	Weighted Average
3.905		24.61% Pervious Area
11.961		75.39% Impervious Area

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

Subcatchment 10AS: Area 10A



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Summary for Subcatchment 10BS: Area 10B

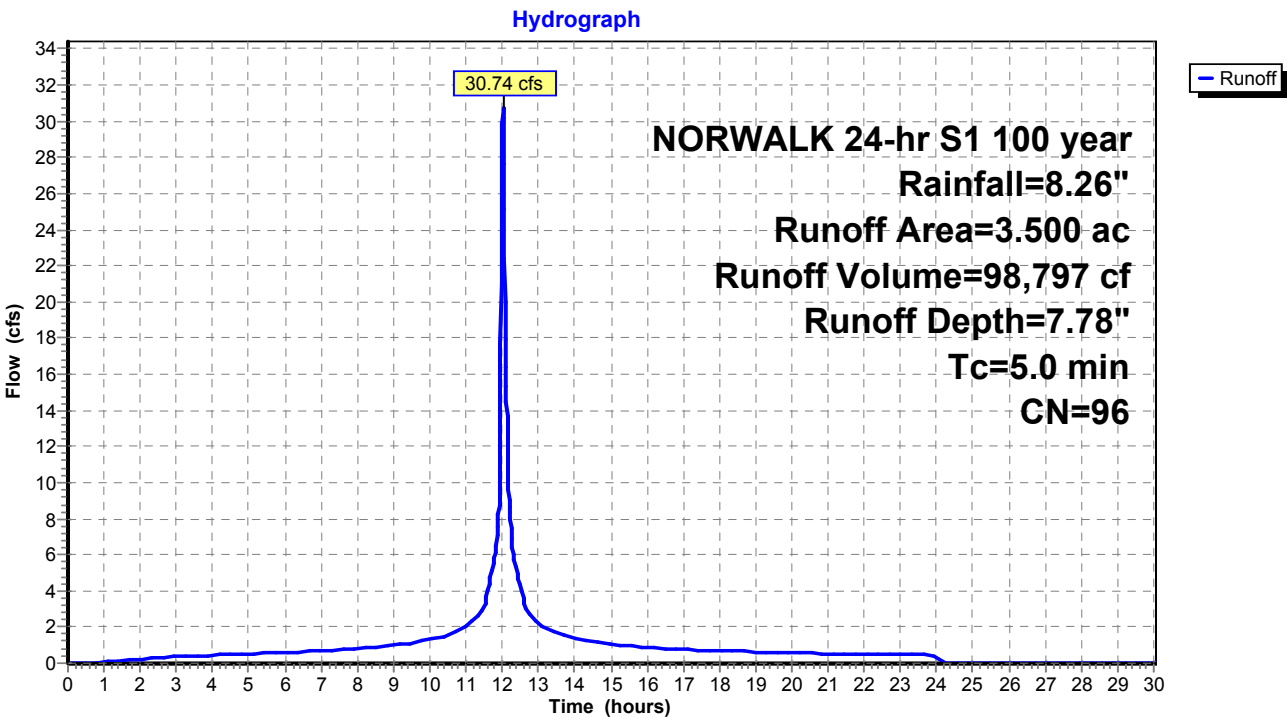
Runoff = 30.74 cfs @ 12.03 hrs, Volume= 98,797 cf, Depth= 7.78"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
3.308	98	Paved parking & roofs
0.192	61	>75% Grass cover, Good, HSG B
3.500	96	Weighted Average
0.192		5.49% Pervious Area
3.308		94.51% Impervious Area

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

Subcatchment 10BS: Area 10B



Summary for Subcatchment 10CS: Area 10C

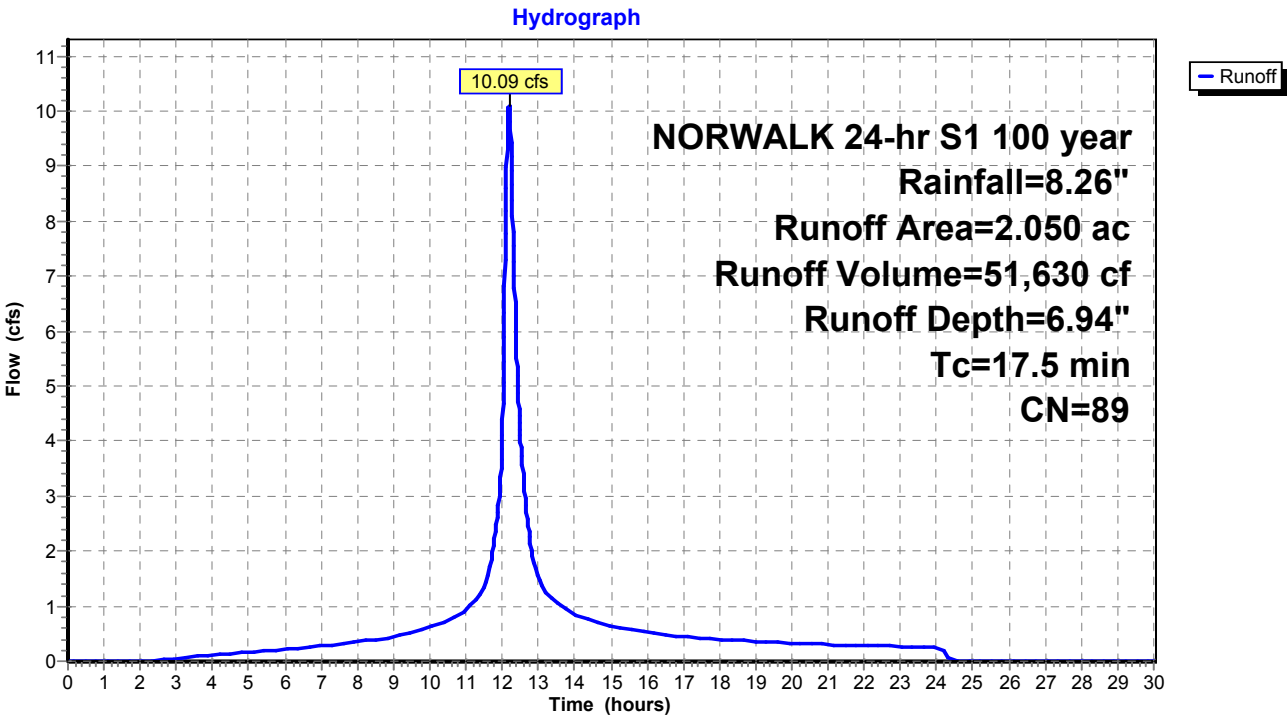
Runoff = 10.09 cfs @ 12.19 hrs, Volume= 51,630 cf, Depth= 6.94"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
1.526	98	Paved parking & roofs
0.524	61	>75% Grass cover, Good, HSG B
2.050	89	Weighted Average
0.524		25.56% Pervious Area
1.526		74.44% Impervious Area

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

Subcatchment 10CS: Area 10C



Summary for Subcatchment 10DS: Area 10D

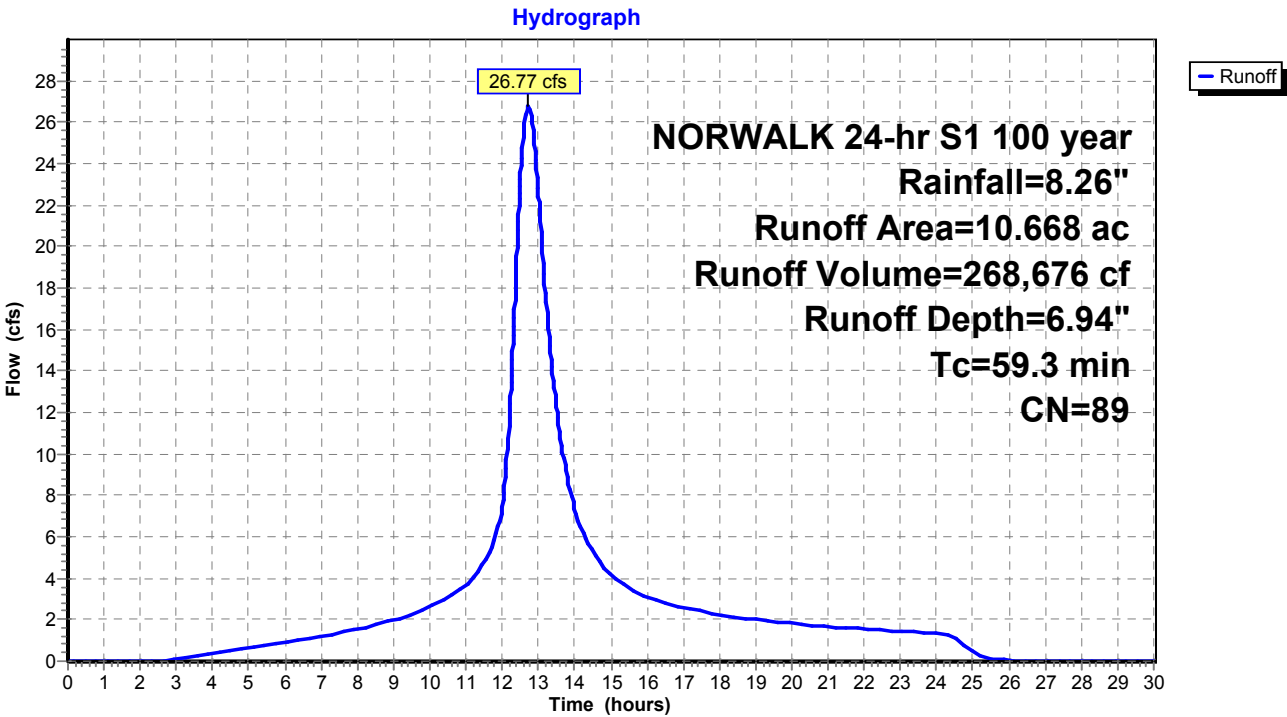
Runoff = 26.77 cfs @ 12.72 hrs, Volume= 268,676 cf, Depth= 6.94"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
5.033	79	50-75% Grass cover, Fair, HSG C
5.635	98	Paved parking, HSG C
10.668	89	Weighted Average
5.033		47.18% Pervious Area
5.635		52.82% Impervious Area

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

Subcatchment 10DS: Area 10D



Summary for Subcatchment 10ES: Area 10E

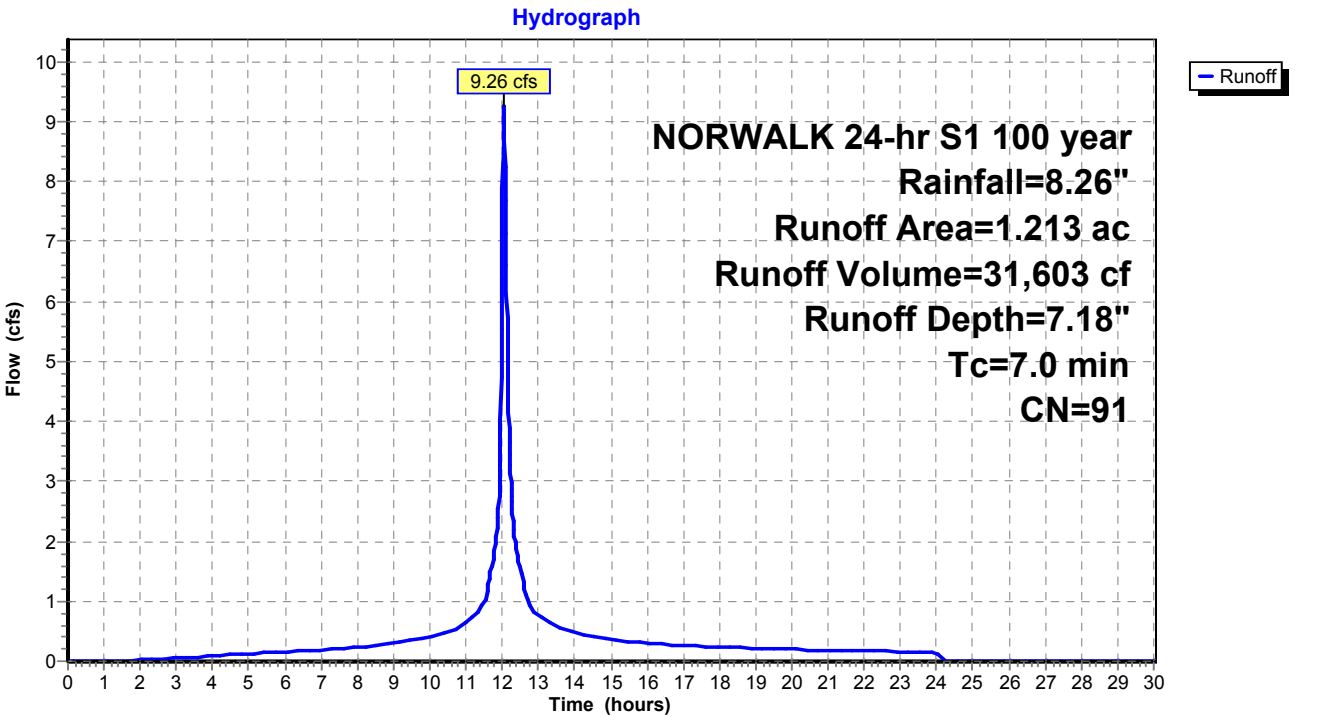
Runoff = 9.26 cfs @ 12.05 hrs, Volume= 31,603 cf, Depth= 7.18"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.781	98	Paved parking, HSG C
0.432	79	50-75% Grass cover, Fair, HSG C
1.213	91	Weighted Average
0.432		35.61% Pervious Area
0.781		64.39% Impervious Area

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

Subcatchment 10ES: Area 10E



Summary for Subcatchment 10FS: Area 10F

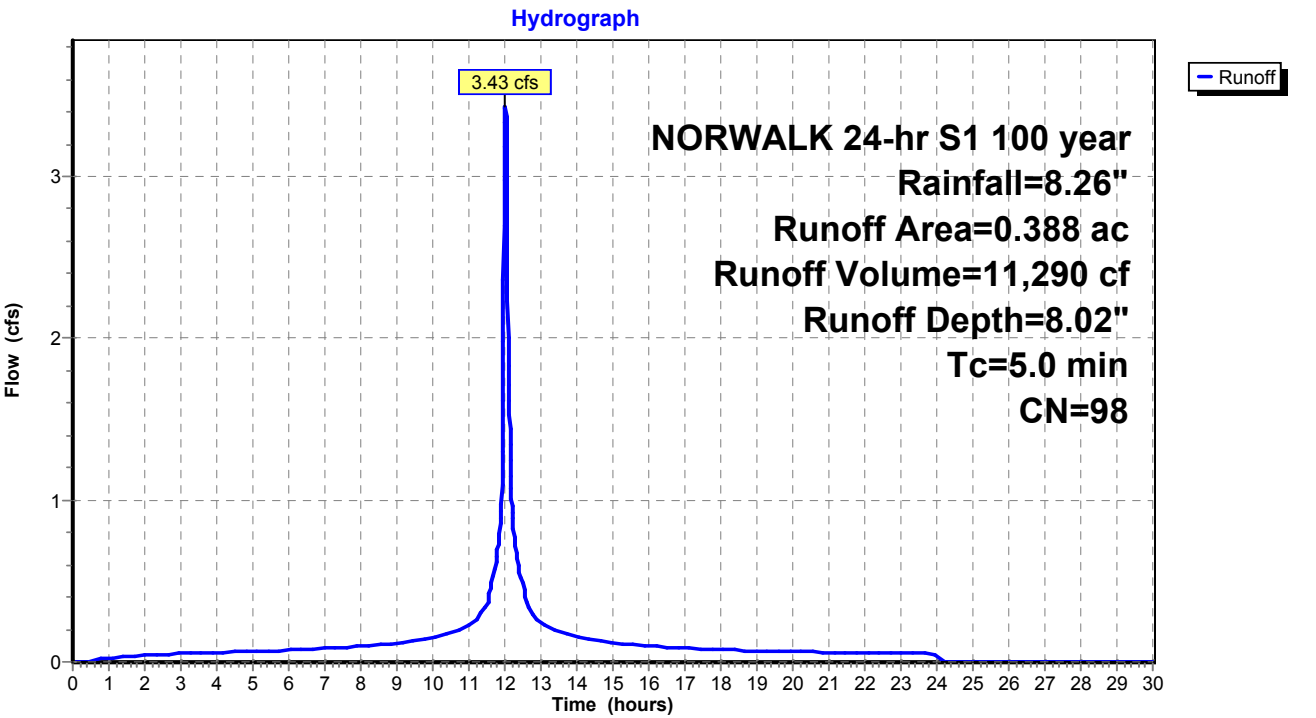
Runoff = 3.43 cfs @ 12.03 hrs, Volume= 11,290 cf, Depth= 8.02"
Routed to Pond P : ADS Stormtech

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.388	98	Paved roads w/curbs & sewers, HSG C
0.388		100.00% Impervious Area

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

Subcatchment 10FS: Area 10F



Summary for Subcatchment 10GS: Area 10G

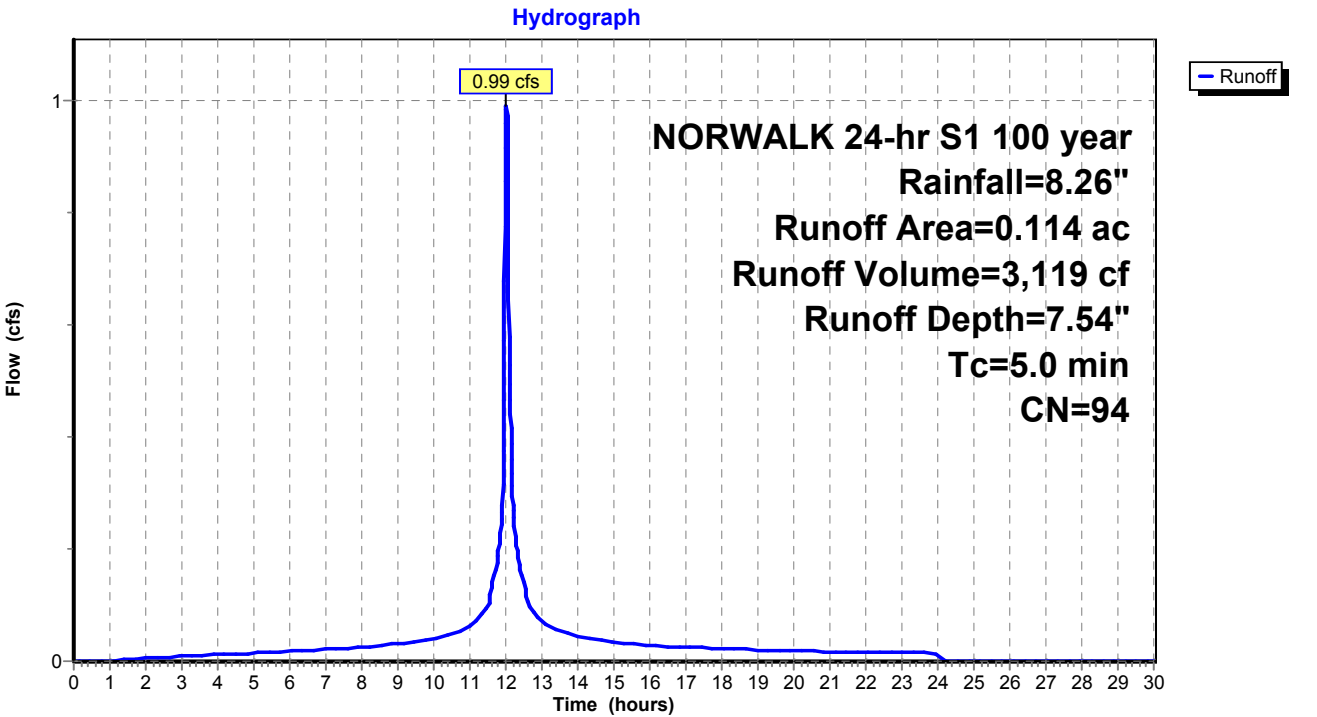
Runoff = 0.99 cfs @ 12.03 hrs, Volume= 3,119 cf, Depth= 7.54"
Routed to Pond 20P : ADS Stormtech (160LP)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
* 0.092	98	Paved parking, HSG C
* 0.022	79	50-75% Grass cover, Fair, HSG C
0.114	94	Weighted Average
0.022		19.30% Pervious Area
0.092		80.70% Impervious Area

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

Subcatchment 10GS: Area 10G



Proposed Conditions

Prepared by Tighe & Bond

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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 11S: Area 11

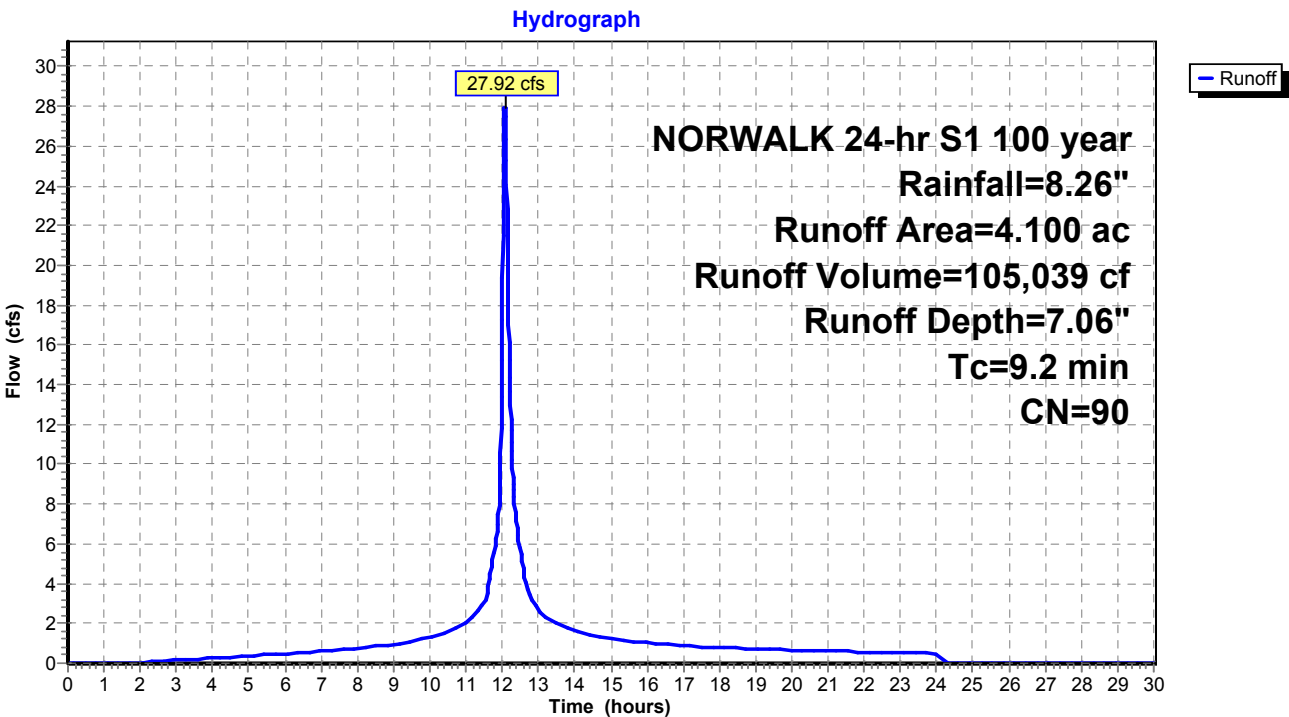
Runoff = 27.92 cfs @ 12.07 hrs, Volume= 105,039 cf, Depth= 7.06"
Routed to Pond 17P : DET 12 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
1.450	74	>75% Grass cover, Good, HSG C
2.650	98	Paved parking & roofs
4.100	90	Weighted Average
1.450		35.37% Pervious Area
2.650		64.63% Impervious Area

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

Subcatchment 11S: Area 11



Summary for Subcatchment 12S: Area 12

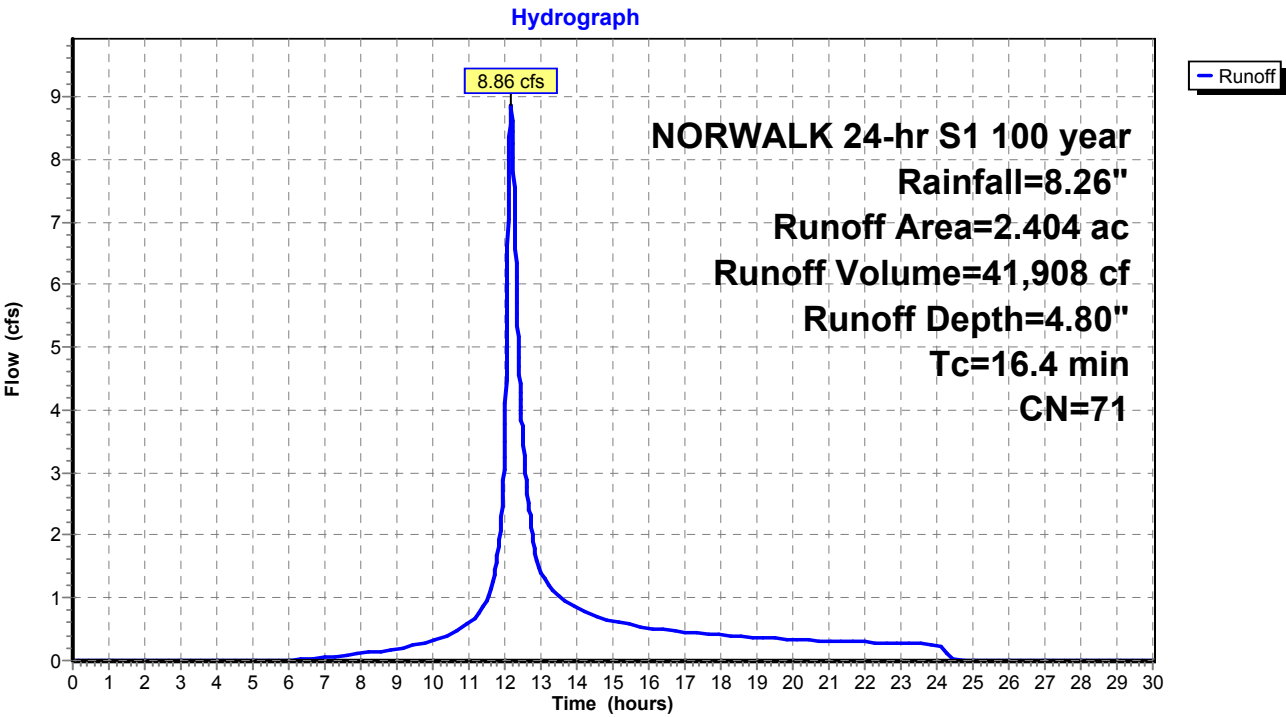
Runoff = 8.86 cfs @ 12.17 hrs, Volume= 41,908 cf, Depth= 4.80"
Routed to Pond 17P : DET 12 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
2.054	70	Woods, Good, HSG C
0.350	77	Woods, Good, HSG D
2.404	71	Weighted Average
2.404		100.00% Pervious Area

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

Subcatchment 12S: Area 12



Summary for Subcatchment 13S: Area 13

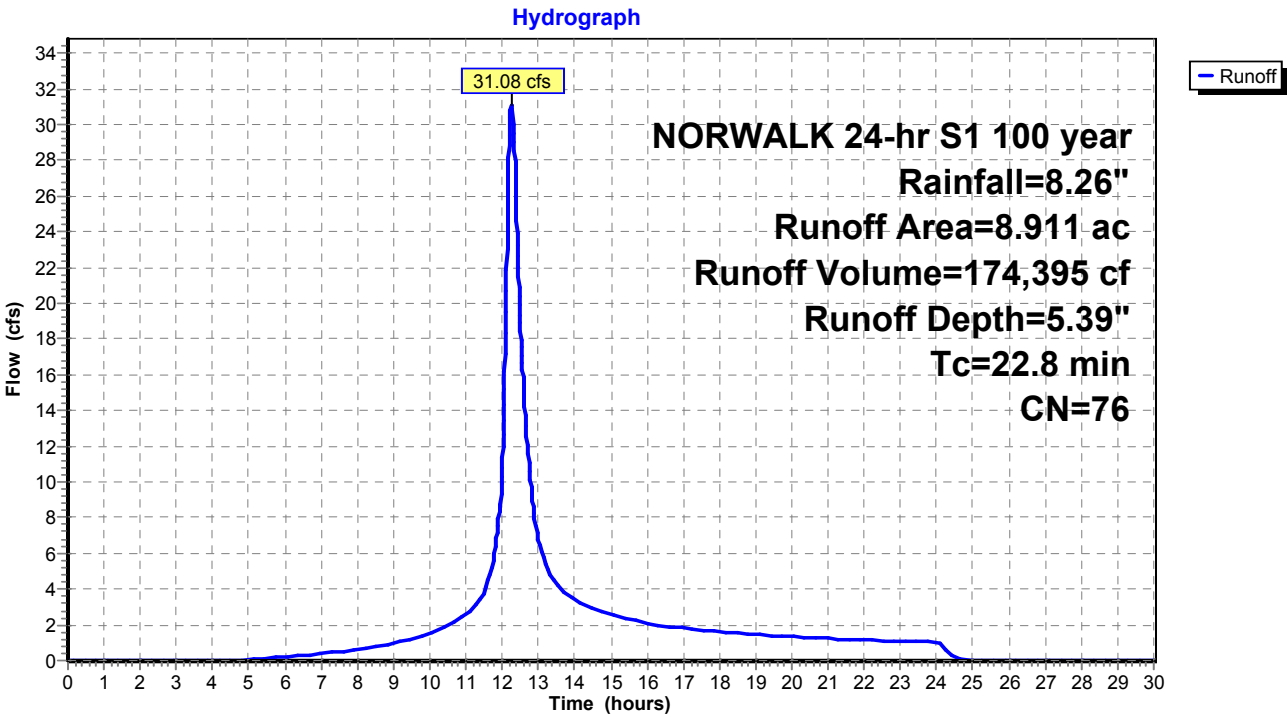
Runoff = 31.08 cfs @ 12.26 hrs, Volume= 174,395 cf, Depth= 5.39"
Routed to Pond 1P : RR Culvert 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
1.220	70	Woods, Good, HSG C
7.691	77	Woods, Good, HSG D
8.911	76	Weighted Average
8.911		100.00% Pervious Area

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

Subcatchment 13S: Area 13



Summary for Subcatchment 14S: Area 14

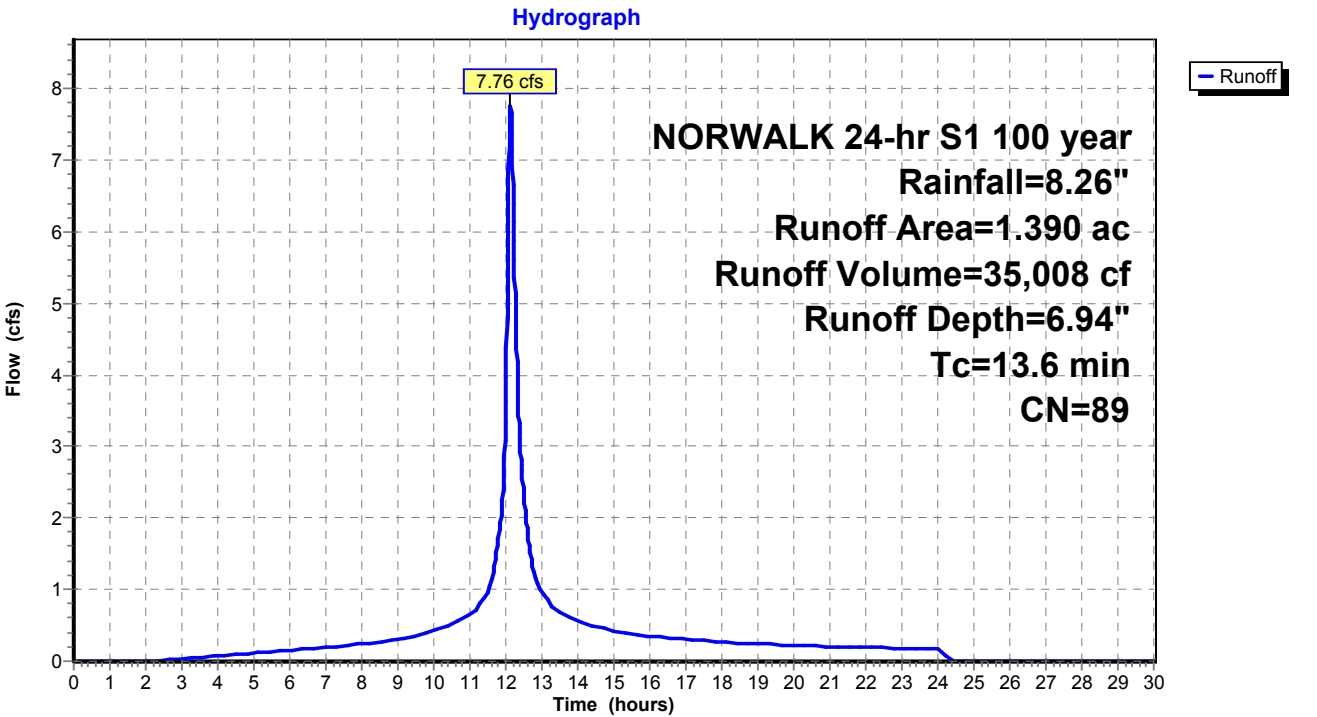
Runoff = 7.76 cfs @ 12.13 hrs, Volume= 35,008 cf, Depth= 6.94"
Routed to Pond 26P : DET 16 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.510	74	>75% Grass cover, Good, HSG C
0.880	98	Paved parking & roofs
1.390	89	Weighted Average
0.510		36.69% Pervious Area
0.880		63.31% Impervious Area

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

Subcatchment 14S: Area 14



Summary for Subcatchment 15S: Area 15

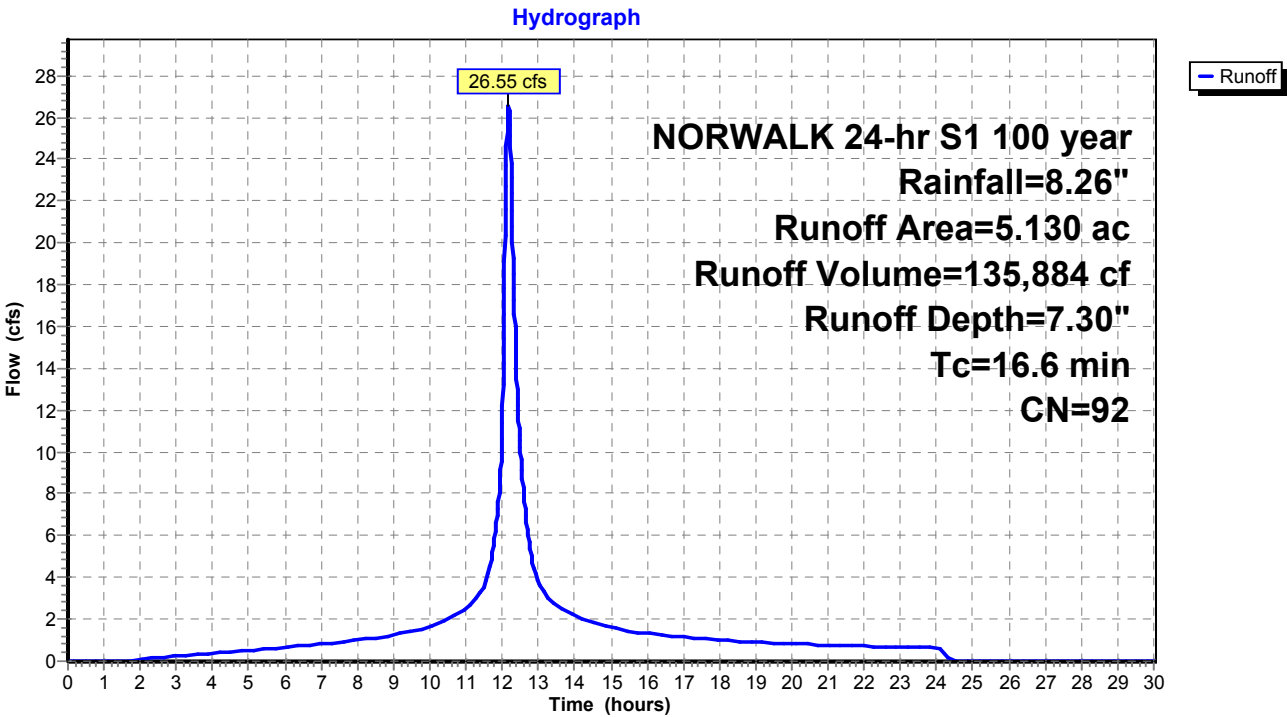
Runoff = 26.55 cfs @ 12.17 hrs, Volume= 135,884 cf, Depth= 7.30"
Routed to Pond 27P : DET 17 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
1.250	74	>75% Grass cover, Good, HSG C
3.880	98	Paved parking & roofs
5.130	92	Weighted Average
1.250		24.37% Pervious Area
3.880		75.63% Impervious Area

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

Subcatchment 15S: Area 15



Summary for Subcatchment 16S: Area 16A

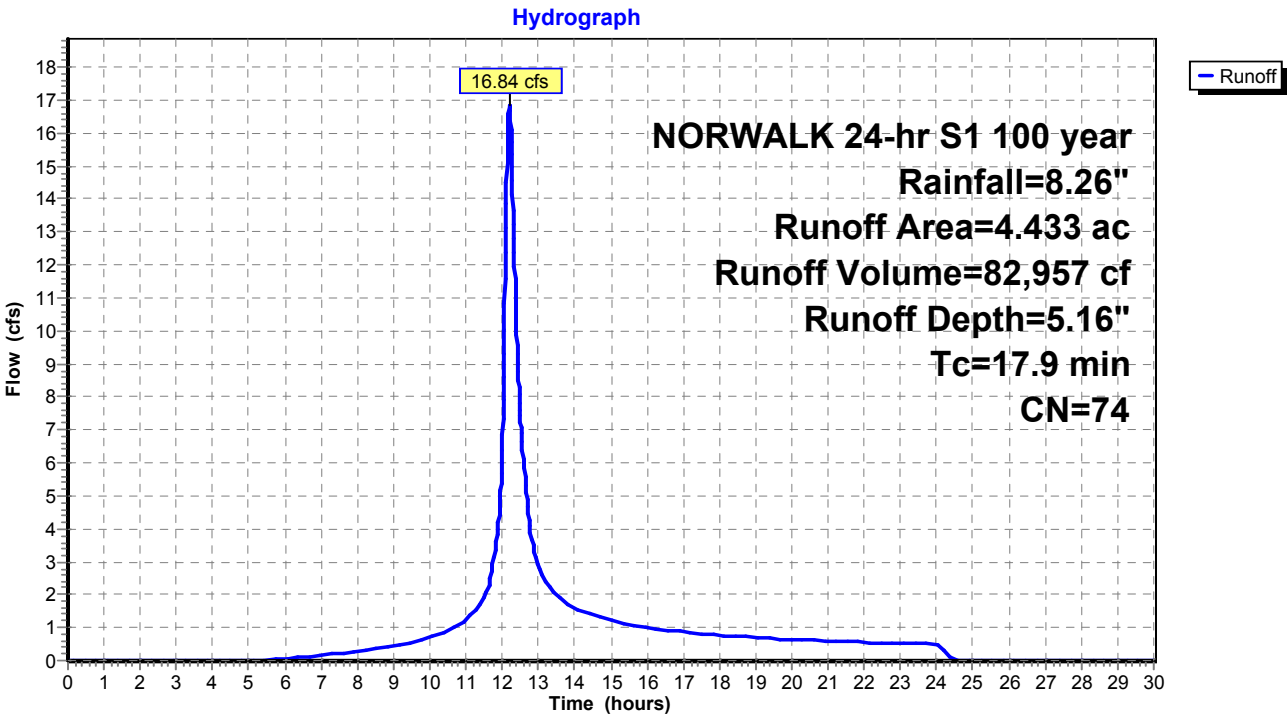
Runoff = 16.84 cfs @ 12.19 hrs, Volume= 82,957 cf, Depth= 5.16"
Routed to Pond 26P : DET 16 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
2.030	70	Woods, Good, HSG C
2.060	77	Woods, Good, HSG D
0.150	89	Gravel roads, HSG C
0.193	74	>75% Grass cover, Good, HSG C
4.433	74	Weighted Average
4.433		100.00% Pervious Area

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

Subcatchment 16S: Area 16A



Summary for Subcatchment 17S: Area 17

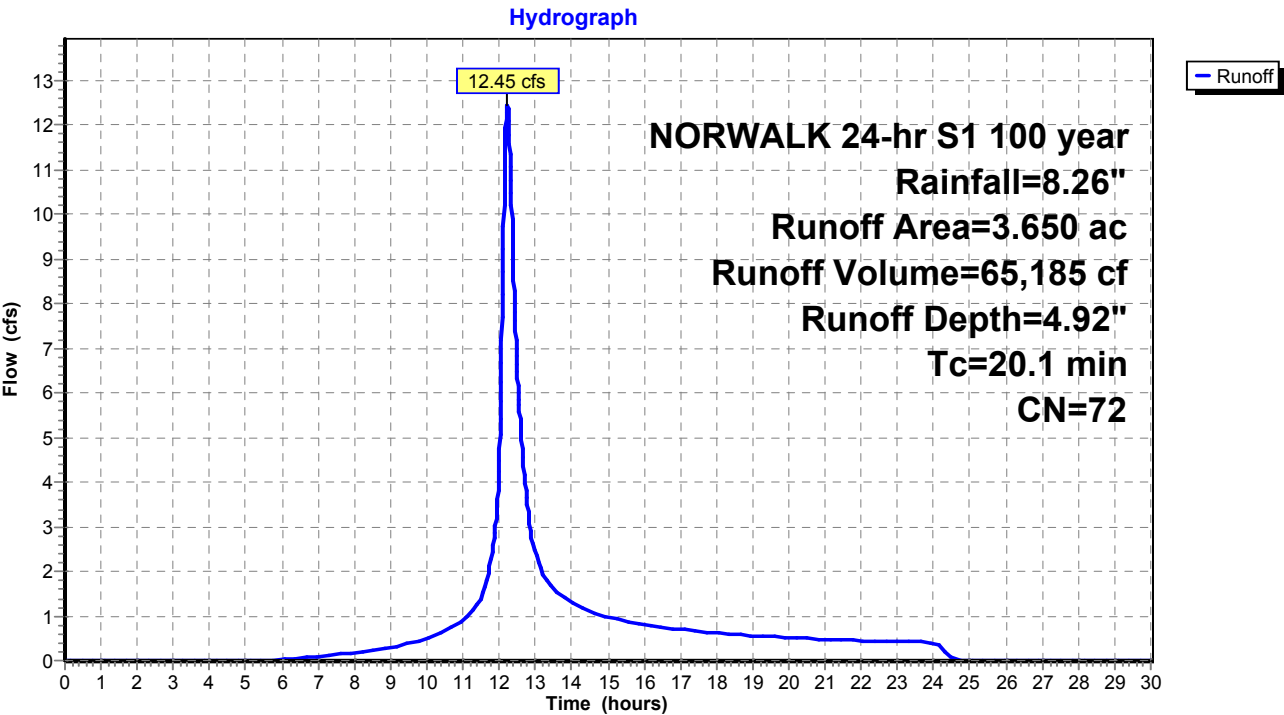
Runoff = 12.45 cfs @ 12.22 hrs, Volume= 65,185 cf, Depth= 4.92"
Routed to Pond 27P : DET 17 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
2.630	70	Woods, Good, HSG C
0.960	77	Woods, Good, HSG D
0.060	98	Paved parking & roofs
3.650	72	Weighted Average
3.590		98.36% Pervious Area
0.060		1.64% Impervious Area

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

Subcatchment 17S: Area 17



Summary for Subcatchment 20S: Area 20

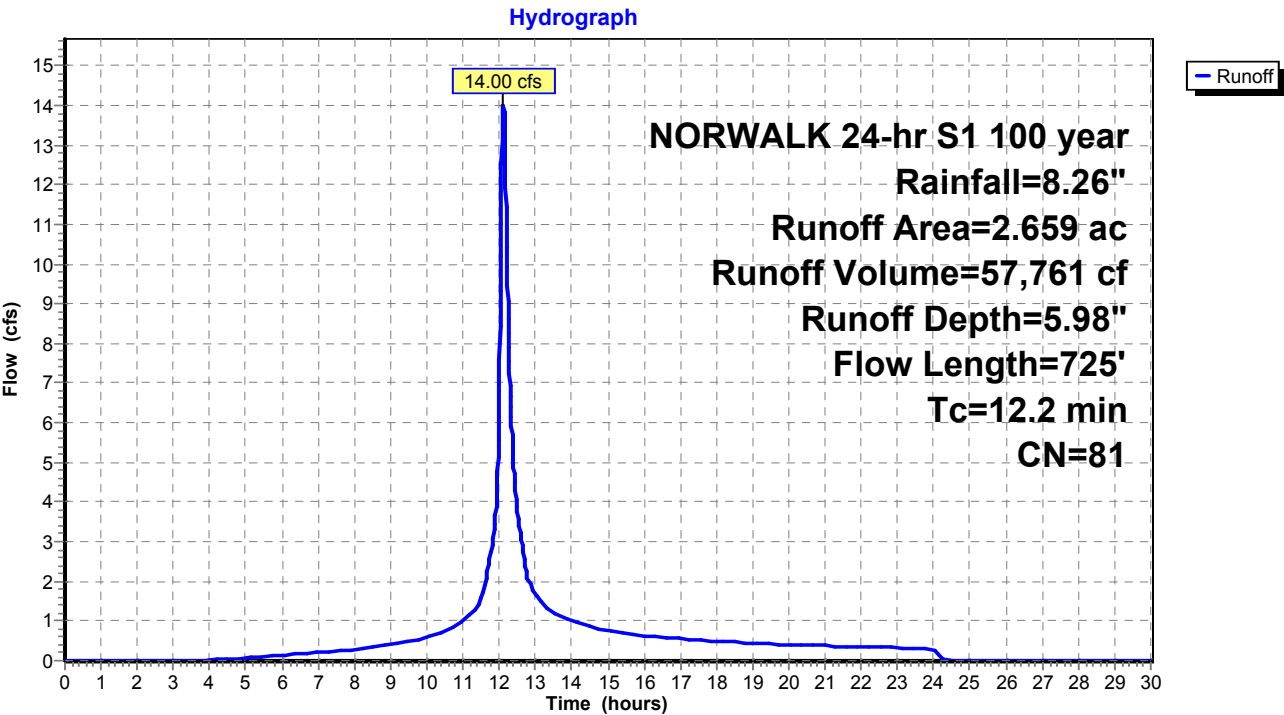
Runoff = 14.00 cfs @ 12.11 hrs, Volume= 57,761 cf, Depth= 5.98"
Routed to Pond 16P : MH-Q

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
1.030	98	Paved parking & roofs
1.629	70	Woods, Good, HSG C
2.659	81	Weighted Average
1.629		61.26% Pervious Area
1.030		38.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	125	0.2400	0.19		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.40"
1.2	600	0.0200	8.41	14.86	Pipe Channel, 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013
12.2	725	Total			

Subcatchment 20S: Area 20



Summary for Subcatchment 21S: Area 21

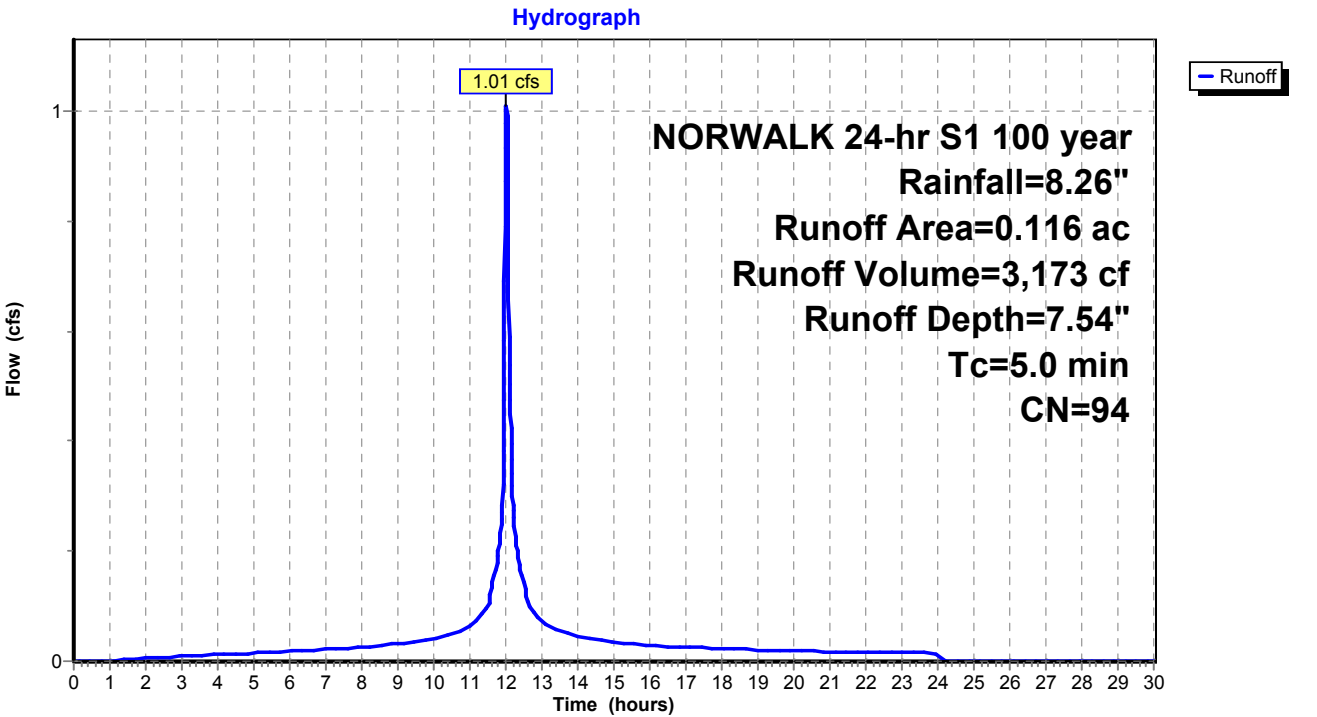
Runoff = 1.01 cfs @ 12.03 hrs, Volume= 3,173 cf, Depth= 7.54"
Routed to Pond 15P : MH-P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.020	74	>75% Grass cover, Good, HSG C
0.096	98	Paved parking & roofs
0.116	94	Weighted Average
0.020		17.24% Pervious Area
0.096		82.76% Impervious Area

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

Subcatchment 21S: Area 21



Summary for Subcatchment 22S: Area 22

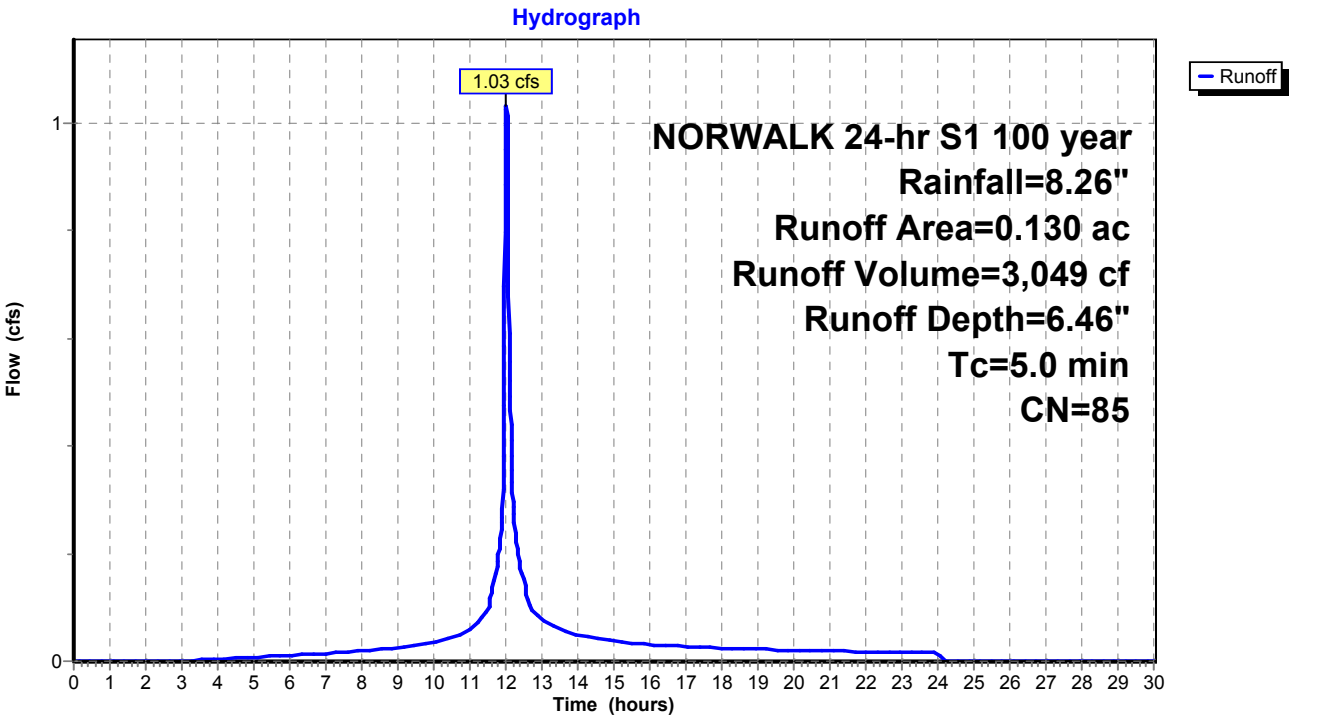
Runoff = 1.03 cfs @ 12.03 hrs, Volume= 3,049 cf, Depth= 6.46"
Routed to Pond 15P : MH-P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.068	74	>75% Grass cover, Good, HSG C
0.062	98	Paved parking & roofs
0.130	85	Weighted Average
0.068		52.31% Pervious Area
0.062		47.69% Impervious Area

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

Subcatchment 22S: Area 22



Summary for Subcatchment 23S: Area 23

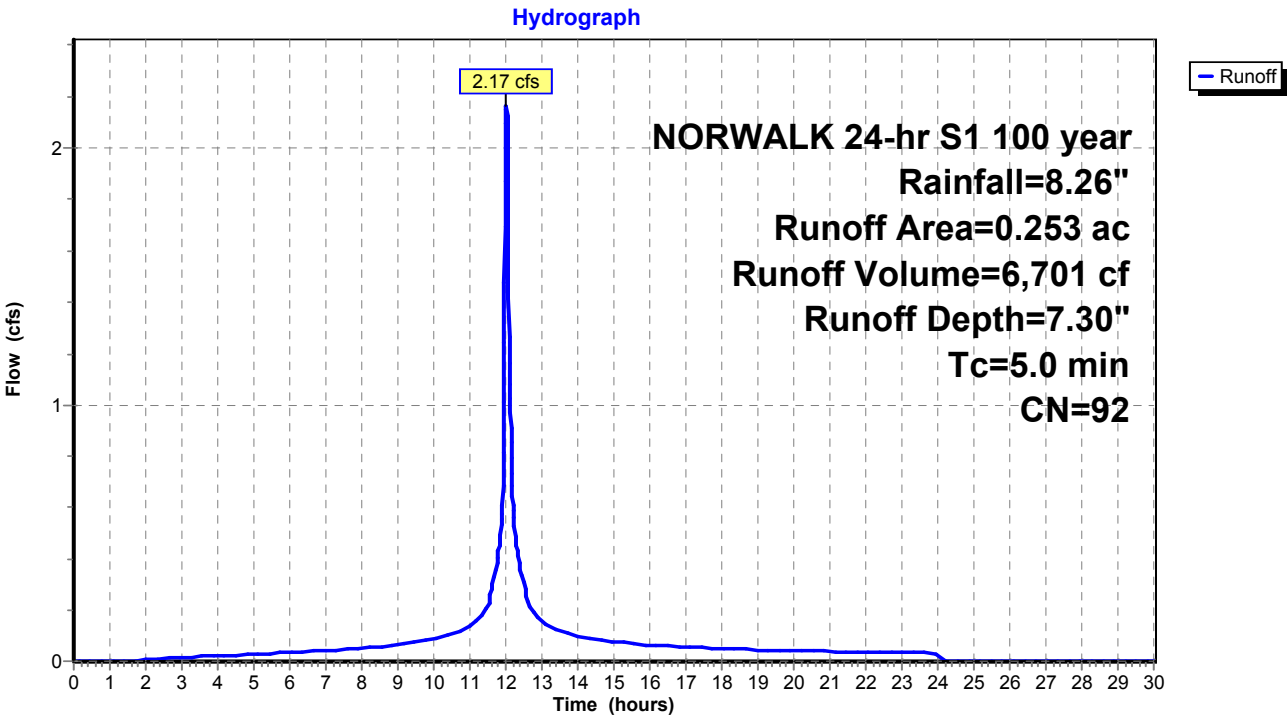
Runoff = 2.17 cfs @ 12.03 hrs, Volume= 6,701 cf, Depth= 7.30"
Routed to Pond 14P : MH-O

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.188	98	Paved parking & roofs
0.065	74	>75% Grass cover, Good, HSG C
0.253	92	Weighted Average
0.065		25.69% Pervious Area
0.188		74.31% Impervious Area

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

Subcatchment 23S: Area 23



Summary for Subcatchment 24S: Area 24

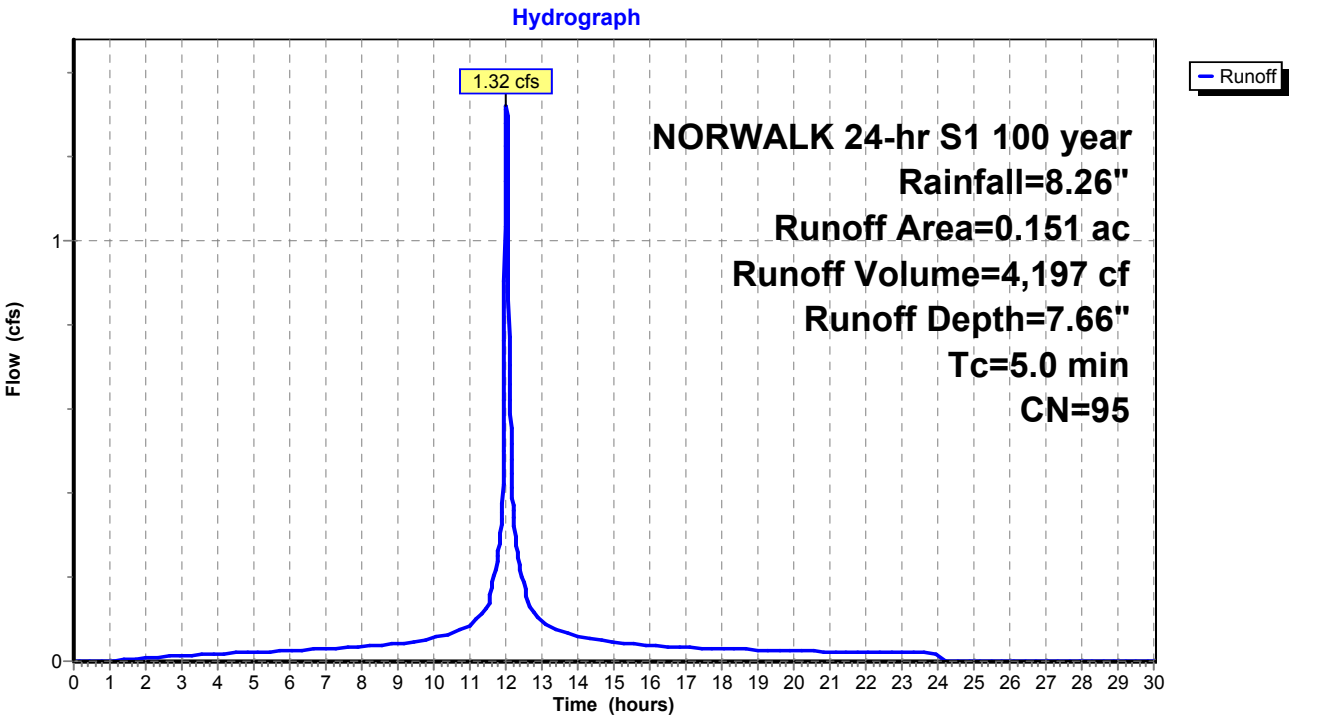
Runoff = 1.32 cfs @ 12.03 hrs, Volume= 4,197 cf, Depth= 7.66"
Routed to Pond 14P : MH-O

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.125	98	Paved parking & roofs
0.026	80	>75% Grass cover, Good, HSG D
0.151	95	Weighted Average
0.026		17.22% Pervious Area
0.125		82.78% Impervious Area

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

Subcatchment 24S: Area 24



Summary for Subcatchment 25S: Area 25

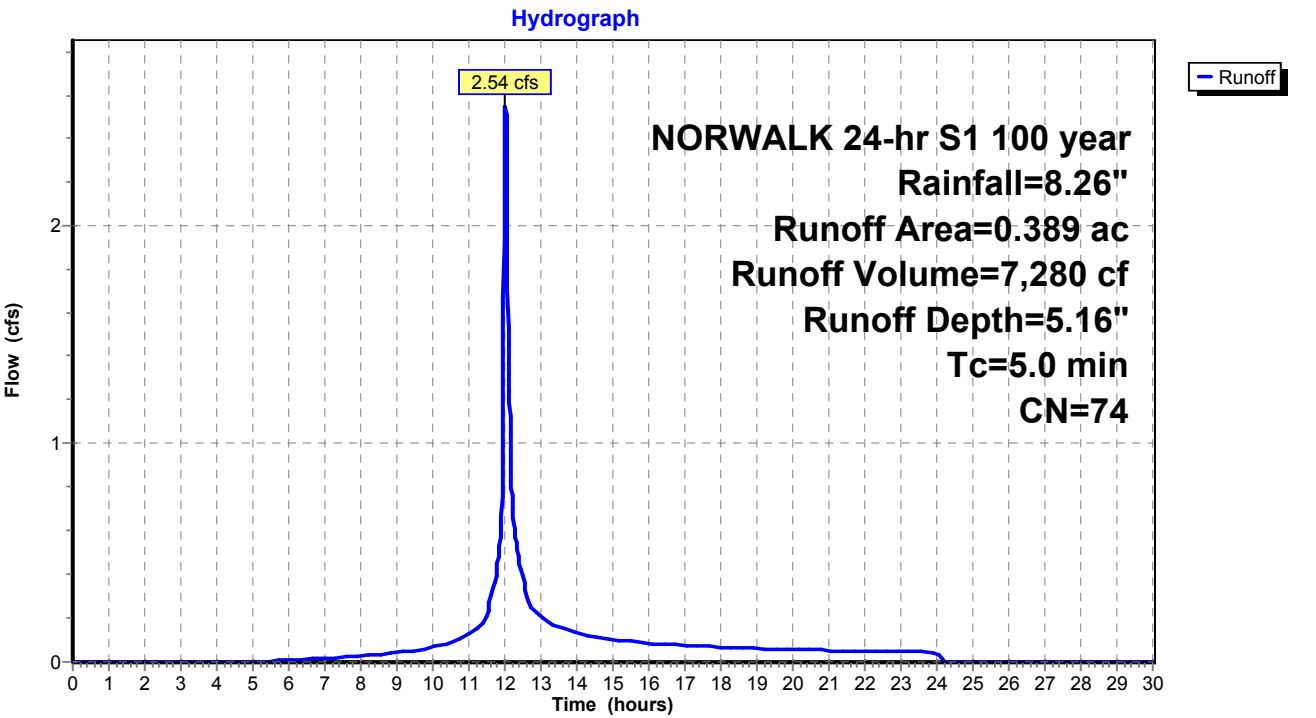
Runoff = 2.54 cfs @ 12.03 hrs, Volume= 7,280 cf, Depth= 5.16"
Routed to Pond 3P : DETENTION BASIN #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.389	74	>75% Grass cover, Good, HSG C
0.389		100.00% Pervious Area

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

Subcatchment 25S: Area 25



Summary for Subcatchment 26S: Area 26

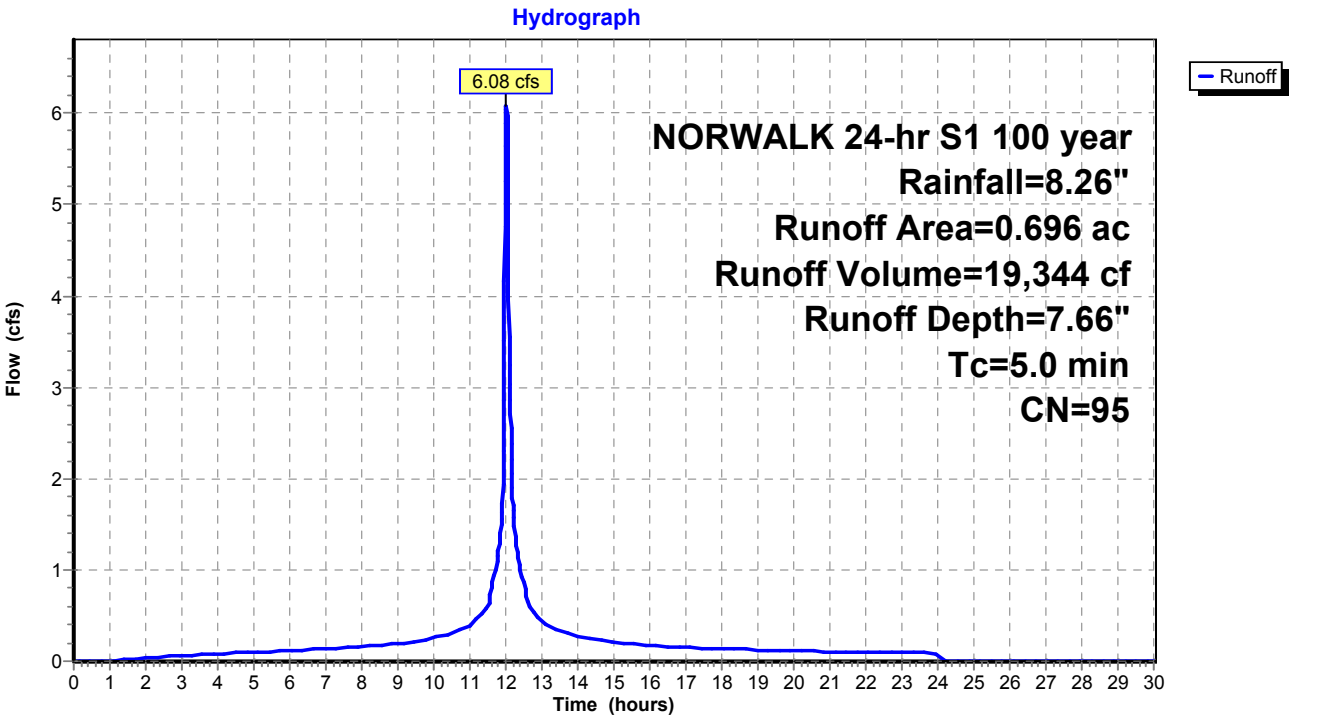
Runoff = 6.08 cfs @ 12.03 hrs, Volume= 19,344 cf, Depth= 7.66"
Routed to Pond 9P : MH-K

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.612	98	Paved parking & roofs
0.084	74	>75% Grass cover, Good, HSG C
0.696	95	Weighted Average
0.084		12.07% Pervious Area
0.612		87.93% Impervious Area

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

Subcatchment 26S: Area 26



Summary for Subcatchment 27S: Area 27

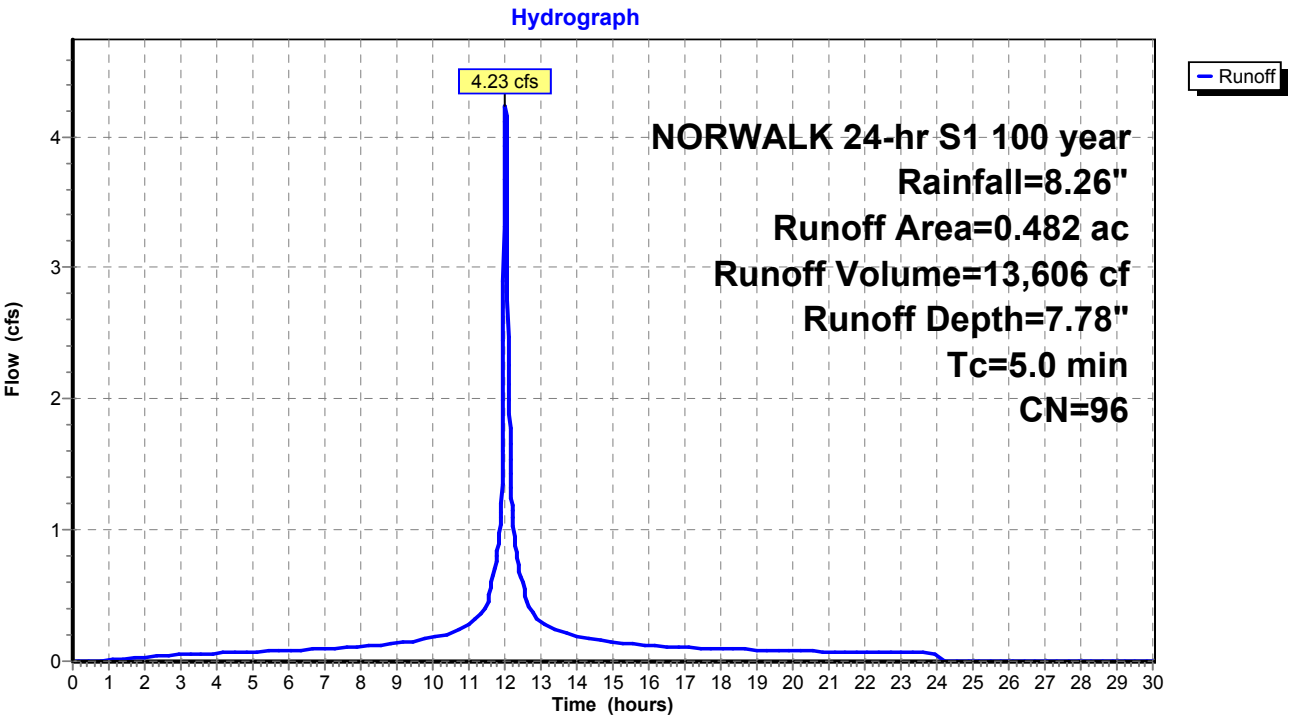
Runoff = 4.23 cfs @ 12.03 hrs, Volume= 13,606 cf, Depth= 7.78"
Routed to Pond 11P : Pipe Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.436	98	Paved parking & roofs
0.046	74	>75% Grass cover, Good, HSG C
0.482	96	Weighted Average
0.046		9.54% Pervious Area
0.436		90.46% Impervious Area

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

Subcatchment 27S: Area 27



Summary for Subcatchment 28S: Area 28

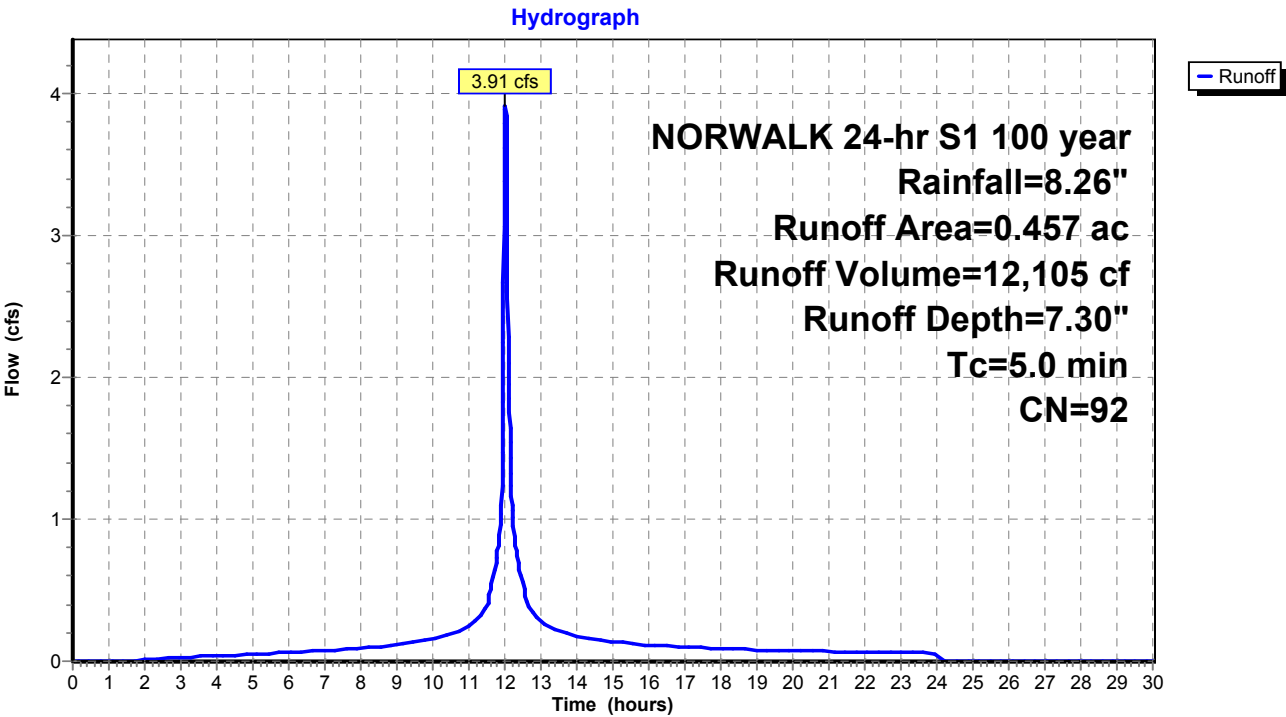
Runoff = 3.91 cfs @ 12.03 hrs, Volume= 12,105 cf, Depth= 7.30"
Routed to Pond 11P : Pipe Storage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.342	98	Paved parking & roofs
0.115	74	>75% Grass cover, Good, HSG C
0.457	92	Weighted Average
0.115		25.16% Pervious Area
0.342		74.84% Impervious Area

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

Subcatchment 28S: Area 28



Summary for Subcatchment 29S: Area 29

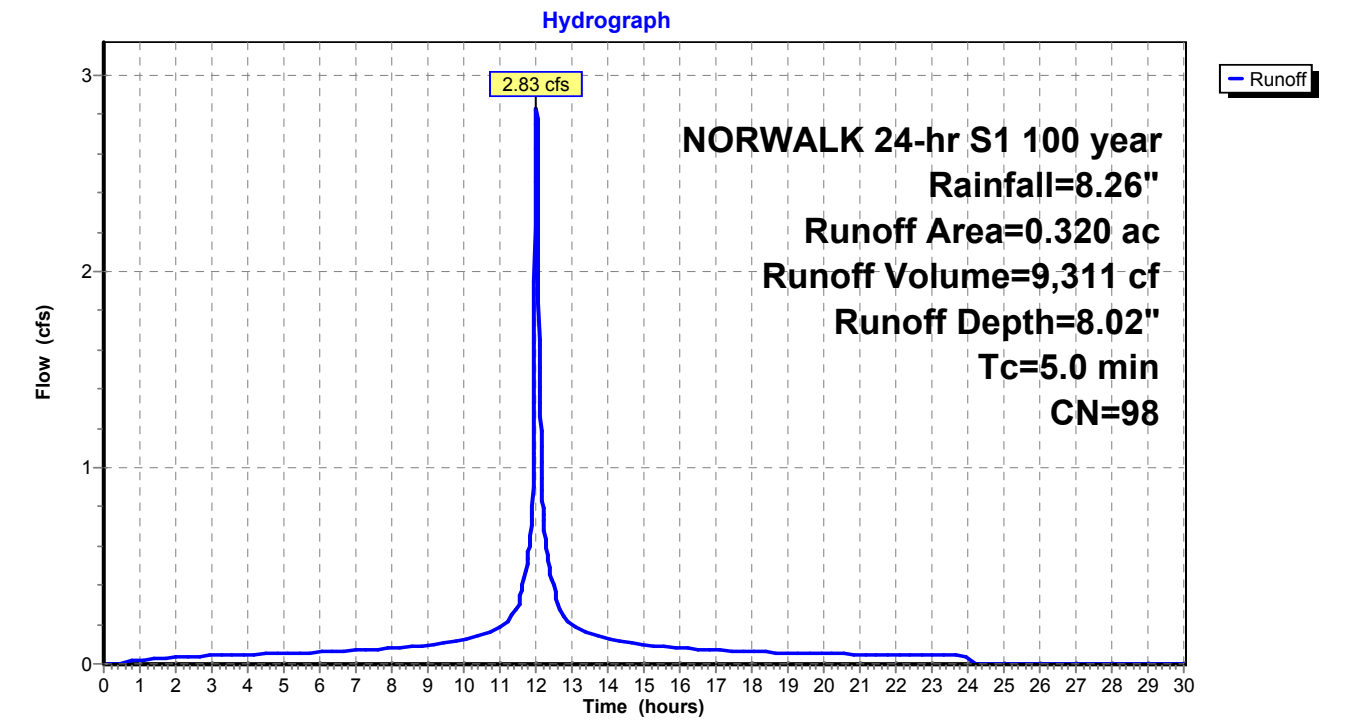
Runoff = 2.83 cfs @ 12.03 hrs, Volume= 9,311 cf, Depth= 8.02"
Routed to Pond 12P : MH-M

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.320	98	Paved parking & roofs
0.320		100.00% Impervious Area

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

Subcatchment 29S: Area 29



Summary for Subcatchment 30S: Area 30

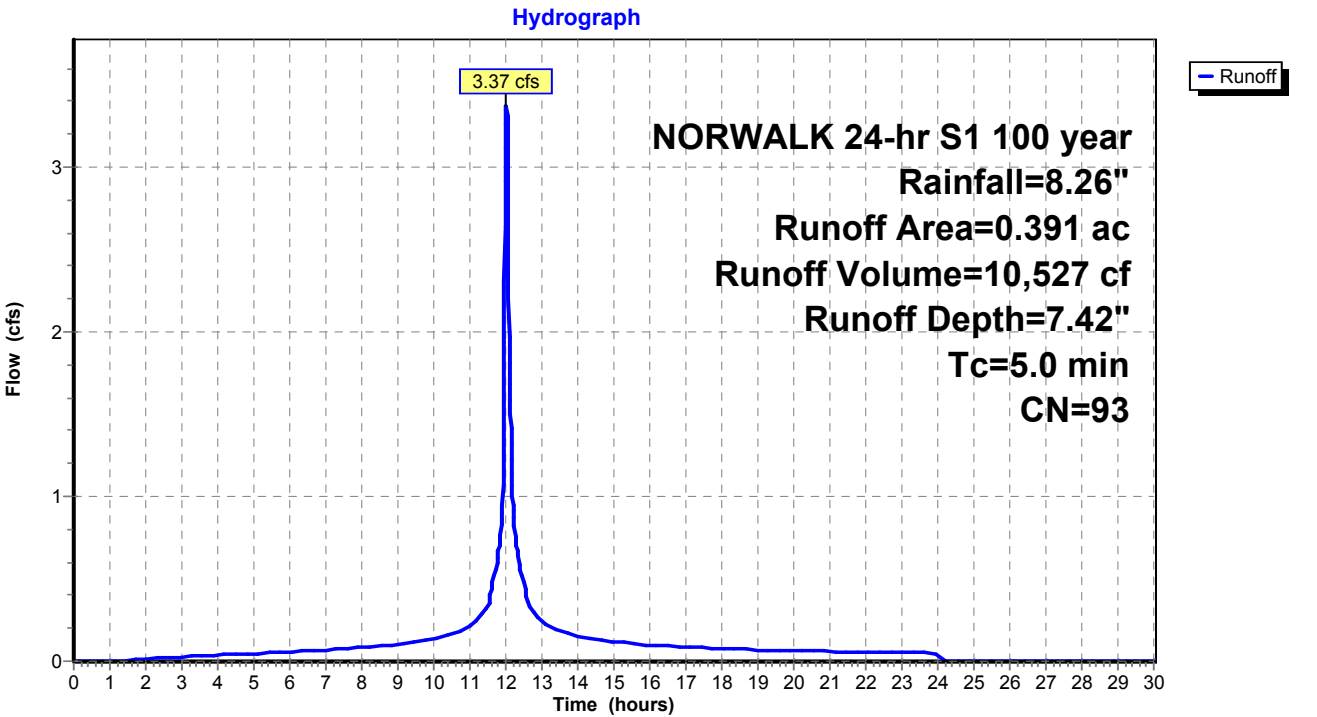
Runoff = 3.37 cfs @ 12.03 hrs, Volume= 10,527 cf, Depth= 7.42"
Routed to Pond 13P : MH-J

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.309	98	Paved parking & roofs
0.082	74	>75% Grass cover, Good, HSG C
0.391	93	Weighted Average
0.082		20.97% Pervious Area
0.309		79.03% Impervious Area

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

Subcatchment 30S: Area 30



Summary for Subcatchment 52S: Area 1

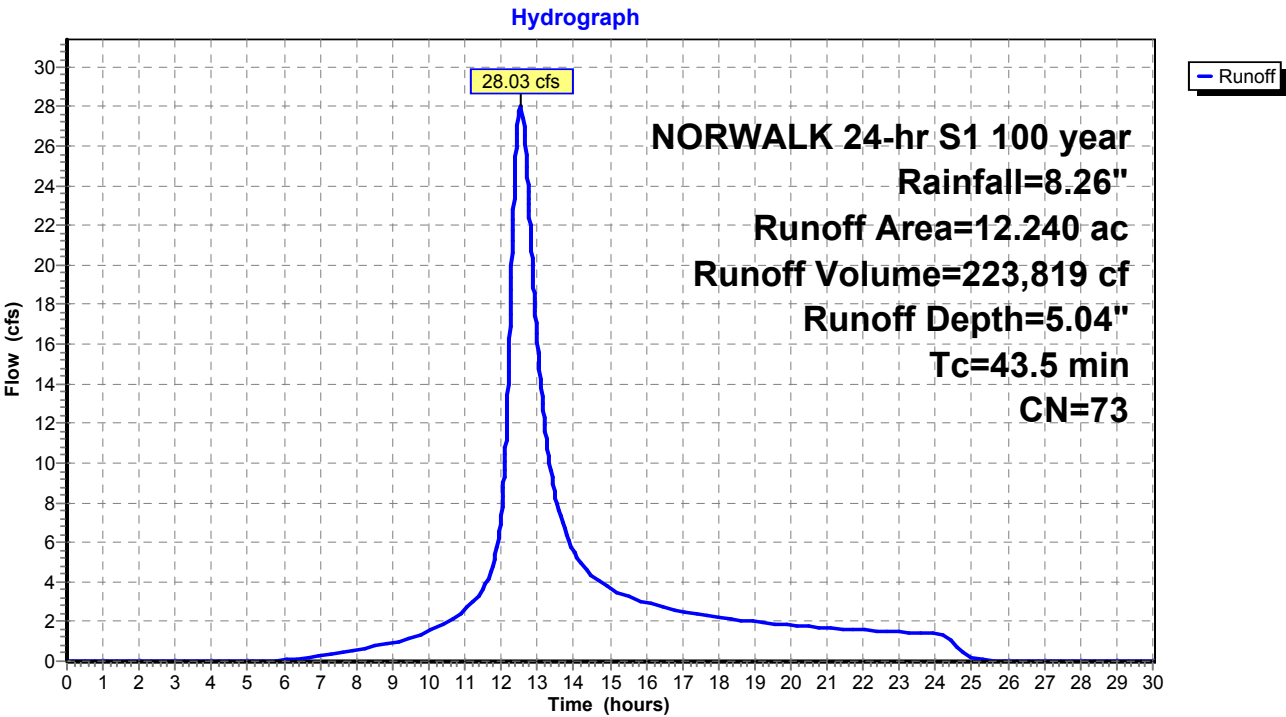
Runoff = 28.03 cfs @ 12.52 hrs, Volume= 223,819 cf, Depth= 5.04"
Routed to Pond 21P : DET 1 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
9.070	70	1/2 acre lots, 25% imp, HSG B
3.170	80	1/2 acre lots, 25% imp, HSG C
12.240	73	Weighted Average
9.180		75.00% Pervious Area
3.060		25.00% Impervious Area

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

Subcatchment 52S: Area 1



Summary for Subcatchment 53S: Area 2

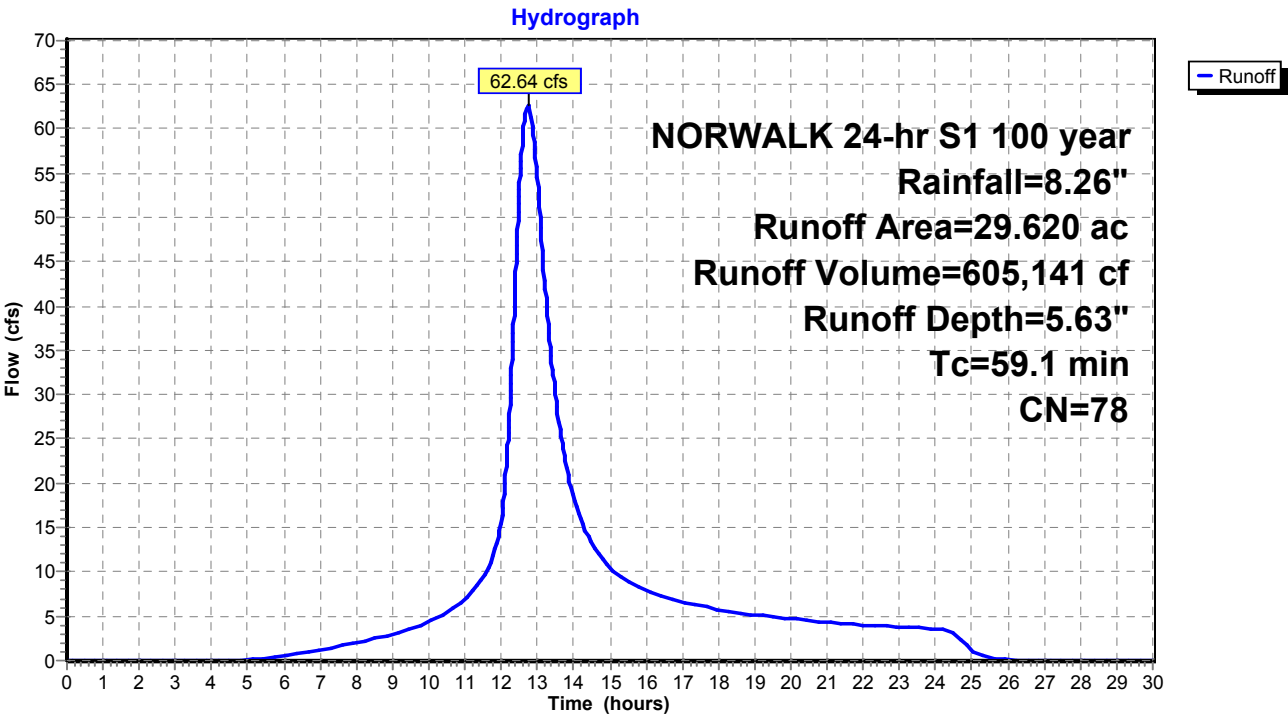
Runoff = 62.64 cfs @ 12.74 hrs, Volume= 605,141 cf, Depth= 5.63"
Routed to Pond 22P : DET 2 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
7.290	70	1/2 acre lots, 25% imp, HSG B
19.200	80	1/2 acre lots, 25% imp, HSG C
3.130	85	1/2 acre lots, 25% imp, HSG D
29.620	78	Weighted Average
22.215		75.00% Pervious Area
7.405		25.00% Impervious Area

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

Subcatchment 53S: Area 2



Summary for Subcatchment 54S: Area 3

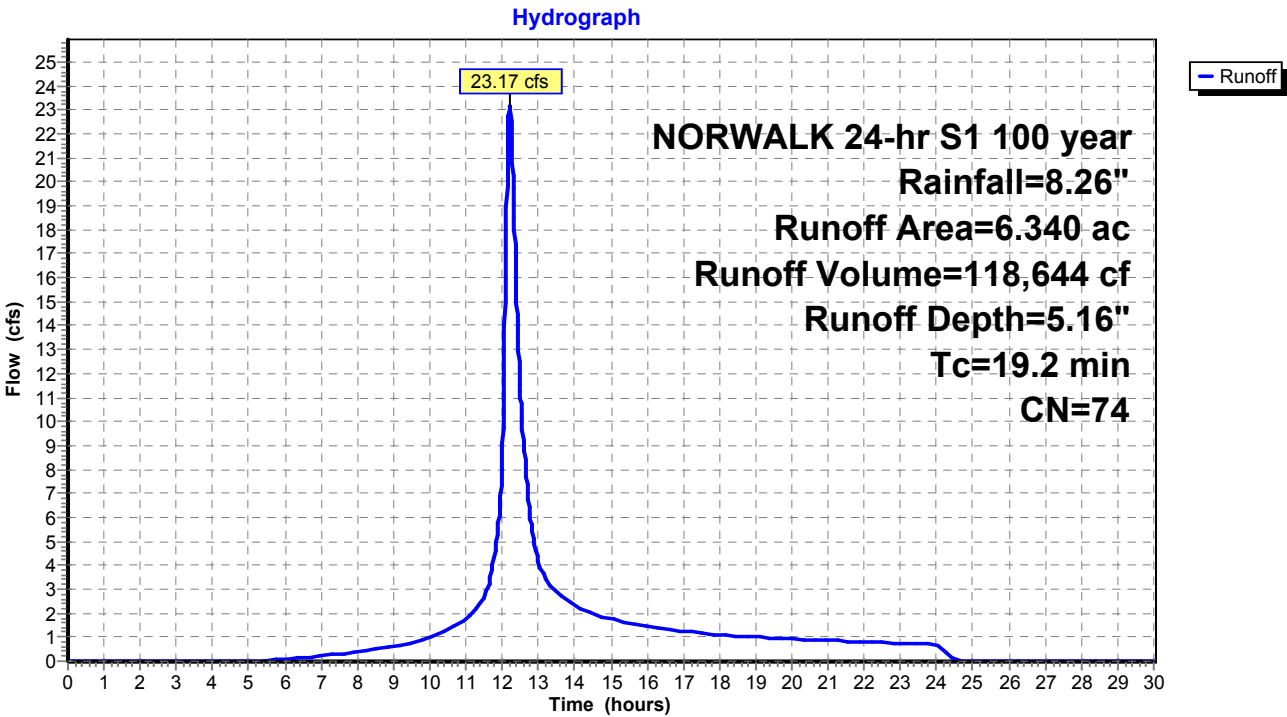
Runoff = 23.17 cfs @ 12.22 hrs, Volume= 118,644 cf, Depth= 5.16"
Routed to Pond 23P : DET 3 Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
3.500	70	1/2 acre lots, 25% imp, HSG B
2.840	80	1/2 acre lots, 25% imp, HSG C
6.340	74	Weighted Average
4.755		75.00% Pervious Area
1.585		25.00% Impervious Area

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

Subcatchment 54S: Area 3



Summary for Subcatchment 56S: Area 35

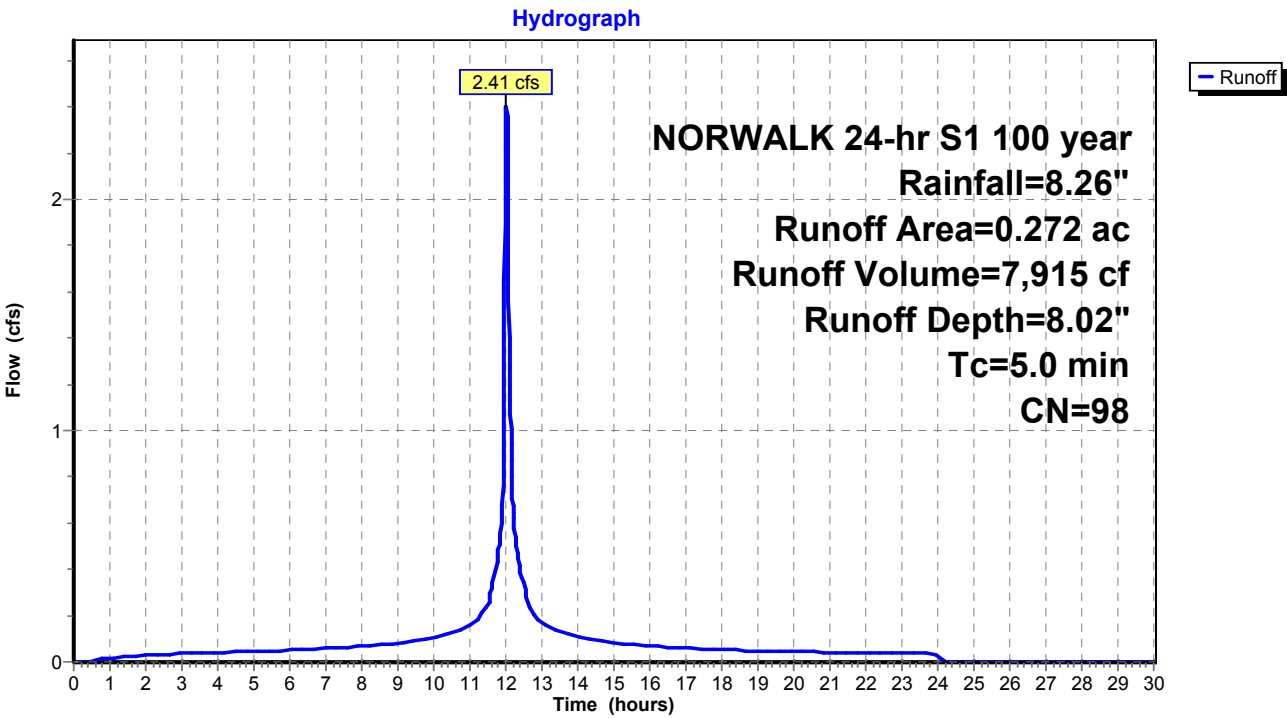
Runoff = 2.41 cfs @ 12.03 hrs, Volume= 7,915 cf, Depth= 8.02"
Routed to Pond 57P : CB-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.272	98	Paved parking & roofs
0.272		100.00% Impervious Area

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

Subcatchment 56S: Area 35



Summary for Subcatchment 60S: Area 37

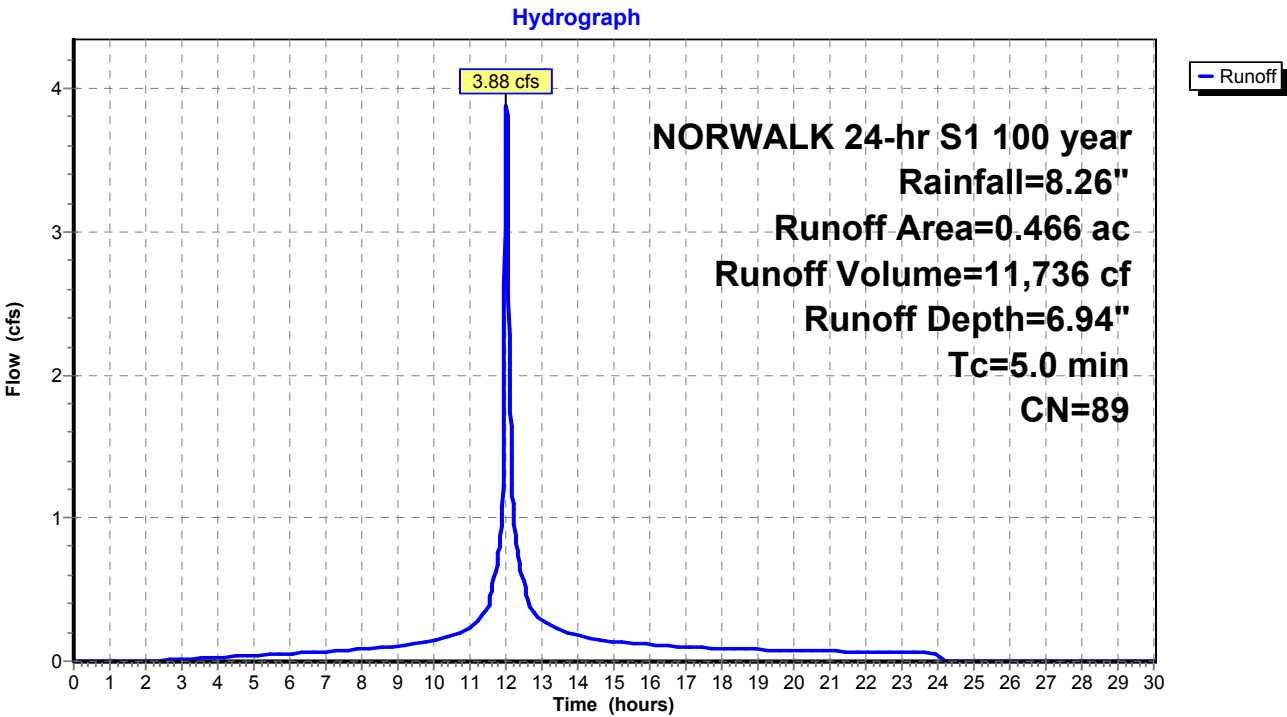
Runoff = 3.88 cfs @ 12.03 hrs, Volume= 11,736 cf, Depth= 6.94"
Routed to Pond 59P : CB-7

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.294	98	Paved parking & roofs
0.172	74	>75% Grass cover, Good, HSG C
0.466	89	Weighted Average
0.172		36.91% Pervious Area
0.294		63.09% Impervious Area

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

Subcatchment 60S: Area 37



Summary for Subcatchment 62S: Area 38

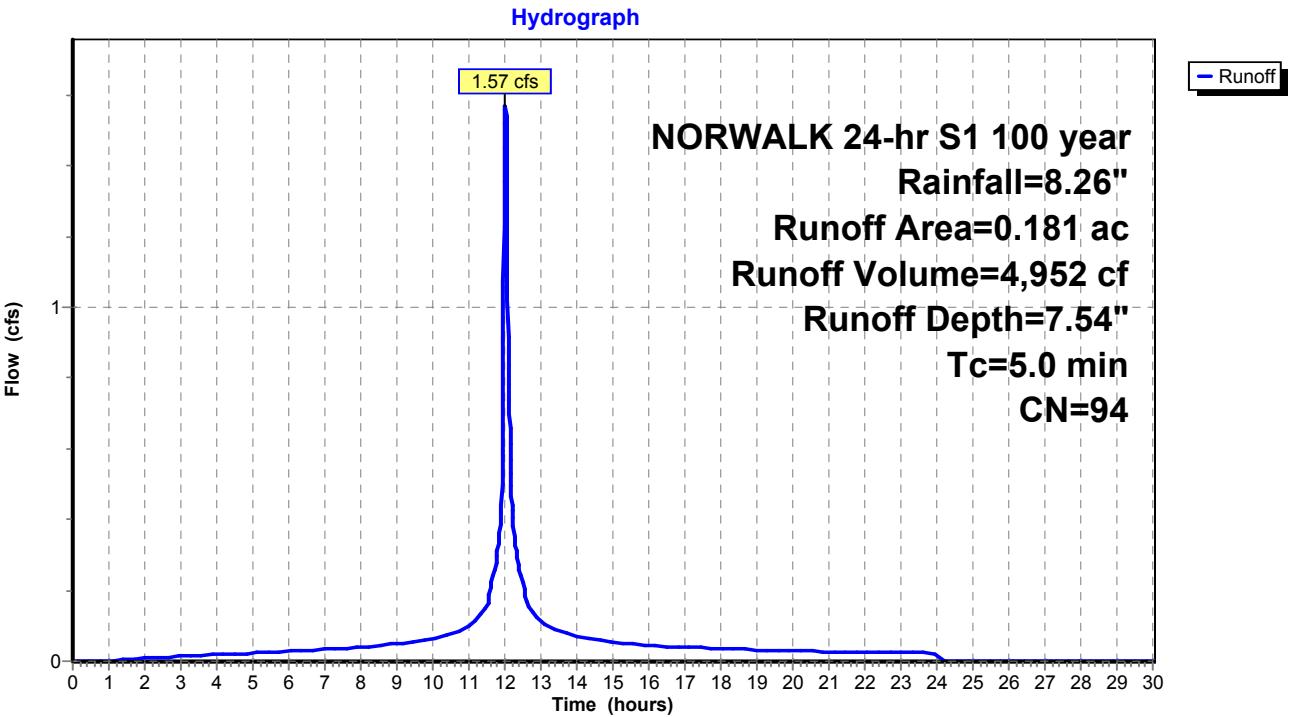
Runoff = 1.57 cfs @ 12.03 hrs, Volume= 4,952 cf, Depth= 7.54"
Routed to Pond 61P : CB-6

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.149	98	Paved parking & roofs
0.032	74	>75% Grass cover, Good, HSG C
0.181	94	Weighted Average
0.032		17.68% Pervious Area
0.149		82.32% Impervious Area

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

Subcatchment 62S: Area 38



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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 65S: Area 41

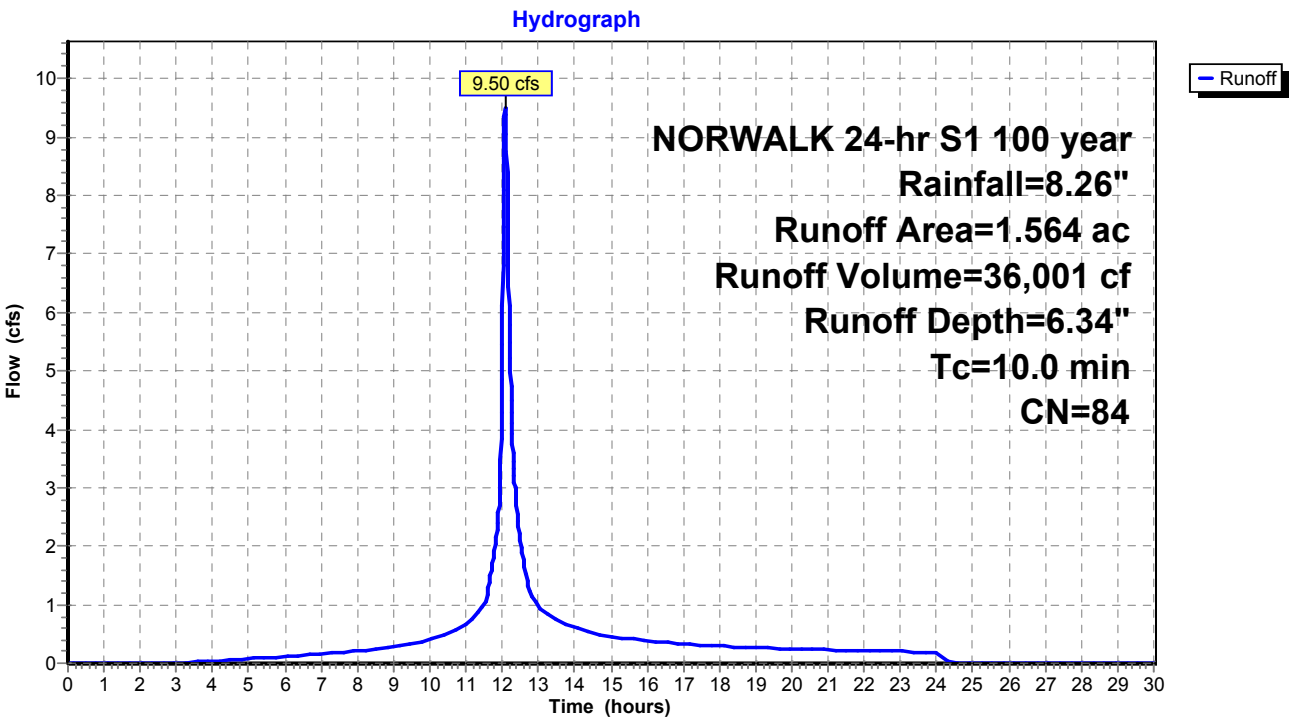
Runoff = 9.50 cfs @ 12.08 hrs, Volume= 36,001 cf, Depth= 6.34"
Routed to Pond 64P : YD

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.653	98	Paved parking & roofs
0.911	74	>75% Grass cover, Good, HSG C
1.564	84	Weighted Average
0.911		58.25% Pervious Area
0.653		41.75% Impervious Area

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

Subcatchment 65S: Area 41



Summary for Subcatchment 68S: Area 36

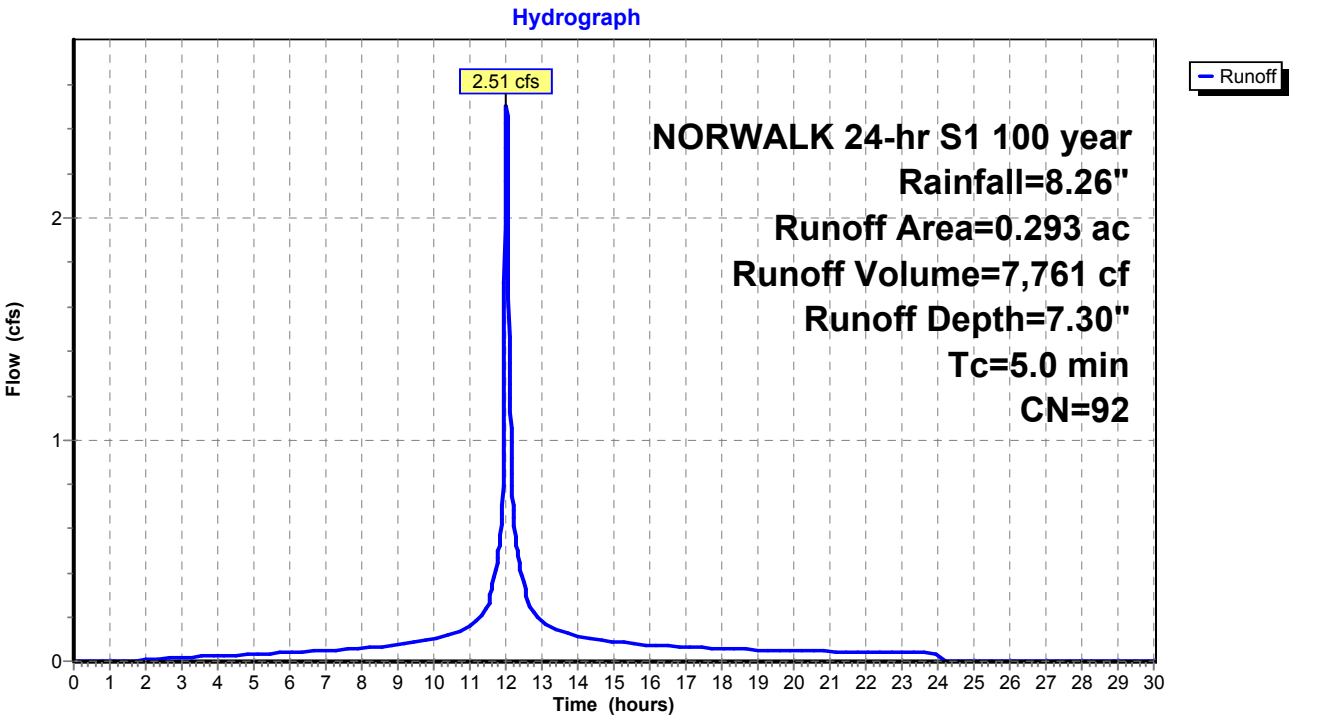
Runoff = 2.51 cfs @ 12.03 hrs, Volume= 7,761 cf, Depth= 7.30"
Routed to Pond 66P : CB-10

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.214	98	Paved parking & roofs
0.079	74	>75% Grass cover, Good, HSG C
0.293	92	Weighted Average
0.079		26.96% Pervious Area
0.214		73.04% Impervious Area

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

Subcatchment 68S: Area 36



Summary for Subcatchment 69S: Area 40

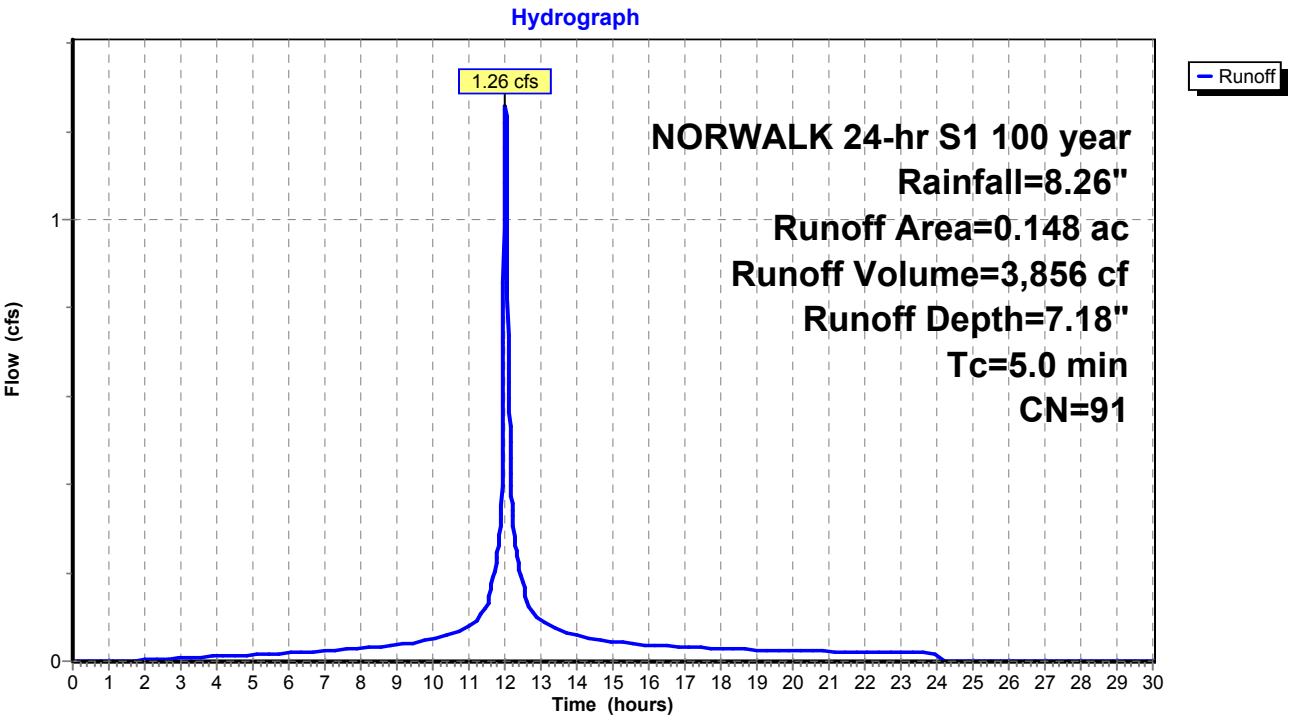
Runoff = 1.26 cfs @ 12.03 hrs, Volume= 3,856 cf, Depth= 7.18"
Routed to Pond 67P : CB-9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.103	98	Paved parking & roofs
0.045	74	>75% Grass cover, Good, HSG C
0.148	91	Weighted Average
0.045		30.41% Pervious Area
0.103		69.59% Impervious Area

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

Subcatchment 69S: Area 40



Summary for Subcatchment 71S: Area 34

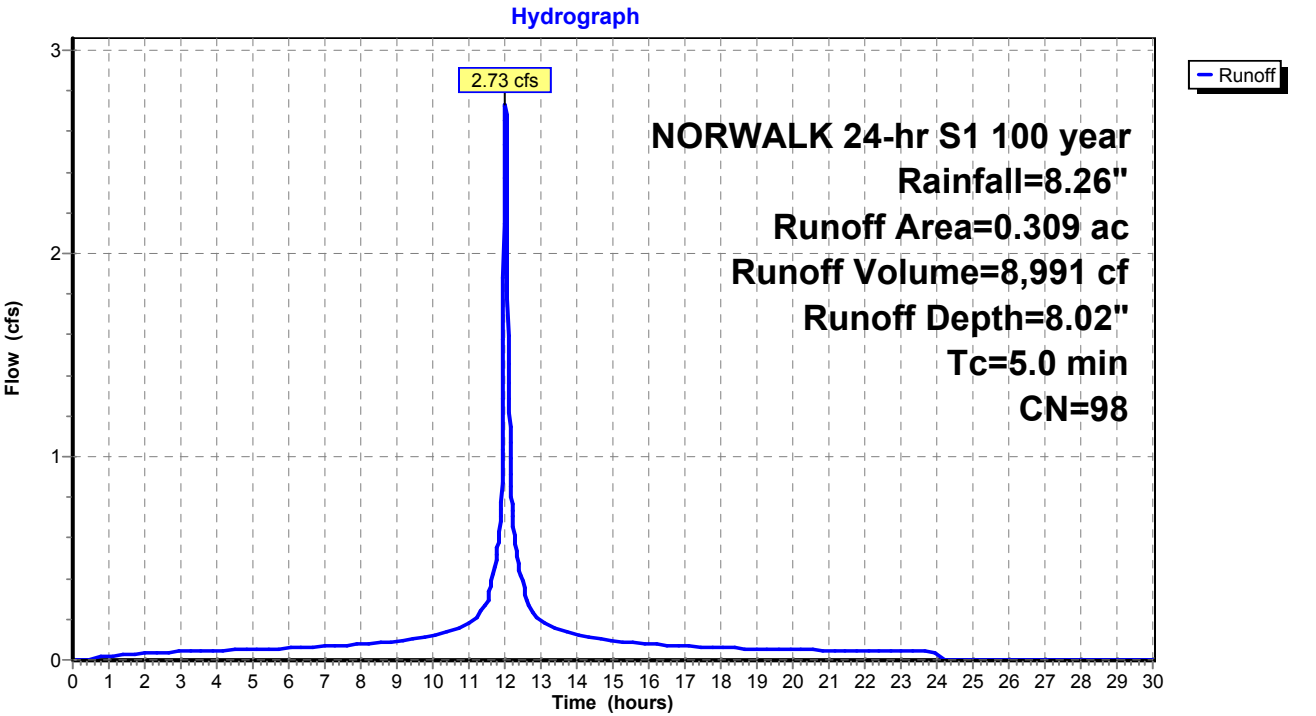
Runoff = 2.73 cfs @ 12.03 hrs, Volume= 8,991 cf, Depth= 8.02"
Routed to Pond 70P : CB-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.309	98	Paved parking & roofs
0.309		100.00% Impervious Area

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

Subcatchment 71S: Area 34



Summary for Subcatchment 75S: Area 32

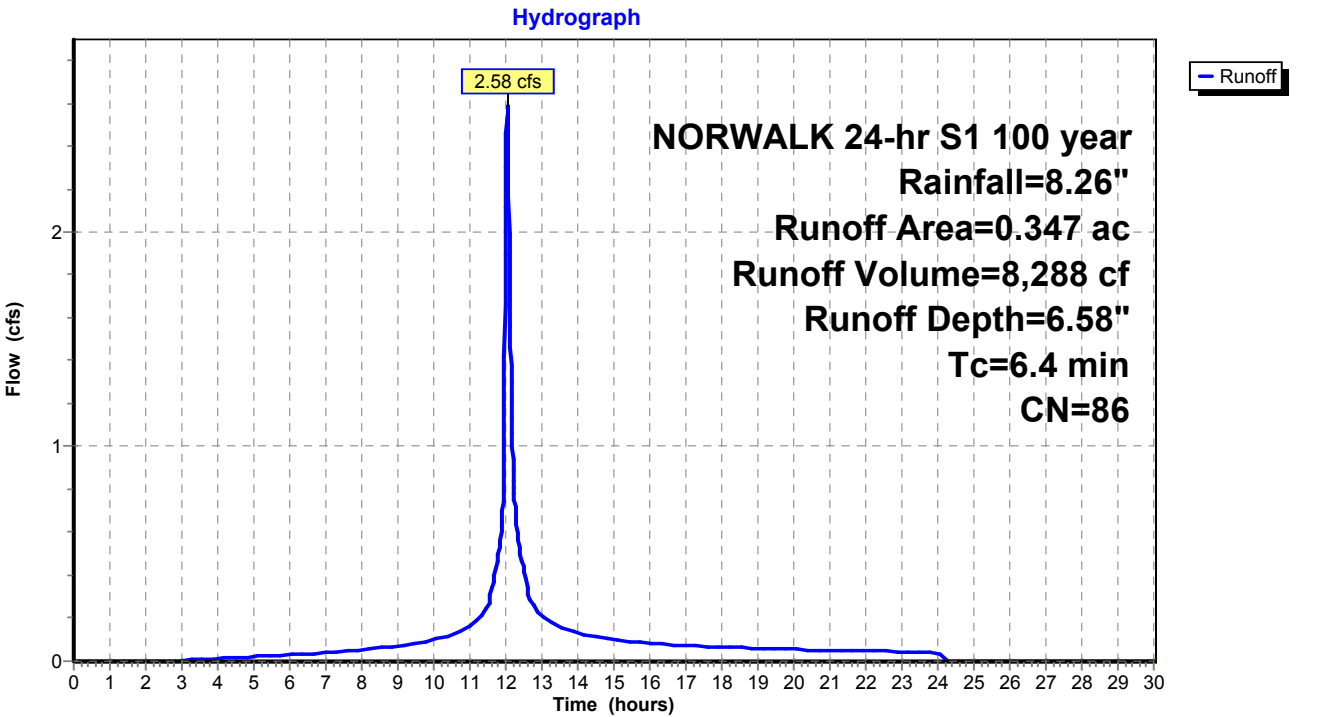
Runoff = 2.58 cfs @ 12.04 hrs, Volume= 8,288 cf, Depth= 6.58"
Routed to Pond 74P : CB-4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.196	98	Paved parking & roofs
0.151	70	Woods, Good, HSG C
0.347	86	Weighted Average
0.151		43.52% Pervious Area
0.196		56.48% Impervious Area

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

Subcatchment 75S: Area 32



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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 76S: Area 33

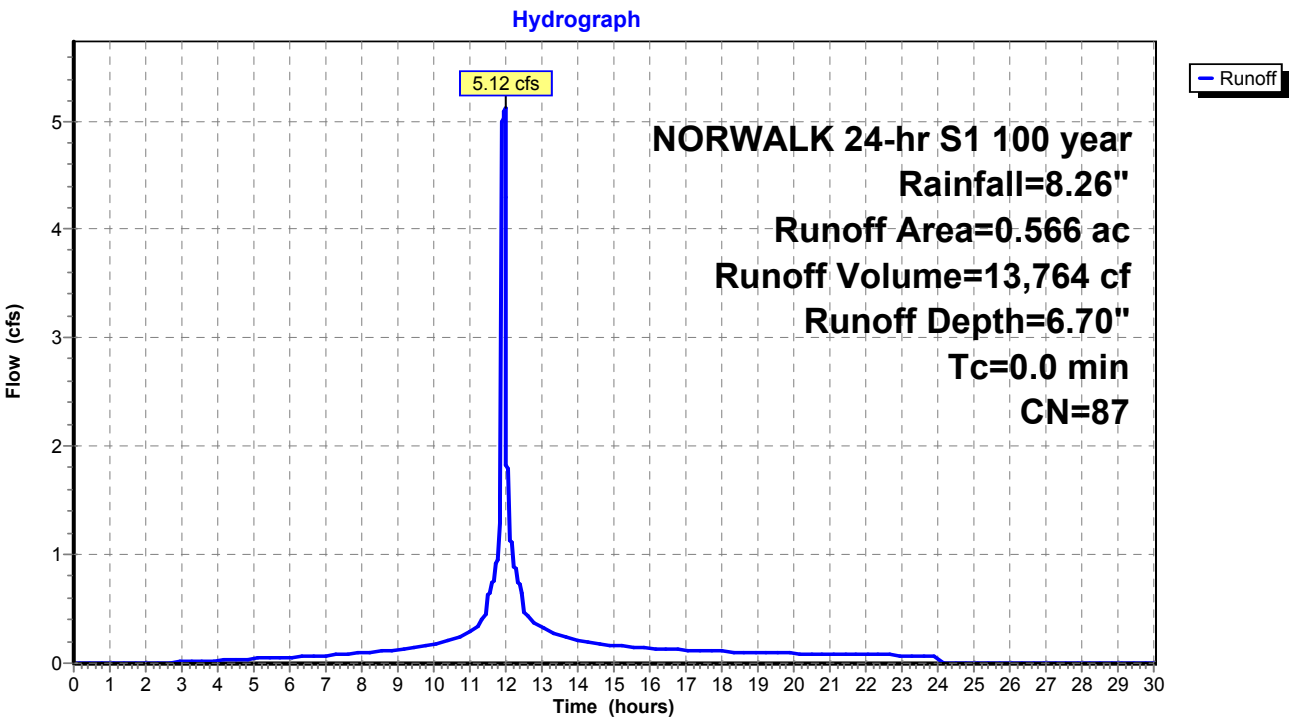
Runoff = 5.12 cfs @ 11.99 hrs, Volume= 13,764 cf, Depth= 6.70"
Routed to Pond 73P : CB-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.338	98	Paved parking & roofs
0.228	70	Woods, Good, HSG C
0.566	87	Weighted Average
0.228		40.28% Pervious Area
0.338		59.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.0					Direct Entry, 7

Subcatchment 76S: Area 33



Summary for Subcatchment 78S: Area 39

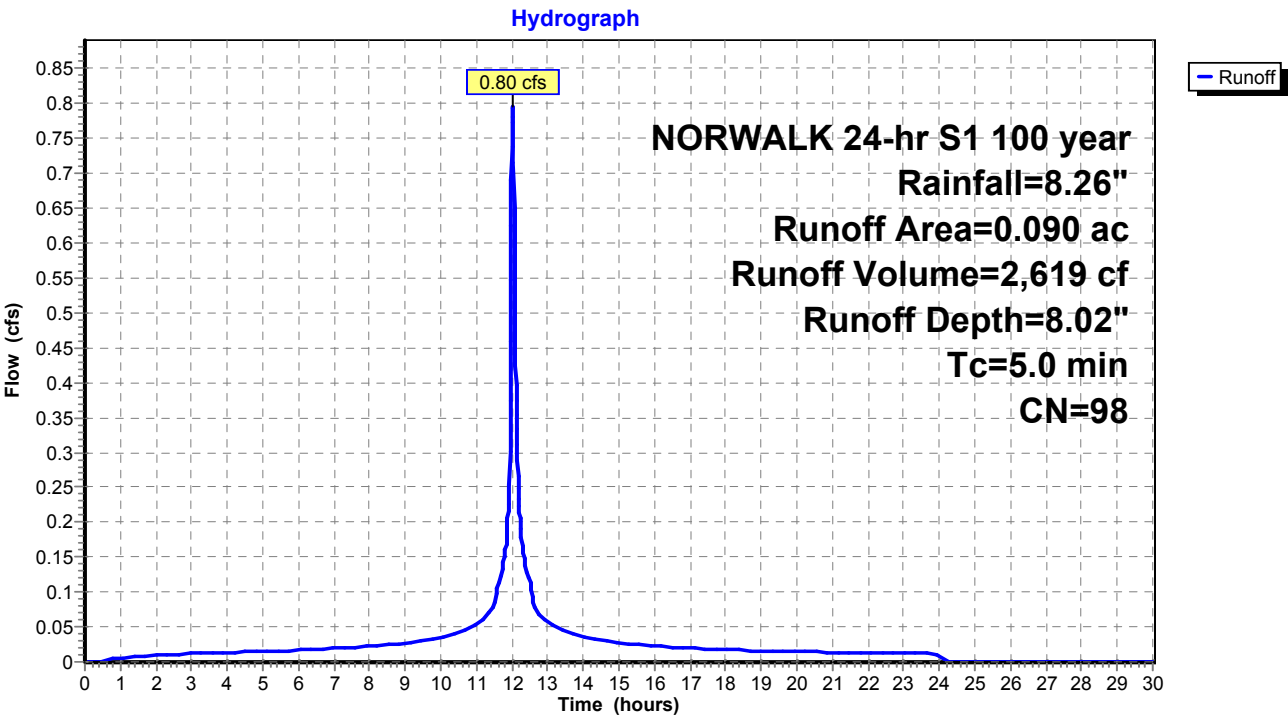
Runoff = 0.80 cfs @ 12.03 hrs, Volume= 2,619 cf, Depth= 8.02"
Routed to Pond 79P : CB-8

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.090	98	Paved parking & roofs
0.090		100.00% Impervious Area

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

Subcatchment 78S: Area 39



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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Subcatchment 84S: Area 31

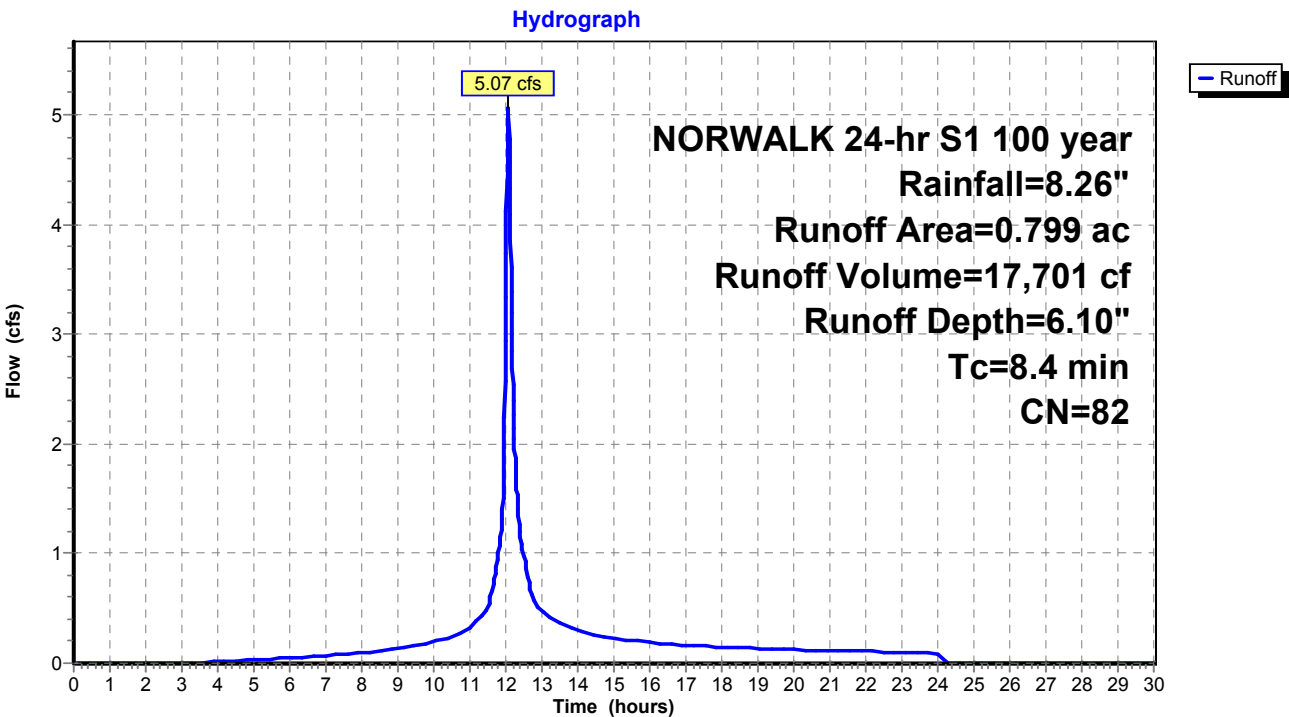
Runoff = 5.07 cfs @ 12.07 hrs, Volume= 17,701 cf, Depth= 6.10"
Routed to Pond 85P : CB-5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.337	98	Paved parking & roofs
0.462	70	Woods, Good, HSG C
0.799	82	Weighted Average
0.462		57.82% Pervious Area
0.337		42.18% Impervious Area

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

Subcatchment 84S: Area 31



Summary for Subcatchment 100S: Area 16B

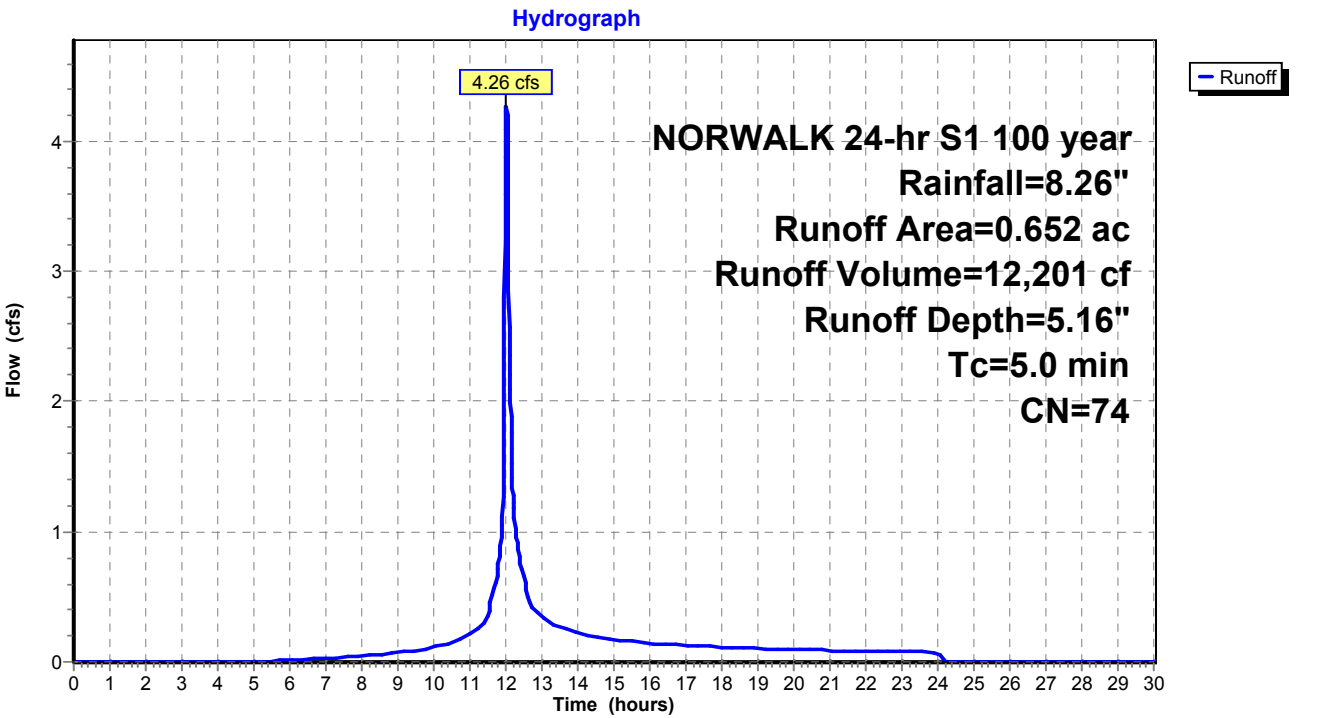
Runoff = 4.26 cfs @ 12.03 hrs, Volume= 12,201 cf, Depth= 5.16"
Routed to Pond 50P : DET BASIN #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.652	74	>75% Grass cover, Good, HSG C
0.652		100.00% Pervious Area

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

Subcatchment 100S: Area 16B



Summary for Subcatchment 105S: Area 18

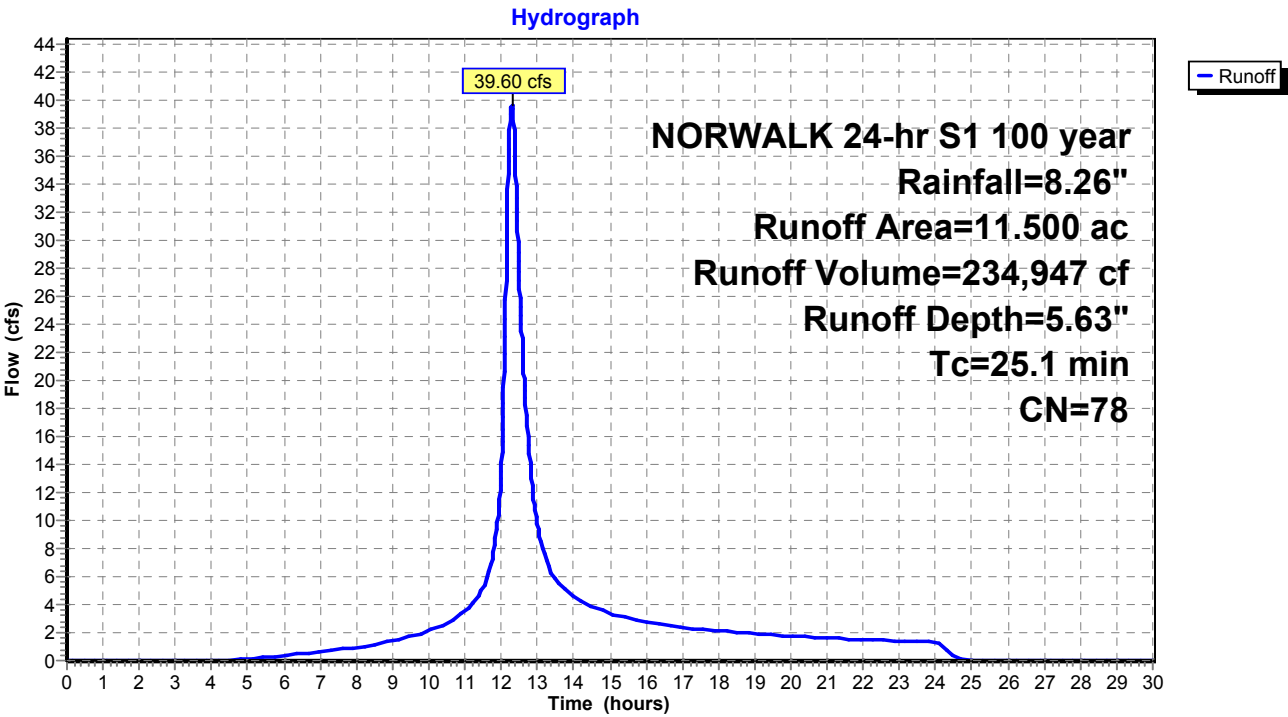
Runoff = 39.60 cfs @ 12.30 hrs, Volume= 234,947 cf, Depth= 5.63"
Routed to Pond 24P : RR Culvert 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
0.734	70	Woods, Good, HSG C
10.216	77	Woods, Good, HSG D
0.550	98	Paved parking, HSG C
11.500	78	Weighted Average
10.950		95.22% Pervious Area
0.550		4.78% Impervious Area

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

Subcatchment 105S: Area 18



Summary for Subcatchment BLDG: EX-BLDG

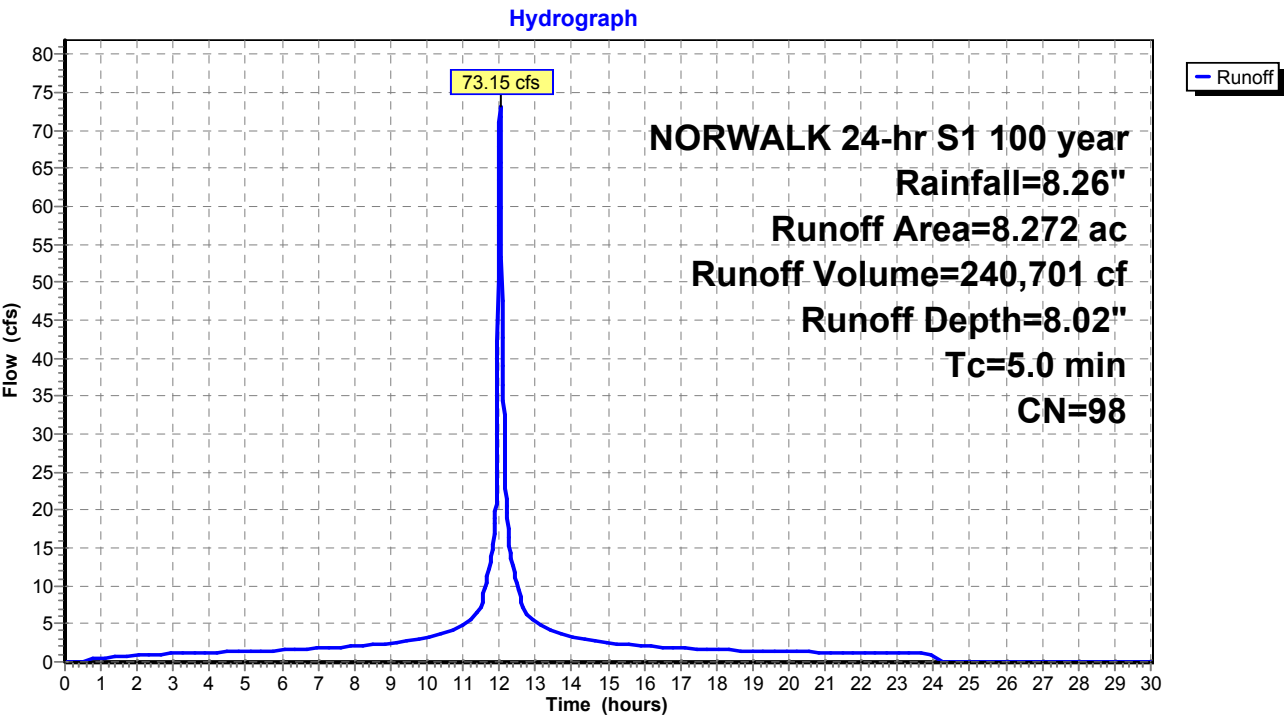
Runoff = 73.15 cfs @ 12.03 hrs, Volume= 240,701 cf, Depth= 8.02"
Routed to Pond 2P : RR Culvert 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
NORWALK 24-hr S1 100 year Rainfall=8.26"

Area (ac)	CN	Description
8.272	98	Roofs, HSG B
8.272		100.00% Impervious Area

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

Subcatchment BLDG: EX-BLDG



Summary for Pond 1P: RR Culvert 2

Inflow Area = 6,570,111 sf, 25.88% Impervious, Inflow Depth > 6.39" for 100 year event
Inflow = 343.61 cfs @ 12.22 hrs, Volume= 3,496,111 cf
Outflow = 343.61 cfs @ 12.22 hrs, Volume= 3,496,111 cf, Atten= 0%, Lag= 0.0 min
Primary = 37.05 cfs @ 12.22 hrs, Volume= 1,475,491 cf
Secondary = 306.57 cfs @ 12.22 hrs, Volume= 2,020,620 cf
Routed to Pond 24P : RR Culvert 3

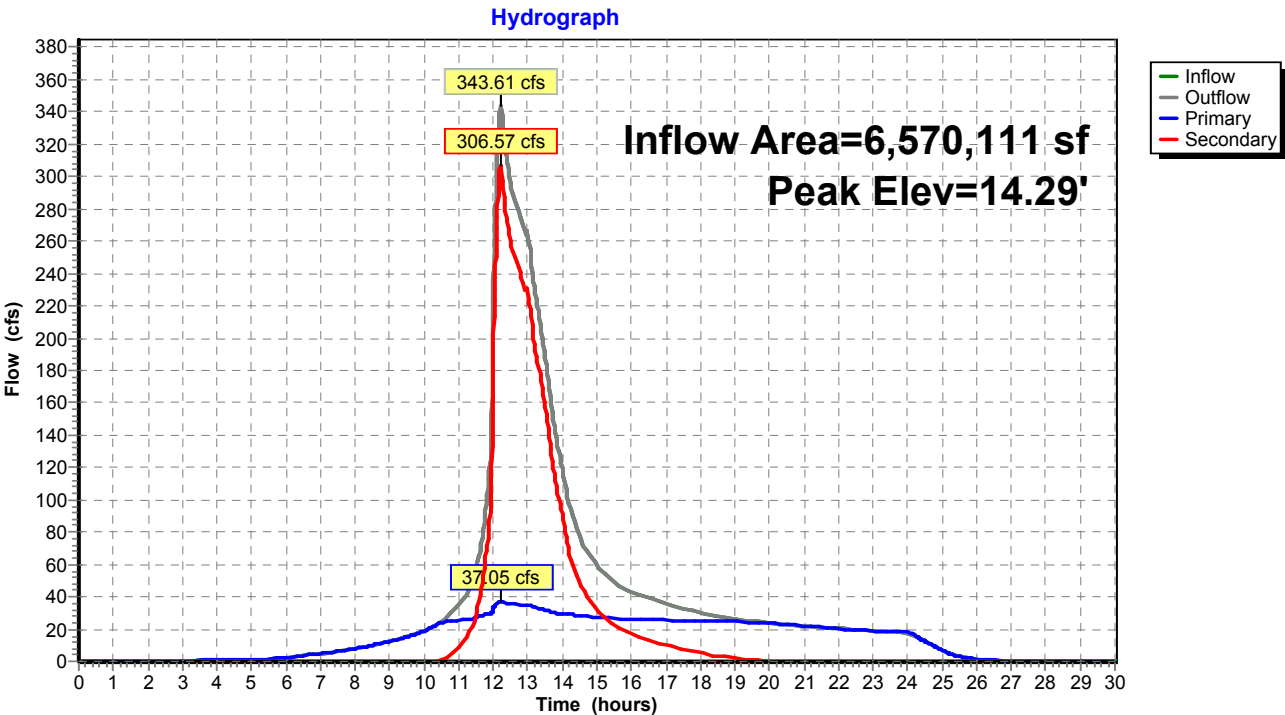
Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 14.29' @ 12.22 hrs

Device	Routing	Invert	Outlet Devices
#1	Secondary	13.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 3.00 4.00 5.00 Width (feet) 50.00 50.00 50.00 50.00 50.00 50.00
#2	Primary	9.50'	24.0" W x 36.0" H Box Culvert L= 135.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 9.50' / 9.50' S= 0.0000 '/' Cc= 0.900 n= 0.014, Flow Area= 6.00 sf

Primary OutFlow Max=37.05 cfs @ 12.22 hrs HW=14.29' (Free Discharge)
 ↳ **2=Culvert** (Barrel Controls 37.05 cfs @ 6.17 fps)

Secondary OutFlow Max=306.36 cfs @ 12.22 hrs HW=14.29' (Free Discharge)
 ↳ **1=Custom Weir/Orifice** (Weir Controls 306.36 cfs @ 4.74 fps)

Pond 1P: RR Culvert 2



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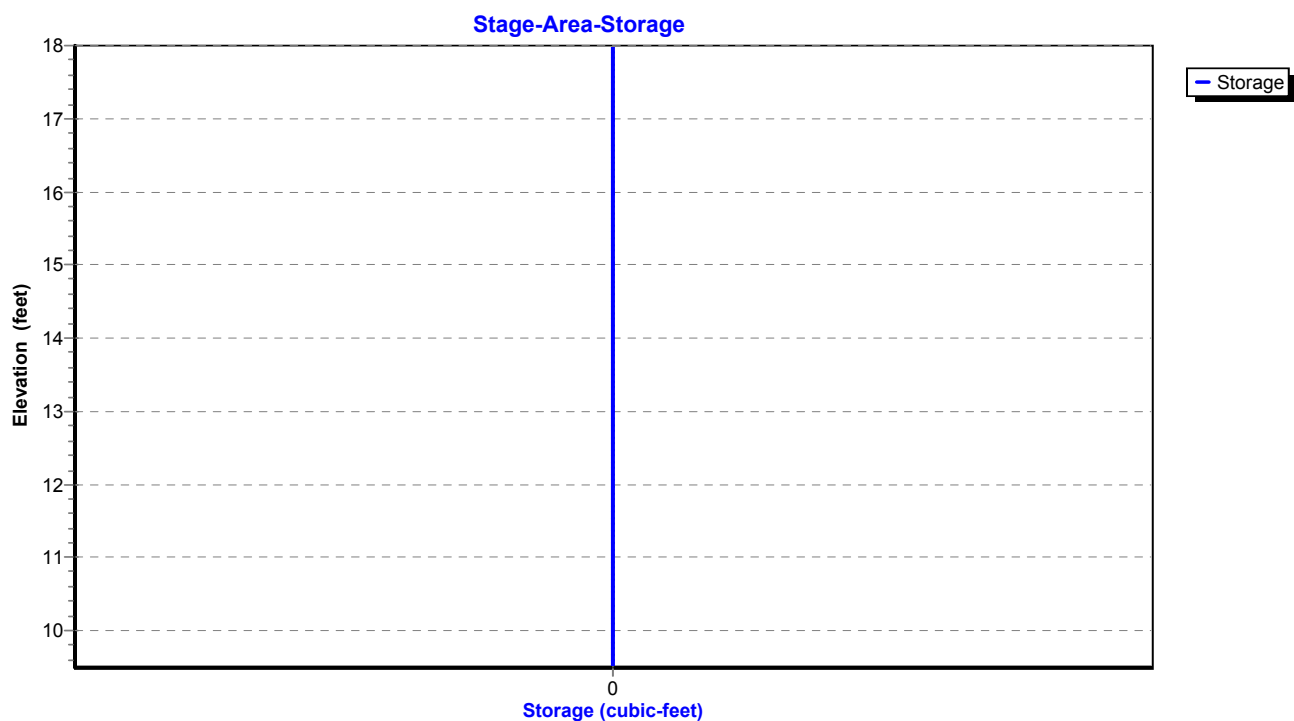
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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Pond 1P: RR Culvert 2



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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Pond 2P: RR Culvert 1

Inflow Area = 3,416,890 sf, 54.67% Impervious, Inflow Depth = 6.69" for 100 year event
Inflow = 195.77 cfs @ 12.04 hrs, Volume= 1,903,589 cf
Outflow = 195.77 cfs @ 12.04 hrs, Volume= 1,903,589 cf, Atten= 0%, Lag= 0.0 min
Primary = 61.96 cfs @ 12.04 hrs, Volume= 1,346,353 cf
Secondary = 133.80 cfs @ 12.04 hrs, Volume= 557,236 cf
Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 31.22' @ 12.04 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	25.00'	28.8" W x 28.8" H Box Culvert L= 123.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.00' / 23.60' S= 0.0114 '/' Cc= 0.900 n= 0.014, Flow Area= 5.76 sf
#2	Secondary	27.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 Width (feet) 6.00 6.00 6.00

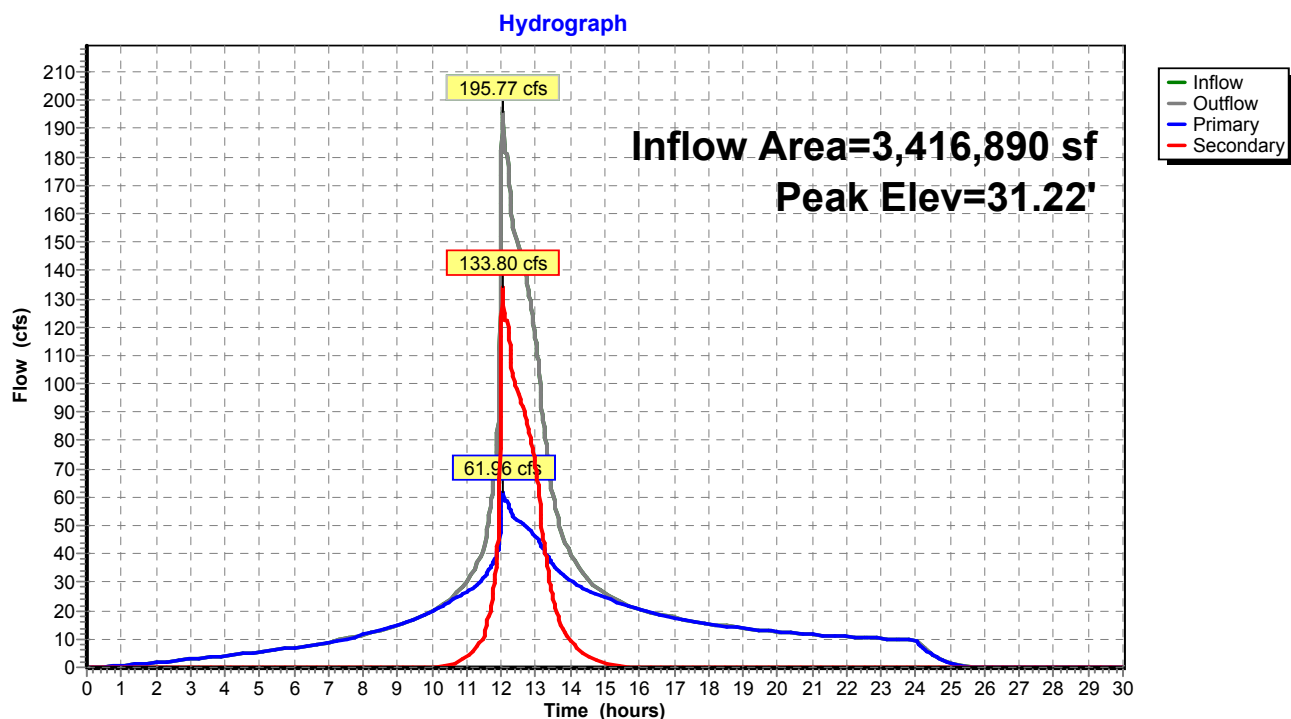
Primary OutFlow Max=61.91 cfs @ 12.04 hrs HW=31.21' (Free Discharge)

↑**1=Culvert** (Inlet Controls 61.91 cfs @ 10.75 fps)

Secondary OutFlow Max=133.63 cfs @ 12.04 hrs HW=31.21' (Free Discharge)

↑**2=Custom Weir/Orifice** (Orifice Controls 133.63 cfs @ 11.14 fps)

Pond 2P: RR Culvert 1



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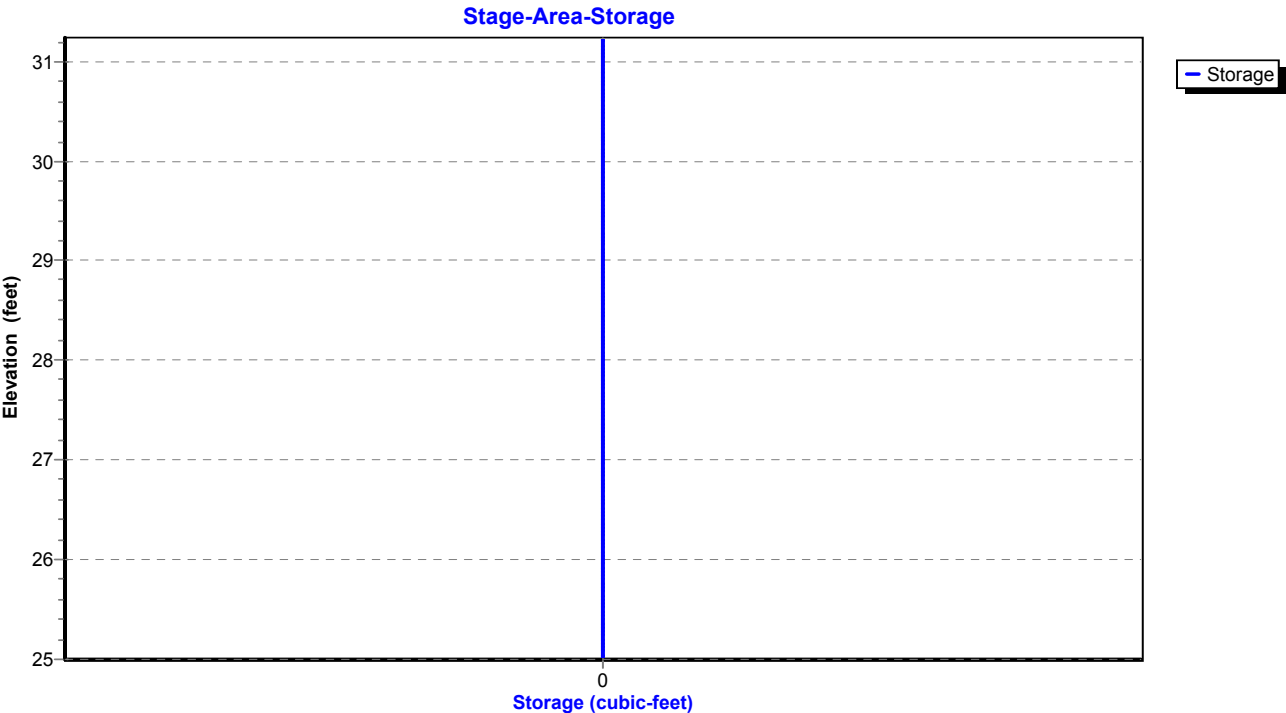
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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Pond 2P: RR Culvert 1



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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Pond 3P: DETENTION BASIN #2

Inflow Area = 263,277 sf, 58.24% Impervious, Inflow Depth = 6.53" for 100 year event
 Inflow = 37.82 cfs @ 12.03 hrs, Volume= 143,174 cf
 Outflow = 14.55 cfs @ 12.26 hrs, Volume= 127,372 cf, Atten= 62%, Lag= 13.8 min
 Primary = 14.55 cfs @ 12.26 hrs, Volume= 127,372 cf
 Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 50.80' @ 12.26 hrs Surf.Area= 13,591 sf Storage= 53,817 cf

Plug-Flow detention time= 182.9 min calculated for 127,329 cf (89% of inflow)
 Center-of-Mass det. time= 123.1 min (922.3 - 799.1)

Volume	Invert	Avail.Storage	Storage Description
#1	44.00'	56,637 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.00	2,637	0	0
46.00	6,000	8,637	8,637
48.00	8,500	14,500	23,137
50.00	12,000	20,500	43,637
51.00	14,000	13,000	56,637

Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	18.0" Round Culvert L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.00' / 30.00' S= 0.1750 ' / Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	47.00'	10.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	50.40'	16.2" x 55.4" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=14.53 cfs @ 12.26 hrs HW=50.80' (Free Discharge)

1=Culvert (Passes 14.53 cfs of 20.92 cfs potential flow)
 2=Orifice/Grate (Orifice Controls 4.83 cfs @ 8.85 fps)
 3=Orifice/Grate (Weir Controls 9.71 cfs @ 2.06 fps)

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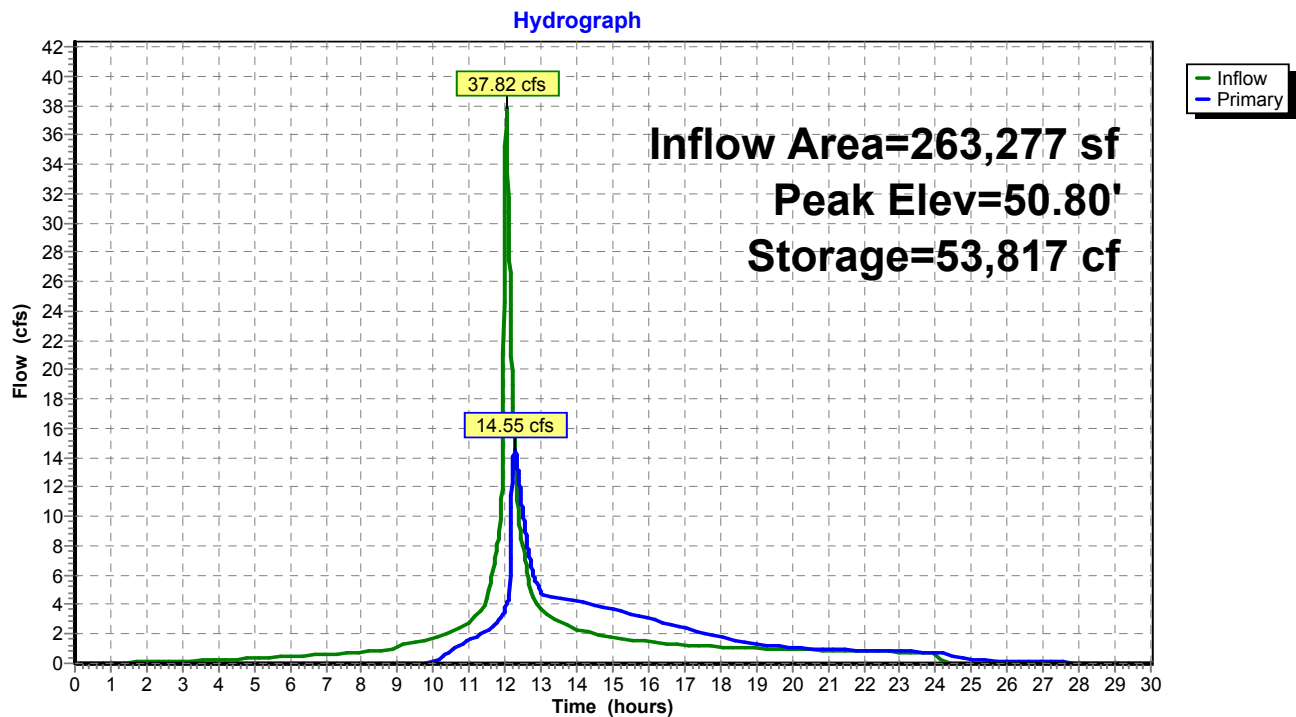
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NORWALK 24-hr S1 100 year Rainfall=8.26"

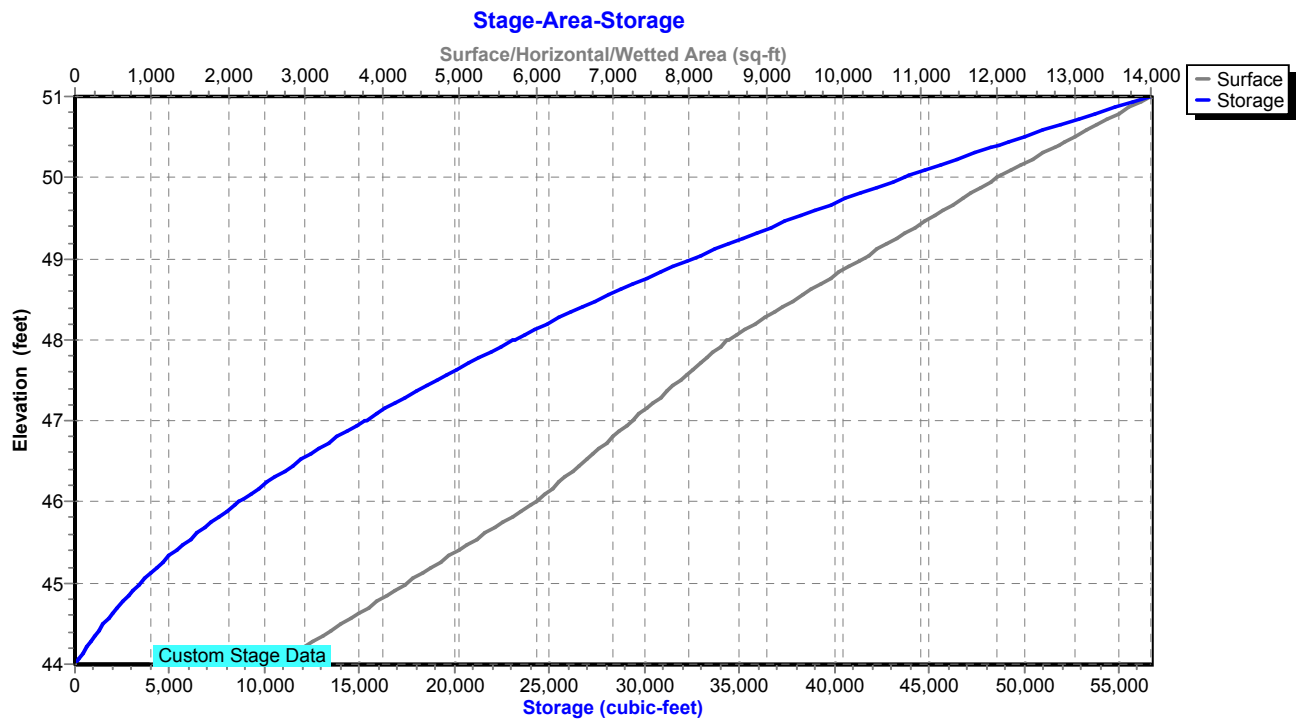
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Pond 3P: DETENTION BASIN #2



Pond 3P: DETENTION BASIN #2



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Summary for Pond 5P: DET 5 Culvert

Inflow Area = 541,015 sf, 16.51% Impervious, Inflow Depth = 5.04" for 100 year event
 Inflow = 31.33 cfs @ 12.45 hrs, Volume= 227,111 cf
 Outflow = 23.65 cfs @ 12.69 hrs, Volume= 227,110 cf, Atten= 25%, Lag= 14.5 min
 Primary = 23.65 cfs @ 12.69 hrs, Volume= 227,110 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 81.78' @ 12.69 hrs Storage= 17,276 cf

Plug-Flow detention time= 7.1 min calculated for 227,110 cf (100% of inflow)

Center-of-Mass det. time= 7.0 min (875.5 - 868.5)

Volume	Invert	Avail.Storage	Storage Description
#1	78.00'	62,584 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
78.00	0	0
79.00	1,179	1,179
80.00	3,009	4,188
81.00	5,795	9,983
82.00	9,335	19,318
83.00	16,518	35,836
84.00	26,748	62,584

Device	Routing	Invert	Outlet Devices
#1	Primary	78.00'	24.0" Round Culvert L= 224.0' Ke= 0.600 Inlet / Outlet Invert= 78.00' / 72.40' S= 0.0250 ' / Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=23.65 cfs @ 12.69 hrs HW=81.78' (Free Discharge)↑ **1=Culvert** (Inlet Controls 23.65 cfs @ 7.53 fps)

Proposed Conditions

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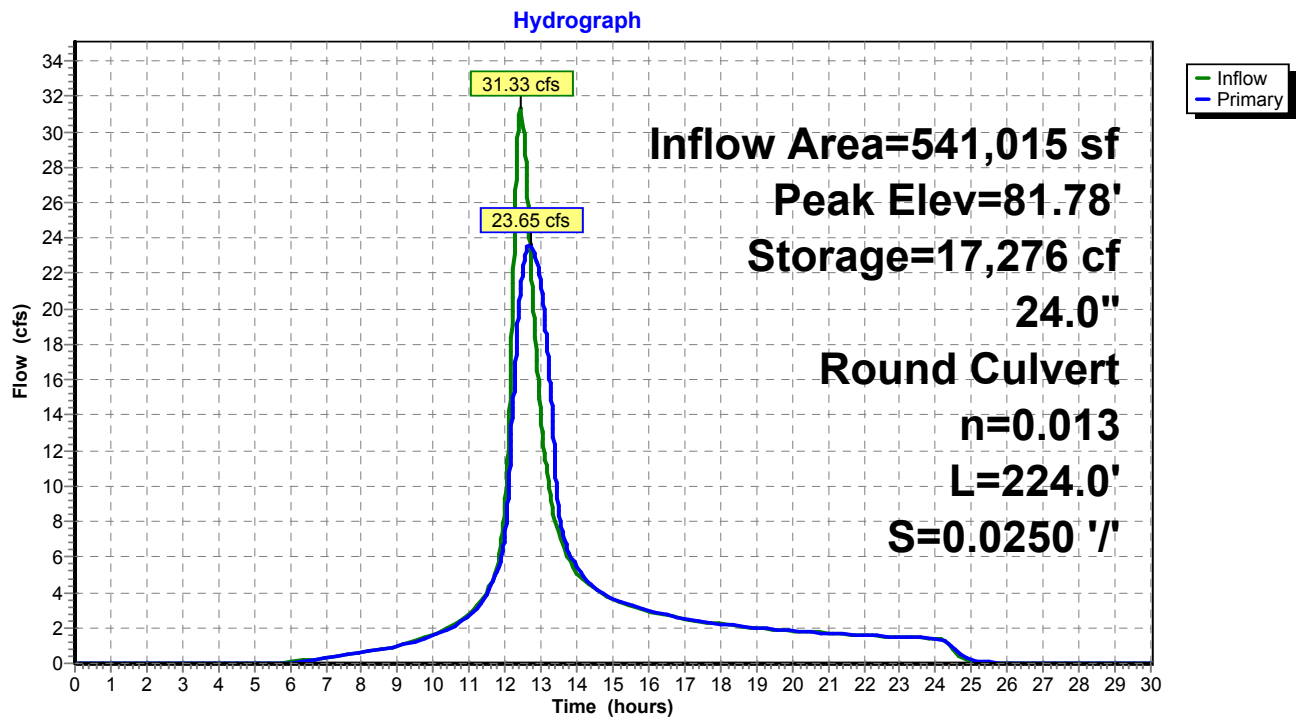
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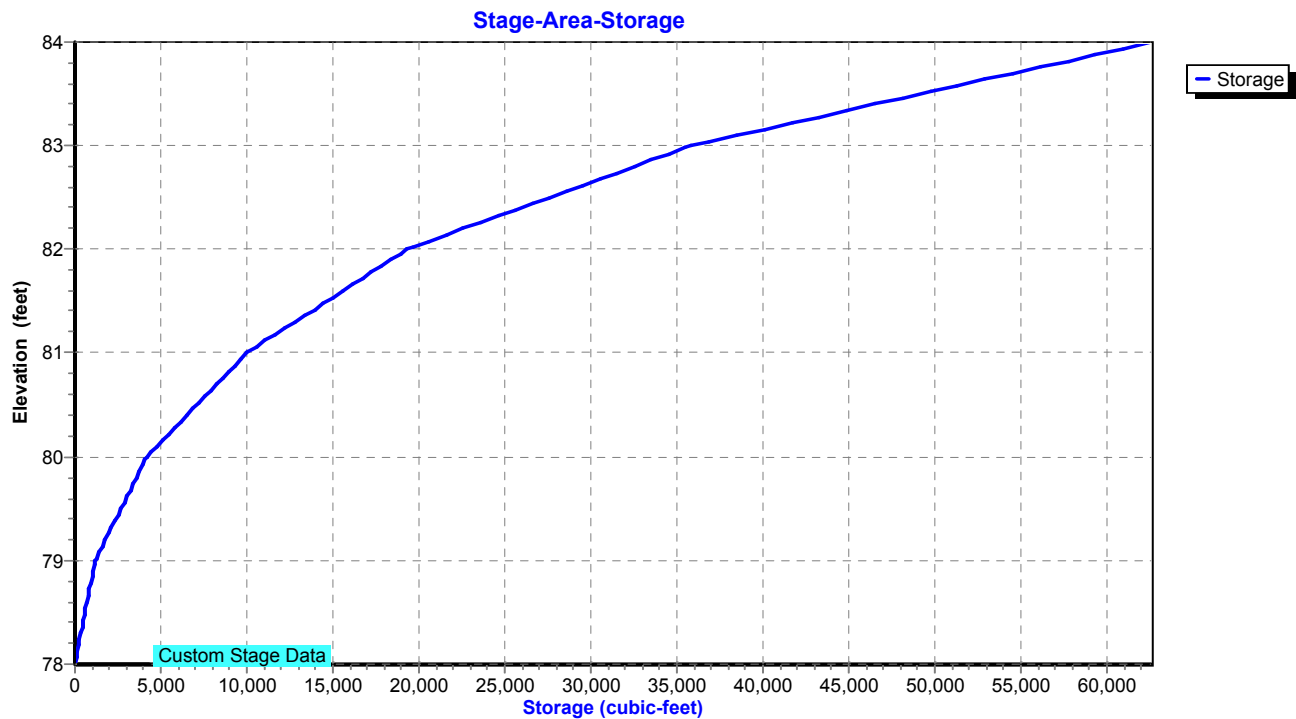
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Pond 5P: DET 5 Culvert



Pond 5P: DET 5 Culvert



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Summary for Pond 6P: DET 6 Culvert

Inflow Area = 747,054 sf, 37.20% Impervious, Inflow Depth = 6.10" for 100 year event
 Inflow = 41.03 cfs @ 12.70 hrs, Volume= 379,947 cf
 Outflow = 38.84 cfs @ 12.82 hrs, Volume= 379,947 cf, Atten= 5%, Lag= 7.5 min
 Primary = 38.84 cfs @ 12.82 hrs, Volume= 379,947 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 92.82' @ 12.82 hrs Storage= 5,136 cf

Plug-Flow detention time= 0.7 min calculated for 379,821 cf (100% of inflow)

Center-of-Mass det. time= 0.7 min (858.6 - 857.9)

Volume	Invert	Avail.Storage	Storage Description
#1	88.50'	5,954 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
88.50	0	0
90.00	154	154
92.00	1,175	1,329
93.00	4,625	5,954

Device	Routing	Invert	Outlet Devices
#1	Primary	88.50'	30.0" Round Culvert L= 180.0' Ke= 0.600 Inlet / Outlet Invert= 88.50' / 86.00' S= 0.0139 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=38.84 cfs @ 12.82 hrs HW=92.82' (Free Discharge)
 ↑**1=Culvert** (Inlet Controls 38.84 cfs @ 7.91 fps)

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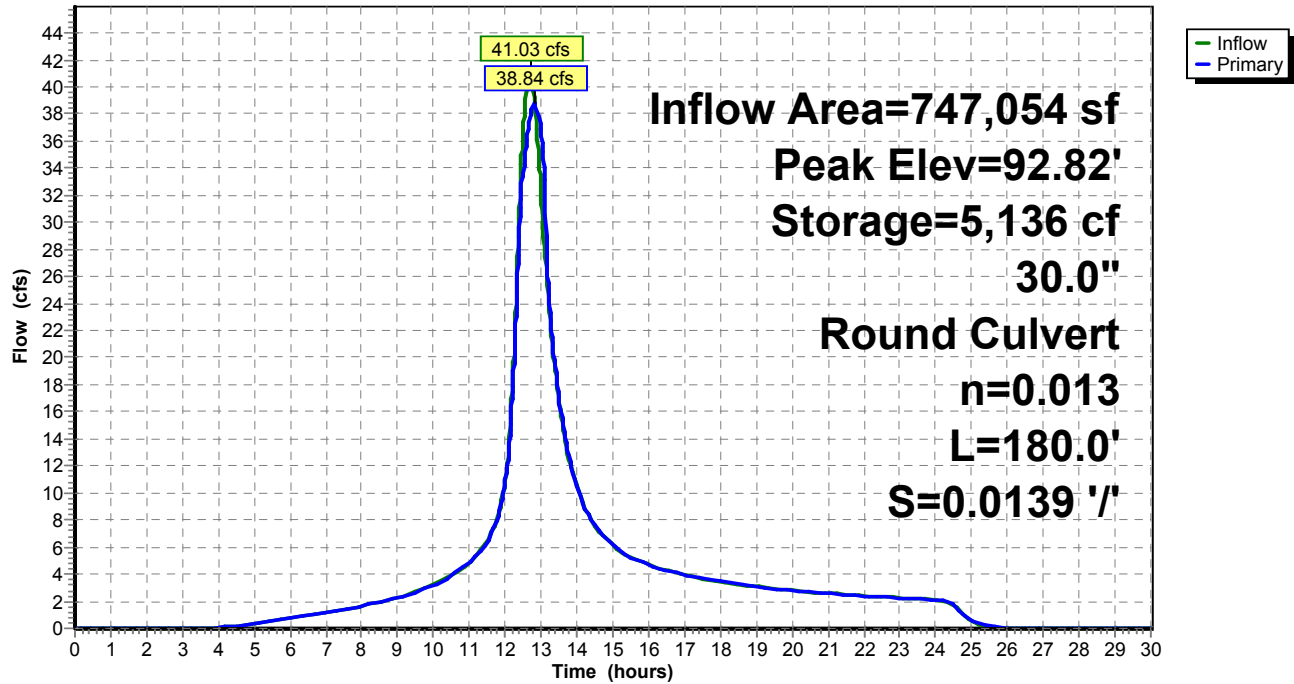
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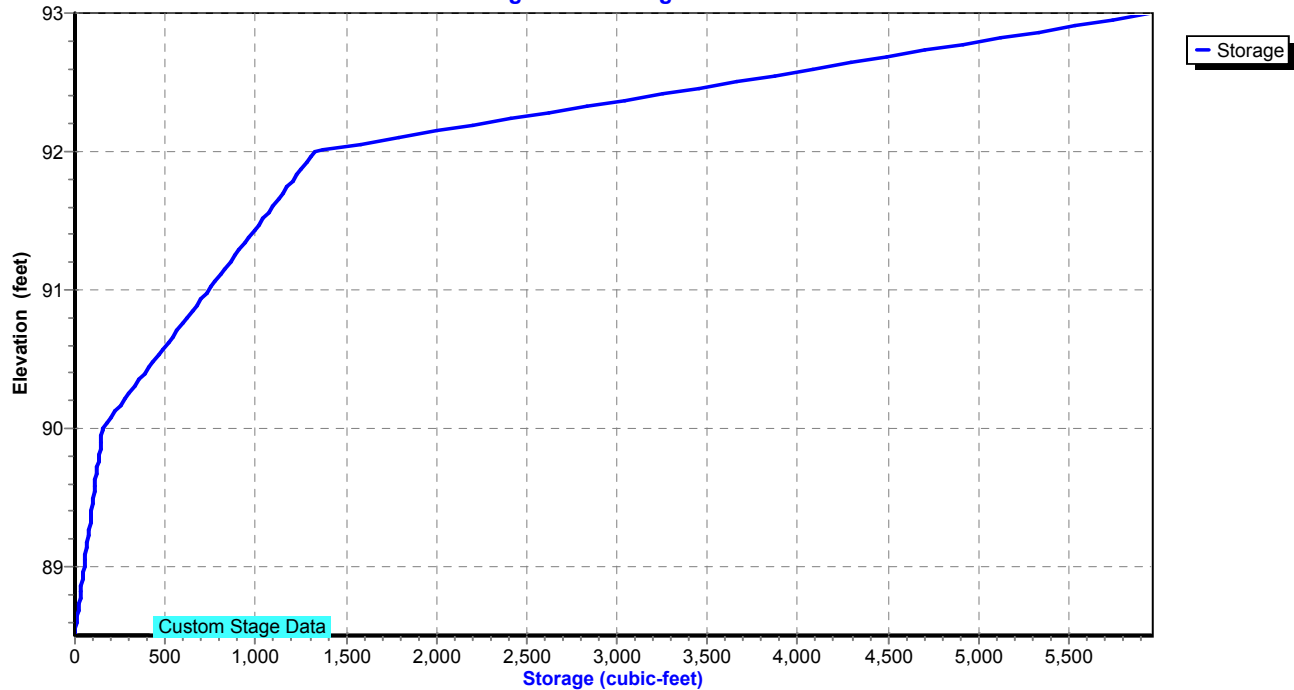
Pond 6P: DET 6 Culvert

Hydrograph



Pond 6P: DET 6 Culvert

Stage-Area-Storage



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Summary for Pond 7P: DET 7 Culvert

Inflow Area = 64,033 sf, 0.00% Impervious, Inflow Depth = 5.98" for 100 year event
 Inflow = 5.64 cfs @ 12.25 hrs, Volume= 31,932 cf
 Outflow = 3.73 cfs @ 12.46 hrs, Volume= 31,932 cf, Atten= 34%, Lag= 12.3 min
 Primary = 3.73 cfs @ 12.46 hrs, Volume= 31,932 cf
 Routed to Pond 8P : Comb. 5,6,7,8,9

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 93.58' @ 12.46 hrs Storage= 3,442 cf

Plug-Flow detention time= 7.2 min calculated for 31,932 cf (100% of inflow)

Center-of-Mass det. time= 7.1 min (838.6 - 831.5)

Volume	Invert	Avail.Storage	Storage Description
#1	92.50'	5,874 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
92.50	0	0
93.00	103	103
94.00	5,771	5,874

Device	Routing	Invert	Outlet Devices
#1	Primary	92.50'	15.0" Round Culvert L= 202.0' Ke= 0.600 Inlet / Outlet Invert= 92.50' / 89.11' S= 0.0168 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=3.73 cfs @ 12.46 hrs HW=93.58' (Free Discharge)↑ **1=Culvert** (Inlet Controls 3.73 cfs @ 3.31 fps)

Proposed Conditions

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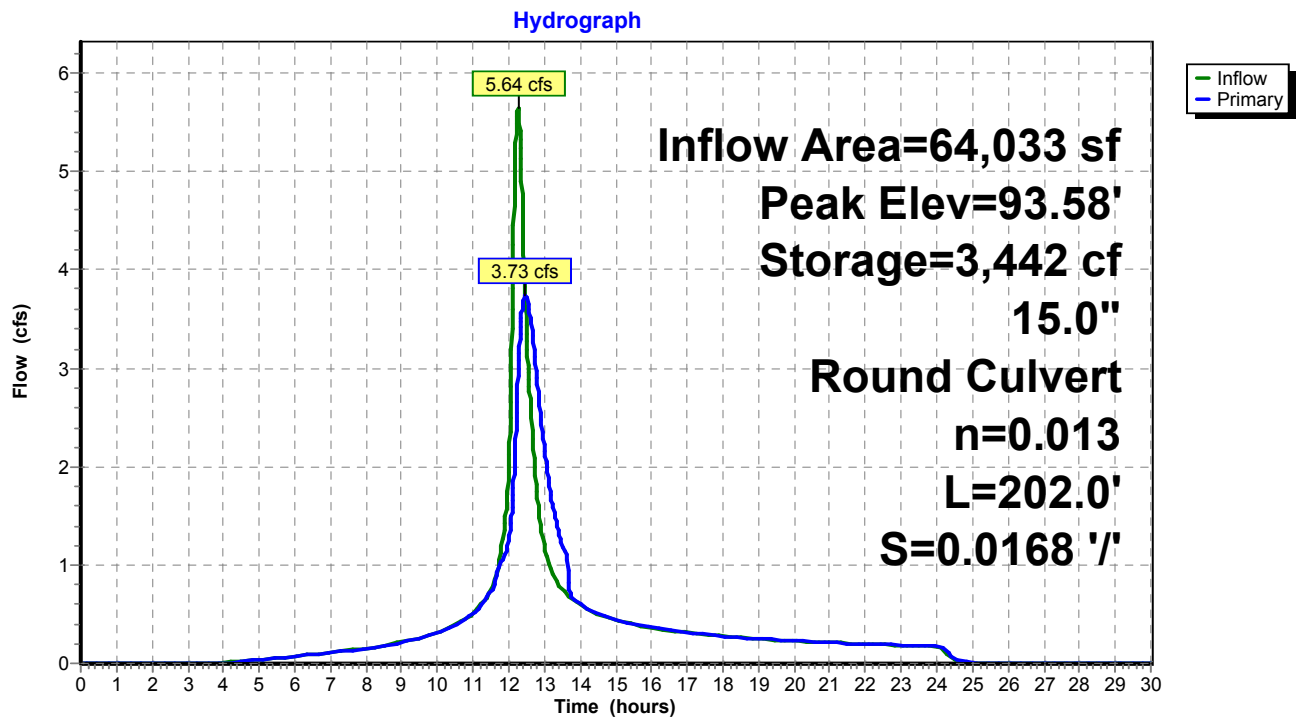
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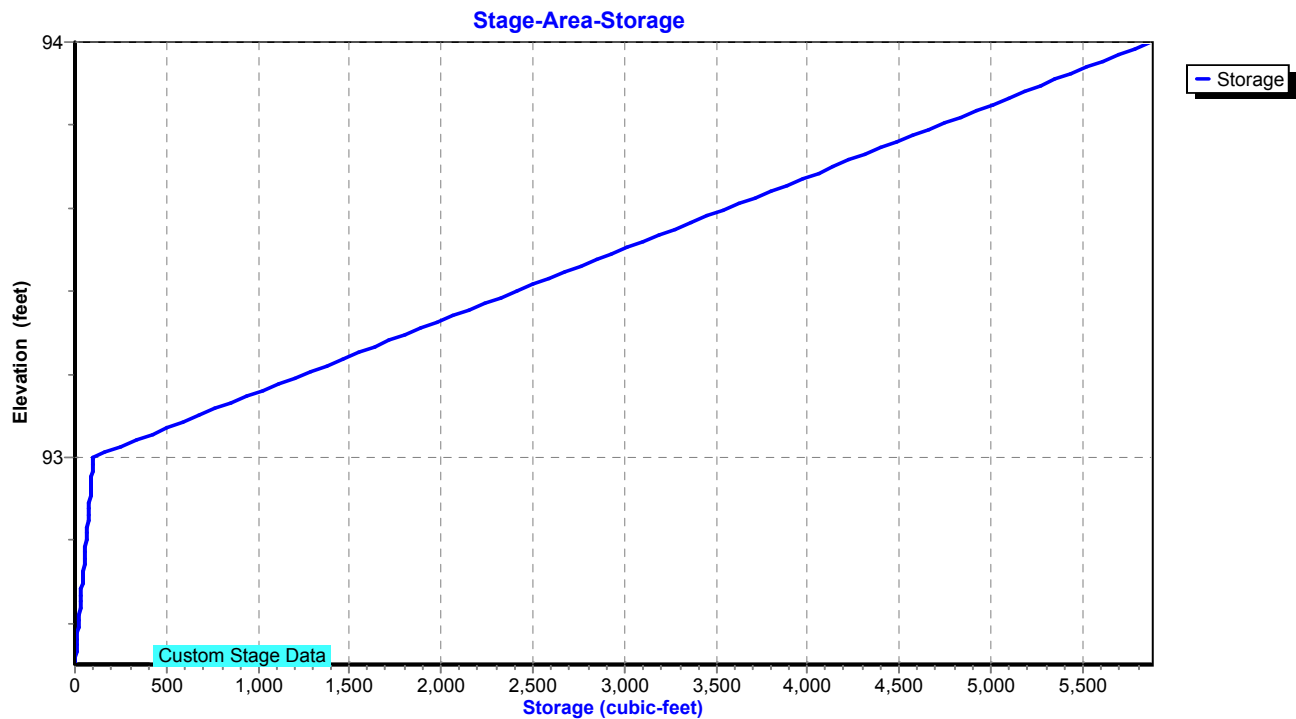
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Pond 7P: DET 7 Culvert



Pond 7P: DET 7 Culvert



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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Pond 8P: Comb. 5,6,7,8,9

Inflow Area = 1,584,277 sf, 30.02% Impervious, Inflow Depth = 5.84" for 100 year event
 Inflow = 78.16 cfs @ 12.73 hrs, Volume= 770,688 cf
 Outflow = 78.15 cfs @ 12.74 hrs, Volume= 770,688 cf, Atten= 0%, Lag= 0.6 min
 Primary = 78.15 cfs @ 12.74 hrs, Volume= 770,688 cf
 Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 73.00' @ 12.74 hrs Storage= 639 cf

Plug-Flow detention time= 0.1 min calculated for 770,688 cf (100% of inflow)
 Center-of-Mass det. time= 0.1 min (856.6 - 856.5)

Volume	Invert	Avail.Storage	Storage Description
#1	68.40'	5,234 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
68.40	0	0
71.00	52	52
72.00	118	170
73.00	471	641
74.00	1,318	1,959
75.00	3,275	5,234

Device	Routing	Invert	Outlet Devices
#1	Primary	68.40'	42.0" Round Culvert L= 900.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 68.40' / 36.99' S= 0.0349 ' / Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=78.15 cfs @ 12.74 hrs HW=73.00' (Free Discharge)

↑**1=Culvert** (Inlet Controls 78.15 cfs @ 8.12 fps)

Proposed Conditions

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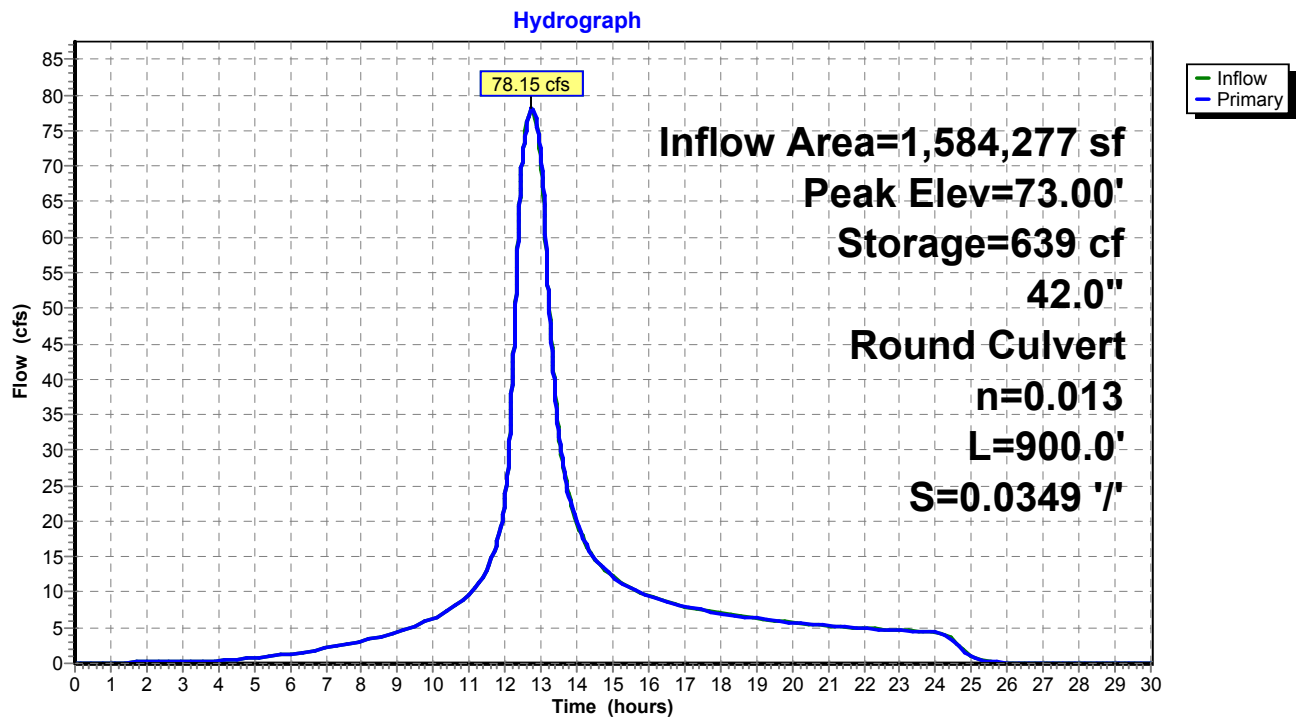
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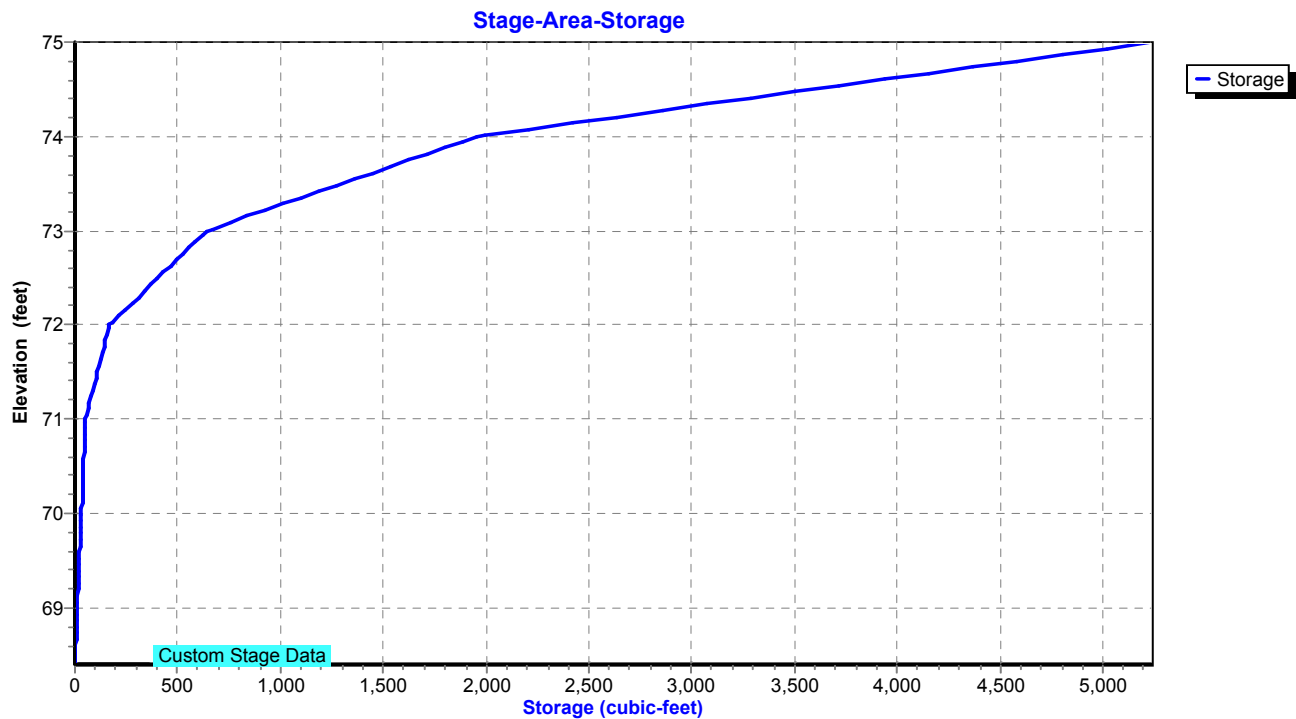
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Pond 8P: Comb. 5,6,7,8,9



Pond 8P: Comb. 5,6,7,8,9



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Summary for Pond 9P: MH-K

Inflow Area = 246,332 sf, 62.25% Impervious, Inflow Depth = 6.62" for 100 year event
Inflow = 35.31 cfs @ 12.04 hrs, Volume= 135,894 cf
Outflow = 35.31 cfs @ 12.04 hrs, Volume= 135,894 cf, Atten= 0%, Lag= 0.0 min
Primary = 35.31 cfs @ 12.04 hrs, Volume= 135,894 cf
Routed to Pond 3P : DETENTION BASIN #2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 53.63' @ 12.04 hrs

Flood Elev= 51.80'

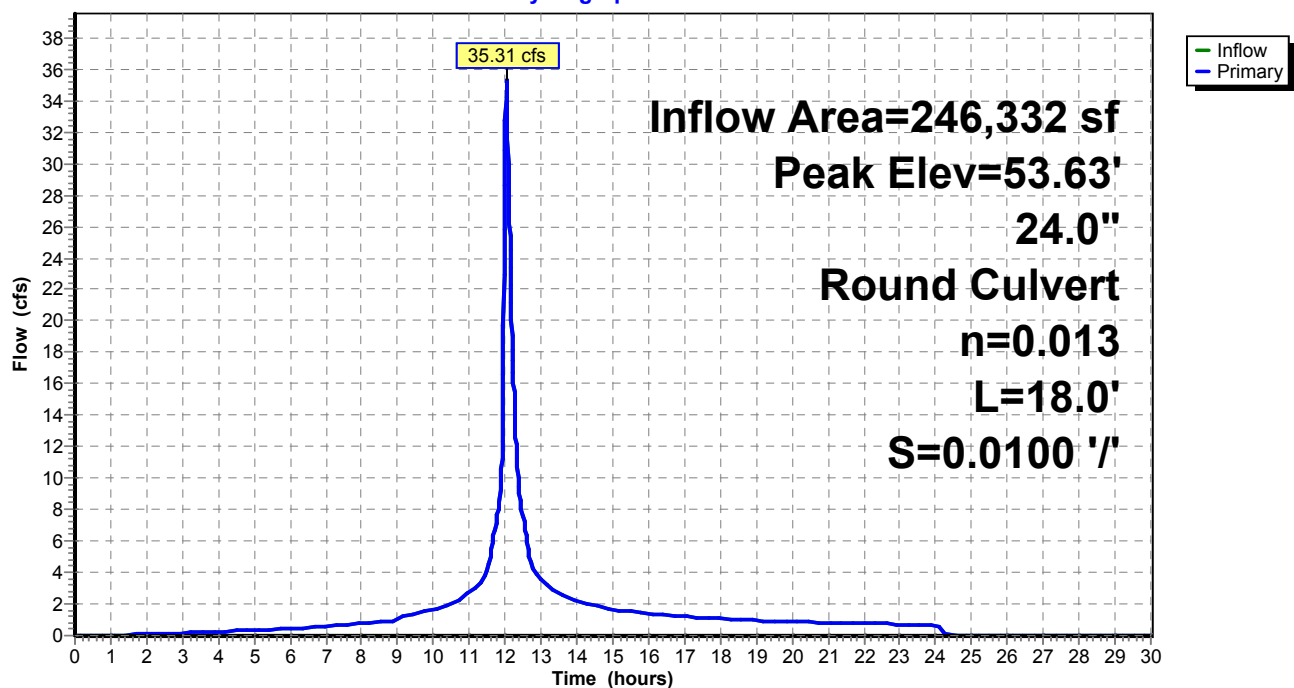
Device	Routing	Invert	Outlet Devices
#1	Primary	47.18'	24.0" Round Culvert L= 18.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.18' / 47.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=35.20 cfs @ 12.04 hrs HW=53.59' (Free Discharge)

↑1=Culvert (Inlet Controls 35.20 cfs @ 11.20 hrs)

Pond 9P: MH-K

Hydrograph



Proposed Conditions

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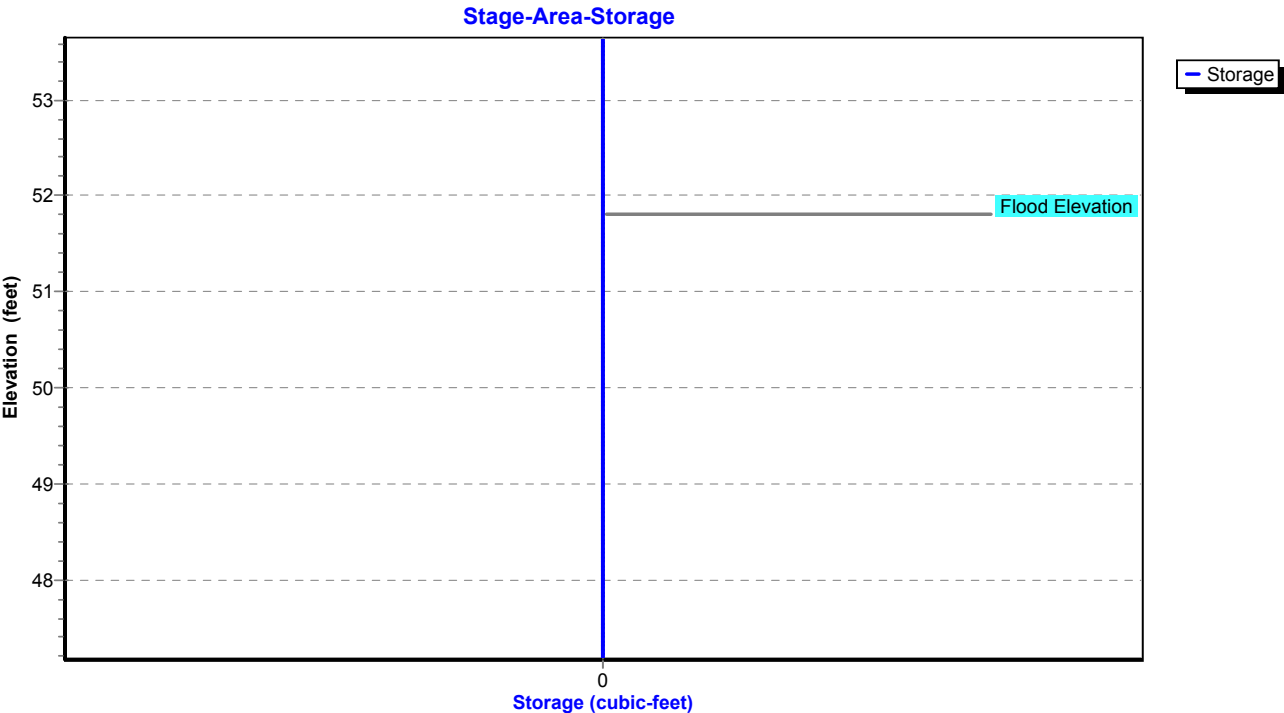
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Pond 9P: MH-K



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Summary for Pond 10P: MH-L

Inflow Area = 71,874 sf, 85.27% Impervious, Inflow Depth = 6.96" for 100 year event
Inflow = 14.35 cfs @ 12.03 hrs, Volume= 41,670 cf
Outflow = 14.35 cfs @ 12.03 hrs, Volume= 41,670 cf, Atten= 0%, Lag= 0.0 min
Primary = 14.35 cfs @ 12.03 hrs, Volume= 41,670 cf
Routed to Pond 9P : MH-K

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 52.37' @ 12.03 hrs

Flood Elev= 53.00'

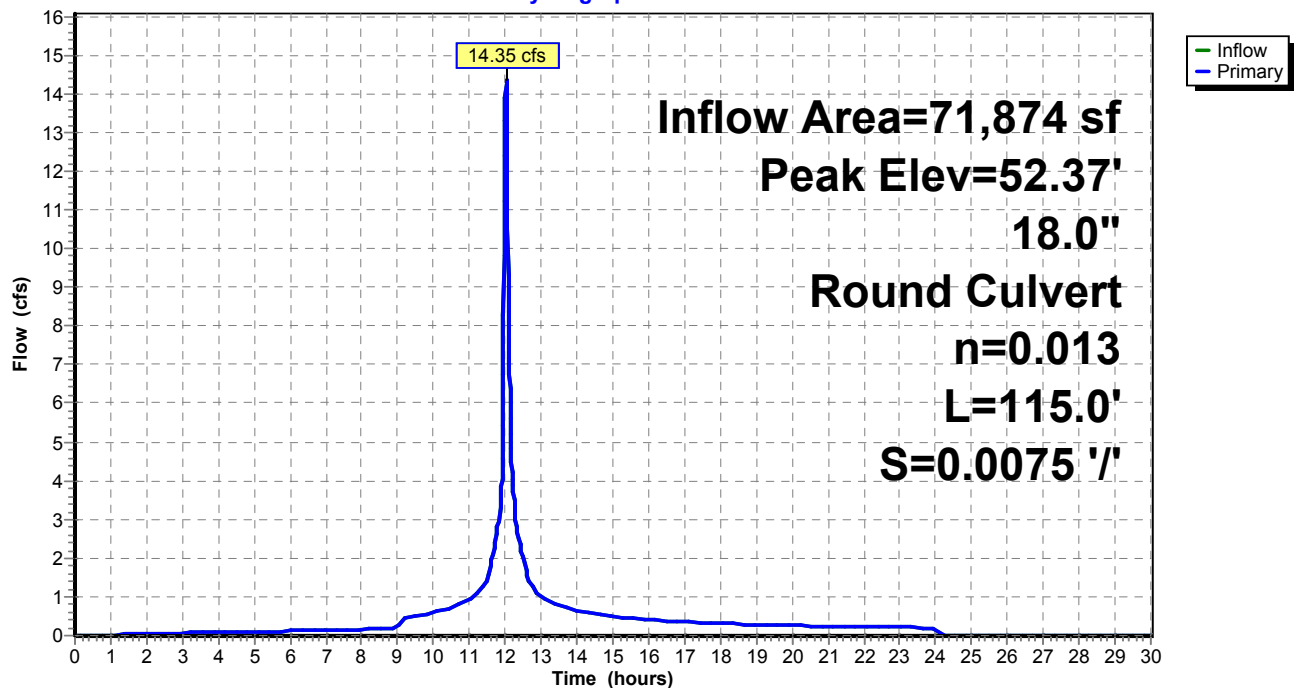
Device	Routing	Invert	Outlet Devices
#1	Primary	48.04'	18.0" Round Culvert L= 115.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.04' / 47.18' S= 0.0075 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=14.29 cfs @ 12.03 hrs HW=52.34' (Free Discharge)

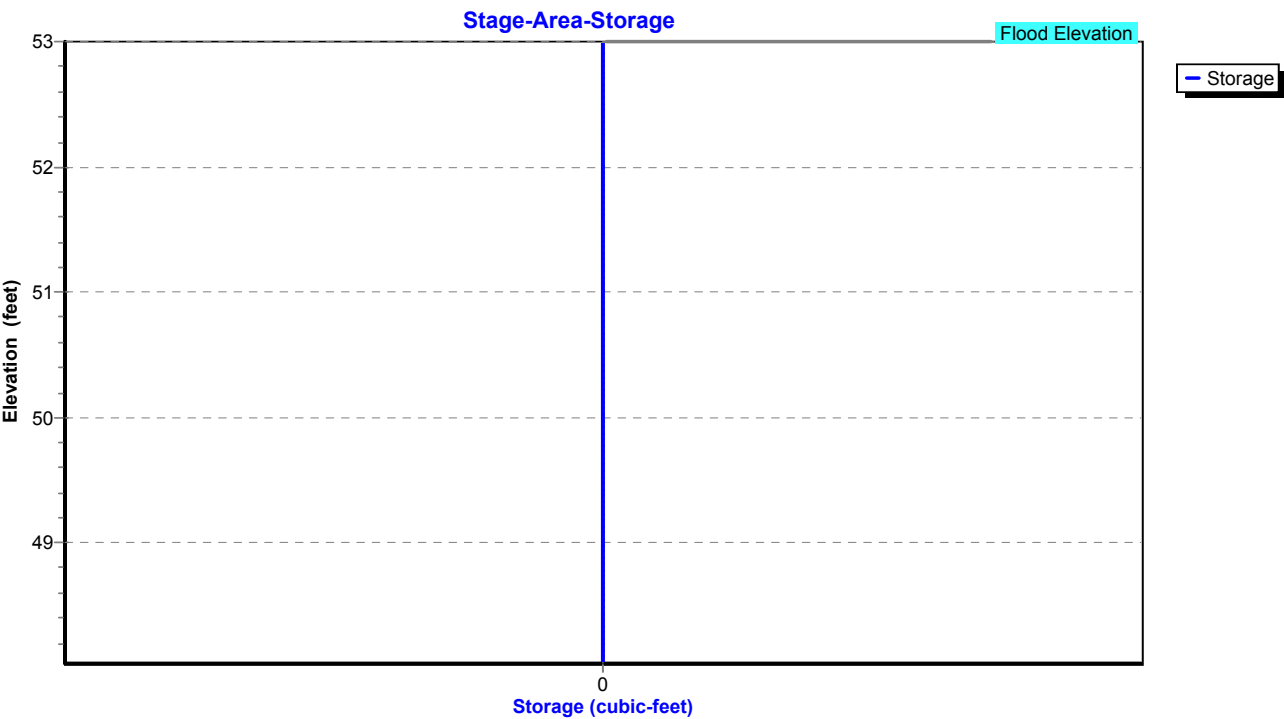
↑1=Culvert (Barrel Controls 14.29 cfs @ 8.09 fps)

Pond 10P: MH-L

Hydrograph



Pond 10P: MH-L



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Summary for Pond 11P: Pipe Storage

Inflow Area = 40,903 sf, 82.85% Impervious, Inflow Depth = 7.54" for 100 year event
Inflow = 8.15 cfs @ 12.03 hrs, Volume= 25,711 cf
Outflow = 8.14 cfs @ 12.03 hrs, Volume= 21,832 cf, Atten= 0%, Lag= 0.0 min
Primary = 8.14 cfs @ 12.03 hrs, Volume= 21,832 cf
Routed to Pond 10P : MH-L

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 54.12' @ 12.03 hrs Storage= 0.081 af

Plug-Flow detention time= 138.7 min calculated for 21,832 cf (85% of inflow)

Center-of-Mass det. time= 59.6 min (822.5 - 762.9)

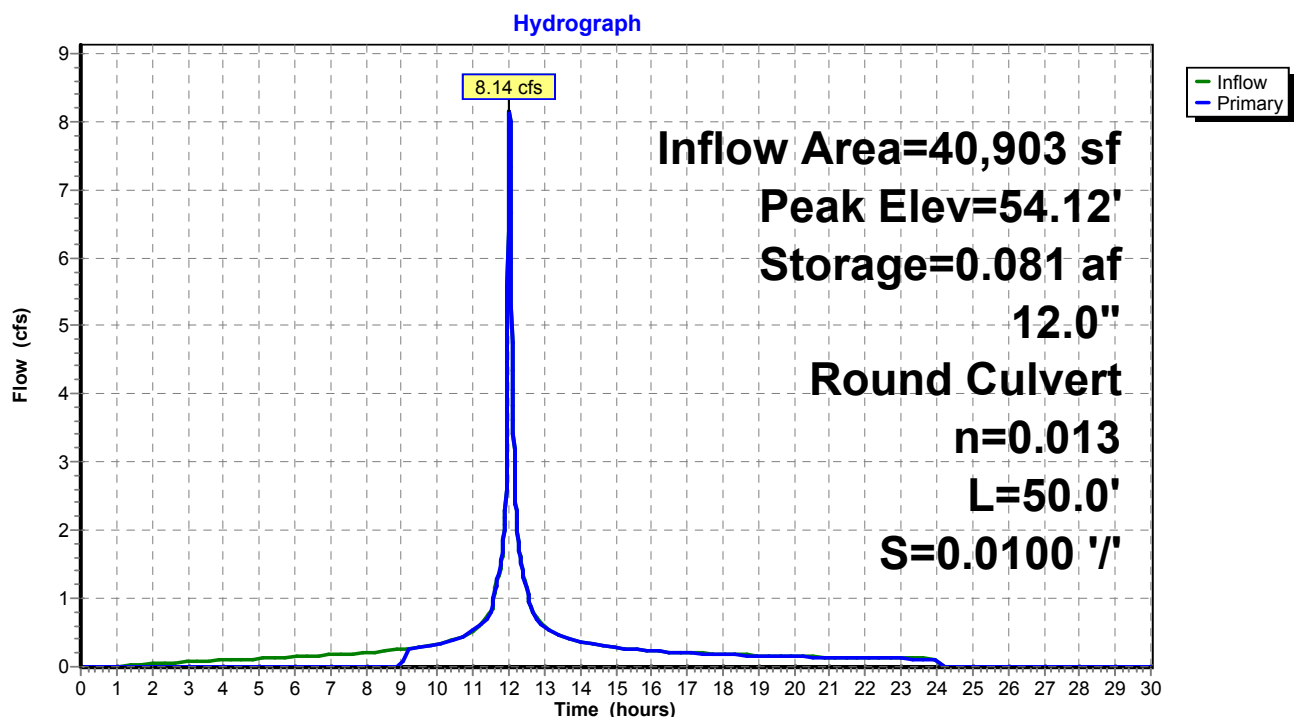
Volume	Invert	Avail.Storage	Storage Description
#1	45.50'	0.081 af	36.0" Round Pipe Storage x 2 L= 250.0'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.50'	12.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.50' / 48.00' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

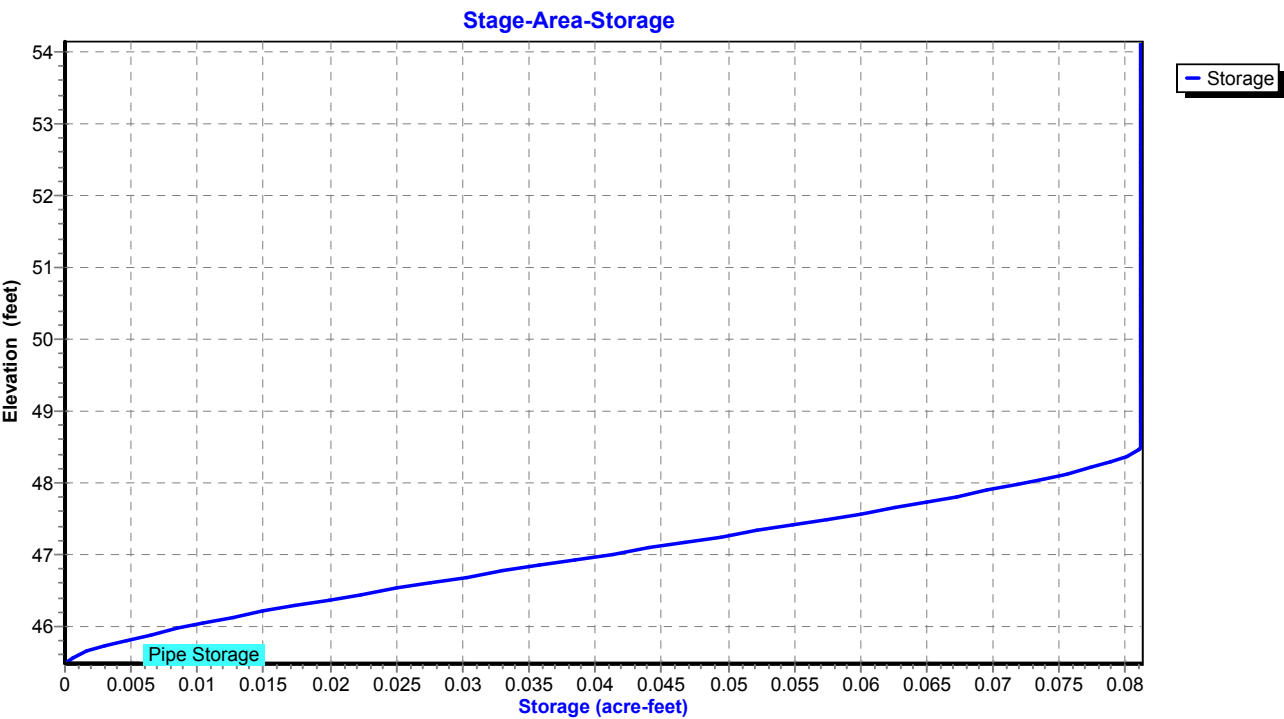
Primary OutFlow Max=8.11 cfs @ 12.03 hrs HW=54.08' (Free Discharge)

↑1=Culvert (Barrel Controls 8.11 cfs @ 10.32 fps)

Pond 11P: Pipe Storage



Pond 11P: Pipe Storage



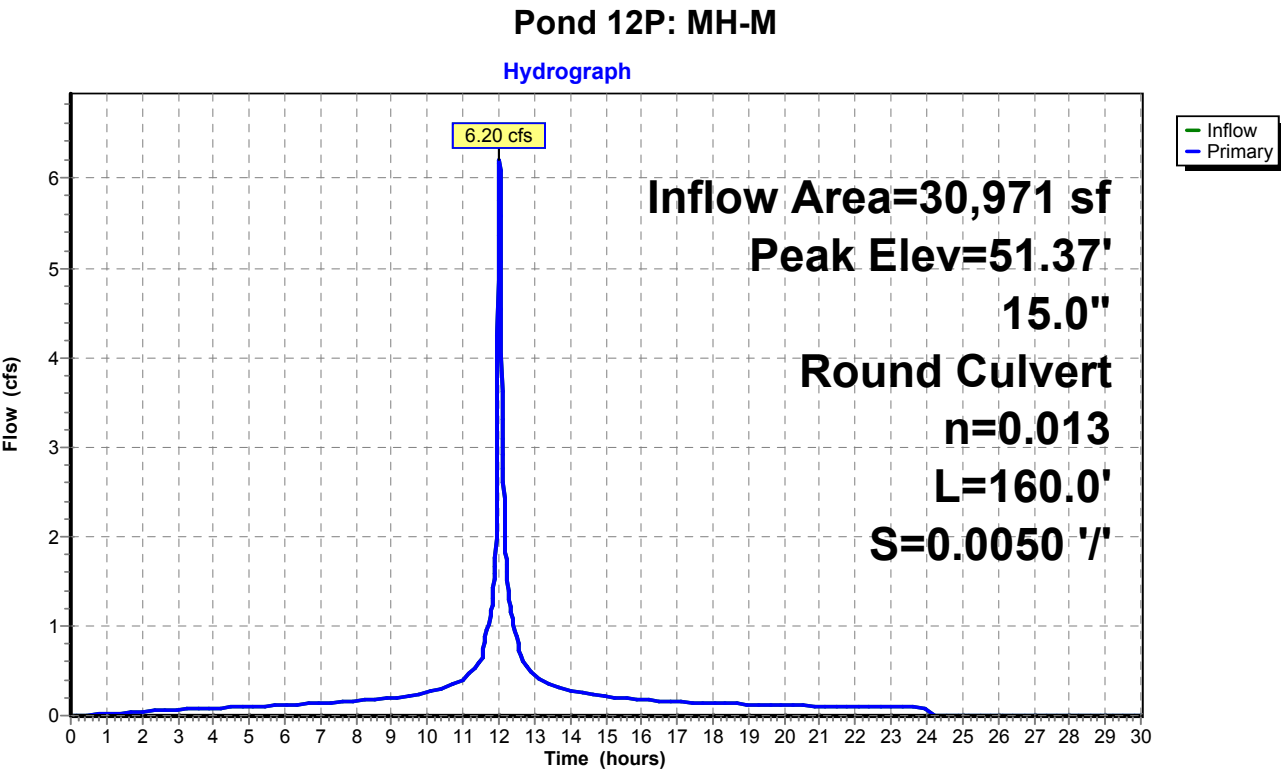
Summary for Pond 12P: MH-M

Inflow Area = 30,971 sf, 88.47% Impervious, Inflow Depth = 7.69" for 100 year event
Inflow = 6.20 cfs @ 12.03 hrs, Volume= 19,838 cf
Outflow = 6.20 cfs @ 12.03 hrs, Volume= 19,838 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.20 cfs @ 12.03 hrs, Volume= 19,838 cf
Routed to Pond 10P : MH-L

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 51.37' @ 12.03 hrs
Flood Elev= 54.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	48.84'	15.0" Round Culvert L= 160.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.84' / 48.04' S= 0.0050 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=6.18 cfs @ 12.03 hrs HW=51.35' (Free Discharge)
1=Culvert (Barrel Controls 6.18 cfs @ 5.04 fps)



Proposed Conditions

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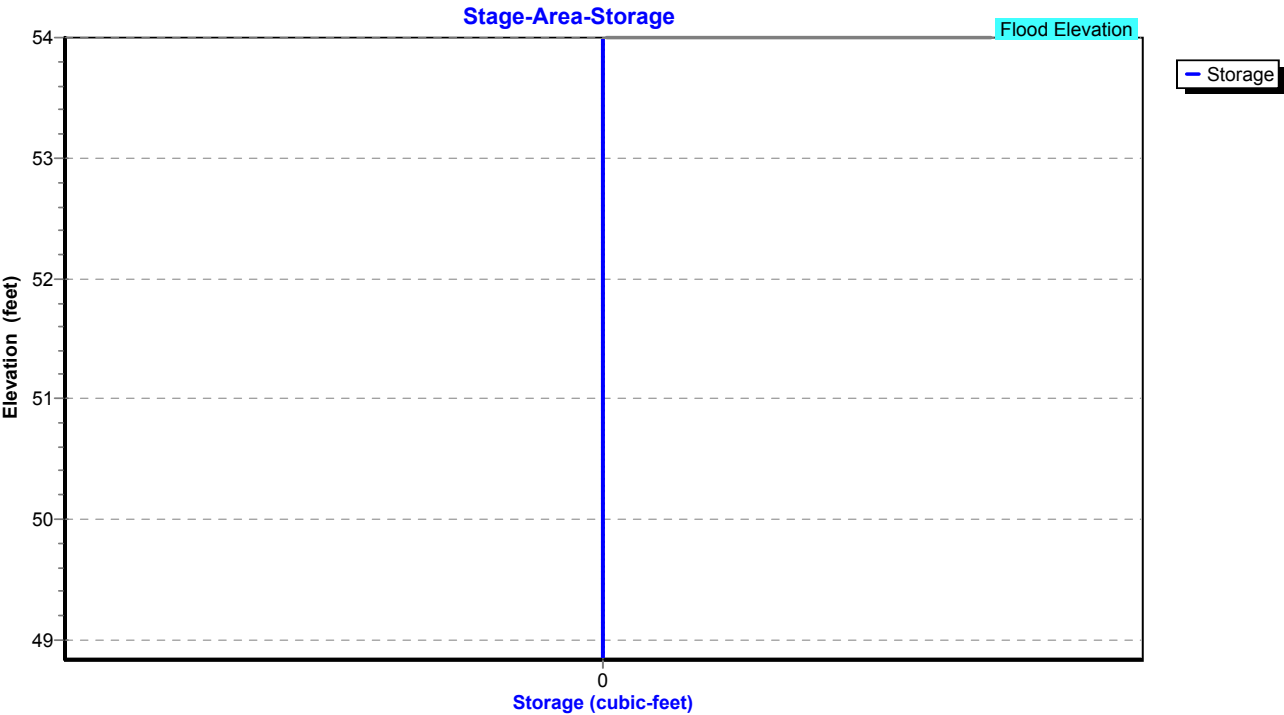
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Pond 12P: MH-M



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Summary for Pond 13P: MH-J

Inflow Area = 17,032 sf, 79.03% Impervious, Inflow Depth = 7.42" for 100 year event
Inflow = 3.37 cfs @ 12.03 hrs, Volume= 10,527 cf
Outflow = 3.37 cfs @ 12.03 hrs, Volume= 10,527 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.37 cfs @ 12.03 hrs, Volume= 10,527 cf
Routed to Pond 12P : MH-M

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 51.58' @ 12.03 hrs

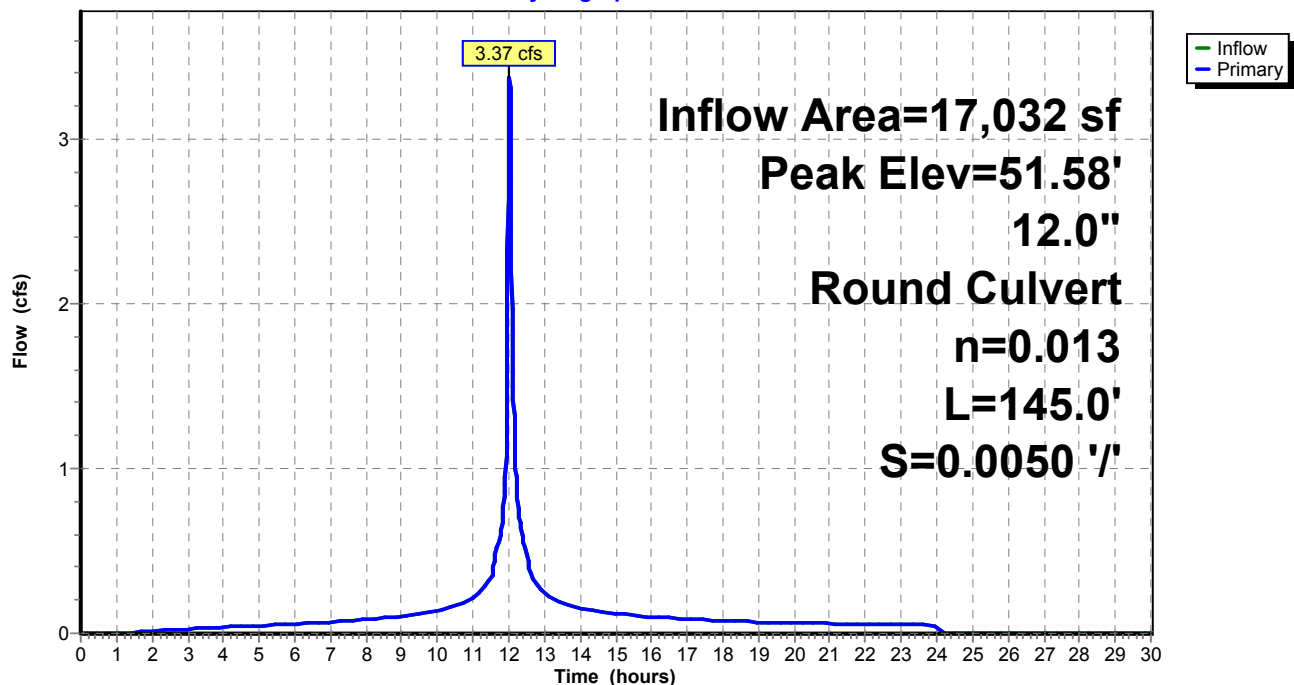
Device	Routing	Invert	Outlet Devices
#1	Primary	49.57'	12.0" Round Culvert L= 145.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.57' / 48.84' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=3.36 cfs @ 12.03 hrs HW=51.56' (Free Discharge)

↑1=Culvert (Barrel Controls 3.36 cfs @ 4.28 fps)

Pond 13P: MH-J

Hydrograph



Proposed Conditions

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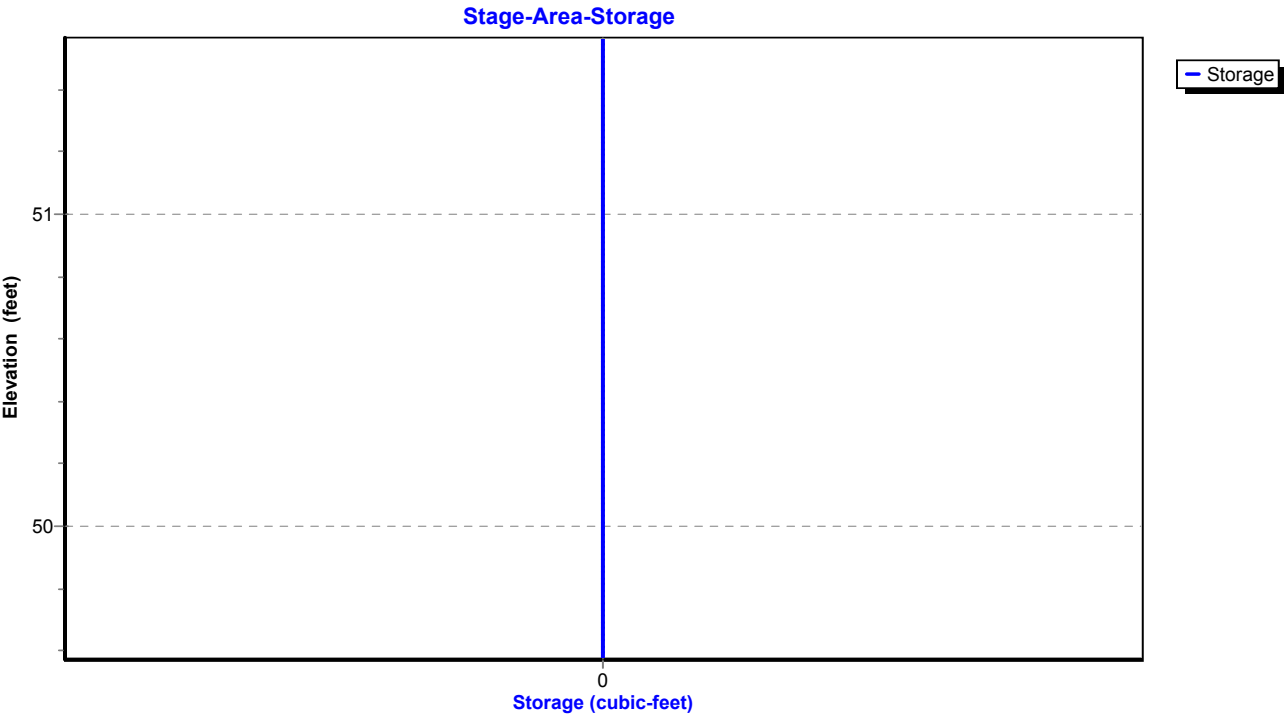
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Pond 13P: MH-J



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Summary for Pond 14P: MH-O

Inflow Area = 144,140 sf, 45.36% Impervious, Inflow Depth = 6.23" for 100 year event
Inflow = 16.80 cfs @ 12.10 hrs, Volume= 74,881 cf
Outflow = 16.80 cfs @ 12.10 hrs, Volume= 74,881 cf, Atten= 0%, Lag= 0.0 min
Primary = 16.80 cfs @ 12.10 hrs, Volume= 74,881 cf
Routed to Pond 9P : MH-K

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 52.84' @ 12.10 hrs

Flood Elev= 51.80'

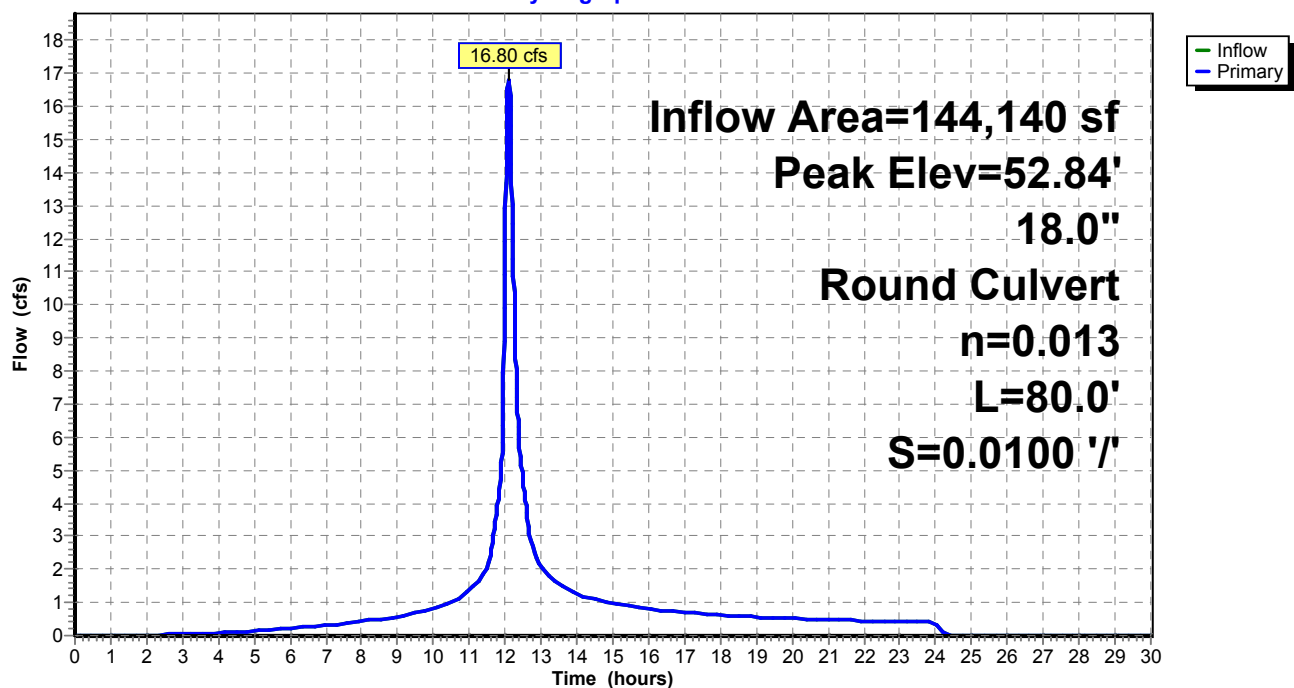
Device	Routing	Invert	Outlet Devices
#1	Primary	47.98'	18.0" Round Culvert L= 80.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.98' / 47.18' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=16.79 cfs @ 12.10 hrs HW=52.84' (Free Discharge)

↑1=Culvert (Barrel Controls 16.79 cfs @ 9.50 fps)

Pond 14P: MH-O

Hydrograph



Proposed Conditions

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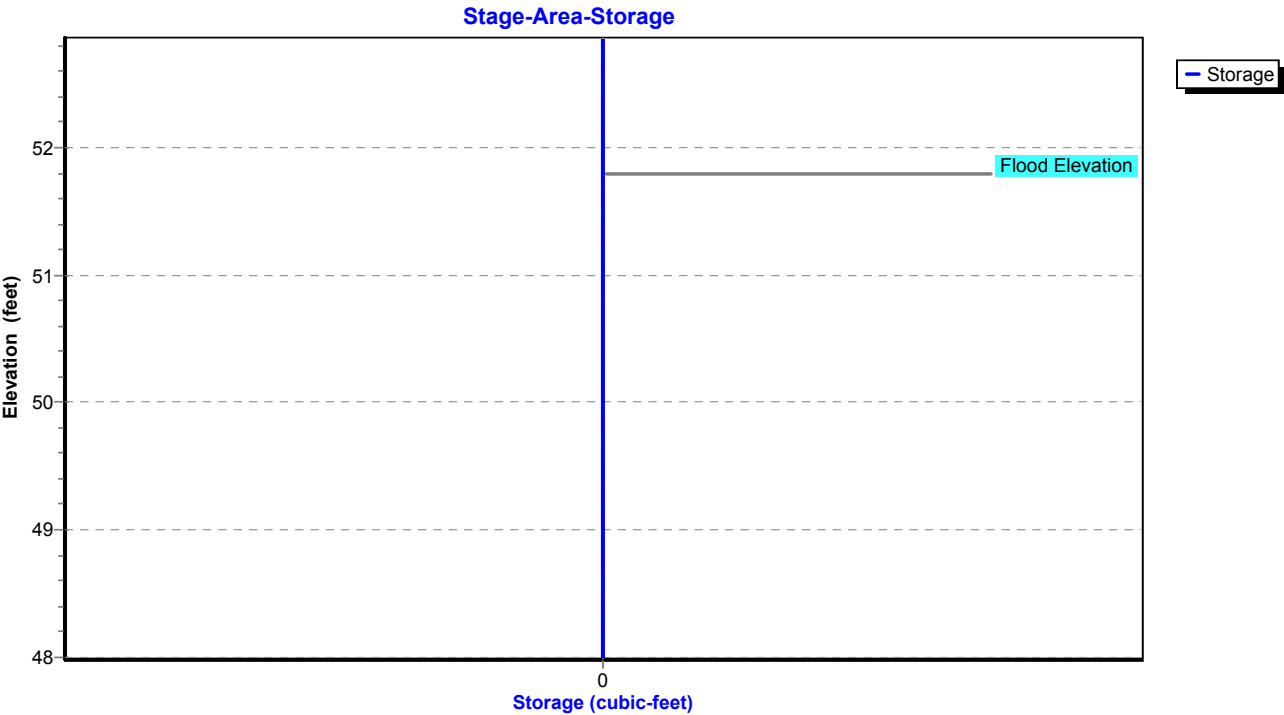
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Pond 14P: MH-O



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Summary for Pond 15P: MH-P

Inflow Area = 126,542 sf, 40.90% Impervious, Inflow Depth = 6.07" for 100 year event
Inflow = 15.01 cfs @ 12.11 hrs, Volume= 63,983 cf
Outflow = 15.01 cfs @ 12.11 hrs, Volume= 63,983 cf, Atten= 0%, Lag= 0.0 min
Primary = 15.01 cfs @ 12.11 hrs, Volume= 63,983 cf
Routed to Pond 14P : MH-O

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 54.54' @ 12.11 hrs

Flood Elev= 53.90'

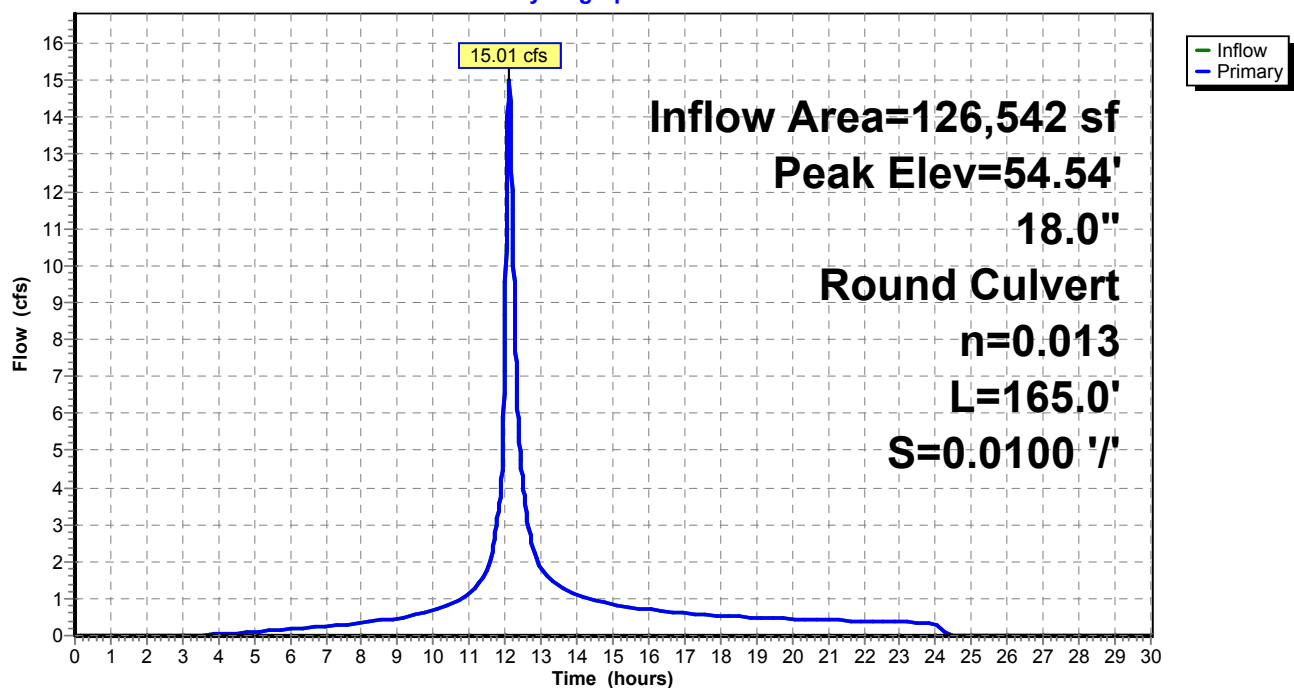
Device	Routing	Invert	Outlet Devices
#1	Primary	49.63'	18.0" Round Culvert L= 165.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.63' / 47.98' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=15.00 cfs @ 12.11 hrs HW=54.54' (Free Discharge)

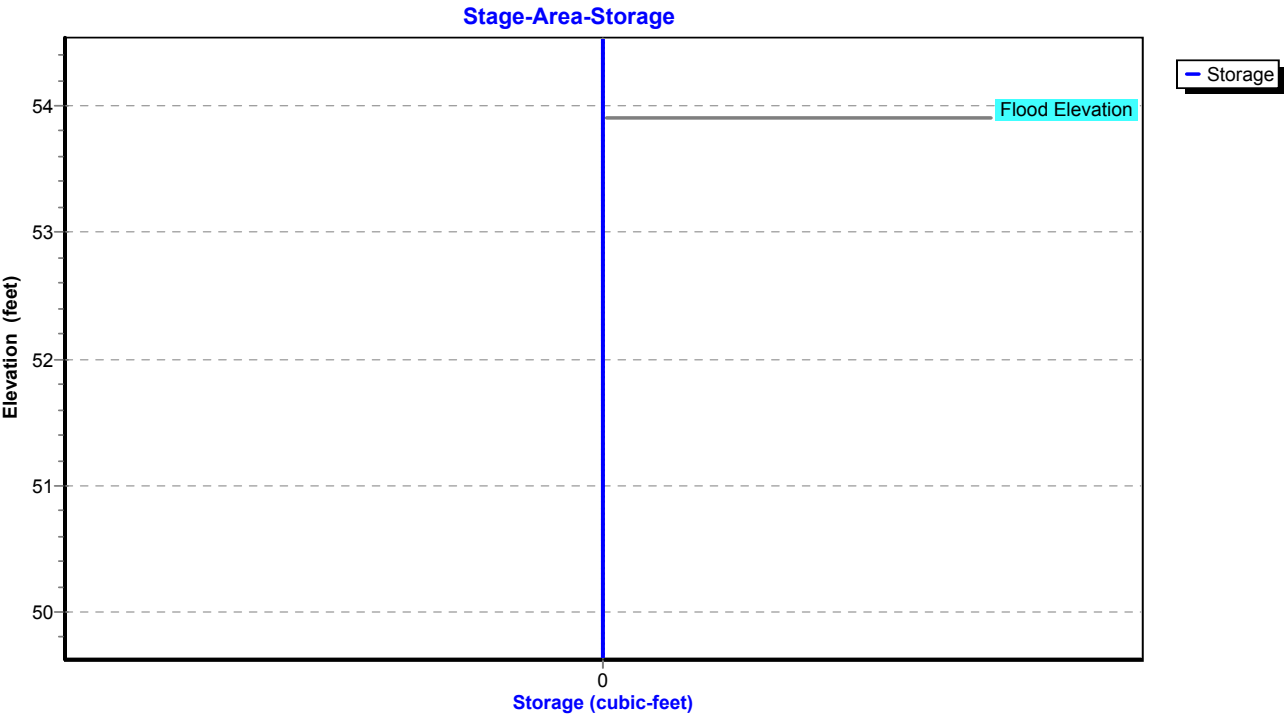
↑1=Culvert (Barrel Controls 15.00 cfs @ 8.49 fps)

Pond 15P: MH-P

Hydrograph



Pond 15P: MH-P



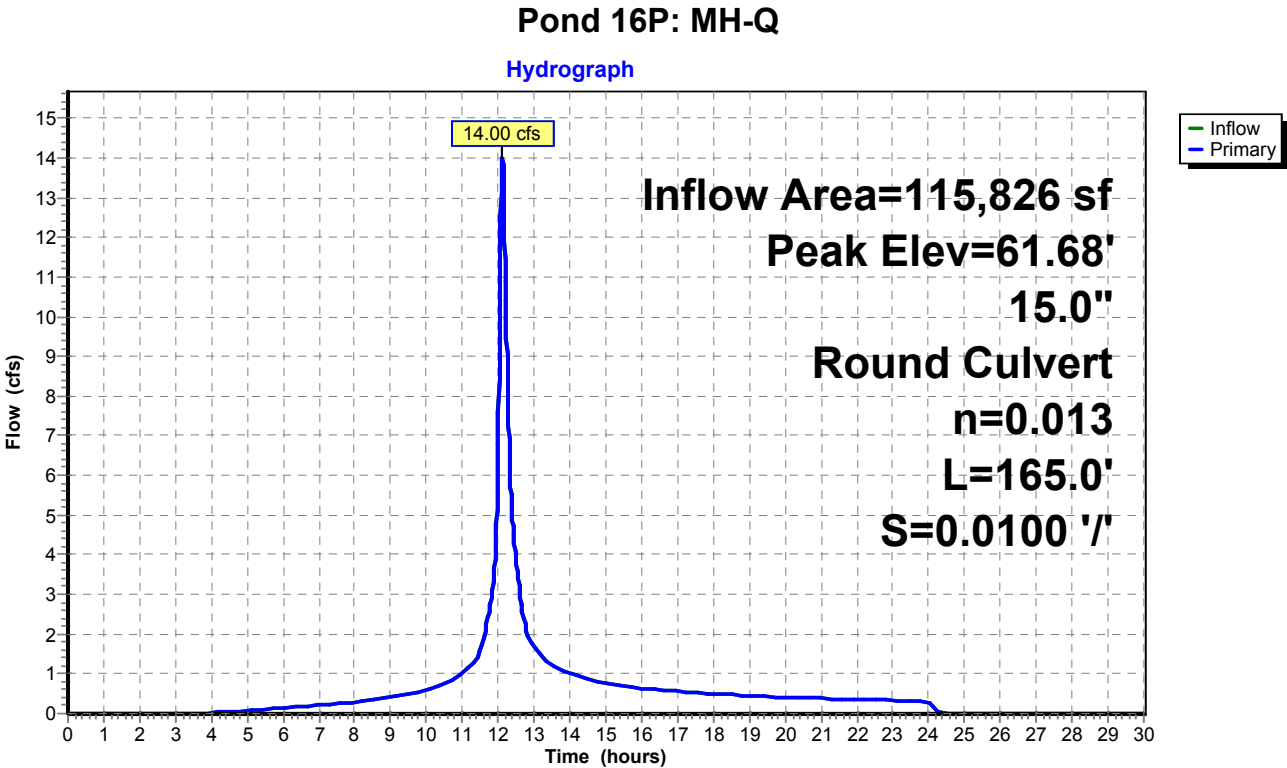
Summary for Pond 16P: MH-Q

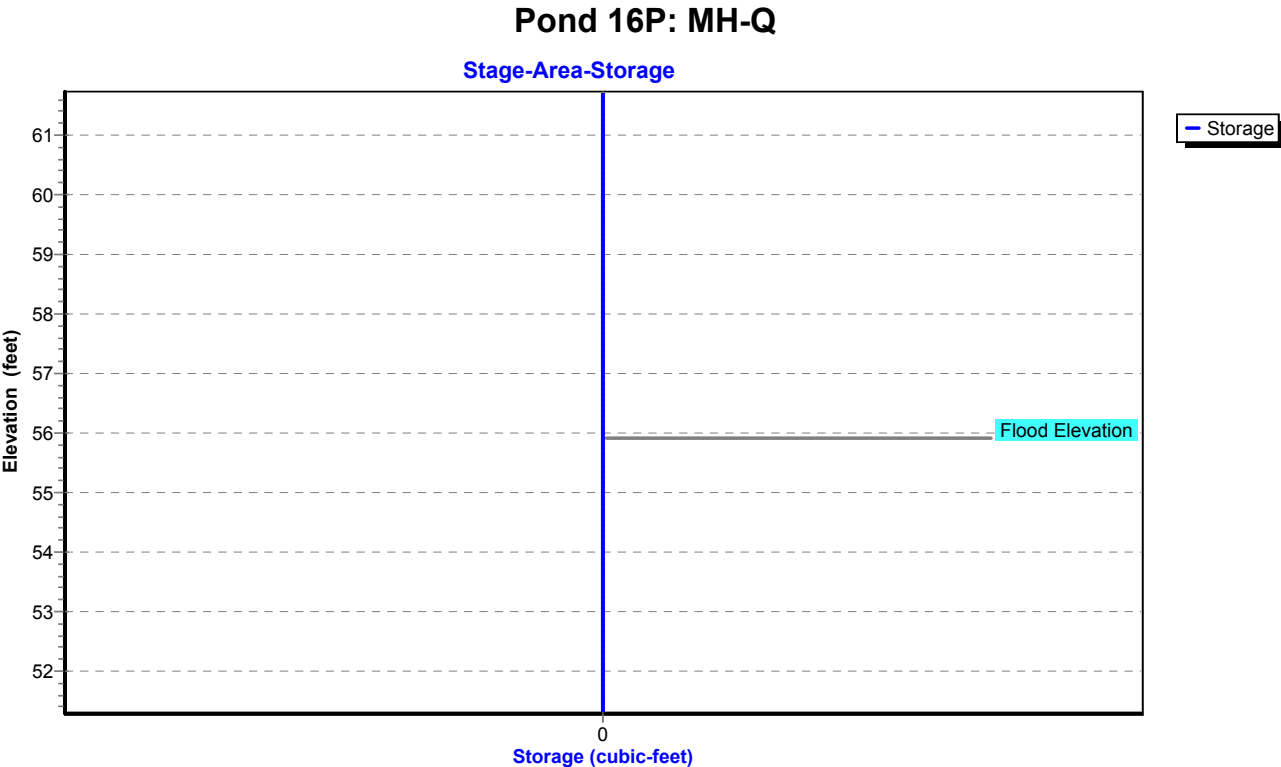
Inflow Area = 115,826 sf, 38.74% Impervious, Inflow Depth = 5.98" for 100 year event
Inflow = 14.00 cfs @ 12.11 hrs, Volume= 57,761 cf
Outflow = 14.00 cfs @ 12.11 hrs, Volume= 57,761 cf, Atten= 0%, Lag= 0.0 min
Primary = 14.00 cfs @ 12.11 hrs, Volume= 57,761 cf
Routed to Pond 15P : MH-P

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 61.68' @ 12.11 hrs
Flood Elev= 55.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.28'	15.0" Round Culvert L= 165.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 51.28' / 49.63' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=13.98 cfs @ 12.11 hrs HW=61.66' (Free Discharge)
1=Culvert (Barrel Controls 13.98 cfs @ 11.39 fps)





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Summary for Pond 17P: DET 12 Culvert

Inflow Area = 2,935,247 sf, 23.28% Impervious, Inflow Depth = 5.15" for 100 year event
 Inflow = 96.34 cfs @ 13.17 hrs, Volume= 1,260,192 cf
 Outflow = 96.12 cfs @ 13.21 hrs, Volume= 1,260,192 cf, Atten= 0%, Lag= 2.9 min
 Primary = 96.12 cfs @ 13.21 hrs, Volume= 1,260,192 cf
 Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 47.63' @ 13.21 hrs Surf.Area= 6,069 sf Storage= 10,103 cf

Plug-Flow detention time= 1.6 min calculated for 1,259,772 cf (100% of inflow)
 Center-of-Mass det. time= 1.6 min (901.7 - 900.1)

Volume	Invert	Avail.Storage	Storage Description
#1	43.80'	45,995 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
43.80	222	0	0
44.00	709	93	93
45.00	1,401	1,055	1,148
46.00	2,634	2,018	3,166
47.00	4,548	3,591	6,757
48.00	6,960	5,754	12,511
49.00	9,390	8,175	20,686
50.00	12,553	10,972	31,657
51.00	16,122	14,338	45,995

Device	Routing	Invert	Outlet Devices
#1	Primary	43.80'	54.0" Round Culvert L= 281.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 43.80' / 23.20' S= 0.0733 ' / Cc= 0.900 n= 0.013, Flow Area= 15.90 sf

Primary OutFlow Max=96.12 cfs @ 13.21 hrs HW=47.63' (Free Discharge)
 ↑ **1=Culvert** (Inlet Controls 96.12 cfs @ 6.66 fps)

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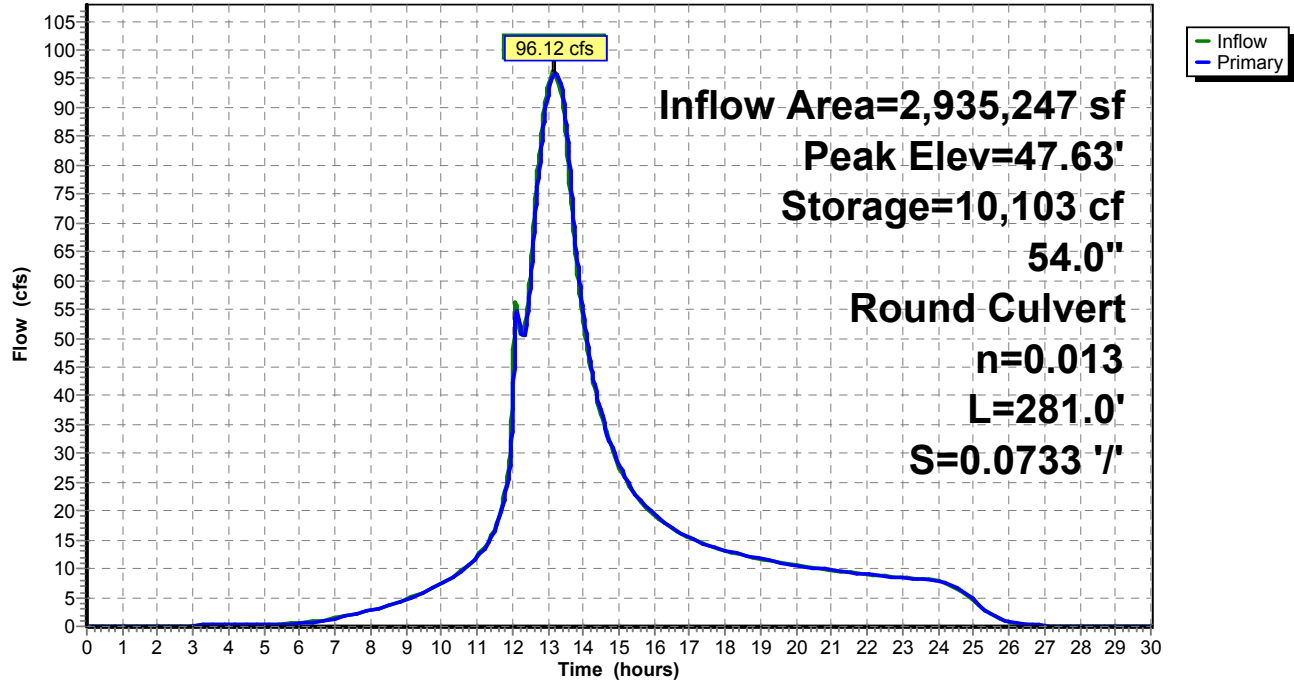
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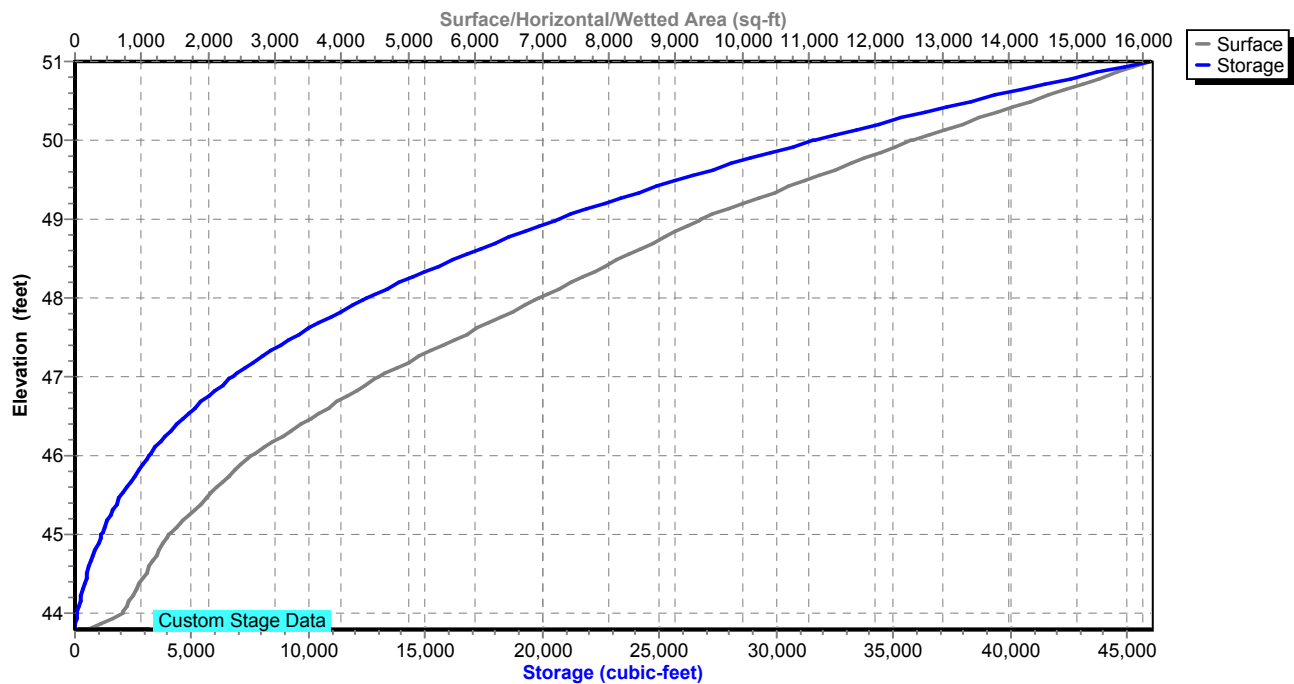
Pond 17P: DET 12 Culvert

Hydrograph



Pond 17P: DET 12 Culvert

Stage-Area-Storage



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Summary for Pond 18P: DET 4 Culvert

Inflow Area = 2,651,933 sf, 21.42% Impervious, Inflow Depth = 5.04" for 100 year event
 Inflow = 94.68 cfs @ 13.07 hrs, Volume= 1,113,245 cf
 Outflow = 92.74 cfs @ 13.18 hrs, Volume= 1,113,245 cf, Atten= 2%, Lag= 6.6 min
 Primary = 92.74 cfs @ 13.18 hrs, Volume= 1,113,245 cf
 Routed to Pond 17P : DET 12 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 70.93' @ 13.18 hrs Surf.Area= 3,131 sf Storage= 9,738 cf

Plug-Flow detention time= 0.5 min calculated for 1,112,874 cf (100% of inflow)
 Center-of-Mass det. time= 0.5 min (912.6 - 912.1)

Volume	Invert	Avail.Storage	Storage Description
#1	62.00'	13,716 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
62.00	10	0	0
65.00	292	453	453
66.00	695	494	947
67.00	1,049	872	1,819
68.00	1,488	1,269	3,087
69.00	2,004	1,746	4,833
70.00	2,550	2,277	7,110
71.00	3,178	2,864	9,974
72.00	4,305	3,742	13,716

Device	Routing	Invert	Outlet Devices
#1	Primary	62.00'	36.0" Round Culvert L= 213.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 62.00' / 50.90' S= 0.0521 ' / Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=92.74 cfs @ 13.18 hrs HW=70.92' (Free Discharge)
 ↑**1=Culvert** (Inlet Controls 92.74 cfs @ 13.12 hrs)

Proposed Conditions

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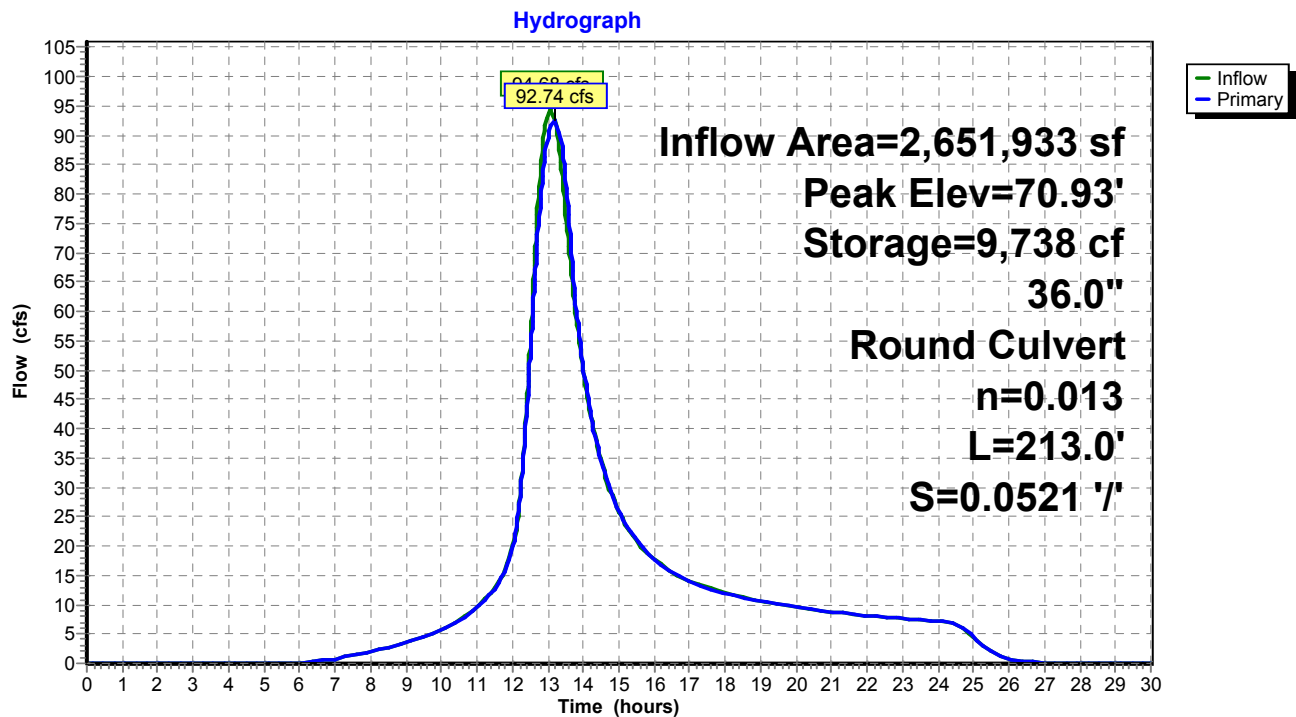
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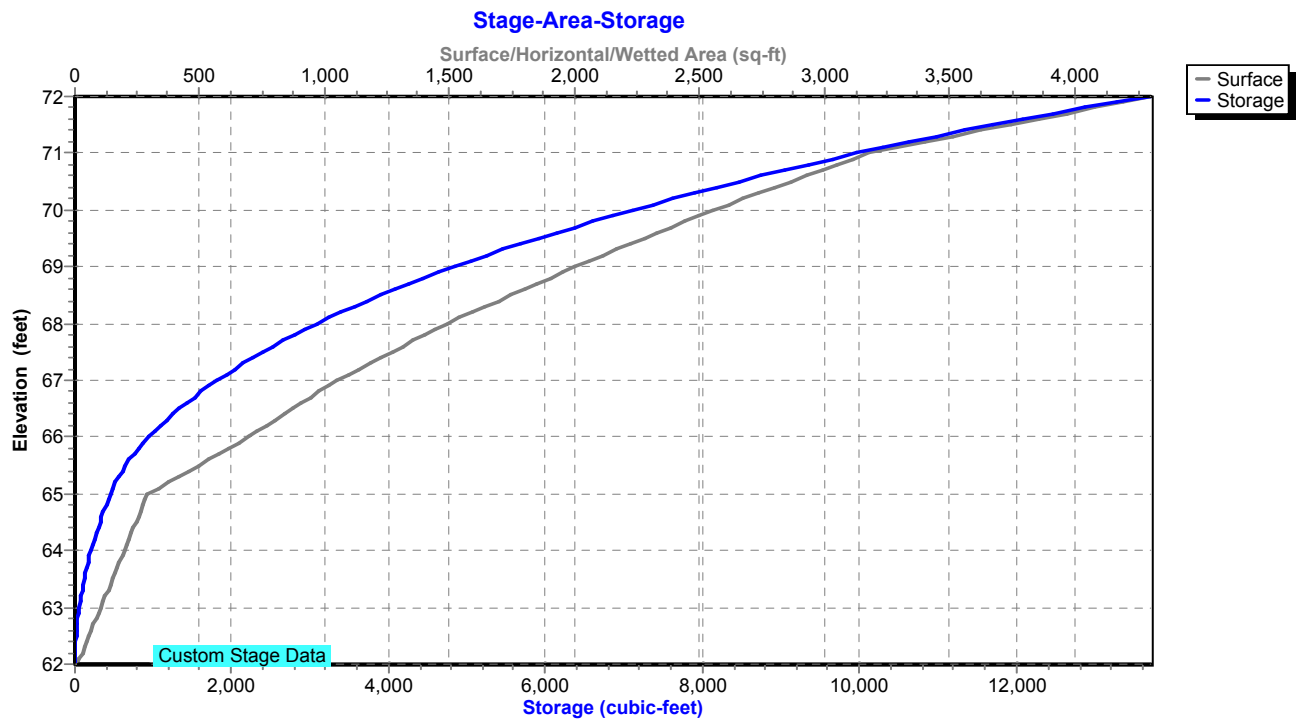
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Pond 18P: DET 4 Culvert



Pond 18P: DET 4 Culvert



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Summary for Pond 20P: ADS Stormtech (160LP)

Inflow Area = 4,966 sf, 80.70% Impervious, Inflow Depth = 7.54" for 100 year event
 Inflow = 0.99 cfs @ 12.03 hrs, Volume= 3,119 cf
 Outflow = 0.89 cfs @ 12.06 hrs, Volume= 3,050 cf, Atten= 10%, Lag= 2.0 min
 Primary = 0.89 cfs @ 12.06 hrs, Volume= 3,050 cf
 Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 75.07' @ 12.06 hrs Surf.Area= 365 sf Storage= 372 cf

Plug-Flow detention time= 39.7 min calculated for 3,050 cf (98% of inflow)
 Center-of-Mass det. time= 25.1 min (789.3 - 764.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	73.00'	227 cf	14.50'W x 23.83'L x 2.00'H Field A 691 cf Overall - 123 cf Embedded = 568 cf x 40.0% Voids
#2A	73.50'	123 cf	ADS_StormTech SC-160LP +Cap x 18 Inside #1 Effective Size= 18.0"W x 12.0"H => 0.96 sf x 7.12'L = 6.8 cf Overall Size= 25.0"W x 12.0"H x 7.56'L with 0.44' Overlap 18 Chambers in 6 Rows
#3	73.50'	22 cf	5.00'D x 1.10'H OCS
		372 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	73.50'	12.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 73.50' / 73.00' S= 0.0313 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	74.40'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 2.75 2.75 Width (feet) 0.33 0.33 5.00
#3	Device 1	73.00'	3.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.88 cfs @ 12.06 hrs HW=75.06' (Free Discharge)

- 1=Culvert (Passes 0.88 cfs of 3.90 cfs potential flow)
- 2=Custom Weir/Orifice (Weir Controls 0.58 cfs @ 2.67 fps)
- 3=Orifice/Grate (Orifice Controls 0.30 cfs @ 6.02 fps)

Proposed Conditions

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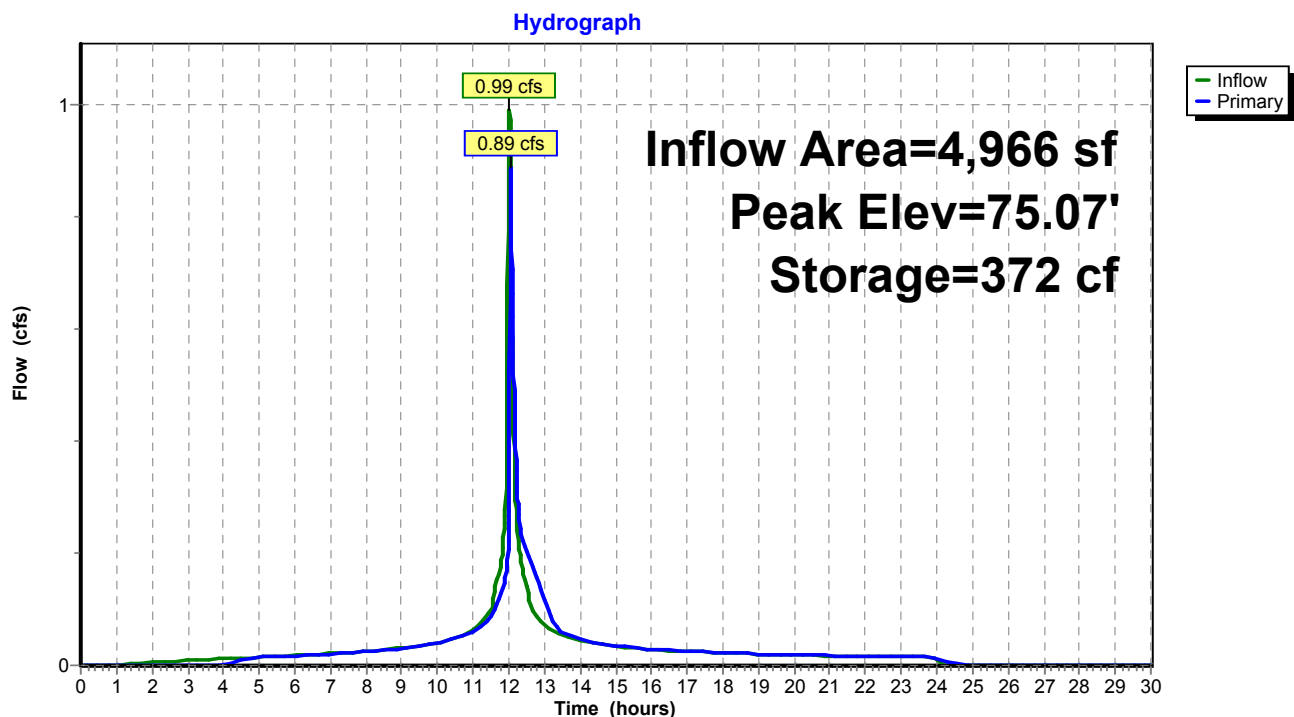
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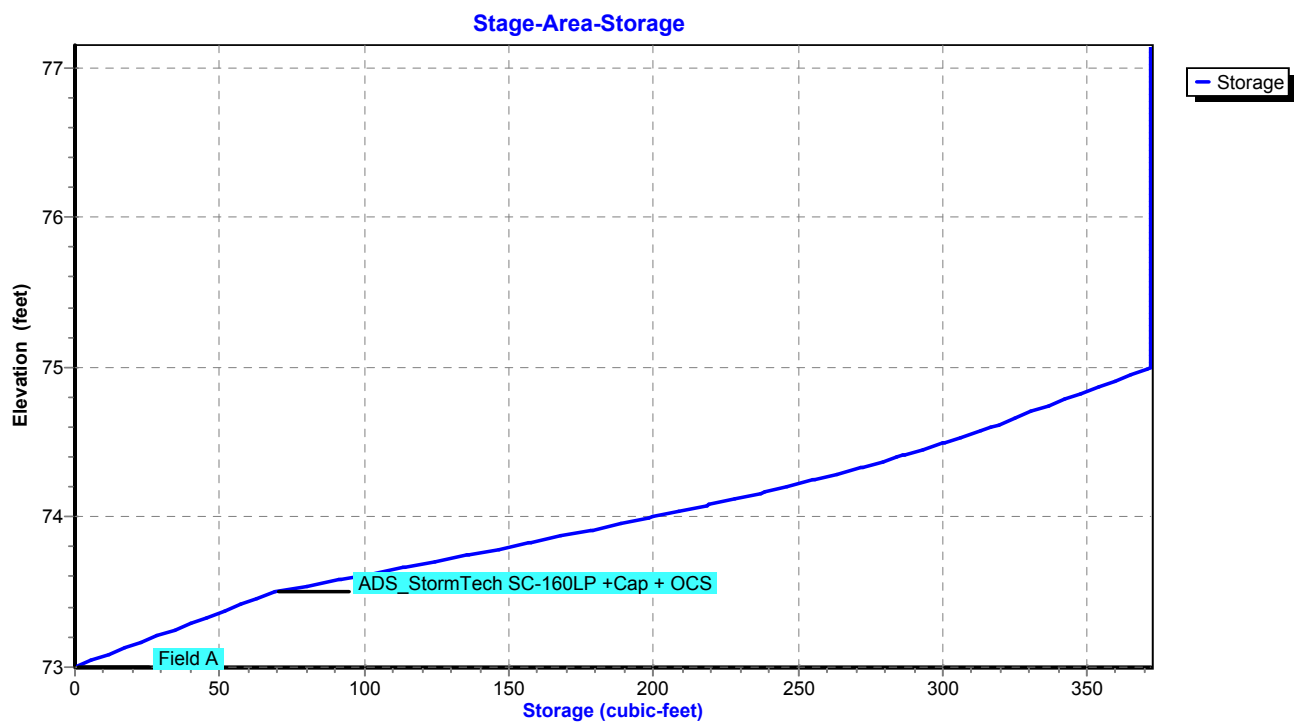
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Pond 20P: ADS Stormtech (160LP)



Pond 20P: ADS Stormtech (160LP)



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Summary for Pond 21P: DET 1 Culvert

Inflow Area = 533,174 sf, 25.00% Impervious, Inflow Depth = 5.04" for 100 year event
 Inflow = 28.03 cfs @ 12.52 hrs, Volume= 223,819 cf
 Outflow = 28.03 cfs @ 12.53 hrs, Volume= 223,819 cf, Atten= 0%, Lag= 0.3 min
 Primary = 28.03 cfs @ 12.53 hrs, Volume= 223,819 cf
 Routed to Pond 27P : DET 17 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 41.43' @ 12.53 hrs Surf.Area= 1,750 sf Storage= 1,591 cf

Plug-Flow detention time= 0.6 min calculated for 223,745 cf (100% of inflow)
 Center-of-Mass det. time= 0.6 min (875.7 - 875.0)

Volume	Invert	Avail.Storage	Storage Description
#1	37.00'	1,591 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
37.00	66	0	0
38.00	213	140	140
39.00	470	342	481
40.00	1,750	1,110	1,591

Device	Routing	Invert	Outlet Devices
#1	Primary	37.00'	24.0" Round Culvert L= 206.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 37.00' / 27.01' S= 0.0485 ' S= 0.0485 ' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=28.02 cfs @ 12.53 hrs HW=41.43' (Free Discharge)

↑ **1=Culvert** (Inlet Controls 28.02 cfs @ 8.92 fps)

Proposed Conditions

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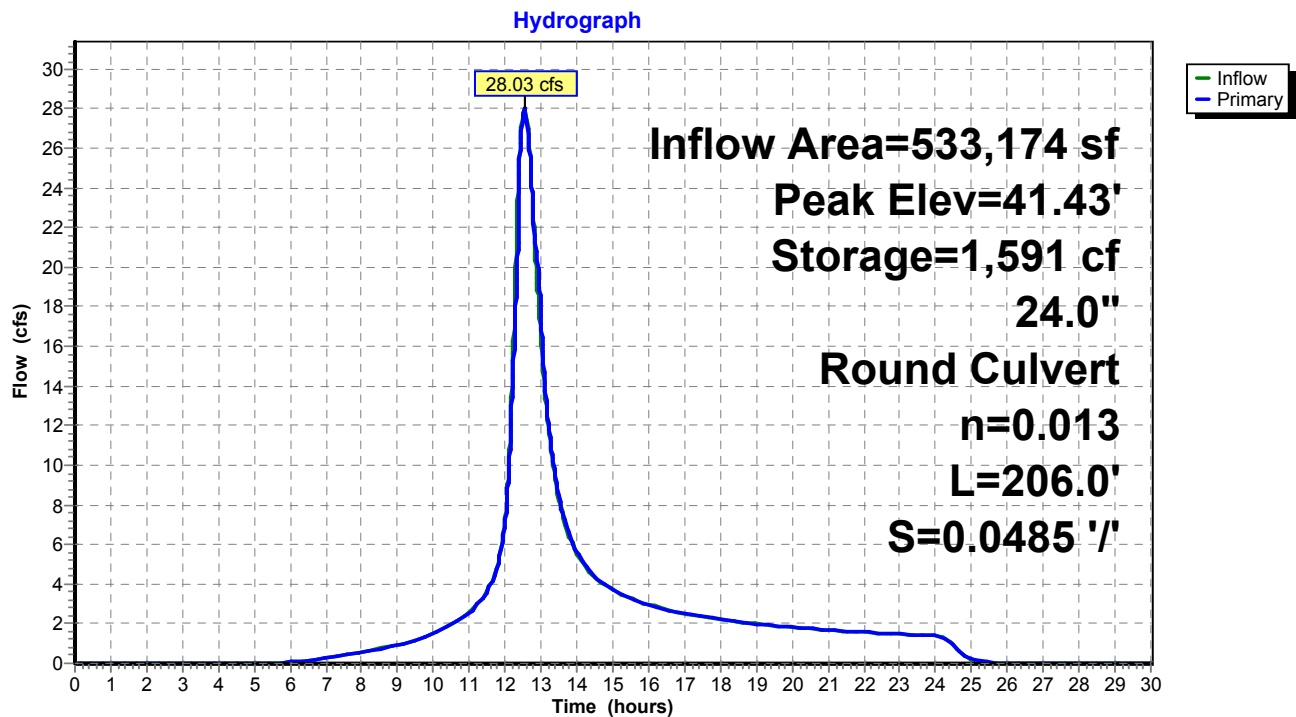
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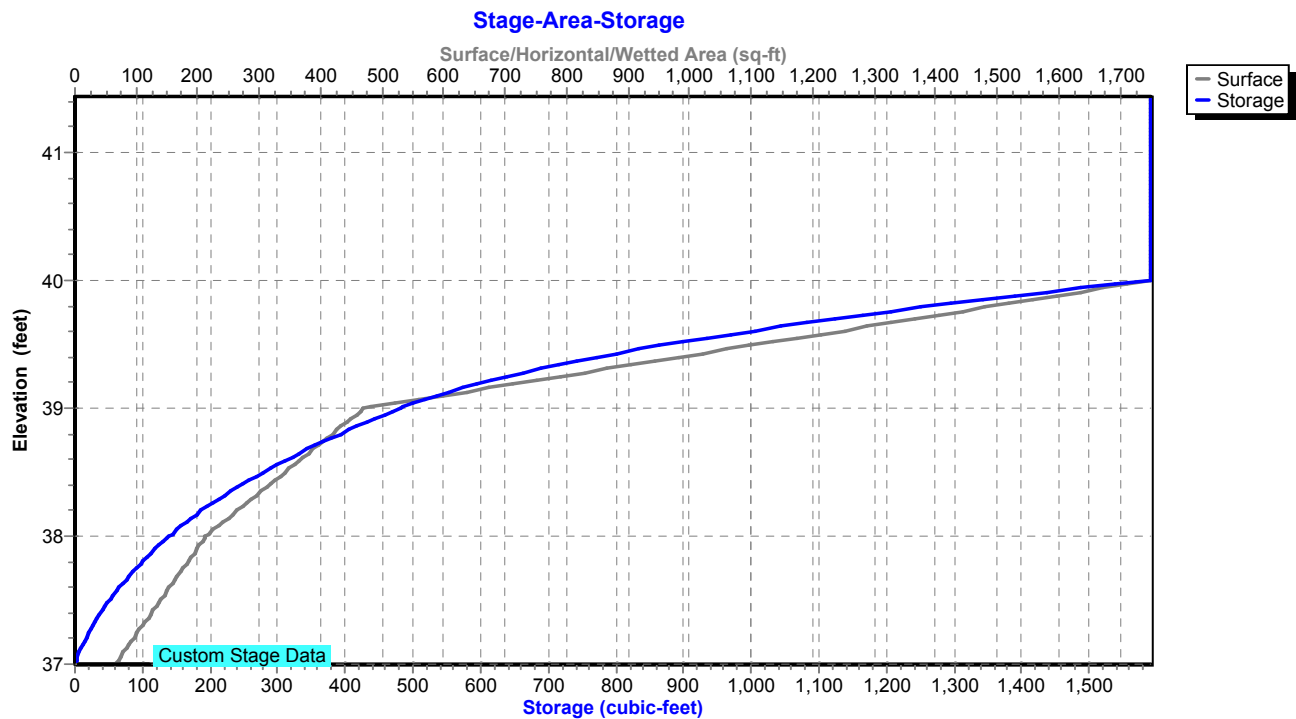
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Pond 21P: DET 1 Culvert



Pond 21P: DET 1 Culvert



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Summary for Pond 22P: DET 2 Culvert

Inflow Area = 1,290,247 sf, 25.00% Impervious, Inflow Depth = 5.63" for 100 year event
 Inflow = 62.64 cfs @ 12.74 hrs, Volume= 605,141 cf
 Outflow = 63.23 cfs @ 12.97 hrs, Volume= 605,141 cf, Atten= 0%, Lag= 13.9 min
 Primary = 63.23 cfs @ 12.97 hrs, Volume= 605,141 cf
 Routed to Pond 27P : DET 17 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 43.21' @ 12.97 hrs Surf.Area= 21,926 sf Storage= 46,687 cf

Plug-Flow detention time= 7.3 min calculated for 605,141 cf (100% of inflow)
 Center-of-Mass det. time= 7.3 min (881.9 - 874.6)

Volume	Invert	Avail.Storage	Storage Description
#1	34.80'	46,687 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
34.80	185	0	0
35.00	813	100	100
36.00	2,345	1,579	1,679
37.00	6,398	4,372	6,050
38.00	11,111	8,755	14,805
39.00	15,364	13,238	28,042
40.00	21,926	18,645	46,687

Device	Routing	Invert	Outlet Devices
#1	Primary	34.80'	30.0" Round Culvert L= 198.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.80' / 28.07' S= 0.0340 ' / Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=63.00 cfs @ 12.97 hrs HW=43.15' (Free Discharge)
 ↑**1=Culvert** (Inlet Controls 63.00 cfs @ 12.83 fps)

Proposed Conditions

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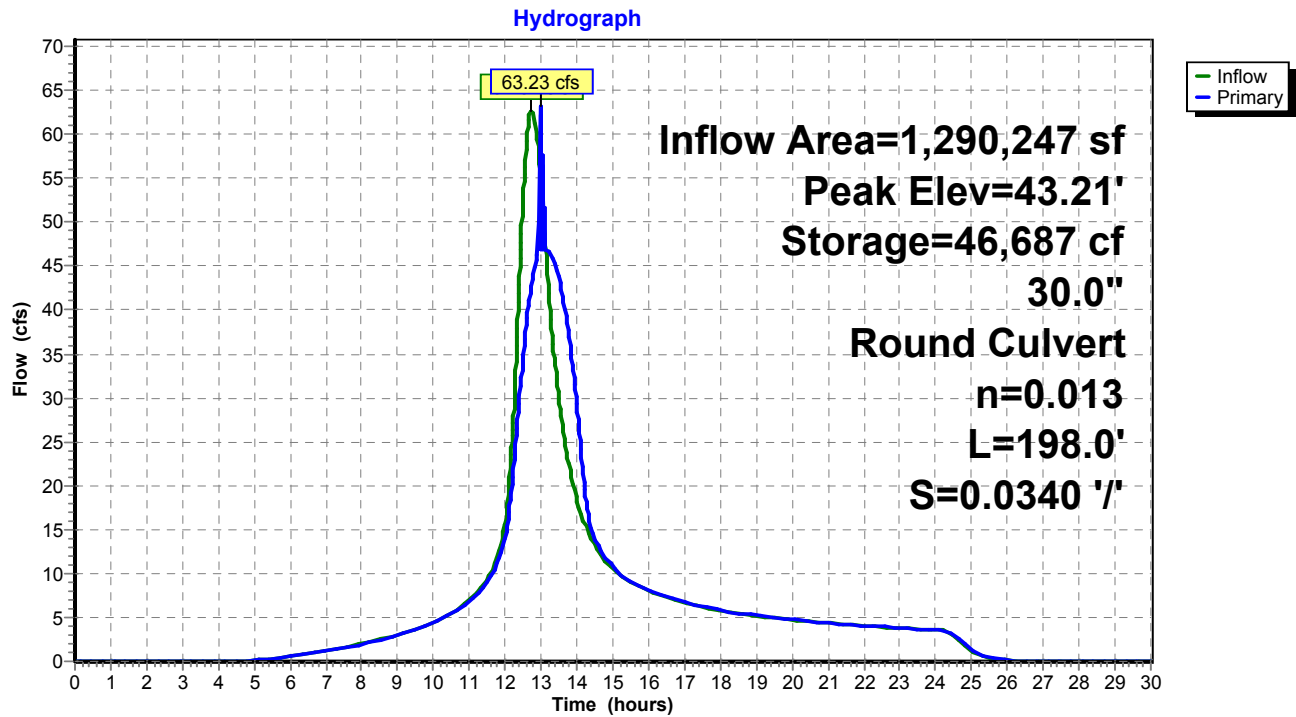
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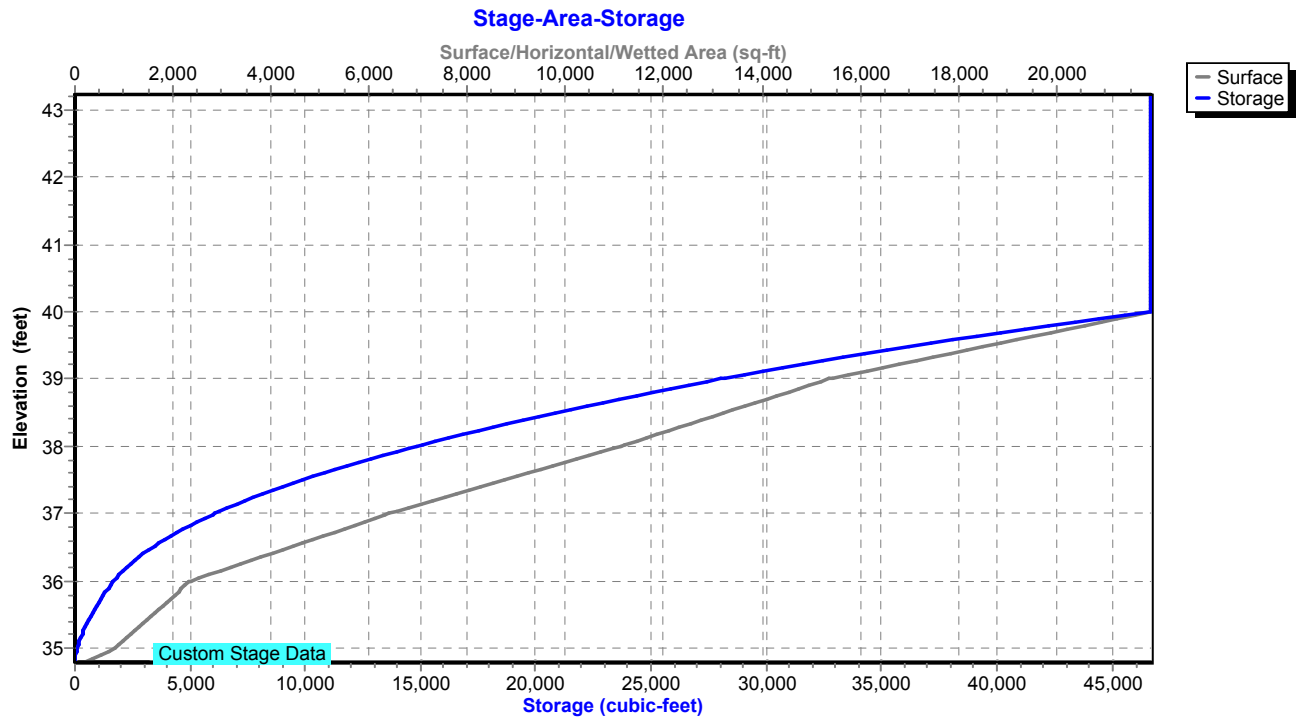
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Pond 22P: DET 2 Culvert



Pond 22P: DET 2 Culvert



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Summary for Pond 23P: DET 3 Culvert

Inflow Area = 276,170 sf, 25.00% Impervious, Inflow Depth = 5.16" for 100 year event
 Inflow = 23.17 cfs @ 12.22 hrs, Volume= 118,644 cf
 Outflow = 21.27 cfs @ 12.28 hrs, Volume= 118,644 cf, Atten= 8%, Lag= 3.9 min
 Primary = 21.27 cfs @ 12.28 hrs, Volume= 118,644 cf
 Routed to Pond 26P : DET 16 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 45.48' @ 12.28 hrs Surf.Area= 2,348 sf Storage= 2,472 cf

Plug-Flow detention time= 0.8 min calculated for 118,605 cf (100% of inflow)
 Center-of-Mass det. time= 0.8 min (850.4 - 849.6)

Volume	Invert	Avail.Storage	Storage Description
#1	42.50'	16,475 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
42.50	10	0	0
43.00	198	52	52
44.00	572	385	437
45.00	1,607	1,090	1,527
46.00	3,156	2,382	3,908
47.00	5,953	4,555	8,463
48.00	10,072	8,013	16,475

Device	Routing	Invert	Outlet Devices
#1	Primary	42.50'	24.0" Round Culvert L= 202.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 42.50' / 32.20' S= 0.0510 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=21.27 cfs @ 12.28 hrs HW=45.48' (Free Discharge)
 ↑**1=Culvert** (Inlet Controls 21.27 cfs @ 6.77 fps)

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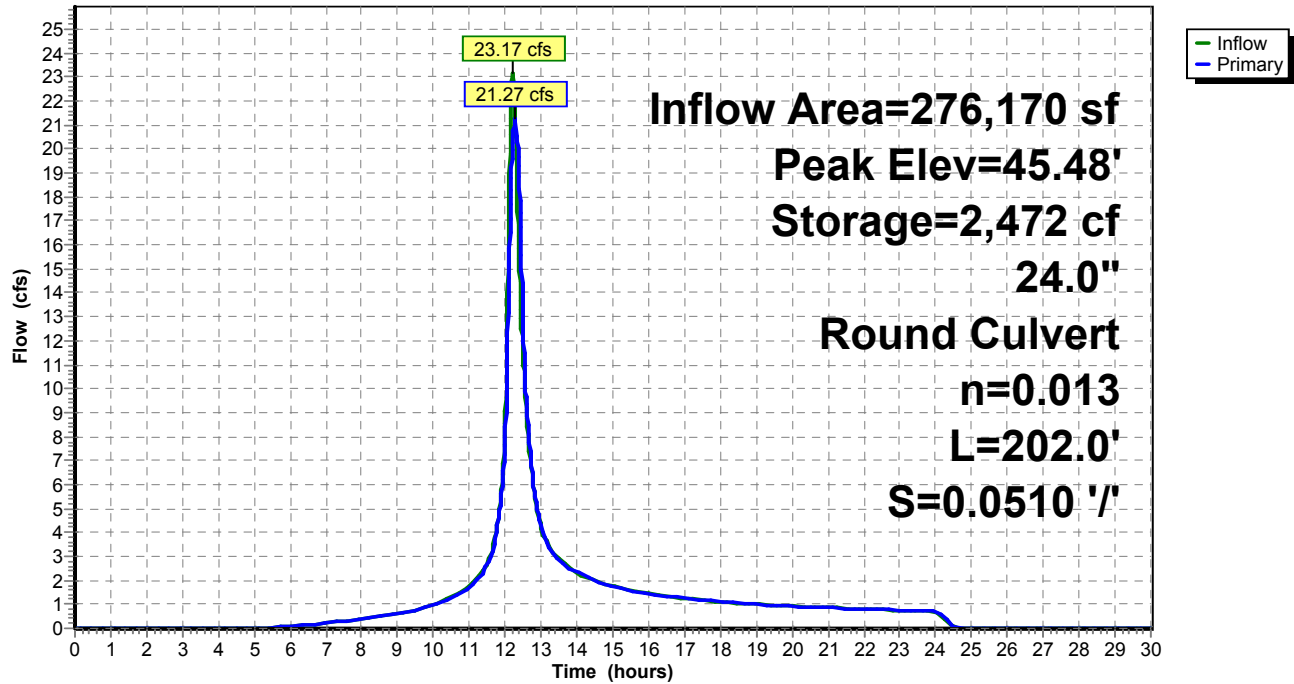
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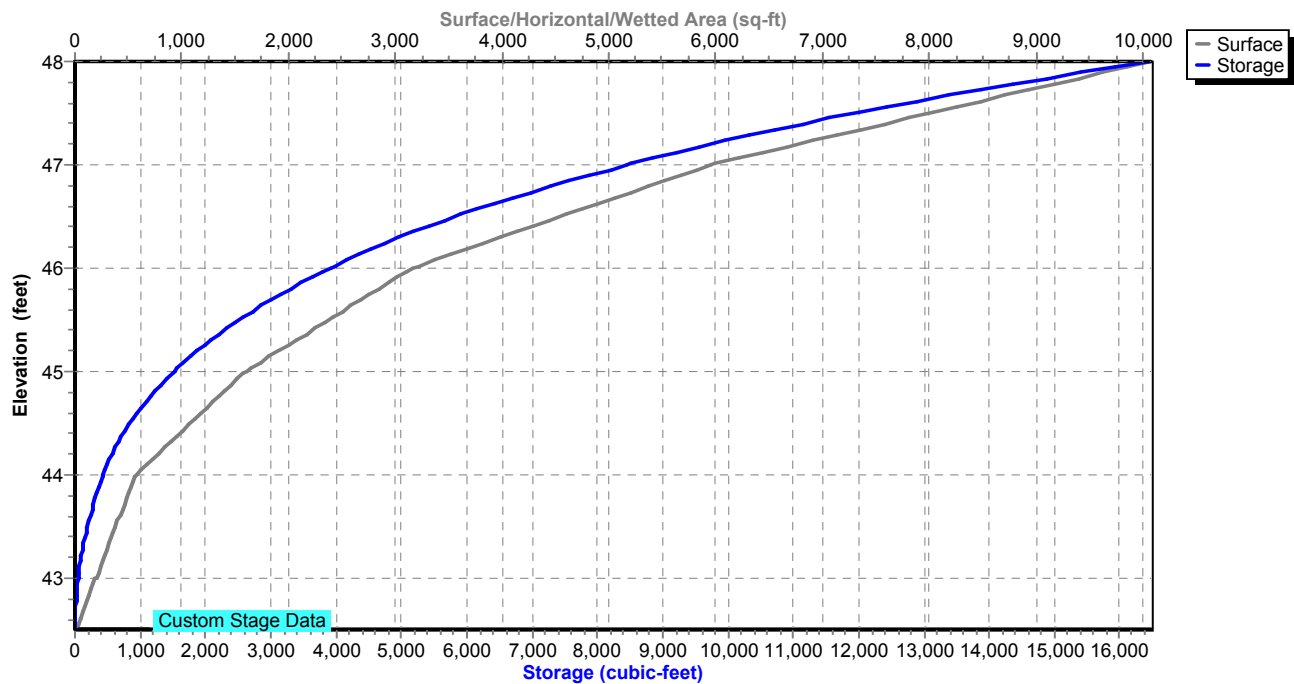
Pond 23P: DET 3 Culvert

Hydrograph



Pond 23P: DET 3 Culvert

Stage-Area-Storage



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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Pond 24P: RR Culvert 3

Inflow Area = 500,940 sf, 4.78% Impervious, Inflow Depth = 54.03" for 100 year event
 Inflow = 343.84 cfs @ 12.23 hrs, Volume= 2,255,567 cf
 Outflow = 64.79 cfs @ 14.29 hrs, Volume= 2,255,626 cf, Atten= 81%, Lag= 123.7 min
 Primary = 64.79 cfs @ 14.29 hrs, Volume= 2,255,626 cf

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 14.43' @ 14.29 hrs Storage= 1,348,308 cf

Plug-Flow detention time= 237.7 min calculated for 2,254,874 cf (100% of inflow)
 Center-of-Mass det. time= 237.6 min (1,034.8 - 797.1)

Volume	Invert	Avail.Storage	Storage Description
#1	8.10'	2,250,385 cf	Custom Stage Data Listed below

Elevation (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
8.10	0	0
9.00	9	9
10.00	148	157
11.00	64,834	64,991
12.00	244,457	309,448
13.00	383,724	693,172
14.00	435,183	1,128,355
15.00	514,834	1,643,189
16.00	607,196	2,250,385

Device	Routing	Invert	Outlet Devices
#1	Primary	8.10'	30.0" W x 42.0" H Box Culvert L= 135.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 8.10' / 7.80' S= 0.0022 ' / Cc= 0.900 n= 0.019, Flow Area= 8.75 sf

Primary OutFlow Max=64.79 cfs @ 14.29 hrs HW=14.43' (Free Discharge)

↑ **1=Culvert** (Barrel Controls 64.79 cfs @ 7.40 fps)

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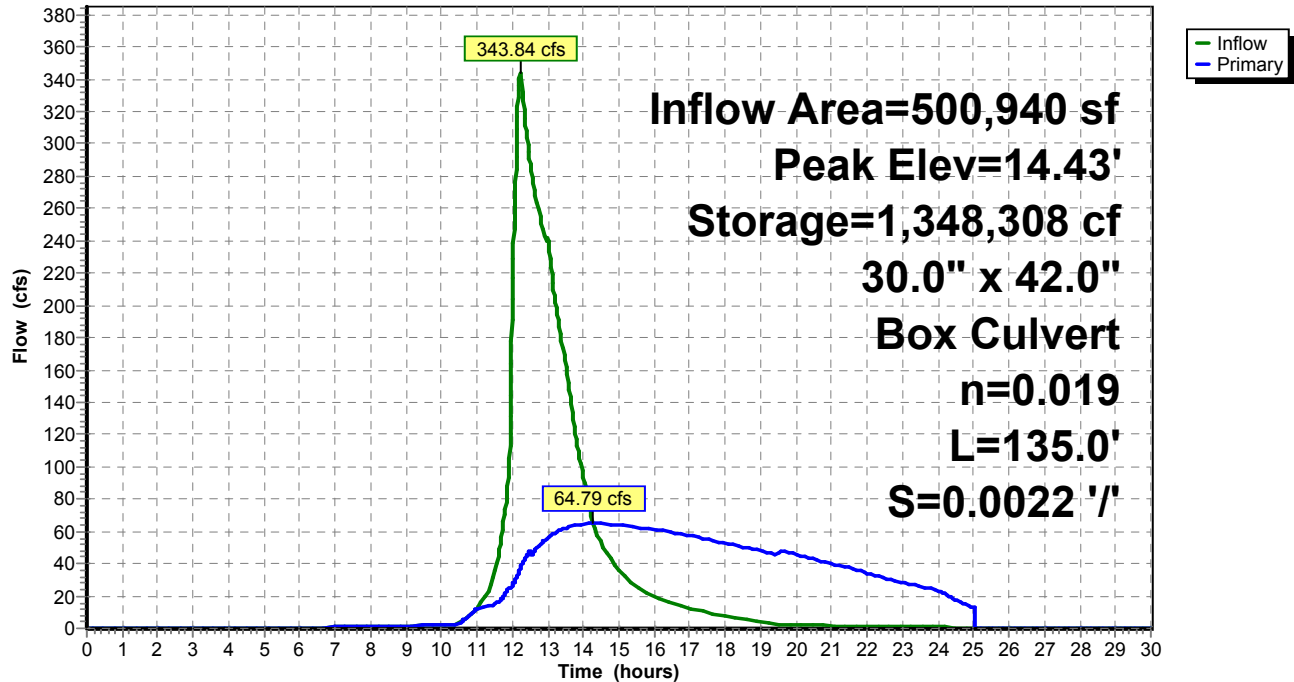
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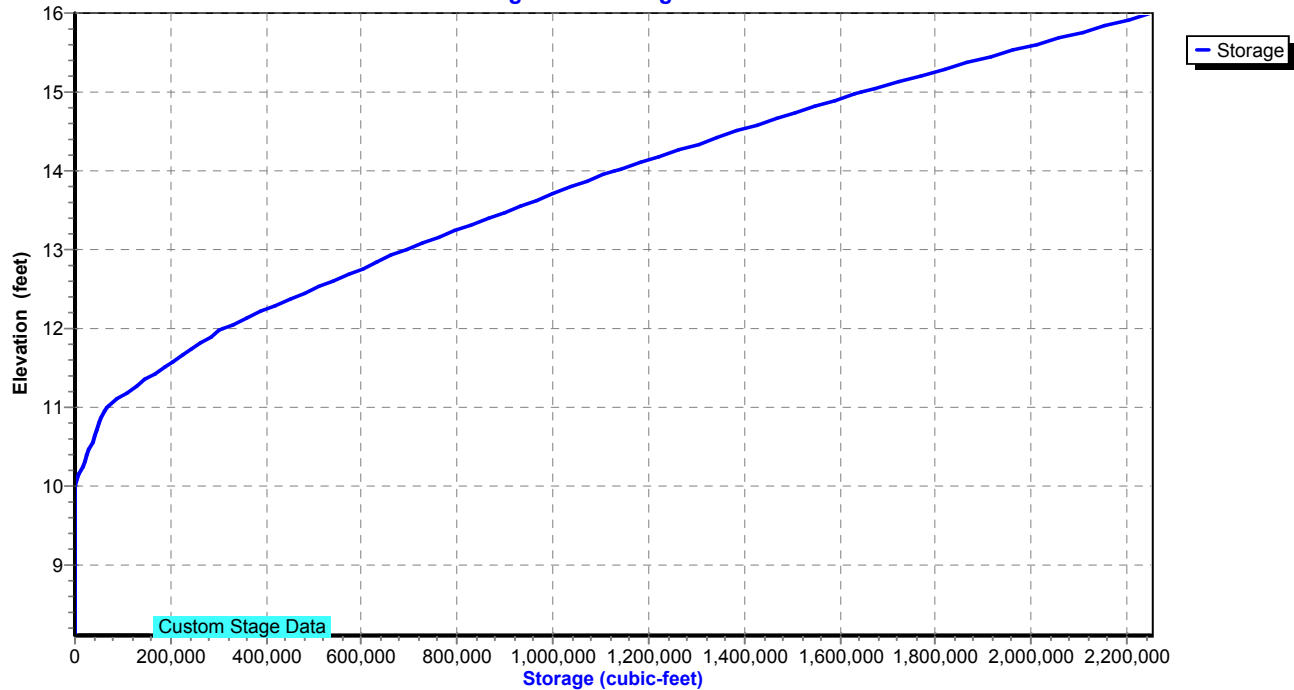
Pond 24P: RR Culvert 3

Hydrograph



Pond 24P: RR Culvert 3

Stage-Area-Storage



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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Summary for Pond 26P: DET 16 Culvert

Inflow Area = 777,546 sf, 30.36% Impervious, Inflow Depth > 5.35" for 100 year event
 Inflow = 56.55 cfs @ 12.21 hrs, Volume= 346,893 cf
 Outflow = 56.54 cfs @ 12.21 hrs, Volume= 346,887 cf, Atten= 0%, Lag= 0.1 min
 Primary = 56.54 cfs @ 12.21 hrs, Volume= 346,887 cf
 Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 20.14' @ 12.21 hrs Surf.Area= 2,331 sf Storage= 2,709 cf

Plug-Flow detention time= 0.7 min calculated for 346,887 cf (100% of inflow)
 Center-of-Mass det. time= 0.7 min (873.6 - 872.9)

Volume	Invert	Avail.Storage	Storage Description
#1	17.00'	11,069 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.00	76	0	0
18.00	323	200	200
19.00	1,002	663	862
20.00	2,073	1,538	2,400
21.00	3,912	2,993	5,392
22.00	7,442	5,677	11,069

Device	Routing	Invert	Outlet Devices
#1	Primary	15.10'	15.0" Round Culvert L= 55.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 15.10' / 11.30' S= 0.0691 ' S= 0.0691 ' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#2	Primary	20.00'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 Width (feet) 200.00 200.00 200.00

Primary OutFlow Max=56.18 cfs @ 12.21 hrs HW=20.14' (Free Discharge)

1=Culvert (Inlet Controls 12.42 cfs @ 10.12 fps)

2=Custom Weir/Orifice (Weir Controls 43.76 cfs @ 1.56 fps)

Proposed Conditions

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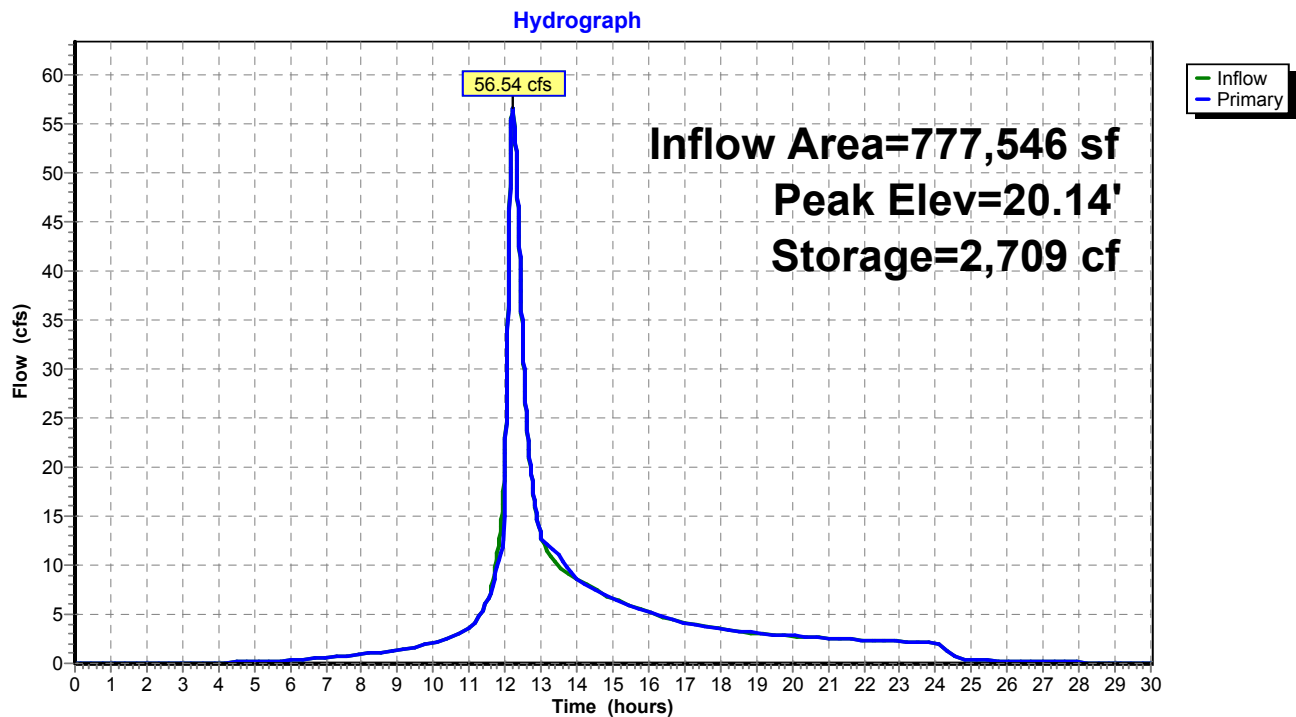
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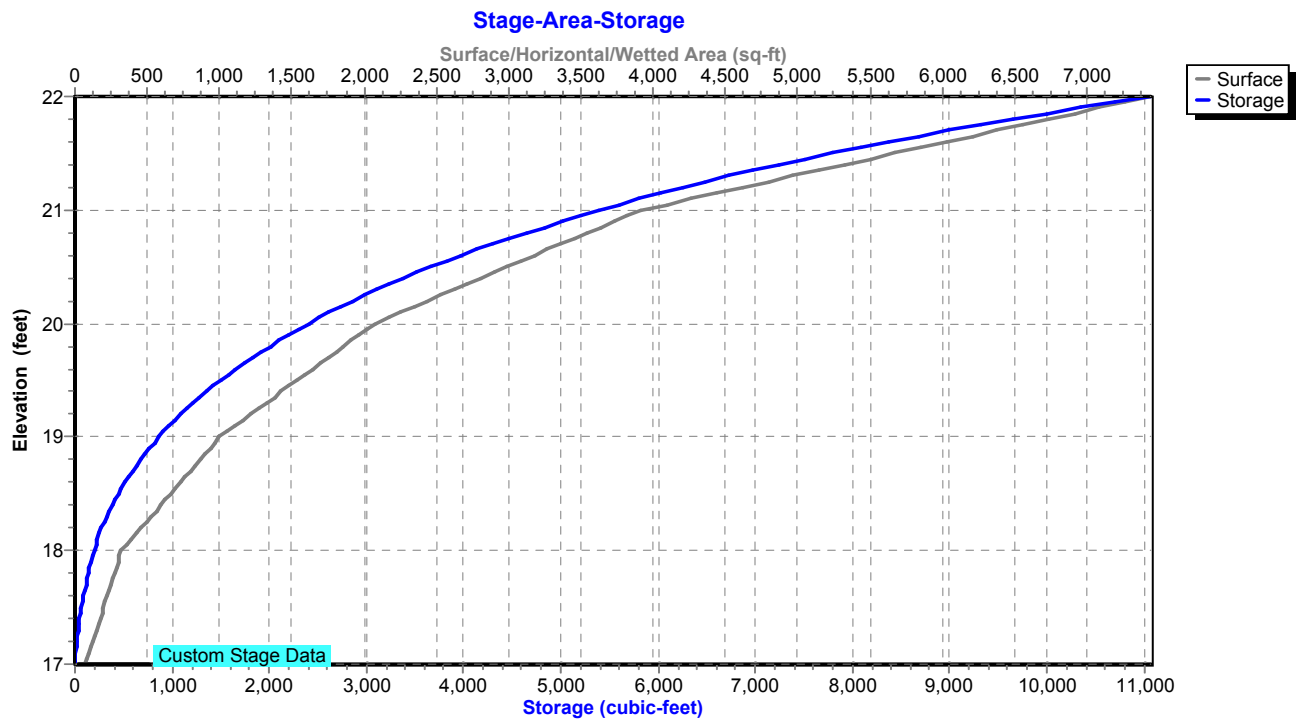
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Pond 26P: DET 16 Culvert



Pond 26P: DET 16 Culvert



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Summary for Pond 27P: DET 17 Culvert

Inflow Area = 2,205,878 sf, 28.45% Impervious, Inflow Depth = 5.60" for 100 year event
 Inflow = 88.18 cfs @ 12.97 hrs, Volume= 1,030,029 cf
 Outflow = 79.77 cfs @ 12.98 hrs, Volume= 1,030,029 cf, Atten= 10%, Lag= 0.9 min
 Primary = 79.77 cfs @ 12.98 hrs, Volume= 1,030,029 cf
 Routed to Pond 1P : RR Culvert 2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 18.84' @ 12.98 hrs Surf.Area= 11,721 sf Storage= 11,412 cf

Plug-Flow detention time= 4.0 min calculated for 1,029,685 cf (100% of inflow)
 Center-of-Mass det. time= 4.0 min (870.1 - 866.1)

Volume	Invert	Avail.Storage	Storage Description
#1	16.00'	13,420 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
16.00	340	0	0
17.00	2,203	1,272	1,272
18.00	4,950	3,577	4,848
18.55	8,311	3,647	8,495
19.00	13,580	4,925	13,420

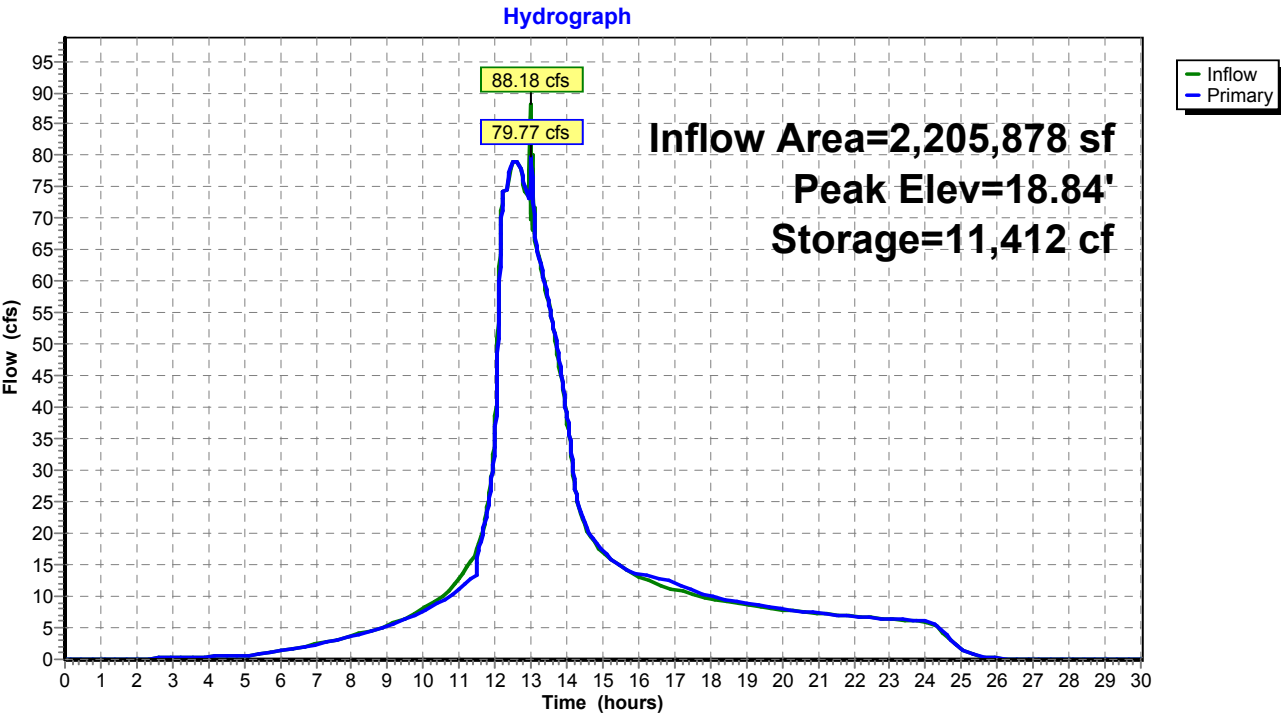
Device	Routing	Invert	Outlet Devices
#1	Primary	15.30'	18.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 15.30' / 14.90' S= 0.0100 ' / Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Primary	18.55'	Custom Weir/Orifice, Cv= 3.33 (C= 4.16) Head (feet) 0.00 1.00 2.00 3.00 Width (feet) 100.00 100.00 100.00 100.00

Primary OutFlow Max=79.40 cfs @ 12.98 hrs HW=18.84' (Free Discharge)

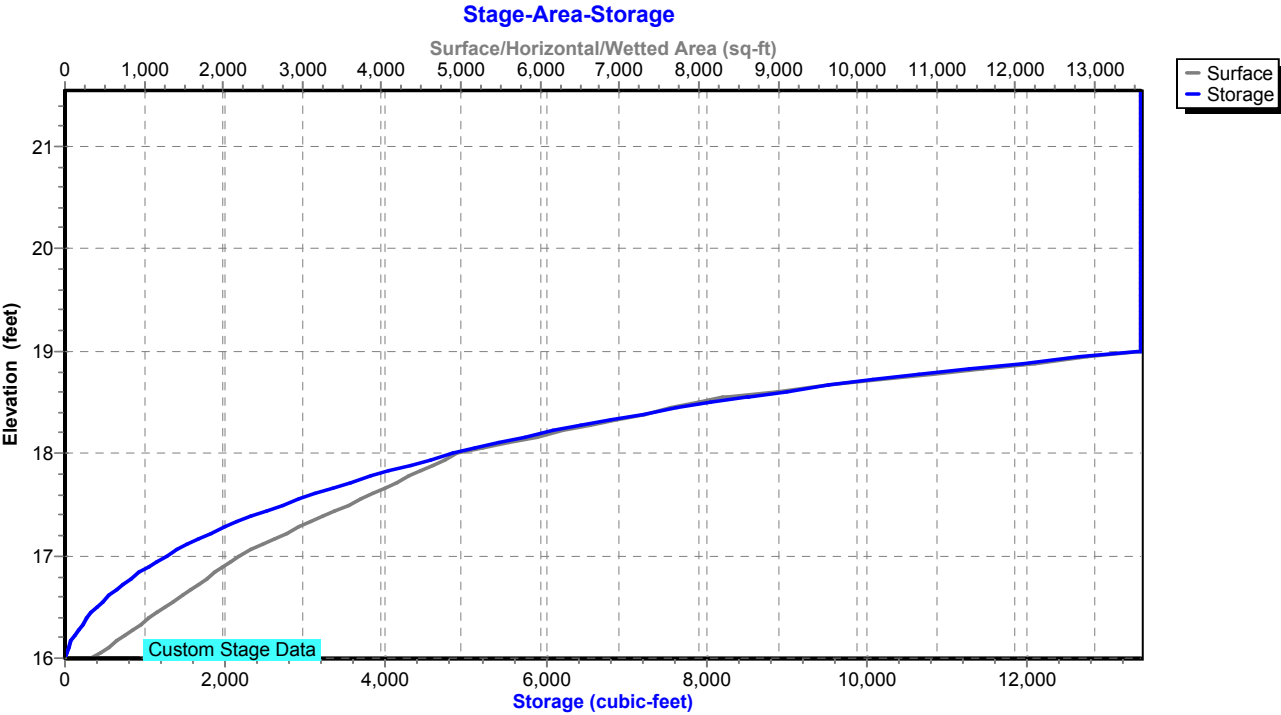
1=Culvert (Inlet Controls 14.21 cfs @ 8.04 fps)

2=Custom Weir/Orifice (Weir Controls 65.19 cfs @ 2.24 fps)

Pond 27P: DET 17 Culvert



Pond 27P: DET 17 Culvert



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Summary for Pond 50P: DET BASIN #1

Inflow Area = 247,726 sf, 51.96% Impervious, Inflow Depth = 6.58" for 100 year event
Inflow = 36.04 cfs @ 12.04 hrs, Volume= 135,786 cf
Outflow = 13.36 cfs @ 12.24 hrs, Volume= 110,284 cf, Atten= 63%, Lag= 12.0 min
Primary = 13.36 cfs @ 12.24 hrs, Volume= 110,284 cf
Routed to Pond 26P : DET 16 Culvert

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 28.85' @ 12.24 hrs Surf.Area= 17,561 sf Storage= 58,839 cf

Plug-Flow detention time= 237.3 min calculated for 110,247 cf (81% of inflow)
Center-of-Mass det. time= 146.7 min (940.3 - 793.5)

Volume	Invert	Avail.Storage	Storage Description
#1	24.00'	61,441 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
24.00	5,941	0	0
26.00	12,000	17,941	17,941
28.00	15,000	27,000	44,941
29.00	18,000	16,500	61,441

Device	Routing	Invert	Outlet Devices
#1	Primary	24.00'	18.0" Round Culvert L= 120.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 24.00' / 20.00' S= 0.0333 ' / Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	26.50'	12.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	28.50'	16.2" x 55.4" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=13.36 cfs @ 12.24 hrs HW=28.85' (Free Discharge)

↑ **1=Culvert** (Passes 13.36 cfs of 17.24 cfs potential flow)
↑ **2=Orifice/Grate** (Orifice Controls 5.15 cfs @ 6.56 fps)
↑ **3=Orifice/Grate** (Weir Controls 8.21 cfs @ 1.94 fps)

Proposed Conditions

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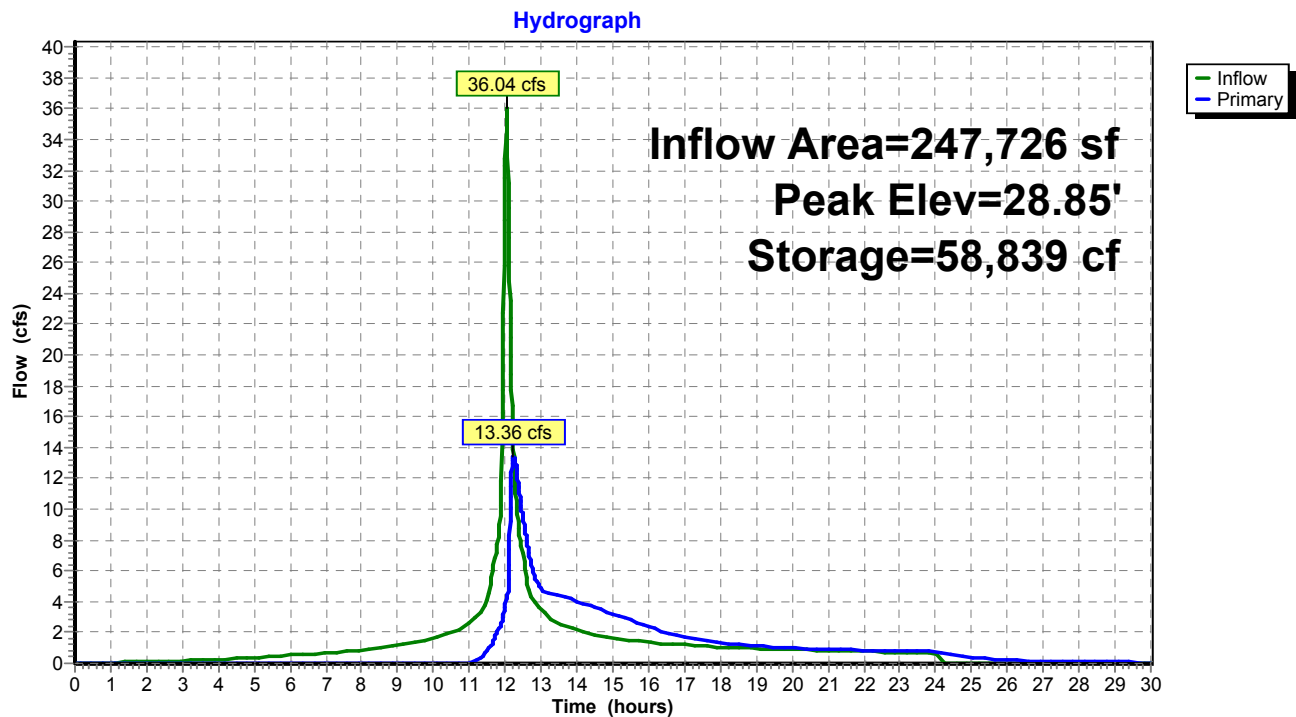
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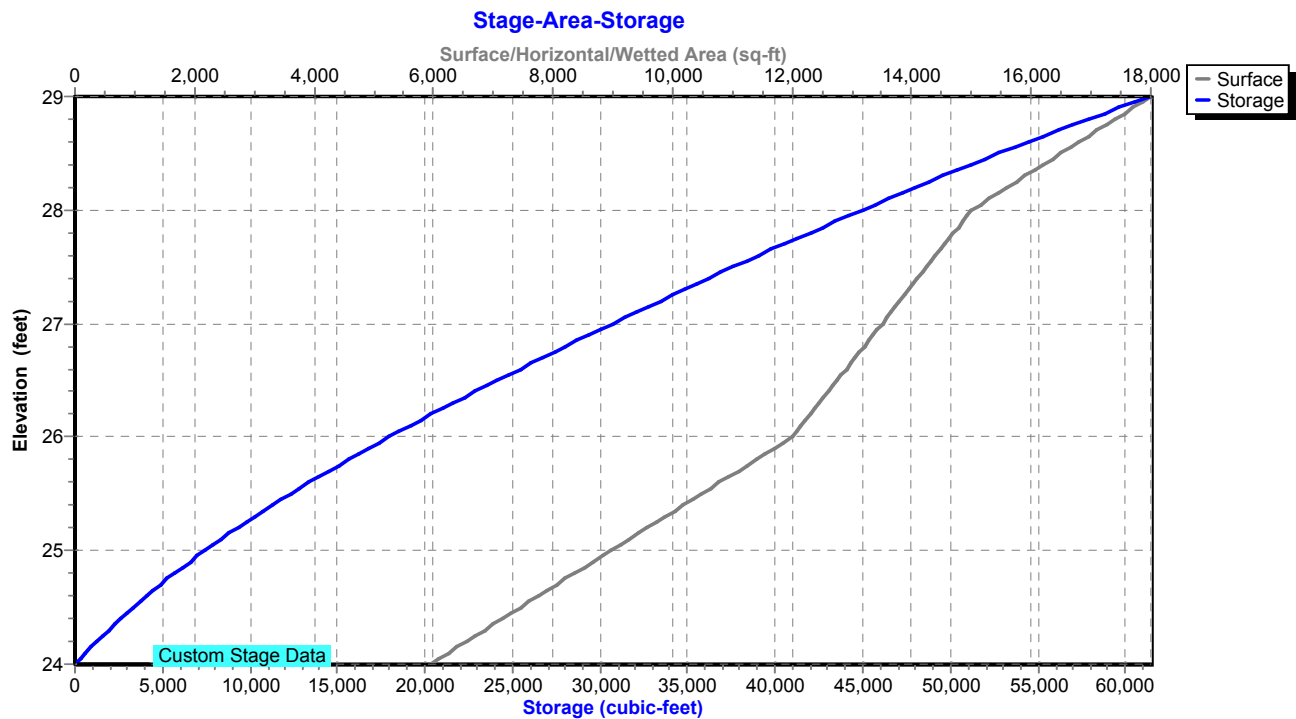
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Pond 50P: DET BASIN #1



Pond 50P: DET BASIN #1



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Summary for Pond 51P: Manhole

Inflow Area = 219,325 sf, 58.69% Impervious, Inflow Depth = 6.76" for 100 year event
Inflow = 31.89 cfs @ 12.04 hrs, Volume= 123,585 cf
Outflow = 31.89 cfs @ 12.04 hrs, Volume= 123,585 cf, Atten= 0%, Lag= 0.0 min
Primary = 31.89 cfs @ 12.04 hrs, Volume= 123,585 cf
Routed to Pond 50P : DET BASIN #1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 49.44' @ 12.04 hrs

Flood Elev= 51.00'

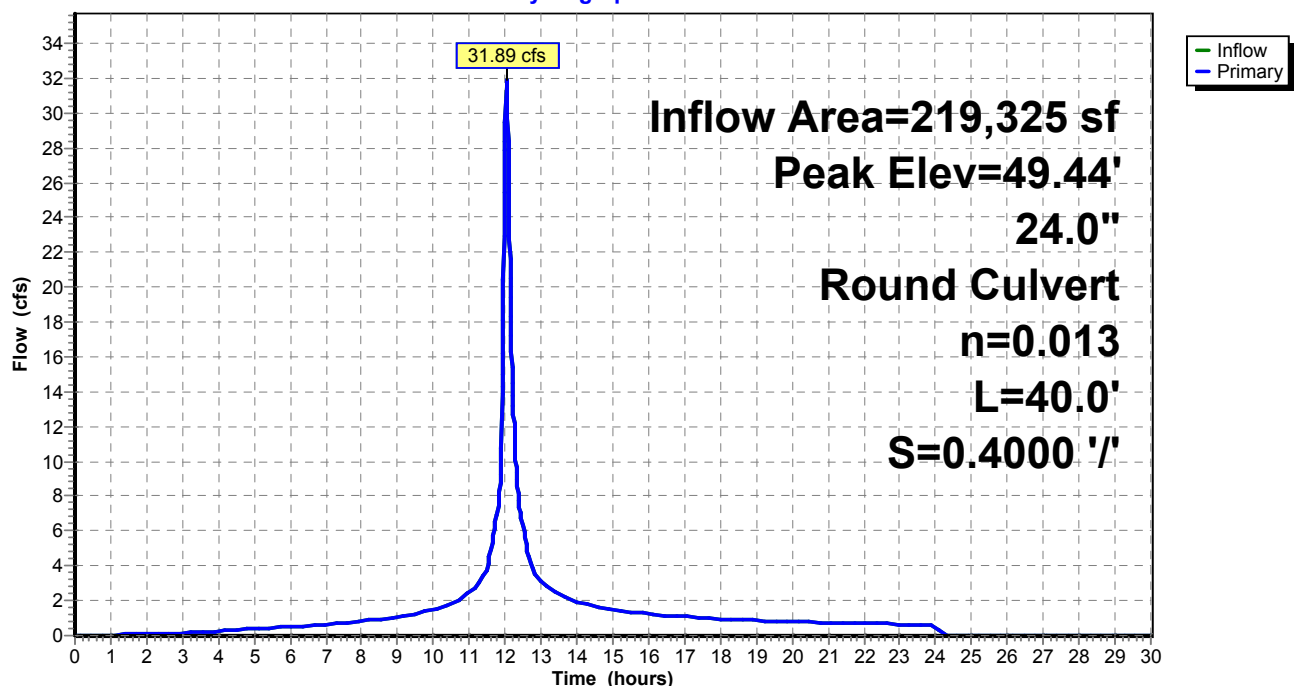
Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	24.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.00' / 28.00' S= 0.4000 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

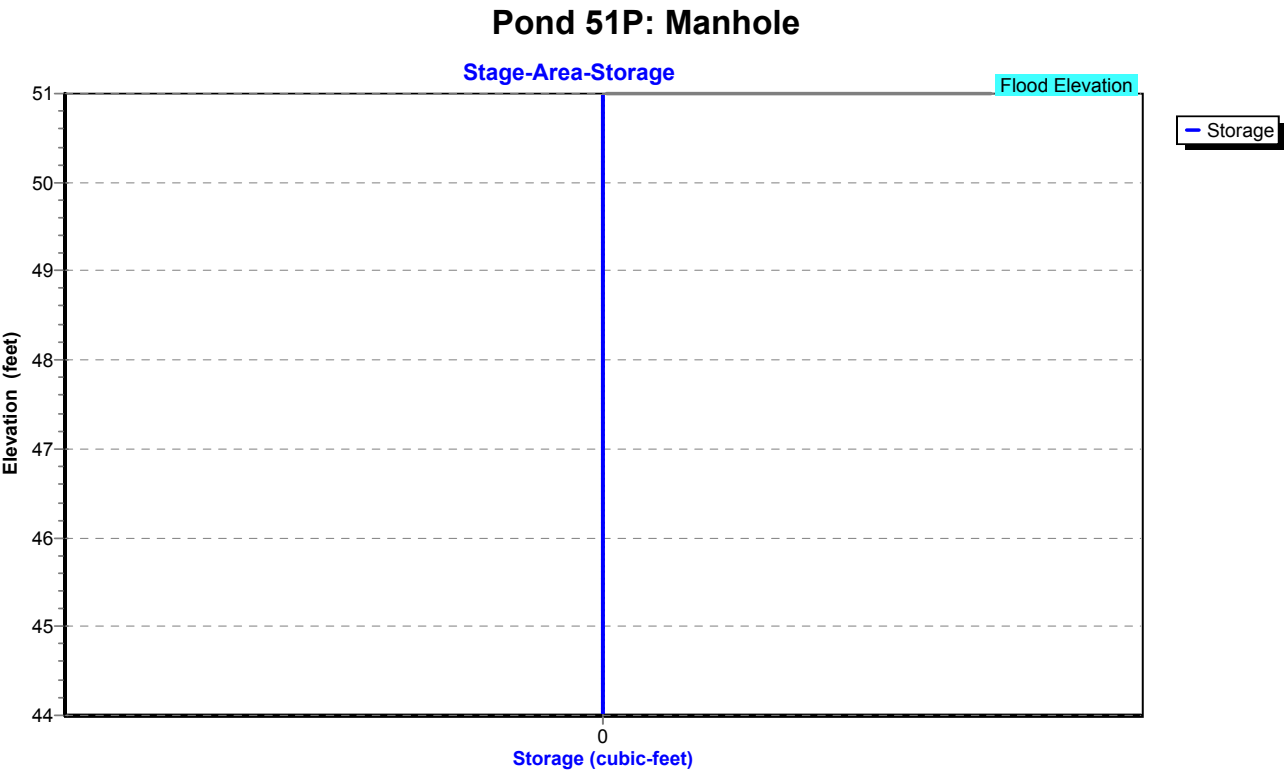
Primary OutFlow Max=31.85 cfs @ 12.04 hrs HW=49.43' (Free Discharge)

↑1=Culvert (Inlet Controls 31.85 cfs @ 10.14 hrs)

Pond 51P: Manhole

Hydrograph





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Summary for Pond 57P: CB-1

Inflow Area = 131,290 sf, 58.89% Impervious, Inflow Depth = 6.84" for 100 year event
Inflow = 20.07 cfs @ 12.04 hrs, Volume= 74,840 cf
Outflow = 20.07 cfs @ 12.04 hrs, Volume= 74,840 cf, Atten= 0%, Lag= 0.0 min
Primary = 20.07 cfs @ 12.04 hrs, Volume= 74,840 cf
Routed to Pond 51P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.27' @ 12.04 hrs

Flood Elev= 49.00'

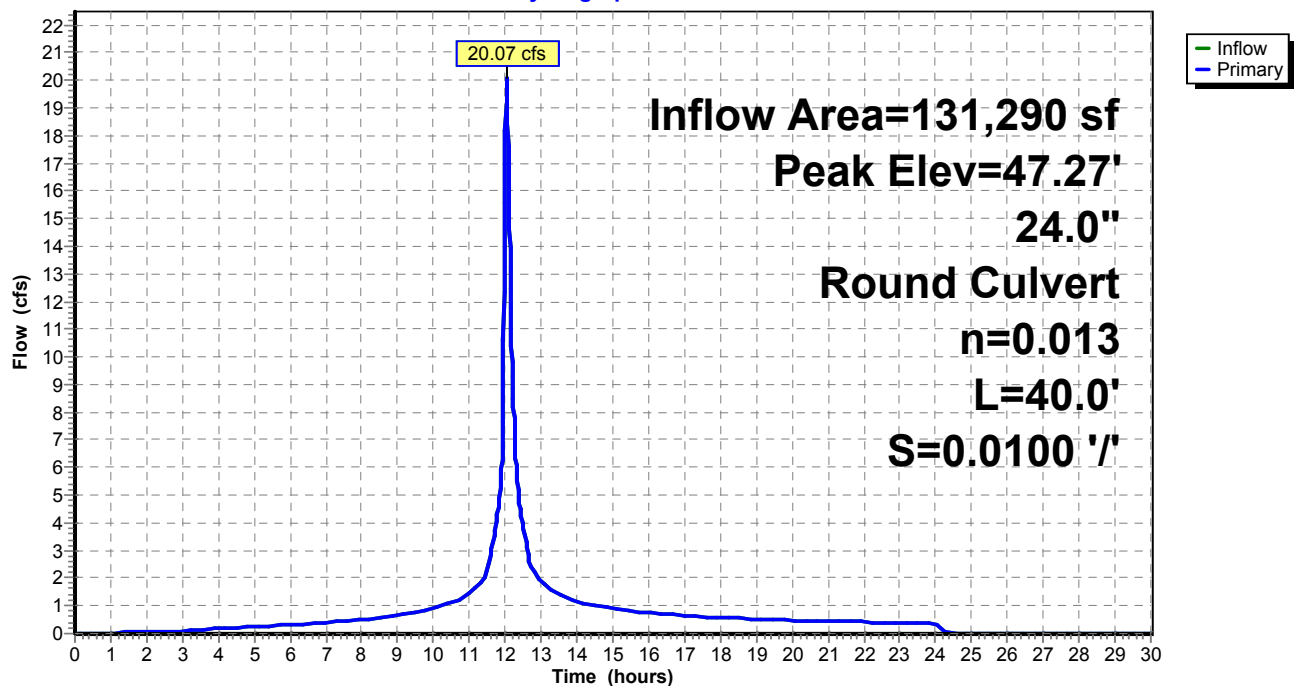
Device	Routing	Invert	Outlet Devices
#1	Primary	44.40'	24.0" Round Culvert L= 40.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.40' / 44.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=20.06 cfs @ 12.04 hrs HW=47.27' (Free Discharge)

↑1=Culvert (Barrel Controls 20.06 cfs @ 6.39 fps)

Pond 57P: CB-1

Hydrograph



Proposed Conditions

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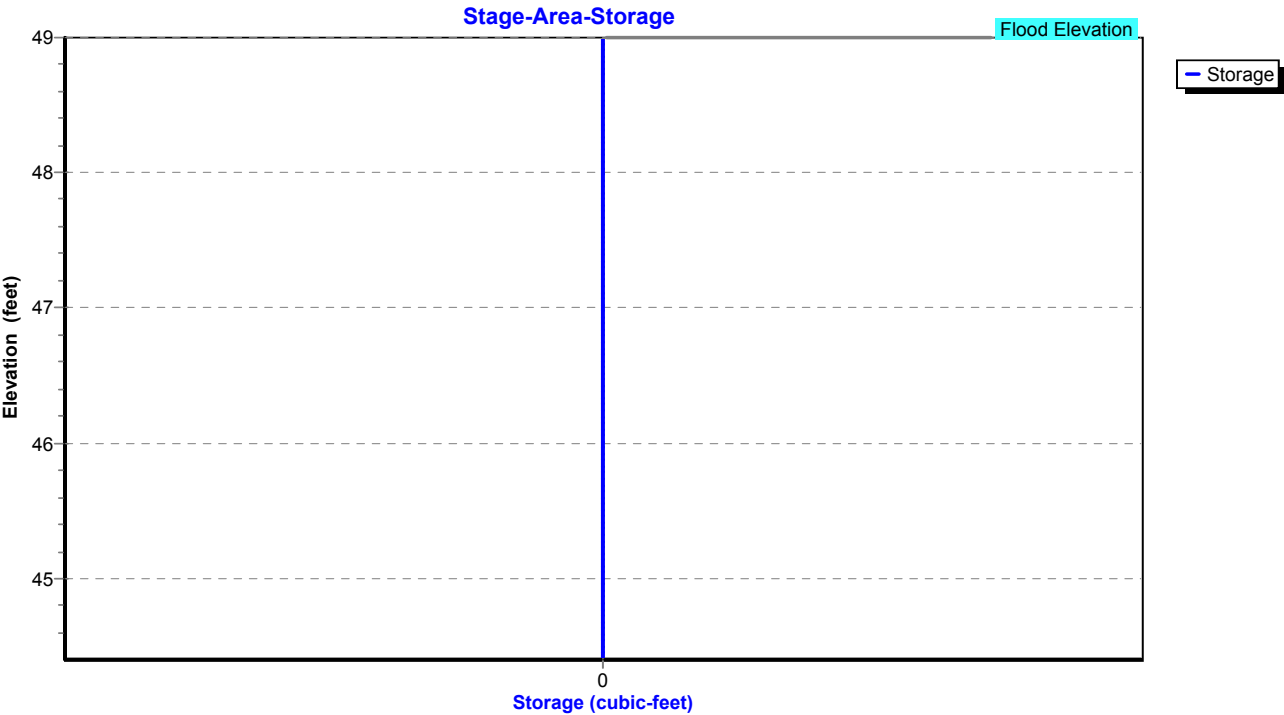
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Pond 57P: CB-1



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Summary for Pond 58P: Manhole

Inflow Area = 119,442 sf, 54.81% Impervious, Inflow Depth = 6.72" for 100 year event
Inflow = 17.76 cfs @ 12.04 hrs, Volume= 66,925 cf
Outflow = 17.76 cfs @ 12.04 hrs, Volume= 66,925 cf, Atten= 0%, Lag= 0.0 min
Primary = 17.76 cfs @ 12.04 hrs, Volume= 66,925 cf
Routed to Pond 57P : CB-1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.01' @ 12.04 hrs

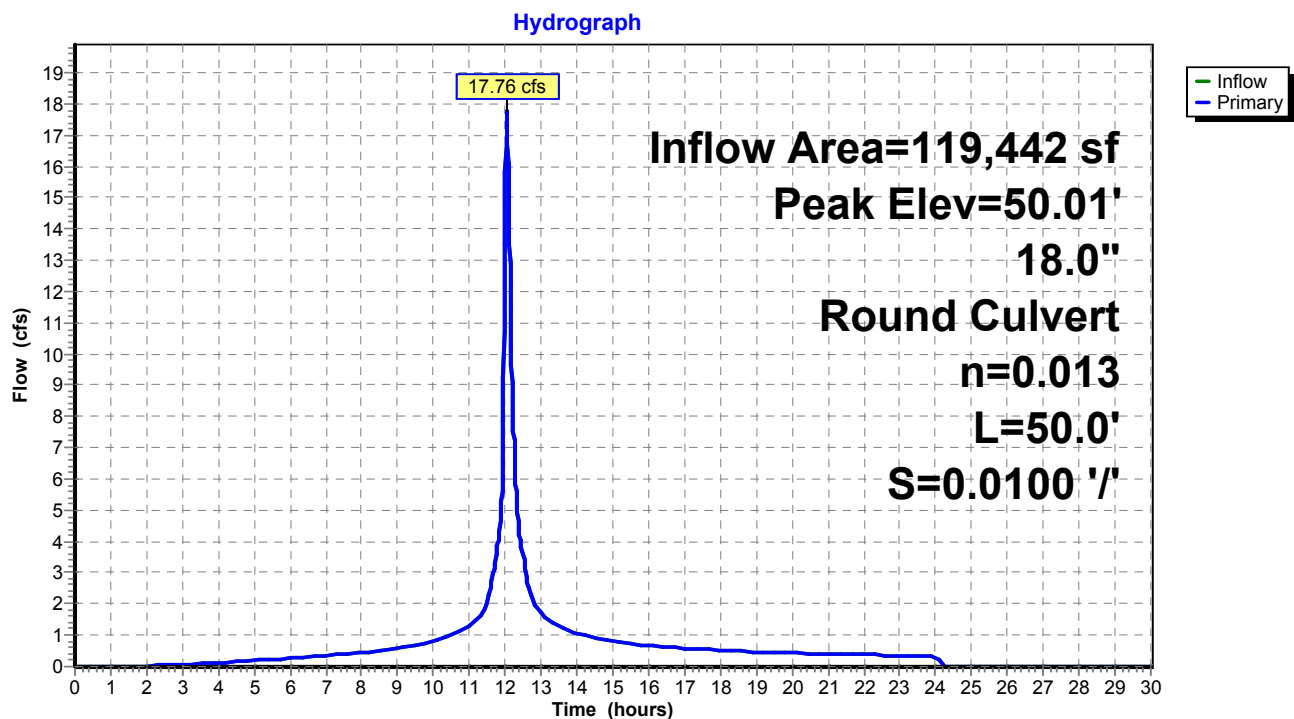
Flood Elev= 49.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	44.90'	18.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.90' / 44.40' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=17.73 cfs @ 12.04 hrs HW=49.99' (Free Discharge)

↑1=Culvert (Inlet Controls 17.73 cfs @ 10.03 hrs)

Pond 58P: Manhole



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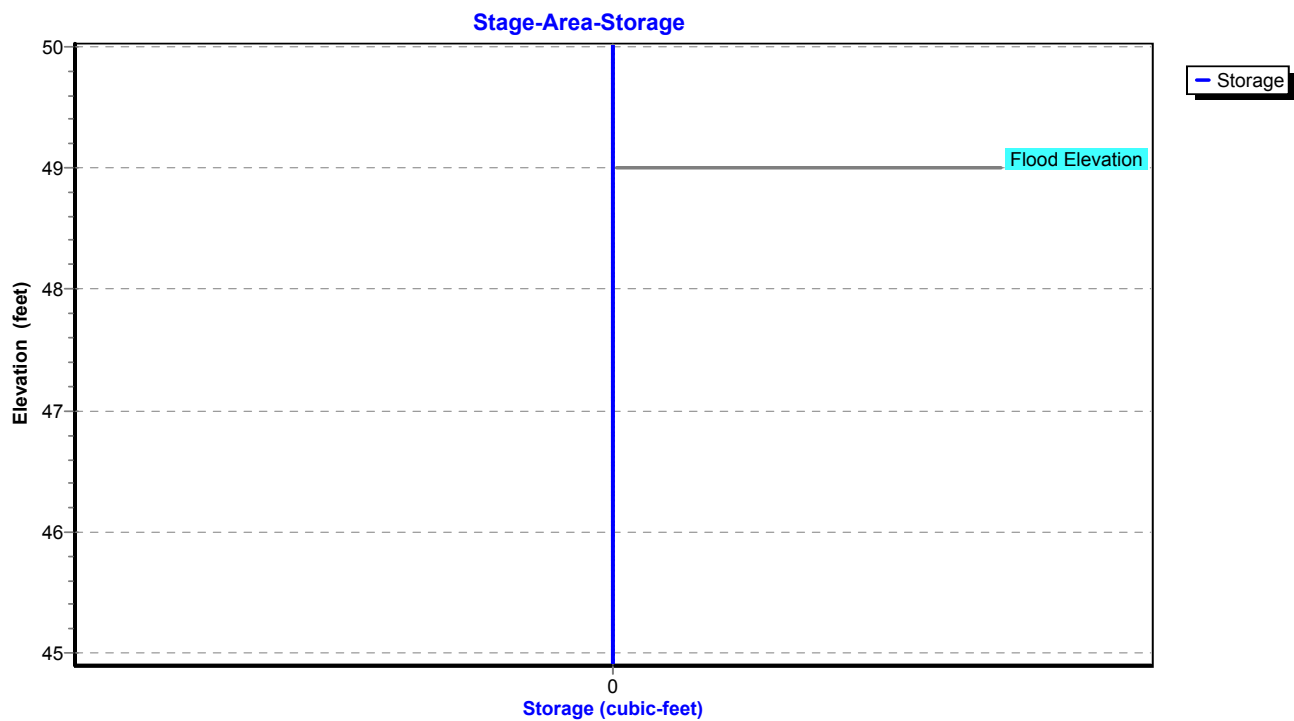
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Pond 58P: Manhole



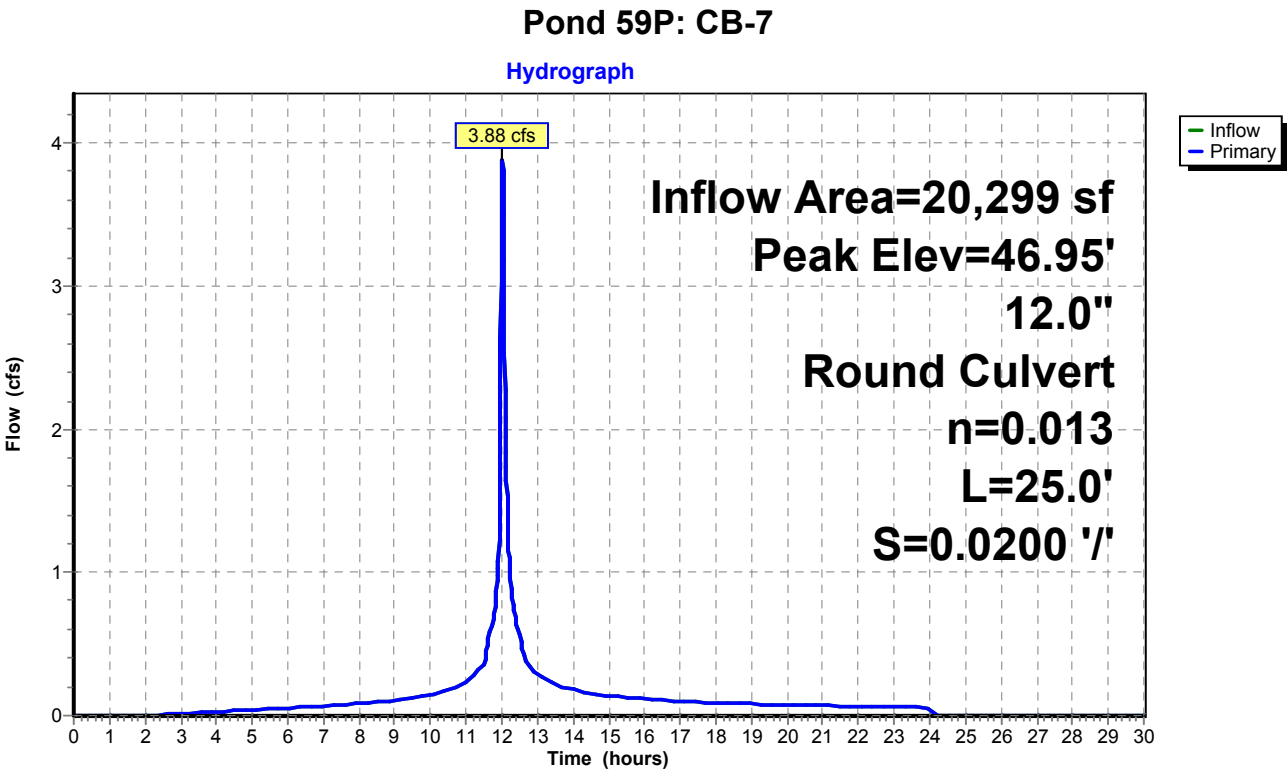
Summary for Pond 59P: CB-7

Inflow Area = 20,299 sf, 63.09% Impervious, Inflow Depth = 6.94" for 100 year event
Inflow = 3.88 cfs @ 12.03 hrs, Volume= 11,736 cf
Outflow = 3.88 cfs @ 12.03 hrs, Volume= 11,736 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.88 cfs @ 12.03 hrs, Volume= 11,736 cf
Routed to Pond 58P : Manhole

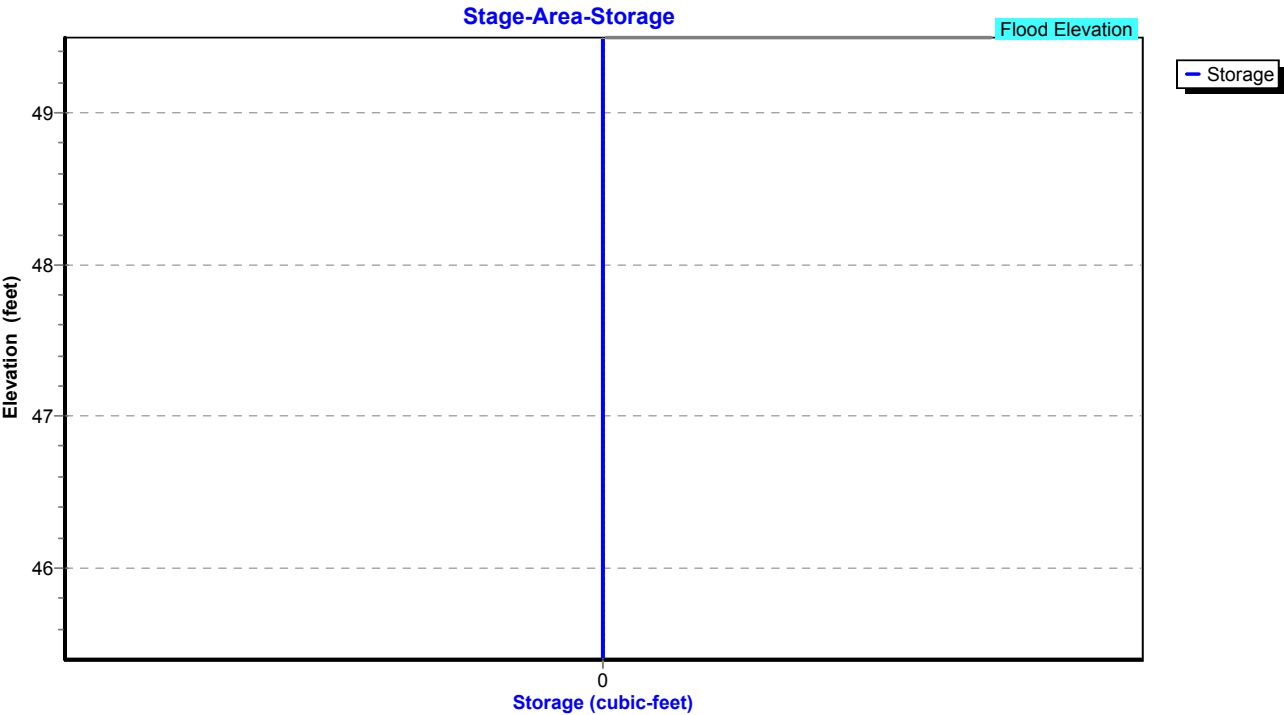
Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 46.95' @ 12.03 hrs
Flood Elev= 49.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	45.40'	12.0" Round Culvert L= 25.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.40' / 44.90' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=3.87 cfs @ 12.03 hrs HW=46.94' (Free Discharge)
1=Culvert (Inlet Controls 3.87 cfs @ 4.92 fps)



Pond 59P: CB-7



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Summary for Pond 61P: CB-6

Inflow Area = 7,884 sf, 82.32% Impervious, Inflow Depth = 7.54" for 100 year event
Inflow = 1.57 cfs @ 12.03 hrs, Volume= 4,952 cf
Outflow = 1.57 cfs @ 12.03 hrs, Volume= 4,952 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.57 cfs @ 12.03 hrs, Volume= 4,952 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 45.81' @ 12.03 hrs

Flood Elev= 49.00'

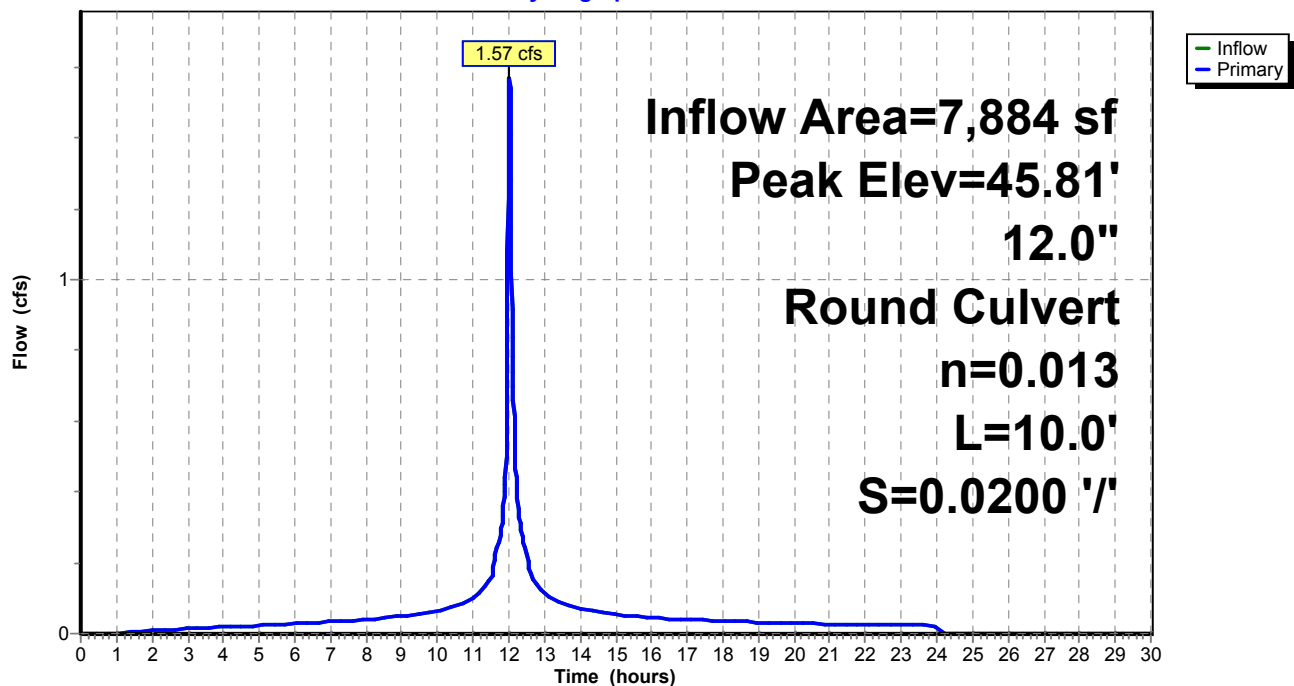
Device	Routing	Invert	Outlet Devices
#1	Primary	45.10'	12.0" Round Culvert L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.10' / 44.90' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.57 cfs @ 12.03 hrs HW=45.81' (Free Discharge)

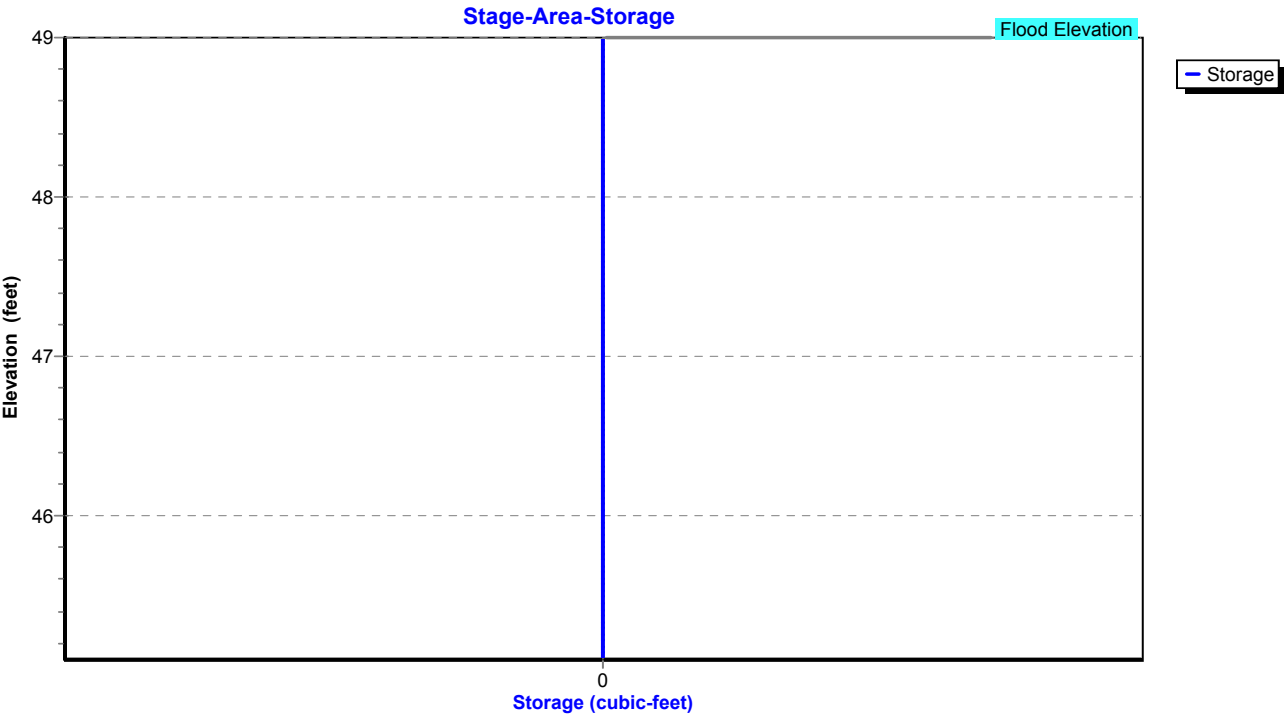
↑1=Culvert (Barrel Controls 1.57 cfs @ 3.68 fps)

Pond 61P: CB-6

Hydrograph



Pond 61P: CB-6



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Summary for Pond 63P: Manhole

Inflow Area = 91,258 sf, 50.60% Impervious, Inflow Depth = 6.61" for 100 year event
Inflow = 12.79 cfs @ 12.06 hrs, Volume= 50,237 cf
Outflow = 12.79 cfs @ 12.06 hrs, Volume= 50,237 cf, Atten= 0%, Lag= 0.0 min
Primary = 12.79 cfs @ 12.06 hrs, Volume= 50,237 cf
Routed to Pond 58P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 53.79' @ 12.06 hrs

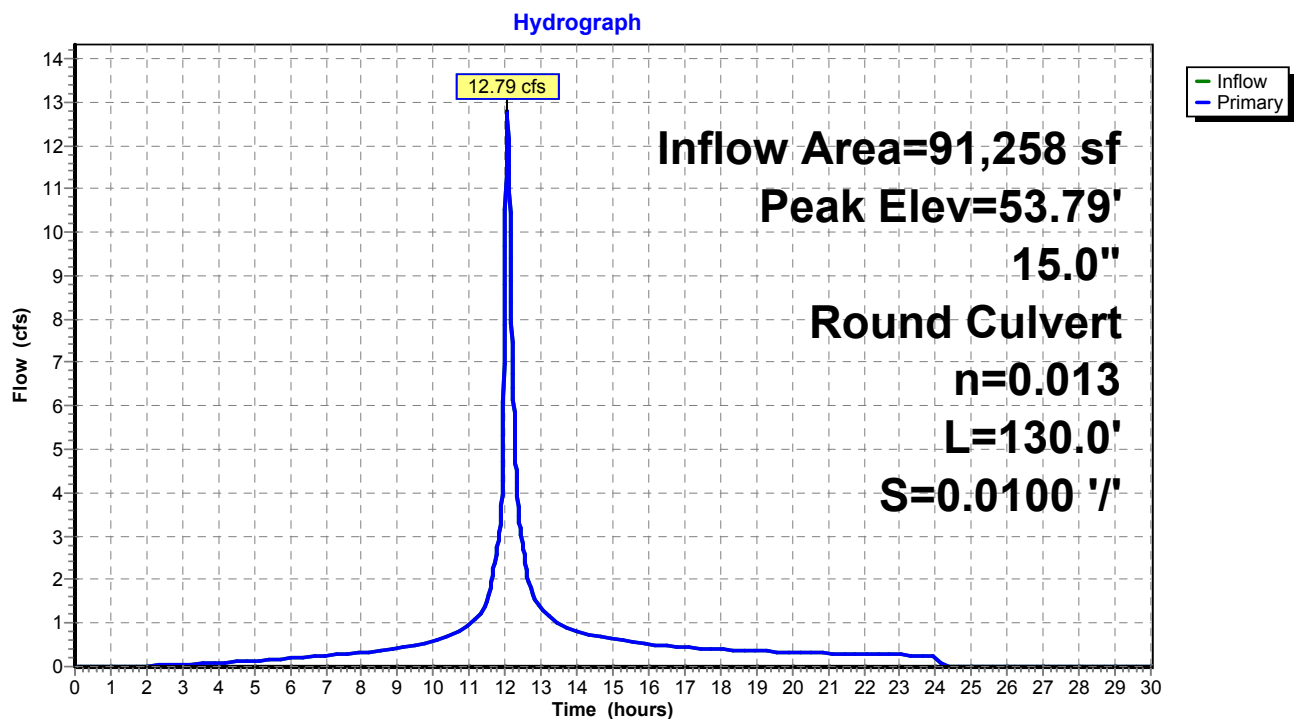
Flood Elev= 51.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.20'	15.0" Round Culvert L= 130.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.20' / 44.90' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=12.78 cfs @ 12.06 hrs HW=53.78' (Free Discharge)

↑1=Culvert (Barrel Controls 12.78 cfs @ 10.41 fps)

Pond 63P: Manhole



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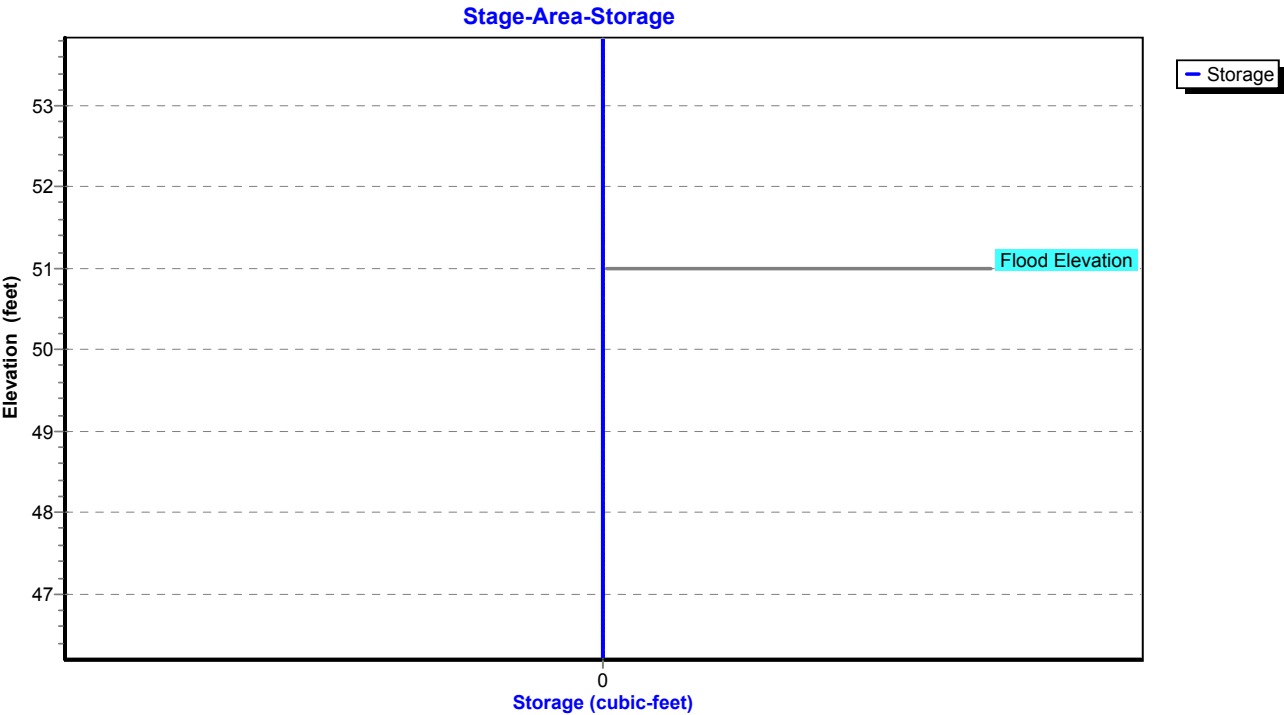
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Pond 63P: Manhole



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Summary for Pond 64P: YD

Inflow Area = 68,128 sf, 41.75% Impervious, Inflow Depth = 6.34" for 100 year event
Inflow = 9.50 cfs @ 12.08 hrs, Volume= 36,001 cf
Outflow = 9.50 cfs @ 12.08 hrs, Volume= 36,001 cf, Atten= 0%, Lag= 0.0 min
Primary = 9.50 cfs @ 12.08 hrs, Volume= 36,001 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 65.63' @ 12.08 hrs

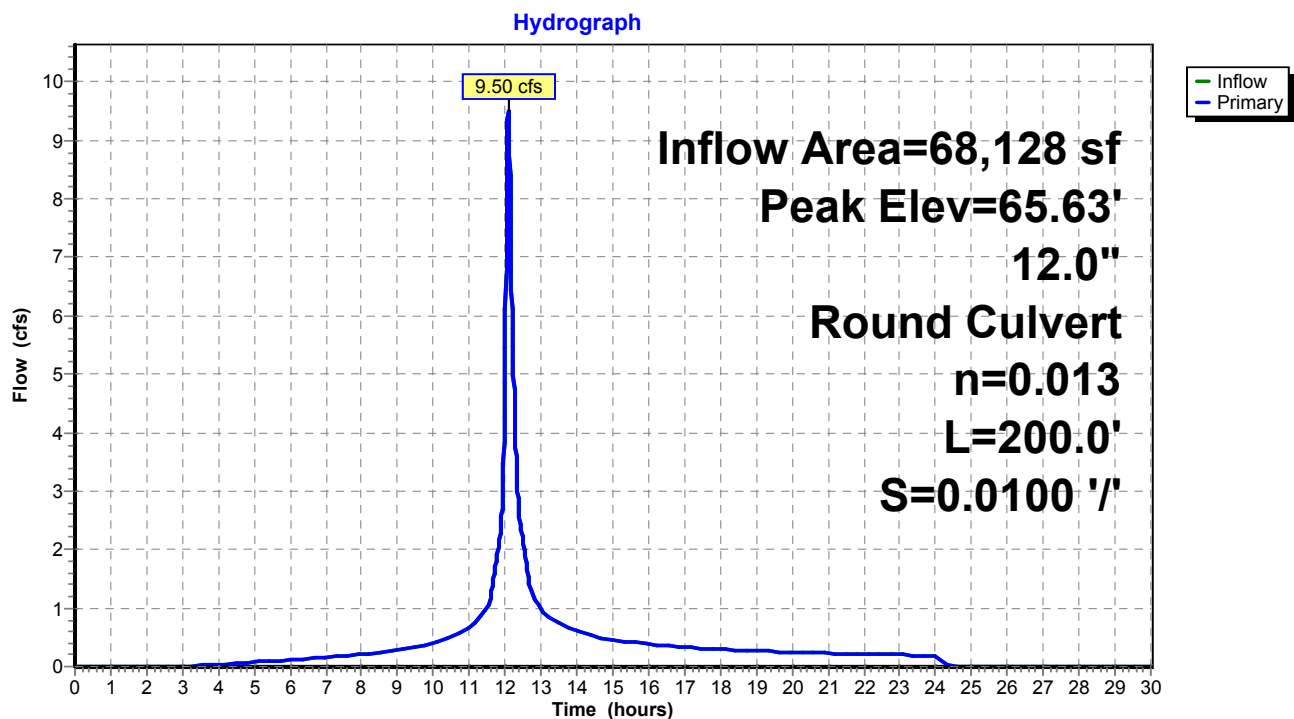
Flood Elev= 54.00'

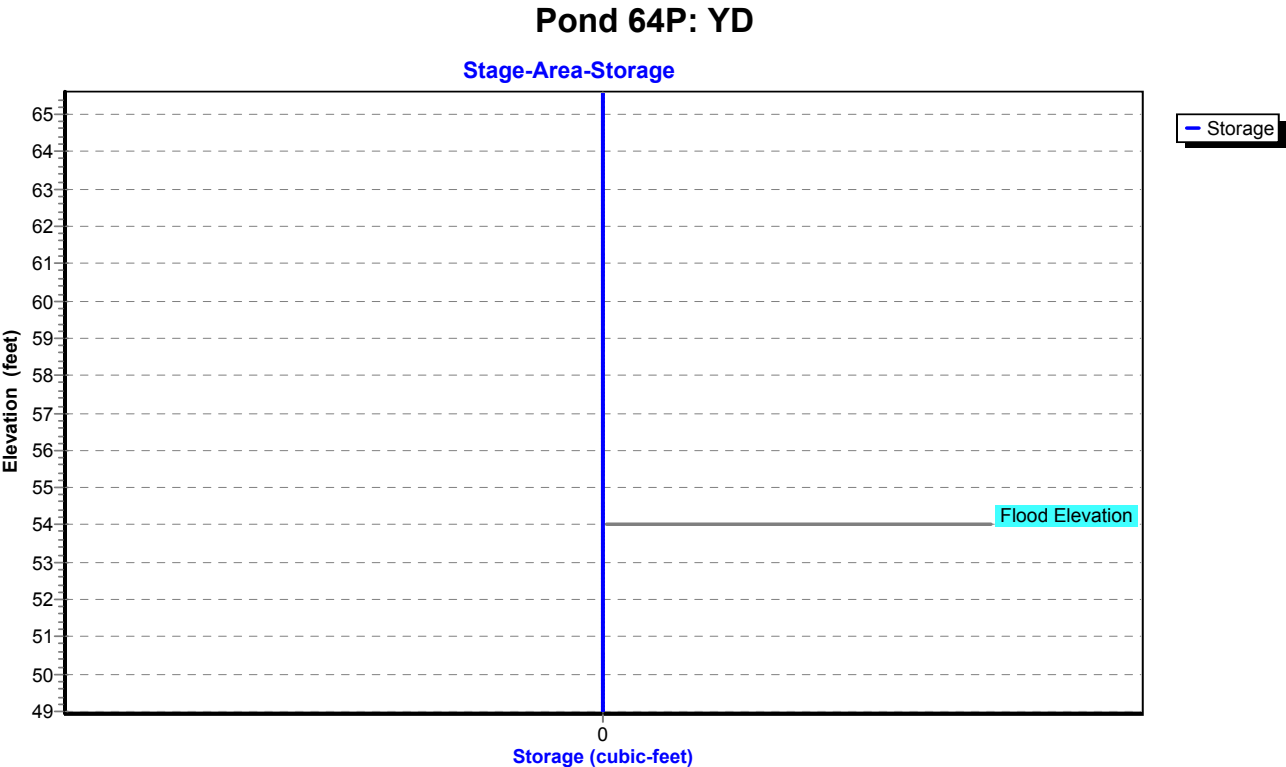
Device	Routing	Invert	Outlet Devices
#1	Primary	48.95'	12.0" Round Culvert L= 200.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 48.95' / 46.95' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=9.48 cfs @ 12.08 hrs HW=65.56' (Free Discharge)

↑1=Culvert (Barrel Controls 9.48 cfs @ 12.07 fps)

Pond 64P: YD





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Summary for Pond 66P: CB-10

Inflow Area = 12,763 sf, 73.04% Impervious, Inflow Depth = 7.30" for 100 year event
Inflow = 2.51 cfs @ 12.03 hrs, Volume= 7,761 cf
Outflow = 2.51 cfs @ 12.03 hrs, Volume= 7,761 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.51 cfs @ 12.03 hrs, Volume= 7,761 cf
Routed to Pond 77P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 48.48' @ 12.03 hrs

Flood Elev= 53.00'

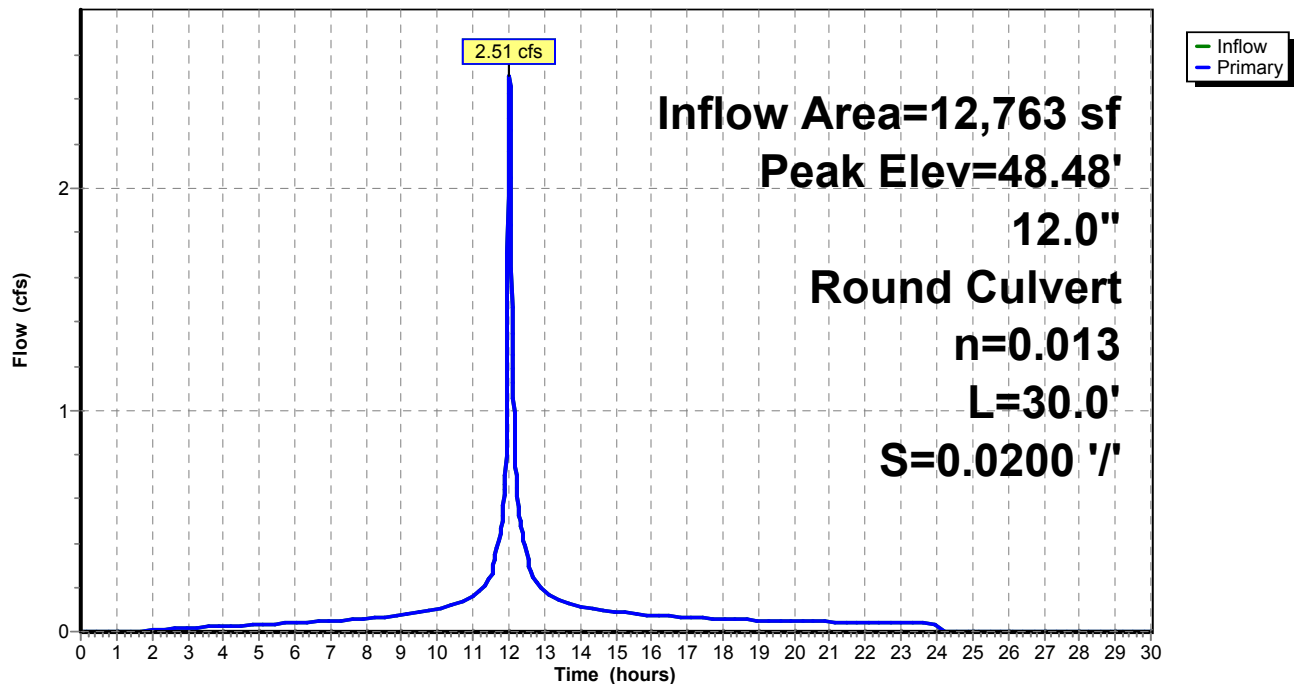
Device	Routing	Invert	Outlet Devices
#1	Primary	47.55'	12.0" Round Culvert L= 30.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.55' / 46.95' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=2.50 cfs @ 12.03 hrs HW=48.48' (Free Discharge)

↑1=Culvert (Inlet Controls 2.50 cfs @ 3.28 fps)

Pond 66P: CB-10

Hydrograph



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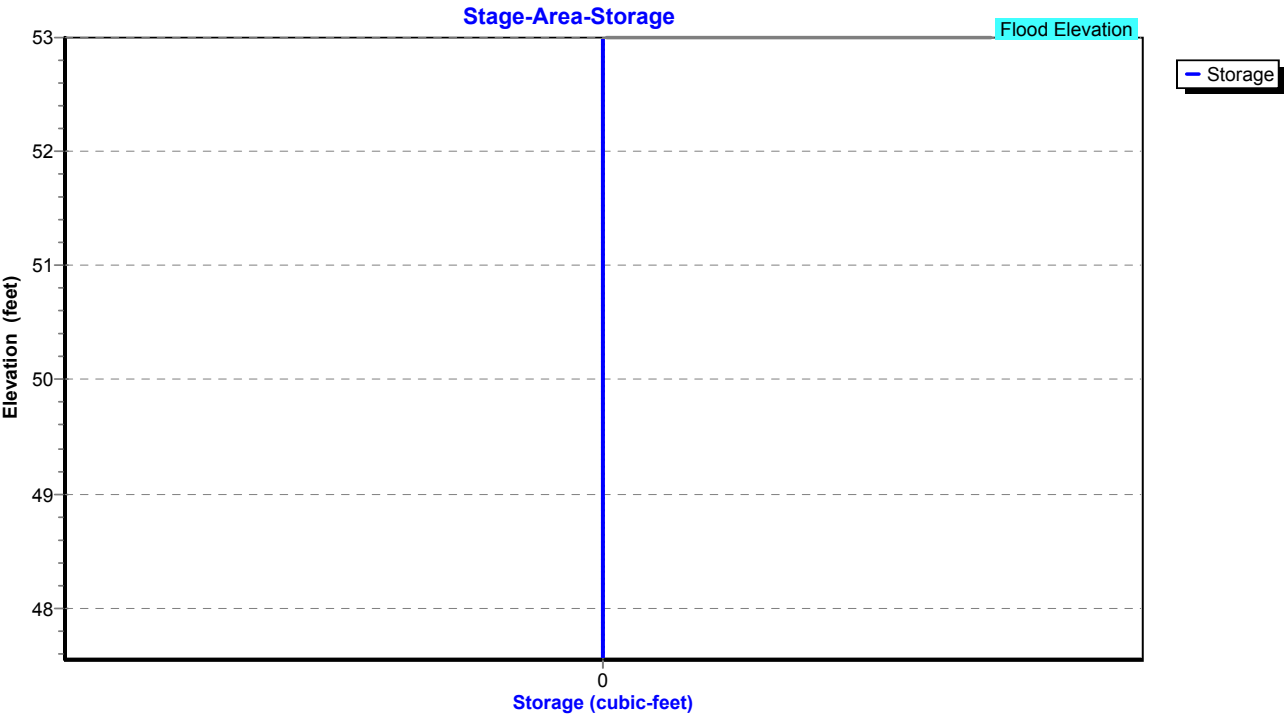
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Pond 66P: CB-10



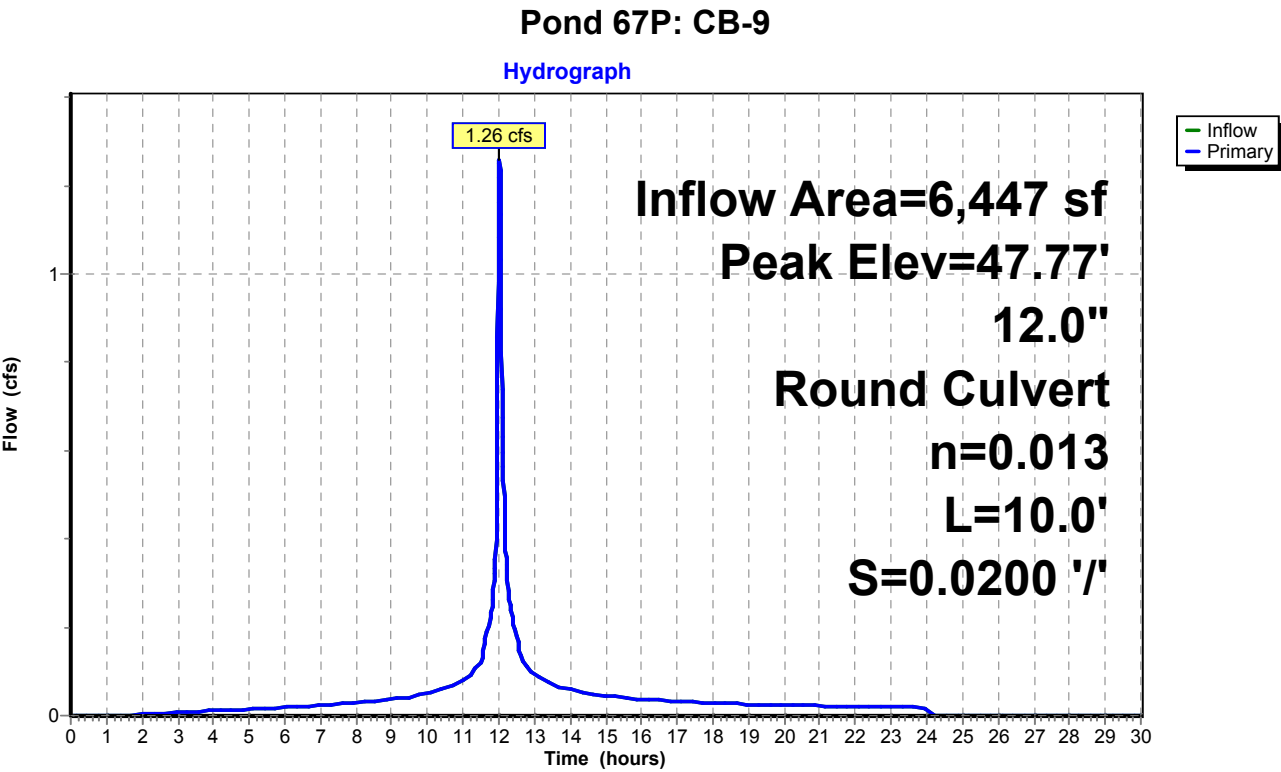
Summary for Pond 67P: CB-9

Inflow Area = 6,447 sf, 69.59% Impervious, Inflow Depth = 7.18" for 100 year event
Inflow = 1.26 cfs @ 12.03 hrs, Volume= 3,856 cf
Outflow = 1.26 cfs @ 12.03 hrs, Volume= 3,856 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.26 cfs @ 12.03 hrs, Volume= 3,856 cf
Routed to Pond 77P : Manhole

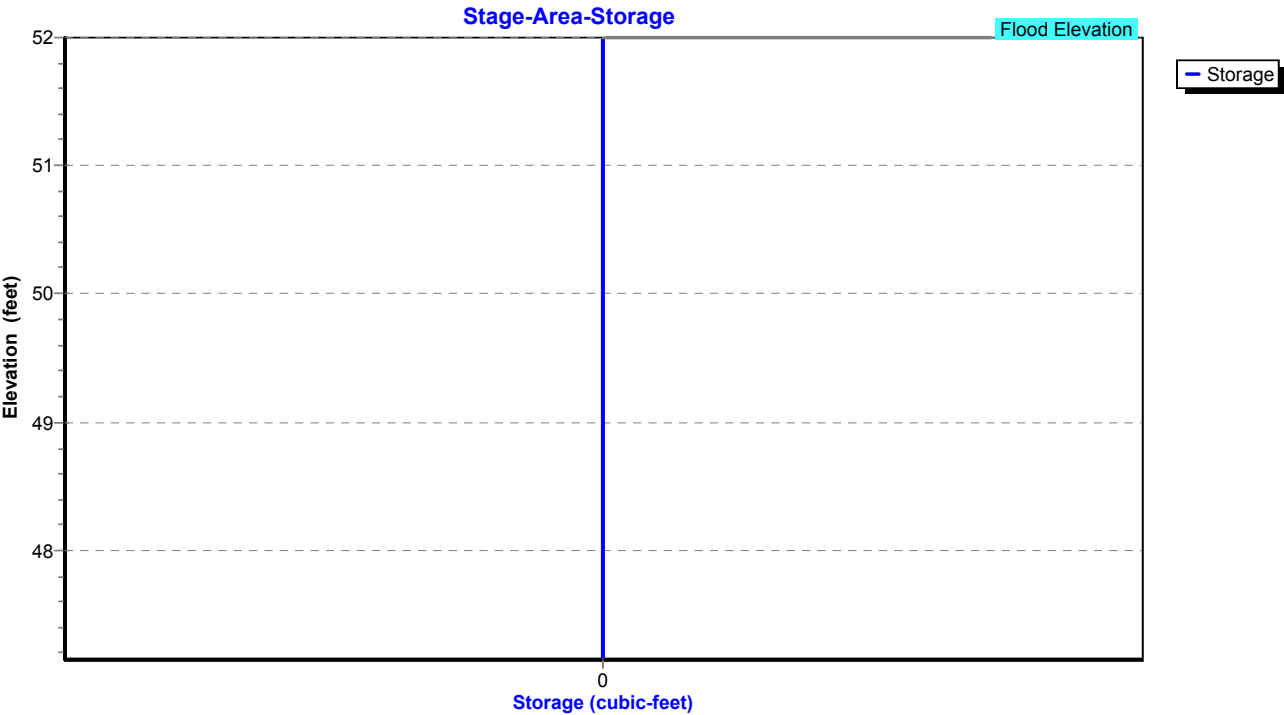
Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 47.77' @ 12.03 hrs
Flood Elev= 52.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.15'	12.0" Round Culvert L= 10.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.15' / 46.95' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.25 cfs @ 12.03 hrs HW=47.77' (Free Discharge)
1=Culvert (Barrel Controls 1.25 cfs @ 3.52 fps)



Pond 67P: CB-9



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Summary for Pond 70P: CB-2

Inflow Area = 88,035 sf, 58.39% Impervious, Inflow Depth = 6.64" for 100 year event
Inflow = 12.33 cfs @ 11.99 hrs, Volume= 48,745 cf
Outflow = 12.33 cfs @ 11.99 hrs, Volume= 48,745 cf, Atten= 0%, Lag= 0.0 min
Primary = 12.33 cfs @ 11.99 hrs, Volume= 48,745 cf
Routed to Pond 51P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 54.00' @ 11.99 hrs

Flood Elev= 53.30'

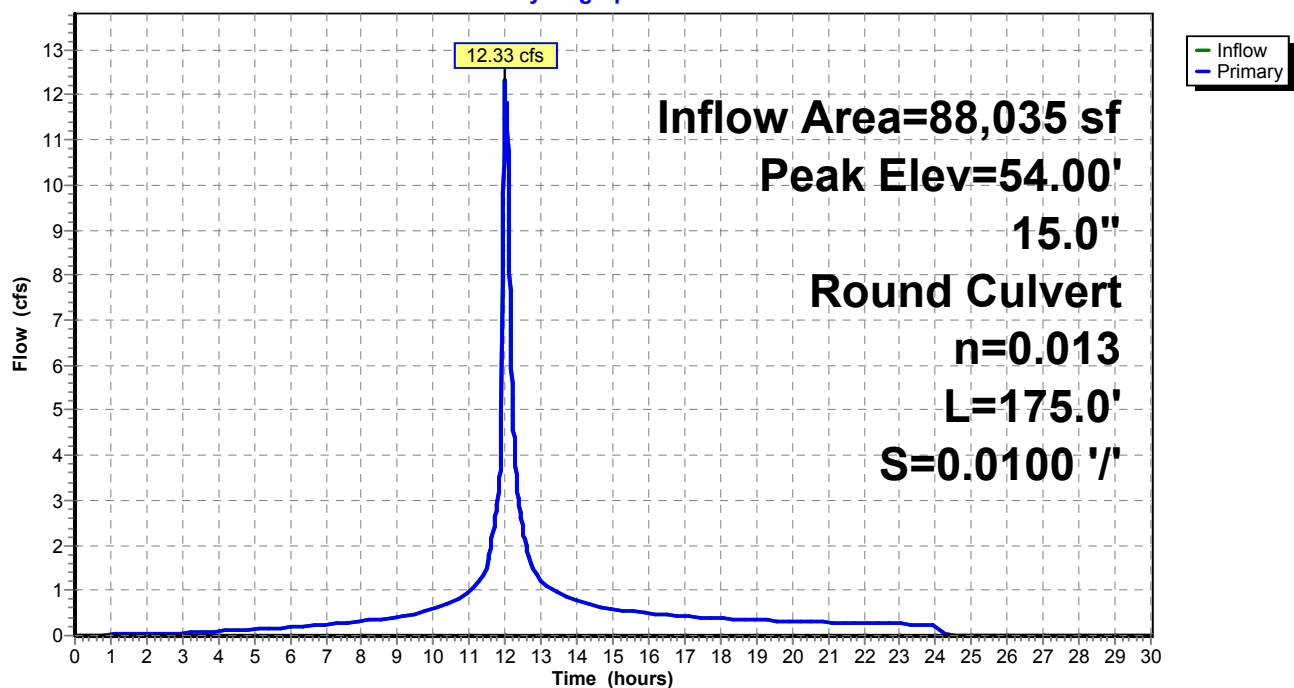
Device	Routing	Invert	Outlet Devices
#1	Primary	45.75'	15.0" Round Culvert L= 175.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 45.75' / 44.00' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=12.33 cfs @ 11.99 hrs HW=53.99' (Free Discharge)

↑1=Culvert (Barrel Controls 12.33 cfs @ 10.04 fps)

Pond 70P: CB-2

Hydrograph



Proposed Conditions

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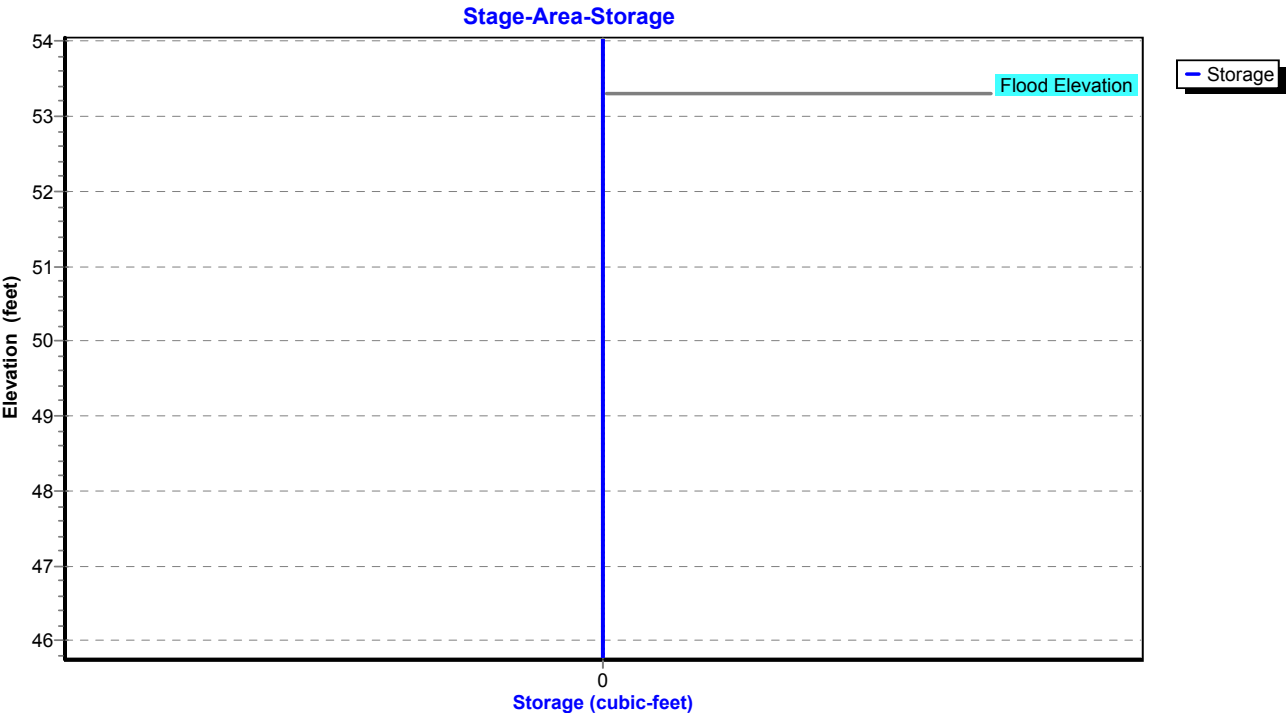
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Pond 70P: CB-2



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Summary for Pond 72P: Manhole

Inflow Area = 74,575 sf, 50.88% Impervious, Inflow Depth = 6.40" for 100 year event
Inflow = 9.97 cfs @ 11.99 hrs, Volume= 39,753 cf
Outflow = 9.97 cfs @ 11.99 hrs, Volume= 39,753 cf, Atten= 0%, Lag= 0.0 min
Primary = 9.97 cfs @ 11.99 hrs, Volume= 39,753 cf
Routed to Pond 70P : CB-2

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 50.57' @ 11.99 hrs

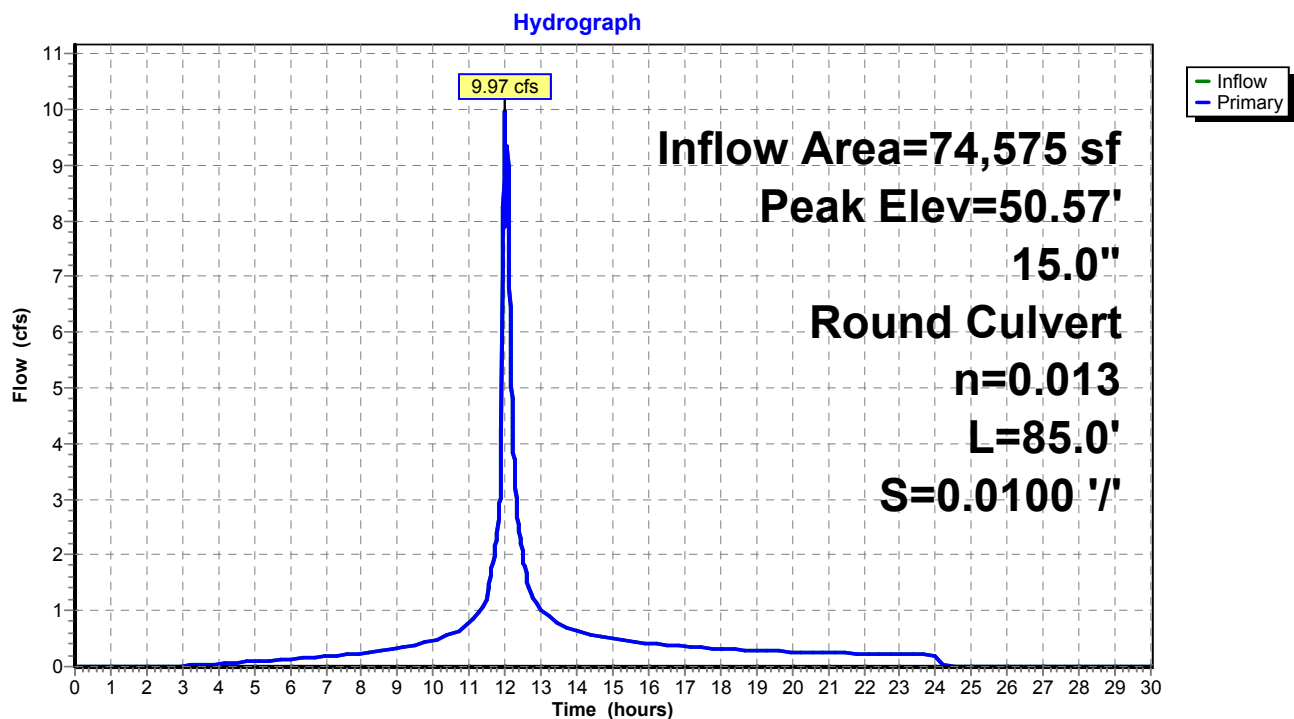
Flood Elev= 54.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.60'	15.0" Round Culvert L= 85.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.60' / 45.75' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=9.89 cfs @ 11.99 hrs HW=50.51' (Free Discharge)

↑1=Culvert (Barrel Controls 9.89 cfs @ 8.06 fps)

Pond 72P: Manhole



Proposed Conditions

Prepared by Tighe & Bond

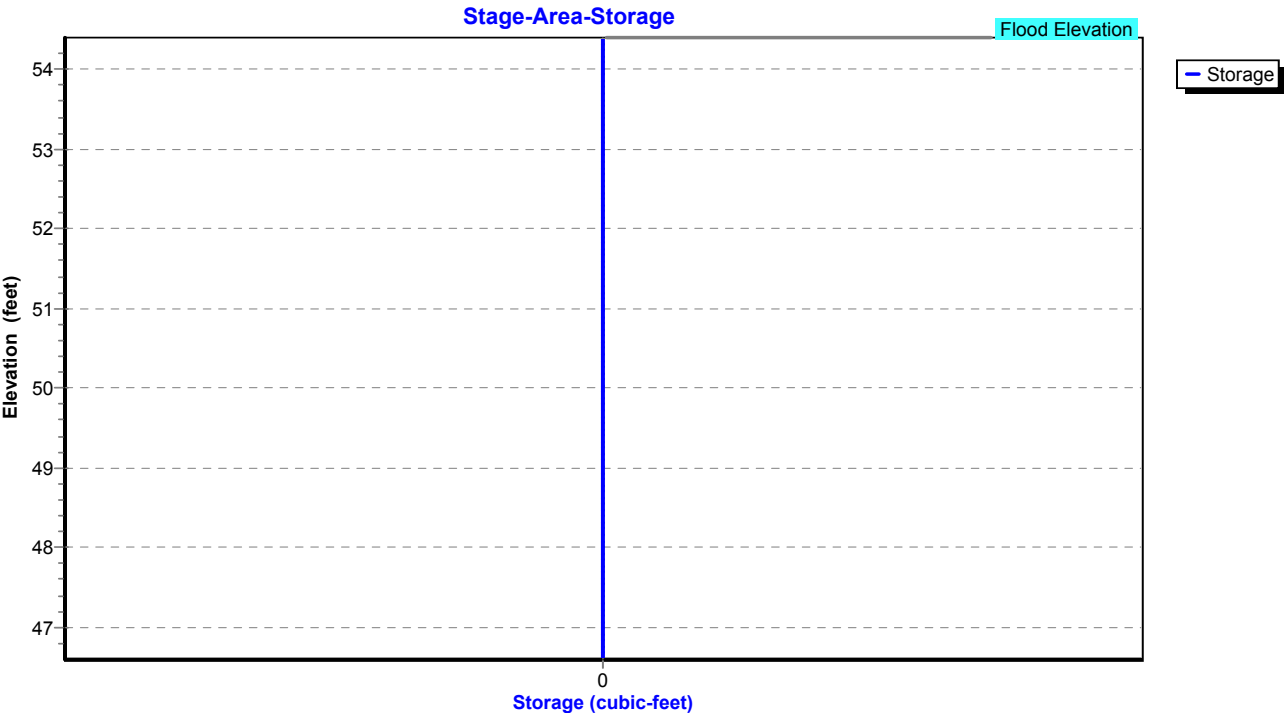
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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Pond 72P: Manhole



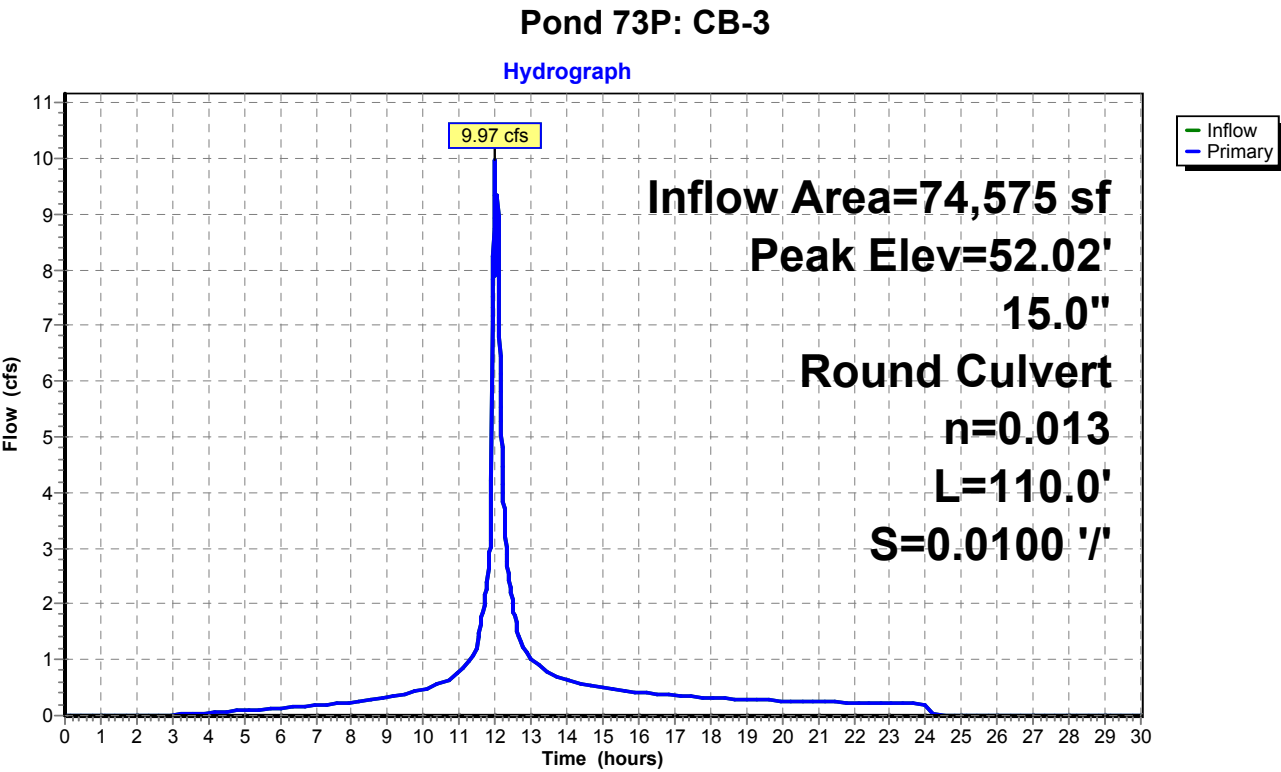
Summary for Pond 73P: CB-3

Inflow Area = 74,575 sf, 50.88% Impervious, Inflow Depth = 6.40" for 100 year event
Inflow = 9.97 cfs @ 11.99 hrs, Volume= 39,753 cf
Outflow = 9.97 cfs @ 11.99 hrs, Volume= 39,753 cf, Atten= 0%, Lag= 0.0 min
Primary = 9.97 cfs @ 11.99 hrs, Volume= 39,753 cf
Routed to Pond 72P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 52.02' @ 11.99 hrs
Flood Elev= 53.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	47.70'	15.0" Round Culvert L= 110.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.70' / 46.60' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=9.89 cfs @ 11.99 hrs HW=51.95' (Free Discharge)
↑1=Culvert (Barrel Controls 9.89 cfs @ 8.06 fps)



Proposed Conditions

Prepared by Tighe & Bond

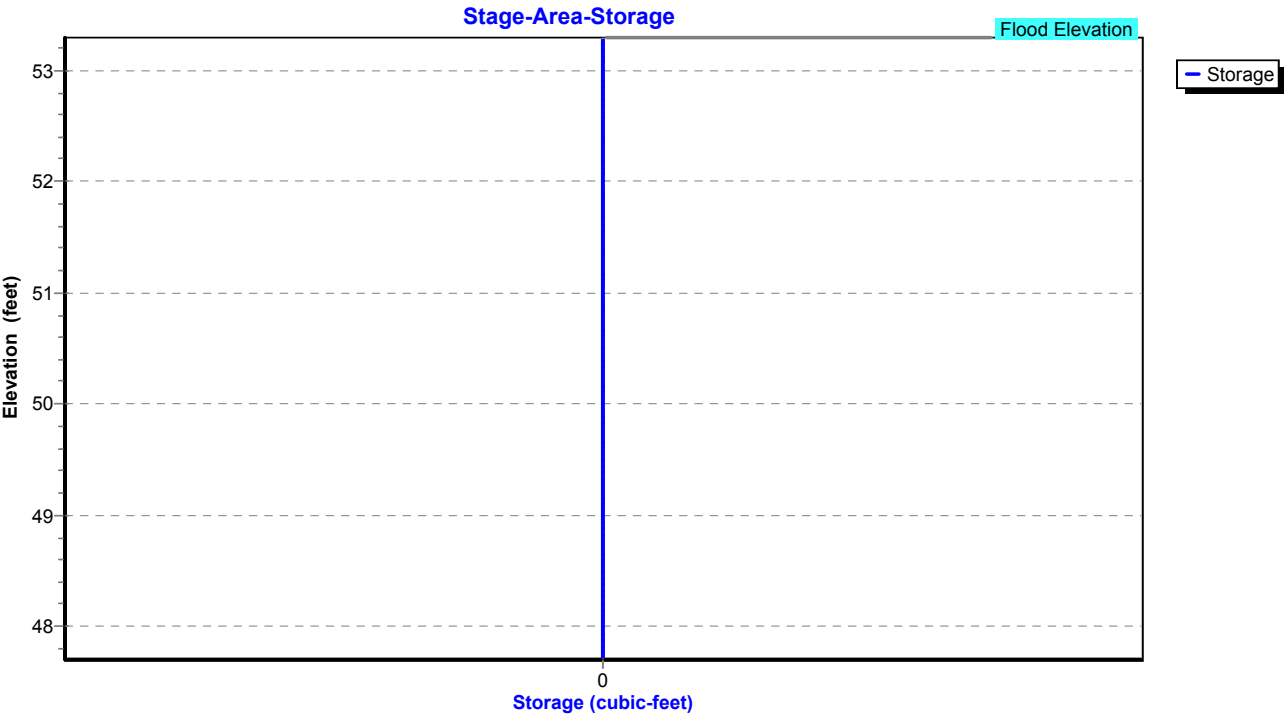
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Pond 73P: CB-3



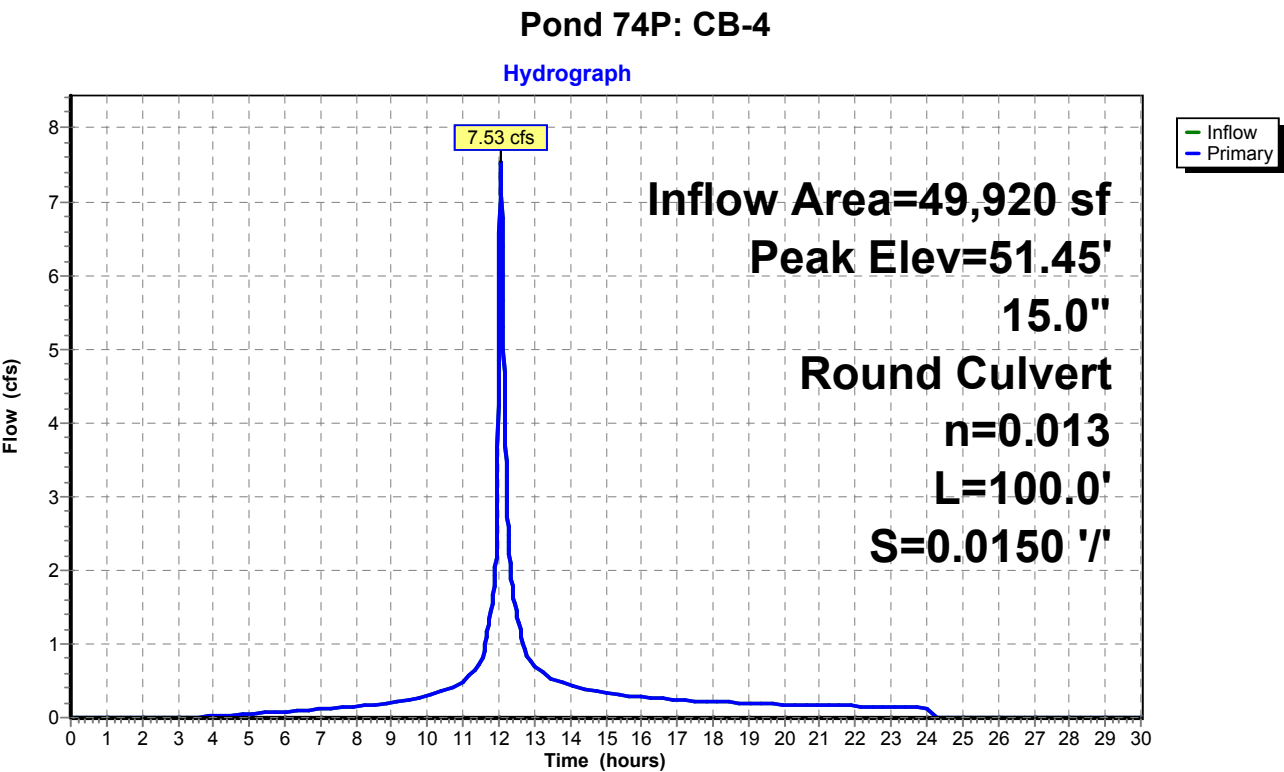
Summary for Pond 74P: CB-4

Inflow Area = 49,920 sf, 46.51% Impervious, Inflow Depth = 6.25" for 100 year event
Inflow = 7.53 cfs @ 12.06 hrs, Volume= 25,989 cf
Outflow = 7.53 cfs @ 12.06 hrs, Volume= 25,989 cf, Atten= 0%, Lag= 0.0 min
Primary = 7.53 cfs @ 12.06 hrs, Volume= 25,989 cf
Routed to Pond 73P : CB-3

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 51.45' @ 12.06 hrs
Flood Elev= 53.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	49.20'	15.0" Round Culvert L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.20' / 47.70' S= 0.0150 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=7.52 cfs @ 12.06 hrs HW=51.44' (Free Discharge)
1=Culvert (Inlet Controls 7.52 cfs @ 6.13 fps)



Proposed Conditions

Prepared by Tighe & Bond

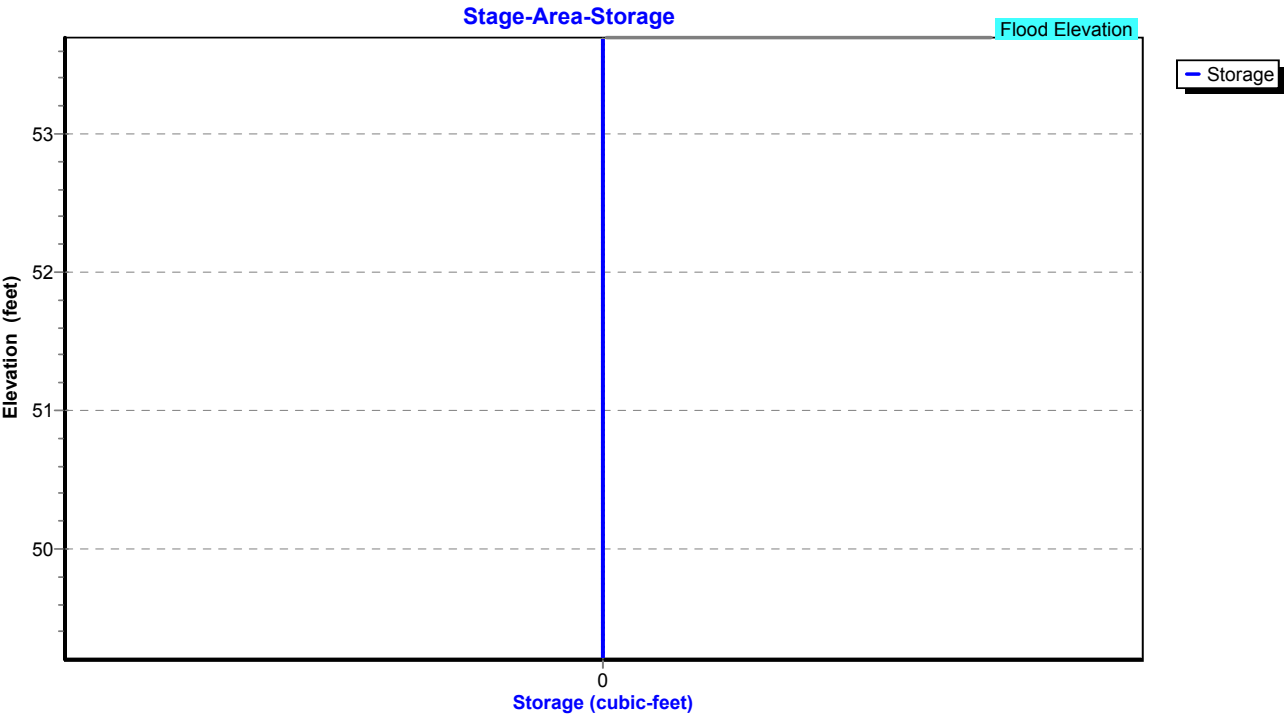
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Pond 74P: CB-4



Summary for Pond 77P: Manhole

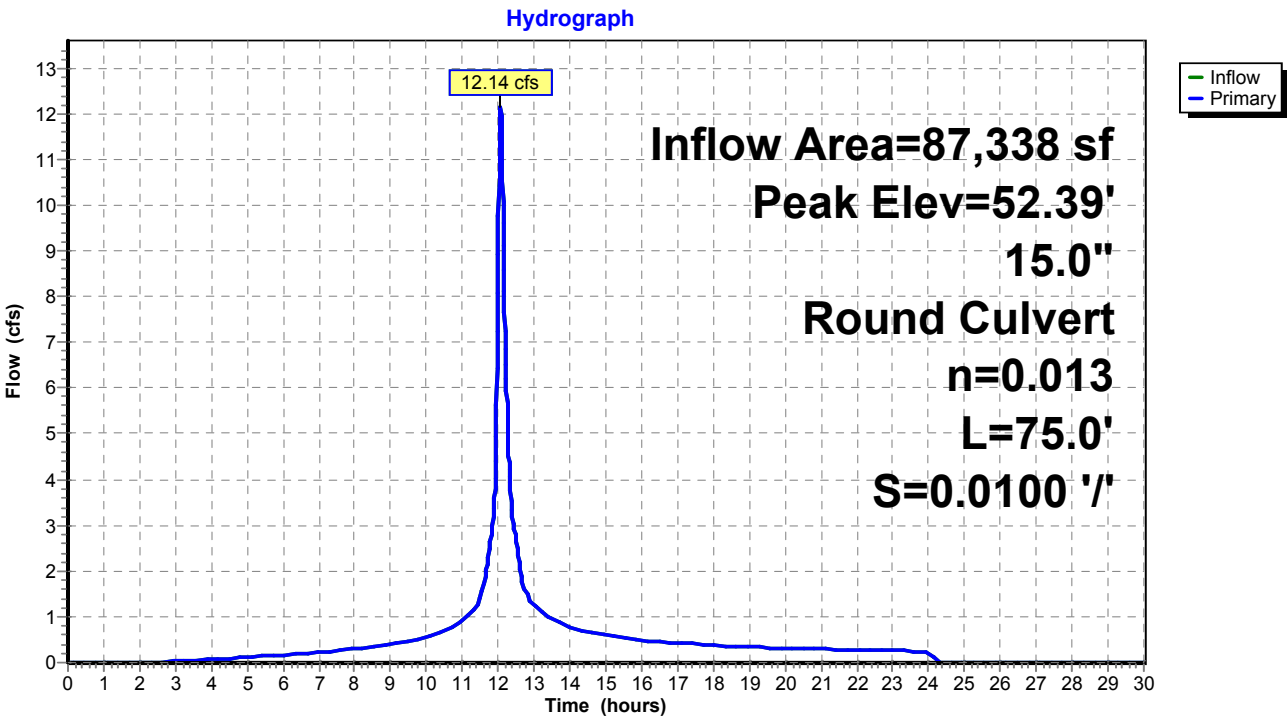
Inflow Area = 87,338 sf, 48.38% Impervious, Inflow Depth = 6.54" for 100 year event
Inflow = 12.14 cfs @ 12.06 hrs, Volume= 47,618 cf
Outflow = 12.14 cfs @ 12.06 hrs, Volume= 47,618 cf, Atten= 0%, Lag= 0.0 min
Primary = 12.14 cfs @ 12.06 hrs, Volume= 47,618 cf
Routed to Pond 63P : Manhole

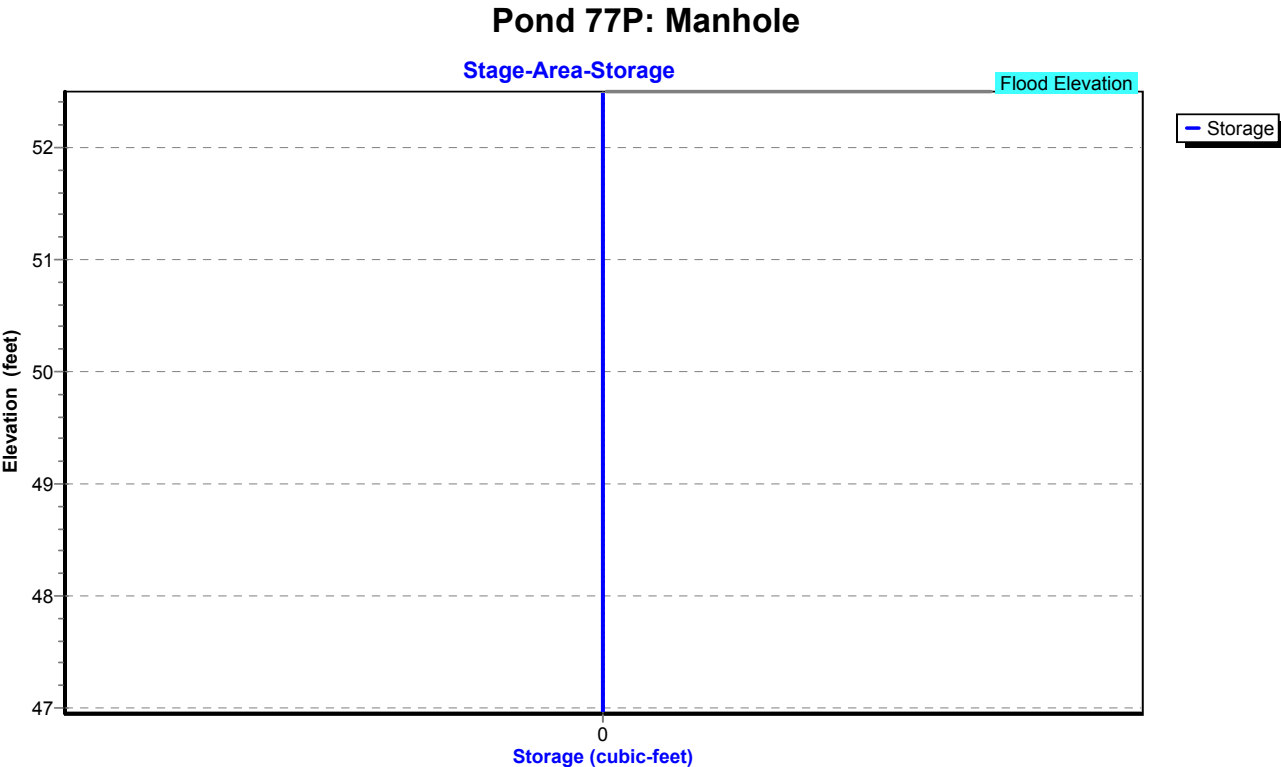
Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 52.39' @ 12.06 hrs
Flood Elev= 52.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.95'	15.0" Round Culvert L= 75.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.95' / 46.20' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Primary OutFlow Max=12.13 cfs @ 12.06 hrs HW=52.38' (Free Discharge)
1=Culvert (Barrel Controls 12.13 cfs @ 9.88 fps)

Pond 77P: Manhole





Proposed Conditions

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Summary for Pond 79P: CB-8

Inflow Area = 3,920 sf, 100.00% Impervious, Inflow Depth = 8.02" for 100 year event
Inflow = 0.80 cfs @ 12.03 hrs, Volume= 2,619 cf
Outflow = 0.80 cfs @ 12.03 hrs, Volume= 2,619 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.80 cfs @ 12.03 hrs, Volume= 2,619 cf
Routed to Pond 63P : Manhole

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 47.65' @ 12.03 hrs

Flood Elev= 52.50'

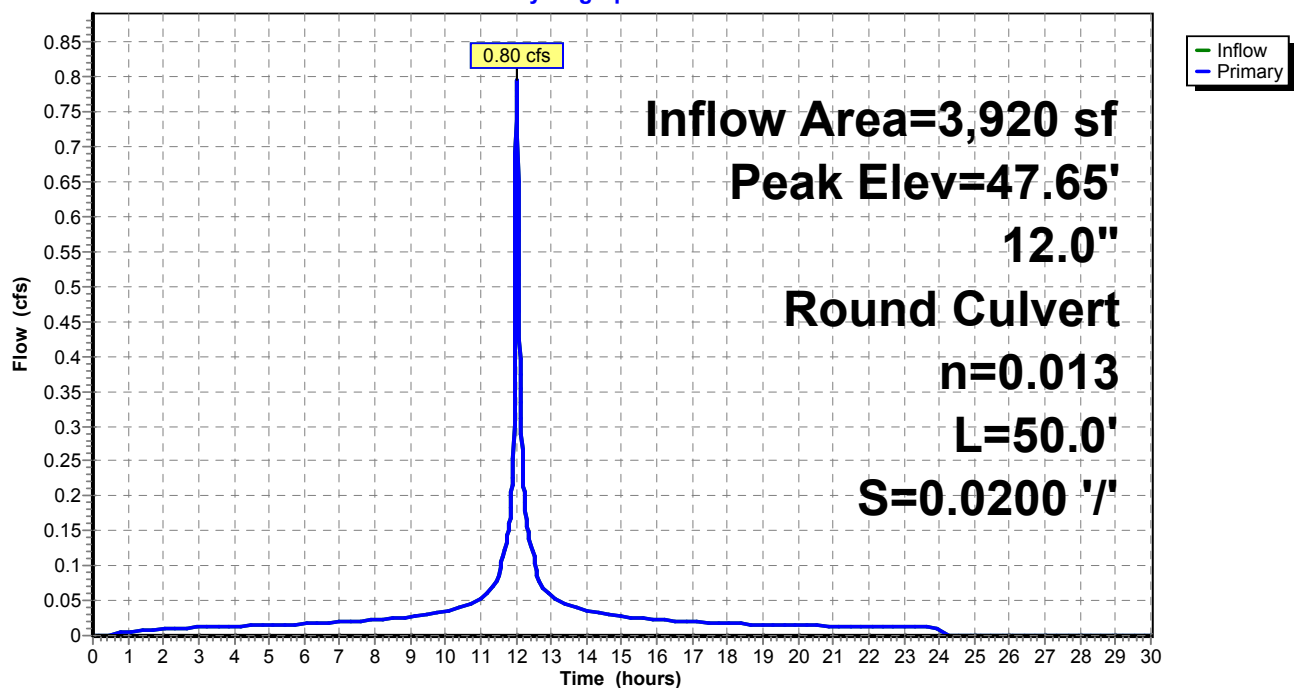
Device	Routing	Invert	Outlet Devices
#1	Primary	47.20'	12.0" Round Culvert L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 47.20' / 46.20' S= 0.0200 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.79 cfs @ 12.03 hrs HW=47.65' (Free Discharge)

↑1=Culvert (Inlet Controls 0.79 cfs @ 2.29 fps)

Pond 79P: CB-8

Hydrograph



Proposed Conditions

Prepared by Tighe & Bond

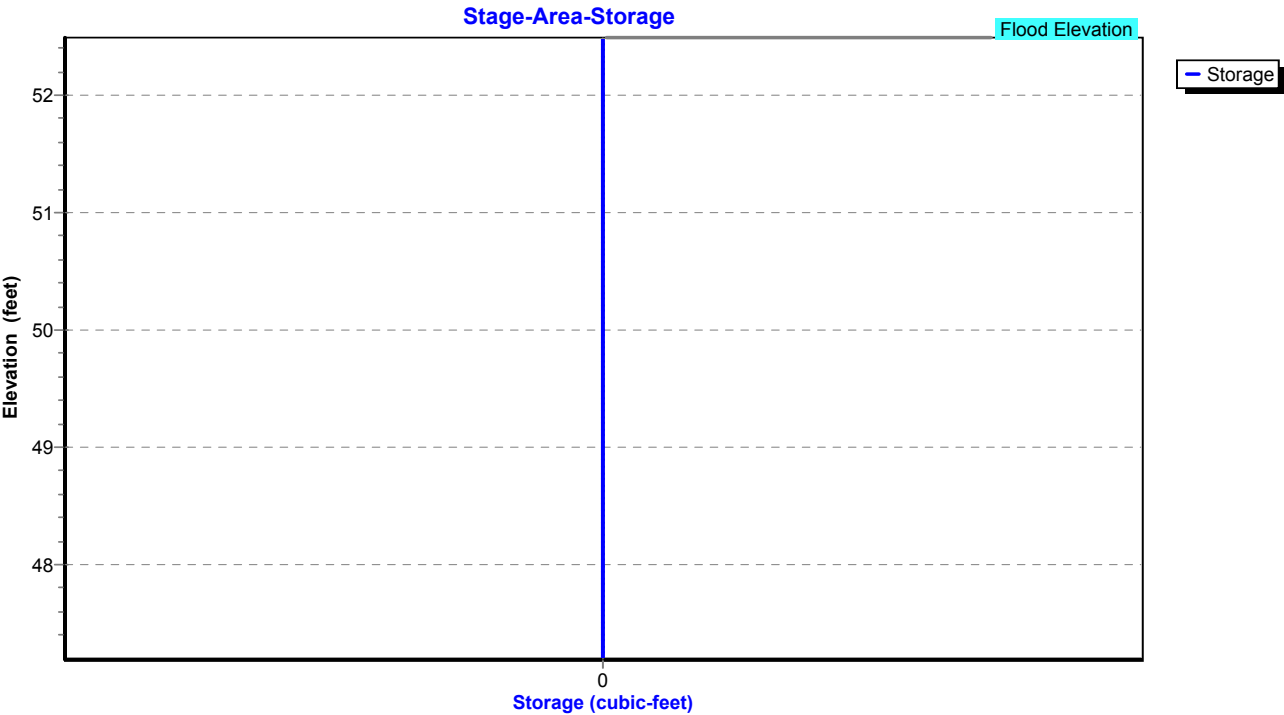
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NORWALK 24-hr S1 100 year Rainfall=8.26"

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Pond 79P: CB-8



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NORWALK 24-hr S1 100 year Rainfall=8.26"

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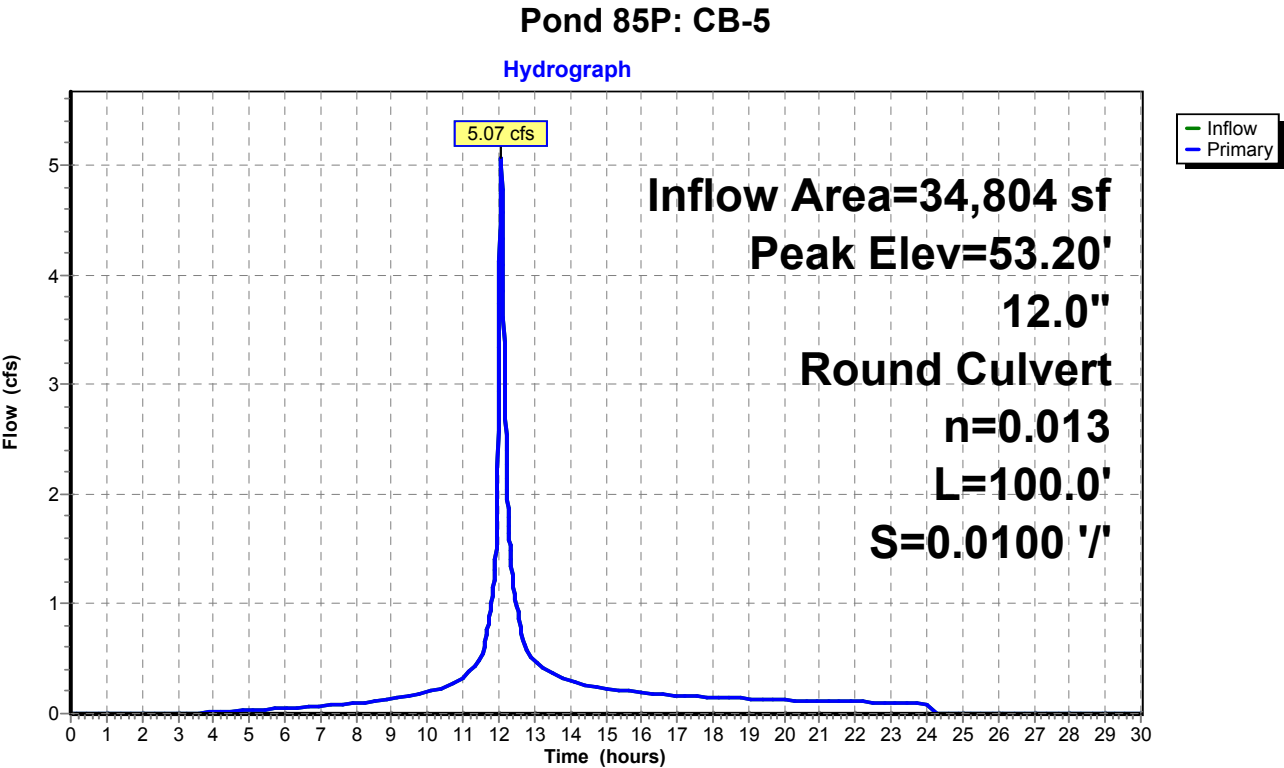
Summary for Pond 85P: CB-5

Inflow Area = 34,804 sf, 42.18% Impervious, Inflow Depth = 6.10" for 100 year event
Inflow = 5.07 cfs @ 12.07 hrs, Volume= 17,701 cf
Outflow = 5.07 cfs @ 12.07 hrs, Volume= 17,701 cf, Atten= 0%, Lag= 0.0 min
Primary = 5.07 cfs @ 12.07 hrs, Volume= 17,701 cf
Routed to Pond 74P : CB-4

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 53.20' @ 12.07 hrs
Flood Elev= 53.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	50.20'	12.0" Round Culvert L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 50.20' / 49.20' S= 0.0100 '/ Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=5.06 cfs @ 12.07 hrs HW=53.19' (Free Discharge)
1=Culvert (Barrel Controls 5.06 cfs @ 6.44 fps)



Proposed Conditions

Prepared by Tighe & Bond

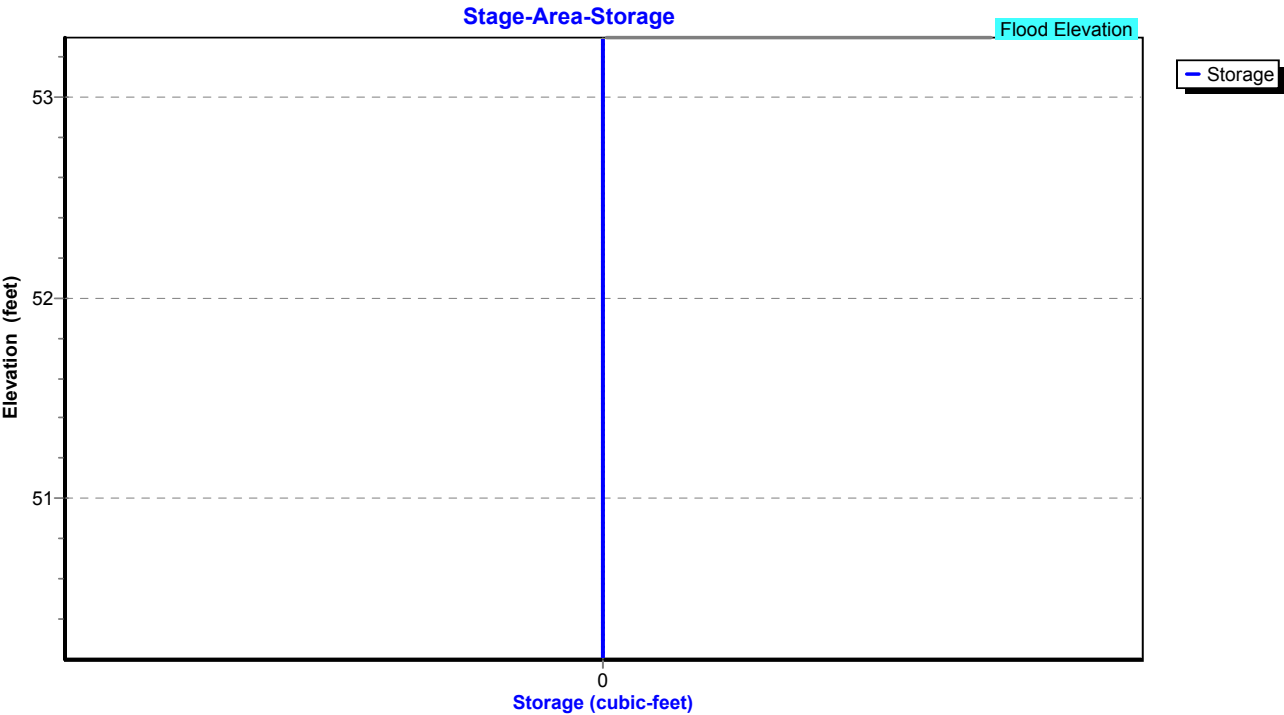
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Pond 85P: CB-5



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Summary for Pond P: ADS Stormtech

Inflow Area = 16,901 sf, 100.00% Impervious, Inflow Depth = 8.02" for 100 year event
 Inflow = 3.43 cfs @ 12.03 hrs, Volume= 11,290 cf
 Outflow = 2.77 cfs @ 12.06 hrs, Volume= 11,288 cf, Atten= 19%, Lag= 2.3 min
 Primary = 2.77 cfs @ 12.06 hrs, Volume= 11,288 cf
 Routed to Pond 2P : RR Culvert 1

Routing by Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 54.57' @ 12.06 hrs Surf.Area= 749 sf Storage= 1,503 cf

Plug-Flow detention time= 17.3 min calculated for 11,284 cf (100% of inflow)
 Center-of-Mass det. time= 17.2 min (757.5 - 740.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	51.34'	764 cf	15.75'W x 46.34'L x 3.75'H Field A 2,737 cf Overall - 827 cf Embedded = 1,910 cf x 40.0% Voids
#2A	51.84'	827 cf	ADS_StormTech SC-740 +Cap x 18 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 18 Chambers in 3 Rows
#3	51.34'	114 cf	5.00'D x 5.80'H OCS
		1,705 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	51.34'	12.0" Round Culvert L= 4.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 51.34' / 51.30' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	51.34'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	54.30'	5.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=2.68 cfs @ 12.06 hrs HW=54.57' (Free Discharge)

1=Culvert (Passes 2.68 cfs of 6.24 cfs potential flow)

2=Orifice/Grate (Orifice Controls 0.73 cfs @ 8.42 fps)

3=Broad-Crested Rectangular Weir (Weir Controls 1.95 cfs @ 1.46 fps)

Proposed Conditions

Prepared by Tighe & Bond

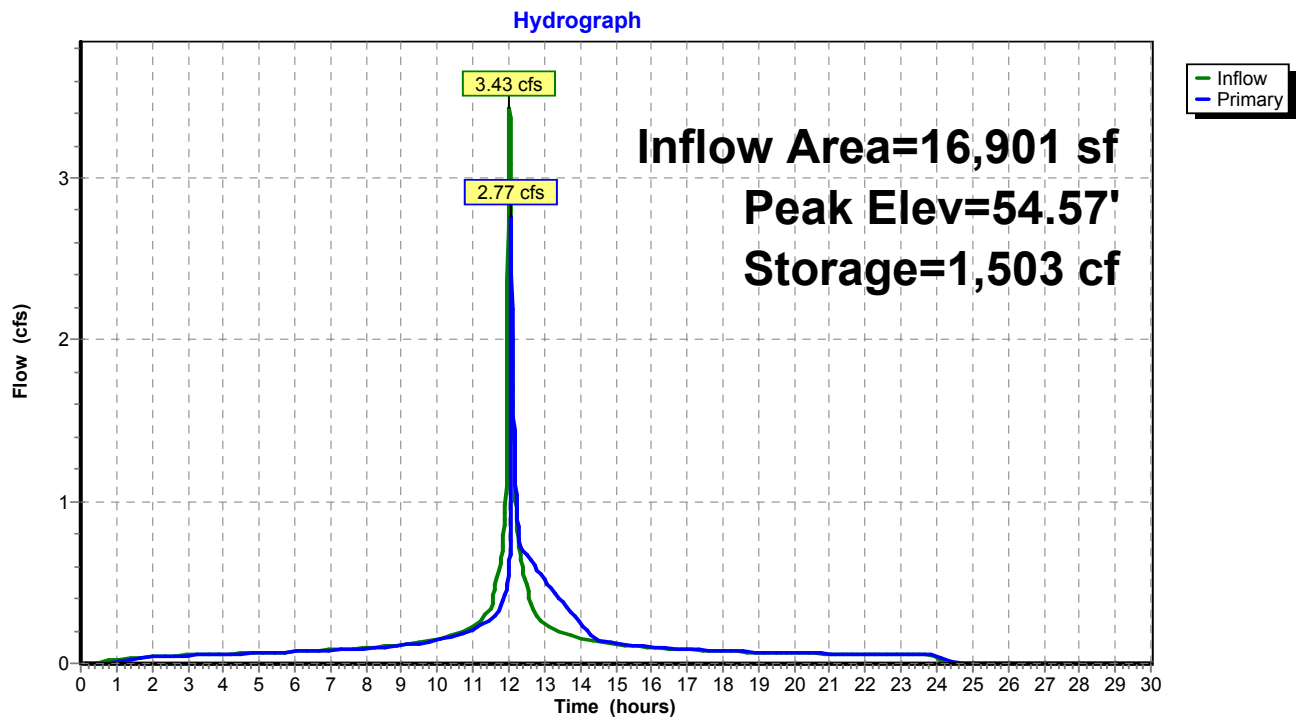
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NORWALK 24-hr S1 100 year Rainfall=8.26"

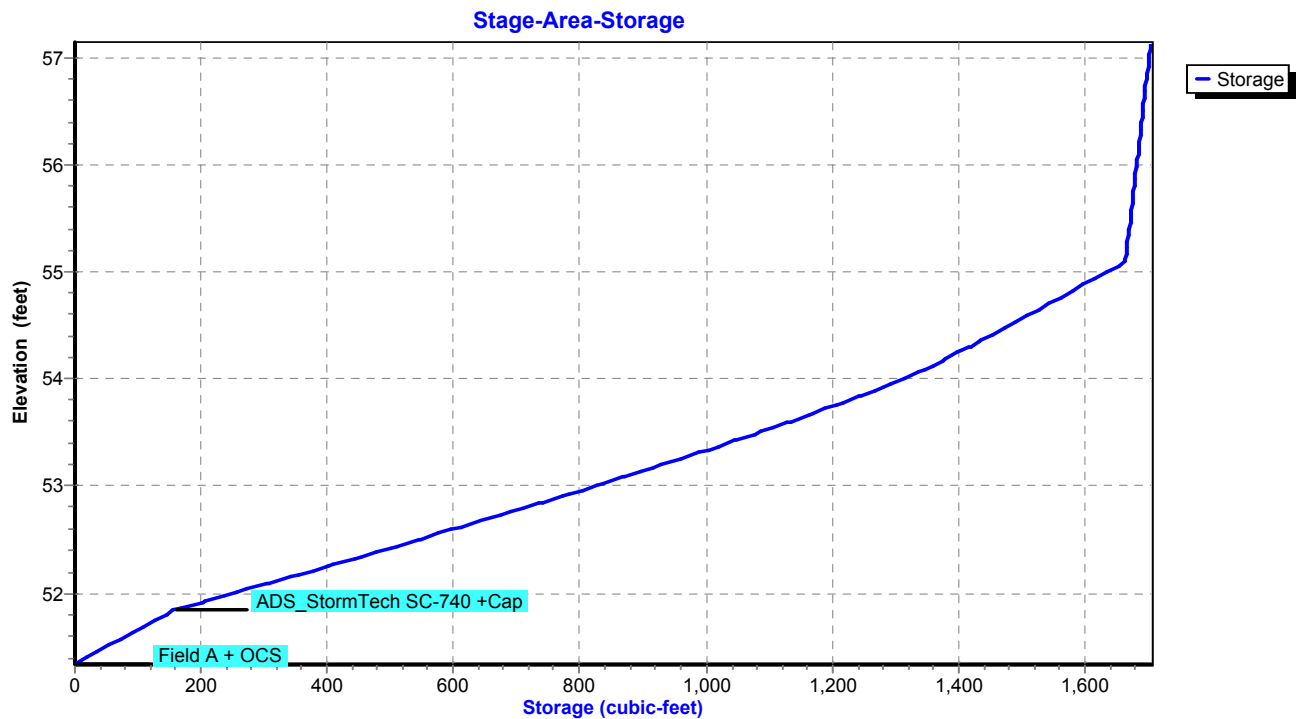
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Pond P: ADS Stormtech

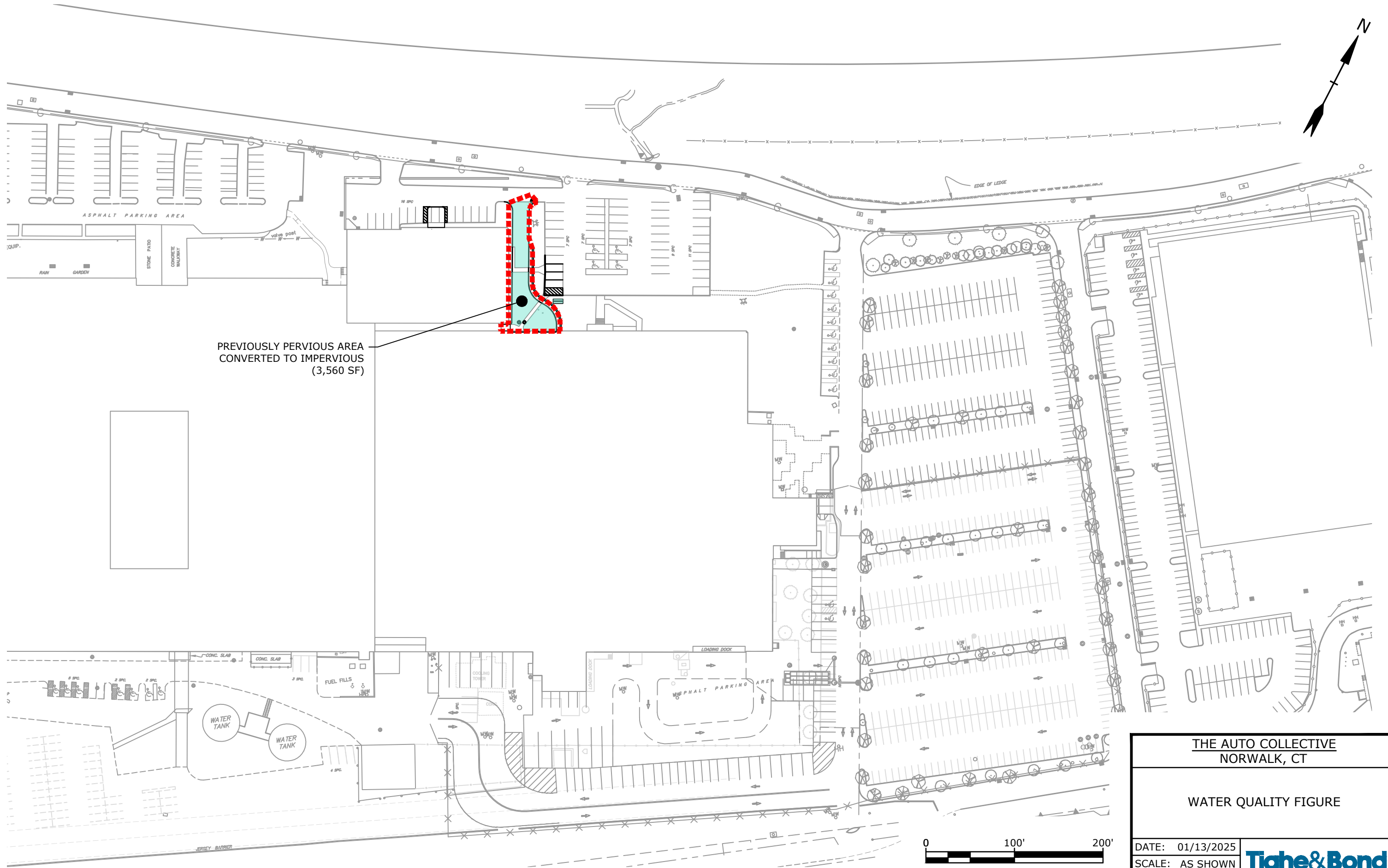


Pond P: ADS Stormtech



APPENDIX E

Plotted On: Jan 15, 2025 3:16pm By: ZHattan
Tighe & Bond\J:\A\A5128 The Auto Collective\0001\Design\Stormwater\A5128-01-WQF.dwg



THE AUTO COLLECTIVE
NORWALK, CT

WATER QUALITY FIGURE

DATE: 01/13/2025
SCALE: AS SHOWN
FIGURE: WQF

Tighe & Bond

Required Water Quality Volume (WQv)

Total Area in acres (A)	=	0.082
Impervious Area in acres	=	0.082
Percent of Impervious Area (I)	=	100
Volumetric Runoff Coefficient (R)		

$$R = 0.05 + 0.009(I) = 0.953$$

$$WQv = \frac{(0.65'')(R)(A)}{12} = \frac{0.0042 \text{ ac}\cdot\text{ft}}{184 \text{ cf}}$$

Required Water Quality Flow (WQf)

WQv (Ac*ft)	=	0.0042
Drainage Area (Ac)	=	0.082

$$Q = WQv \cdot 12 / DA = 0.619 \text{ in}$$

Runoff Depth in inches (Q)	=	0.619 in
Design Precipitation in inches (P)	=	0.7 in

$$CN = 1000 / [10 + 5 \cdot P + 10Q - 10 \cdot (Q^2 + 1.25QP)^{1/2}] = 100 \text{ CN}$$

From table 4-1 in chapter 4, TR-55

$$I_a = 0.041 \text{ in}$$

$$I_a / P = 0.063$$

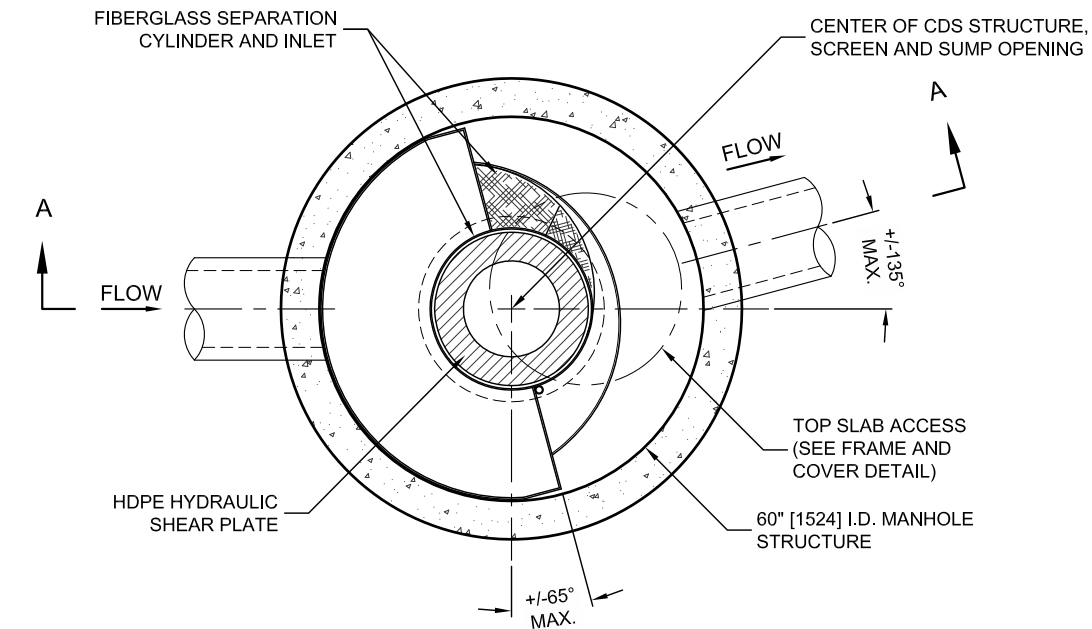
From Exhibit 4-11 in chapter 4, TR-55

$$q_u = 675 \text{ csm/in}$$

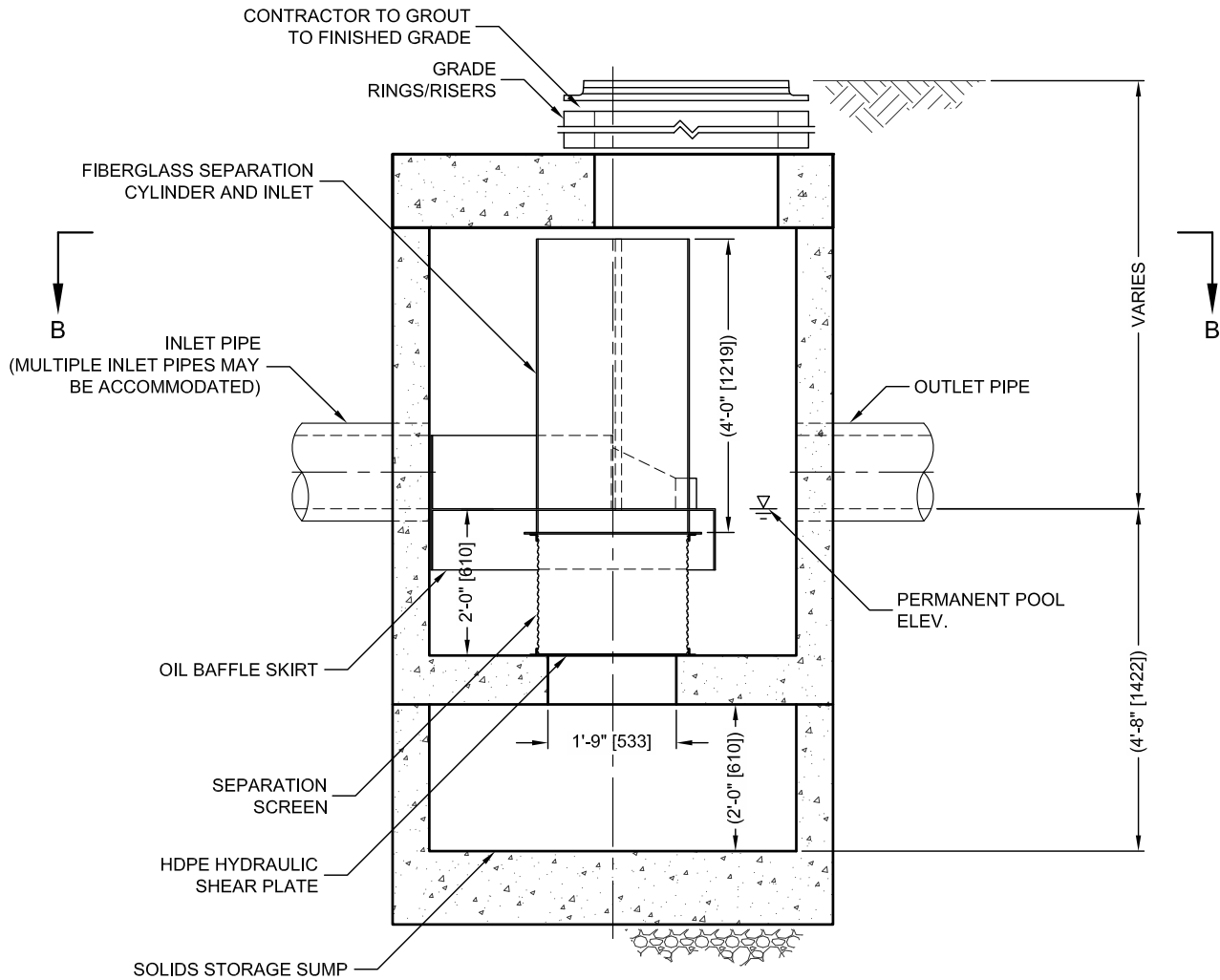
Unit peak discharge in csm/in (q_u)	=	675
Area in square miles (A)	=	0.000
Runoff Depth in inches (Q)	=	0.619

$$WQF = q_u \cdot A \cdot Q = 0.053 \text{ cfs}$$

C:\USERS\SCHLACHER\DESKTOP\CDS DETAILS 180 MICRON SIZING\ACAD\CDS2015-5-C-DTL.DWG 5/19/2014 5:18 PM



PLAN VIEW B-B
N.T.S.



ELEVATION A-A
N.T.S.



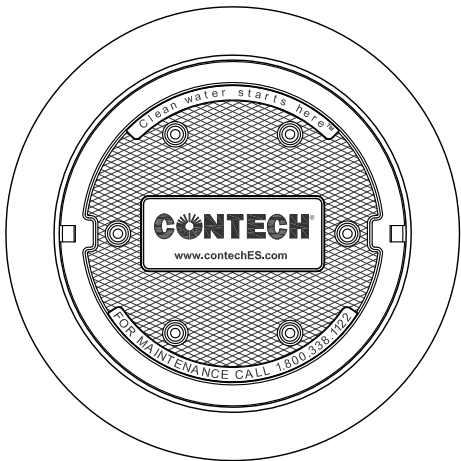
THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: 6,768,848; 6,841,720; 6,911,585; 6,981,762. RELATED FOREIGN PATENTS, OR OTHER PATENTS PENDING.

CDS2015-5-C DESIGN NOTES

THE STANDARD CDS2015-5-C CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION

GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES
SEPARATE OIL BAFFLE (SINGLE INLET PIPE REQUIRED FOR THIS CONFIGURATION)
SEDIMENT WEIR FOR NJDEP / NJCAT CONFORMING UNITS



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID				
WATER QUALITY FLOW RATE (CFS OR L/s)				*
PEAK FLOW RATE (CFS OR L/s)				*
RETURN PERIOD OF PEAK FLOW (YRS)				*
SCREEN APERTURE (2400 OR 4700)				*
PIPE DATA:	I.E.	MATERIAL	DIAMETER	
INLET PIPE 1	*	*	*	
INLET PIPE 2	*	*	*	
OUTLET PIPE	*	*	*	
RIM ELEVATION				*
ANTI-FLOTATION BALLAST		WIDTH	HEIGHT	
		*	*	
NOTES/SPECIAL REQUIREMENTS:				
* PER ENGINEER OF RECORD				

GENERAL NOTES

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH () ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechES.com
4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET HS20 (AASHTO M 306) LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
6. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

INSTALLATION NOTES

- A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
- C. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
- D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
- E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CONTECH
ENGINEERED SOLUTIONS LLC

www.contechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CDS2015-5-C
INLINE CDS
STANDARD DETAIL

CDS® Inspection and Maintenance Guide



Maintenance

The CDS system should be inspected at regular intervals and maintained when necessary to ensure optimum performance. The rate at which the system collects pollutants will depend more heavily on site activities than the size of the unit. For example, unstable soils or heavy winter sanding will cause the grit chamber to fill more quickly but regular sweeping of paved surfaces will slow accumulation.

Inspection

Inspection is the key to effective maintenance and is easily performed. Pollutant transport and deposition may vary from year to year and regular inspections will help ensure that the system is cleaned out at the appropriate time. At a minimum, inspections should be performed twice per year (e.g. spring and fall) however more frequent inspections may be necessary in climates where winter sanding operations may lead to rapid accumulations, or in equipment washdown areas. Installations should also be inspected more frequently where excessive amounts of trash are expected.

The visual inspection should ascertain that the system components are in working order and that there are no blockages or obstructions in the inlet and separation screen. The inspection should also quantify the accumulation of hydrocarbons, trash, and sediment in the system. Measuring pollutant accumulation can be done with a calibrated dipstick, tape measure or other measuring instrument. If absorbent material is used for enhanced removal of hydrocarbons, the level of discoloration of the sorbent material should also be identified during inspection. It is useful and often required as part of an operating permit to keep a record of each inspection. A simple form for doing so is provided.

Access to the CDS unit is typically achieved through two manhole access covers. One opening allows for inspection and cleanout of the separation chamber (cylinder and screen) and isolated sump. The other allows for inspection and cleanout of sediment captured and retained outside the screen. For deep units, a single manhole access point would allow both sump cleanout and access outside the screen.

The CDS system should be cleaned when the level of sediment has reached 75% of capacity in the isolated sump or when an appreciable level of hydrocarbons and trash has accumulated. If absorbent material is used, it should be replaced when significant discoloration has occurred. Performance will not be impacted until 100% of the sump capacity is exceeded however it is recommended that the system be cleaned prior to that for easier removal of sediment. The level of sediment is easily determined by measuring from finished grade down to the top of the sediment pile. To avoid underestimating the level of sediment in the chamber, the measuring device must be lowered to the top of the sediment pile carefully. Particles at the top of the pile typically offer less resistance to the end of the rod than consolidated particles toward the bottom of the pile. Once this measurement is recorded, it should be compared to the as-built drawing for the unit to determine whether the height of the sediment pile off the bottom of the sump floor exceeds 75% of the total height of isolated sump.

Cleaning

Cleaning of a CDS system should be done during dry weather conditions when no flow is entering the system. The use of a vacuum truck is generally the most effective and convenient method of removing pollutants from the system. Simply remove the manhole covers and insert the vacuum hose into the sump. The system should be completely drained down and the sump fully evacuated of sediment. The area outside the screen should also be cleaned out if pollutant build-up exists in this area.

In installations where the risk of petroleum spills is small, liquid contaminants may not accumulate as quickly as sediment. However, the system should be cleaned out immediately in the event of an oil or gasoline spill should be cleaned out immediately. Motor oil and other hydrocarbons that accumulate on a more routine basis should be removed when an appreciable layer has been captured. To remove these pollutants, it may be preferable to use absorbent pads since they are usually less expensive to dispose than the oil/water emulsion that may be created by vacuuming the oily layer. Trash and debris can be netted out to separate it from the other pollutants. The screen should be power washed to ensure it is free of trash and debris.

Manhole covers should be securely seated following cleaning activities to prevent leakage of runoff into the system from above and also to ensure that proper safety precautions have been followed. Confined space entry procedures need to be followed if physical access is required. Disposal of all material removed from the CDS system should be done in accordance with local regulations. In many jurisdictions, disposal of the sediments may be handled in the same manner as the disposal of sediments removed from catch basins or deep sump manholes.



CDS Model	Diameter		Distance from Water Surface to Top of Sediment Pile		Sediment Storage Capacity	
	ft	m	ft	m	y ³	m ³
CDS1515	3	0.9	3.0	0.9	0.5	0.4
CDS2015	4	1.2	3.0	0.9	0.9	0.7
CDS2015	5	1.3	3.0	0.9	1.3	1.0
CDS2020	5	1.3	3.5	1.1	1.3	1.0
CDS2025	5	1.3	4.0	1.2	1.3	1.0
CDS3020	6	1.8	4.0	1.2	2.1	1.6
CDS3025	6	1.8	4.0	1.2	2.1	1.6
CDS3030	6	1.8	4.6	1.4	2.1	1.6
CDS3035	6	1.8	5.0	1.5	2.1	1.6
CDS4030	8	2.4	4.6	1.4	5.6	4.3
CDS4040	8	2.4	5.7	1.7	5.6	4.3
CDS4045	8	2.4	6.2	1.9	5.6	4.3
CDS5640	10	3.0	6.3	1.9	8.7	6.7
CDS5653	10	3.0	7.7	2.3	8.7	6.7
CDS5668	10	3.0	9.3	2.8	8.7	6.7
CDS5678	10	3.0	10.3	3.1	8.7	6.7

Table 1: CDS Maintenance Indicators and Sediment Storage Capacities



Support

- Drawings and specifications are available at www.contechstormwater.com.
- Site-specific design support is available from our engineers.

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The product(s) described may be protected by one or more of the following US patents: 5,322,629; 5,624,576; 5,707,527; 5,759,415; 5,788,848; 5,985,157; 6,027,639; 6,350,374; 6,406,218; 6,641,720; 6,511,595; 6,649,048; 6,991,114; 6,998,038; 7,186,058; 7,296,692; 7,297,266; 7,517,450 related foreign patents or other patents pending.

CDS Inspection & Maintenance Log

CDS Model: _____ Location: _____

[illegible]

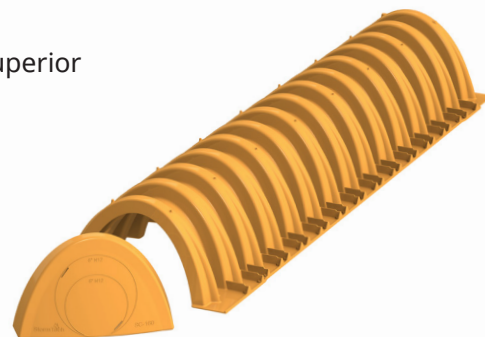
1. The water depth to sediment is determined by taking two measurements with a stadia rod: one measurement from the manhole opening to the top of the sediment pile and the other from the manhole opening to the water surface. If the difference between these measurements is less than the values listed in table 1 the system should be cleaned out. **Note: to avoid underestimating the volume of sediment in the chamber, the measuring device must be carefully lowered to the top of the sediment pile.**
2. For optimum performance, the system should be cleaned out when the floating hydrocarbon layer accumulates to an appreciable thickness. In the event of an oil spill, the system should be cleaned immediately.

StormTech® SC-160LP Chamber

Designed to meet the most stringent industry performance standards for superior structural integrity while providing designers with a cost-effective method to save valuable land and protect water resources. The StormTech system is designed primarily to be used under parking lots, thus maximizing land usage for commercial and municipal applications. StormTech chambers can also be used in conjunction with Green Infrastructure, thus enhancing the performance and extending the service life of these practices.

The SC-160LP chamber was developed for infiltration and detention in shallow cover applications

- Only 14" (350 mm) required from top of chamber to bottom of pavement
- Only 12" (300 mm) tall



Nominal Chamber Specifications (not to scale)

Size (L x W x H)

85.4" x 25" x 12"
2170 mm x 635 mm x 305 mm

Chamber Storage

6.85 ft³ (0.19 m³)

Min. Installed Storage*

15.0 ft³ (0.42 m³)

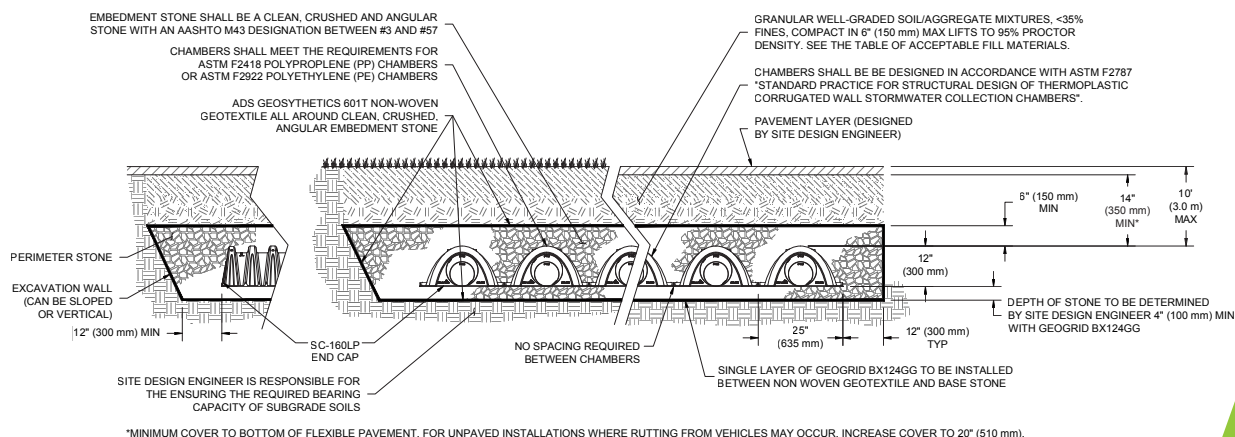
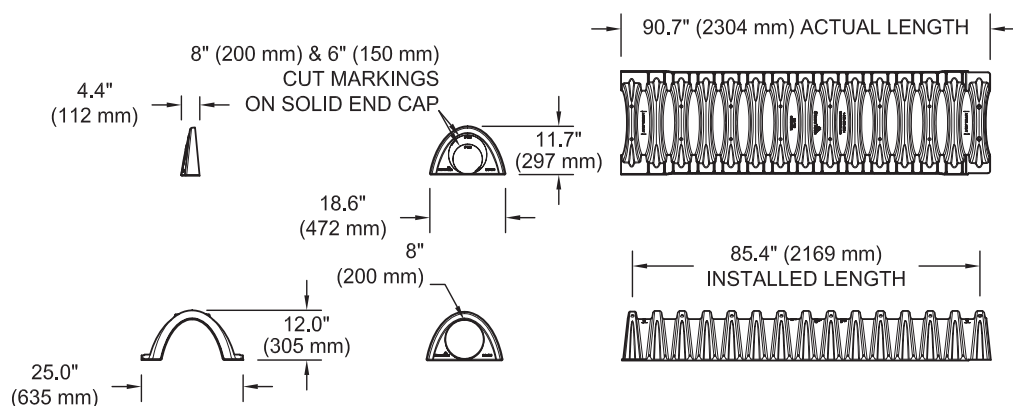
Weight

24.0 lbs (10.9 kg)

Shipping

132 chambers/pallet
144 end caps/pallet
12 pallets/truck

*Assumes 6" (150 mm) stone above, 4" (100 mm) below and stone between chambers with 40% stone porosity.



StormTech SC-160LP Specifications

Cumulative Storage Volumes Per Chamber

Assumes 40% Stone Porosity. Calculations are Based Upon a 4" (100 mm) Stone Base Under Chambers.

Depth of Water in System Inches (mm)	Cumulative Chamber Storage ft ³ (m ³)	Total System Cumulative Storage ft ³ (m ³)
22 (559)	6.85 (0.194)	14.98 (0.424)
21 (533)	6.85 (0.194)	14.49 (0.410)
20 (508)	6.85 (0.194)	14.00 (0.396)
19 (483)	6.85 (0.194)	13.50 (0.382)
18 (457)	6.85 (0.194)	13.01 (0.368)
17 (432)	6.85 (0.194)	12.51 (0.354)
16 (406)	6.85 (0.194)	12.02 (0.340)
15 (381)	6.80 (0.193)	11.49 (0.325)
14 (356)	6.67 (0.189)	10.92 (0.309)
13 (330)	6.38 (0.181)	10.25 (0.290)
12 (305)	5.94 (0.168)	9.49 (0.269)
11 (279)	5.40 (0.153)	8.67 (0.246)
10 (254)	4.78 (0.135)	7.81 (0.221)
9 (229)	4.10 (0.116)	6.91 (0.196)
8 (203)	3.36 (0.095)	5.97 (0.169)
7 (178)	2.58 (0.073)	5.01 (0.142)
6 (152)	1.76 (0.050)	4.02 (0.114)
5 (127)	0.89 (0.025)	3.01 (0.085)
4 (102)	0 (0)	1.98 (0.056)
3 (76)	0 (0)	1.48 (0.042)
2 (51)	0 (0)	0.99 (0.028)
1 (25)	0 (0)	0.49 (0.014)

Note: Add 0.49 ft³ (0.014 m³) of storage for each additional inch (25 mm) of stone foundation.

ADS StormTech products, manufactured in accordance with ASTM F2418 or ASTM F2922, comply with all requirements in the Build America, Buy America (BABA) Act.

Amount of Stone Per Chamber

English Tons (yds ³)	Stone Foundation Depth		
	4"	6"	8"
SC-160LP	1.1 (0.8)	1.2 (0.9)	1.3 (0.9)
Metric Kilograms (m ³)	100 mm	150 mm	200 mm
SC-160LP	652 (0.7)	1074 (0.8)	1197 (0.8)

Note: Assumes 6" (150 mm) of stone above and only embedment stone between chambers.

Volume Excavation Per Chamber yd³ (m³)

	Stone Foundation Depth		
	4 (100)	8 (200)	12 (300)
SC-160LP	1.4 (1.1)	1.6 (1.2)	1.8 (1.3)

Note: Assumes no row separation and 14" (350 mm) of cover. The volume of excavation will vary as depth of cover increases.

Working on a project?

Visit us at adspipe.com/stormtech and utilize the Design Tool



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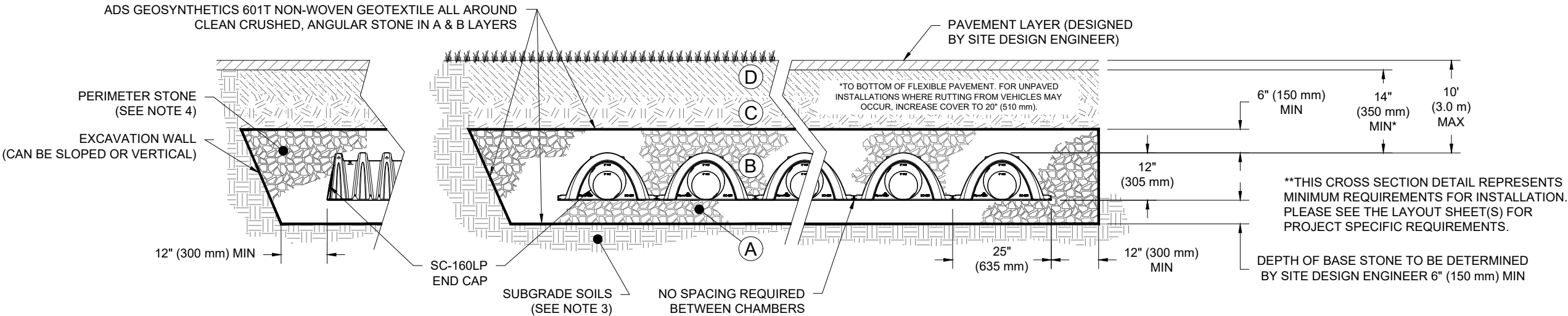
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ACCEPTABLE FILL MATERIALS: STORMTECH SC-160LP CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 14" (355 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145 ¹ A-1, A-2-4, A-3 OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE ⁵	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE ⁵	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

PLEASE NOTE:

1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 1.5"
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 400 LBS/FT/%. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

SC-160LP

STANDARD CROSS SECTION

DATE: 12/21/23

DRAWN: SLS

CHECKED: SLS

PROJECT #:

DESCRIPTION

DATE

DRWN

CHKD

4640 TRUEMAN BLVD
HILLIARD, OH 43026

StormTech®
Chamber System

888-892-2694 | WWW.STORMTECH.COM

1

SHEET

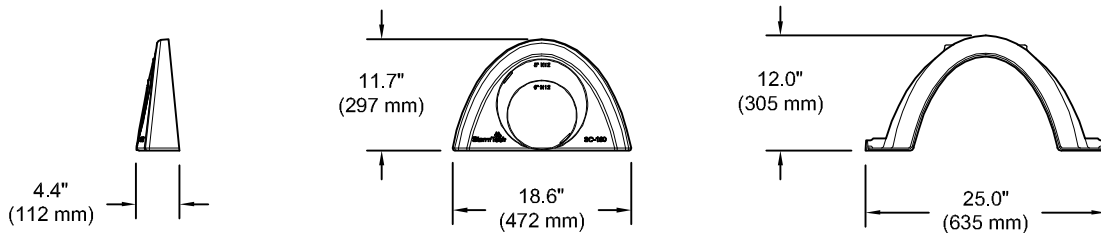
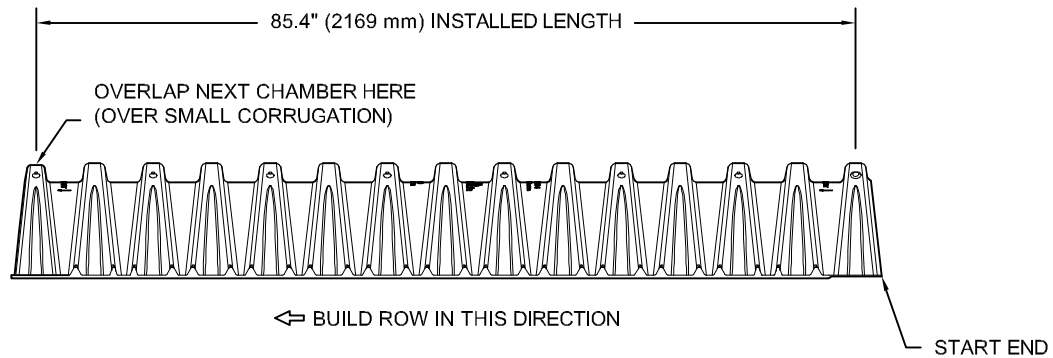
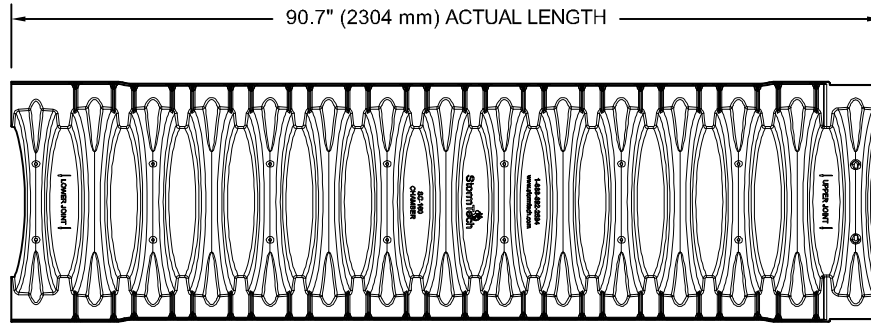
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SC-160LP TECHNICAL SPECIFICATION

NTS



NOMINAL CHAMBER SPECIFICATIONS

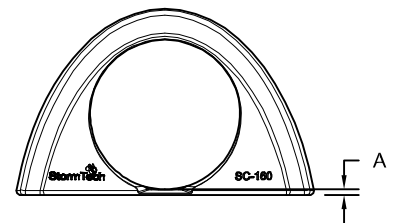
SIZE (W X H X INSTALLED LENGTH)	25.0" X 12.0" X 85.4"	(635 mm X 305 mm X 2169 mm)
CHAMBER STORAGE	6.85 CUBIC FEET	(0.19 m ³)
MINIMUM INSTALLED STORAGE*	16.0 CUBIC FEET	(0.45 m ³)
WEIGHT	24.0 lbs.	(10.9 kg)

*ASSUMES 6" (152 mm) ABOVE, 6" (152 mm) BELOW, AND STONE BETWEEN CHAMBERS WITH 40% STONE POROSITY.

PART #	STUB	A
SC160IEPP	6" (150 mm)	0.66" (16 mm)
	8" (200 mm)	0.80" (20 mm)
SC160IEPP08	8" (200 mm)	0.96" (24 mm)

ALL STUBS ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

NOTE: ALL DIMENSIONS ARE NOMINAL

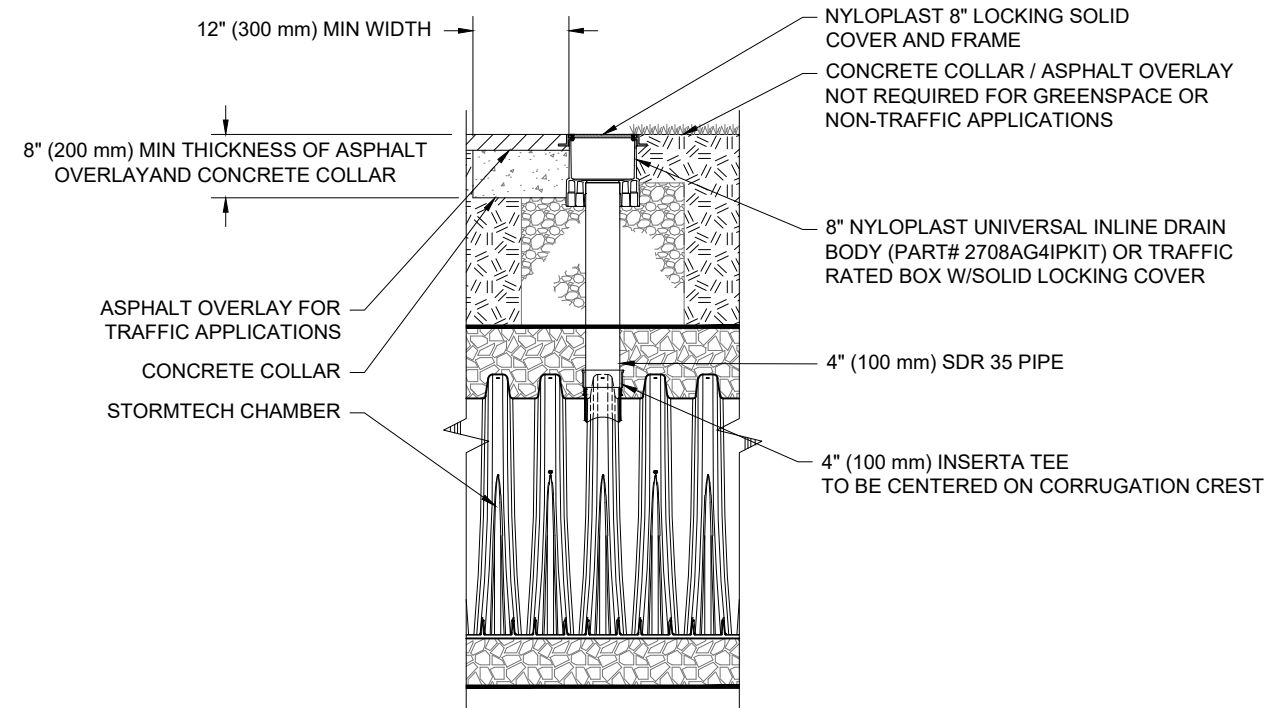




- STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
 - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
 - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
 - B. ALL ISOLATOR PLUS ROWS
 - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
 - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
 - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
 - B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
 - C. VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.

4" PVC INSPECTION PORT DETAIL
(SC SERIES CHAMBER)
NTS

	4640 TRUEMAN BLVD HILLIARD, OH 43026	StormTech® Chamber System				888-892-2694 WWW.STORMTECH.COM				SC-160LP				ISOLATOR ROW PLUS DETAILS			
														DATE: 8/5/24			
		PROJECT #: ----				CHECKED: CJD											
		DATE				DRWN				CHKD				DESCRIPTION			

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Isolator[®] Row Plus

O&M Manual



The Isolator® Row Plus

Introduction

An important component of any Stormwater Pollution Prevention Plan is inspection and maintenance. The StormTech Isolator Row Plus is a technique to inexpensively enhance Total Suspended Solids (TSS), Total Phosphorus (TP), Total Petroleum Hydrocarbons (TPH) and Total Nitrogen (TN) removal with easy access for inspection and maintenance.

The Isolator Row Plus

The Isolator Row Plus is a row of StormTech chambers, either SC-160, SC-310, SC-310-3, SC-740, DC-780, SC-800, MC-3500, MC-4500 or MC-7200 models, are lined with filter fabric and connected to a closely located manhole for easy access. The fabric lined chambers provide for sediment settling and filtration as stormwater rises in the Isolator Row Plus and passes through the filter fabric. The open bottom chambers allow stormwater to flow vertically out of the chambers. Sediments are captured in the Isolator Row Plus protecting the adjacent stone and chambers storage areas from sediment accumulation.

ADS Isolator Row and Plus fabric are placed between the stone and the Isolator Row Plus chambers. The woven geotextile provides a media for stormwater filtration, a durable surface for maintenance, prevents scour of the underlying stone and remains intact during high pressure jetting.

The Isolator Row Plus is designed to capture the “first flush” runoff and offers the versatility to be sized on a volume basis or a flow-rate basis. An upstream manhole provides access to the Isolator Row Plus and includes a high/low concept such that stormwater flow rates or volumes that exceed the capacity of the Isolator Row Plus bypass through a manifold to the other chambers. This is achieved with an elevated bypass manifold or a high-flow weir. This creates a differential between the Isolator Row Plus row of chambers and the manifold to the rest of the system, thus allowing for settlement time in the Isolator Row Plus. After Stormwater flows through the Isolator Row Plus and into the rest of the chamber system it is either exfiltrated into the soils below or passed at a controlled rate through an outlet manifold and outlet control structure.

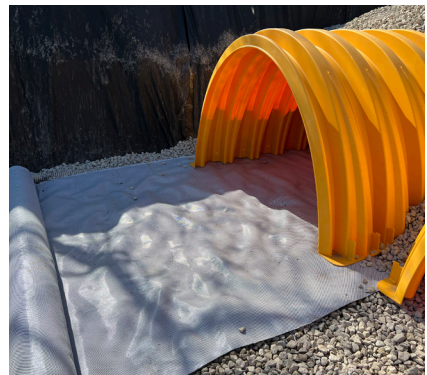
The Isolator Row Plus Flamp™ is a flared end ramp apparatus attached to the inlet pipe on the inside of the chamber end cap. The FLAMP provides a smooth transition from pipe invert to fabric bottom. It is configured to improve chamber function performance by enhancing outflow of solid debris that would otherwise collect at the chamber's end, or more difficult to remove and require confined space entry into the chamber area. It also serves to improve the fluid and solid flow into the access pipe during maintenance and cleaning and to guide cleaning and inspection equipment back into the inlet pipe when complete.

The Isolator Row Plus may be part of a treatment train system. The treatment train design and pretreatment device selection by the design engineer is often driven by regulatory requirements. Whether pretreatment is used or not, StormTech recommend using the Isolator Row Plus to minimize maintenance requirements and maintenance costs.

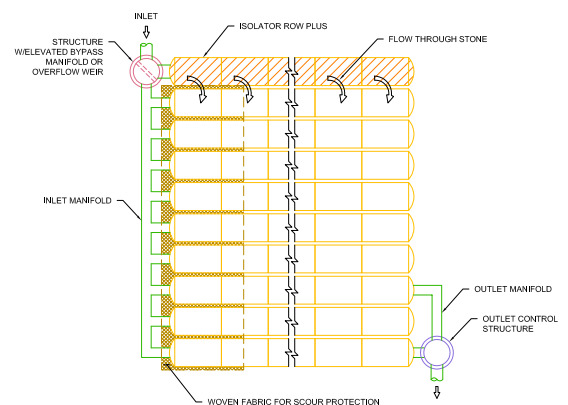
Note: See the StormTech Design Manual for detailed information on designing inlets for a StormTech system, including the Isolator Row Plus.



Looking down the Isolator Row Plus from the manhole opening, ADS Plus Fabric is shown between the chamber and stone base.



StormTech Isolator Row Plus with Overflow Structure (not to scale)



Isolator Row Plus Inspection/Maintenance

Inspection

The frequency of inspection and maintenance varies by location. A routine inspection schedule needs to be established for each individual location based upon site specific variables. The type of land use (i.e. industrial, commercial, residential), anticipated pollutant load, percent imperviousness, climate, etc. all play a critical role in determining the actual frequency of inspection and maintenance practices.

At a minimum, StormTech recommends annual inspections. Initially, the Isolator Row Plus should be inspected every 6 months for the first year of operation. For subsequent years, the inspection should be adjusted based upon previous observation of sediment deposition.

The Isolator Row Plus incorporates a combination of standard manhole(s) and strategically located inspection ports (as needed). The inspection ports allow for easy access to the system from the surface, eliminating the need to perform a confined space entry for inspection purposes.

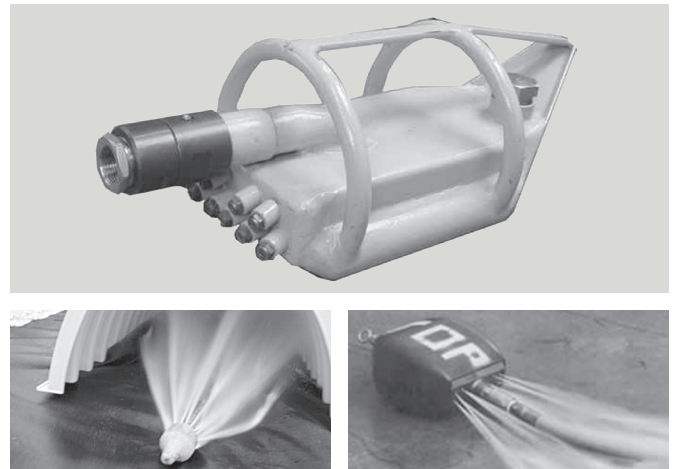
If upon visual inspection it is found that sediment has accumulated, a stadia rod should be inserted to determine the depth of sediment. When the average depth of sediment exceeds 3" (75 mm) throughout the length of the Isolator Row Plus, clean-out should be performed.

Maintenance

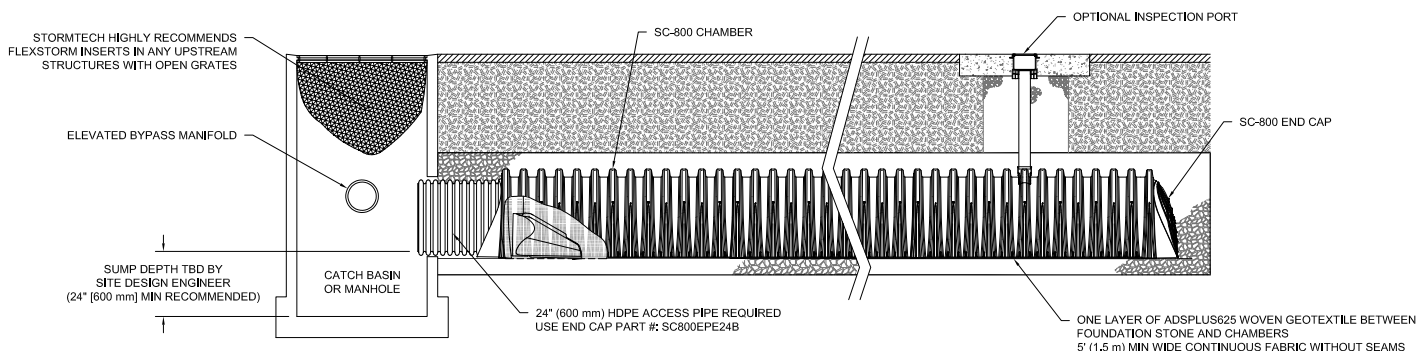
The Isolator Row Plus was designed to reduce the cost of periodic maintenance. By "isolating" sediments to just one row, costs are dramatically reduced by eliminating the need to clean out each row of the entire storage bed. If inspection indicates the potential need for maintenance, access is provided

via a manhole(s) located on the end(s) of the row for cleanout. If entry into the manhole is required, please follow local and OSHA rules for a confined space entry.

Maintenance is accomplished with the JetVac process. The JetVac process utilizes a high pressure water nozzle to propel itself down the Isolator Row Plus while scouring and suspending sediments. As the nozzle is retrieved, the captured pollutants are flushed back into the manhole for vacuuming. Most sewer and pipe maintenance companies have vacuum/JetVac combination vehicles. Selection of an appropriate JetVac nozzle will improve maintenance efficiency. Fixed nozzles designed for culverts or large diameter pipe cleaning are preferable. Rear facing jets with an effective spread of at least 45" are best. StormTech recommends a maximum nozzle pressure of 2000 psi be utilized during cleaning. JetVac reels can vary in length. For ease of maintenance, ADS recommends Isolator Row Plus lengths up to 200' (61 m). **The JetVac process shall only be performed on StormTech Isolator Row Plus that have ADS Plus Fabric (as specified by StormTech) over their angular base stone.**



StormTech Isolator Row Plus (not to scale)



Isolator Row Plus Step By Step Maintenance Procedures

Step 1

Inspect Isolator Row Plus for sediment.

- A) Inspection ports (if present)
 - i. Remove lid from floor box frame
 - ii. Remove cap from inspection riser
 - iii. Using a flashlight and stadia rod, measure depth of sediment and record results on maintenance log.
 - iv. If sediment is at or above 3 inch depth, proceed to Step 2. If not, proceed to Step 3.
- B) All Isolator Row Plus
 - i. Remove cover from manhole at upstream end of Isolator Row Plus
 - ii. Using a flashlight, inspect down Isolator Row Plus through outlet pipe
 - 1. Mirrors on poles or cameras may be used to avoid a confined space entry
 - 2. Follow OSHA regulations for confined space entry if entering manhole
 - iii. If sediment is at or above the lower row of sidewall holes (approximately 3 inches), proceed to Step 2. If not, proceed to Step 3.

Step 2

Clean out Isolator Row Plus using the JetVac process.

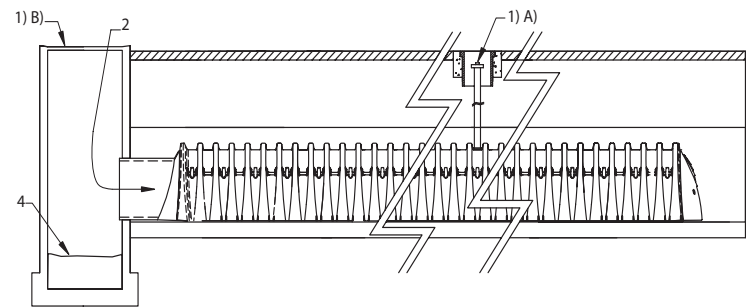
- A) A fixed floor cleaning nozzle with rear facing nozzle spread of 45 inches or more is preferable
- B) Apply multiple passes of JetVac until backflush water is clean
- C) Vacuum manhole sump as required

Step 3

Replace all caps, lids and covers, record observations and actions.

Step 4

Inspect & clean catch basins and manholes upstream of the StormTech system.



Sample Maintenance Log

Date	Stadia Rod Readings		Sedi- ment Depth (1)-(2)	Observations/Actions	Inspector
	Fixed point to chamber bottom (1)	Fixed point to top of sediment (2)			
3/15/11	6.3 ft	none		New installation. Fixed point is CI frame at grade	DJM
9/24/11		6.2	0.1 ft	Some grit felt	SM
6/20/13		5.8	0.5 ft	Mucky feel, debris visible in manhole and in Isolator Row Plus, maintenance due	NV
7/7/13	6.3 ft		0	System jetted and vacuumed	DJM

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StormTech® Installation Guide

SC-160LP



StormTech
Installation Video

Required Materials and Equipment List

- Acceptable fill materials per Table 1
- ADS Plus and non-woven geotextile fabrics
- StormTech solid end caps and pre-cored end caps
- StormTech chambers
- StormTech manifolds and fittings

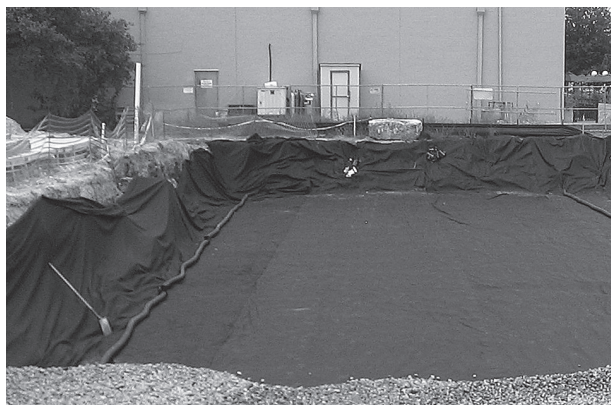
Important Notes:

- A. This installation guide provides the minimum requirements for proper installation of chambers. Non-adherence to this guide may result in damage to chambers during installation. Replacement of damaged chambers during or after backfilling is costly and very time consuming. It is recommended that all installers are familiar with this guide, and that the contractor inspects the chambers for distortion, damage and joint integrity as work progresses.
- B. Care should be taken in the handling of chambers and end caps. Avoid dropping, prying or excessive force on chambers during removal from pallet and initial placement.

Requirements for System Installation



Excavate bed and prepare subgrade per engineer's plans.

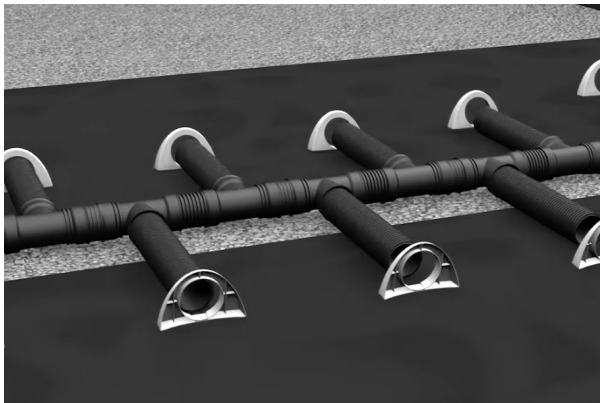


Place non-woven geotextile over prepared soils and up excavation walls. Install underdrains if required.

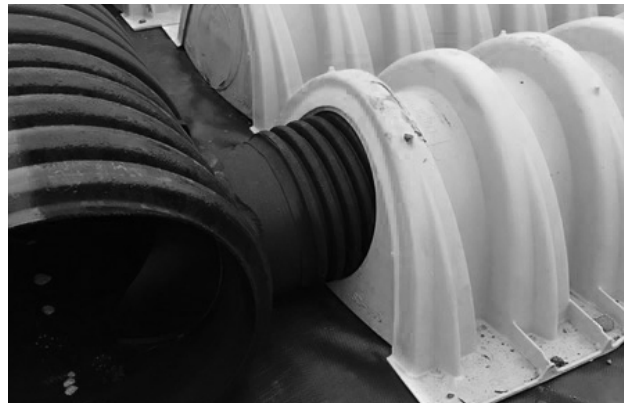


Place clean, crushed, angular stone foundation 6" (150 mm) or 4" (100 mm) with a single layer of Geogrid BX124GG. See plans for foundation stone design. Compact to achieve a flat surface.

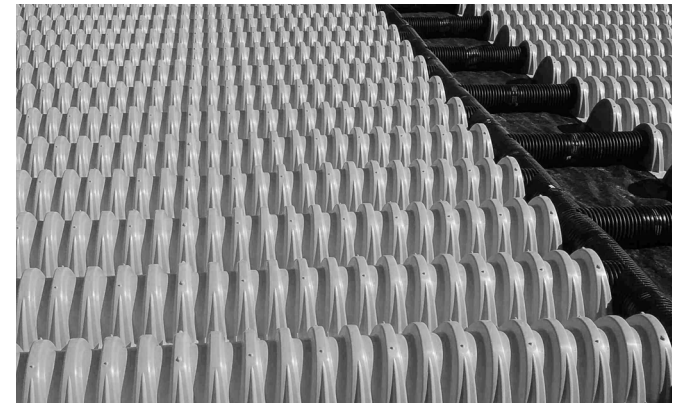
Manifold, Scour Fabric and Chamber Assembly



Install manifolds and lay out ADS Plus fabric at inlet rows [min. 12.5 ft (3.8 m)] at each inlet end cap. Place a continuous piece (no seams, single layer) along entire length of Isolator® Plus Row(s).



Align the first chamber and end cap of each row with inlet pipes. Contractor may choose to postpone stone placement around end chambers and leave ends of rows open for easy inspection of chambers during the backfill process.



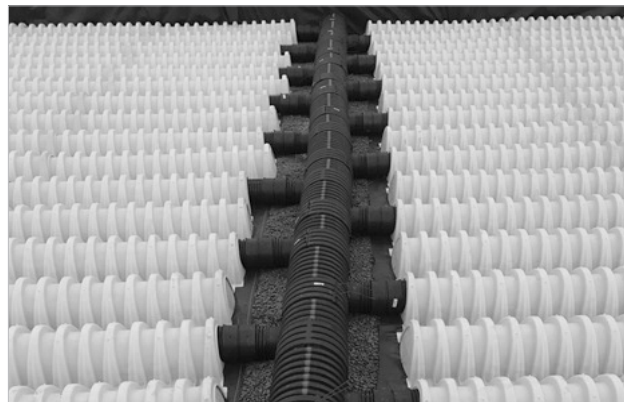
Continue installing chambers by overlapping chamber end corrugations. Chamber joints are labeled “Lower Joint – Overlap Here” and “Build this direction – Upper Joint” Be sure that the chamber placement does not exceed the reach of the construction equipment used to place the stone. No spacing is required between chambers.

Attaching the End Caps



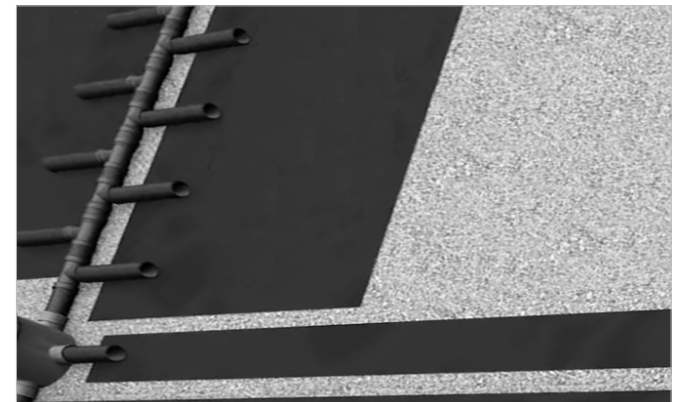
Lift the end of the chamber a few inches off the ground. With the curved face of the end cap facing outward, place the end cap into the chamber's end corrugation.

Prefabricated End Caps



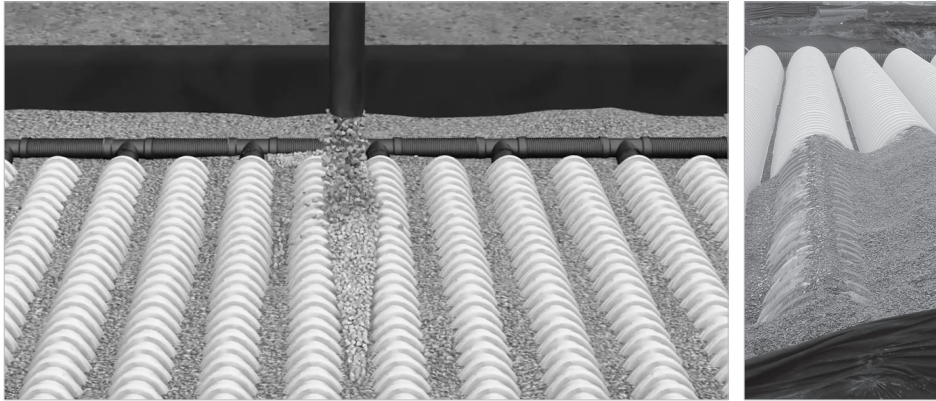
SC-160LP end caps can accept 8" (200mm) or 6" (150mm) manifold inlets. End caps can be ordered as an 8" (200mm) open hole or can be cored in the field.

Isolator Row Plus



Place one continuous layers of ADS Plus fabric between the foundation stone and the Isolator Row Plus chambers, making sure the fabric lays flat and extends the entire width of the chamber feet.

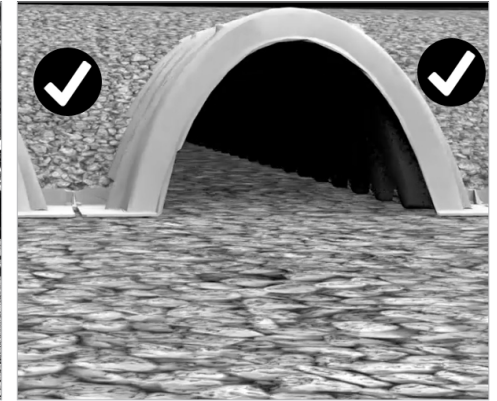
Initial Anchoring of Chambers – Embedment Stone



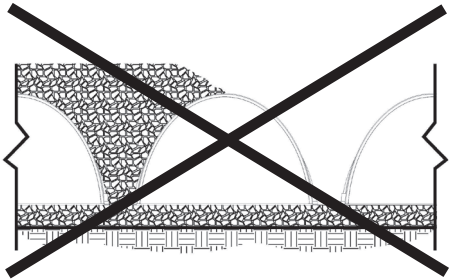
Initial embedment shall be spotted along the centerline of the chamber evenly anchoring the lower portion of the chamber. This is best accomplished with a stone conveyor or excavator reaching along the row.



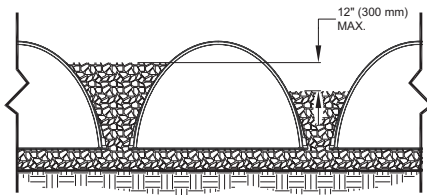
Care should be taken when backfilling not to damage the chambers. Please refer to the allowable construction vehicle loads on page 6.



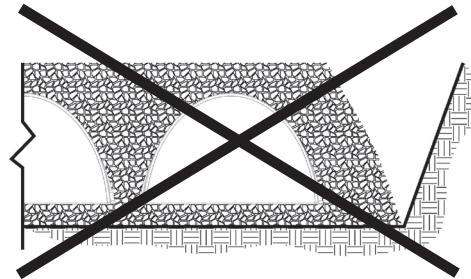
Backfill of Chambers – Embedment Stone



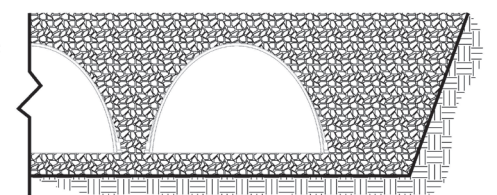
Uneven Backfill



Even Backfill



Perimeter Not Backfilled



Perimeter Fully Backfilled

Backfill chambers evenly. Stone column height should never differ by more than 12" (300 mm) between adjacent chamber rows or between chamber rows and perimeter.

Perimeter stone must be brought up evenly with chamber rows. Perimeter must be fully backfilled, with stone extended horizontally to the excavation wall.

Backfill - Embedment Stone & Cover Stone



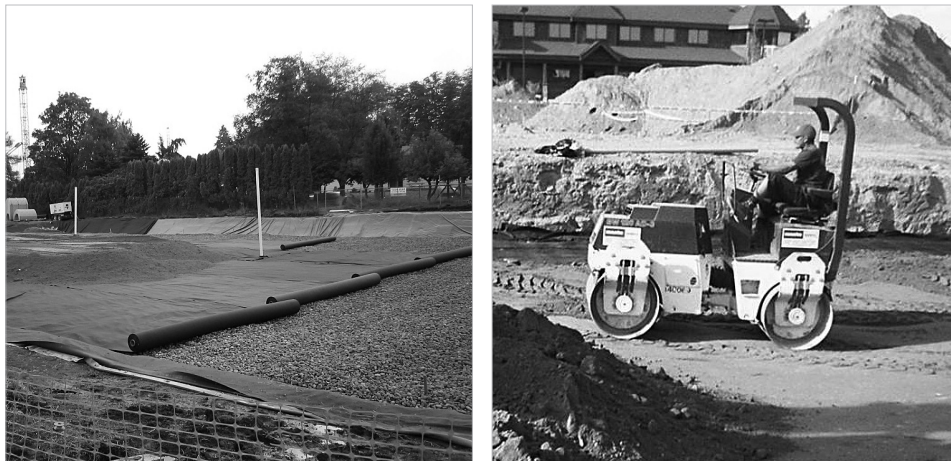
Continue evenly backfilling between rows and around perimeter until embedment stone reaches tops of chambers. Perimeter stone must extend horizontally to the excavation wall for both straight or sloped sidewalls.

Final Backfill of Chambers – Fill Material



Small dozers and skid loaders may be used to finish grading stone backfill in accordance with ground pressure limits in Table 2. They must push material parallel to rows only. Never push perpendicular to rows. StormTech recommends that the contractor inspect chambers before placing final backfill. Any chambers damaged by construction shall be removed and replaced.

Final Backfill of Chambers – Fill Material



Install non-woven geotextile over stone. Geotextile must overlap 24" (600 mm) min. where edges meet. Compact each lift of backfill as specified in the site design engineer's drawings. Roller to travel parallel with rows.

StormTech Isolator Row Plus Detail

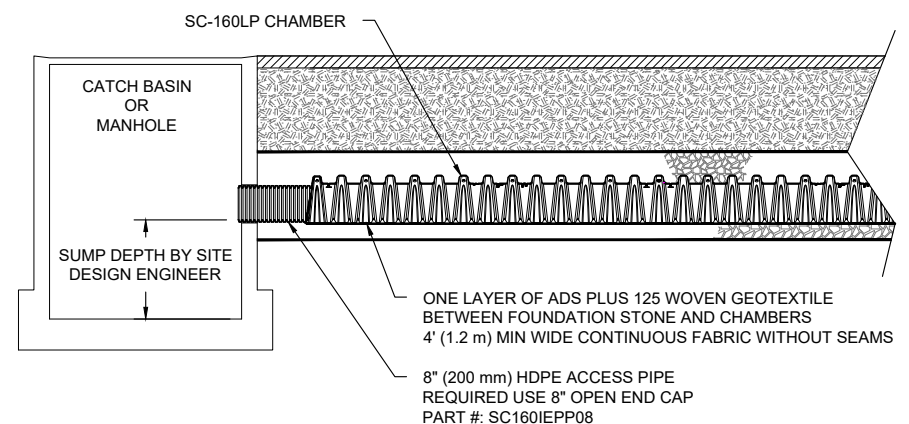


Table 1- Acceptable Fill Materials

Material Location	Description	AASHTO M43 Designation ¹	Compaction/Density Requirement
D Final Fill: Fill Material for layer 'D' starts from the top of the 'C' layer to the bottom of flexible pavement or unpaved finished grade above. Note that the pavement subbase may be part of the 'D' layer.	Any soil/rock materials, native soils or per engineer's plans. Check plans for pavement subgrade requirements.	N/A	Prepare per site design engineer's plans. Paved installations may have stringent material and preparation requirements.
C Initial Fill: Fill Material for layer 'C' starts from the top of the embedment stone ('B' layer) to 18" (450 mm) above the top of the chamber. Note that pavement subbase may be part of the 'C' layer.	Granular well-graded soil/aggregate mixtures, <35% fines or processed aggregate. Most pavement subbase materials can be used in lieu of this layer.	AASHTO M45 A-1, A-2-4, A-3 or AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	Begin compaction after min. 12" (300 mm) of material over the chambers is reached. Compact additional layers in 6" (150 mm) max. lifts to a min. 95% Proctor density for well-graded material and 95% relative density for processed aggregate materials. Roller gross vehicle weight not to exceed 12,000 lbs (53 kN). Dynamic force not to exceed 20,000 lbs (89 kN)
B Embedment Stone: Embedment Stone surrounding chambers from the foundation stone to the 'C' layer above.	Clean, crushed, angular stone or recycled concrete ⁴	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	No compaction required.
A Foundation Stone: Foundation Stone below the chambers from the subgrade up to the foot (bottom) of the chamber.	Clean, crushed, angular stone or recycled concrete ⁴	AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57	Place and compact in 6" (150 mm) lifts using two full coverages with a vibratory compactor. ^{2,3}

Please Note:

1. The listed AASHTO designations are for gradations only. The stone must also be clean, crushed, angular. For example, a specification for #4 stone would state: "clean, crushed, angular no. 4 (AASHTO M43) stone".
2. StormTech compaction requirements are met for 'A' location materials when placed and compacted in 6" (150 mm) (max) lifts using two full coverages with a vibratory compactor.
3. Where infiltration surfaces may be comprised by compaction, for standard installations and standard design load conditions, a flat surface may be achieved by raking or dragging without compaction equipment. For special load designs, contact StormTech for compaction requirements.
4. Where recycled concrete aggregate is used in layers 'A' or 'B' the material should also meet the acceptable criteria outlined in ADS Technical Note 6.20 "Recycled Concrete Structural Backfill".

Figure 2 - Fill Material Locations

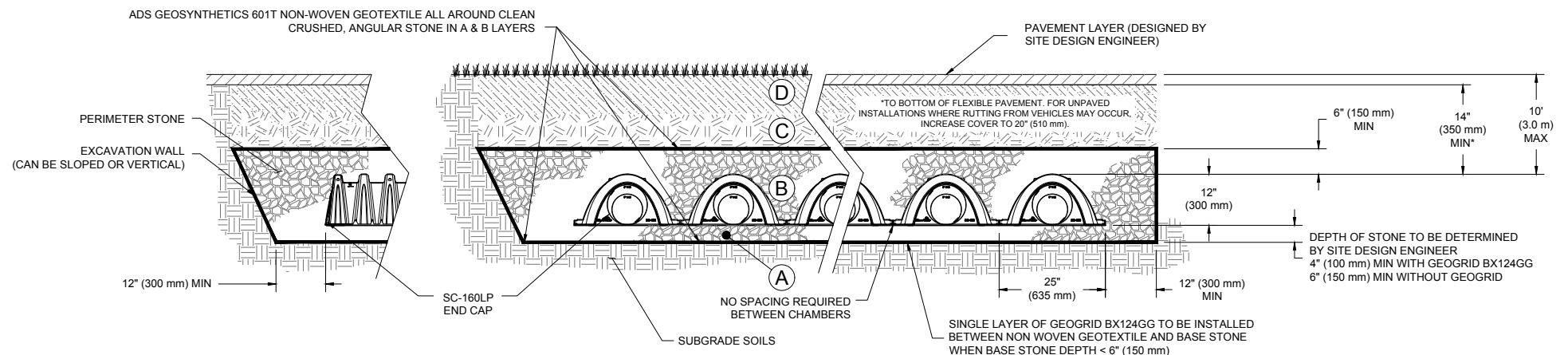
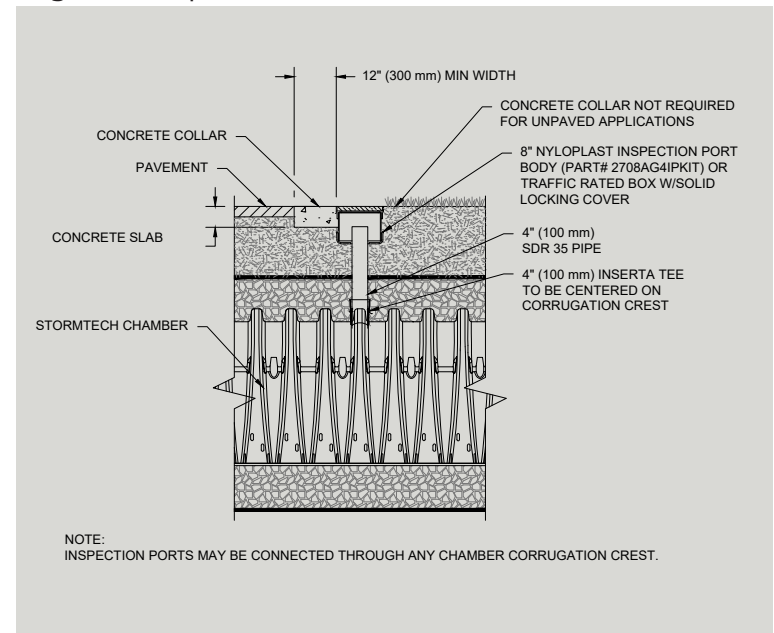


Figure 1- Inspection Port Detail



Notes:

- 36" (900 mm) of stabilized cover materials over the chambers is recommended during the construction phase if general construction activities, such as full dump truck travel and dumping, are to occur over the bed.
- During paving operations, dump truck axle loads on 14" (350 mm) of cover may be necessary. Precautions should be taken to avoid rutting of the road base layer, to ensure that compaction requirements have been met, and that a minimum of 14" (350 mm) of cover exists over the chambers. Contact StormTech for additional guidance on allowable axle loads during paving.
- Ground pressure for track dozers is the vehicle operating weight divided by total ground contact area for both tracks. Excavators will exert higher ground pressures based on loaded bucket weight and boom extension.
- Mini-excavators (< 8,000lbs/3,628 kg) can be used with at least 12" (300 mm) of stone over the chambers and are limited by the maximum ground pressures in Table 2 based on a full bucket at maximum boom extension.
- Storage of materials such as construction materials, equipment, spoils, etc. should not be located over the StormTech system. The use of equipment over the StormTech system not covered in Table 2 (ex. soil mixing equipment, cranes, etc) is limited. Please contact StormTech for more information.
- Allowable track loads based on vehicle travel only. Excavators shall not operate on chamber beds until the total backfill reaches 3 feet (900 mm) over the entire bed.

Table 2 - Maximum Allowable Construction Vehicle Loads⁶

Material Location	Fill Depth over Chambers in. (mm)	Maximum Allowable Wheel Loads		Maximum Allowable Track Loads ⁶		Maximum Allowable Roller Loads
		Max Axle Load for Trucks lbs (kN)	Max Wheel Load for Loaders lbs (kN)	Track Width in. (mm)	Max Ground Pressure psf (kPa)	Max Drum Weight or Dynamic Force lbs (kN)
Ⓐ Final Fill Material	36" (900) Compacted	32,000 (142)	16,000 (71)	12" (305) 18" (457) 24" (610) 30" (762) 36" (914)	3880 (186) 2640 (126) 2040 (97) 1690 (81) 1470 (70)	38,000 (169)
Ⓒ Initial Fill Material	24" (600) Compacted	32,000 (142)	16,000 (71)	12" (305) 18" (457) 24" (610) 30" (762) 36" (914)	2690 (128) 1880 (90) 1490 (71) 1280 (61) 1150 (55)	20,000 (89)
				12" (305) 18" (457) 24" (610) 30" (762) 36" (914)	2390 (114) 1700 (81) 1370 (65) 1190 (57) 1080 (51)	20,000 (89) Roller gross vehicle weight not to exceed 12,000 lbs. (53 kN)
				12" (305) 18" (457) 24" (610) 30" (762) 36" (914)	2110 (101) 1510 (72) 1250 (59) 1100 (52) 1020 (48)	20,000 (89) Roller gross vehicle weight not to exceed 12,000 lbs. (53 kN)
				12" (305) 18" (457) 24" (610) 30" (762) 36" (914)	1540 (74) 1190 (57) 1010 (48) 910 (43) 840 (40)	20,000 (89) Roller gross vehicle weight not to exceed 12,000 lbs. (53 kN)
				12" (305) 18" (457) 24" (610) 30" (762) 36" (914)	1070 (51) 900 (43) 800 (38) 760 (36) 720 (34)	NOT ALLOWED
	18" (450)	32,000 (142)	16,000 (71)	12" (305) 18" (457) 24" (610) 30" (762) 36" (914)	2110 (101) 1510 (72) 1250 (59) 1100 (52) 1020 (48)	20,000 (89) Roller gross vehicle weight not to exceed 12,000 lbs. (53 kN)
Ⓑ Embedment Stone	12" (300)	16,000 (71)	NOT ALLOWED	12" (305) 18" (457) 24" (610) 30" (762) 36" (914)	1540 (74) 1190 (57) 1010 (48) 910 (43) 840 (40)	20,000 (89) Roller gross vehicle weight not to exceed 12,000 lbs. (53 kN)
	6" (150)	8,000 (35)	NOT ALLOWED	12" (305) 18" (457) 24" (610) 30" (762) 36" (914)	1070 (51) 900 (43) 800 (38) 760 (36) 720 (34)	NOT ALLOWED

Table 3 - Placement Methods and Descriptions

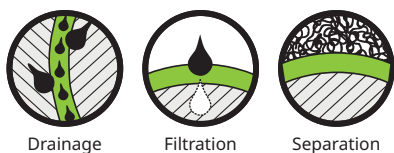
Material Location	Placement Methods/ Restrictions	Wheel Load Restrictions	Track Load Restrictions	Roller Load Restrictions
		See Table 2 for Maximum Construction Loads		
Ⓐ Final Fill Material	A variety of placement methods may be used. All construction loads must not exceed the maximum limits in Table 2.	36" (900 mm) minimum cover required for dump trucks to dump over chambers.	Dozers to push parallel to rows until 36" (900mm) compacted cover is reached. ⁴	Roller travel parallel to rows only until 36" (900 mm) compacted cover is reached.
Ⓒ Initial Fill Material	Excavator positioned off bed recommended. Small excavator allowed over chambers. Small dozer allowed.	Asphalt can be dumped into paver when compacted pavement subbase reaches 18" (450 mm) above top of chambers.	Small LGP track dozers & skid loaders allowed to grade cover stone with at least 6" (150 mm) stone under tracks at all times. Equipment must push parallel to rows at all times.	Use dynamic force of roller only after compacted fill depth reaches 12" (300 mm) over chambers. Roller travel parallel to chamber rows only.
Ⓑ Embedment Stone	No equipment allowed on bare chambers. Use excavator or stone conveyor positioned off bed or on foundation stone to evenly fill around all chambers to at least the top of chambers.	No wheel loads allowed. Material must be placed outside the limits of the chamber bed.	No tracked equipment is allowed on chambers until a min. 6" (150 mm) cover stone is in place.	No rollers allowed.
Ⓐ Foundation Stone	No StormTech restrictions. Contractor responsible for any conditions or requirements by others relative to subgrade bearing capacity, dewatering or protection of subgrade.			



StormTech® Standard Limited Warranty

STANDARD LIMITED WARRANTY OF STORMTECH LLC ("STORMTECH"): PRODUCTS

- (A) This Limited Warranty applies solely to the StormTech chambers and end plates manufactured by StormTech and sold to the original purchaser (the "Purchaser"). The chambers and end plates are collectively referred to as the "Products."
- (B) The structural integrity of the Products, when installed strictly in accordance with StormTech's written installation instructions at the time of installation, are warranted to the Purchaser against defective materials and workmanship for one (1) year from the date of purchase. Should a defect appear in the Limited Warranty period, the Purchaser shall provide StormTech with written notice of the alleged defect at StormTech's corporate headquarters within ten (10) days of the discovery of the defect. The notice shall describe the alleged defect in reasonable detail. StormTech agrees to supply replacements for those Products determined by StormTech to be defective and covered by this Limited Warranty. The supply of replacement products is the sole remedy of the Purchaser for breaches of this Limited Warranty. StormTech's liability specifically excludes the cost of removal and/or installation of the Products.
- (C) THIS LIMITED WARRANTY IS EXCLUSIVE. THERE ARE NO OTHER WARRANTIES WITH RESPECT TO THE PRODUCTS, INCLUDING NO IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE.
- (D) This Limited Warranty only applies to the Products when the Products are installed in a single layer. UNDER NO CIRCUMSTANCES, SHALL THE PRODUCTS BE INSTALLED IN A MULTI-LAYER CONFIGURATION.
- (E) No representative of StormTech has the authority to change this Limited Warranty in any manner or to extend this Limited Warranty. This Limited Warranty does not apply to any person other than to the Purchaser.
- (F) Under no circumstances shall StormTech be liable to the Purchaser or to any third party for product liability claims; claims arising from the design, shipment, or installation of the Products, or the cost of other goods or services related to the purchase and installation of the Products. For this Limited Warranty to apply, the Products must be installed in accordance with all site conditions required by state and local codes; all other applicable laws; and StormTech's written installation instructions.
- (G) THE LIMITED WARRANTY DOES NOT EXTEND TO INCIDENTAL, CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES. STORMTECH SHALL NOT BE LIABLE FOR PENALTIES OR LIQUIDATED DAMAGES, INCLUDING LOSS OF PRODUCTION AND PROFITS; LABOR AND MATERIALS; OVERHEAD COSTS; OR OTHER LOSS OR EXPENSE INCURRED BY THE PURCHASER OR ANY THIRD PARTY. SPECIFICALLY EXCLUDED FROM LIMITED WARRANTY COVERAGE ARE DAMAGE TO THE PRODUCTS ARISING FROM ORDINARY WEAR AND TEAR; ALTERATION, ACCIDENT, MISUSE, ABUSE OR NEGLECT; THE PRODUCTS BEING SUBJECTED TO VEHICLE TRAFFIC OR OTHER CONDITIONS WHICH ARE NOT PERMITTED BY STORMTECH'S WRITTEN SPECIFICATIONS OR INSTALLATION INSTRUCTIONS; FAILURE TO MAINTAIN THE MINIMUM GROUND COVERS SET FORTH IN THE INSTALLATION INSTRUCTIONS; THE PLACEMENT OF IMPROPER MATERIALS INTO THE PRODUCTS; FAILURE OF THE PRODUCTS DUE TO IMPROPER SITING OR IMPROPER SIZING; OR ANY OTHER EVENT NOT CAUSED BY STORMTECH. A PRODUCT ALSO IS EXCLUDED FROM LIMITED WARRANTY COVERAGE IF SUCH PRODUCT IS USED IN A PROJECT OR SYSTEM IN WHICH ANY GEOTEXTILE PRODUCTS OTHER THAN THOSE PROVIDED BY ADVANCED DRAINAGE SYSTEMS ARE USED. THIS LIMITED WARRANTY REPRESENTS STORMTECH'S SOLE LIABILITY TO THE PURCHASER FOR CLAIMS RELATED TO THE PRODUCTS, WHETHER THE CLAIM IS BASED UPON CONTRACT, TORT, OR OTHER LEGAL THEORY.



ADS 0601T/O NONWOVEN GEOTEXTILE SPECIFICATION

Scope

This specification describes ADS 0601T/O nonwoven geotextile.

Filter Fabric Requirements

ADS 0601T/O is an orange nonwoven geotextile composed of polypropylene fibers, which are formed into a stable network such that the fibers retain their relative position. ADS 0601T/O is inert to biological degradation and resists naturally encountered chemicals, alkali and acids. ADS 0601T/O conforms to the physical property values listed below:

Filter Fabric Properties

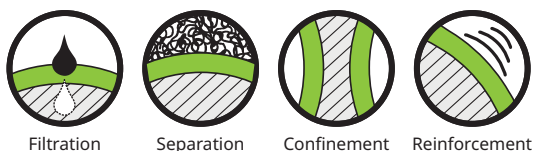
Property	Test Method	Unit	Typical Value ¹ MD	Typical Value ¹ CD
Grab Tensile Strength	ASTM D4632	lbs (N)	175 (779)	175 (779)
Grab Tensile Elongation	ASTM D4632	%	75	75
Trapezoid Tear Strength	ASTM D4533	lbs (N)	85 (378)	85 (378)
CBR Puncture Strength	ASTM D6241	lbs (N)	480 (2136)	480 (2136)
Permittivity	ASTM D4491	sec ⁻¹	1.5	1.5
Flow Rate	ASTM D4491	gal/min/ft ² (l/min/m ²)	105 (4278)	105 (4278)
UV Resistance (at 500 hours) ¹	ASTM D4355	% strength retained	80	80

Physical Properties

Property	Test Method	Unit	Typical Value ²
Weight	ASTM D5161	oz/yd ² (g/m ²)	6.5 (220)
Thickness	ASTM D5199	mils (mm)	65 (1.7)
Roll Dimensions (W x L)	-	ft (m)	15 x 300 (4.5 x 91)
Roll Area	-	yd ² (m ²)	500 (418)
Estimated Roll Weight	-	lb (kg)	220 (100)

¹ Modified, Minimum Test Value

² ASTM D4439 Standard Terminology for Geosynthetics: typical value, *n-for geosynthetics*, the mean value calculated from documented manufacturing quality control test results for a defined population obtained from one test method associated with on specific property.



ADS PLUS-US WOVEN GEOTEXTILE SPECIFICATION

For use with StormTech® Isolator® Row Plus

Scope

This specification describes ADS Plus woven geotextile.

ADS Plus woven geotextile fabrics are woven polypropylene materials offering optimum performance when used in stabilization applications. Produced from first quality raw materials, they provide the perfect balance of strength and separation in styles capable of functioning exceptionally well in a wide range of performance requirements.

Filter Fabric Properties

Property ¹	Test Method	Unit	M.A.R.V. (Minimum Average Roll Value) ²
Weight	ASTM D5261	oz/yd ² (g/m ²)	8.0 (271.25)
Grab Tensile Strength	ASTM D4632	lbs (kN)	325 (1.45)
Grab Elongation	ASTM D4632	%	15
Trapezoidal Tear Strength	ASTM D4533	lbs (kN)	125 (0.89)
CBR Puncture Resistance	ASTM D6241	lbs (kN)	1,124 (5.0)

1. The property values listed above are subject to change without notice.

2. Minimum Average Roll Values (MARV) is calculated as the average minus two standard deviations. Statistically, it yields approximately 97.5% degree of confidence that any samples taken from quality assurance testing will meet or exceed the values described above.

Dimensions

ADS Plus shall be delivered to the jobsite in roll form with each roll individually identified and nominally measuring 12.5' (3.8 m) width x 360' (110 m) length for Plus125 and 6.25' (1.9 m) width x 360' (110 m) length for Plus625.

Build America, Buy America (BABA)

ADS Plus-US complies with the requirements in the Build America, Buy America (BABA) Act.

Thermoplastic Liners For StormTech® Detention Systems



StormTech Versatility

StormTech chambers offer the versatility to be designed as open bottom detention systems, retention systems or watertight detention systems. Although the vast majority of StormTech systems are unlined detention systems, by incorporating a continuous membrane liner, StormTech chambers can be effectively used for separation applications.

Maximize infiltration area with StormTech retention systems

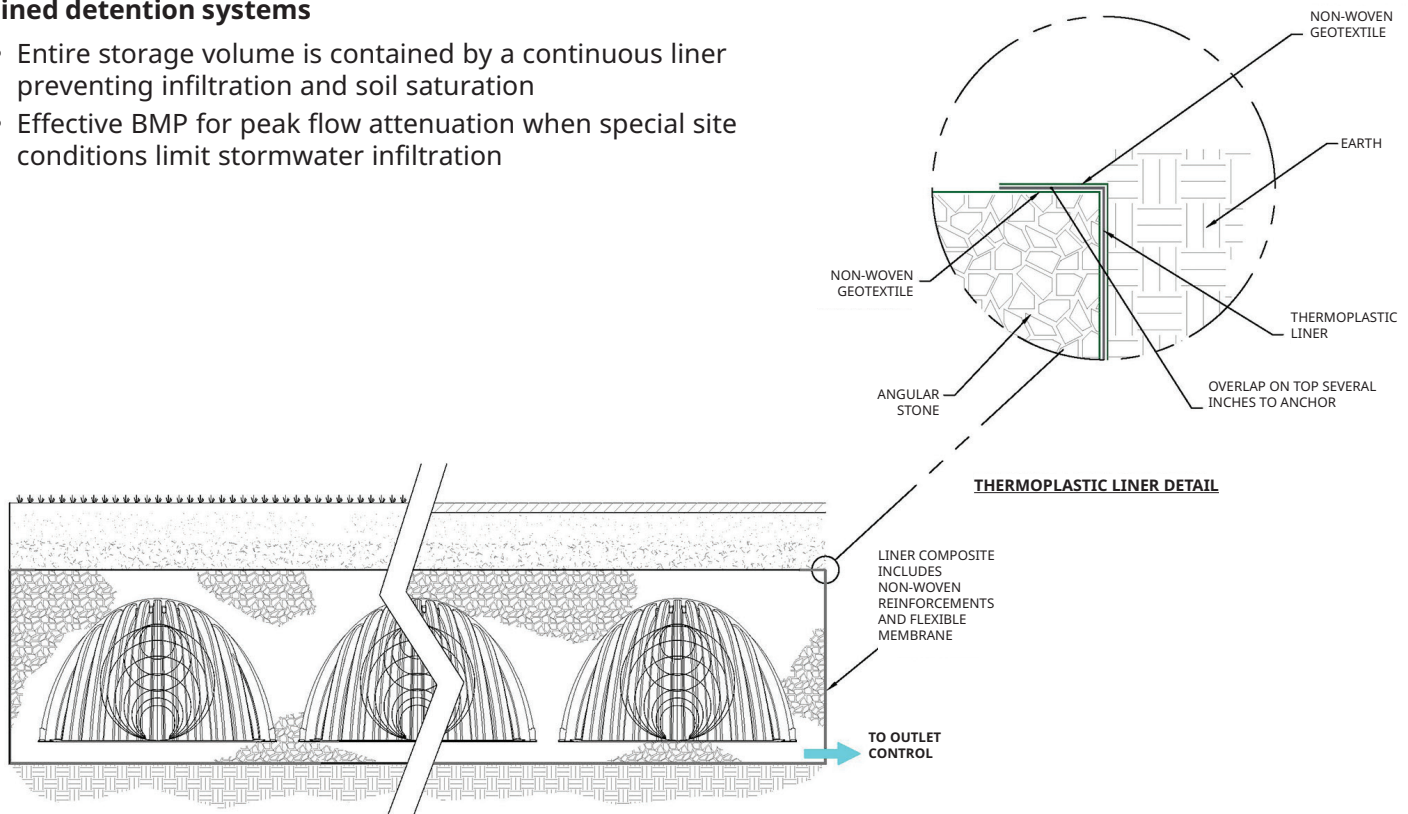
- Entire storage volume infiltrates - there is no outlet pipe
- Very effective BMP (Best Management Practice) for ground water recharge

Design safety factor added with StormTech open bottom detention systems

- Primary discharge is conveyed to an outlet control structure (OCS)
- The infiltration component may range from being a significant component to being a minimal component
- Enables retention/detention combination where a water quality volume can be infiltrated and peak flows can be attenuated by the use of detention

Controlled discharges with StormTech lined detention systems

- Entire storage volume is contained by a continuous liner preventing infiltration and soil saturation
- Effective BMP for peak flow attenuation when special site conditions limit stormwater infiltration



Benefits of StormTech detention systems

- Offers all the advantages of a closed system, while utilizing the full storage capacity of the excavation
- System integrity is based on a continuous thermoplastic membrane
- Can be used to reduce separation distance to groundwater
- Protects ground water quality from pollutant sources found in stormwater runoff
- The combined volume of the chambers and stone voids results in a cost-competitive detention system

Design of StormTech systems

The key components of a lined chamber system design are membrane integrity and control of maximum water surface elevation.

Membrane liner integrity

Membrane integrity is achieved by selecting an appropriate liner material and seaming techniques, by providing protection against puncture and limiting buoyant forces.

Several membrane materials are suitable for buried liners. The most cost-effective materials are polyvinyl chloride (PVC) and linear low density polyethylene (LLDPE). Both offer the chemical stability to resist contaminants normally found in storm water and offer the flexibility to resist puncturing when properly installed. The minimum recommended thickness for both materials is 30 mil. For applications where aggressive contaminants are expected, contact a membrane supplier for material selection advice.

Many membrane liners are pre-fabricated to eliminate or minimize the need for field seaming. However, for applications larger than 20,000 sq. ft. for PVC and 26,000 sq. ft. for LLDPE, field seaming may be required. PVC seams can be easily solvent cemented in the field. LLDPE, however, cannot be solvent welded and requires either thermal welding by a specialty crew or taping. Taped seams are completed in the field using 4-inch (100 mm) wide, single-sided moldable sealant equal to Titus Tapecoat Moldable Sealant.

Pipe “boots” are used to seal pipe penetrations through the liner. Boots can either be pre-fabricated or field fabricated. The boot is then solvent cemented, heat welded or taped to the liner. A pipe clamp is normally used to seal the boot around the pipe.

Puncture protection is provided by installing a non-woven fabric reinforcement on each side of the membrane. An 8-ounce (ADS 0801 or equal) nonwoven geotextile (see detail on page 1) should be used for both sides of a PVC membrane. The reinforcement thickness should be increased to 12-ounce (ADS 1201 or equal) for the stone/chamber side of LLDPE membranes. A sand cushion may be substituted for the solid side reinforcement where cost effective. Where there is a potential for buoyant forces the engineer would need to design an underdrain system to relieve buoyant pressure. ADS does not recommend installing a lined chamber system in which the feet of the chambers are below the high water table elevation.



The membrane's flexibility is apparent by visible wrinkling. Flexibility enables the liner to conform to irregularities in the excavation and resist puncture.

Control of Maximum Water Surface Elevation

The watertight membrane for StormTech chamber systems does not cover the top of the bed. An outlet control structure or upstream high flow bypass is designed such that the maximum water surface elevation in the bed is below the top of the liner. This is a typical design approach for detention basins and easily accomplished with a high water weir. The crest elevation of the weir should be set to pass the peak design flow at the maximum water surface elevation to reach the top of the liner. In designing a high-flow bypass system for lined detention systems, the design should consider adding freeboard allowance to the height of the liner.

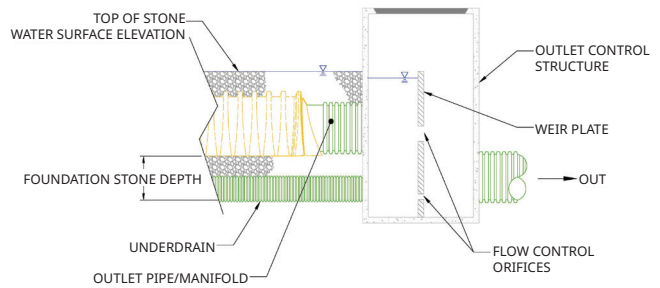
Installation of detention systems

Note: Contact the liner fabricator for more detailed installation recommendations.

1. Prepare the excavation by removing loose rocks and protrusions
2. Roll excavation with steel wheeled roller to knock down remaining minor protrusions
3. Prepare anchor trench around perimeter at top of side wall
4. Lay non-woven "soil side" reinforcement in excavation and into anchor trench
5. Lay prefabricated membrane liner over soil side reinforcement and into anchor trench
6. Lay non-woven "water side" reinforcement over membrane and into anchor trench
7. Place bedding stone over reinforcement to required depth based on geotech and storage criteria and compact
8. Determine location for pipe penetrations and seal pipe boots to liner and clamp pipe boots to pipe
9. Install chambers and aggregate backfill in accordance with StormTech installation instructions

(Note: In most cases, liners can be installed by the drainage contractor or a specialty liner installer. Contact StormTech for liner fabricators and installers.)

Please refer to the StormTech Design Manual for a complete explanation of the StormTech Limited Warranty.



Non-woven fabric is placed over PVC liner before placing angular bedding stone.



Angular stone backfill is placed around chambers.

adspipe.com

800-821-6710

APPENDIX F

**10 Norden Place
Norwalk, Connecticut**

Stormwater Maintenance and Inspection Plan

January 13, 2025

Party Responsible for Maintenance:

Director of Operations, currently:

This plan is recorded at:

The initial inspection will be made during an intense rainfall to check the adequacy of the yard drains, catch basins, roof leaders, piping, hydrodynamic separator, detention system, and system outlet.

The following is a checklist of items that will be checked and maintained during scheduled maintenance operations.

Drainage Structures: The Owner will be responsible for cleaning the catch basins, yard drains, manholes, piping, and outlet protection on their property. A Connecticut licensed hauler shall clean the sumps, and legally dispose of removed sand at an off-site location. The road sand may not be reused or stored on-site. As part of the hauling contract, the hauler shall notify the Owner in writing where the material is being disposed.

Each catch basin and yard drain shall be inspected every four months, with one inspection occurring during the month of April. Any debris occurring within one foot from the bottom of each sump shall be removed by Vacuum "Vactor" type of maintenance equipment. Maintain a log of inspections. Remove organic matter, sand and debris from catch basins as necessary and dispose of legally.

Hydrodynamic Separator: The Contech CDS units (hydrodynamic separator) will be skimmed and oil and scum removed. In a separate operation, silt, sand and sediment will be removed. Once the structure is cleaned of debris, the chamber will be refilled with clean water to prevent wash through of debris and oil during next storm event.

Underground Detention: The underground infiltration system will be cleaned of all silt, debris and sediment from the inlet structure, outlet structure and the chamber lengths. The outlet control structure will be inspected and cleaned to make sure nothing is clogging the discharge pipe.

Clean out the isolator row using the Jetvac process. Apply multiple passes of the Jetvac until backflush water is clean. Vacuum inlet and outlet structure as required.

Pavement: Paved areas shall be swept periodically by the Owner to clean trash and other debris. The Owner will sweep paved areas on its property in the spring to remove winter accumulations of road sand.

Perform a visual inspection of paved areas four times per year with one inspection after the last snowfall, but no later than April 1. Sweep accumulated sediment and debris from the paved areas. Clean paved areas as necessary during the remainder of the year.

Drainage Structures Inspection

Each catch basin and yard drain shall be inspected every four months, with one inspection occurring during the month of April. Any debris occurring within one foot from the bottom of each sump shall be removed by Vacuum "Vactor" type of maintenance equipment. Maintain a log of inspections. Remove organic matter, sand and debris from catch basins as necessary and dispose of legally.

Date (MM/DD/YY)	Company/Person	Supervising Team Member	Comments

Underground Detention

The underground Detention system shall be inspected annually and will be cleaned of all silt, debris and sediment from the inlet structure, outlet structure and the chamber lengths. The outlet control structure will be inspected and cleaned to make sure nothing is clogging the discharge pipe.

Date (MM/DD/YY)	Company/Person	Supervising Team Member	Comments

Pavement Inspection

Perform a visual inspection of paved areas four times per year with one inspection after the last snowfall, but no later than April 1. Sweep accumulated sediment and debris from the paved areas. Clean paved areas as necessary during the remainder of the year.

Date (MM/DD/YY)	Company/Person	Supervising Team Member	Comments



February 13, 2025
via electronic mail

City of Norwalk
Planning & Zoning Commission
125 East Avenue
Norwalk, CT 06851
Attn: Ms. Galen Wells
Chairman

**RE: Auto Collective Fairfield
Proposed Automotive Storage Facility
10 Norden Place
City of Norwalk
Fairfield County, CT 06855
TPD Project No. AUCO 00001**

Dear Ms. Wells:

Traffic Planning and Design, Inc. (TPD) has prepared this **Traffic Letter Report** in support of Auto Collective Fairfield's application to occupy a portion of an existing warehouse building located at an existing office park along northbound Norden Place, in Norwalk, Connecticut, as shown in the attached **Figure 1**.

The property is situated along northbound Norden Place, with two driveways providing site access. It is located just north of the Metro-North Railroad, which serves the Grand Central and New Haven lines.

**Existing
Condition**

The site features a 635,428-square-foot building designated as a Major Traffic Generator (MTG) by the Connecticut Department of Transportation (CTDOT) Office of the State Traffic Administration (OSTA). It was previously approved by the City of Norwalk for a mix of uses, including 64,545 square feet of school space, 329,755 square feet of manufacturing space, and 241,128 square feet of office space.

Norden Place, a local road under the jurisdiction of the City of Norwalk, has a posted speed limit of 30 mph. Along the site frontage, the road features one through lane in each direction and a southbound left-turn lane. Sidewalks line both sides of the road, and shoulders are present intermittently.

A portion of the lower level's manufacturing space was most recently approved for redevelopment into a 113,500-square-foot Transportation Maintenance Terminal for the Metropolitan Transportation Authority (MTA). The MTA and Courville Nursery were included in the #2024-14 SPR application. Tighe & Bond's February 2024 Traffic Impact Analysis concluded that the project will not significantly impact traffic in the

**Prior Traffic
Analysis**

area. Specifically, the report concluded: ***"The majority of the intersections and intersection approaches operate acceptably at LOS D or better and/or at Background LOS with limited increase in average delay per vehicle."***

The MTA project is scheduled for completion and occupancy in 2025.

TPD analyzed data from UCONN's Connecticut Crash Data Repository to investigate the reported crash history near the development site. The data indicated that there were no reported vehicular crashes along the site frontage on Norden Place during the five-year study period. This was consistent with Tighe & Bond's February 2024 Traffic Impact Analysis.

Collision History

Auto Collective Fairfield proposes to occupy entirely within the existing building, occupying approximately 137,000 gross square feet. The majority of the space – 84,600+/- square feet – would be dedicated to storage of vehicles in a rack system. In the proposed square footage, about 420 vehicles could be accommodated. The Applicants propose about 20,800+/- square feet of event space which the club could host events such as Formula One watch parties, movie and other screenings, and hold member and member-sponsored gatherings. Typically, these events would be on weekends. About 26,450+/- square feet would be dedicated to the car club itself for members' use along with 5,370+/- square feet set aside for a more intimate members' lounge which can be reserved by members for board meetings and small gatherings.

Proposed Condition

Specifically, 137,220 square feet of the building that was previously approved for manufacturing space would be renovated for the luxury automotive storage facility. There would be no modifications to the site access. The club spaces are exclusively for Auto Collective Fairfield members, and the event space is limited to member-sponsored gatherings. Event bookings to member-sponsored gatherings would be scheduled outside of peak commuter travel hours, to minimize any potential traffic impacts on the adjacent roadway network.

Traffic engineers commonly use the Institute of Transportation Engineers (ITE) data to estimate the number of trips a proposed development will generate. This resource is widely recognized because it compiles trip generation data from a variety of land uses, such as retail stores, offices, schools, and residential developments. These rates are derived from studies of similar land uses across North America and provide a solid foundation for traffic projections.

Trip Generation

However, there are scenarios where ITE trip generation may not fully capture the specific characteristics of a proposed development or site. In these cases, a site-specific traffic survey of a comparable, existing site is often conducted.

The ITE does not provide trip generation for this specific type of land use. Therefore, traffic projections for the proposed redevelopment have been developed based on data collected at North American Motor Car, which is located in Danbury, Connecticut. Since North American Motor Car operates in a similar manner to the proposed development, offering amenities such as a cigar room, event space, and a full-service bar, it serves as a relevant and comparable site for estimating trip generation.

Specifically, data was collected while Danbury and Norwalk public schools were in session during the following times and dates:

- Tuesday November 19, 2024 from 7:00 am to 7:00 pm
- Friday, November 15, 2024 from 4:00 pm to 7:00 pm
- Saturday, November 16, 2024 from 11:00 am to 7:00 pm

Table 1 summarizes the observed peak hour traffic volumes recorded at the study site, at each of the peak periods observed.

Table 1
Observed Trip Generation Comparison

Peak Hour	Existing 59,250 SF Auto Storage Facility		
	Enter	Exit	Total
Weekday Morning	18	2	20
Weekday Midday	6	12	18
Weekday Evening	1	16	17
Friday Evening	4	9	13
Saturday Midday	0	2	2
Saturday Evening	1	1	2

Based on the observed data, TPD calculated the trip rates per 1,000 square feet of gross floor area, consistent with ITE criteria, along with the entering and exiting percentages for these trips, as summarized in **Table 2** below.

Table 2
Observed Trip Generation Rates

Peak Hour	Trip Rate (per 1,000 SF)	Trip Distribution	
		Enter	Exit
Weekday Morning	0.34	90%	10%
Weekday Midday	0.30	33%	67%
Weekday Evening	0.29	6%	94%
Friday Evening	0.22	31%	69%
Saturday Midday	0.03	0%	100%
Saturday Evening	0.03	50%	50%

As shown in the table above, the maximum trip rate per 1,000 square feet occurs during the weekday morning peak hour, resulting in 20 trips to the study site.

By then applying this rate to the approximately 137,220 square foot proposed motor vehicle storage facility in the subject application, we can determine an estimate for trips that would be generated by the proposed development. The new trips are detailed in **Table 3** below.

Table 3
Proposed Trip Generation

Peak Hour	Proposed 137,220 SF Auto Storage Facility		
	Enter	Exit	Total
Weekday Morning	42	5	47
Weekday Midday	14	28	42
Weekday Evening	2	38	40
Friday Evening	10	21	31
Saturday Midday	0	5	5
Saturday Evening	3	3	5

As shown above, the proposed development would generate a maximum of 47 trips, based on the observed trip rate, which would occur during the weekday morning peak hour.

The study site has a smaller footprint and employs three-level car stackers for vehicle storage, whereas the proposed site will be larger and will use only two-level car stackers. Additionally, the study site includes vehicle sales, which the proposed site does not. For these reasons it is assumed that the projected trip generation represents a conservative estimate of typical peak hour traffic.

As the proposed portion of the building was previously approved for manufacturing space, traffic projections for the approved use have been prepared utilizing data published by the Institute of Transportation Engineers (ITE) in the 11th Edition of **Trip Generation**, 2021. Specifically, trip generation projections for the 137,220 square foot space were prepared utilizing ITE Land Use Code 140: **"Manufacturing."** **Table 4** below shows the projected trip generation for the warehouse space, assuming reoccupation under the approved use based on square footage, compared to the proposed automotive storage facility.

Table 4
Approved vs Proposed Trip Generation Comparison

Peak Hour	Approved 137,220 SF Manufacturing			Proposed 137,220 SF Auto Storage Facility			Difference		
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
Weekday Morning	71	22	93	42	5	47	- 29	- 17	- 46
Weekday Midday	48	67	115	14	28	42	- 34	- 39	- 73
Weekday Evening	31	71	102	2	38	40	- 29	- 33	- 62
Friday Evening	31	71	102	10	21	31	- 21	- 50	- 71
Saturday Midday	13	12	25	0	5	5	- 13	- 7	- 20
Saturday Evening	-	-	-	3	3	5	-	-	-

As shown in the table above, the proposed use is expected to be less intensive compared to the previously approved manufacturing use. Therefore, further analysis is not warranted, and additional analysis would not be required for this development.

Summary

In conclusion, the proposed auto storage facility is expected to generate less traffic volume than the previously approved use for this site. As such, the proposed project will not have a significant negative impact on-site circulation or on traffic flows on the adjacent public roadways.

Please do not hesitate to contact the undersigned with any questions or comments you may have.

Sincerely,

Traffic Planning and Design, INC
Conn. Professional Engineering Corp. No. 0002363

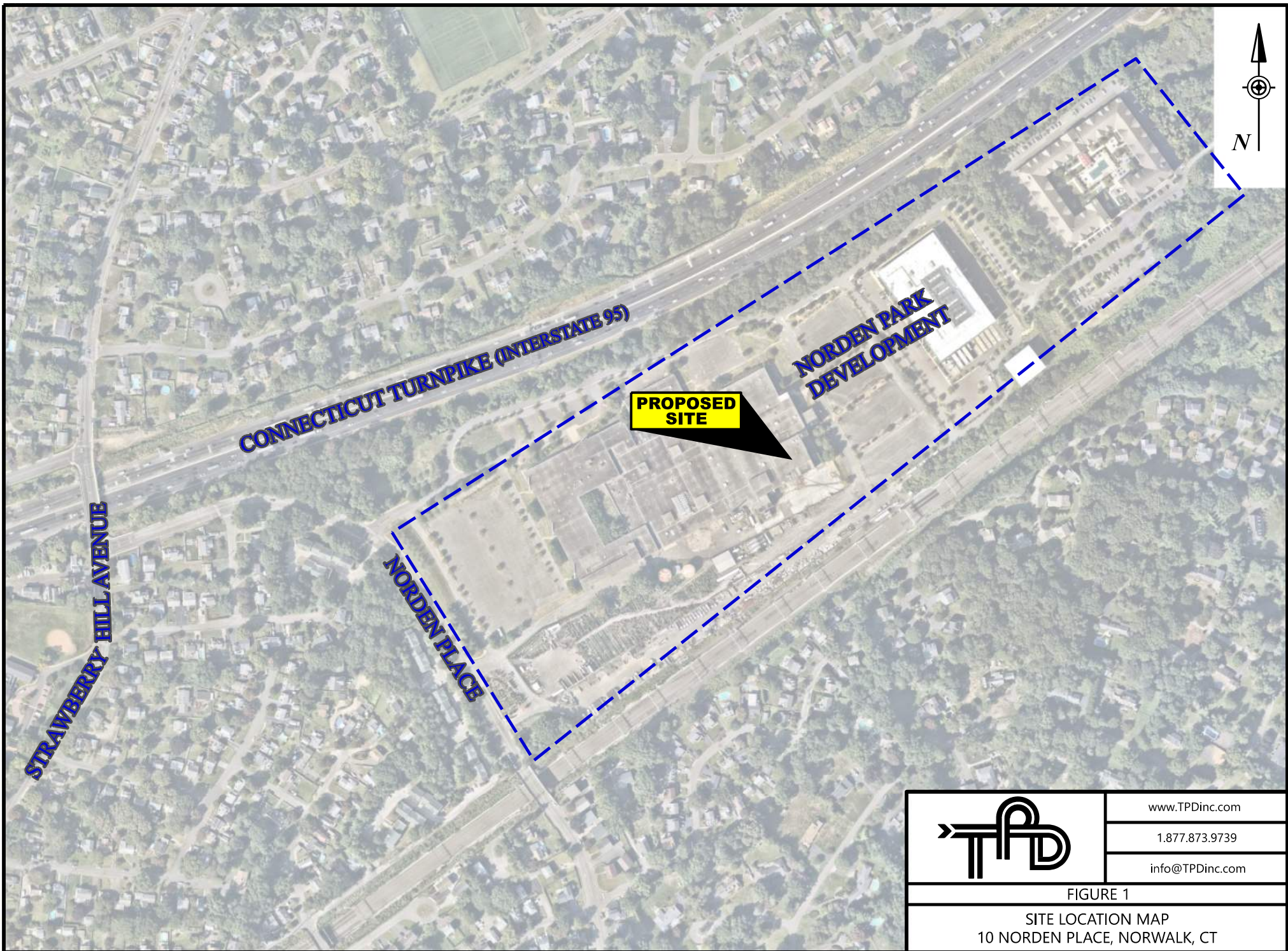


ETHAN B. SCHUKOSKE, P.E., PTOE
Professional Engineer
Conn. License No. 34486
eschukoske@TPDinc.com



NICOLE SILVESTRO, E.I.T.
Sr. Transportation Planning Specialist
nsilvestro@TPDinc.com

cc Liz Suchy, Carmody Torrance Sandak & Hennessey LLP





B | Turning Movement Counts at Study Site



Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 tcooney@trafficpd.com

Count Name: Eastern Driveway & Miry Brook Rd
Site Code:
Start Date: 11/15/2024
Page No: 1

Turning Movement Data

Start Time	Miry Brook Rd Eastbound					Miry Brook Rd Westbound					Eastern DW Northbound					Int. Total
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	
4:00 PM	0	162	0	0	162	0	0	74	0	74	0	0	1	0	1	237
4:15 PM	0	163	0	0	163	0	2	63	0	65	0	1	1	0	2	230
4:30 PM	0	134	0	0	134	0	0	52	0	52	0	0	5	0	5	191
4:45 PM	0	128	0	0	128	0	0	74	0	74	0	0	0	0	0	202
Hourly Total	0	587	0	0	587	0	2	263	0	265	0	1	7	0	8	860
5:00 PM	0	135	0	0	135	0	0	68	0	68	0	2	7	0	9	212
5:15 PM	0	99	0	0	99	0	0	67	0	67	0	1	0	0	1	167
5:30 PM	0	115	0	0	115	0	0	57	0	57	0	0	1	0	1	173
5:45 PM	0	91	0	0	91	0	0	58	0	58	0	0	0	0	0	149
Hourly Total	0	440	0	0	440	0	0	250	0	250	0	3	8	0	11	701
6:00 PM	0	51	0	0	51	0	0	50	0	50	0	0	0	0	0	101
6:15 PM	0	50	0	0	50	0	0	29	0	29	0	0	0	0	0	79
6:30 PM	0	31	0	0	31	0	0	25	0	25	0	0	0	0	0	56
6:45 PM	0	34	0	0	34	0	0	39	0	39	0	0	0	0	0	73
Hourly Total	0	166	0	0	166	0	0	143	0	143	0	0	0	0	0	309
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	0	35	0	0	35	0	0	42	0	42	0	0	0	0	0	77
11:15 AM	0	37	0	0	37	0	0	34	0	34	0	0	0	0	0	71
11:30 AM	0	33	0	0	33	0	0	29	0	29	0	0	0	0	0	62
11:45 AM	0	36	0	0	36	0	0	57	0	57	0	0	0	0	0	93
Hourly Total	0	141	0	0	141	0	0	162	0	162	0	0	0	0	0	303
12:00 PM	0	55	0	0	55	0	0	50	0	50	0	0	1	0	1	106
12:15 PM	0	47	0	0	47	0	0	49	0	49	0	0	0	0	0	96
12:30 PM	0	46	0	0	46	0	0	55	0	55	0	0	0	0	0	101
12:45 PM	0	40	0	0	40	0	0	37	0	37	0	0	0	0	0	77
Hourly Total	0	188	0	0	188	0	0	191	0	191	0	0	1	0	1	380
1:00 PM	0	42	0	0	42	0	1	44	0	45	0	0	0	0	0	87
1:15 PM	0	43	0	0	43	0	0	39	0	39	0	0	0	0	0	82
1:30 PM	0	40	0	0	40	0	0	50	0	50	0	0	0	0	0	90
1:45 PM	0	41	0	0	41	0	0	51	0	51	0	0	0	0	0	92
Hourly Total	0	166	0	0	166	0	1	184	0	185	0	0	0	0	0	351
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	52	0	0	52	0	0	41	0	41	0	0	0	0	0	93
4:15 PM	0	38	0	0	38	0	1	47	0	48	0	0	0	0	0	86
4:30 PM	0	42	0	0	42	0	0	44	0	44	0	0	0	0	0	86
4:45 PM	0	39	0	0	39	0	0	48	0	48	0	0	1	0	1	88

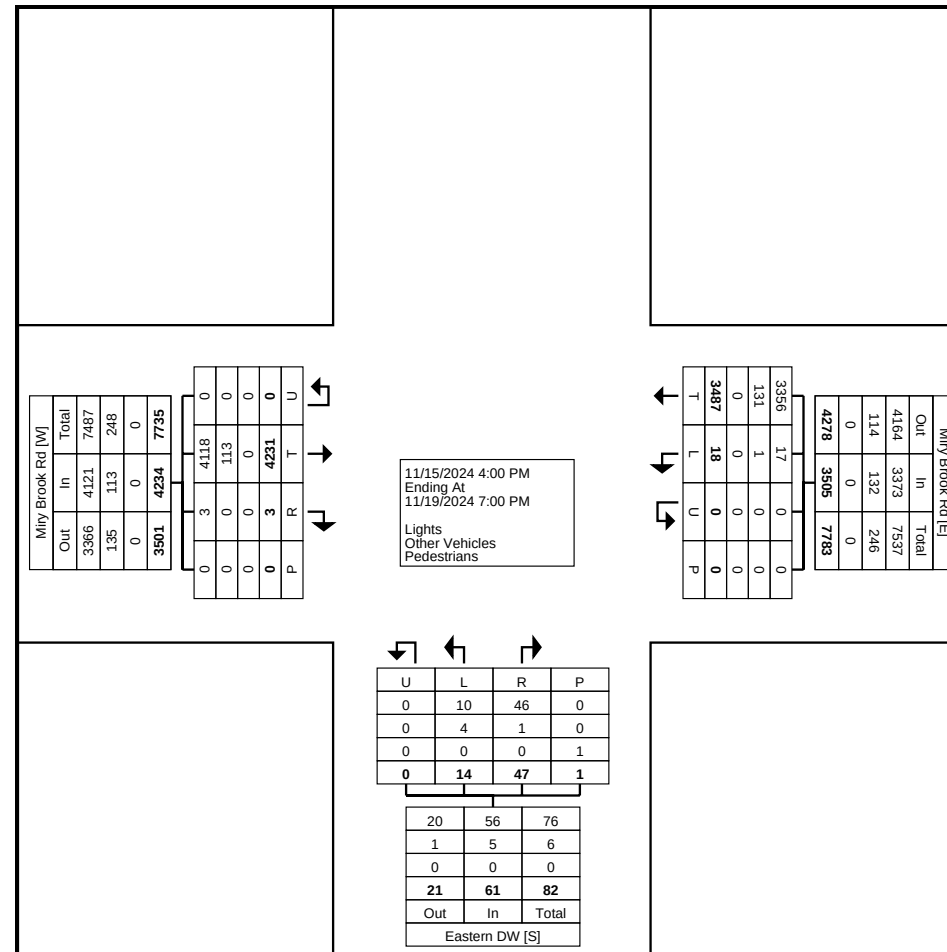
Hourly Total	0	171	0	0	171	0	1	180	0	181	0	0	1	0	1	353
5:00 PM	0	31	0	0	31	0	0	32	0	32	0	0	0	0	0	63
5:15 PM	0	40	0	0	40	0	0	33	0	33	0	0	0	0	0	73
5:30 PM	0	23	1	0	24	0	0	41	0	41	0	0	0	0	0	65
5:45 PM	0	33	0	0	33	0	0	35	0	35	0	0	0	0	0	68
Hourly Total	0	127	1	0	128	0	0	141	0	141	0	0	0	0	0	269
6:00 PM	0	38	0	0	38	0	0	24	0	24	0	0	0	0	0	62
6:15 PM	0	26	0	0	26	0	0	22	0	22	0	0	0	0	0	48
6:30 PM	0	26	0	0	26	0	0	30	0	30	0	1	0	0	1	57
6:45 PM	0	19	0	0	19	0	0	26	0	26	0	1	0	0	1	46
Hourly Total	0	109	0	0	109	0	0	102	0	102	0	2	0	0	2	213
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 AM	0	50	0	0	50	0	0	53	0	53	0	0	0	0	0	103
7:15 AM	0	50	0	0	50	0	0	62	0	62	0	0	0	0	0	112
7:30 AM	0	51	0	0	51	0	0	77	0	77	0	0	0	0	0	128
7:45 AM	0	63	0	0	63	0	0	106	0	106	0	0	0	0	0	169
Hourly Total	0	214	0	0	214	0	0	298	0	298	0	0	0	0	0	512
8:00 AM	0	61	0	0	61	0	0	93	0	93	0	1	0	0	1	155
8:15 AM	0	42	1	0	43	0	2	84	0	86	0	0	0	0	0	129
8:30 AM	0	58	0	0	58	0	4	99	0	103	0	0	0	0	0	161
8:45 AM	0	68	0	0	68	0	2	102	0	104	0	0	1	0	1	173
Hourly Total	0	229	1	0	230	0	8	378	0	386	0	1	1	0	2	618
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	0	41	0	0	41	0	0	34	0	34	0	0	1	0	1	76
11:15 AM	0	37	0	0	37	0	2	42	0	44	0	0	2	0	2	83
11:30 AM	0	57	0	0	57	0	0	49	0	49	0	0	0	0	0	106
11:45 AM	0	50	0	0	50	0	1	37	0	38	0	0	0	0	0	88
Hourly Total	0	185	0	0	185	0	3	162	0	165	0	0	3	0	3	353
12:00 PM	0	39	0	0	39	0	1	43	0	44	0	0	1	0	1	84
12:15 PM	0	38	0	0	38	0	0	34	0	34	0	0	0	0	0	72
12:30 PM	0	46	0	0	46	0	0	45	0	45	0	1	4	1	5	96
12:45 PM	0	51	0	0	51	0	0	67	0	67	0	2	2	0	4	122
Hourly Total	0	174	0	0	174	0	1	189	0	190	0	3	7	1	10	374
1:00 PM	0	38	0	0	38	0	0	51	0	51	0	0	2	0	2	91
1:15 PM	0	53	0	0	53	0	0	54	0	54	0	0	0	0	0	107
1:30 PM	0	47	0	0	47	0	1	39	0	40	0	0	0	0	0	87
1:45 PM	0	41	0	0	41	0	1	60	0	61	0	0	1	0	1	103
Hourly Total	0	179	0	0	179	0	2	204	0	206	0	0	3	0	3	388
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	120	0	0	120	0	0	67	0	67	0	2	1	0	3	190
4:15 PM	0	98	0	0	98	0	0	65	0	65	0	0	1	0	1	164
4:30 PM	0	110	0	0	110	0	0	50	0	50	0	0	1	0	1	161
4:45 PM	0	94	0	0	94	0	0	66	0	66	0	0	0	0	0	160
Hourly Total	0	422	0	0	422	0	0	248	0	248	0	2	3	0	5	675
5:00 PM	0	139	1	0	140	0	0	64	0	64	0	2	11	0	13	217
5:15 PM	0	118	0	0	118	0	0	69	0	69	0	0	1	0	1	188
5:30 PM	0	139	0	0	139	0	0	49	0	49	0	0	1	0	1	189
5:45 PM	0	128	0	0	128	0	0	33	0	33	0	0	0	0	0	161
Hourly Total	0	524	1	0	525	0	0	215	0	215	0	2	13	0	15	755
6:00 PM	0	68	0	0	68	0	0	59	0	59	0	0	0	0	0	127
6:15 PM	0	75	0	0	75	0	0	36	0	36	0	0	0	0	0	111
6:30 PM	0	39	0	0	39	0	0	46	0	46	0	0	0	0	0	85

6:45 PM	0	27	0	0	27	0	0	36	0	36	0	0	0	0	0	63
Hourly Total	0	209	0	0	209	0	0	177	0	177	0	0	0	0	0	386
Grand Total	0	4231	3	0	4234	0	18	3487	0	3505	0	14	47	1	61	7800
Approach %	0.0	99.9	0.1	-	-	0.0	0.5	99.5	-	-	0.0	23.0	77.0	-	-	-
Total %	0.0	54.2	0.0	-	54.3	0.0	0.2	44.7	-	44.9	0.0	0.2	0.6	-	0.8	-
Lights	0	4118	3	-	4121	0	17	3356	-	3373	0	10	46	-	56	7550
% Lights	-	97.3	100.0	-	97.3	-	94.4	96.2	-	96.2	-	71.4	97.9	-	91.8	96.8
Other Vehicles	0	113	0	-	113	0	1	131	-	132	0	4	1	-	5	250
% Other Vehicles	-	2.7	0.0	-	2.7	-	5.6	3.8	-	3.8	-	28.6	2.1	-	8.2	3.2
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 tcooney@trafficpd.com

Count Name: Eastern Driveway & Miry Brook Rd
Site Code:
Start Date: 11/15/2024
Page No: 4



Turning Movement Data Plot



Traffic Planning and Design, Inc
2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 tcooney@trafficpd.com

Count Name: Eastern Driveway & Miry Brook Rd
Site Code:
Start Date: 11/15/2024
Page No: 5

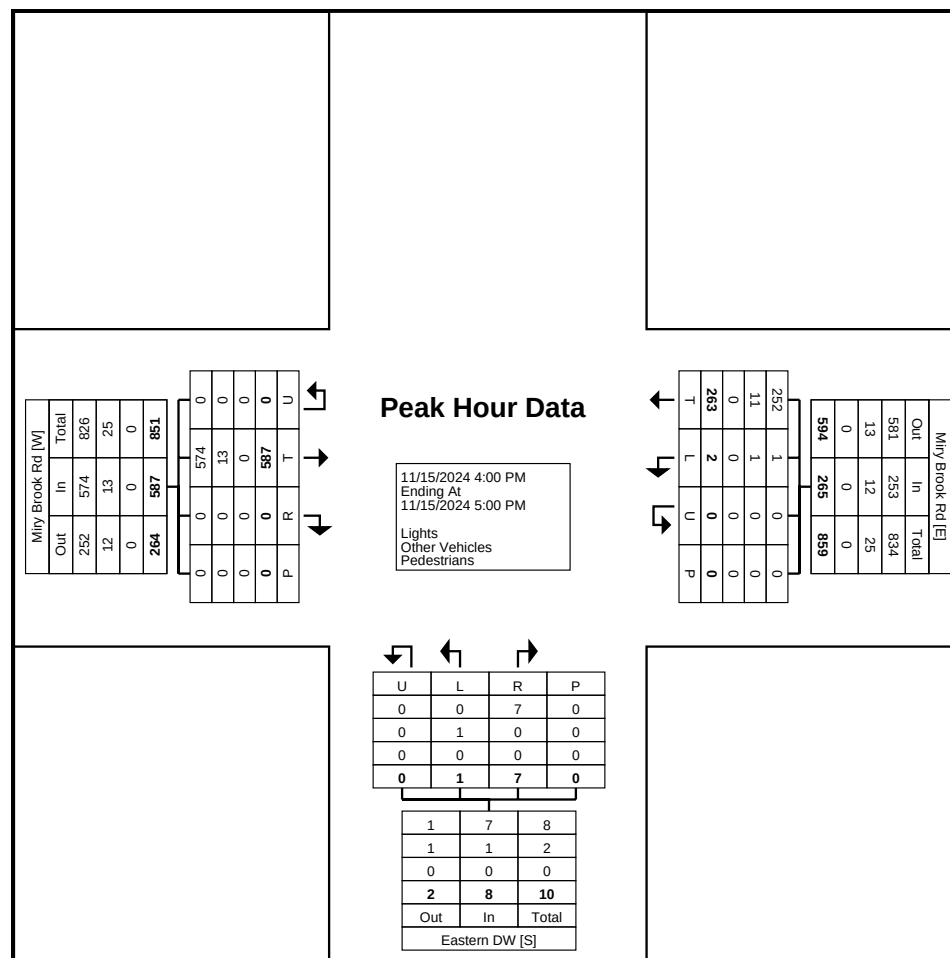
Turning Movement Peak Hour Data (4:00 PM)

Start Time	Miry Brook Rd Eastbound					Miry Brook Rd Westbound					Eastern DW Northbound					Int. Total
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	
4:00 PM	0	162	0	0	162	0	0	74	0	74	0	0	1	0	1	237
4:15 PM	0	163	0	0	163	0	2	63	0	65	0	1	1	0	2	230
4:30 PM	0	134	0	0	134	0	0	52	0	52	0	0	5	0	5	191
4:45 PM	0	128	0	0	128	0	0	74	0	74	0	0	0	0	0	202
Total	0	587	0	0	587	0	2	263	0	265	0	1	7	0	8	860
Approach %	0.0	100.0	0.0	-	-	0.0	0.8	99.2	-	-	0.0	12.5	87.5	-	-	-
Total %	0.0	68.3	0.0	-	68.3	0.0	0.2	30.6	-	30.8	0.0	0.1	0.8	-	0.9	-
PHF	0.000	0.900	0.000	-	0.900	0.000	0.250	0.889	-	0.895	0.000	0.250	0.350	-	0.400	0.907
Lights	0	574	0	-	574	0	1	252	-	253	0	0	7	-	7	834
% Lights	-	97.8	-	-	97.8	-	50.0	95.8	-	95.5	-	0.0	100.0	-	87.5	97.0
Other Vehicles	0	13	0	-	13	0	1	11	-	12	0	1	0	-	1	26
% Other Vehicles	-	2.2	-	-	2.2	-	50.0	4.2	-	4.5	-	100.0	0.0	-	12.5	3.0
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
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Turning Movement Peak Hour Data Plot (4:00 PM)



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Count Name: Eastern Driveway & Miry Brook Rd
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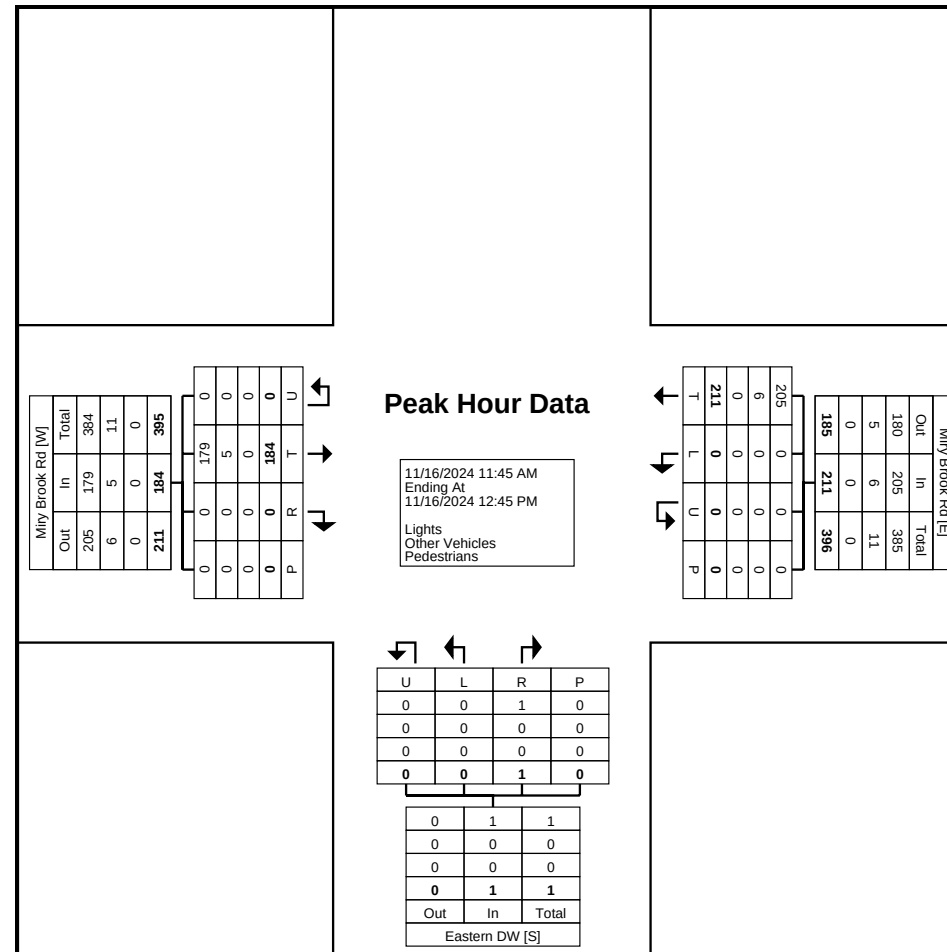
Turning Movement Peak Hour Data (11:45 AM)

Start Time	Miry Brook Rd Eastbound					Miry Brook Rd Westbound					Eastern DW Northbound					Int. Total
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	
11:45 AM	0	36	0	0	36	0	0	57	0	57	0	0	0	0	0	93
12:00 PM	0	55	0	0	55	0	0	50	0	50	0	0	1	0	1	106
12:15 PM	0	47	0	0	47	0	0	49	0	49	0	0	0	0	0	96
12:30 PM	0	46	0	0	46	0	0	55	0	55	0	0	0	0	0	101
Total	0	184	0	0	184	0	0	211	0	211	0	0	1	0	1	396
Approach %	0.0	100.0	0.0	-	-	0.0	0.0	100.0	-	-	0.0	0.0	100.0	-	-	-
Total %	0.0	46.5	0.0	-	46.5	0.0	0.0	53.3	-	53.3	0.0	0.0	0.3	-	0.3	-
PHF	0.000	0.836	0.000	-	0.836	0.000	0.000	0.925	-	0.925	0.000	0.000	0.250	-	0.250	0.934
Lights	0	179	0	-	179	0	0	205	-	205	0	0	1	-	1	385
% Lights	-	97.3	-	-	97.3	-	-	97.2	-	97.2	-	-	100.0	-	100.0	97.2
Other Vehicles	0	5	0	-	5	0	0	6	-	6	0	0	0	-	0	11
% Other Vehicles	-	2.7	-	-	2.7	-	-	2.8	-	2.8	-	-	0.0	-	0.0	2.8
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Turning Movement Peak Hour Data Plot (11:45 AM)



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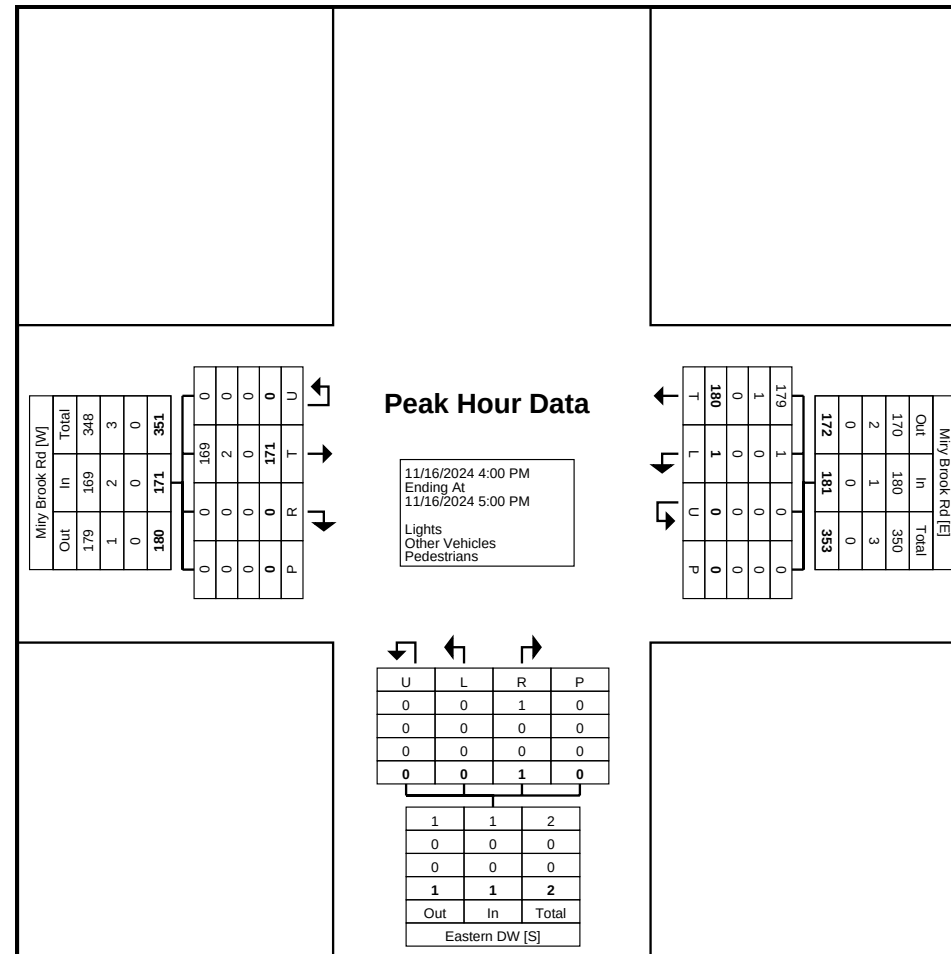
Turning Movement Peak Hour Data (4:00 PM)

Start Time	Miry Brook Rd Eastbound					Miry Brook Rd Westbound					Eastern DW Northbound					Int. Total
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	
4:00 PM	0	52	0	0	52	0	0	41	0	41	0	0	0	0	0	93
4:15 PM	0	38	0	0	38	0	1	47	0	48	0	0	0	0	0	86
4:30 PM	0	42	0	0	42	0	0	44	0	44	0	0	0	0	0	86
4:45 PM	0	39	0	0	39	0	0	48	0	48	0	0	1	0	1	88
Total	0	171	0	0	171	0	1	180	0	181	0	0	1	0	1	353
Approach %	0.0	100.0	0.0	-	-	0.0	0.6	99.4	-	-	0.0	0.0	100.0	-	-	-
Total %	0.0	48.4	0.0	-	48.4	0.0	0.3	51.0	-	51.3	0.0	0.0	0.3	-	0.3	-
PHF	0.000	0.822	0.000	-	0.822	0.000	0.250	0.938	-	0.943	0.000	0.000	0.250	-	0.250	0.949
Lights	0	169	0	-	169	0	1	179	-	180	0	0	1	-	1	350
% Lights	-	98.8	-	-	98.8	-	100.0	99.4	-	99.4	-	-	100.0	-	100.0	99.2
Other Vehicles	0	2	0	-	2	0	0	1	-	1	0	0	0	-	0	3
% Other Vehicles	-	1.2	-	-	1.2	-	0.0	0.6	-	0.6	-	-	0.0	-	0.0	0.8
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Turning Movement Peak Hour Data Plot (4:00 PM)



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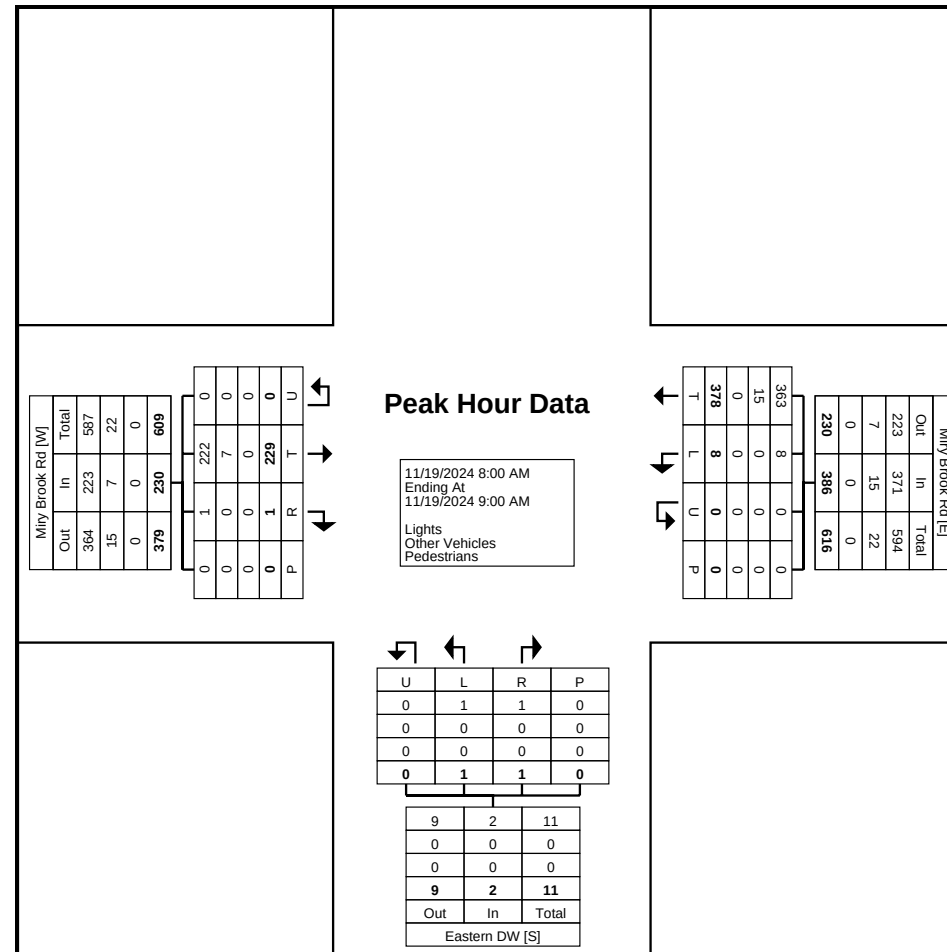
Turning Movement Peak Hour Data (8:00 AM)

Start Time	Miry Brook Rd Eastbound					Miry Brook Rd Westbound					Eastern DW Northbound					Int. Total
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	
8:00 AM	0	61	0	0	61	0	0	93	0	93	0	1	0	0	1	155
8:15 AM	0	42	1	0	43	0	2	84	0	86	0	0	0	0	0	129
8:30 AM	0	58	0	0	58	0	4	99	0	103	0	0	0	0	0	161
8:45 AM	0	68	0	0	68	0	2	102	0	104	0	0	1	0	1	173
Total	0	229	1	0	230	0	8	378	0	386	0	1	1	0	2	618
Approach %	0.0	99.6	0.4	-	-	0.0	2.1	97.9	-	-	0.0	50.0	50.0	-	-	-
Total %	0.0	37.1	0.2	-	37.2	0.0	1.3	61.2	-	62.5	0.0	0.2	0.2	-	0.3	-
PHF	0.000	0.842	0.250	-	0.846	0.000	0.500	0.926	-	0.928	0.000	0.250	0.250	-	0.500	0.893
Lights	0	222	1	-	223	0	8	363	-	371	0	1	1	-	2	596
% Lights	-	96.9	100.0	-	97.0	-	100.0	96.0	-	96.1	-	100.0	100.0	-	100.0	96.4
Other Vehicles	0	7	0	-	7	0	0	15	-	15	0	0	0	-	0	22
% Other Vehicles	-	3.1	0.0	-	3.0	-	0.0	4.0	-	3.9	-	0.0	0.0	-	0.0	3.6
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Turning Movement Peak Hour Data Plot (8:00 AM)



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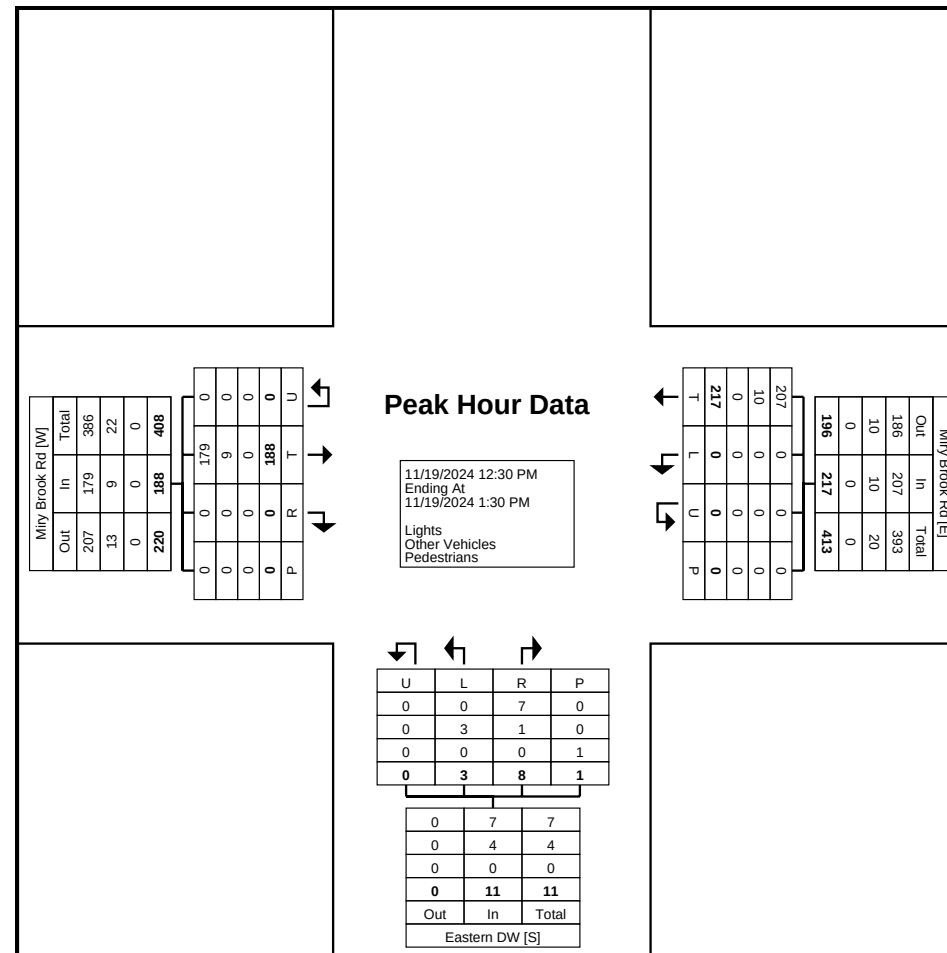
Turning Movement Peak Hour Data (12:30 PM)

Start Time	Miry Brook Rd Eastbound					Miry Brook Rd Westbound					Eastern DW Northbound					Int. Total
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	
12:30 PM	0	46	0	0	46	0	0	45	0	45	0	1	4	1	5	96
12:45 PM	0	51	0	0	51	0	0	67	0	67	0	2	2	0	4	122
1:00 PM	0	38	0	0	38	0	0	51	0	51	0	0	2	0	2	91
1:15 PM	0	53	0	0	53	0	0	54	0	54	0	0	0	0	0	107
Total	0	188	0	0	188	0	0	217	0	217	0	3	8	1	11	416
Approach %	0.0	100.0	0.0	-	-	0.0	0.0	100.0	-	-	0.0	27.3	72.7	-	-	-
Total %	0.0	45.2	0.0	-	45.2	0.0	0.0	52.2	-	52.2	0.0	0.7	1.9	-	2.6	-
PHF	0.000	0.887	0.000	-	0.887	0.000	0.000	0.810	-	0.810	0.000	0.375	0.500	-	0.550	0.852
Lights	0	179	0	-	179	0	0	207	-	207	0	0	7	-	7	393
% Lights	-	95.2	-	-	95.2	-	-	95.4	-	95.4	-	0.0	87.5	-	63.6	94.5
Other Vehicles	0	9	0	-	9	0	0	10	-	10	0	3	1	-	4	23
% Other Vehicles	-	4.8	-	-	4.8	-	-	4.6	-	4.6	-	100.0	12.5	-	36.4	5.5
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



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Turning Movement Peak Hour Data Plot (12:30 PM)



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 Suite 650
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Count Name: Eastern Driveway & Miry Brook Rd
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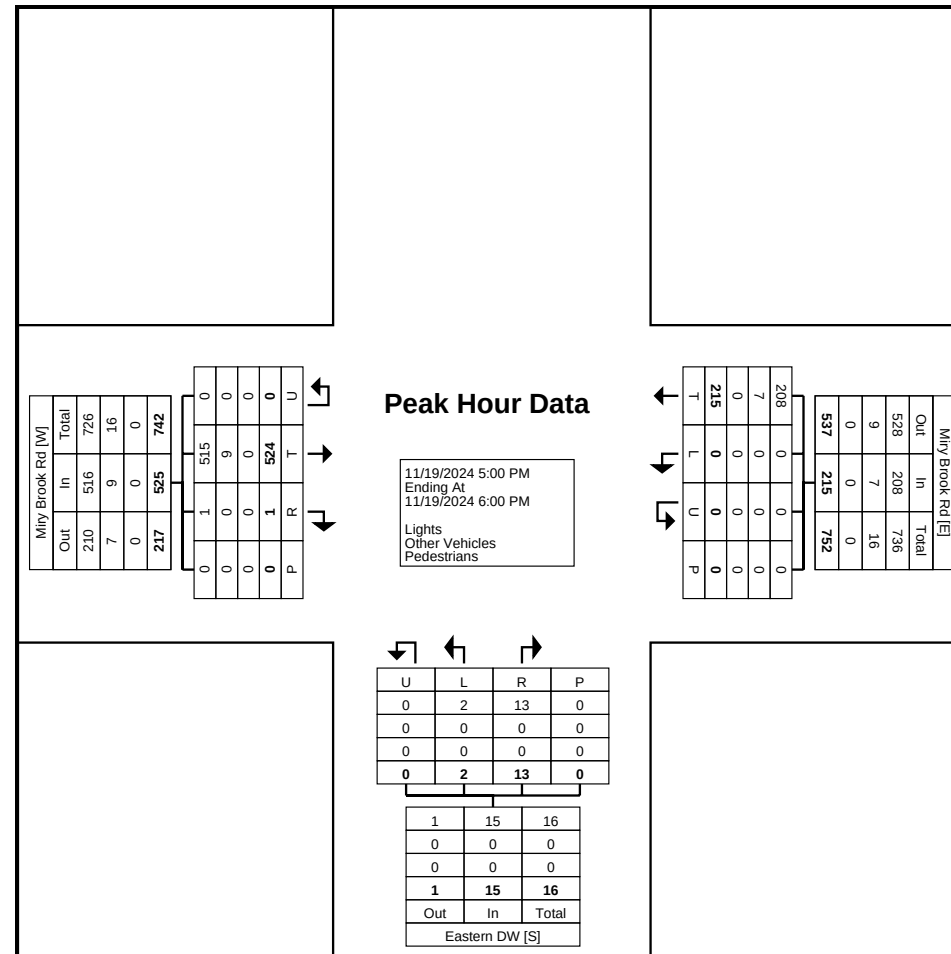
Turning Movement Peak Hour Data (5:00 PM)

Start Time	Miry Brook Rd Eastbound					Miry Brook Rd Westbound					Eastern DW Northbound					Int. Total
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	
5:00 PM	0	139	1	0	140	0	0	64	0	64	0	2	11	0	13	217
5:15 PM	0	118	0	0	118	0	0	69	0	69	0	0	1	0	1	188
5:30 PM	0	139	0	0	139	0	0	49	0	49	0	0	1	0	1	189
5:45 PM	0	128	0	0	128	0	0	33	0	33	0	0	0	0	0	161
Total	0	524	1	0	525	0	0	215	0	215	0	2	13	0	15	755
Approach %	0.0	99.8	0.2	-	-	0.0	0.0	100.0	-	-	0.0	13.3	86.7	-	-	-
Total %	0.0	69.4	0.1	-	69.5	0.0	0.0	28.5	-	28.5	0.0	0.3	1.7	-	2.0	-
PHF	0.000	0.942	0.250	-	0.938	0.000	0.000	0.779	-	0.779	0.000	0.250	0.295	-	0.288	0.870
Lights	0	515	1	-	516	0	0	208	-	208	0	2	13	-	15	739
% Lights	-	98.3	100.0	-	98.3	-	-	96.7	-	96.7	-	100.0	100.0	-	100.0	97.9
Other Vehicles	0	9	0	-	9	0	0	7	-	7	0	0	0	-	0	16
% Other Vehicles	-	1.7	0.0	-	1.7	-	-	3.3	-	3.3	-	0.0	0.0	-	0.0	2.1
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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2500 East High Street
Suite 650
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Turning Movement Peak Hour Data Plot (5:00 PM)



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Count Name: Western Driveway & Miry Brook Rd
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Turning Movement Data

Start Time	Miry Brook Rd Eastbound					Miry Brook Rd Westbound					Western DW Northbound					Int. Total
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	
4:00 PM	0	158	0	0	158	0	0	73	0	73	0	0	0	0	0	231
4:15 PM	0	164	0	0	164	0	0	60	0	60	0	0	1	0	1	225
4:30 PM	0	133	0	0	133	0	0	51	0	51	0	0	0	0	0	184
4:45 PM	0	127	0	0	127	0	0	71	0	71	0	0	0	0	0	198
Hourly Total	0	582	0	0	582	0	0	255	0	255	0	0	1	0	1	838
5:00 PM	0	128	0	0	128	0	0	66	0	66	0	0	1	0	1	195
5:15 PM	0	93	0	0	93	0	0	62	0	62	0	0	1	0	1	156
5:30 PM	0	111	1	0	112	0	0	56	0	56	0	0	0	0	0	168
5:45 PM	0	89	0	0	89	0	0	57	0	57	0	0	0	0	0	146
Hourly Total	0	421	1	0	422	0	0	241	0	241	0	0	2	0	2	665
6:00 PM	0	52	0	0	52	0	0	48	0	48	0	0	0	0	0	100
6:15 PM	0	47	0	0	47	0	0	29	0	29	0	0	0	0	0	76
6:30 PM	0	30	0	0	30	0	0	24	0	24	0	0	0	0	0	54
6:45 PM	0	34	0	0	34	0	0	40	0	40	0	0	0	0	0	74
Hourly Total	0	163	0	0	163	0	0	141	0	141	0	0	0	0	0	304
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	0	36	0	0	36	0	0	42	0	42	0	0	0	0	0	78
11:15 AM	0	35	0	0	35	0	0	34	0	34	0	0	0	0	0	69
11:30 AM	0	33	0	0	33	0	0	29	0	29	0	0	0	0	0	62
11:45 AM	0	37	0	0	37	0	0	57	0	57	0	0	0	0	0	94
Hourly Total	0	141	0	0	141	0	0	162	0	162	0	0	0	0	0	303
12:00 PM	0	53	0	0	53	0	0	49	0	49	0	0	0	0	0	102
12:15 PM	0	48	0	0	48	0	0	51	0	51	0	0	0	0	0	99
12:30 PM	0	46	0	0	46	0	0	57	0	57	0	0	0	0	0	103
12:45 PM	0	40	0	0	40	0	0	37	0	37	0	0	0	0	0	77
Hourly Total	0	187	0	0	187	0	0	194	0	194	0	0	0	0	0	381
1:00 PM	0	42	0	0	42	0	0	45	0	45	0	1	0	0	1	88
1:15 PM	0	43	0	0	43	0	0	39	0	39	0	0	0	0	0	82
1:30 PM	0	40	0	0	40	0	0	50	0	50	0	0	0	0	0	90
1:45 PM	0	41	0	0	41	0	0	50	0	50	0	0	0	0	0	91
Hourly Total	0	166	0	0	166	0	0	184	0	184	0	1	0	0	1	351
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	50	0	0	50	0	0	40	0	40	0	0	0	0	0	90
4:15 PM	0	38	0	0	38	0	0	46	0	46	0	1	0	0	1	85
4:30 PM	0	37	0	0	37	0	0	46	0	46	0	0	0	0	0	83
4:45 PM	0	39	1	0	40	0	0	45	0	45	0	0	0	0	0	85

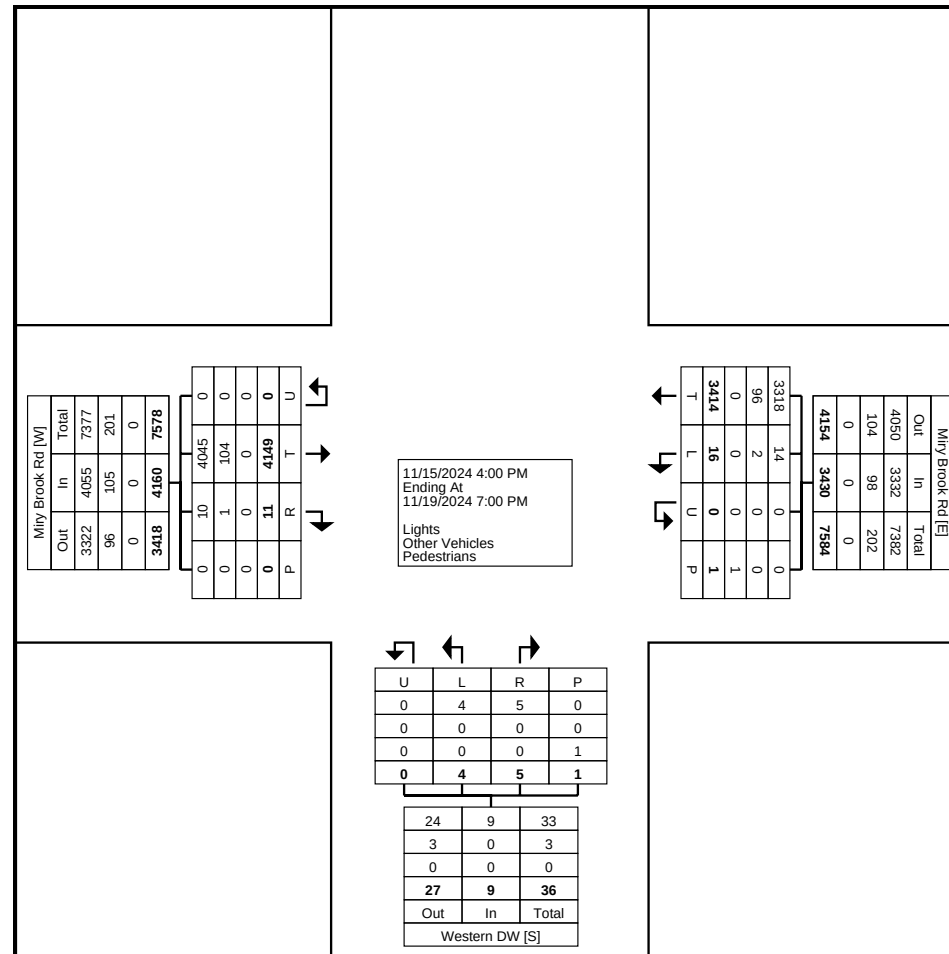
Hourly Total	0	164	1	0	165	0	0	177	0	177	0	1	0	0	1	343
5:00 PM	0	33	0	0	33	0	0	31	0	31	0	0	0	0	0	64
5:15 PM	0	37	0	0	37	0	0	33	0	33	0	0	0	0	0	70
5:30 PM	0	26	0	0	26	0	0	43	0	43	0	0	0	0	0	69
5:45 PM	0	32	0	0	32	0	0	37	0	37	0	0	1	0	1	70
Hourly Total	0	128	0	0	128	0	0	144	0	144	0	0	1	0	1	273
6:00 PM	0	41	0	0	41	0	0	22	0	22	0	0	0	0	0	63
6:15 PM	0	22	0	0	22	0	0	22	0	22	0	0	0	0	0	44
6:30 PM	0	27	0	0	27	0	1	32	0	33	0	0	0	0	0	60
6:45 PM	0	18	0	0	18	0	1	24	0	25	0	0	0	0	0	43
Hourly Total	0	108	0	0	108	0	2	100	0	102	0	0	0	0	0	210
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7:00 AM	0	49	0	0	49	0	0	47	0	47	0	0	0	0	0	96
7:15 AM	0	49	0	0	49	0	1	60	0	61	0	0	0	0	0	110
7:30 AM	0	50	0	0	50	0	0	76	0	76	0	0	0	0	0	126
7:45 AM	0	59	0	0	59	0	0	102	0	102	0	0	0	0	0	161
Hourly Total	0	207	0	0	207	0	1	285	0	286	0	0	0	0	0	493
8:00 AM	0	59	1	0	60	0	3	83	0	86	0	0	0	0	0	146
8:15 AM	0	43	1	0	44	0	1	82	0	83	0	0	0	0	0	127
8:30 AM	0	57	0	0	57	0	2	93	0	95	0	0	0	0	0	152
8:45 AM	0	65	0	0	65	0	1	94	0	95	0	0	0	0	0	160
Hourly Total	0	224	2	0	226	0	7	352	0	359	0	0	0	0	0	585
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	0	40	1	0	41	0	0	35	0	35	0	0	0	0	0	76
11:15 AM	0	37	0	0	37	0	0	42	0	42	0	0	0	0	0	79
11:30 AM	0	55	0	0	55	0	0	48	0	48	0	0	0	0	0	103
11:45 AM	0	51	0	0	51	0	1	36	0	37	0	0	0	0	0	88
Hourly Total	0	183	1	0	184	0	1	161	0	162	0	0	0	0	0	346
12:00 PM	0	38	0	0	38	0	0	45	0	45	0	0	0	0	0	83
12:15 PM	0	39	0	0	39	0	0	35	0	35	0	0	0	0	0	74
12:30 PM	0	46	2	0	48	0	0	46	1	46	0	1	0	0	1	95
12:45 PM	0	51	1	0	52	0	2	70	0	72	0	0	0	0	0	124
Hourly Total	0	174	3	0	177	0	2	196	1	198	0	1	0	0	1	376
1:00 PM	0	37	1	0	38	0	0	50	0	50	0	0	0	0	0	88
1:15 PM	0	52	0	0	52	0	0	54	0	54	0	0	0	0	0	106
1:30 PM	0	47	0	0	47	0	0	39	0	39	0	0	0	1	0	86
1:45 PM	0	41	1	0	42	0	1	59	0	60	0	0	0	0	0	102
Hourly Total	0	177	2	0	179	0	1	202	0	203	0	0	0	1	0	382
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	116	1	0	117	0	1	67	0	68	0	1	0	0	1	186
4:15 PM	0	96	0	0	96	0	0	60	0	60	0	0	0	0	0	156
4:30 PM	0	108	0	0	108	0	1	48	0	49	0	0	0	0	0	157
4:45 PM	0	86	0	0	86	0	0	62	0	62	0	0	0	0	0	148
Hourly Total	0	406	1	0	407	0	2	237	0	239	0	1	0	0	1	647
5:00 PM	0	135	0	0	135	0	0	63	0	63	0	0	0	0	0	198
5:15 PM	0	112	0	0	112	0	0	65	0	65	0	0	0	0	0	177
5:30 PM	0	139	0	0	139	0	0	46	0	46	0	0	1	0	1	186
5:45 PM	0	133	0	0	133	0	0	33	0	33	0	0	0	0	0	166
Hourly Total	0	519	0	0	519	0	0	207	0	207	0	0	1	0	1	727
6:00 PM	0	65	0	0	65	0	0	57	0	57	0	0	0	0	0	122
6:15 PM	0	69	0	0	69	0	0	37	0	37	0	0	0	0	0	106
6:30 PM	0	38	0	0	38	0	0	46	0	46	0	0	0	0	0	84

6:45 PM	0	27	0	0	27	0	0	36	0	36	0	0	0	0	0	63
Hourly Total	0	199	0	0	199	0	0	176	0	176	0	0	0	0	0	375
Grand Total	0	4149	11	0	4160	0	16	3414	1	3430	0	4	5	1	9	7599
Approach %	0.0	99.7	0.3	-	-	0.0	0.5	99.5	-	-	0.0	44.4	55.6	-	-	-
Total %	0.0	54.6	0.1	-	54.7	0.0	0.2	44.9	-	45.1	0.0	0.1	0.1	-	0.1	-
Lights	0	4045	10	-	4055	0	14	3318	-	3332	0	4	5	-	9	7396
% Lights	-	97.5	90.9	-	97.5	-	87.5	97.2	-	97.1	-	100.0	100.0	-	100.0	97.3
Other Vehicles	0	104	1	-	105	0	2	96	-	98	0	0	0	-	0	203
% Other Vehicles	-	2.5	9.1	-	2.5	-	12.5	2.8	-	2.9	-	0.0	0.0	-	0.0	2.7
Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-



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2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 tcooney@trafficpd.com

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Turning Movement Data Plot



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2500 East High Street
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Pottstown, Pennsylvania, United States 19464
610.326.3100 tcooney@trafficpd.com

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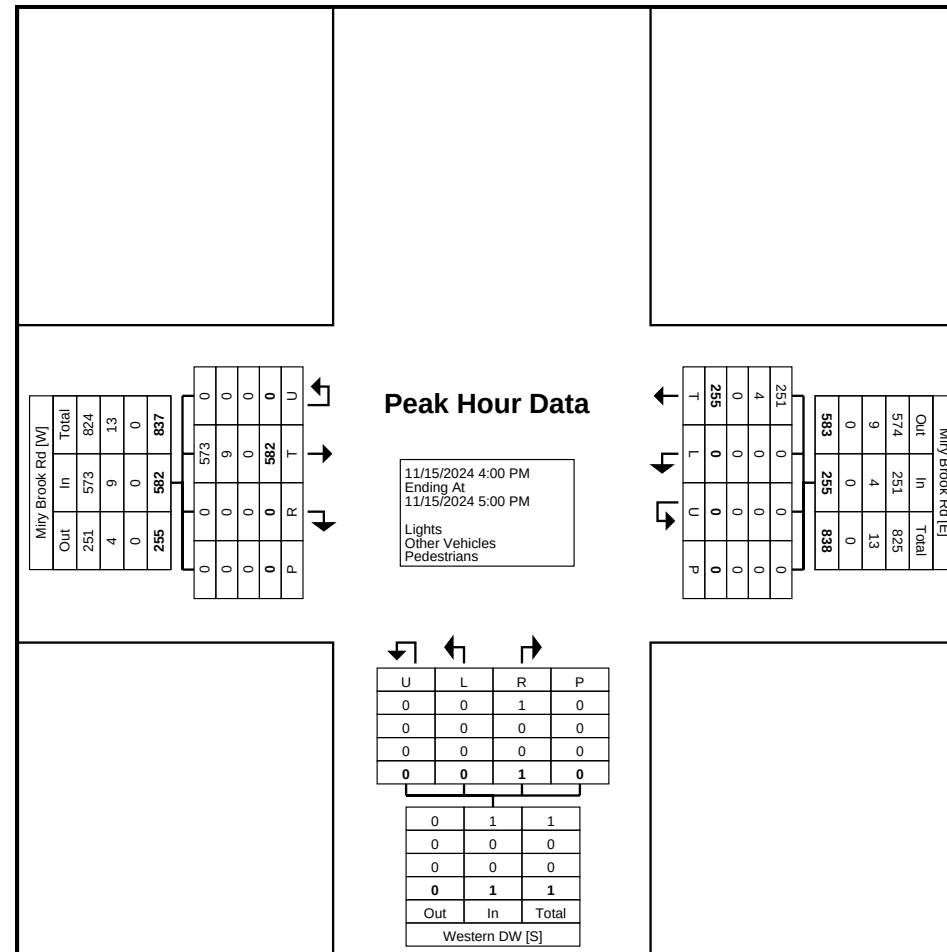
Turning Movement Peak Hour Data (4:00 PM)

Start Time	Miry Brook Rd Eastbound					Miry Brook Rd Westbound					Western DW Northbound					Int. Total
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	
4:00 PM	0	158	0	0	158	0	0	73	0	73	0	0	0	0	0	231
4:15 PM	0	164	0	0	164	0	0	60	0	60	0	0	1	0	1	225
4:30 PM	0	133	0	0	133	0	0	51	0	51	0	0	0	0	0	184
4:45 PM	0	127	0	0	127	0	0	71	0	71	0	0	0	0	0	198
Total	0	582	0	0	582	0	0	255	0	255	0	0	1	0	1	838
Approach %	0.0	100.0	0.0	-	-	0.0	0.0	100.0	-	-	0.0	0.0	100.0	-	-	-
Total %	0.0	69.5	0.0	-	69.5	0.0	0.0	30.4	-	30.4	0.0	0.0	0.1	-	0.1	-
PHF	0.000	0.887	0.000	-	0.887	0.000	0.000	0.873	-	0.873	0.000	0.000	0.250	-	0.250	0.907
Lights	0	573	0	-	573	0	0	251	-	251	0	0	1	-	1	825
% Lights	-	98.5	-	-	98.5	-	-	98.4	-	98.4	-	-	100.0	-	100.0	98.4
Other Vehicles	0	9	0	-	9	0	0	4	-	4	0	0	0	-	0	13
% Other Vehicles	-	1.5	-	-	1.5	-	-	1.6	-	1.6	-	-	0.0	-	0.0	1.6
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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610.326.3100 tcooney@trafficpd.com

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Turning Movement Peak Hour Data Plot (4:00 PM)



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 2500 East High Street
 Suite 650
 Pottstown, Pennsylvania, United States 19464
 610.326.3100 tcooney@trafficpd.com

Count Name: Western Driveway & Miry Brook Rd
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Turning Movement Peak Hour Data (11:45 AM)

Start Time	Miry Brook Rd Eastbound					Miry Brook Rd Westbound					Western DW Northbound					Int. Total
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	
11:45 AM	0	37	0	0	37	0	0	57	0	57	0	0	0	0	0	94
12:00 PM	0	53	0	0	53	0	0	49	0	49	0	0	0	0	0	102
12:15 PM	0	48	0	0	48	0	0	51	0	51	0	0	0	0	0	99
12:30 PM	0	46	0	0	46	0	0	57	0	57	0	0	0	0	0	103
Total	0	184	0	0	184	0	0	214	0	214	0	0	0	0	0	398
Approach %	0.0	100.0	0.0	-	-	0.0	0.0	100.0	-	-	0.0	0.0	0.0	-	-	-
Total %	0.0	46.2	0.0	-	46.2	0.0	0.0	53.8	-	53.8	0.0	0.0	0.0	-	0.0	-
PHF	0.000	0.868	0.000	-	0.868	0.000	0.000	0.939	-	0.939	0.000	0.000	0.000	-	0.000	0.966
Lights	0	182	0	-	182	0	0	210	-	210	0	0	0	-	0	392
% Lights	-	98.9	-	-	98.9	-	-	98.1	-	98.1	-	-	-	-	-	98.5
Other Vehicles	0	2	0	-	2	0	0	4	-	4	0	0	0	-	0	6
% Other Vehicles	-	1.1	-	-	1.1	-	-	1.9	-	1.9	-	-	-	-	-	1.5
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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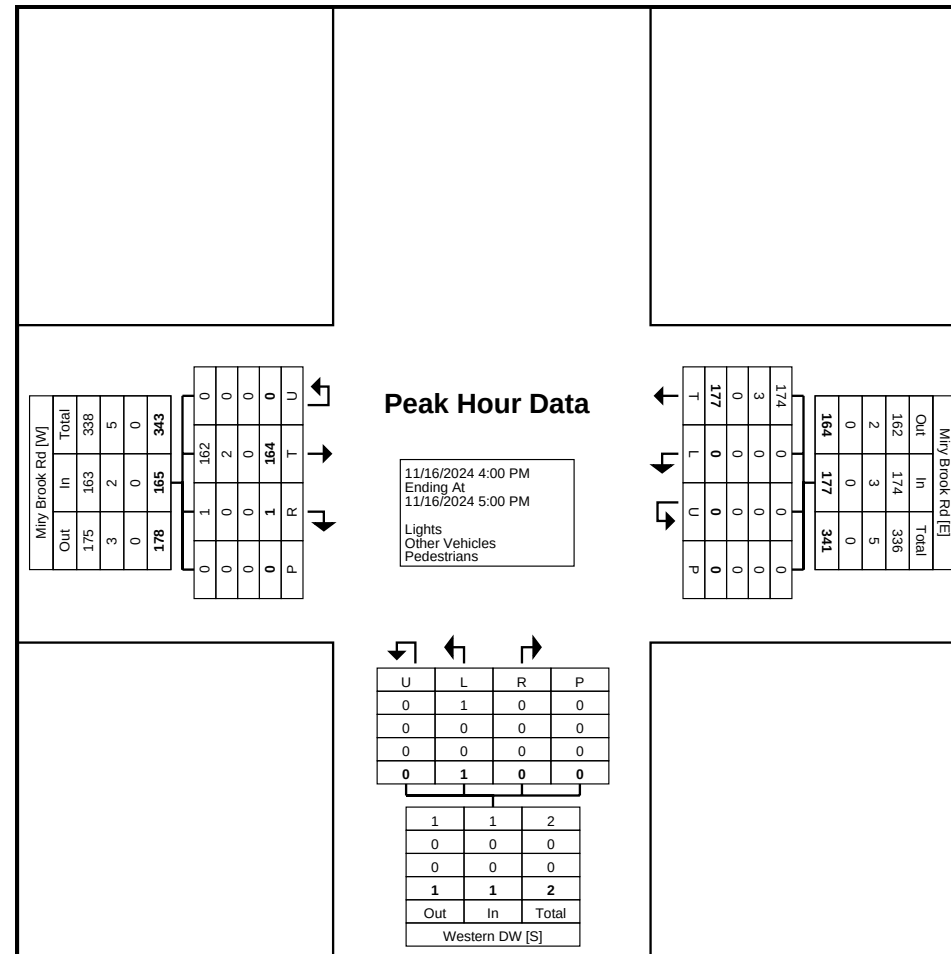
Turning Movement Peak Hour Data (4:00 PM)

Start Time	Miry Brook Rd Eastbound					Miry Brook Rd Westbound					Western DW Northbound					Int. Total
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	
4:00 PM	0	50	0	0	50	0	0	40	0	40	0	0	0	0	0	90
4:15 PM	0	38	0	0	38	0	0	46	0	46	0	1	0	0	1	85
4:30 PM	0	37	0	0	37	0	0	46	0	46	0	0	0	0	0	83
4:45 PM	0	39	1	0	40	0	0	45	0	45	0	0	0	0	0	85
Total	0	164	1	0	165	0	0	177	0	177	0	1	0	0	1	343
Approach %	0.0	99.4	0.6	-	-	0.0	0.0	100.0	-	-	0.0	100.0	0.0	-	-	-
Total %	0.0	47.8	0.3	-	48.1	0.0	0.0	51.6	-	51.6	0.0	0.3	0.0	-	0.3	-
PHF	0.000	0.820	0.250	-	0.825	0.000	0.000	0.962	-	0.962	0.000	0.250	0.000	-	0.250	0.953
Lights	0	162	1	-	163	0	0	174	-	174	0	1	0	-	1	338
% Lights	-	98.8	100.0	-	98.8	-	-	98.3	-	98.3	-	100.0	-	-	100.0	98.5
Other Vehicles	0	2	0	-	2	0	0	3	-	3	0	0	0	-	0	5
% Other Vehicles	-	1.2	0.0	-	1.2	-	-	1.7	-	1.7	-	0.0	-	-	0.0	1.5
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 tcooney@trafficpd.com

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Turning Movement Peak Hour Data Plot (4:00 PM)



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2500 East High Street
Suite 650
Pottstown, Pennsylvania, United States 19464
610.326.3100 tcooney@trafficpd.com

Count Name: Western Driveway & Miry Brook Rd
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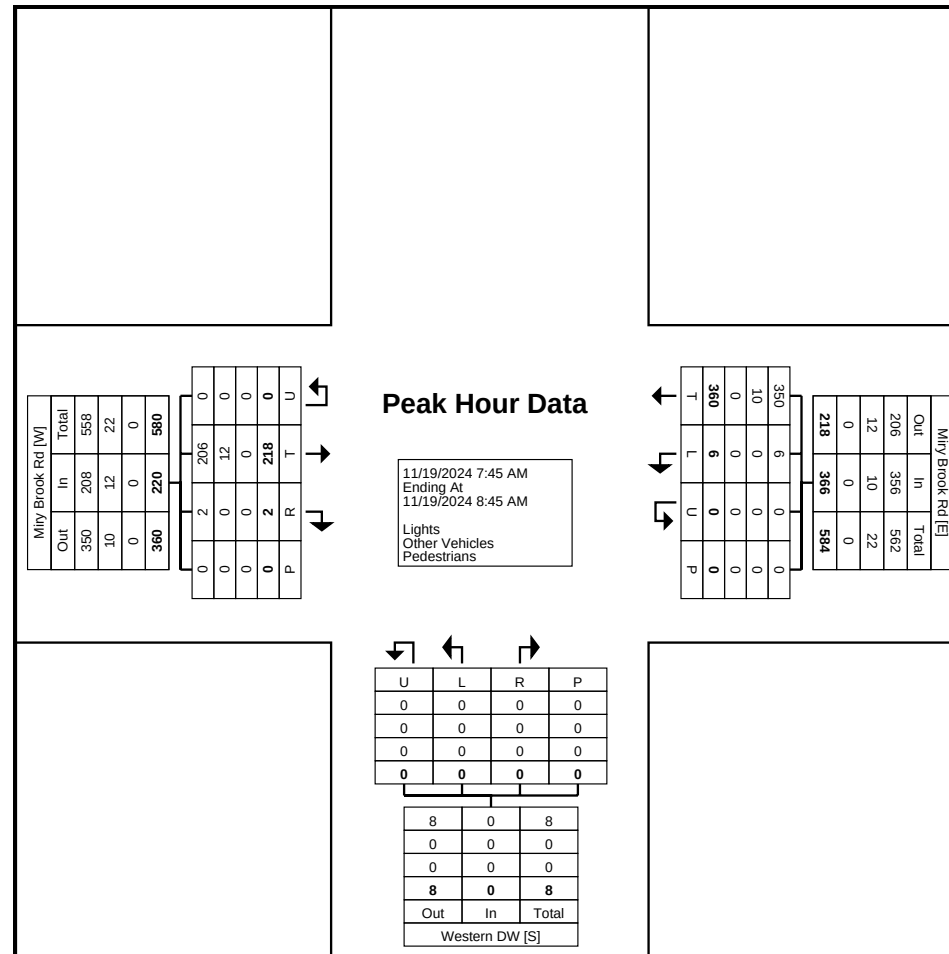
Turning Movement Peak Hour Data (7:45 AM)

Start Time	Miry Brook Rd Eastbound					Miry Brook Rd Westbound					Western DW Northbound					Int. Total
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	
7:45 AM	0	59	0	0	59	0	0	102	0	102	0	0	0	0	0	161
8:00 AM	0	59	1	0	60	0	3	83	0	86	0	0	0	0	0	146
8:15 AM	0	43	1	0	44	0	1	82	0	83	0	0	0	0	0	127
8:30 AM	0	57	0	0	57	0	2	93	0	95	0	0	0	0	0	152
Total	0	218	2	0	220	0	6	360	0	366	0	0	0	0	0	586
Approach %	0.0	99.1	0.9	-	-	0.0	1.6	98.4	-	-	0.0	0.0	0.0	-	-	-
Total %	0.0	37.2	0.3	-	37.5	0.0	1.0	61.4	-	62.5	0.0	0.0	0.0	-	0.0	-
PHF	0.000	0.924	0.500	-	0.917	0.000	0.500	0.882	-	0.897	0.000	0.000	0.000	-	0.000	0.910
Lights	0	206	2	-	208	0	6	350	-	356	0	0	0	-	0	564
% Lights	-	94.5	100.0	-	94.5	-	100.0	97.2	-	97.3	-	-	-	-	-	96.2
Other Vehicles	0	12	0	-	12	0	0	10	-	10	0	0	0	-	0	22
% Other Vehicles	-	5.5	0.0	-	5.5	-	0.0	2.8	-	2.7	-	-	-	-	-	3.8
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Turning Movement Peak Hour Data Plot (7:45 AM)



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Count Name: Western Driveway & Miry Brook Rd
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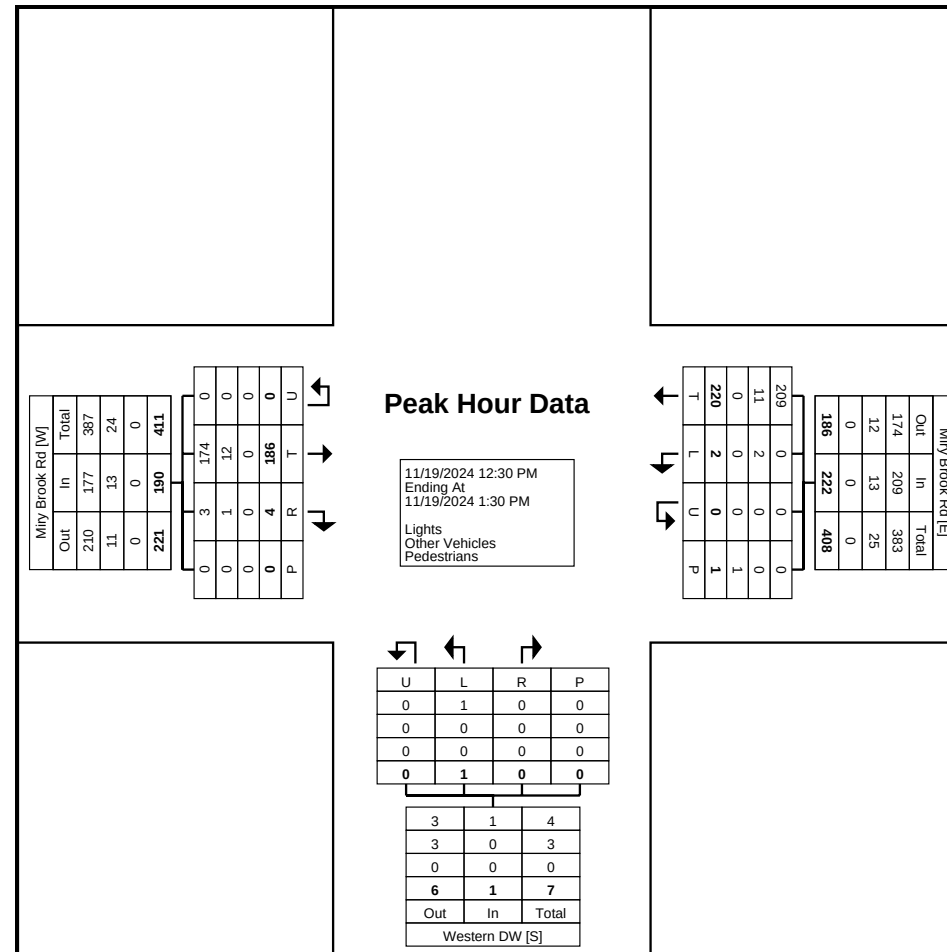
Turning Movement Peak Hour Data (12:30 PM)

Start Time	Miry Brook Rd Eastbound					Miry Brook Rd Westbound					Western DW Northbound					Int. Total
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	
12:30 PM	0	46	2	0	48	0	0	46	1	46	0	1	0	0	1	95
12:45 PM	0	51	1	0	52	0	2	70	0	72	0	0	0	0	0	124
1:00 PM	0	37	1	0	38	0	0	50	0	50	0	0	0	0	0	88
1:15 PM	0	52	0	0	52	0	0	54	0	54	0	0	0	0	0	106
Total	0	186	4	0	190	0	2	220	1	222	0	1	0	0	1	413
Approach %	0.0	97.9	2.1	-	-	0.0	0.9	99.1	-	-	0.0	100.0	0.0	-	-	-
Total %	0.0	45.0	1.0	-	46.0	0.0	0.5	53.3	-	53.8	0.0	0.2	0.0	-	0.2	-
PHF	0.000	0.894	0.500	-	0.913	0.000	0.250	0.786	-	0.771	0.000	0.250	0.000	-	0.250	0.833
Lights	0	174	3	-	177	0	0	209	-	209	0	1	0	-	1	387
% Lights	-	93.5	75.0	-	93.2	-	0.0	95.0	-	94.1	-	100.0	-	-	100.0	93.7
Other Vehicles	0	12	1	-	13	0	2	11	-	13	0	0	0	-	0	26
% Other Vehicles	-	6.5	25.0	-	6.8	-	100.0	5.0	-	5.9	-	0.0	-	-	0.0	6.3
Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-



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Turning Movement Peak Hour Data Plot (12:30 PM)



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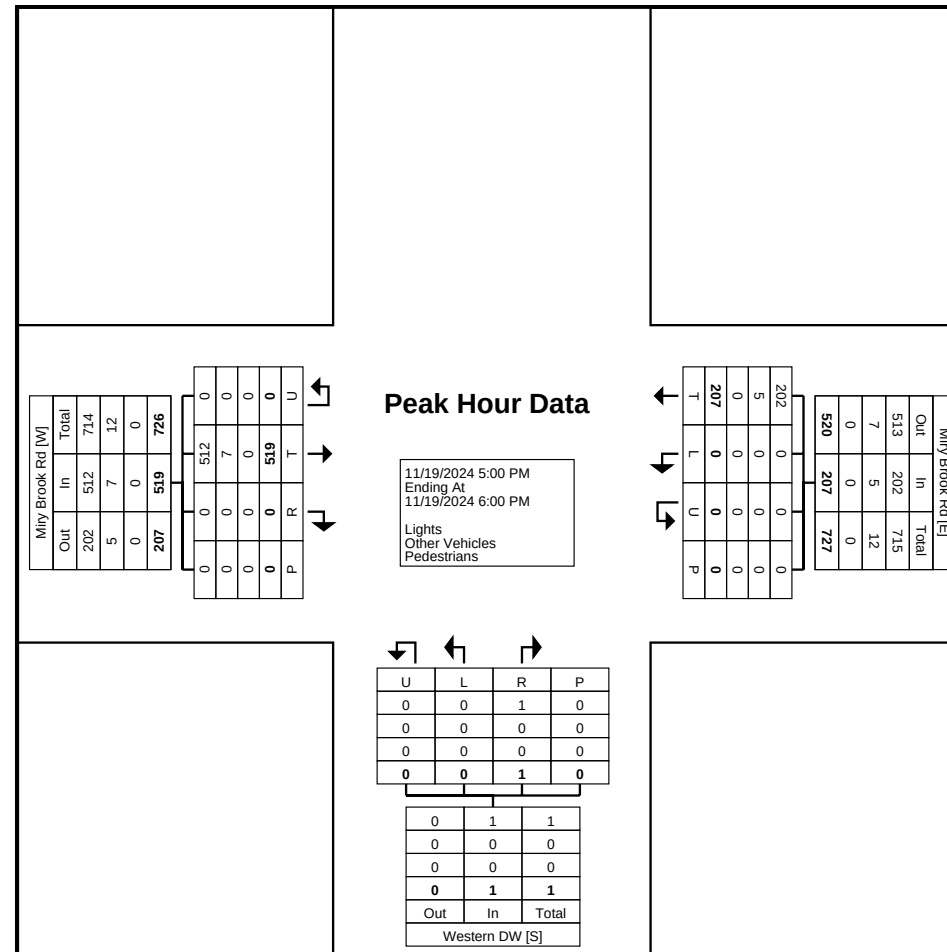
Turning Movement Peak Hour Data (5:00 PM)

Start Time	Miry Brook Rd Eastbound					Miry Brook Rd Westbound					Western DW Northbound					Int. Total
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	
5:00 PM	0	135	0	0	135	0	0	63	0	63	0	0	0	0	0	198
5:15 PM	0	112	0	0	112	0	0	65	0	65	0	0	0	0	0	177
5:30 PM	0	139	0	0	139	0	0	46	0	46	0	0	1	0	1	186
5:45 PM	0	133	0	0	133	0	0	33	0	33	0	0	0	0	0	166
Total	0	519	0	0	519	0	0	207	0	207	0	0	1	0	1	727
Approach %	0.0	100.0	0.0	-	-	0.0	0.0	100.0	-	-	0.0	0.0	100.0	-	-	-
Total %	0.0	71.4	0.0	-	71.4	0.0	0.0	28.5	-	28.5	0.0	0.0	0.1	-	0.1	-
PHF	0.000	0.933	0.000	-	0.933	0.000	0.000	0.796	-	0.796	0.000	0.000	0.250	-	0.250	0.918
Lights	0	512	0	-	512	0	0	202	-	202	0	0	1	-	1	715
% Lights	-	98.7	-	-	98.7	-	-	97.6	-	97.6	-	-	100.0	-	100.0	98.3
Other Vehicles	0	7	0	-	7	0	0	5	-	5	0	0	0	-	0	12
% Other Vehicles	-	1.3	-	-	1.3	-	-	2.4	-	2.4	-	-	0.0	-	0.0	1.7
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Turning Movement Peak Hour Data Plot (5:00 PM)

Land Use: 140

Manufacturing

Description

A manufacturing facility is an area where the primary activity is the conversion of raw materials or parts into finished products. Size and type of activity may vary substantially from one facility to another. In addition to the actual production of goods, a manufacturing facility typically has an office and may provide space for warehouse, research, and associated functions. General light industrial (Land Use 110) and industrial park (Land Use 130) are related uses.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Minnesota, Missouri, New Jersey, New York, Oregon, Pennsylvania, South Dakota, Texas, Vermont, Washington, and West Virginia.

Source Numbers

177, 179, 184, 241, 357, 384, 418, 443, 583, 598, 611, 728, 747, 875, 879, 940, 969, 1067, 1068, 1082

Manufacturing (140)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 48

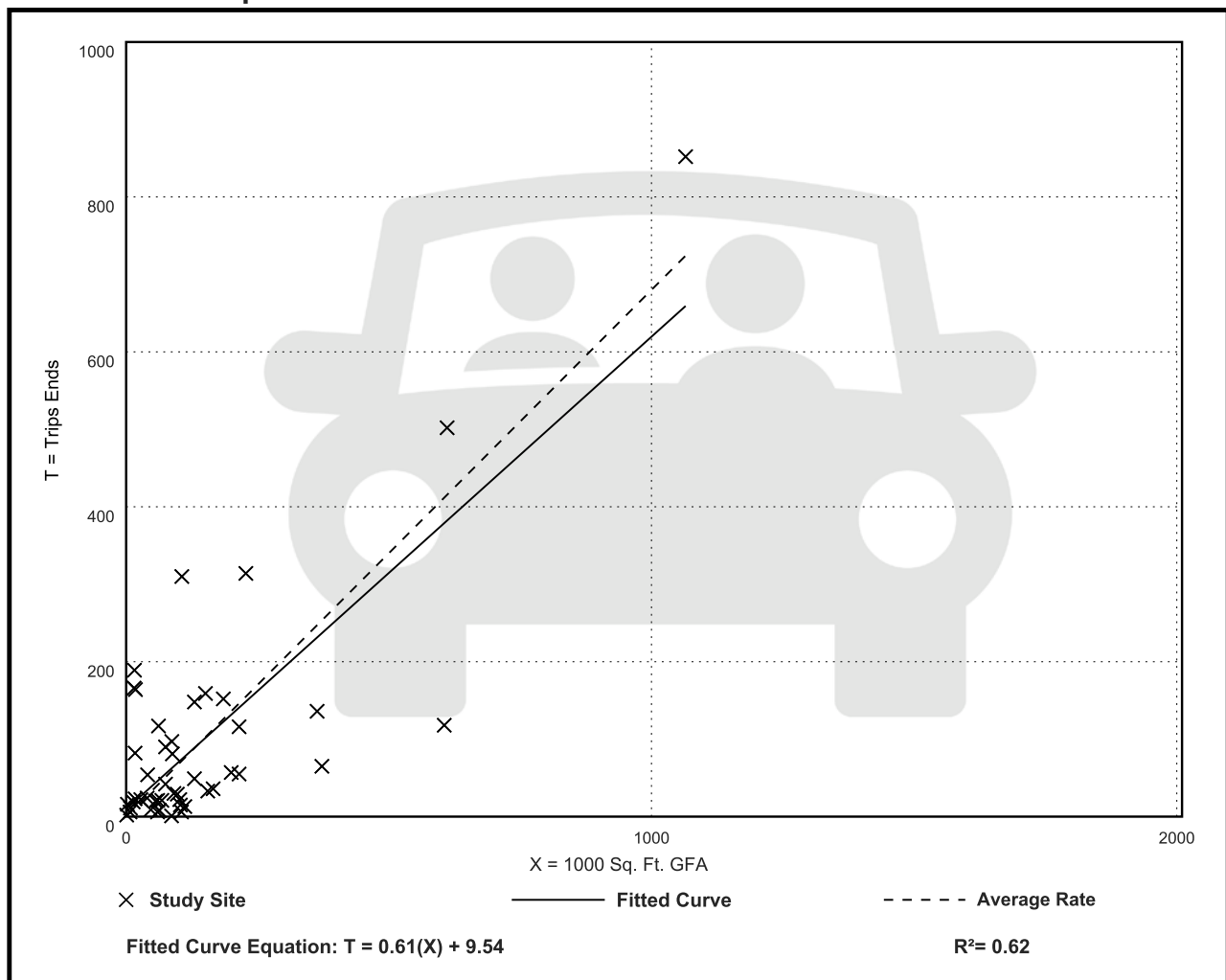
Avg. 1000 Sq. Ft. GFA: 138

Directional Distribution: 76% entering, 24% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.68	0.01 - 11.93	1.03

Data Plot and Equation



Manufacturing (140)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

AM Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 62

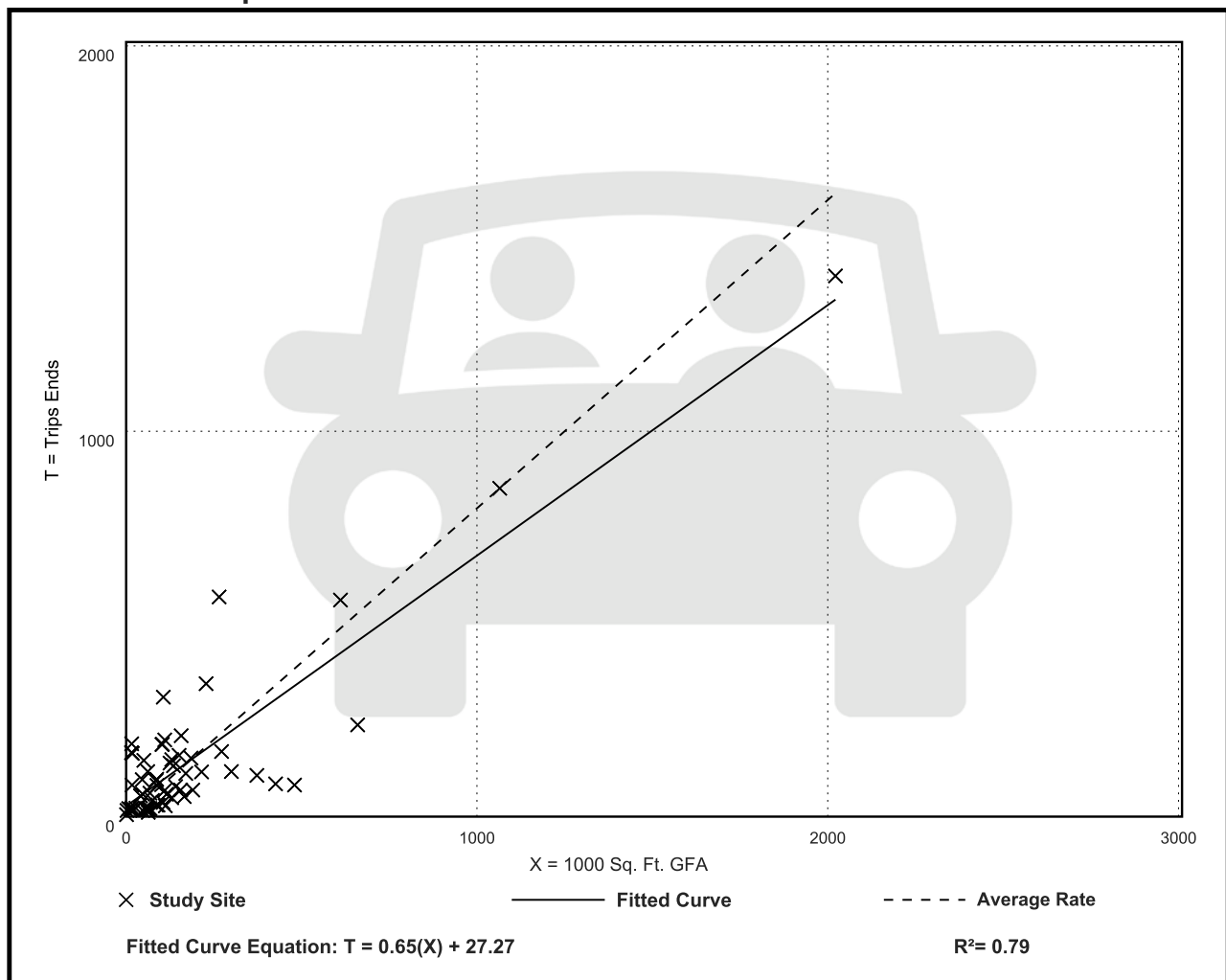
Avg. 1000 Sq. Ft. GFA: 178

Directional Distribution: 73% entering, 27% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.80	0.17 - 11.93	0.87

Data Plot and Equation



Manufacturing (140)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 55

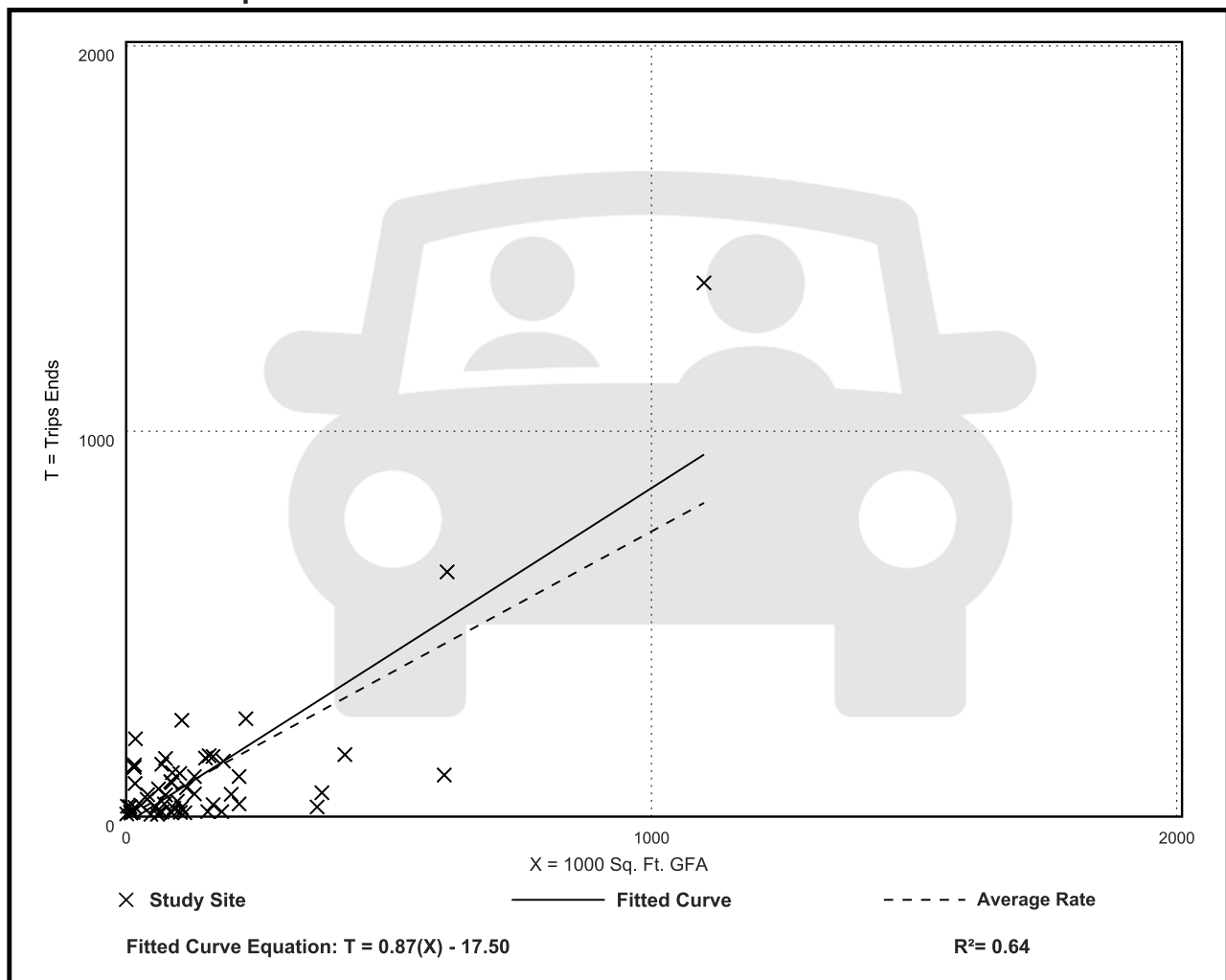
Avg. 1000 Sq. Ft. GFA: 142

Directional Distribution: 31% entering, 69% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.74	0.07 - 11.37	0.93

Data Plot and Equation



Manufacturing (140)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban

Number of Studies: 5

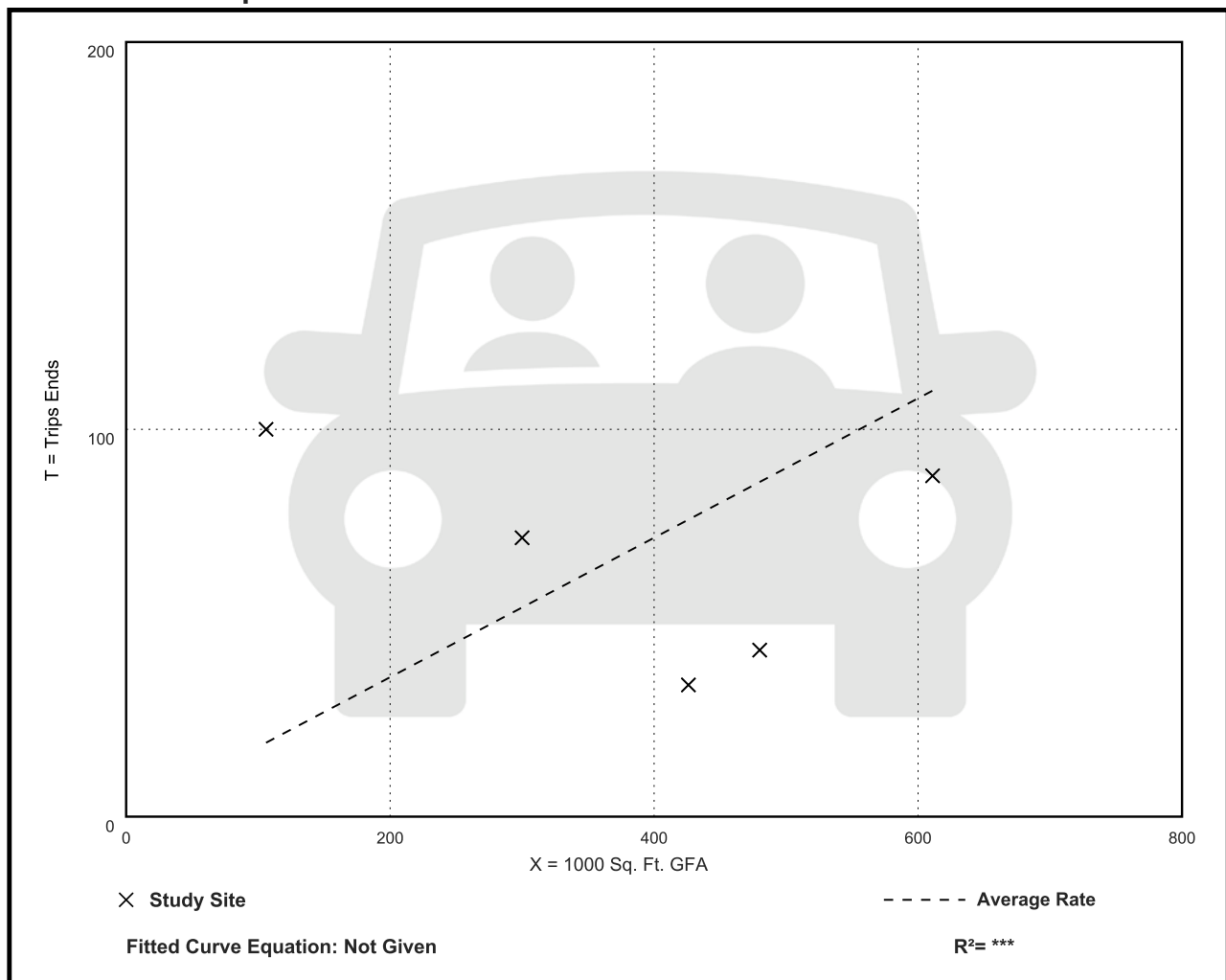
Avg. 1000 Sq. Ft. GFA: 385

Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.18	0.08 - 0.94	0.22

Data Plot and Equation



PLANNING & ZONING COMMISSION
125 EAST AVENUE
P.O. BOX 5125
NORWALK, CONNECTICUT 06856-5125

REQUIREMENTS FOR SUBMISSION OF ZONING AMENDMENT APPLICATION

APPLICATION INFORMATION (3 HARD COPIES AND A DIGITAL COPY REQUIRED)

1. **Fee: \$1,060.00**
Submitted herewith.
2. **Applicant's name and address**
Norwalk Center, LLC & The Auto Collective
45 Main Street
Brooklyn, NY 11201
3. **Street address of applicant's property affected by proposed amendment and district, block and lot number. Applications for amendments which are accompanied by a site plan, special permit or zone change shall list all adjoining property owners and all property owners directly across the street from the subject property.**
10 Norden Place
Norwalk, Connecticut 06855
Assessor's Map No. 22SE, 22SW
District 3, Block 17, Lot 40
See Schedule A list of abutting property owners attached hereto and made a part hereof.
4. **Provide the text of the proposed amendment, including appropriate article, section and paragraph references, and a written narrative with reasons for the requested change in the zoning regulations and the effect upon other similarly zoned areas of the city, if such change were approved.**
See Schedules B & C attached hereto and made a part hereof.
5. **Provide a zoning history of the property and its adjacent area, beginning in 1929, and the current Plan of Development category for the property.**
See Schedule D attached hereto and made a part hereof.
6. **Provide dates of any previous zoning amendments or map changes, special exceptions, and/or variances requested for same property or portion thereof, including the file name and number and a copy of any variances(s) requested and granted.**
See Schedule D attached hereto and made a part hereof.

7. **Provide maps of area in the vicinity of the applicant's property and all other properties with 500' radius (1" = 100') showing:**

- a. **Current zoning of all property**
- b. **All other property within 500' radius owned by the applicant**
- c. **All properties that will become nonconforming uses as a result of the requested change.**

Refer to "500' Property Abutters Map" dated January 13, 2025 prepared by Tighe & Bond, attached hereto and made a part hereof as Schedule E. Three (3) copies submitted herewith.

8. **Provide a map of the city showing all zones affected by the zoning amendment including a calculation of the areas involved.**

Refer to highlighted copies of City of Norwalk Zoning Map attached hereto and made a part hereof as Schedule F. Three (3) copies submitted herewith.

9. **PUBLIC ACT NO. 95-320 requires that approval of building applications be withheld when taxes are delinquent for a property. Please stop at the Tax Collector's Office (Rom 105) to get written confirmation of your tax status before submitting an application for zoning approval. Copies of the form are available in the Planning & Zoning and Tax Collector's Offices.**

Submitted herewith.

10. **Notice Requirements.**

If the amendment is accompanied by a site plan or special permit application, the applicant shall notify by certified mail, return receipt requested at least ten (10) days prior to the public hearing, the owners of land which abut or are directly across the street from the area affected by the amendment or site plan. The names of the owners shall be taken from the latest Tax Assessor records. When a condominium is located within, across the street, or abuts the subject parcel, notification may be sent to the condominium association in lieu of the individual unit owners. Evidence of certified mailings shall be submitted by the application on or before the public hearing date.

11. **Traffic & Drainage Reports: Applicants which will have a significant impact upon drainage or traffic conditions shall include the following information, computed on the basis of any of the uses the zoning would allow, calculated on the maximum development potential of the site, and upon the contemplated development, if any. (Eleven copies required).**

Refer to "Traffic Letter Report" dated February 13, 2025 prepared by TPD Inc., attached hereto and made a part hereof. A new stormwater detention system is proposed in the northern section of the Property in the area of the entrance to the car club space. (Refer to "Engineering Report" dated February 19, 2025 prepared by Tighe & Bond, attached hereto.)

Respectfully submitted this the 25th day of February 2025.

Norwalk Center, LLC & The Auto Collective

By 

Carmody Torrance Sandak & Hennessey LLP

Elizabeth A.B. Suchy, Esq.

1055 Washington Boulevard, 4th Floor

Stamford, CT 06901

Phone: (203) 425-4200

Fax: (203) 325-8608

Counsel for the Applicant

NORWALK CENTER, LLC AND THE AUTO COLLECTIVE
10 NORDEN PLACE, NORWALK, CT
APPLICATION FOR ZONE TEXT AMENDMENT
LIST OF PROPERTY OWNERS WITHIN 100' OF SUBJECT PROPERTY
SCHEDULE A

- | | | |
|--|--|--|
| 1.
3/17/144
Norden Place Owner, LLC
8 Norden Place
Norwalk, CT 06855 | 2.
Norden Place Owner, LLC
c/o DSF Advisors, LLC
341 Newbury Street, 4th Floor
Boston, MA 02115-2710 | 3.
3/17/40A
Norwalk Center, LLC
10 Norden Place #A
Norwalk, CT 06855 |
| 4.
Norwalk Center, LLC
One International Place, Suite 1840
c/o Ryan
Boston, MA 02110 | 5.
3/17/40B
Capitol DC Assets LLC
10 Norden Place #B
Norwalk, CT 06855 | 6.
Capitol DC Assets LLC
5 Bryant Park, 28th Floor
New York, NY 10018 |
| 7.
3/17/34/52
Kevin M. Adamcik & Frances E. Adamcik
11 Norden Place, Unit #52
Norwalk, CT 06855 | 8.
3/17/34/22
Leonardo A. Arana
11 Norden Place, Unit #22
Norwalk, CT 06855-1448 | 9.
3/17/34/15
Guerlyth Aranzazu
11 Norden Place, Unit #15
Norwalk, CT 06855 |
| 10.
3/17/34/8
Melissa Hammett
11 Norden Place, Unit #8
Norwalk, CT 06855-1446 | 11.
3/17/34/49
Charles D. Bush & Dollie M. Bush
11 Norden Place, Unit #49
Norwalk, CT 06855 | 12.
3/17/34/42
John F. Cadavid & Carmen C. Cadavid
11 Norden Place, Unit #42
Norwalk, CT 06855 |
| 13.
3/17/34/23
Maynely A. Rodriguez
Eddy De Jesus Lopez
11 Norden Place, Unit #23
Norwalk, CT 06855 | 14.
3/17/34/16
Roy Calitri
11 Norden Place, Unit #16
Norwalk, CT 06855 | 15.
Roy Calitri
c/o Schutte
8986 36th Street SE
Ada, MI 49301 |
| 16.
3/17/34/44
Denise M. Carter-Stanley
11 Norden Place, Unit #44
Norwalk, CT 06855 | 17.
3/17/34/36
John J. Carvajal & Gloria Carvajal
11 Norden Place, Unit #36
Norwalk, CT 06855 | 18.
3/17/34/4
Marcy Demby
11 Norden Place, Unit #4
Norwalk, CT 06855-1416 |
| 19.
3/17/34/6
Catherine Dormeville
11 Norden Place, Unit #6
Norwalk, CT 06855 | 20.
3/17/34/12
Cynthia A. Frank
11 Norden Place, Unit #12
Norwalk, CT 06855 | 21.
3/17/34/31
Dennis Fulton & Deborah Fulton
11 Norden Place, Unit #31
Norwalk, CT 06855 |
| 22.
3/17/34/53
John M. Gabriele
11 Norden Place, Unit #53
Norwalk, CT 06855 | 23.
3/17/34/26
Aleyda Gonzalez
11 Norden Place, Unit #32
Norwalk, CT 06855 | 24.
3/17/34/35
Aldwin Gordon
11 Norden Place, Unit #35
Norwalk, CT 06855 |
| 25.
3/17/34/43
Raul Hernandez & Marina Hernandez
11 Norden Place, Unit #43
Norwalk, CT 06855 | 26.
3/17/34/32
Tina M. Hickman
11 Norden Place, Unit #32
Norwalk, CT 06855 | 27.
3/17/34/1
Cesar A. Jimenez & Gloria E. Jimenez
11 Norden Place, Unit #1
Norwalk, CT 06855-1416 |

28.
3/17/34/25
Ashiq M. Khan & Azra P. Khan
11 Norden Place, Unit #25
Norwalk, CT 06855

29.
3/17/34/17
Hernando Ledesma & Ligia Ledesma
11 Norden Place, Unit #17
Norwalk, CT 06855

30.
3/17/34/27
Irene Lopez
11 Norden Place, Unit #27
Norwalk, CT 06855

31.
3/17/34/41
Aileen V. Mahoney
11 Norden Place, Unit #41
Norwalk, CT 06855-1448

32.
3/17/34/7
Camille A. Maitland
11 Norden Place, Unit #7
Norwalk, CT 06855

33.
3/17/34/45
Leober S. Montenegro
11 Norden Place, Unit #45
Norwalk, CT 06855

34.
3/17/34/19
Doris E. Moreno & Anamilena Moreno
11 Norden Place, Unit #19
Norwalk, CT 06855

35.
3/17/34/18
Ludy Cristina Morales
11 Norden Place, Unit #18
Norwalk, CT 06855

36.
3/17/34/30
Marjorie Leclerc
11 Norden Place, Unit #30
Norwalk, CT 06855

37.
3/17/34/11
Rose Cecilia Paccha
11 Norden Place, Unit #11
Norwalk, CT 06855

38.
3/17/34/3
Germain Pierre
11 Norden Place, Unit #3
Norwalk, CT 06855

39.
3/17/34/5
Alba N. Ramirez
11 Norden Place, Unit #5
Norwalk, CT 06855

40.
3/17/34/48
Barbara Sanders
11 Norden Place, Unit #48
Norwalk, CT 06855

41.
3/17/34/47
Marvin Sanders & Tamara L. Sanders
11 Norden Place, Unit #47
Norwalk, CT 06855-1447

42.
3/17/34/34
Windmon Sanders
11 Norden Place, Unit #34
Norwalk, CT 06855

43.
3/17/34/51
Amanda Seroff
11 Norden Place, Unit #51
Norwalk, CT 06855

44.
3/17/34/21
Aura Serrano
11 Norden Place, Unit #21
Norwalk, CT 06855

45.
3/17/34/9
Robert E. Stringfellow & Stephanie O. Sellers
11 Norden Place, Unit #9
Norwalk, CT 06855-1416

46.
3/17/34/20
Deborah M. Tegano
11 Norden Place, Unit #20
Norwalk, CT 06855-1448

47.
3/17/34/46
Marquise Sanders
11 Norden Place, Unit #46
Norwalk, CT 06855

48.
3/17/34/39
Valentin A. Todeschini & Gerarda N. Todeschini
11 Norden Place, Unit #39
Norwalk, CT 06855

49.
3/17/34/2
Judith Tome
11 Norden Place, Unit #2
Norwalk, CT 06855

50.
Judith Tome
11 Norden Place, Unit #15
Norwalk, CT 06855

51.
3/17/34/10
Erica M. Torres
11 Norden Place, Unit #10
Norwalk, CT 06855-1446

52.
3/17/34/24
Barry Turner
11 Norden Place, Unit #24
Norwalk, CT 06855

53.
3/17/34/14
Sandra M. Uribio & Eduardo Jose Meza
11 Norden Place, Unit #14
Norwalk, CT 06855

54.
3/17/34/33
Enrique Vazquez
11 Norden Place, Unit #33
Norwalk, CT 06855

55.
3/17/34/29
John F. Walters & Kim B. Walters
11 Norden Place, Unit #29
Norwalk, CT 06855

56.
3/17/34/40
Gerard Watt
11 Norden Place, Unit #40
Norwalk, CT 06855

57.
3/17/34/13
Kathy N. Williams
11 Norden Place, Unit #13
Norwalk, CT 06855-1416

58.
3/17/34/50
Lee C. Williams
11 Norden Place, Unit #50
Norwalk, CT 06855

59.
Metro North
Ron Bottacari
347 Madison Avenue
New York, NY 10022

60.
David Willard
525 Water Street
Bridgeport, CT 06601

61.
Seth Cummins, Esq.
347 Madison Avenue
New York, NY 10017

62.
Susan Sarch
Metro North Railroad
420 Lexington Avenue, 11th Floor
New York, NY 10170

63.
Penn Central
Metro-North Railroad – Suburban Station
4 Penn Central Plaza – Floor 1200
Philadelphia, PA 19103

64.
Penn Central
Metro-North Railroad
4 Penn Central Plaza – Floor 1200
Philadelphia, PA 19103

65.
State of Connecticut Dept. of Transportation
Julie Thomas
Office of Rail – Union Station – 4th Floor West
50 Union Ave.
New Haven, CT 06519

66.
State of Connecticut Dept. of Transportation
Julie Thomas
4 Brewery Street
New Haven, CT 06519

67.
State of Connecticut Dept. of Transportation
Robert Ike
2800 Berlin Turnpike
P.O. Box 317546
Newington, CT 06131

68.
Amy Martinez, Transportation Principal Property Agent
Department of Transportation
Appraisals/Property Management Division
2800 Berlin Turnpike
P.O. BOX 317546
Newington, CT 06131-7546

69.
Sheila Mary Sopper
Director, Real Estate Development & Operations
National Railroad Passenger Corporation (AMTRAK)
30th Street Station, Floor 5S
2955 Market Street
Philadelphia, PA 19104

70.
Theodore Smigelski
Connecticut Department of Transportation
Office of Rail - Property Management Unit
Component Change Out Building - 4th Floor
4 Brewery Street
New Haven, CT 06519

71.
Alan Warner
Senior Manager, Real Estate Development
National Railroad Passenger Corporation (AMTRAK)
30th Street Station - 5S-014 - Box 25
2955 Market Street
Philadelphia, PA 19104

72.
State of Connecticut Dept of Transportation
Carl Rosa
Office of Rail - Union Station - 4th Floor West
50 Union Ave
New Haven, CT 06519

73.
3/17/34/28
Shaun Lonergan
11 Norden Place, Unit #28
Norwalk, CT 06855

74.
Shaun Lonergan
3 Roxbury Road
Norwalk, CT 06855

75.
3/17/34/37
Jeannie V. Thompson
11 Norden Place, Unit #37
Norwalk, CT 06855

76.
3/17/34/38
Patricia E. Jefferson
11 Norden Place, Unit #38
Norwalk, CT 06855

77.
3/22/7/1
Charles D. Fortune, Trustee
16 Heron Road
Norwalk, CT 06855

78.
3/19/45
Demetrios Apazidis & Diane Apazidis
36 Triangle Street
Norwalk, CT 06855

79.
Demetrios Apazidis & Diane Apazidis
2 Arrowhead Court
Norwalk, CT 06851-1801

80.
3/19/31
Maria Bilardi
6 Hermany Court
Norwalk, CT 06855

81.
3/22/7/2
Robert Wehrmann & Dani Wehrmann
18 Heron Road, Unit 2
Norwalk, CT 06855

82.
3/22/7/3
John A. Paul & Sara A. Paul
20 Heron Road, Unit 3
Norwalk, CT 06855

83.
3/22/7/4
Alan Lipset
22 Heron Road, Unit 4
Norwalk, CT 06855

84.
3/22/7/5
Paul A. Banks & Amy F. Banks
24 Heron Road, Unit 5
Norwalk, CT 06851

85.
3/22/7/6
Luisa Y. Fairborne & Henry Chapman
2 Heron Court, Unit 6
Norwalk, CT 06855

86.
3/22/7/7
Paul A. Merolla & Nancy C. Merolla
4 Heron Court, Unit 7
Norwalk, CT 06855

87.
3/22/7/8
Beatrice A. Montaudy
6 Heron Court, Unit 8
Norwalk, CT 06855

88.
3/22/7/9
Matthew Hardenbergh & Valerie Hardenbergh
5 Heron Court, Unit 9
Norwalk, CT 06855

89.
3/22/7/10
Christina L. Olson
3 Heron Court, Unit 10
Norwalk, CT 06855

90.
3/22/7/11
Charles W. Mulford & Katherine Mulford
1 Heron Court
Norwalk, CT 06855

91.
3/22/7/12
Susan Lacorte & Joseph J. Catalano
9 Swale Road #12
Norwalk, CT 06855

92.
3/22/7/13
Eugene R. Bauchner, Co-Trustee &
Roberta N. Bauchner, Co-Trustee
8 Swale Road #13
Norwalk, CT 06855

93.
3/22/7/14
Robert E. Dohm, Trustee
31 Heron Road #14
Norwalk, CT 06855-1604

94.
3/22/7/15
Margaret L. Breines & Marshall Breines
29 Heron Road #15
Norwalk, CT 06855

95.
3/22/7/16
Medard Thomas & Lourz Kristine Thomas
27 Heron Road #16
Norwalk, CT 06855

96.
3/22/7/17
Donald B. Fries & Melissa Ciotoli
25 Heron Road #17
Norwalk, CT 06855

97.
3/22/7/18
Stephen Binet & Lynda Binet
23 Heron Road, Unit 18
Norwalk, CT 06855

98.
3/22/7/19
Doreen Bray & James Regnier
21 Heron Road #19
Norwalk, CT 06855

99.
3/22/7/20
John E. Karr & Patricia M. Russo
19 Heron Road #20
Norwalk, CT 06855-1604

100.
3/22/7/21
Daniel Magnanimo
17 Heron Road, Unit 21
Norwalk, CT 06855

101.
3/22/7/22
Marla S. Daniels & Scott A. Daniels
15 Heron Road, Unit 22
Norwalk, CT 06855

102.
Courville Holding Company, LLC
10 Norden Place
Norwalk, CT 06855

103.
Courville Holding Company, LLC
c/o Richard Courville
455 Stonehouse Road
Trumbull, CT 06611

**NORWALK CENTER, LLC AND THE AUTO COLLECTIVE
10 NORDEN PLACE, NORWALK, CT
APPLICATION FOR ZONE TEXT AMENDMENT
PROPOSED TEXT
SCHEDULE B**

1. Add to Section 9.3 “Defined Terms”

Car Club – a membership-based organization where classic, vintage and other passenger motor vehicles are stored and displayed inside a building including on racks, along with accessory space for members and member-sponsored events along with members’ lounge and club space which may include the service of food and alcohol. Outdoor storage of and repairs to vehicles shall be prohibited.

2. Add to Table 4.3.9.A

Car Club – use permitted by special permit

3. Add to Sec. 4.3.12 “Parking”

Parking for car club

Storage of motor vehicles – 1 space per 5,000 sq.ft. of useable floor area plus 1 space per employee; accessory event, lounge and club space – 1 space per 500 sq.ft. usable floor area.

NORWALK CENTER, LLC AND THE AUTO COLLECTIVE
10 NORDEN PLACE, NORWALK, CT
APPLICATION FOR ZONE TEXT AMENDMENT
NARRATIVE – REASONS FOR REQUESTED AMENDMENT
SCHEDULE C

I. BACKGROUND

Norwalk Center, LLC (hereinafter “Norwalk Center”) is the owner of real property with the improvements thereon located at 10 Norden Place in Norwalk, CT (the “Property”) totaling 33± acres. Generally bounded by other developed property to the east, Metro-North Railroad and Courville Nurseries to the south, Norden Place to the west, and an accessway to a rear lot to the north, the Property is designated as Tax Lot 40 Unit A in Block 17 of the Third Taxing District. The Property is zoned Special District-Limited Industrial (SD-LI).¹ I-95 is located to the north of a drive aisle on adjoining property that leads to a data center on Unit B of the Property and the Halstead multi-family development on an adjoining property to the east. (Refer to “Aerial Plan (Drawing Title C0.02)” dated February 19, 2025 prepared by Tighe & Bond, “Property Survey ALTA/NSPS Land Title Survey 10 Norden Place – Unit A Norwalk, Connecticut Prepared for Norwalk Center, LLC Scale: 1”=80 Ft.” [“Survey”] dated August 28, 2023 and “Resubdivision Map of Revised Lot 2, Maps 12681A & 12681B Depicting Proposed Parcels 1A, 1B & Lot 2 10 Norden Place Norwalk, Connecticut Prepared for Courville Nursery Property Scale: 1”=80Ft.” [“Resubdivision Map”] dated January 16, 2024, both prepared by Seymour Surveying.

The Property is improved with a 635,430± sq.ft. building, formerly the headquarters of and a manufacturing site for Northrup Grumman-Norden Systems, a national defense contractor, which operated three (3), round-the-clock shifts at the height of operation and production, employing nearly 3,000 people daily across three (3) shifts. Today, the building is largely vacant, but had been the site of Tauck Worldwide Tours, Pepperidge Farms, and Katharine Gibbs secretarial school, among other tenants. Around 2006,² the prior owners sold half of the Property (40 acres) to Norwalk Center, which in 2013, received approvals for and constructed a 167,691± sq.ft. data recovery center on the easternmost five (5) ± acres of the site. There is also an existing 9,000± sq.ft. test building in the southeast section of the Property. In 2024, Norwalk Center received approvals for the adaptive reuse of 113,500± sq.ft. within the building for a transportation maintenance terminal to be used and occupied by the rail and culverts division of the Metropolitan Transportation Authority (MTA). Further, the Property is improved with more than 1,000 parking spaces, interior driveways, sidewalks, landscaped areas, etc. Adjacent to the Metro-North Railroad tracks, there is a 0.99± acre parcel that is occupied via easement by the State of Connecticut Department of Transportation, which uses that area for staging purposes, and a 3.0-acre parcel recently conveyed to Courville Nurseries as a result of a subdivision approved in 2024.

¹Refer to zoning history of property, attached hereto.

²The prior owners received approvals in 2009 to construct a 200+ unit multi-family development which is owned and operated today by Avalon.

II. PROPOSAL

Norwalk Center and The Auto Collective (hereinafter, the “Applicants”) propose an amendment to the Zoning Regulations of the City of Norwalk (“zoning regulations”) to permit membership-based car clubs with accessory place of assembly, event, lounge, and club space in the SD-LI zone by special permit. Indoor motor vehicle storage is already permitted in the SD-LI zone by special permit,³ but that use does not necessarily include the concept of a car club with the associated accessory club uses. For comparative purposes, the proposed use is similar to North American Motor Car on Miry Brook Road in Danbury (www.northamericanmotorcar.com).

No new structures or additions to the existing structure at 10 Norden Place are required for this use. Instead, the car club tenancy would occur entirely within the existing building, occupying approximately 137,000± gross square feet. The majority of the space – 84,600 sq.ft. – would be dedicated to storage of vehicles in a rack system. In the proposed square footage, about 420 vehicles could be accommodated. The Applicants propose about 20,800± sq.ft. of event space, where the club could host parties, movie and other screenings, and hold member and member-sponsored gatherings. Typically, these events would be on weekends. About 26,450± sq.ft. would be dedicated to the car club itself for members’ use along with 5,370± sq.ft. for a lounge. Food and beverages, including alcohol, would be served in the car club space. (Refer to “Site Plan (Drawing Number C1.01)” dated February 19, 2025 prepared by Tighe & Bond, and “Proposed Main Level Floor Plan & Exterior Elevation (Drawing A2.01)” and “Perspective Views (Drawing A2.02)” both dated 2.19.25 prepared by Kenneth Boroson Architects, attached hereto and made a part hereof).

Vehicles to be stored at the car club would be driven to the site by the owners and not by large, multi-vehicle car carrier transport vehicles. Further, no vehicles would be permitted to be stored outdoors, and no automotive repair work would be conducted on the vehicles within the car club space.

This is a reasonable and rational amendment that addresses several issues. First, the proposed car club use and parking requirements make clear what the Applicants propose within the building. Secondly, the proposed use will provide much-needed space for auto owners to securely store their vehicles, to gather with other car enthusiasts, and to have space for events available to club members and members’ guests. The proposed text amendment is consistent with overarching goals of the City of Norwalk’s advisory Plan of Conservation & Development (POCD), which was adopted by the Common Council in October 2019, and which became effective in December 2019. Notably, the POCD recognized that “[h]ealthy, vibrant cities are constantly evolving in big and small ways to remain desirable by meeting changing demands.” (POCD Ch. 12, p. 223). The adaptive reuse of a portion of the former Norden building addresses this goal and also the recommendation that “[i]n healthy cities, new uses emerge, old buildings are renovated and repurposed and new buildings are built.” (Id.). Therefore, consideration and adoption of the proposed new use reduces the POCD’s concern that “[i]f a place always stays the same, it risks stagnation and slowly being left behind.” (Id.)

³An application for special permit is submitted simultaneously herewith.

When considering an amendment to zoning regulations a Zoning Commission acts in a legislative capacity and is therefore “. . . free to amend its regulations whenever time, experience and responsible planning for contemporary or future conditions reasonably indicate the need for a change.” Konigsberg v. Board of Aldermen of the City of New Haven, 283 Conn. 553, 582-583 (2007). Moreover, such legislative discretion is wide and liberal. Id.

**NORWALK CENTER LLC AND THE AUTO COLLECTIVE
10 NORDEN PLACE, NORWALK, CT
APPLICATION FOR ZONE TEXT AMENDMENT
ZONING HISTORY
SCHEDULE D**

District 3, Block 17, Lot 40, Unit A

Zoning History 10 Norden Place

October 1929: The property was zoned as B Residence in its entirety

April 1959: The property was partially rezoned to Light Industrial #1 and Research & Development along the Norden Place frontage

April 1991: The Industrial #1 portion of the property was rezoned to the Restricted Industrial zone; the frontage along Norden Place frontage remained as Research & Development

October 2022: Property rezoned to Industrial #2

February 2024: Property rezoned to SD-LI

Various amendments to the R&D, RI, Industrial #1 zone were approved over the past 50 years, and current and prior owners have applied for and obtained approvals for various site plan and special permit uses including a data recovery center, transportation maintenance facility, and others. An application for a warehouse distribution facility was withdrawn several years ago.

THIS RENT IS THE PROPERTY OF KNOXVILLE BRISTOL AIRPORT, INC. IT IS LEASED TO THE AIRPORT AGENTS FOR THE EXPRESS AGREEMENT THAT THE AIRPORT AGENTS MAY USE THE SAME AND THE INFORMATION CONTAINED HEREIN FOR THE PURPOSES OF CONDUCTING AN INVESTIGATION OF AIRPORT SECURITY MATTERS. THIS RENT IS NOT BE REPRODUCED, COPIED OR OTHERWISE DISCLOSED BY ANY INDIVIDUAL OR ENTITY IN ANY MANNER AND WILL BE USED IN WHOLE OR IN PART TO ASSIST IN THE INVESTIGATION OF AIRPORT SECURITY MATTERS. NO INFORMATION FROM ANY DOCUMENTS, PHOTOS OR OTHER INFORMATION CONTAINED HEREIN FOR THE PURPOSES OF CONDUCTING AN INVESTIGATION OF AIRPORT SECURITY MATTERS. THIS INFORMATION IS NOT TO BE REPRODUCED OR DISCLOSED TO ANY OTHER INDIVIDUAL OR ENTITY WITHOUT THE WRITTEN PERMISSION OF THE AIRPORT AGENTS. THIS INFORMATION IS NOT TO BE REPRODUCED OR DISCLOSED TO ANY OTHER INDIVIDUAL OR ENTITY WITHOUT THE WRITTEN PERMISSION OF THE AIRPORT AGENTS.

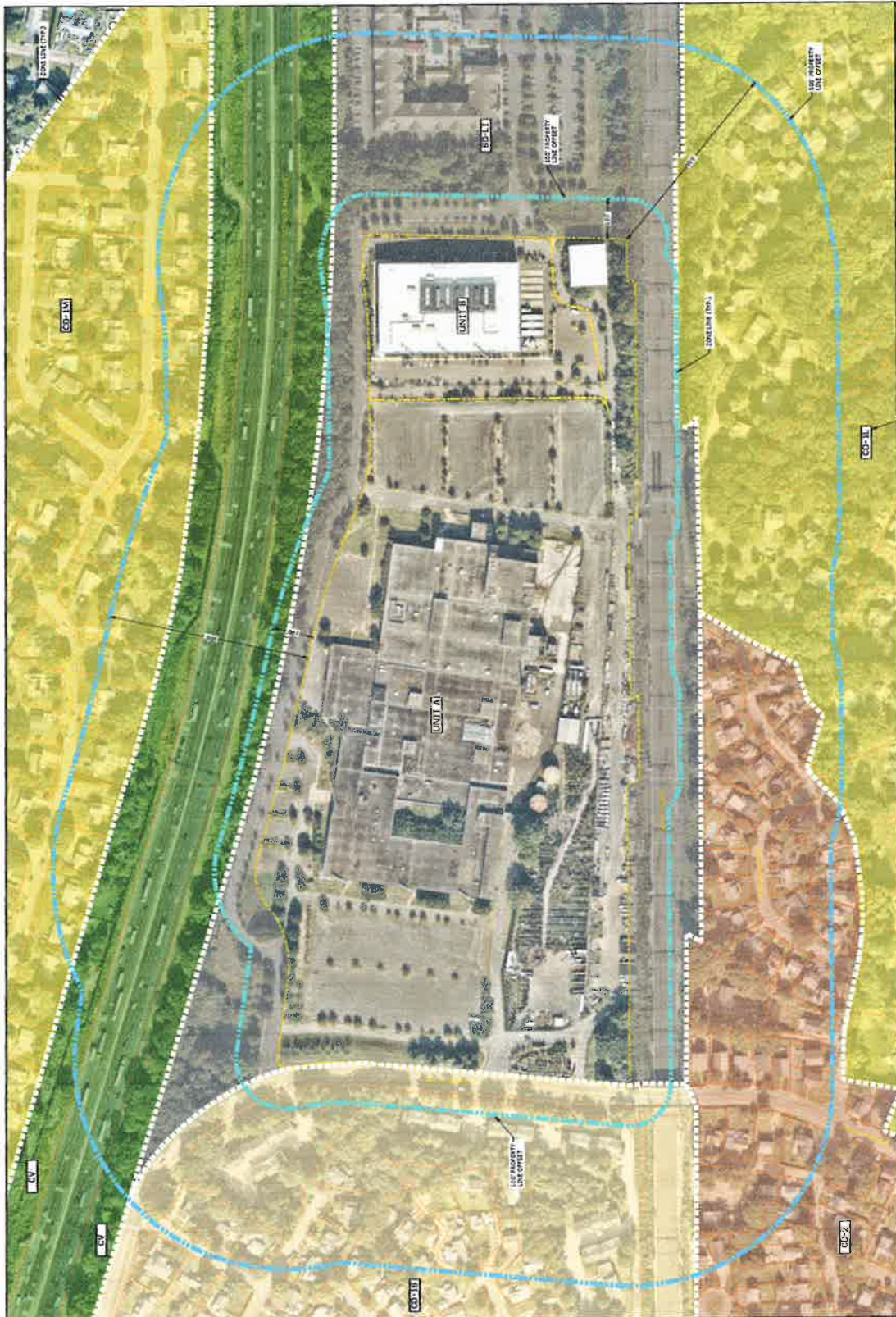
DATE	TIME	LOCATION
10/10/2010	14:00	1010

THE AUTO COLLECTIVE
CONCEPTUAL LAYOUT

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED	DATE 08-07-2013 BY 60324 UCBAW
DATE 08-07-2013 BY 60324 UCBAW	DATE 08-07-2013 BY 60324 UCBAW

[illegible]

AM.01



MAP REFERENCE:

1. MAP COMPILED FROM AVAILABLE SOURCES:
- A. SITE PROPERTY LINE TO-24 FROM SITE CLAYTON MAPPING.
- B. PROPERTY LINES TAKEN FROM AVAILABLE NORMAL CDS MAPPING.
- C. AERIAL PHOTOGRAPH TAKEN FROM THE BROWN ONLINE MAPPING SERVICE.

Received 2002-02-20

The diagram shows a horizontal beam of total length 1.0 m. It is supported at both ends by vertical reaction forces of 50 N each. A downward force of 100 N is applied at the center of the beam. The beam is divided into two equal segments, each 0.5 m long.

WATSON
JAMES H. WATSON



Westport

Discussion

N



SD-10

100



CITY OF NORWALK
Transportation Mobility & Parking
P: 203-854-7335
Norwalk City Hall
125 East Avenue, PO Box 5125
Norwalk, CT 06856-5125

Sent via email to: esuchy@carmodylaw.com

To: Elizabeth A.B. Suchy, Esq. – Carmody Torrance Sandak & Hennessey LLP
From: Benjamin Yeung, P.E., Senior Traffic Engineer – Norwalk TMP
Date: March 10, 2025
Subject: **10 Norden Place – Proposed Luxury Car Storage Facility & Club – Site Plan & Traffic Study – TMP Preliminary Review**

The City of Norwalk Transportation, Mobility, and Parking (TMP) Department has completed a preliminary review of the following documents related to the Zoning Text Amendment and Special Permit Application for the proposed luxury car storage facility and club at 10 Norden Place:

- Norwalk Center, LLC and The Auto Collective, 10 Norden Place, Norwalk, CT, Application for Special Permit – Narrative, prepared by Carmody Torrance Sandak & Hennessey LLP
- Traffic Letter Report for “Auto Collective Fairfield, Proposed Automotive Storage Facility, 10 Norden Place, City of Norwalk, Fairfield County, CT 06855”, prepared by Traffic Planning and Design, Inc. (TPD), dated February 13, 2025;
- Architectural and Civil Site Plans for “The Auto Collective, Warehouse and Storage Facility, 10 Norden Place, Norwalk, CT 06855”, prepared by Kenneth Boroson Architects, in collaboration with Tighe & Bond, dated February 19, 2025

Based on review of the aforementioned documents, Norwalk TMP has the following questions/concerns:

Traffic Study:

1. The proposed facility contains a roughly 20,800 square foot event space. Page 2 of the Traffic Letter Report describes that “the club could host events such as Formula One watch parties, movie and other screenings, and hold member and member-sponsored gatherings.” A space of this size could hold well over 1,000 people, depending on the interior layout.
 - a. What would the typical and maximum expected attendance for club events be?

- b. In addition, would the club plan on holding large events that may draw the general public, such as car shows, either within the facility, or utilizing the parking lot surrounding the facility?

There are no comments on the site plans at this time. Please note this review is based on all documents submitted to date. TMP reserves the right to comment on forthcoming revised/updated traffic studies or site plans.

Sincerely,



Benjamin Yeung, P.E., Senior Traffic Engineer – TMP

Cc: DPW Permits
James Travers, Director – TMP
Garrett Bolella, P.E., PTOE, RSP1, Assistant Director – TMP
Nathan Fankhanel, E.I.T., Junior Engineer – TMP
Vanessa Valadares, P.E., Chief of Department of Public Works
Wilber Giron, P.E., Permit Engineer – Department of Public Works
Christine Cardascia, E.I.T., Junior Engineer – Department of Public Works
Steven Kleppin, Director – Planning and Zoning
Bryan Baker, Principal Planner – Planning and Zoning
Michelle Andrzejewski, Land Use Planner – Planning and Zoning
Amelia Williams, Land Use Planner – Planning and Zoning
William Ireland, Chief Building Official – Building and Code Enforcement
Leo Guerrero, Assistant Building Official – Building and Code Enforcement
Peter Kelly, Assistant Building Official – Building and Code Enforcement
Ralph Kolb, P.E., Sr. Environmental Engineer – WPCA
Christopher Cavaliere, Junior Engineer – WPCA
Alexis Cherichetti, Senior Environmental Officer – Conservation Office



CITY OF NORWALK
Wilber Giron, P.E.
Permit Engineer /
Department of Engineering
125 East Avenue
Norwalk, CT 06851
Office: (203) 854-7801
Permits: (203) 854-4161
www.norwalkct.gov
wgiron@norwalkct.gov
dpwpermits@norwalkct.gov

March 24, 2025

Sent via email to: esuchy@carmodylaw.com

Elizabeth A.B. Suchy
Carmody Torrance Sandak & Hennessey LLP

RE: 10 Norden Pl (District 3, Block 17, Lot 40)
Proposed Improvements for Transportation Maintenance Facility
Department of Engineering's Plan Review Comments

Dear Ms. Suchy:

The Department of Engineering has reviewed the supportive documents associated with the proposed development at the above-referenced property. The focus of our review has been to confirm the documents provided are in in conformance with the standards set forth in the City of Norwalk (City) Department of Public Works (DPW) Roadway Standards, and Standard Specifications, as amended and supplemented, Drainage Manual, as amended and supplemented, Standard Detailed Drawings, as amended and supplemented, and other applicable design standards.

The following documents were provided and included in our review:

- Civil Drawings titled "The Auto Collective," dated 02/19/2025, prepared by Tighe & Bond
- Engineering Report prepared for 10 Norden Place, Norwalk, CT, dated 02/19/2025, prepared by Tighe & Bond

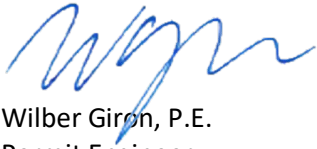
The following are the Department of Engineering's review comments highlighting sections that will require revision or additional information prior to our departmental sign-off:

1. The Engineering Report states the proposed improvements will result in a slight increase of volumetric runoff to the existing Railroad Culvert #1. The drainage design shall be revised to confirm the proposed improvements will result in zero increase of stormwater runoff from the site.
2. Any existing trees that are to be removed within the City's right-of-way that are 8 inches or greater in caliper, will require a tree removal permit and must be posted by the City's Tree Warden at least 10 days in advance, in accordance with the City Code Chapter 112.
 - a. City trees to be removed shall be replaced in accordance with City Code Chapter 112-10C.
3. The property owner is responsible for confirming with each City department if approval is required prior to the commencement of work.

Please note this is a preliminary review of the submitted documents. Additional comments may be forthcoming once the requested information is received.

Should you have any questions, please do not hesitate to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read 'W. Giron', is positioned above the printed name.

Wilber Giron, P.E.
Permit Engineer

Cc: DPW Permits
James Meehan, P.E., Principal Engineer – Department of Engineering
Christine Cardascia, P.E., Assistant Civil Engineer – Department of Engineering
Ralph Kolb, P.E., Sr. Environmental Engineer – Water Pollution Control Authority
Garrett Bolella, P.E., Assistant Director – Transportation, Mobility and Parking
Benjamin Yeung, P.E., Senior Traffic Engineer – Transportation, Mobility and Parking
Nathan Fankhanel, Junior Engineer – Transportation, Mobility and Parking
Steven Kleppin, Director – Planning and Zoning
Bryan Baker, Principal Planner – Planning and Zoning
Michelle Andrzejewski, Senior Planner – Planning and Zoning
Amelia Williams, Land Use Planner – Planning and Zoning
Alexis Cherichetti, Senior Environmental Officer – Conservation



Special Permit Application

City of Norwalk Planning & Zoning Commission

Phone: 203-854-7780

www.norwalkct.gov

Date Received:

Per Section 8.4.8 of the Norwalk Zoning Regulations, Special Permits are for Uses, Buildings, or Structures that are considered to be generally appropriate in the applicable District, but because of their potential for impacts with Adjacent Uses, Buildings, or Structures, require individual review for specific locations.

1. Address of Subject Property(s):

284 New Canaan Avenue, Norwalk, CT

2. District: 5 Block: 46 Lot(s): 76 3. Zone: AAA, Overlay/Village District: _____

4. Historic Structure(s): ☒ No ☐ Yes 5. Flood Hazard Zone ☒ No ☐ Yes, Flood Zone(s) _____

6. Coastal Area Management Zone: ☒ No ☐ Yes If yes, include application for Coastal Site Plan Review or specify Section allowing exemption: _____

7. Existing Use of Property:

Contractor's Yard - Public Utilities

8. Proposed Use of Property as Identified per Table 4.3.9.A: Building, Lot & Building Site Principal Uses:

Contractor's Yard - Public Utilities

Applicant Information

Applicant Name: Enrico R. Costantini, ESQ.

Billing Address: 33 Riverside Avenue, Fourth Floor, Westport, CT

Phone Number: (203) 635-2200 Email: costantini@flb.law

Signature: _____

Property Owner Information and Authorization

Owner of Record: SEE ATTACHED OWNER AUTHORIZATION LETTER

Billing Address: _____

Phone Number: _____ Email: _____

Signature: _____

**By signing, the property owner confirms that the Applicant has been authorized to apply for Planning & Zoning approval, and attests that all information provided is true and accurate.*

March 12, 2025

Norwalk Planning & Zoning Department
125 East Avenue, Room 129
Norwalk, CT 06856

Re: 284 New Canaan Avenue, Norwalk, Connecticut (the "Property")

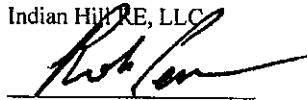
To Whom It May Concern:

As the Owner of the Property, this letter is to advise you that Indian Hill RE, LLC hereby consents to the preparation, filing and presentation of any and all zoning, land use, or other applications seeking approvals in connection the Property by the law firm of FLB Law, PLLC, and the engineering firm of LandTech.

Should you have any questions, please do not hesitate to contact me.

Sincerely,

Indian Hill RE, LLC



By:
Duly Authorized

APPLICANT'S PROJECT DESCRIPTION

PENNA CONSTRUCTION – 284 NEW CANAAN AVENUE

Penna Construction, by way of their attorneys, FLB Law, PLLC, (the “Applicant”), submits this application for a special permit (the “Application”) pursuant to the Norwalk, Zoning Regulations (the “Regulations”) for the property commonly known as 284 New Canaan Avenue, Norwalk, Connecticut (the “Property”), which is located in a CD-1L District. The goal of this Application is to modify the Special Permit the Applicant obtained on October 10, 2017, Permit #S16-499A (the “2017 Special Permit”). Along with this Project Description, the Application includes the following documents:

- Site Development Plan, dated December 18, 2024, revised as of March 11, 2025 (the “Site Plan”);
- Stormwater Management Report for 284 New Canaan Avenue, dated December 18, 2024, revised March 11, 2025 (the “Drainage Report”); and
- Operations and Maintenance Plan, dated December 18, 2024 (the “O&M Plan”).

Additionally, the Applicant seeks a waiver for the submission of the following documents required by the Regulations:

- Certified Class A-2 Existing Conditions Survey;
- Environmental Report;
- Architectural Plans and Drawings; and
- Traffic Impact Analysis – the proposed use at the Property will not generate over five hundred (500) vehicle trips per day, as set forth in Section 8.4.8.2.c of the Regulations.

BACKGROUND

On September 16, 2024, the Applicant received a Permit Violation Enforcement Order #V24-1067 and a Cease & Restore order #V24-1066 from the Norwalk Inland Wetland Agency related to operations beyond the previously approved active yard area and activity in a regulated area, respectively (collectively the “IWWC Violations”). Additionally, on October 24, 2024, the Applicant received a Notice of Zoning Violation: 284 New Canaan Ave (5-46-76-0) from the Planning and Zoning Department Enforcement Office, related to: (a) the clearing of more than 10,000 square feet, (b) non-compliance with the previously approved Special permit conditions, and (c) the failure to obtain a Certificate of Zoning Compliance (the “Zoning Violation”).

The Applicant has already moved to address the IWWC Violations by first seeking approval from the Norwalk Conservation Commission (“NCC”) on a restoration plan for a Corrective Action Permit (“CAP Restoration Plan”) (#S24-648) which was approved by the NCC on February 19, 2025. The CAP Restoration Plan addressed the restoration of a roughly 15,000

SF area (wetland and upland woodland) which was clear cut. The CAP Restoration Plan, as approved, proposes to plant 60 trees, 240 shrubs and native seed mix over the disturbed area. A copy of the CAP Restoration Plan and the conditions for approval are submitted along with this application. The Applicant is currently pending before the NCC on a Permit Modification (#S19-499B) which is proposing to implement a change to the stormwater management system (as detailed further below) and also to take corrective action for the unpermitted yard expansion and return the site to initial approved boundaries.

In the Applicant's 2017 Special Permit, the Planning and Zoning Commission approved the construction of an above-ground stormwater detention pond, which was intended to protect the Property and surrounding areas from experiencing heightened water flow in the event of rain or other precipitation. The Applicant is now seeking to modify the original approvals in order to construct a Subsurface Detention System utilizing Cultec chambers to better address the stormwater requirements outlined in the 2017 Special Permit. This system will serve the same purpose as the originally approved detention pond, while providing the following benefits:

- i. Optimized space for restoration;
- ii. Improved water quality and management;
- iii. Reduced visual impact and compliance with permitting requirements.

Additionally, the Applicant seeks approval of the proposed corrective measures outlined in the Site Plan and the CAP Restoration Plan to correct the Zoning Violation. As such, and for the reasons set forth herein, the Applicant submits that the Application meets the standards set forth in the Regulations and requests approval for the work detailed herein.

A. The Subsurface Detention System.

As set forth in the Site Plan, the construction of the Subsurface Detention System will require the Applicant to construct the following:

1. A silt fence along the rear of the Existing Masonry Garage;
2. A temporary stockpile area for materials to be used in the course of construction;
3. A low concrete block wall or berm to surround the expanded construction area in accordance with the Wetland Demarcation Boundary detail; and
4. The Subsurface Detention System itself.

B. The Restoration.

The Applicant proposes to replace the various trees and shrubs that had been previously removed from the Property and to properly grade the Property to match natural contours and ensure appropriate drainage.

SPECIAL PERMIT STANDARDS

Section 8.4.8 of the Regulations sets forth the requirements that must be met to obtain a Special Permit. The Applicant submits that it meets each of the requirements for the reasons set forth below:

Section 8.4.8.G.1.a – If the Special Permit is for a Use, the proposed Use must be listed as a Special Permit Use for the applicable District and conforms to all applicable standards listed in Section 4.3.9.F, for the proposed use.

The Applicant submits that this Section of the Regulations does not apply to this Application. The Applicant is seeking approval for the construction of the Subsurface Detention System instead of the originally approved above-ground retention pond. Additionally, the Restoration process does not change the Use or other considerations set forth in Section 4.3.9.F of the Regulations. The Applicant is not seeking any of the Temporary Uses set forth in Section 4.3.9.F of the Regulations.

Section 8.4.8.G.1.b – The proposed Use, Building, or Structure must be so designed, located, and proposed to be operated that the public health, safety, and welfare will be protected.

The Subsurface Detention System will protect the public health, safety, and welfare by protecting from increased flows of stormwater discharge from the Property into the immediately surrounding area. As set forth in the Drainage Report, the Subsurface Detention System will retain excessive water that may result from storms and similar weather events. As with the originally approved above-ground detention pond, without the Subsurface Detention System there is a risk that flood-like events could occur due to stormwater run-off at the Property. Additionally, the Applicant will maintain the Subsurface Detention System in accordance with the O&M Plan so that the existing and proposed stormwater components installed at the Property are maintained in operational condition throughout the life of the project. The construction of the Subsurface Detention System will protect from such events and clearly promotes the public health, safety, and welfare of the citizens of Norwalk.

The Restoration Plan will also serve to protect the public health, safety, and welfare by ensuring that the various trees and shrubs that were once located at the Property are restored and the many benefits derived therefrom will once again be enjoyed by the citizens of Norwalk. Additionally, the Restoration Plan will provide natural benefits in soil retention and provide for increased greenspace in the Property's area.

Therefore, the Applicant submits that the requirements of Section 8.4.8.1.b are met.

Section 8.4.8.G.1.c – The proposed Use, Building, or Structure must not adversely affect other property in the area in which it is located.

The Subsurface Detention System and Restoration Plan will not have any adverse effect on the other properties located in the area surrounding the Property. As set forth above, both proposals will provide a benefit, not a harm, by protecting from increased stormwater discharge that may occur in the future, as well as restoring the foliage that was once located at the Property.

Section 8.4.8.G.1.d – The proposed Use, Building, or Structure must conform to all applicable provisions of these Regulations for the District in which it is to be located.

The Applicant submits that the proposed Subsurface Detention System and Restoration Plan comply and conform with all applicable provisions of the Regulations that apply to CD-1L Districts.

Section 8.4.8.G.1.e – The Proposed Use, Building, or Structure must be in harmony with the general purpose and intent of these Regulations.

Both the Subsurface Detention System and Restoration Plan are in harmony with the general purpose and intent of the Regulations. First, the Regulations have been implemented to “protect and promote the public health, safety, morals, comfort, convenience, and general welfare of the people and community.” (§1.5.1.A). As stated above, the Subsurface Detention System and Restoration Plan will, respectively, protect the people and community from stormwater discharge and increase the green space in the community. The Subsurface Detention System will allow for the orderly and beneficial development of the Property by allowing for the efficient and effective disposition of stormwater runoff, while increasing the total surface area of the Property that may be used for development by the Applicant. (§1.5.1.C). Both proposals will also secure and provide protection from hazards such as flooding by providing ensuring that stormwater discharge does not impact the immediately area surrounding the Property and the benefits derived from having increased foliage at the Property. (§1.5.1.L). Similarly, the Subsurface Detention System and Restoration Plan will conserve the value of the land and buildings both at the Property and in the surrounding area by protecting said properties from water flows and increasing the privacy provided by restoring the plant life at the Property.

Taking all of this together, granting the Special Permit is in line with the clearly stated purposes of the Regulations.

Section 8.4.8.G.1.f – Except for Buildings designated as historic under a Local, State or National inventory, any proposed Building containing a Footprint of 5,000 square feet or more or a Floor Area of 20,000 square feet or more[.]

This Application does not seek approval to construct a Building – therefore, the Applicant submits that Section 8.4.8.G.1.f does not apply to this Application.

CONCLUSION

As proposed, the Subsurface Detention System and Restoration Plan provide a thorough response to the Zoning Violation. These measures prioritize environmental integrity, regulatory compliance and community considerations, creating a sustainable and ecologically balanced site.

APPLICANT'S PROJECT DESCRIPTION

PENNA CONSTRUCTION – 284 NEW CANAAN AVENUE

Penna Construction, by way of their attorneys, FLB Law, PLLC, (the “Applicant”), submits this application for a special permit (the “Application”) pursuant to the Norwalk, Zoning Regulations (the “Regulations”) for the property commonly known as 284 New Canaan Avenue, Norwalk, Connecticut (the “Property”), which is located in a CD-1L District. The goal of this Application is to modify the Special Permit the Applicant obtained on October 10, 2017, Permit #S16-499A (the “2017 Special Permit”). Along with this Project Description, the Application includes the following documents:

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- Certified Class A-2 Existing Conditions Survey;
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- Traffic Impact Analysis – the proposed use at the Property will not generate over five hundred (500) vehicle trips per day, as set forth in Section 8.4.8.2.c of the Regulations.

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The Applicant has already moved to address the IWWC Violations by first seeking approval from the Norwalk Conservation Commission (“NCC”) on a restoration plan for a Corrective Action Permit (“CAP Restoration Plan”) (#S24-648) which was approved by the NCC on February 19, 2025. The CAP Restoration Plan addressed the restoration of a roughly 15,000

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- i. Optimized space for restoration;
- ii. Improved water quality and management;
- iii. Reduced visual impact and compliance with permitting requirements.

Additionally, the Applicant seeks approval of the proposed corrective measures outlined in the Site Plan and the CAP Restoration Plan to correct the Zoning Violation. As such, and for the reasons set forth herein, the Applicant submits that the Application meets the standards set forth in the Regulations and requests approval for the work detailed herein.

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As set forth in the Site Plane, the construction of the Subsurface Detention System will require the Applicant to construct the following:

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SPECIAL PERMIT STANDARDS

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Section 8.4.8.G.1.a – If the Special Permit is for a Use, the proposed Use must be listed as a Special Permit Use for the applicable District and conforms to all applicable standards listed in Section 4.3.9.F, for the proposed use.

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The Subsurface Detention System will protect the public health, safety, and welfare by protecting from increased flows of stormwater discharge from the Property into the immediately surrounding area. As set forth in the Drainage Report, the Subsurface Detention System will retain excessive water that may result from storms and similar weather events. As with the originally approved above-ground detention pond, without the Subsurface Detention System there is a risk that flood-like events could occur due to stormwater run-off at the Property. Additionally, the Applicant will maintain the Subsurface Detention System in accordance with the O&M Plan so that the existing and proposed stormwater components installed at the Property are maintained in operational condition throughout the life of the project. The construction of the Subsurface Detention System will protect from such events and clearly promotes the public health, safety, and welfare of the citizens of Norwalk.

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Therefore, the Applicant submits that the requirements of Section 8.4.8.1.b are met.

Section 8.4.8.G.1.c – The proposed Use, Building, or Structure must not adversely affect other property in the area in which it is located.

The Subsurface Detention System and Restoration Plan will not have any adverse effect on the other properties located in the area surrounding the Property. As set forth above, both proposals will provide a benefit, not a harm, by protecting from increased stormwater discharge that may occur in the future, as well as restoring the foliage that was once located at the Property.

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Section 8.4.8.G.1.e – The Proposed Use, Building, or Structure must be in harmony with the general purpose and intent of these Regulations.

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PENNA CONSTRUCTION – 284 NEW CANAAN AVENUE

Penna Construction, by way of their attorneys, FLB Law, PLLC, (the “Applicant”), submits this application for a special permit (the “Application”) pursuant to the Norwalk, Zoning Regulations (the “Regulations”) for the property commonly known as 284 New Canaan Avenue, Norwalk, Connecticut (the “Property”), which is located in a CD-1L District. The goal of this Application is to modify the Special Permit the Applicant obtained on October 10, 2017, Permit #S16-499A (the “2017 Special Permit”). Along with this Project Description, the Application includes the following documents:

- Site Development Plan, dated December 18, 2024, revised as of March 11, 2025 (the “Site Plan”);
- Stormwater Management Report for 284 New Canaan Avenue, dated December 18, 2024, revised March 11, 2025 (the “Drainage Report”); and
- Operations and Maintenance Plan, dated December 18, 2024 (the “O&M Plan”).

Additionally, the Applicant seeks a waiver for the submission of the following documents required by the Regulations:

- Certified Class A-2 Existing Conditions Survey;
- Environmental Report;
- Architectural Plans and Drawings; and
- Traffic Impact Analysis – the proposed use at the Property will not generate over five hundred (500) vehicle trips per day, as set forth in Section 8.4.8.2.c of the Regulations.

BACKGROUND

On September 16, 2024, the Applicant received a Permit Violation Enforcement Order #V24-1067 and a Cease & Restore order #V24-1066 from the Norwalk Inland Wetland Agency related to operations beyond the previously approved active yard area and activity in a regulated area, respectively (collectively the “IWWC Violations”). Additionally, on October 24, 2024, the Applicant received a Notice of Zoning Violation: 284 New Canaan Ave (5-46-76-0) from the Planning and Zoning Department Enforcement Office, related to: (a) the clearing of more than 10,000 square feet, (b) non-compliance with the previously approved Special permit conditions, and (c) the failure to obtain a Certificate of Zoning Compliance (the “Zoning Violation”).

The Applicant has already moved to address the IWWC Violations by first seeking approval from the Norwalk Conservation Commission (“NCC”) on a restoration plan for a Corrective Action Permit (“CAP Restoration Plan”) (#S24-648) which was approved by the NCC on February 19, 2025. The CAP Restoration Plan addressed the restoration of a roughly 15,000

SF area (wetland and upland woodland) which was clear cut. The CAP Restoration Plan, as approved, proposes to plant 60 trees, 240 shrubs and native see mix over the disturbed area. A copy of the CAP Restoration Plan and the conditions for approval are submitted along with this application. The Applicant is currently pending before the NCC on a Permit Modification (#S19-499B) which is proposing to implement a change to the stormwater management system (as detailed further below) and also to take corrective action for the unpermitted yard expansion and return the site to initial approved boundaries.

In the Applicant's 2017 Special Permit, the Planning and Zoning Commission approved the construction of an above-ground stormwater detention pond, which was intended to protect the Property and surrounding areas from experiencing heightened water flow in the event of rain or other precipitation. The Applicant is now seeking to modify the original approvals in order to construct a Subsurface Detention System utilizing Cultec chambers to better address the stormwater requirements outlined in the 2017 Special Permit. This system will serve the same purpose as the originally approved detention pond, while providing the following benefits:

- i. Optimized space for restoration;
- ii. Improved water quality and management;
- iii. Reduced visual impact and compliance with permitting requirements.

Additionally, the Applicant seeks approval of the proposed corrective measures outlined in the Site Plan and the CAP Restoration Plan to correct the Zoning Violation. As such, and for the reasons set forth herein, the Applicant submits that the Application meets the standards set forth in the Regulations and requests approval for the work detailed herein.

A. The Subsurface Detention System.

As set forth in the Site Plane, the construction of the Subsurface Detention System will require the Applicant to construct the following:

1. A silt fence along the rear of the Existing Masonry Garage;
2. A temporary stockpile area for materials to be used in the course of construction;
3. A low concrete block wall or berm to surround the expanded construction area in accordance with the Wetland Demarcation Boundary detail; and
4. The Subsurface Detention System itself.

B. The Restoration.

The Applicant proposes to replace the various trees and shrubs that had been previously removed from the Property and to properly grade the Property to match natural contours and ensure appropriate drainage.

SPECIAL PERMIT STANDARDS

Section 8.4.8 of the Regulations sets forth the requirements that must be met to obtain a Special Permit. The Applicant submits that it meets each of the requirements for the reasons set forth below:

Section 8.4.8.G.1.a – If the Special Permit is for a Use, the proposed Use must be listed as a Special Permit Use for the applicable District and conforms to all applicable standards listed in Section 4.3.9.F, for the proposed use.

The Applicant submits that this Section of the Regulations does not apply to this Application. The Applicant is seeking approval for the construction of the Subsurface Detention System instead of the originally approved above-ground retention pond. Additionally, the Restoration process does not change the Use or other considerations set forth in Section 4.3.9.F of the Regulations. The Applicant is not seeking any of the Temporary Uses set forth in Section 4.3.9.F of the Regulations.

Section 8.4.8.G.1.b – The proposed Use, Building, or Structure must be so designed, located, and proposed to be operated that the public health, safety, and welfare will be protected.

The Subsurface Detention System will protect the public health, safety, and welfare by protecting from increased flows of stormwater discharge from the Property into the immediately surrounding area. As set forth in the Drainage Report, the Subsurface Detention System will retain excessive water that may result from storms and similar weather events. As with the originally approved above-ground detention pond, without the Subsurface Detention System there is a risk that flood-like events could occur due to stormwater run-off at the Property. Additionally, the Applicant will maintain the Subsurface Detention System in accordance with the O&M Plan so that the existing and proposed stormwater components installed at the Property are maintained in operational condition throughout the life of the project. The construction of the Subsurface Detention System will protect from such events and clearly promotes the public health, safety, and welfare of the citizens of Norwalk.

The Restoration Plan will also serve to protect the public health, safety, and welfare by ensuring that the various trees and shrubs that were once located at the Property are restored and the many benefits derived therefrom will once again be enjoyed by the citizens of Norwalk. Additionally, the Restoration Plan will provide natural benefits in soil retention and provide for increased greenspace in the Property's area.

Therefore, the Applicant submits that the requirements of Section 8.4.8.1.b are met.

Section 8.4.8.G.1.c – The proposed Use, Building, or Structure must not adversely affect other property in the area in which it is located.

The Subsurface Detention System and Restoration Plan will not have any adverse effect on the other properties located in the area surrounding the Property. As set forth above, both proposals will provide a benefit, not a harm, by protecting from increased stormwater discharge that may occur in the future, as well as restoring the foliage that was once located at the Property.

Section 8.4.8.G.1.d – The proposed Use, Building, or Structure must conform to all applicable provisions of these Regulations for the District in which it is to be located.

The Applicant submits that the proposed Subsurface Detention System and Restoration Plan comply and conform with all applicable provisions of the Regulations that apply to CD-1L Districts.

Section 8.4.8.G.1.e – The Proposed Use, Building, or Structure must be in harmony with the general purpose and intent of these Regulations.

Both the Subsurface Detention System and Restoration Plan are in harmony with the general purpose and intent of the Regulations. First, the Regulations have been implemented to “protect and promote the public health, safety, morals, comfort, convenience, and general welfare of the people and community.” (§1.5.1.A). As stated above, the Subsurface Detention System and Restoration Plan will, respectively, protect the people and community from stormwater discharge and increase the green space in the community. The Subsurface Detention System will allow for the orderly and beneficial development of the Property by allowing for the efficient and effective disposition of stormwater runoff, while increasing the total surface area of the Property that may be used for development by the Applicant. (§1.5.1.C). Both proposals will also secure and provide protection from hazards such as flooding by providing ensuring that stormwater discharge does not impact the immediately area surrounding the Property and the benefits derived from having increased foliage at the Property. (§1.5.1.L). Similarly, the Subsurface Detention System and Restoration Plan will conserve the value of the land and buildings both at the Property and in the surrounding area by protecting said properties from water flows and increasing the privacy provided by restoring the plant life at the Property.

Taking all of this together, granting the Special Permit is in line with the clearly stated purposes of the Regulations.

Section 8.4.8.G.1.f – Except for Buildings designated as historic under a Local, State or National inventory, any proposed Building containing a Footprint of 5,000 square feet or more or a Floor Area of 20,000 square feet or more[.]

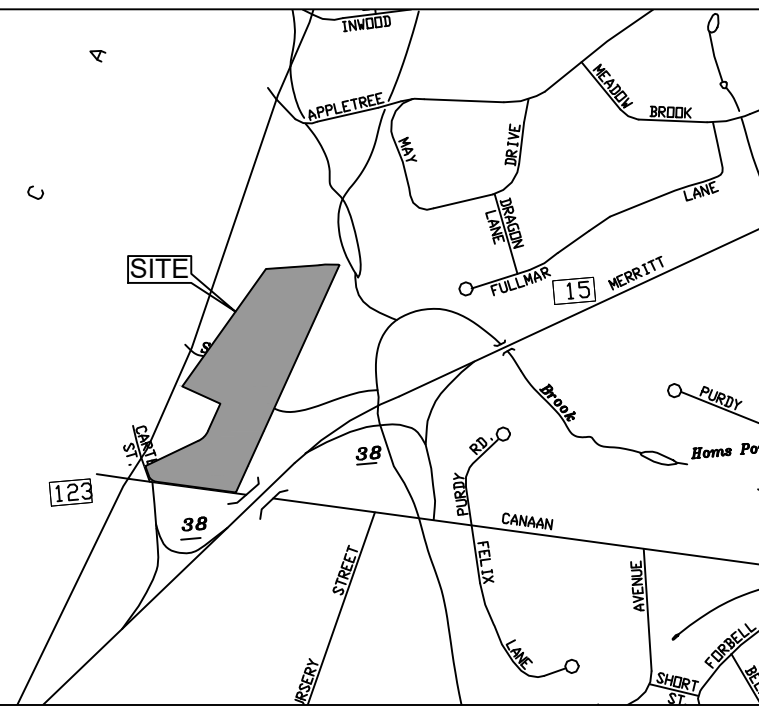
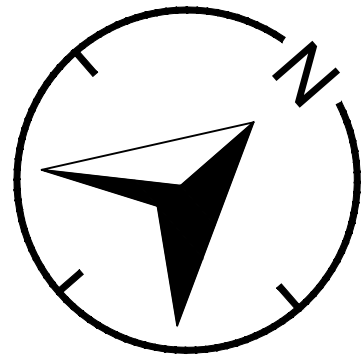
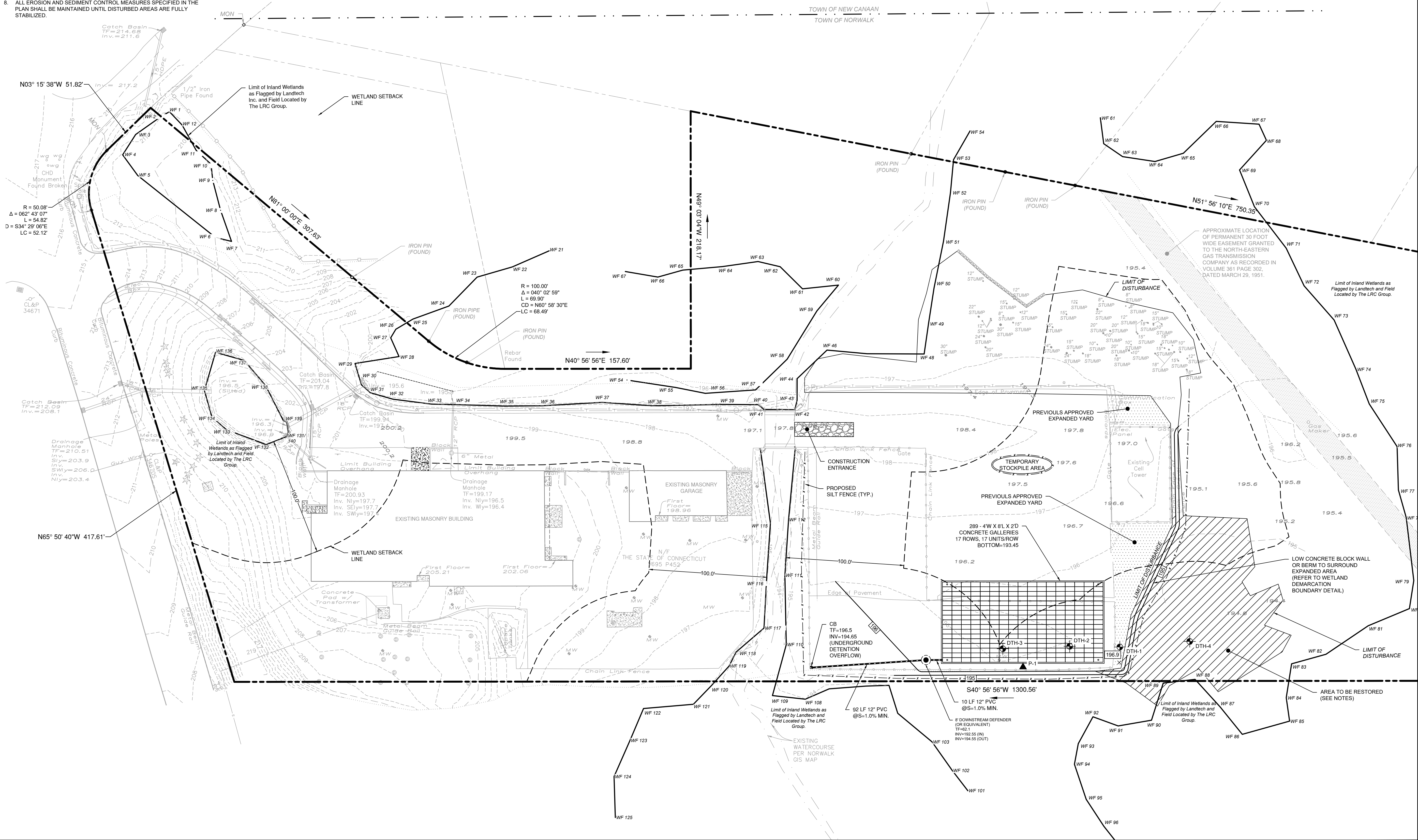
This Application does not seek approval to construct a Building – therefore, the Applicant submits that Section 8.4.8.G.1.f does not apply to this Application.

CONCLUSION

As proposed, the Subsurface Detention System and Restoration Plan provide a thorough response to the Zoning Violation. These measures prioritize environmental integrity, regulatory compliance and community considerations, creating a sustainable and ecologically balanced site.

GENERAL NOTES

1. LOT LINE & TOPOGRAPHIC INFORMATION FOR 284 NEW CANAAN AVENUE TAKEN FROM ZONING LOCATION SURVEY & TOPOGRAPHIC SURVEY PREPARED BY LANDTECH DATED SEPTEMBER 7.
2. DATUM: NAVD 88
3. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UNDERGROUND PIPING, UTILITIES, AND OTHER FEATURES ARE TAKEN FROM EXISTING AS-BUILT MAPPING AND OTHER SOURCES OF INFORMATION AND ARE APPROXIMATE. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. IN ADDITION, THERE MAY BE OTHER UNDERGROUND PIPING, UTILITIES, AND OTHER FEATURES PRESENT THAT ARE NOT SHOWN. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE PRESENCE OF ANY OF THESE EXISTING ELEMENTS BY WHATEVER MEANS NECESSARY AND PROTECTING THESE ELEMENTS AS REQUIRED OR RELOCATING THEM IF THEY ARE IN CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CALL "CALL BEFORE YOU DIG," 1-800-922-4455, THREE FULL WORKING DAYS PRIOR TO ANY EXCAVATION WORK ON THE PROPERTY.
5. SUBJECT PROPERTY IS LOCATED IN FEMA FLOOD ZONE "X" AS SHOWN ON FEMA FIRM PANEL No. 1900100389F, EFFECTIVE JUNE 18, 2010.
6. WETLANDS FLAGS AS TAKEN FROM MAP PREPARED BY LRC GROUP, DATED SPTEMBER 7, 2010.
7. A NEW BENCHMARK SHALL BE SET PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
8. ALL EROSION AND SEDIMENT CONTROL MEASURES SPECIFIED IN THE PLAN SHALL BE MAINTAINED UNTIL DISTURBED AREAS ARE FULLY STABILIZED.



LOCATION MAP
(NTS)

03/11/2025	REVISED PER REVIEW COMMENTS
02/28/2025	REVISED PER DPM COMMENTS
01/23/2025	PLANTINGS AND NOTES
REVISION DATE	ISSUE

LANDTECH
SITE/CIVIL • ENVIRONMENTAL • SURVEYING • PLANNING
518 RIVERSIDE AVENUE • WESTPORT, CT 06880 • 203-454-2110
HELLO@LANDTECHCONSULT.COM • WWW.LANDTECHCONSULT.COM

PREPARED FOR:
INDIAN HILL RE, LLC

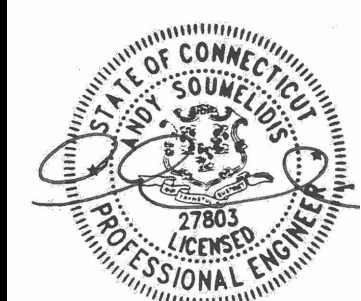
PROJECT LOCATION:
**284 NEW CANAAN AVENUE
NORWALK, CT**

PROJECT TITLE:
**#S19-499B
RESTORATION PLAN**

DRAWING TITLE:
SITE DEVELOPMENT PLAN

PROJECT No.	23015-02	CHECKED BY:	BC
DATE:	12/18/2024	DESIGNED BY:	SM
SCALE: 1" = 40'	IN FEET 0 40 80 120		

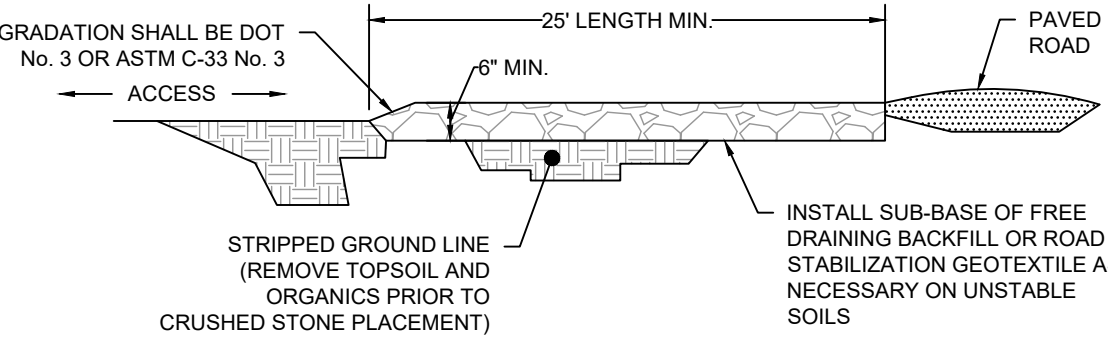
PROJECT STATUS:
**DESIGN DEVELOPMENT
NOT FOR CONSTRUCTION**



C-1.0

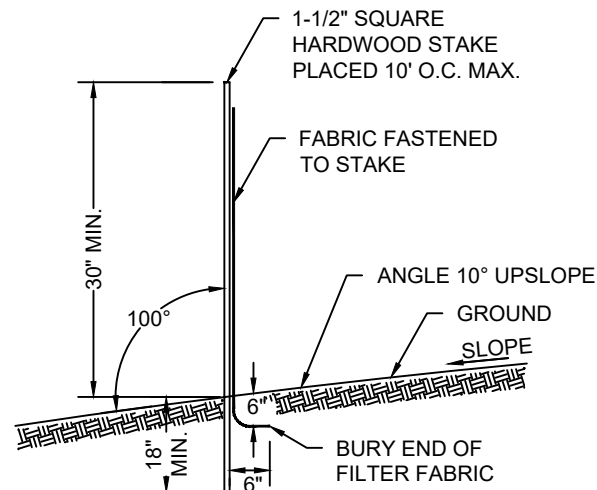
GENERAL EROSION AND SEDIMENT CONTROL NOTES

- LAND DISTURBANCE WILL BE KEPT TO A MINIMUM; RESTABILIZATION WILL BE SCHEDULED AS SOON AS POSSIBLE.
- SILT FENCE WILL BE INSTALLED ALONG THE TOE OF ALL CRITICAL CUT AND FILL SLOPES, SOIL STOCKPILE AREAS, AND IN THOSE AREAS SHOWN ON THE PLAN.
- ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE STATE OF CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, 2002.
- EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED PRIOR TO LAND DISTURBANCE WHENEVER POSSIBLE.
- ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE PROPERLY MAINTAINED UNTIL STABILIZATION HAS BEEN ACHIEVED.
- ADDITIONAL CONTROL MEASURES WILL BE INSTALLED DURING THE CONSTRUCTION PERIOD IF NECESSARY OR REQUIRED. A MINIMUM OF 50 FEET OF SILT FENCE SHALL BE STORED AT THE SITE FOR EMERGENCY USE.
- ANY EXCAVATIONS THAT MUST BE DEWATERED WILL BE PUMPED INTO A 15'x15' DIRT BAG ON-SITE. THE INLETS OF ALL PUMPS ARE TO BE FLOATED A MINIMUM OF 24 INCHES OFF THE BOTTOM OF THE EXCAVATION. THE CONTRACTOR SHALL KEEP A MINIMUM OF (2) 15'x15' DIRT BAGS ON-SITE THROUGHOUT THE EXCAVATION OF PROPOSED FOUNDATIONS.
- WATER AND CALCIUM CHLORIDE SHALL BE APPLIED TO UNPAVED ACCESSWAYS TO PREVENT WIND GENERATED SEDIMENTS AND DUST.
- DEBRIS AND OTHER WASTES RESULTING FROM EQUIPMENT MAINTENANCE AND CONSTRUCTION ACTIVITIES WILL NOT BE DISCARDED ON-SITE.
- SEDIMENT REMOVED FROM CONTROL STRUCTURES WILL BE DISPOSED OF IN A MANNER WHICH IS CONSISTENT WITH INTENT OF THE PLAN.
- SILT FENCES SHALL HAVE SEDIMENT REMOVED WHEN THE DEPTH OF THE SEDIMENT IS EQUAL TO $\frac{1}{4}$ TO $\frac{1}{2}$ THE HEIGHT OF THE FENCE. FENCES SHALL BE PROPERLY INSTALLED AND RIPPED FENCE OR BROKEN POSTS REPAIRED AS SOON AS PRACTICAL.
- ANTI-TRACKING PADS AND GRAVEL CHECK DAMS SHALL BE REPLACED WHEN VOID SPACES ARE FULL OR STRUCTURES ARE BREACHED, AS APPLICABLE.
- TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED AND THE SOIL SURFACE STABILIZED WHEN CONSTRUCTION IS COMPLETE AND THE SOIL SURFACES ARE PERMANENTLY STABILIZED. STRUCTURAL COMPONENTS SHALL BE CLEANED OF ALL SEDIMENT UPON COMPLETION OF CONSTRUCTION.
- THE OWNER IS ASSIGNED THE RESPONSIBILITY FOR IMPLEMENTING THIS EROSION AND SEDIMENT CONTROL PLAN. THIS RESPONSIBILITY INCLUDES INSTALLATION AND MAINTENANCE OF CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN, NOTIFYING THE PLANNING AND ZONING COMMISSION OF ANY TRANSFER OF THIS RESPONSIBILITY, AND FOR CONVEYING A COPY OF THE EROSION AND SEDIMENT PLAN IF AND WHEN THE TITLE OF LAND IS TRANSFERRED.

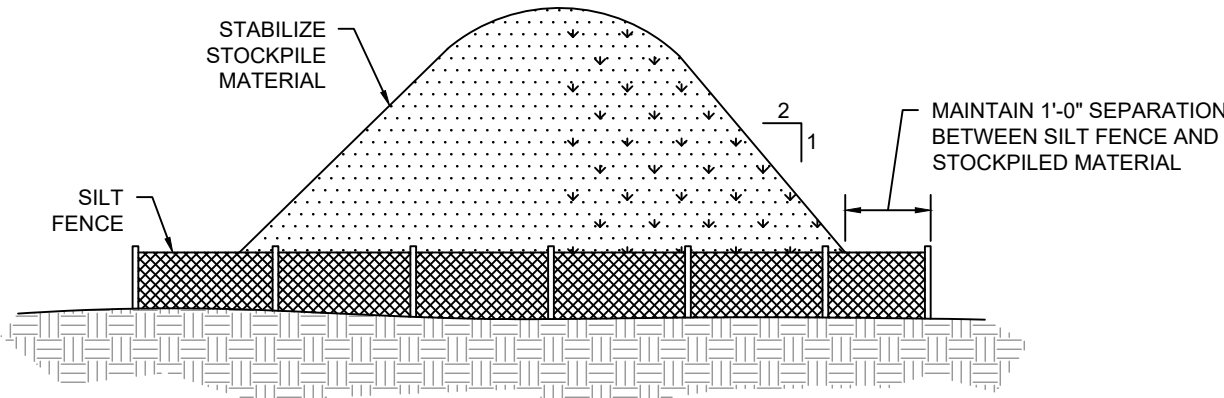


2' X 2' PRECAST CONCRETE CATCH BASIN (NTS)

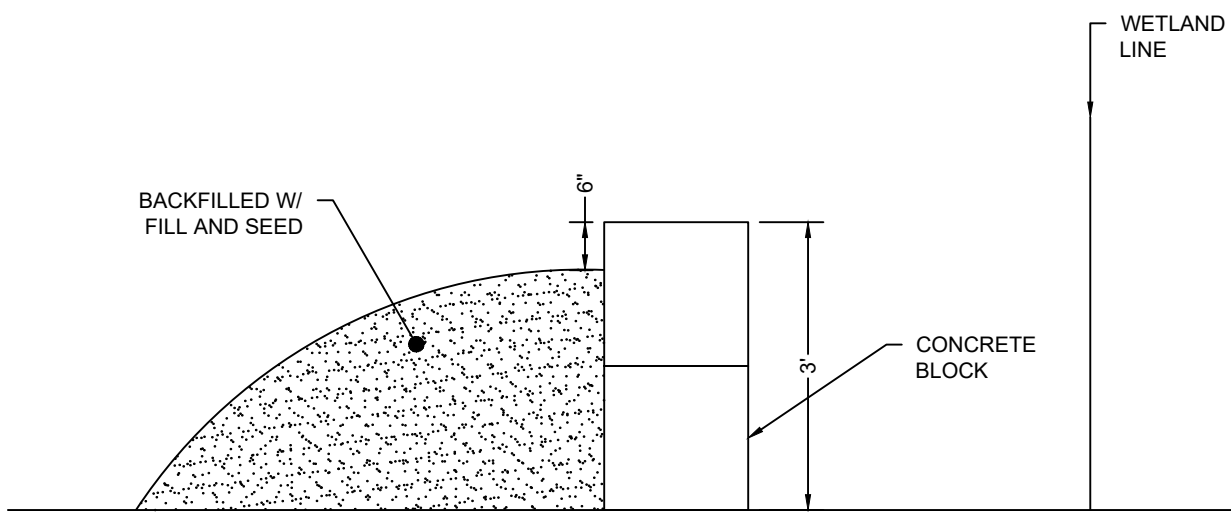
- GENERAL NOTES
- REINFORCED 6 X 6 X 10 GAUGE MESH OR TO SPECIFICATIONS.
 - GRATE - STEEL OR CAST IRON.
 - 4' HIGH SUMP HAS TWO KNOCKOUTS LOW AND 2 KNOCKOUTS UP HIGH.
 - APPROXIMATE WEIGHTS:
3' - 2100 LBS.
4' - 2800 LBS.



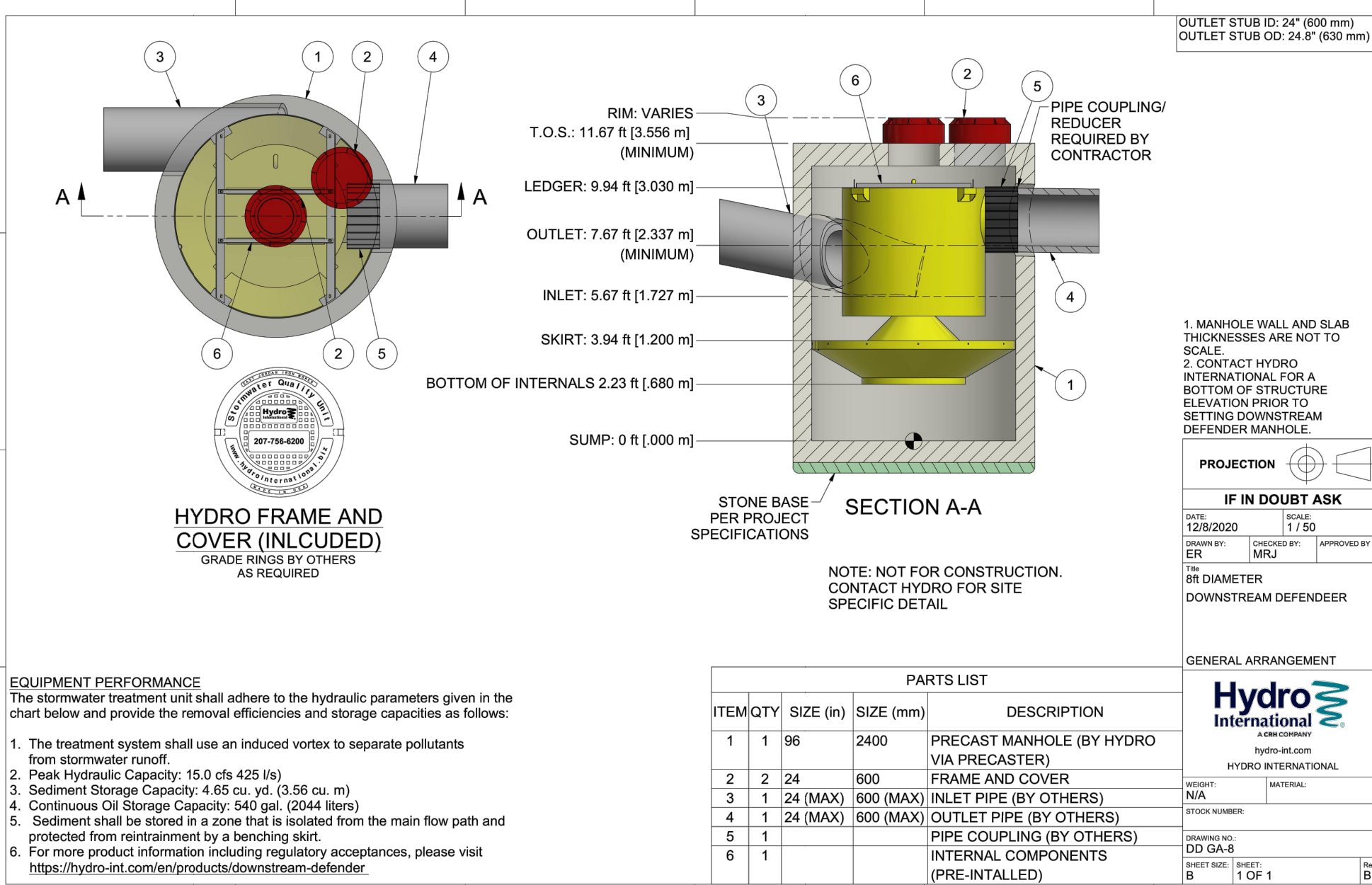
GEOTEXTILE SILT FENCE (NTS)



STOCKPILE DETAIL (NTS)



WETLAND DEMARCATION DETAIL (NTS)



- EQUIPMENT PERFORMANCE
- The stormwater treatment unit shall adhere to the hydraulic parameters given in the chart below and provide the removal efficiencies and storage capacities as follows:
- The treatment system shall use an induced vortex to separate pollutants from stormwater runoff.
 - Peak Hydraulic Capacity: 15.0 cfs (425 l/s)
 - Sediment Storage Capacity: 4.65 cu. yd. (3.56 cu. m)
 - Continuous Oil Storage Capacity: 540 gal. (2044 liters)
 - Sediment shall be stored in a zone that is isolated from the main flow path and protected from reentrainment by a benching skirt.
 - For more product information including regulatory acceptances, please visit <https://hydro-intl.com/en/products/downstream-defender>.

PARTS LIST			
ITEM	QTY	SIZE (in)	DESCRIPTION
1	1	96	2400 PRECAST MANHOLE (BY HYDRO VIA PRECASTER)
2	2	24	600 FRAME AND COVER
3	1	24 (MAX)	600 (MAX) INLET PIPE (BY OTHERS)
4	1	24 (MAX)	600 (MAX) OUTLET PIPE (BY OTHERS)
5	1		PIPE COUPLING (BY OTHERS)
6	1		INTERNAL COMPONENTS (PRE-INSTALLED)

Soil Test Pit Excavation Observations
DTH-1:

Depth	Color	Texture	Notes
0-12"	Gray	Sandy Gravel	Processed gravel
12-48"	Brown	Sandy Loam	
48-58"	Dark Gray	Sandy loam	with roots
58-60"	Brown	Sandy Loam	
60-72"	Brown and Gray	Silt loam	mottled

BOH = 84"
Groundwater discharge at 5 ft.

DTH-2:

Depth	Color	Texture	Notes
0-12"	Gray	Sandy Gravel	Processed gravel
12-38"	Brown	Sandy Loam	With cobble
38-48"	Dark brown	Sandy Loam	With roots
48-60"	Brown	Sandy Loam	
60-82"	Brown and Gray	Silt loam	mottled

BOH = 84"
Groundwater discharge at 6.8'

DTH-3:

Depth	Color	Texture	Notes
0-9"	Gray	Sandy Gravel	Processed gravel
9-24"	Brown	sand	
24 - 43"	Reddish	sand	
43-84"	Gray	sand	Depleted layer

BOH = 7'
GW @ 6'

DTH-4:

Depth	Color	Texture	Notes
0-20"	Dark Gray	Sandy Gravel	Processed bituminous gravel
20-38"	Yellowish brown	Fine sandy loam	Abundant roots
38-77"	Grayish brown	Silt loam	Mottling to bottom of hole

BOH = 6.5'
GW @ 5'

PERCOLATION TEST DATA

Perco Hole: 1		Date: 1/21/2025	
Depth:	30 in.	Drop (in.)	Interval (min.)
Time	Depth (in.)	Drop (in.)	Interval (min.)
11:10	8.00		
11:20	12.00	4.00	00:10
11:30	15.50	3.50	00:10
11:40	19.00	3.50	00:10
11:50	20.50	1.50	00:10
12:00	22.00	1.50	00:10
12:10	23.00	1.00	00:10
Final Rate:	1" in	10.00	minutes

Restoration Plan for Disturbed Area at 284 New Canaan Avenue

- Removal of Materials**
 - All deposited concrete blocks and other materials present in the disturbed area will be removed as part of the corrective action.
- Site Grading**
 - The area will be properly graded to restore natural contours and ensure proper drainage.
- Soil Preparation**
 - All disturbed areas will be covered with topsoil to provide a suitable growing medium for vegetation.
 - The topsoil will be spread evenly and raked to achieve uniform coverage.
- Seeding and Vegetation Restoration**
 - The entire area will be seeded with a Conservation Wildlife Mix sourced from New England Plants to promote native habitat restoration.
 - The seed mix will include native grasses and wildflowers suitable for local wildlife and soil stabilization.
- Erosion Control Measures**
 - Temporary erosion control measures (such as straw mulch or erosion control blankets) will be applied to stabilize the soil until vegetation establishes.
 - Additional erosion control measures will be implemented as necessary to prevent soil displacement.
- Monitoring and Maintenance**
 - The restored area will be monitored for vegetation establishment.
 - Any bare or eroded spots will be reseeded as needed.
 - Regular inspections will ensure successful restoration, and additional corrective actions will be taken if necessary.

New England Conservation/Wildlife Mix

BOTANICAL NAME	COMMON NAME	INDICATOR STATUS
ELYMUS VIRGINICUS	VIRGINIA WILD RYE	FACW-
SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	FACU
ANDROPOGON GERARDII	BIG BLUESTEM	FAC
FESTUCA RUBRA	RED FESCUE	FACU
SORGHASTRUM NUTANS	INDIAN GRASS	UPL
PANICUM VIRGATUM	SWITCH GRASS	FAC
CHAMAECRISTA FASCICULATA	PARTRIDGE PEA	FACU
DESMODIUM CANADENSE	SHOWY TICK TREFOIL	FAC
ASCLEPIAS TUBEROSA	BUTTERFLY MILKWEED	NI
BIDENS FRONDOSA	BEGGAR TICKS	FACW
EUPATORIUM PURPUREUM (EUTROCHIUM MACULATUM)	PURPLE JOE PYE WEED	FAC
RUBICECIA HIRTA	BLACK EYED SUSAN	FACU-
ASTER PILOSUS (SYMPHYOTRICHUM PILOSUM)	HEATH (OR HAIRY) ASTER	UPL

APPLY: 25 LBS/ACRE :1750 SQ FT/LB

THE NEW ENGLAND CONSERVATION/WILDLIFE MIX PROVIDES A PERMANENT COVER OF GRASSES, WILDFLOWERS, AND LEGUMES FOR BOTH GOOD EROSION CONTROL AND WILDLIFE HABITAT VALUE. THE MIX IS DESIGNED TO BE A NO MAINTENANCE SEEDING, AND IS APPROPRIATE FOR CUT AND FILL SLOPES, DETENTION BASIN SIDE SLOPES, AND DISTURBED AREAS ADJACENT TO COMMERCIAL AND RESIDENTIAL PROJECTS.

03/11/2025 REVISD PER REVIEW COMMENTS

02/28/2025 REVISD PER DPM COMMENTS

01/23/2025 PLANTINGS AND NOTES

REVISION DATE ISSUE

LANDTECH

SITE/CIVIL • ENVIRONMENTAL • SURVEYING • PLANNING

518 RIVERSIDE AVENUE • WESTPORT, CT 06880 • 203-454-2110

HELLO@LANDTECHCONSULT.COM • WWW.LANDTECHCONSULT.COM

PREPARED FOR:

INDIAN HILL RE, LLC

PROJECT LOCATION:

284 NEW CANAAN AVENUE
NORWALK, CT

PROJECT TITLE:

#S19-499B
RESTORATION PLAN

DRAWING TITLE:

NOTES AND DETAILS

PROJECT No. 23015-02

DATE: 12/18/2024 DESIGNED BY: SM CHECKED BY: BC

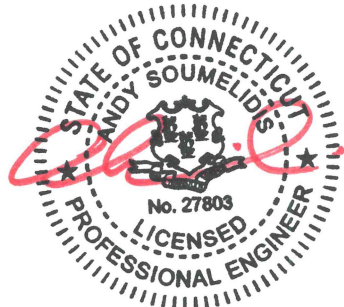
SCALE: N.T.S.

PROJECT STATUS:

DESIGN DEVELOPMENT
NOT FOR CONSTRUCTION

STATE OF CONNECTICUT
LANDTECH
27803
LICENSED PROFESSIONAL ENGINEER

C-2.0

STORMWATER MANAGEMENT REPORT for 284 New Canaan Avenue Norwalk, CT December 18, 2024 Revised: March 11, 2025	
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Narrative:

The owner of 284 New Canaan Avenue, Norwalk, CT proposes to construct an addition to an existing contractor's yard and related improvements. Improvements are limited to the areas related to the construction of the above-listed structures and lawn areas as shown on the site plans prepared by LANDTECH.

The property is 11.12 acres in size, it is located to the north of the Merritt Parkway. There are wetlands located throughout the property.

The NRCS soils map indicates the upland soils in the vicinity of the proposed improvements to be Scarboro Muck, a well-drained soil in Hydrologic Soil Group A/D. The site also contains Udorthents Urban Land and Canton and Charlton fine sandy loam which are well-drained soils in Hydrologic Soil Group B. The site also contains Leicester fine sandy loam which is a well-drained soil in Hydrologic Soil Group B/D. Based on field observation, an infiltration rate of 3"/hour (observed infiltration rate of 1" in 10 min.) was utilized in the design for the proposed drainage system. It is assumed that the underlying soils will allow the detained storm water to infiltrate within 72 hours, per CT DEEP guidance (requires a 0.50"/hour infiltration rate).

For the purposes of modeling the pre and post development conditions, we have analyzed one (1) drainage area in the pre-development conditions and two (2) subareas in the post-development conditions. Existing drainage area 1 currently sheet flows to the south towards the existing wetlands and contains the entire property including the existing buildings and parking/driveway areas.

Proposed subarea 1A contains the proposed expanded yard and a portion of the existing parking/driveway area and will be collected via a system of catch basin and collection piping and will discharge to a proposed water quality chamber that will discharge to a proposed underground detention system. The proposed underground detention system will discharge via the inlet catch basin. Proposed subarea 1B contains the remainder of the site including the existing buildings and the remainder of the existing parking/driveway areas and will discharge via sheet flow to the south towards the existing wetlands matching existing conditions.

The proposed underground detention system is only intended to capture runoff from the proposed expanded yard and a portion of the existing parking/driveway area. The proposed underground detention system is sized based on the required water quality volume as well as runoff control for the 2-yr, 10-yr, 25-yr, 50-yr, and 100-yr storm events.

Table 1 on the following page summarizes the required and proposed water quality volume (WQv) and runoff control for the design storm events in accordance with the City of Norwalk Drainage Manual.

Storm Event	Drainage Area	Existing / Req.	Proposed	Δ	Δ (%)
2-YR	DA-1	2.5 cfs	0.7 cfs	-1.8	-72.0%
10-YR	DA-1	10.9 cfs	5.5 cfs	-5.4	-49.5%
25-YR	DA-1	17.8 cfs	11.0 cfs	-6.8	-38.2%
50-YR	DA-1	23.4 cfs	19.1 cfs	-4.3	-18.4%
100-YR	DA-1	29.8 cfs	19.8 cfs	-10.0	-33.6%
WATER QUALITY VOLUME (cf)		5510.70	22675.10		
WATER QUALITY FLOW (cf)		2.49	6.90		

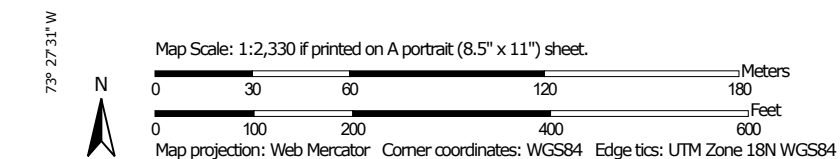
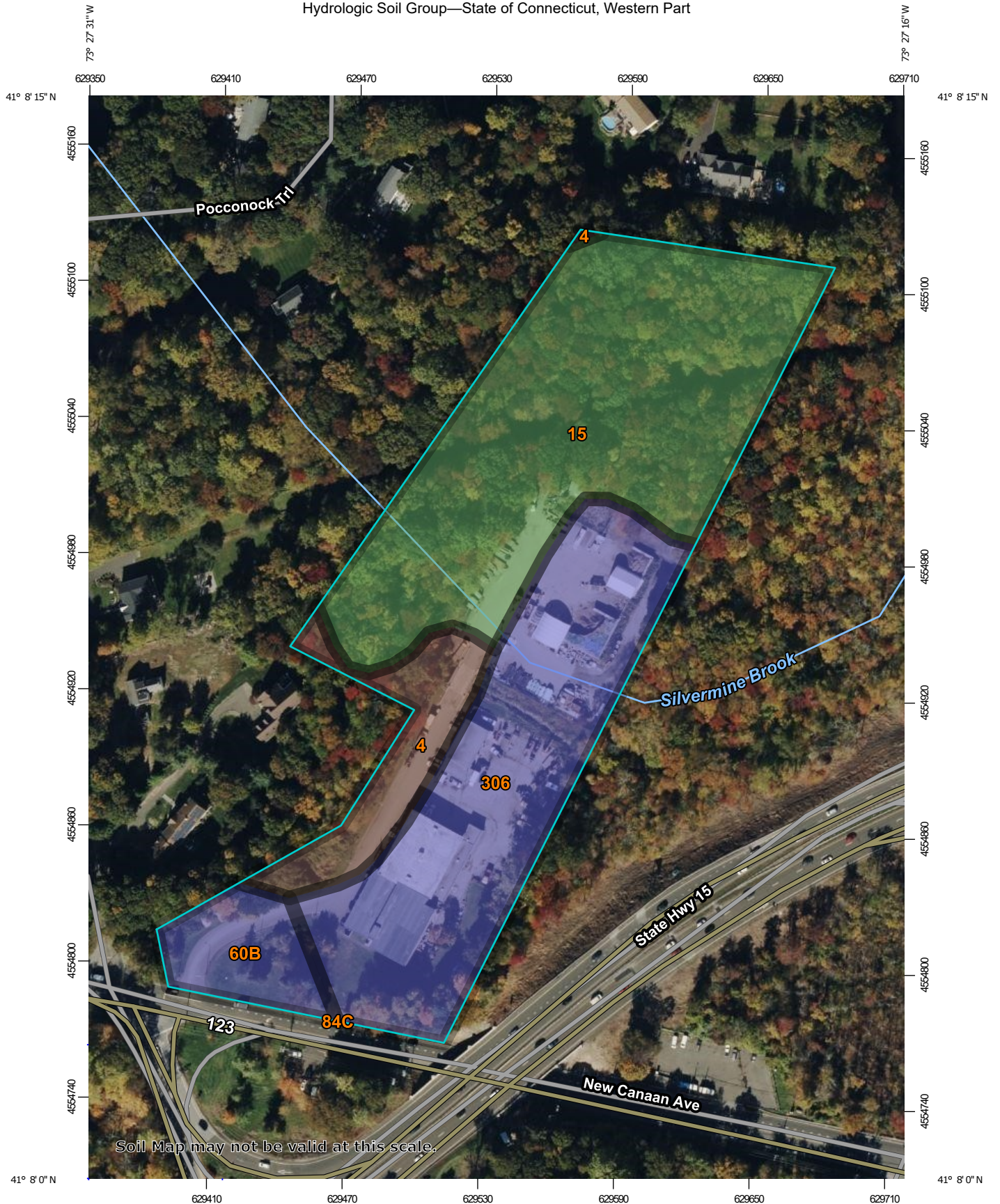
It is our professional opinion that upon construction of the proposed improvements, stormwater discharge from the site will comply with the applicable rules and regulations of the City of Norwalk and will not result in any adverse impacts to adjacent neighbors or downstream drainage systems.

Exhibits:

- NRCS Soils Report
- Watershed Maps
- Water Quality and Groundwater Recharge Volume
- Stormwater Runoff Computations

NRCS Soils Report

Hydrologic Soil Group—State of Connecticut, Western Part



**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

10/2/2023
Page 1 of 4
Page 1502 of 1610

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
4	Leicester fine sandy loam	B/D	1.0	9.7%
15	Scarboro muck, 0 to 3 percent slopes	A/D	5.2	47.8%
60B	Canton and Charlton fine sandy loams, 3 to 8 percent slopes	B	0.7	6.9%
84C	Paxton and Montauk fine sandy loams, 8 to 15 percent slopes	C	0.0	0.0%
306	Udorthents-Urban land complex	B	3.8	35.6%
Totals for Area of Interest			10.8	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

Watershed Maps



NOT FOR CONSTRUCTION
FOR REVIEW AND APPROVAL BY
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[illegible]

LANDTECH
SITE/CIVIL • ENVIRONMENTAL • SURVEYING • PLANNING
518 RIVERSIDE AVENUE • WESTPORT, CT 06880 • 203-454-2110
HELLO@LANDTECHCONSULT.COM • WWW.LANDTECHCONSULT.COM

INDIAN HILL RE, LLC	PROJECT LOCATION
284 NEW CANAAN AVENUE NORWALK, CT	TITLE
SITE IMPROVEMENTS FOR A PROPOSED CONTRACTORS YARD EXISTING WATERSHED MAP	

PROJECT No. 23015-02	
SCALE 1" = 100'	DATE 12/18/2024
DESIGNED BY: SM	CHECKED BY: AS

EX-WS



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PR-WS

Water Quality and Groundwater Recharge Volume Calculations

Project: 284 New Canaan Ave
Norwalk, CT

By: SM
Checked: AS

Date: 12/18/2024
Revised: 2/28/2025

1. Water Quality Volume

a. Compute volumetric runoff coefficient, R

$R = 0.05 + 0.009(I)$

Proposed

Total Drainage Area, A	1.598	acres
Total Impervious Area	1.598	acres
Percentage of Impervious Area, I	100.0%	
Runoff Coefficient, R	0.950	

b. Compute water quality volume, WQV

$WQV = [(1')(R)(A)]/12$

Total Project Area, A	1.598	acres
Runoff Coefficient, R	0.950	
Water Quality Volume, WQV	0.127	acre-foot
Water Quality Volume, WQV	5,510.70	cf

WQV in Underground Detention	22,675.10	cf	Provided
------------------------------	-----------	----	----------

Water Quality Volume provided > required

PROJECT	284 New Canaan Avenue
DATE	2/28/2025
SUBJECT	Water Quality Flow Calculations DA-1A

PREPARED BY	SM
CHECKED BY	AS

SUBCATCHMENT AREAS

Inlet ID	Impervious Area	Grass Area	Wooded Area
DA-1A	1.598	0.000	0.000
	1.598	0.000	0.000

WATER QUALITY VOLUME (WQV) CALCULATION

Area (A) =	1.598	acres
Area (A) =	0.00250	square miles
Design Precipitation (P) =	1.5	inch
% Impervious Cover (I) =	100	
Volumetric Runoff Coefficient (R) =	0.950	

WQV = 0.190 ac-ft

WATER QUALITY FLOW (WQF) CALCULATION

RUNOFF CURVE NUMBER (CN)

Runoff Depth (Q) =	1.425	inches
CN =	99	Figure 2-1 (SWQM)

TIME OF CONCENTRATION (Tc), 10 minute minimum

Tc =	10	min
Tc =	0.17	hours

Initial Abstraction (I _a) =	0.128	Table 4-1 (SWQM)
I _a /P Calculation =	0.085333333	
Unit Peak Discharge (q _u) =	700	Exhibit 4-111 (SWQM)

WQF = 2.49 cfs

Performance Verification of Very Fine Sediment Removal with 50-Micron Silica Sand

The Downstream Defender® is an advanced Hydrodynamic Vortex Separator that removes sediment, oil and floatables from stormwater runoff. It has flow modifying internal components to stabilize the flow regime within the device, providing higher pollutant removal capabilities and protection from high scour velocities during intense storm events (Fig.1).

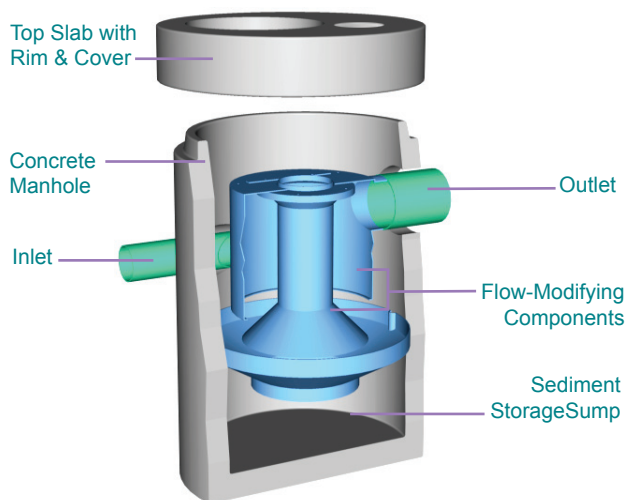


Fig.1 The flow modifying components stabilize the flow regime to provide higher pollutant removal capabilities.

Verification of Fine Sediment Removal

Although runoff from intense storm events has enough energy to mobilize large pollutants such as trash and coarse sediments, small storm events tend to mobilize very fine sediment. To evaluate the ability of the Downstream Defender® to capture these pollutants, a full-scale 4-ft diameter unit was tested under controlled laboratory conditions (Fig.2).

Test procedures were based on requirements to obtain General Use Level Designation (GULD) for Pretreatment by the Washington Department of Ecology (WA DOE) and a Certificate of Technology Assessment under the New Environmental Technology Evaluation (NETE) Program by the Ontario Ministry of the Environment.

Clean water from a 23,000 gal reservoir was pumped to the Downstream Defender® for 4 test runs with target flow rates of 0.4 cfs to 2.2 cfs with no bypassed flows, and inlet concentrations of 200 to 300 mg/L (Fig.3). A very fine gradation of test sediment was produced by mechanically sieving U.S. Silica

grade F-110 sand with a #200 sieve to ensure that all test sediment was less than 75-micron with an approximate mean particle size of 50-micron.

Five influent and effluent grab samples were collected per test run, for a total of 18 sample pairs. All samples were analyzed for Total Suspended Solids (TSS) by APHA SM2540D. Background influent and effluent samples were analyzed to ensure the reservoir supplied clean water. The average removal efficiency was calculated for each flow rate.

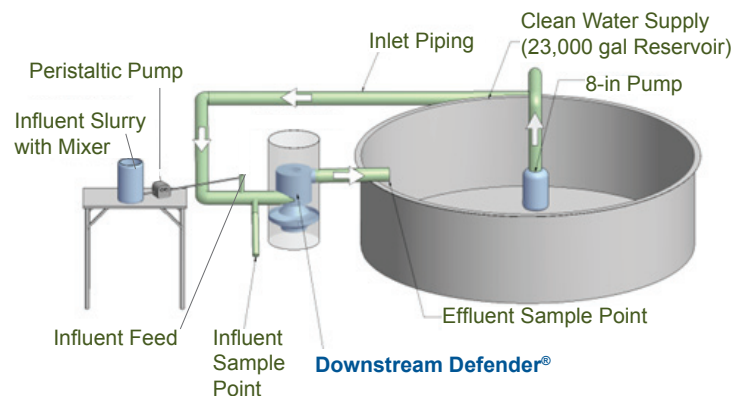


Fig.2 Hydro International's Portland, Maine test facility.



Fig.3 Grab samples were taken from the effluent discharge (pictured, left) and the influent to determine removal efficiency.

Downstream Defender®

Performance Testing Results

Test data demonstrates 80% removal of very fine sediment for all flows up to 1.2 cfs (Fig.4). As the Downstream Defender® does not incorporate an internal bypass, it will continue to capture sediment as flows increase. Whereas internally bypassing units will begin to discharge higher flows without any treatment, the test results project that the Downstream Defender® will continue to provide positive removal efficiencies up to its Peak Treatment Flow Rate of 3 cfs (Fig.4).

These results confirm the efficiency of the Downstream Defender® over the wide range of tested flow rates and highlight the benefit of internal components that stabilize the flow regime and prevent bypassing of untreated flow.

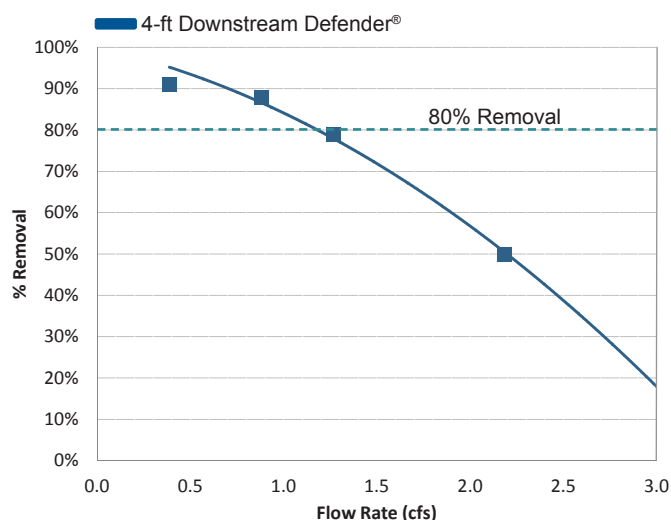


Fig.4 Results of the testing show 80% removal of the very fine test sediment up to 1.2 cfs.

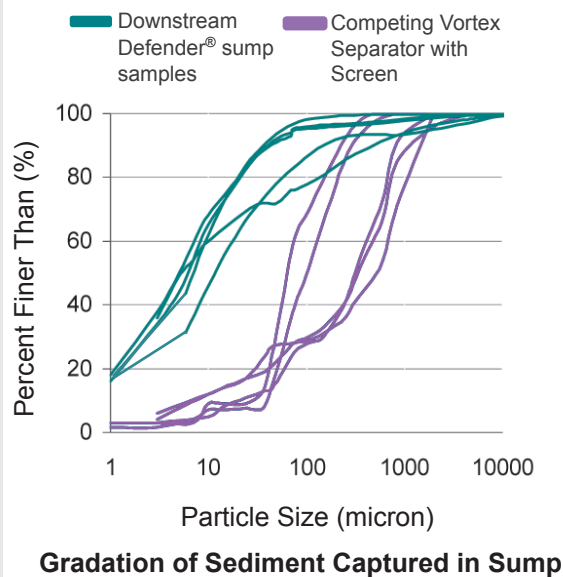
Downstream Defender® Sizing

Flow rates for the 6, 8, 10 and 12-ft diameter Downstream Defender® models for 80% removal of 50-micron sediment are shown in the table below.

Model Unit Diameter	Treatment Flow Rates (80% Removal)	Peak Treatment Flow Rates
(ft)	(cfs)	(cfs)
4	1.2	3.0
6	3.4	8.0
8	6.9	15.0
10	12.1	25.0
12	19.0	38.0

Field Samples Confirm Fine Sediment Removal Performance

The results from the 50-micron sediment removal laboratory testing are consistent with observations from field sampling of Downstream Defender® sump material at many different sites. Sediment captured and retained in the sumps of various Downstream Defender® installations has been shown to be significantly finer than the sediment captured and retained in other stormwater treatment chambers (Faram et al., 2007)¹. This observation has been corroborated from comparing particle size distributions of sediments captured in a competing vortex separator installed at sites with equivalent land use. In most cases, at least 80% of the material in the Downstream Defender® sump samples was 20-micron or finer. Sump samples from the competing vortex separator showed much less capture and retention of fine material, with only 10 - 18% of sump material in the range of 20-micron or finer.



References

1. Faram, M. G., Iwugo, K.O. and Andoh, R.Y.G., 2007, "A Field Study of Sediments Captured by Flow-Through Stormwater Interceptors", Novatech: 6th International Conference on Sustainable Techniques and Strategies in Urban Water Management, Lyon, France, 25-28 June, pp 641-648.

Project: **284 New Canaan Avenue**
Norwalk, CT

By: **SM**
Checked: **AS**

Date: **12/18/2024**
Revised:

1. Water Quality Volume

a. Compute volumetric runoff coefficient, *R*

$$R = 0.05 + 0.009(I)$$

	Proposed	Existing
Total Drainage Area, <i>A</i>	1.598 acres	1.598 acres
Total Impervious Area	1.598 acres	1.503 acres
Percentage of Impervious Area, <i>I</i>	100.0%	94.1%
Runoff Coefficient, <i>R</i>	0.950	0.896

b. Compute water quality volume, *WQV*

$$WQV = [(1")(R)(A)]/12$$

Total Project Area, <i>A</i>	1.598 acres	
Runoff Coefficient, <i>R</i>	0.950	
Water Quality Volume, <i>WQV</i>	0.127 acre-foot	
Water Quality Volume, <i>WQV</i>	5,510.70 cf	Required
WQV in 24" High Concrete Galleries	22,675.10 cf	Provided

Water Quality Volume provided > required

2. Groundwater Recharge Volume

Compute the groundwater recharge volume (GRV) using the hydrologic soil group approach.

a. Read runoff depth to be recharged, *D* (Table 1-1 of 2017 Rev. City of Norwalk Stormwater Drainage Manual)

Runoff Depth to be recharged, *D* 0.6 inches (A Soils)

b. Compute net increase in site imperviousness

$$I \text{ (proposed)} - I \text{ (existing)}$$

Net Increase, *Delta I* 0.054

c. Compute groundwater recharge volume, *GRV*

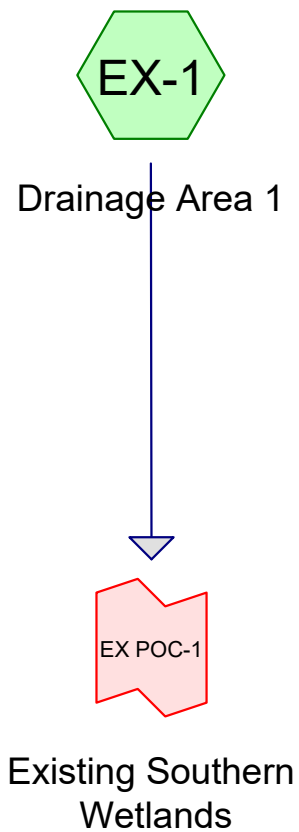
$$GRV = [(D)(A)(I)]/12$$

Runoff Depth to be recharged, *D* 0.6 inches
Total Drainage Area, *A* 1.598 acres
Net Increase, *Delta I* 0.054
GRV 0.00428 acre-foot
***GRV* 186 cf**

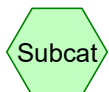
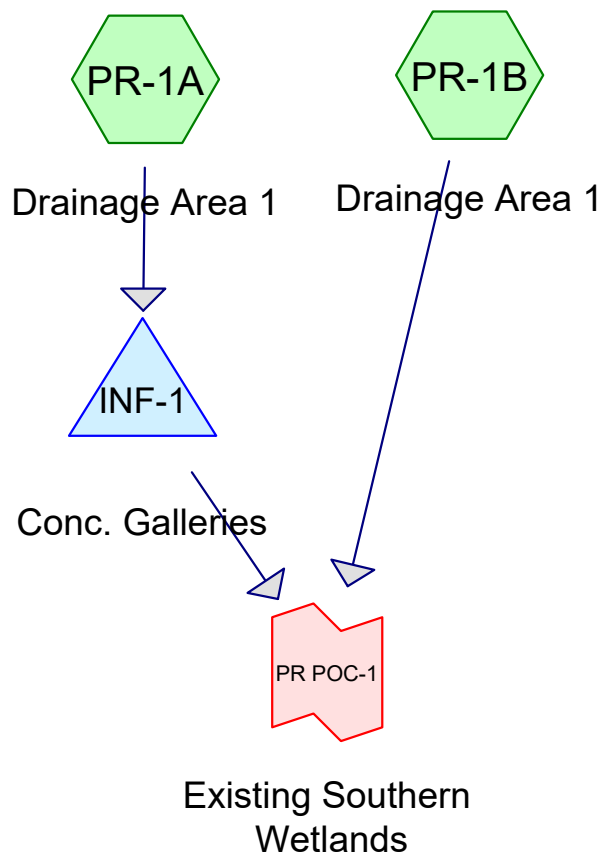
Retention Volume provided = 22675 cf > 186 cf

Stormwater Runoff Computations

Existing Conditions



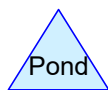
Proposed Conditions



Subcat



Reach



Pond



Link

Routing Diagram for 284 New Canaan Ave - Drainage
Prepared by Land-Tech Consultant, Printed 2/28/2025
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284 New Canaan Ave - Drainage

Prepared by Land-Tech Consultant

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Page 2

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2yr Storm	Type III 24-hr		Default	24.00	1	3.56	2
2	10yr Storm	Type III 24-hr		Default	24.00	1	5.40	2
3	25yr Storm	Type III 24-hr		Default	24.00	1	6.55	2
4	50yr Storm	Type III 24-hr		Default	24.00	1	7.41	2
5	100yr Storm	Type III 24-hr		Default	24.00	1	8.33	2

284 New Canaan Ave - Drainage

Prepared by Land-Tech Consultant

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Area Listing (selected nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
88,436	61	>75% Grass cover, Good, HSG B (EX-1, PR-1B)
44,316	98	Existing Buildings (EX-1, PR-1B)
240,838	98	Existing Parking/Driveway Areas (EX-1, PR-1A, PR-1B)
2,910	98	Existing Walks & Stairs (EX-1, PR-1B)
4,143	98	Previously Approved Parking/Driveway Areas (PR-1A)
441,090	30	Woods, Good, HSG A (EX-1, PR-1B)
146,697	55	Woods, Good, HSG B (EX-1, PR-1B)
968,430	57	TOTAL AREA

284 New Canaan Ave - Drainage

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Type III 24-hr 2yr Storm Rainfall=3.56"

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Summary for Subcatchment EX-1: Drainage Area 1

Runoff = 2.5 cfs @ 12.37 hrs, Volume= 17,586 cf, Depth> 0.44"

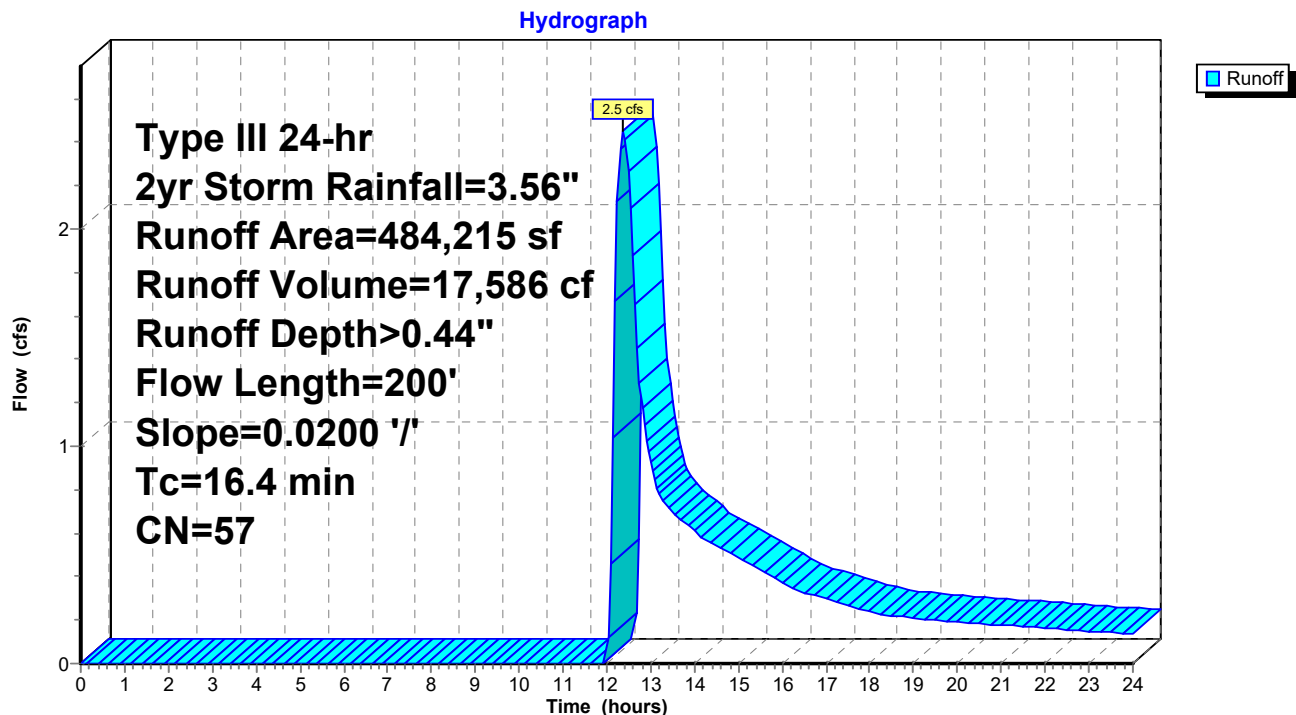
Routed to Link EX POC-1 : Existing Southern Wetlands

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2yr Storm Rainfall=3.56"

	Area (sf)	CN	Description
*	22,158	98	Existing Buildings
*	120,419	98	Existing Parking/Driveway Areas
*	1,455	98	Existing Walks & Stairs
	42,983	61	>75% Grass cover, Good, HSG B
	221,097	30	Woods, Good, HSG A
	76,103	55	Woods, Good, HSG B
	484,215	57	Weighted Average
	340,183		70.25% Pervious Area
	144,032		29.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	200	0.0200	0.20		Sheet Flow, Grass: Short n= 0.150 P2= 3.48"

Subcatchment EX-1: Drainage Area 1



284 New Canaan Ave - Drainage

Prepared by Land-Tech Consultant

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Type III 24-hr 2yr Storm Rainfall=3.56"

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Summary for Subcatchment PR-1A: Drainage Area 1

Runoff = 5.6 cfs @ 12.07 hrs, Volume= 19,291 cf, Depth> 3.32"
Routed to Pond INF-1 : Conc. Galleries

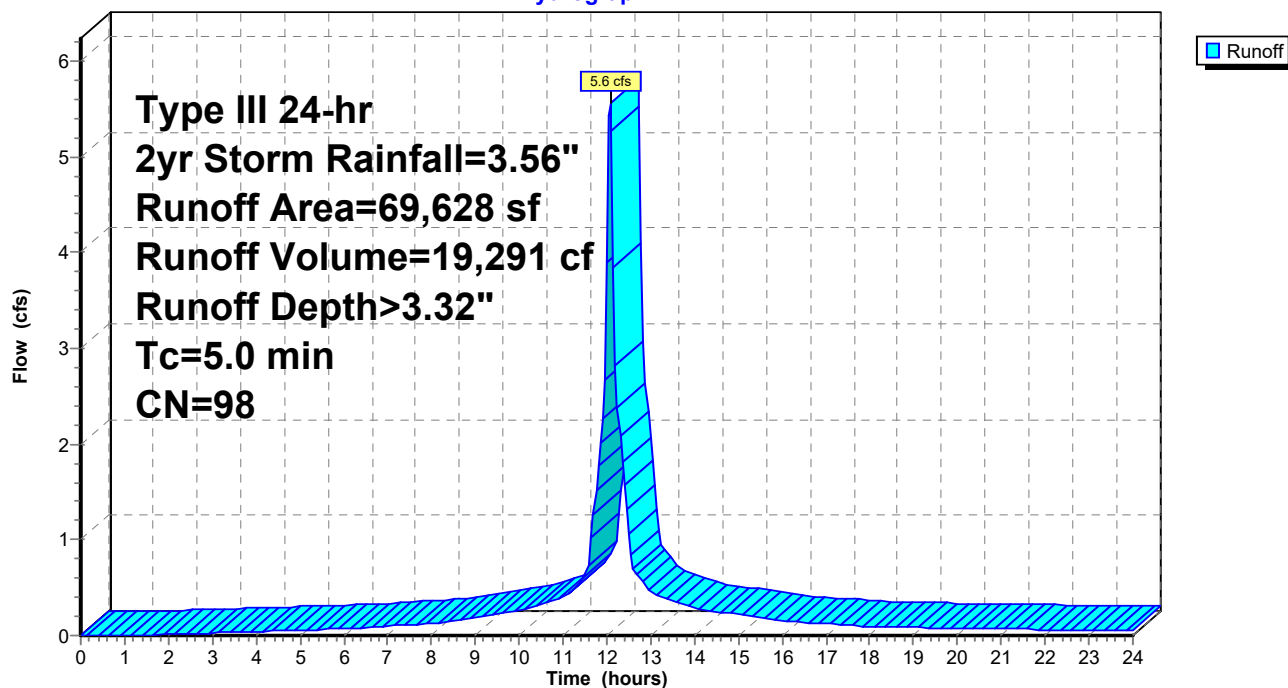
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2yr Storm Rainfall=3.56"

	Area (sf)	CN	Description
*	65,485	98	Existing Parking/Driveway Areas
*	4,143	98	Previously Approved Parking/Driveway Areas
	69,628	98	Weighted Average
	69,628		100.00% Impervious Area

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

Subcatchment PR-1A: Drainage Area 1

Hydrograph



284 New Canaan Ave - Drainage

Prepared by Land-Tech Consultant

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Type III 24-hr 2yr Storm Rainfall=3.56"

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Summary for Subcatchment PR-1B: Drainage Area 1

Runoff = 0.7 cfs @ 12.52 hrs, Volume= 8,181 cf, Depth> 0.24"

Routed to Link PR POC-1 : Existing Southern Wetlands

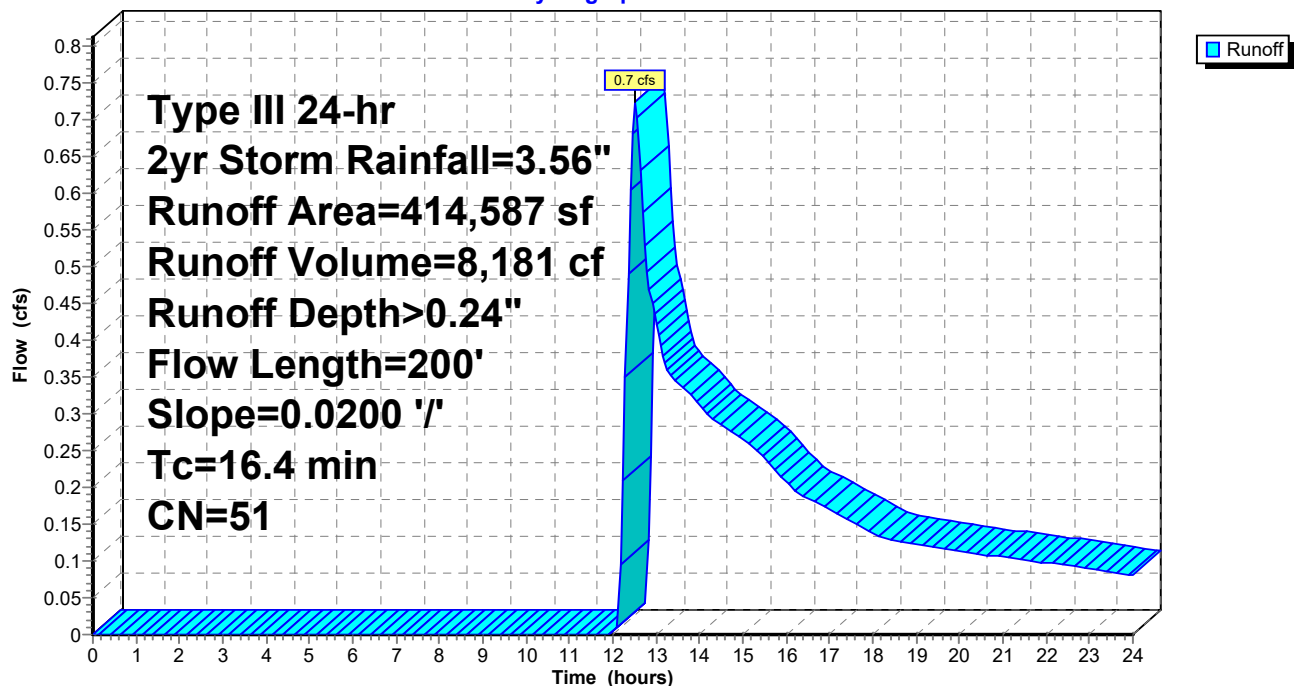
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2yr Storm Rainfall=3.56"

	Area (sf)	CN	Description
*	22,158	98	Existing Buildings
*	54,934	98	Existing Parking/Driveway Areas
*	1,455	98	Existing Walks & Stairs
	45,453	61	>75% Grass cover, Good, HSG B
	219,993	30	Woods, Good, HSG A
	70,594	55	Woods, Good, HSG B
	414,587	51	Weighted Average
	336,040		81.05% Pervious Area
	78,547		18.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	200	0.0200	0.20		Sheet Flow, Grass: Short n= 0.150 P2= 3.48"

Subcatchment PR-1B: Drainage Area 1

Hydrograph



284 New Canaan Ave - Drainage

Type III 24-hr 2yr Storm Rainfall=3.56"

Prepared by Land-Tech Consultant

Printed 2/28/2025

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Summary for Pond INF-1: Conc. Galleries

Inflow Area = 69,628 sf, 100.00% Impervious, Inflow Depth > 3.32" for 2yr Storm event
 Inflow = 5.6 cfs @ 12.07 hrs, Volume= 19,291 cf
 Outflow = 0.6 cfs @ 11.60 hrs, Volume= 19,279 cf, Atten= 88%, Lag= 0.0 min
 Discarded = 0.6 cfs @ 11.60 hrs, Volume= 19,279 cf
 Primary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routed to Link PR POC-1 : Existing Southern Wetlands

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 2

Peak Elev= 194.25' @ 12.66 hrs Surf.Area= 9,248 sf Storage= 6,078 cf

Plug-Flow detention time= 61.2 min calculated for 19,239 cf (100% of inflow)

Center-of-Mass det. time= 60.7 min (813.6 - 753.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	193.45'	74 cf	68.00'W x 136.00'L x 2.00'H Field A 18,496 cf Overall - 18,311 cf Embedded = 185 cf x 40.0% Voids
#2A	193.45'	13,092 cf	Concrete Galley 4x8x2 x 289 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 289 Chambers in 17 Rows
		13,166 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	195.50'	24.0" x 24.0" Horiz. Catch Basin Overflow C= 0.600 Limited to weir flow at low heads
#2	Discarded	193.45'	3.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.6 cfs @ 11.60 hrs HW=193.47' (Free Discharge)↑ **2=Exfiltration** (Exfiltration Controls 0.6 cfs)**Primary OutFlow** Max=0.0 cfs @ 0.00 hrs HW=193.45' (Free Discharge)↑ **1=Catch Basin Overflow** (Controls 0.0 cfs)

Pond INF-1: Conc. Galleries - 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

17 Chambers/Row x 8.00' Long = 136.00' Row Length

17 Rows x 48.0" Wide = 68.00' Base Width

24.0" Chamber Height = 2.00' Field Height

289 Chambers x 45.3 cf = 13,091.7 cf Chamber Storage

289 Chambers x 63.4 cf = 18,311.0 cf Displacement

18,496.0 cf Field - 18,311.0 cf Chambers = 185.0 cf Stone x 40.0% Voids = 74.0 cf Stone Storage

Chamber Storage + Stone Storage = 13,165.7 cf = 0.302 af

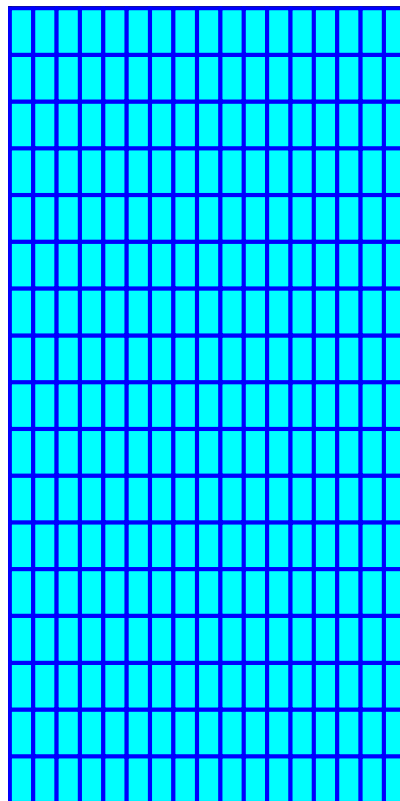
Overall Storage Efficiency = 71.2%

Overall System Size = 136.00' x 68.00' x 2.00'

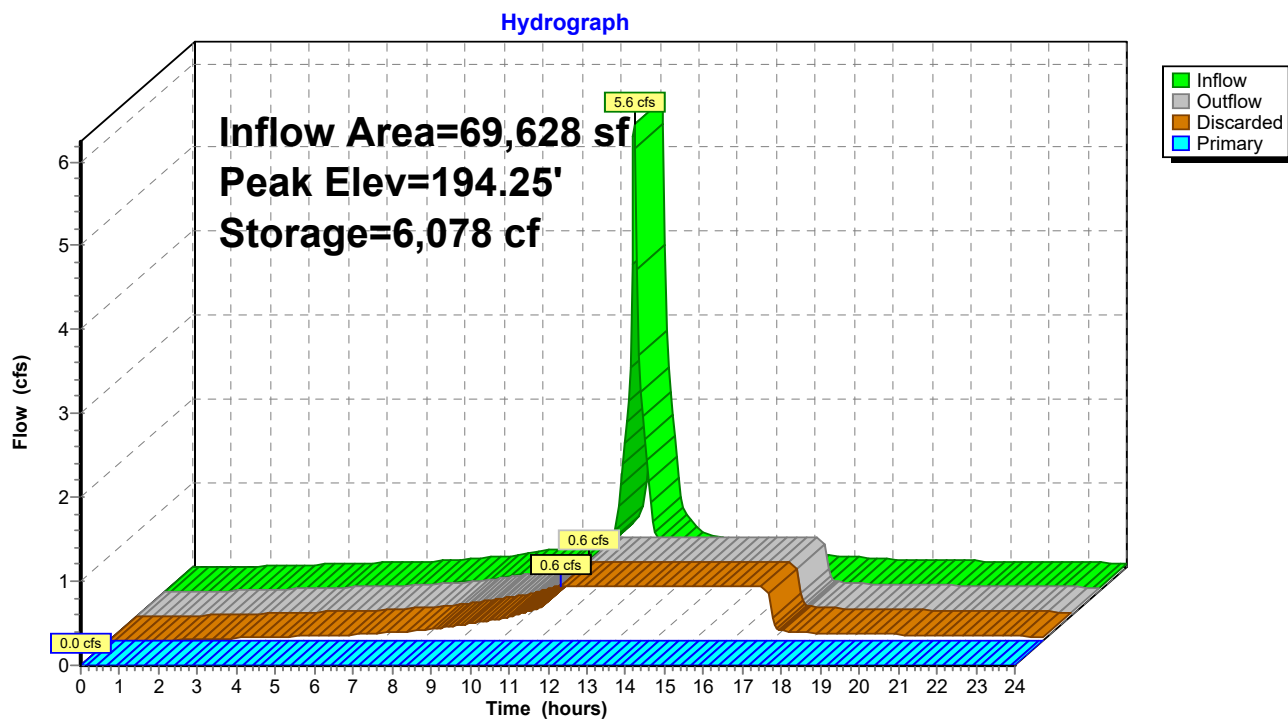
289 Chambers

685.0 cy Field

6.9 cy Stone



Pond INF-1: Conc. Galleries

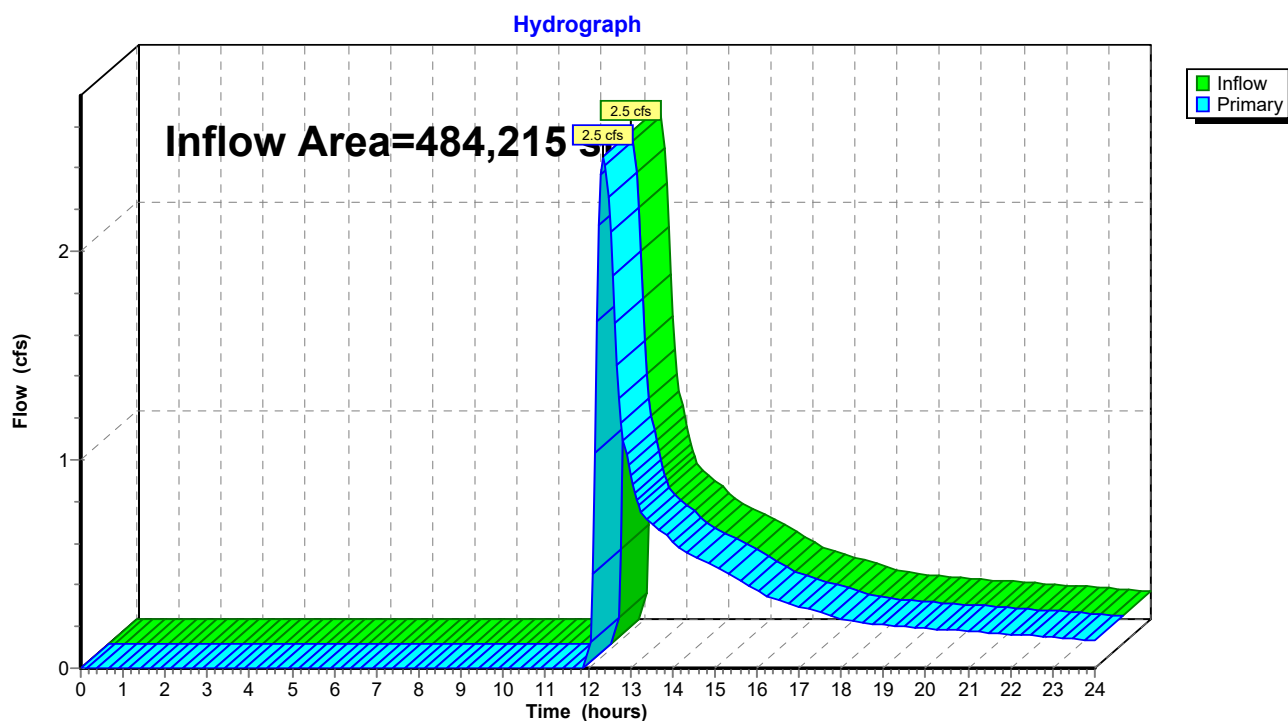


Summary for Link EX POC-1: Existing Southern Wetlands

Inflow Area = 484,215 sf, 29.75% Impervious, Inflow Depth > 0.44" for 2yr Storm event
 Inflow = 2.5 cfs @ 12.37 hrs, Volume= 17,586 cf
 Primary = 2.5 cfs @ 12.37 hrs, Volume= 17,586 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link EX POC-1: Existing Southern Wetlands



284 New Canaan Ave - Drainage

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Type III 24-hr 2yr Storm Rainfall=3.56"

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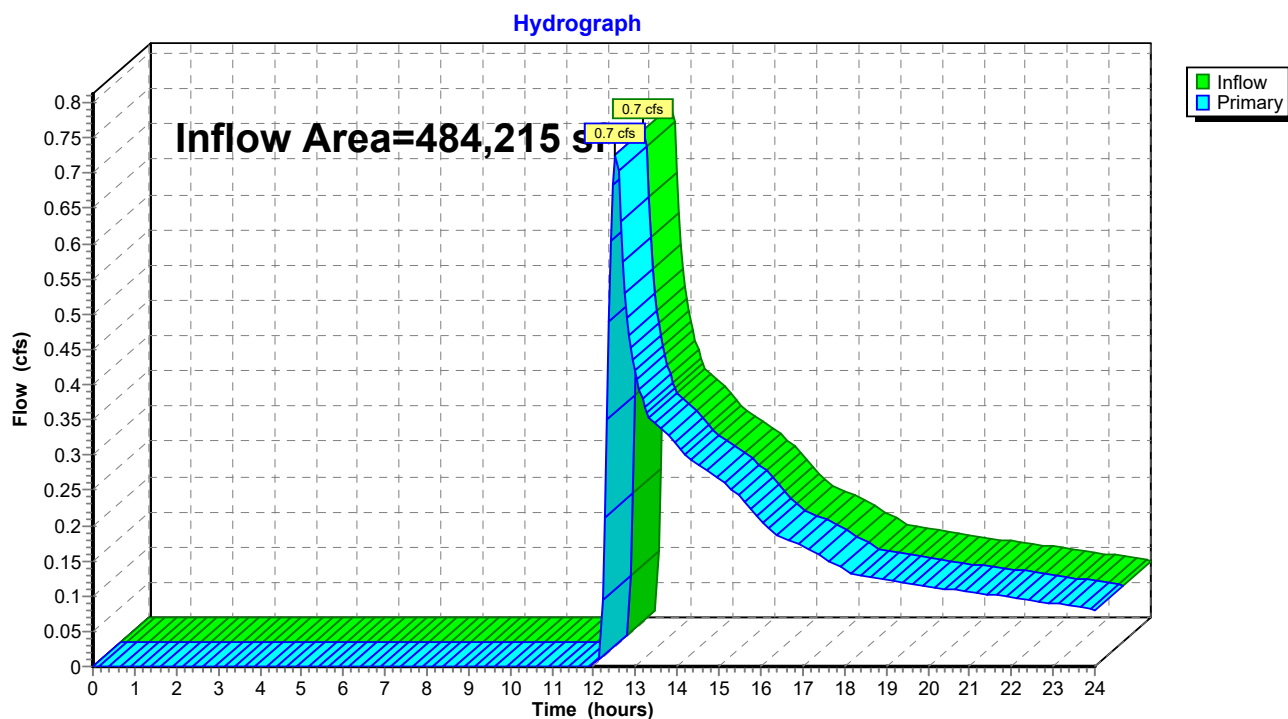
Page 11

Summary for Link PR POC-1: Existing Southern Wetlands

Inflow Area = 484,215 sf, 30.60% Impervious, Inflow Depth > 0.20" for 2yr Storm event
Inflow = 0.7 cfs @ 12.52 hrs, Volume= 8,181 cf
Primary = 0.7 cfs @ 12.52 hrs, Volume= 8,181 cf, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 6L

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link PR POC-1: Existing Southern Wetlands



284 New Canaan Ave - Drainage

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Type III 24-hr 10yr Storm Rainfall=5.40"

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Summary for Subcatchment EX-1: Drainage Area 1

Runoff = 10.9 cfs @ 12.26 hrs, Volume= 53,187 cf, Depth> 1.32"

Routed to Link EX POC-1 : Existing Southern Wetlands

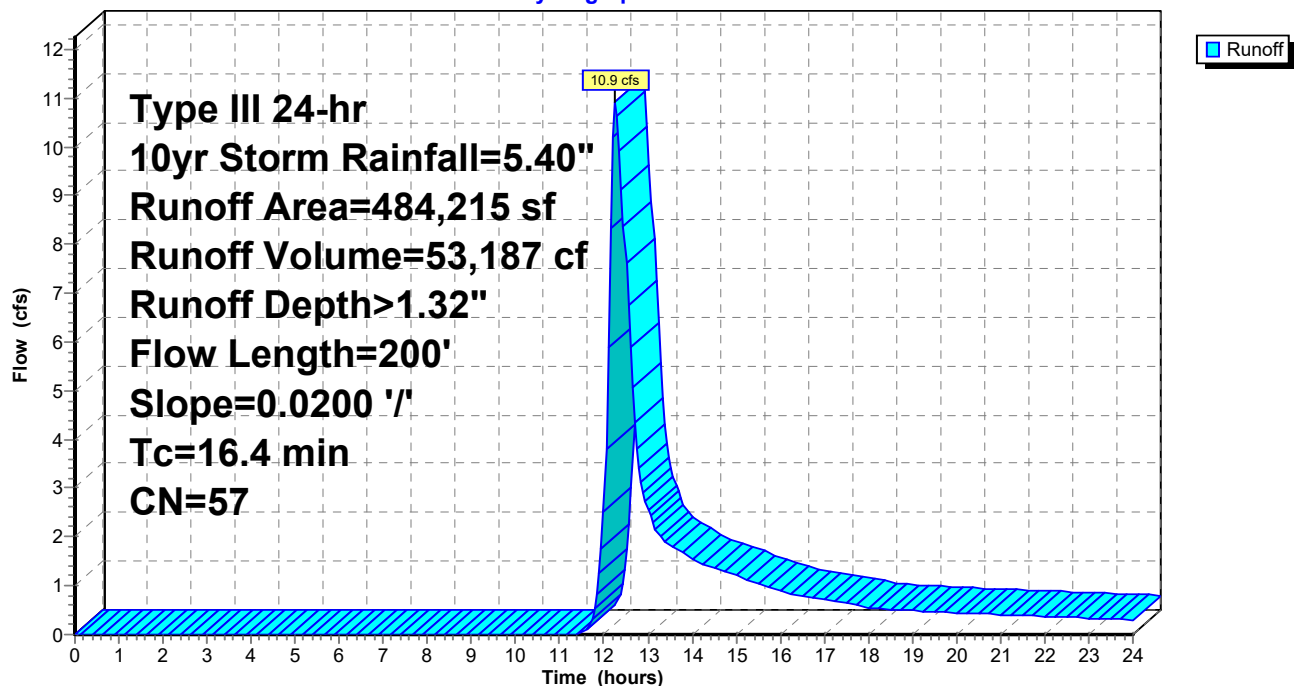
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10yr Storm Rainfall=5.40"

	Area (sf)	CN	Description
*	22,158	98	Existing Buildings
*	120,419	98	Existing Parking/Driveway Areas
*	1,455	98	Existing Walks & Stairs
	42,983	61	>75% Grass cover, Good, HSG B
	221,097	30	Woods, Good, HSG A
	76,103	55	Woods, Good, HSG B
	484,215	57	Weighted Average
	340,183		70.25% Pervious Area
	144,032		29.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	200	0.0200	0.20		Sheet Flow, Grass: Short n= 0.150 P2= 3.48"

Subcatchment EX-1: Drainage Area 1

Hydrograph



284 New Canaan Ave - Drainage

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Type III 24-hr 10yr Storm Rainfall=5.40"

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Summary for Subcatchment PR-1A: Drainage Area 1

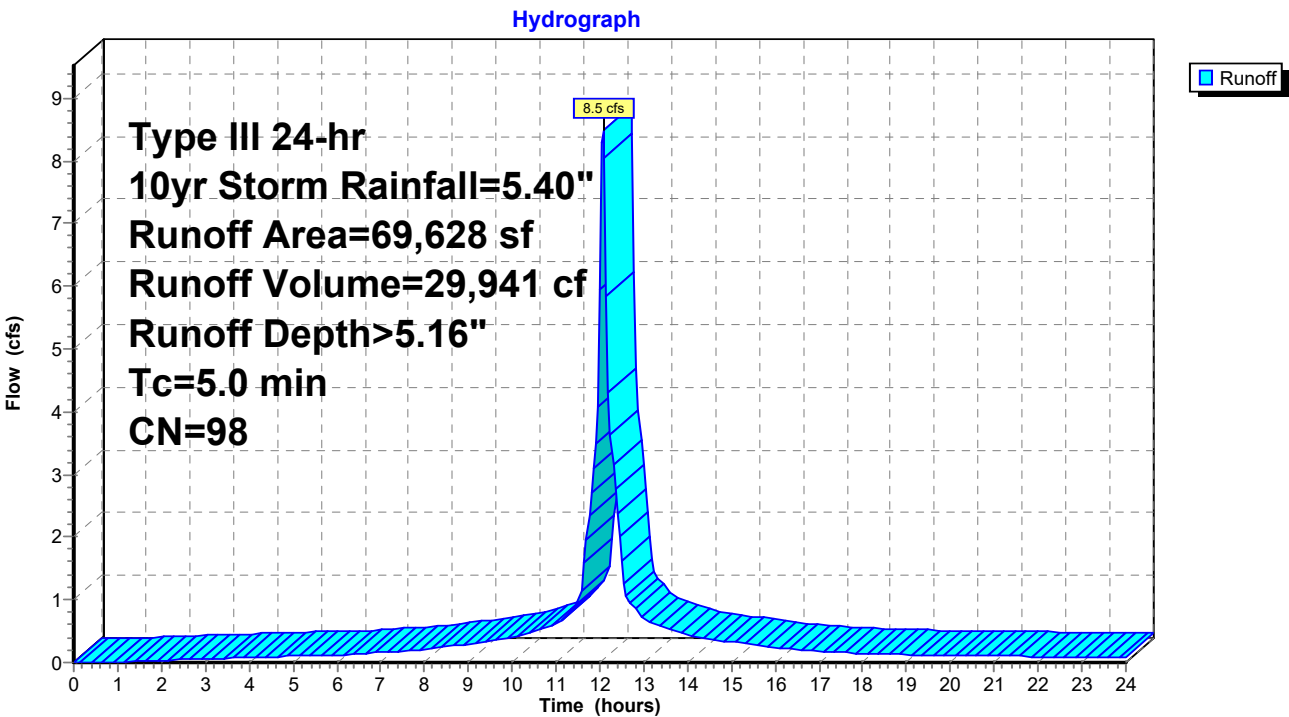
Runoff = 8.5 cfs @ 12.07 hrs, Volume= 29,941 cf, Depth> 5.16"
Routed to Pond INF-1 : Conc. Galleries

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10yr Storm Rainfall=5.40"

	Area (sf)	CN	Description
*	65,485	98	Existing Parking/Driveway Areas
*	4,143	98	Previously Approved Parking/Driveway Areas
	69,628	98	Weighted Average
	69,628		100.00% Impervious Area

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

Subcatchment PR-1A: Drainage Area 1



284 New Canaan Ave - Drainage

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Type III 24-hr 10yr Storm Rainfall=5.40"

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Summary for Subcatchment PR-1B: Drainage Area 1

Runoff = 5.5 cfs @ 12.30 hrs, Volume= 31,774 cf, Depth> 0.92"

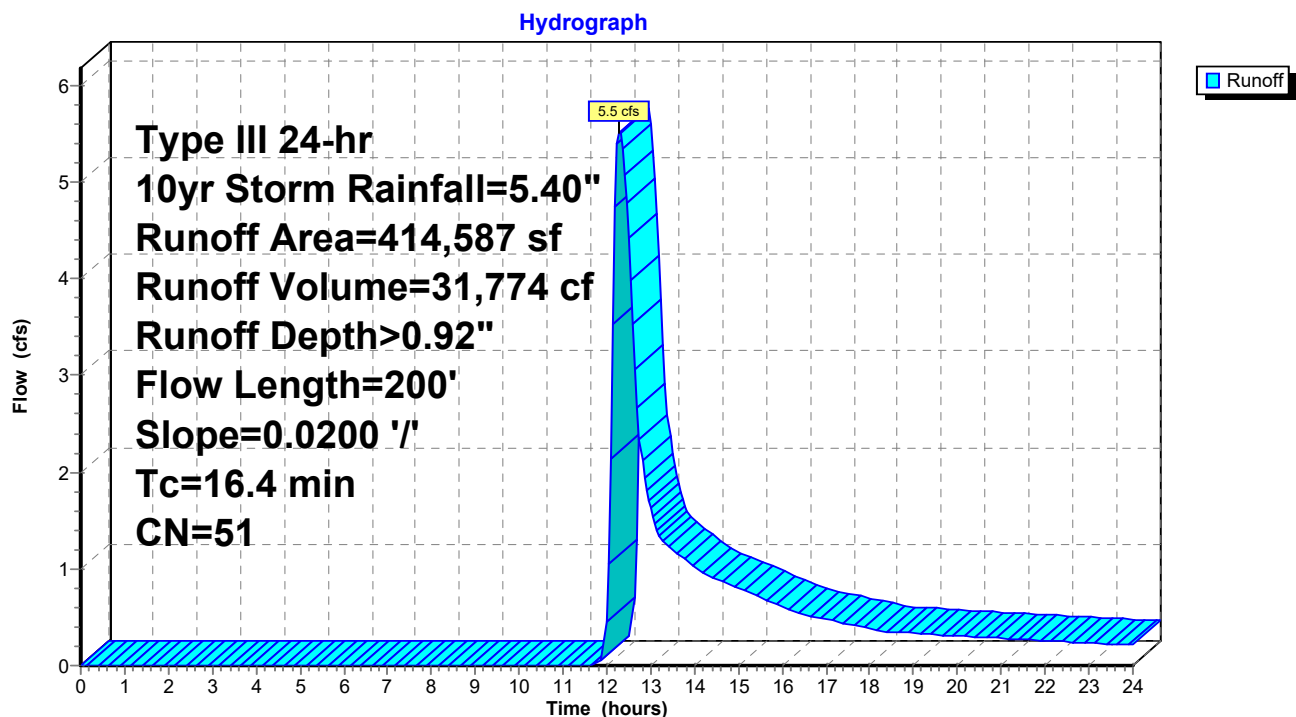
Routed to Link PR POC-1 : Existing Southern Wetlands

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10yr Storm Rainfall=5.40"

	Area (sf)	CN	Description
*	22,158	98	Existing Buildings
*	54,934	98	Existing Parking/Driveway Areas
*	1,455	98	Existing Walks & Stairs
	45,453	61	>75% Grass cover, Good, HSG B
	219,993	30	Woods, Good, HSG A
	70,594	55	Woods, Good, HSG B
	414,587	51	Weighted Average
	336,040		81.05% Pervious Area
	78,547		18.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	200	0.0200	0.20		Sheet Flow, Grass: Short n= 0.150 P2= 3.48"

Subcatchment PR-1B: Drainage Area 1



284 New Canaan Ave - Drainage

Type III 24-hr 10yr Storm Rainfall=5.40"

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Summary for Pond INF-1: Conc. Galleries

Inflow Area = 69,628 sf, 100.00% Impervious, Inflow Depth > 5.16" for 10yr Storm event
 Inflow = 8.5 cfs @ 12.07 hrs, Volume= 29,941 cf
 Outflow = 0.6 cfs @ 11.15 hrs, Volume= 29,922 cf, Atten= 92%, Lag= 0.0 min
 Discarded = 0.6 cfs @ 11.15 hrs, Volume= 29,922 cf
 Primary = 0.0 cfs @ 0.00 hrs, Volume= 0 cf

Routed to Link PR POC-1 : Existing Southern Wetlands

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 2

Peak Elev= 194.90' @ 13.08 hrs Surf.Area= 9,248 sf Storage= 11,089 cf

Plug-Flow detention time= 125.6 min calculated for 29,922 cf (100% of inflow)

Center-of-Mass det. time= 125.1 min (870.7 - 745.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	193.45'	74 cf	68.00'W x 136.00'L x 2.00'H Field A 18,496 cf Overall - 18,311 cf Embedded = 185 cf x 40.0% Voids
#2A	193.45'	13,092 cf	Concrete Galley 4x8x2 x 289 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 289 Chambers in 17 Rows
		13,166 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	195.50'	24.0" x 24.0" Horiz. Catch Basin Overflow C= 0.600 Limited to weir flow at low heads
#2	Discarded	193.45'	3.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.6 cfs @ 11.15 hrs HW=193.47' (Free Discharge)↑ **2=Exfiltration** (Exfiltration Controls 0.6 cfs)**Primary OutFlow** Max=0.0 cfs @ 0.00 hrs HW=193.45' (Free Discharge)↑ **1=Catch Basin Overflow** (Controls 0.0 cfs)

Pond INF-1: Conc. Galleries - 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

17 Chambers/Row x 8.00' Long = 136.00' Row Length

17 Rows x 48.0" Wide = 68.00' Base Width

24.0" Chamber Height = 2.00' Field Height

289 Chambers x 45.3 cf = 13,091.7 cf Chamber Storage

289 Chambers x 63.4 cf = 18,311.0 cf Displacement

18,496.0 cf Field - 18,311.0 cf Chambers = 185.0 cf Stone x 40.0% Voids = 74.0 cf Stone Storage

Chamber Storage + Stone Storage = 13,165.7 cf = 0.302 af

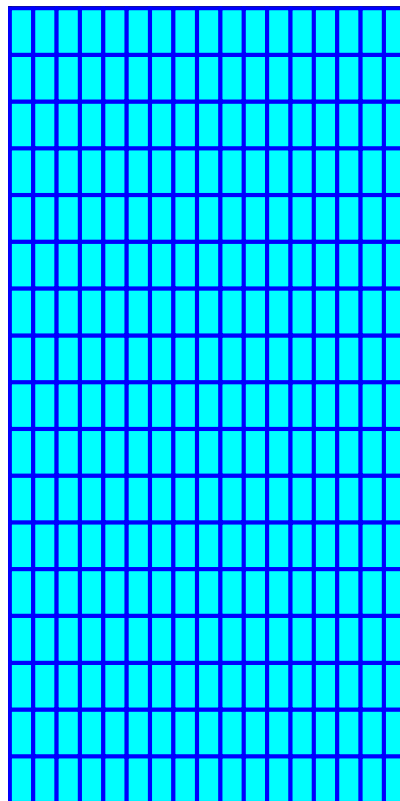
Overall Storage Efficiency = 71.2%

Overall System Size = 136.00' x 68.00' x 2.00'

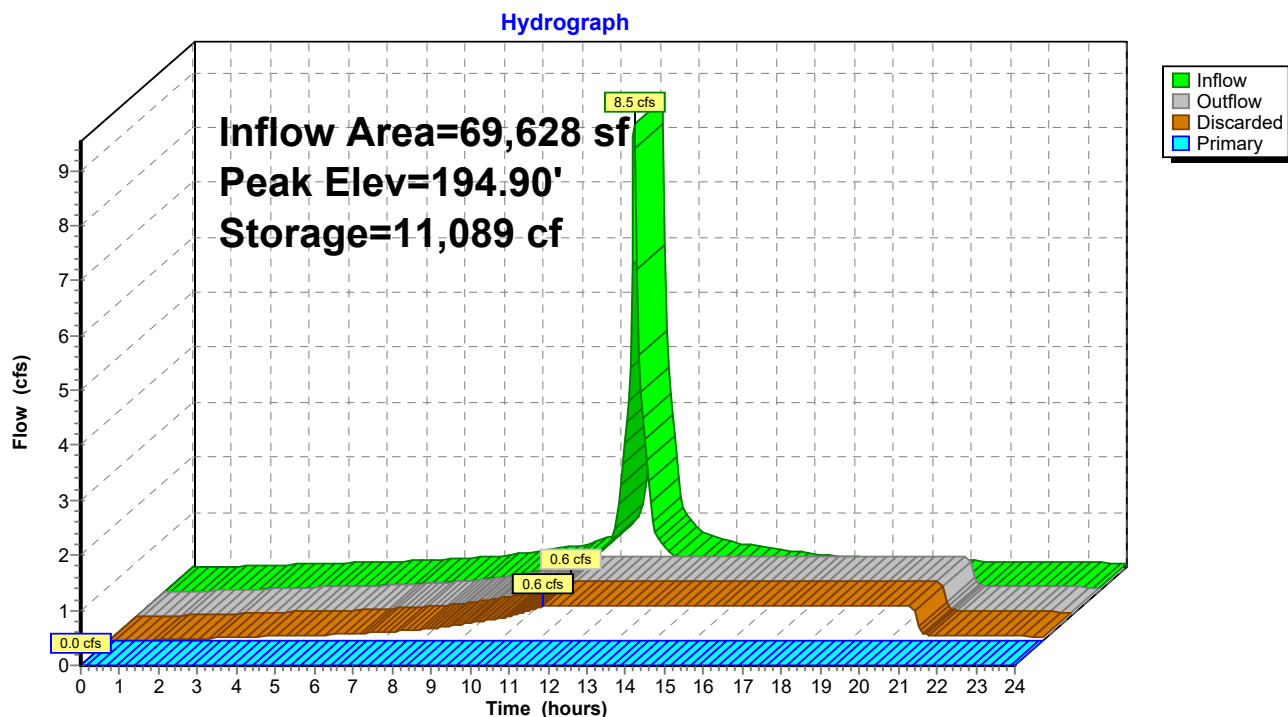
289 Chambers

685.0 cy Field

6.9 cy Stone



Pond INF-1: Conc. Galleries

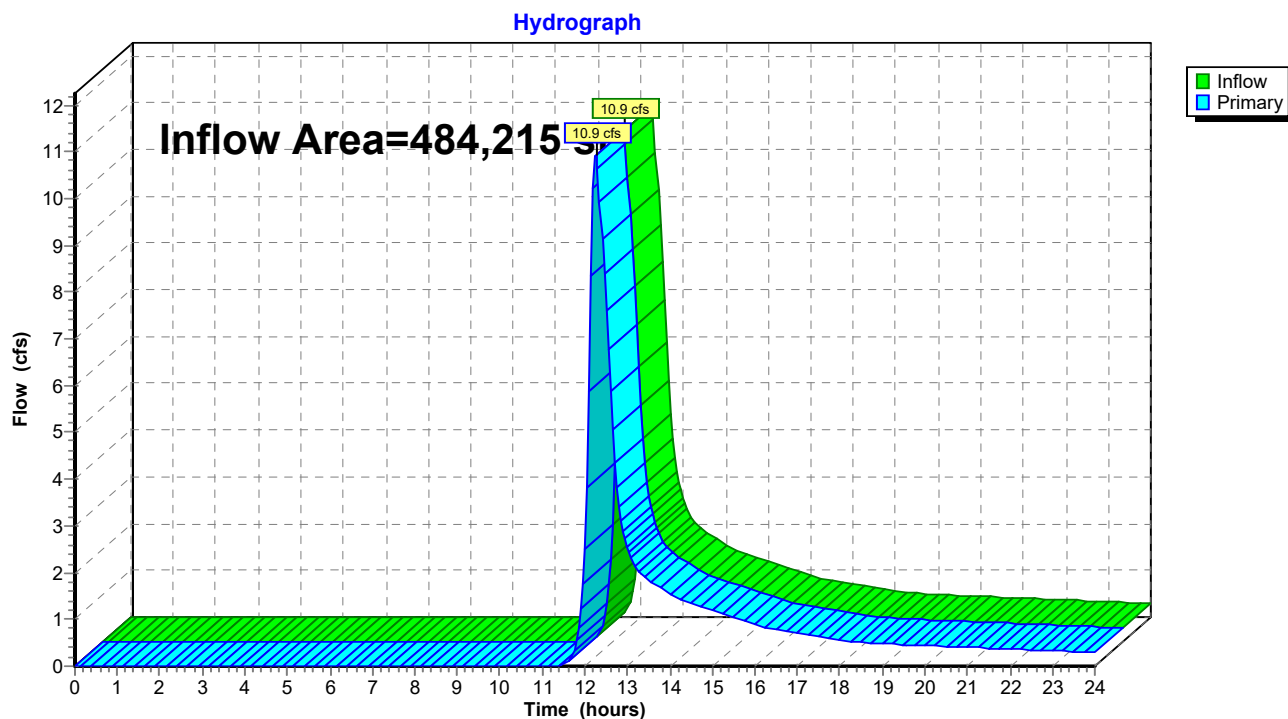


Summary for Link EX POC-1: Existing Southern Wetlands

Inflow Area = 484,215 sf, 29.75% Impervious, Inflow Depth > 1.32" for 10yr Storm event
 Inflow = 10.9 cfs @ 12.26 hrs, Volume= 53,187 cf
 Primary = 10.9 cfs @ 12.26 hrs, Volume= 53,187 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

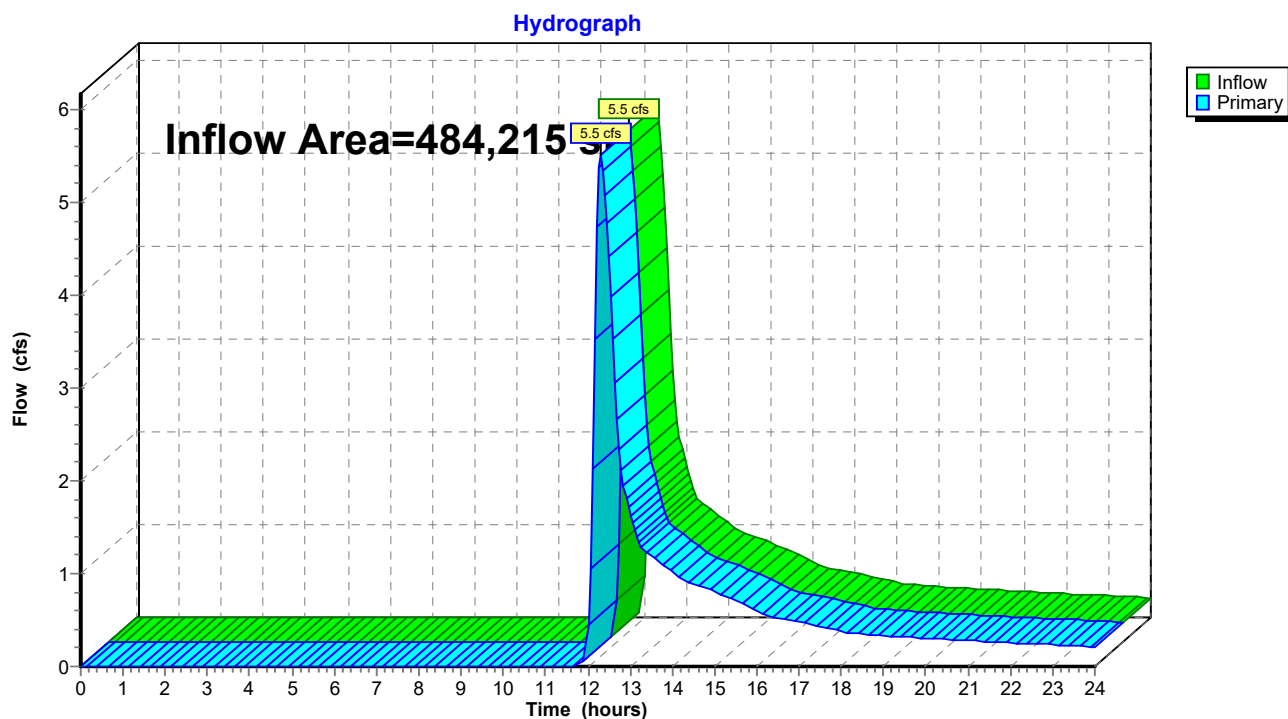
Link EX POC-1: Existing Southern Wetlands



Summary for Link PR POC-1: Existing Southern Wetlands

Inflow Area = 484,215 sf, 30.60% Impervious, Inflow Depth > 0.79" for 10yr Storm event
Inflow = 5.5 cfs @ 12.30 hrs, Volume= 31,774 cf
Primary = 5.5 cfs @ 12.30 hrs, Volume= 31,774 cf, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 6L

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link PR POC-1: Existing Southern Wetlands

284 New Canaan Ave - Drainage

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Type III 24-hr 25yr Storm Rainfall=6.55"

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Summary for Subcatchment EX-1: Drainage Area 1

Runoff = 17.8 cfs @ 12.25 hrs, Volume= 81,149 cf, Depth> 2.01"

Routed to Link EX POC-1 : Existing Southern Wetlands

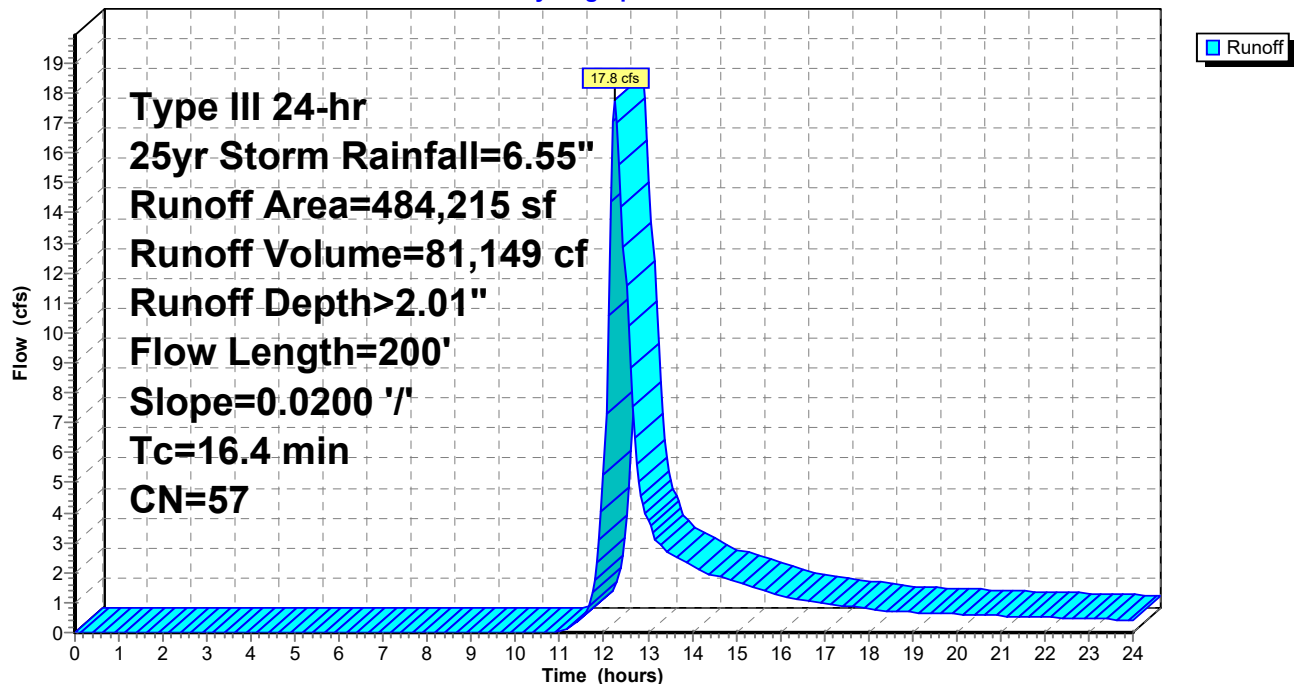
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25yr Storm Rainfall=6.55"

	Area (sf)	CN	Description
*	22,158	98	Existing Buildings
*	120,419	98	Existing Parking/Driveway Areas
*	1,455	98	Existing Walks & Stairs
	42,983	61	>75% Grass cover, Good, HSG B
	221,097	30	Woods, Good, HSG A
	76,103	55	Woods, Good, HSG B
	484,215	57	Weighted Average
	340,183		70.25% Pervious Area
	144,032		29.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	200	0.0200	0.20		Sheet Flow, Grass: Short n= 0.150 P2= 3.48"

Subcatchment EX-1: Drainage Area 1

Hydrograph



284 New Canaan Ave - Drainage

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Type III 24-hr 25yr Storm Rainfall=6.55"

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Summary for Subcatchment PR-1A: Drainage Area 1

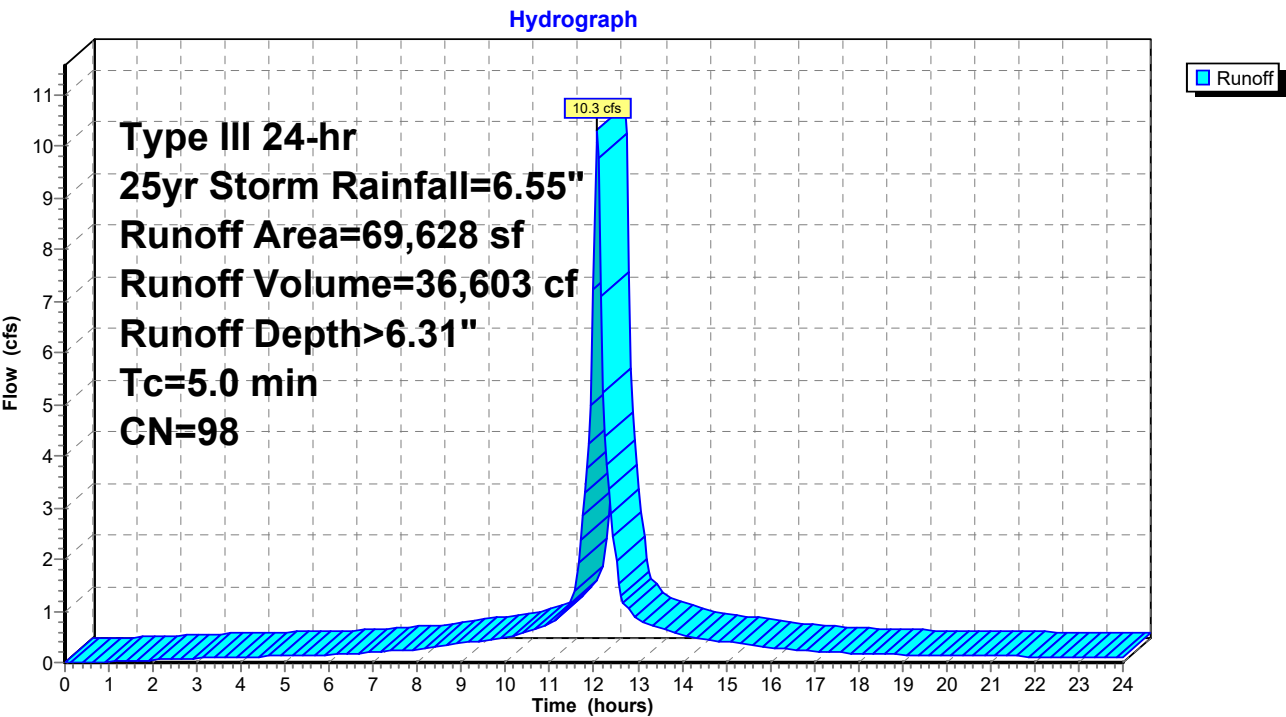
Runoff = 10.3 cfs @ 12.07 hrs, Volume= 36,603 cf, Depth> 6.31"
Routed to Pond INF-1 : Conc. Galleries

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25yr Storm Rainfall=6.55"

	Area (sf)	CN	Description
*	65,485	98	Existing Parking/Driveway Areas
*	4,143	98	Previously Approved Parking/Driveway Areas
	69,628	98	Weighted Average
	69,628		100.00% Impervious Area

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

Subcatchment PR-1A: Drainage Area 1



284 New Canaan Ave - Drainage

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Type III 24-hr 25yr Storm Rainfall=6.55"

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Summary for Subcatchment PR-1B: Drainage Area 1

Runoff = 10.4 cfs @ 12.26 hrs, Volume= 51,745 cf, Depth> 1.50"

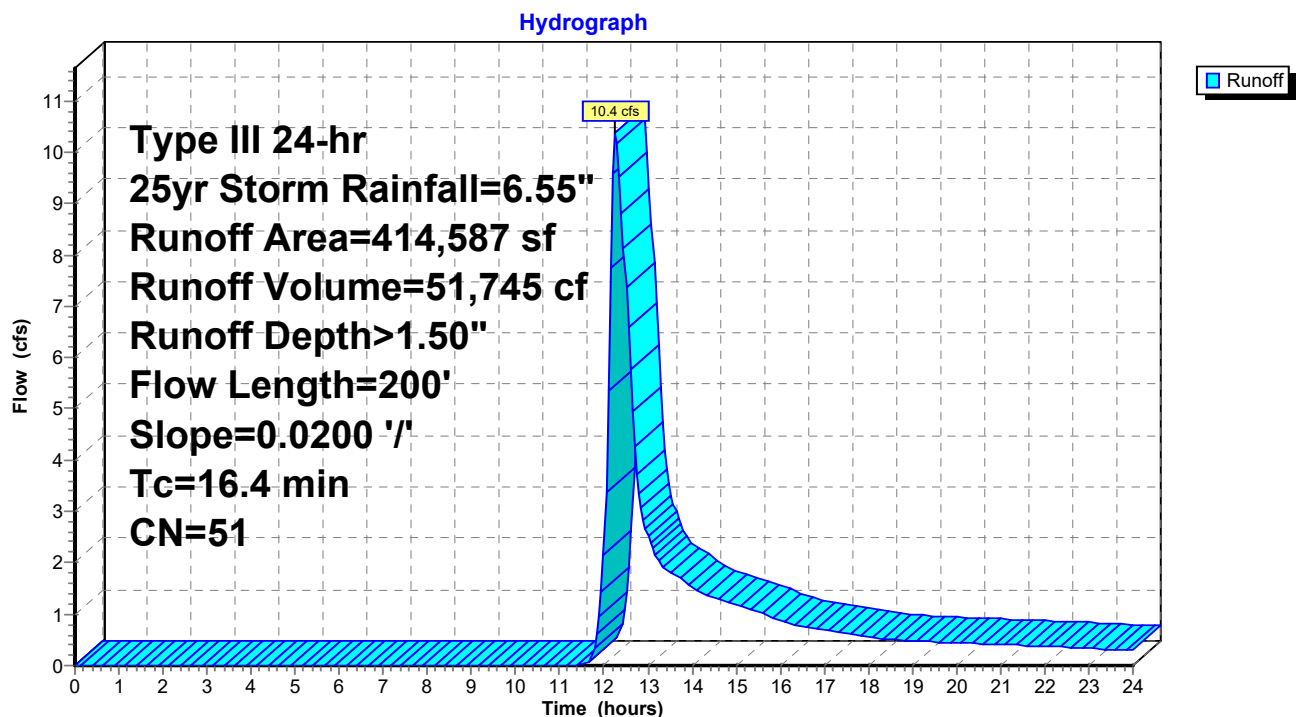
Routed to Link PR POC-1 : Existing Southern Wetlands

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25yr Storm Rainfall=6.55"

	Area (sf)	CN	Description
*	22,158	98	Existing Buildings
*	54,934	98	Existing Parking/Driveway Areas
*	1,455	98	Existing Walks & Stairs
	45,453	61	>75% Grass cover, Good, HSG B
	219,993	30	Woods, Good, HSG A
	70,594	55	Woods, Good, HSG B
	414,587	51	Weighted Average
	336,040		81.05% Pervious Area
	78,547		18.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	200	0.0200	0.20		Sheet Flow, Grass: Short n= 0.150 P2= 3.48"

Subcatchment PR-1B: Drainage Area 1



284 New Canaan Ave - Drainage

Type III 24-hr 25yr Storm Rainfall=6.55"

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Summary for Pond INF-1: Conc. Galleries

Inflow Area = 69,628 sf, 100.00% Impervious, Inflow Depth > 6.31" for 25yr Storm event
 Inflow = 10.3 cfs @ 12.07 hrs, Volume= 36,603 cf
 Outflow = 3.7 cfs @ 12.47 hrs, Volume= 37,943 cf, Atten= 64%, Lag= 23.9 min
 Discarded = 0.6 cfs @ 10.70 hrs, Volume= 35,085 cf
 Primary = 3.1 cfs @ 12.47 hrs, Volume= 2,858 cf

Routed to Link PR POC-1 : Existing Southern Wetlands

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 195.79' @ 12.47 hrs Surf.Area= 9,248 sf Storage= 13,166 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 144.4 min (887.1 - 742.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	193.45'	74 cf	68.00'W x 136.00'L x 2.00'H Field A 18,496 cf Overall - 18,311 cf Embedded = 185 cf x 40.0% Voids
#2A	193.45'	13,092 cf	Concrete Galley 4x8x2 x 289 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 289 Chambers in 17 Rows
		13,166 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	195.50'	24.0" x 24.0" Horiz. Catch Basin Overflow C= 0.600 Limited to weir flow at low heads
#2	Discarded	193.45'	3.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.6 cfs @ 10.70 hrs HW=193.47' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.6 cfs)

Primary OutFlow Max=2.7 cfs @ 12.47 hrs HW=195.72' (Free Discharge)
 ↑ **1=Catch Basin Overflow** (Weir Controls 2.7 cfs @ 1.54 fps)

Pond INF-1: Conc. Galleries - 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

17 Chambers/Row x 8.00' Long = 136.00' Row Length

17 Rows x 48.0" Wide = 68.00' Base Width

24.0" Chamber Height = 2.00' Field Height

289 Chambers x 45.3 cf = 13,091.7 cf Chamber Storage

289 Chambers x 63.4 cf = 18,311.0 cf Displacement

18,496.0 cf Field - 18,311.0 cf Chambers = 185.0 cf Stone x 40.0% Voids = 74.0 cf Stone Storage

Chamber Storage + Stone Storage = 13,165.7 cf = 0.302 af

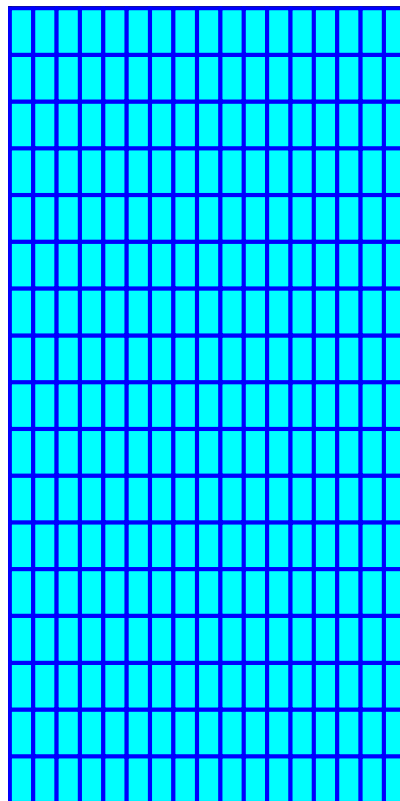
Overall Storage Efficiency = 71.2%

Overall System Size = 136.00' x 68.00' x 2.00'

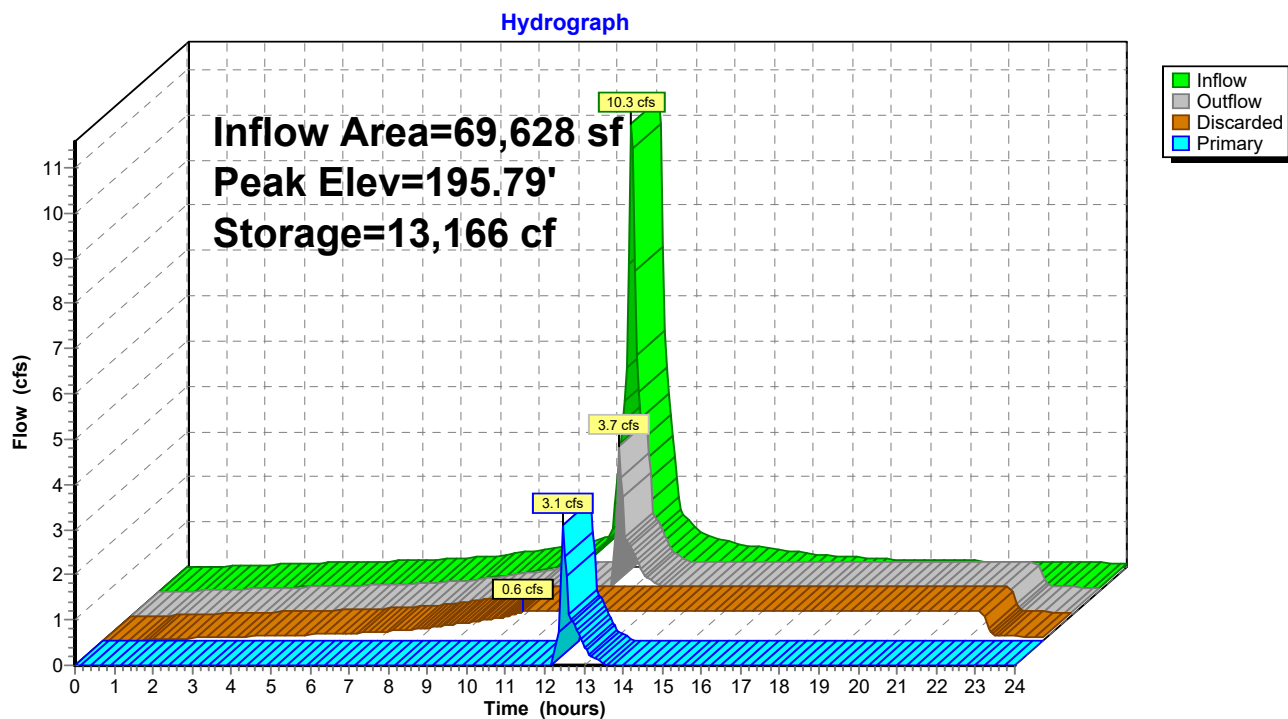
289 Chambers

685.0 cy Field

6.9 cy Stone



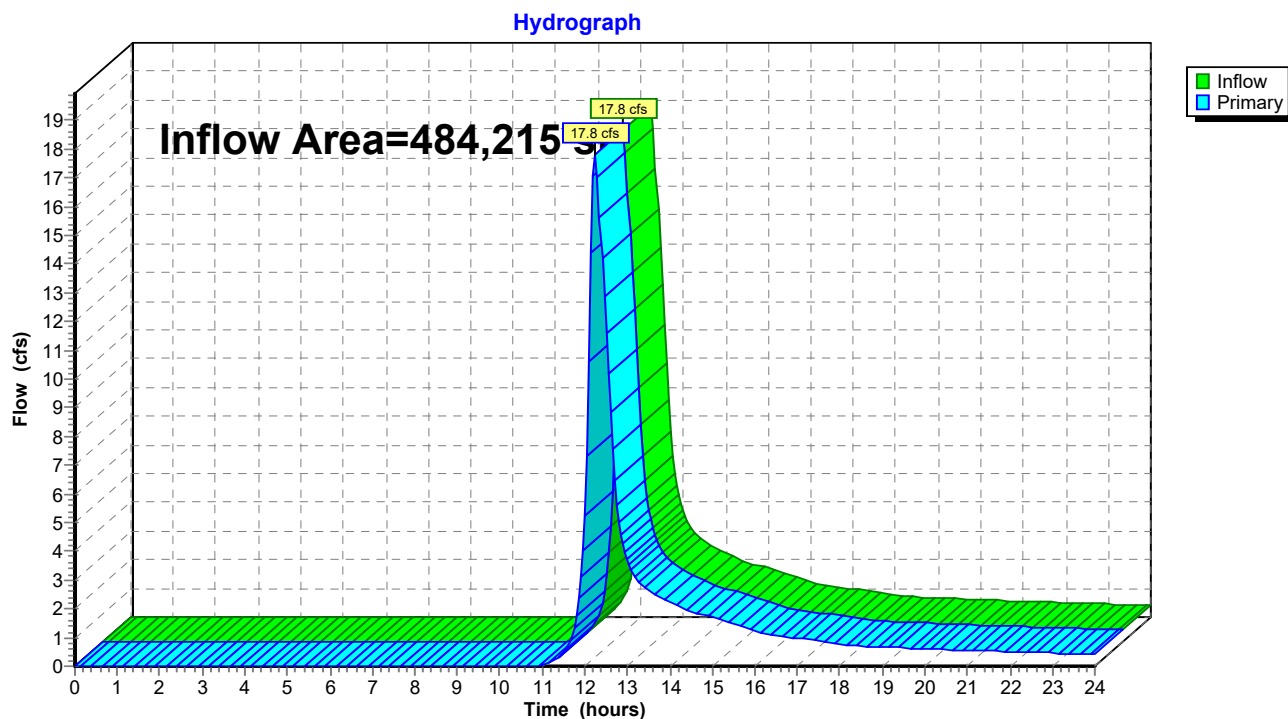
Pond INF-1: Conc. Galleries



Summary for Link EX POC-1: Existing Southern Wetlands

Inflow Area = 484,215 sf, 29.75% Impervious, Inflow Depth > 2.01" for 25yr Storm event
Inflow = 17.8 cfs @ 12.25 hrs, Volume= 81,149 cf
Primary = 17.8 cfs @ 12.25 hrs, Volume= 81,149 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

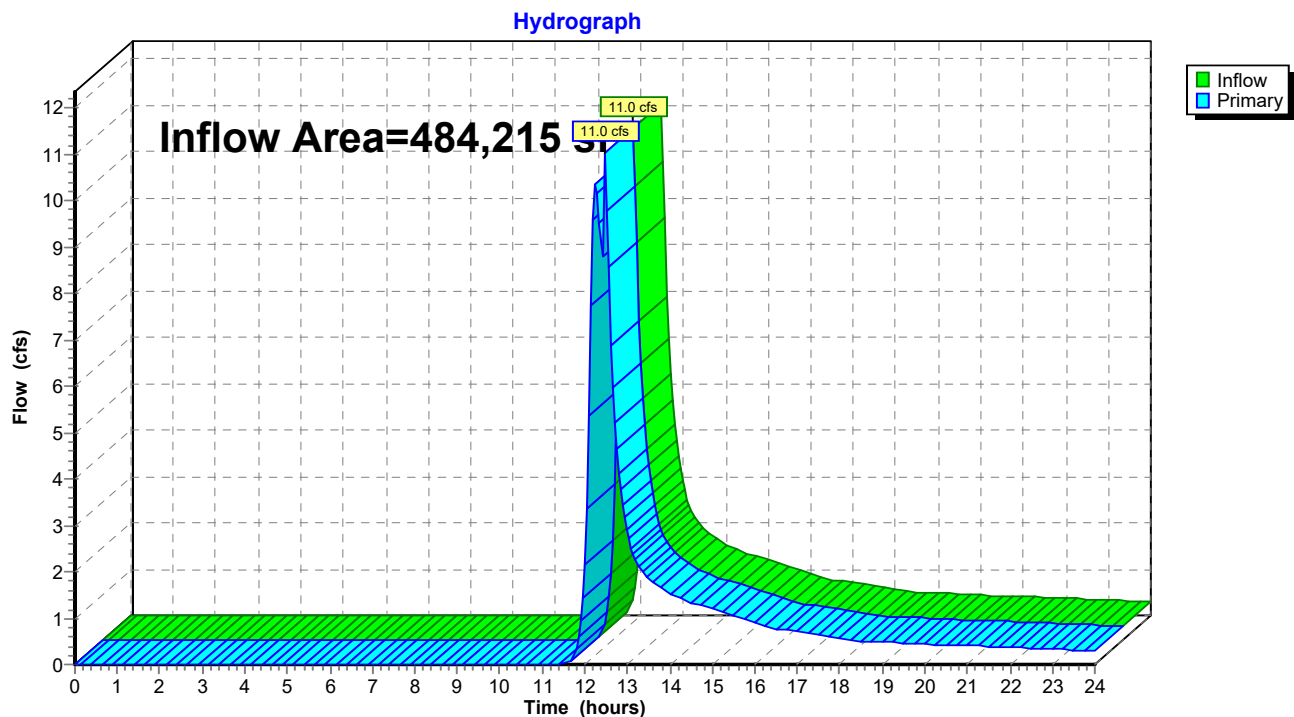
Link EX POC-1: Existing Southern Wetlands

Summary for Link PR POC-1: Existing Southern Wetlands

Inflow Area = 484,215 sf, 30.60% Impervious, Inflow Depth > 1.35" for 25yr Storm event
 Inflow = 11.0 cfs @ 12.46 hrs, Volume= 54,603 cf
 Primary = 11.0 cfs @ 12.46 hrs, Volume= 54,603 cf, Atten= 0%, Lag= 0.0 min
 Routed to nonexistent node 6L

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link PR POC-1: Existing Southern Wetlands



284 New Canaan Ave - Drainage

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Type III 24-hr 50yr Storm Rainfall=7.41"

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Summary for Subcatchment EX-1: Drainage Area 1

Runoff = 23.4 cfs @ 12.24 hrs, Volume= 104,110 cf, Depth> 2.58"

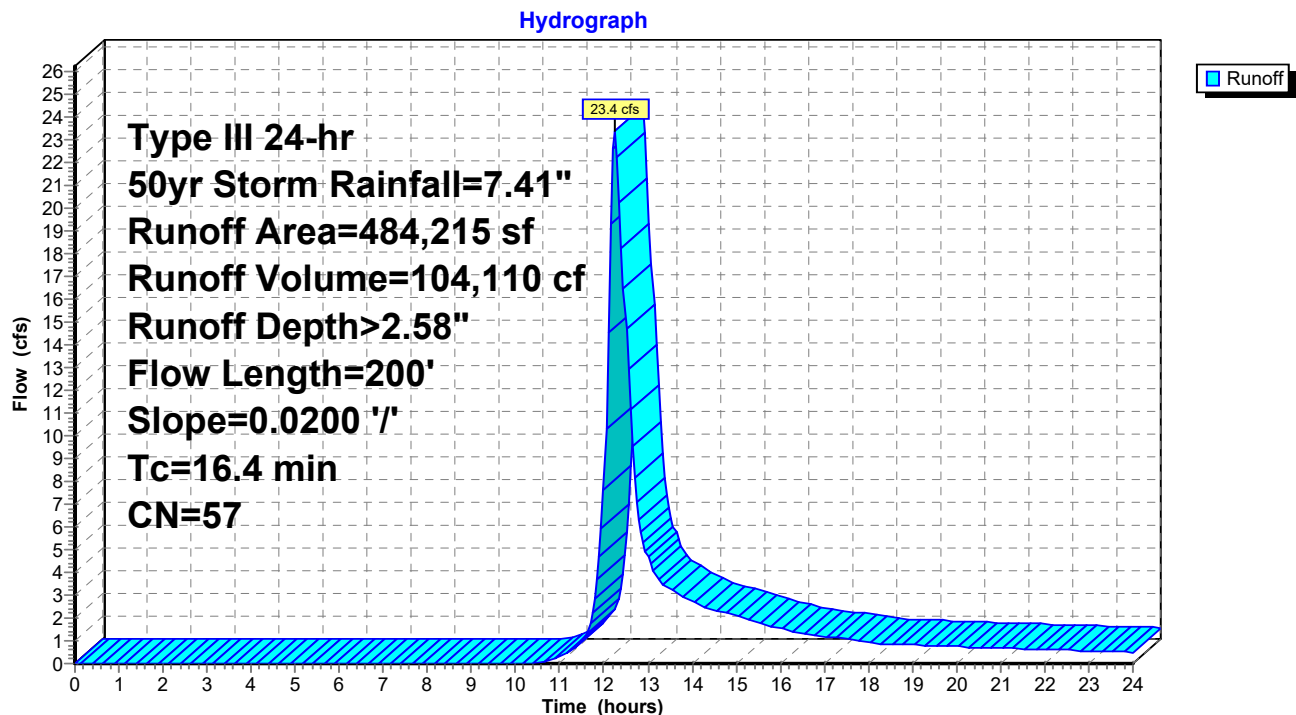
Routed to Link EX POC-1 : Existing Southern Wetlands

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50yr Storm Rainfall=7.41"

	Area (sf)	CN	Description
*	22,158	98	Existing Buildings
*	120,419	98	Existing Parking/Driveway Areas
*	1,455	98	Existing Walks & Stairs
	42,983	61	>75% Grass cover, Good, HSG B
	221,097	30	Woods, Good, HSG A
	76,103	55	Woods, Good, HSG B
	484,215	57	Weighted Average
	340,183		70.25% Pervious Area
	144,032		29.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	200	0.0200	0.20		Sheet Flow, Grass: Short n= 0.150 P2= 3.48"

Subcatchment EX-1: Drainage Area 1



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Type III 24-hr 50yr Storm Rainfall=7.41"

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Summary for Subcatchment PR-1A: Drainage Area 1

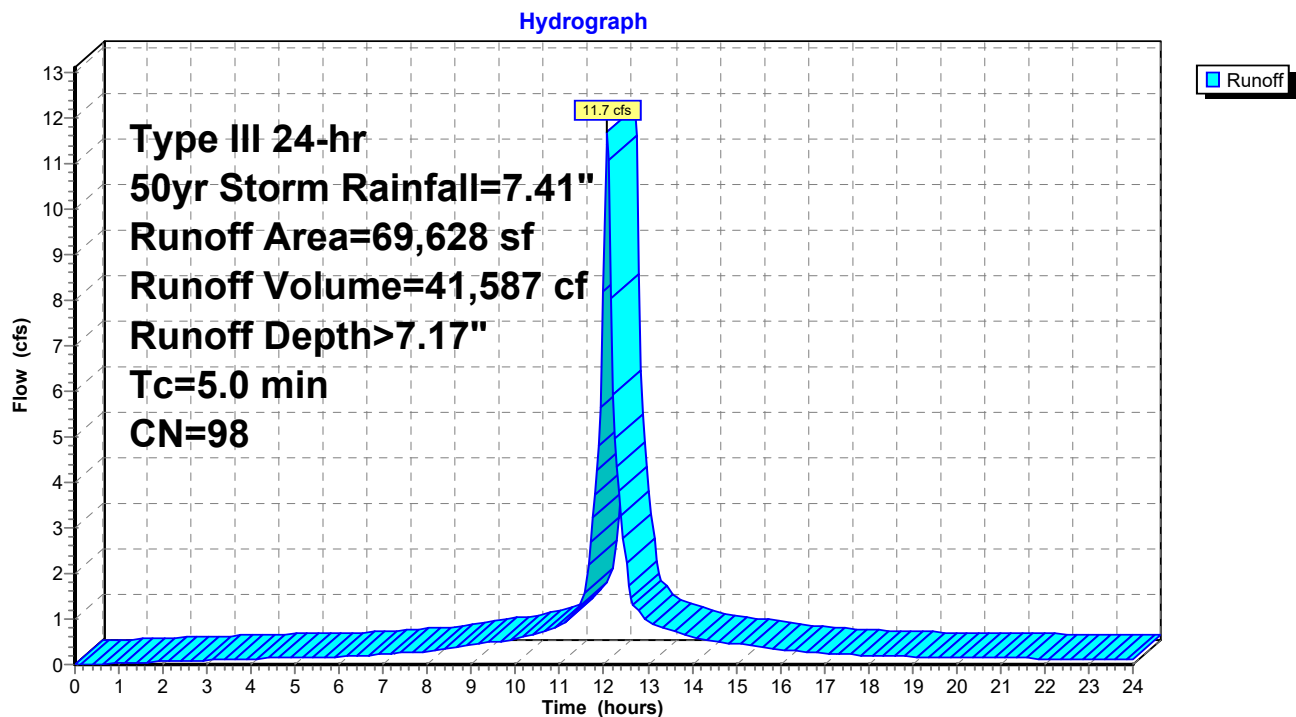
Runoff = 11.7 cfs @ 12.07 hrs, Volume= 41,587 cf, Depth> 7.17"
Routed to Pond INF-1 : Conc. Galleries

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50yr Storm Rainfall=7.41"

	Area (sf)	CN	Description
*	65,485	98	Existing Parking/Driveway Areas
*	4,143	98	Previously Approved Parking/Driveway Areas
	69,628	98	Weighted Average
	69,628		100.00% Impervious Area

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

Subcatchment PR-1A: Drainage Area 1



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Type III 24-hr 50yr Storm Rainfall=7.41"

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Summary for Subcatchment PR-1B: Drainage Area 1

Runoff = 14.5 cfs @ 12.26 hrs, Volume= 68,637 cf, Depth> 1.99"

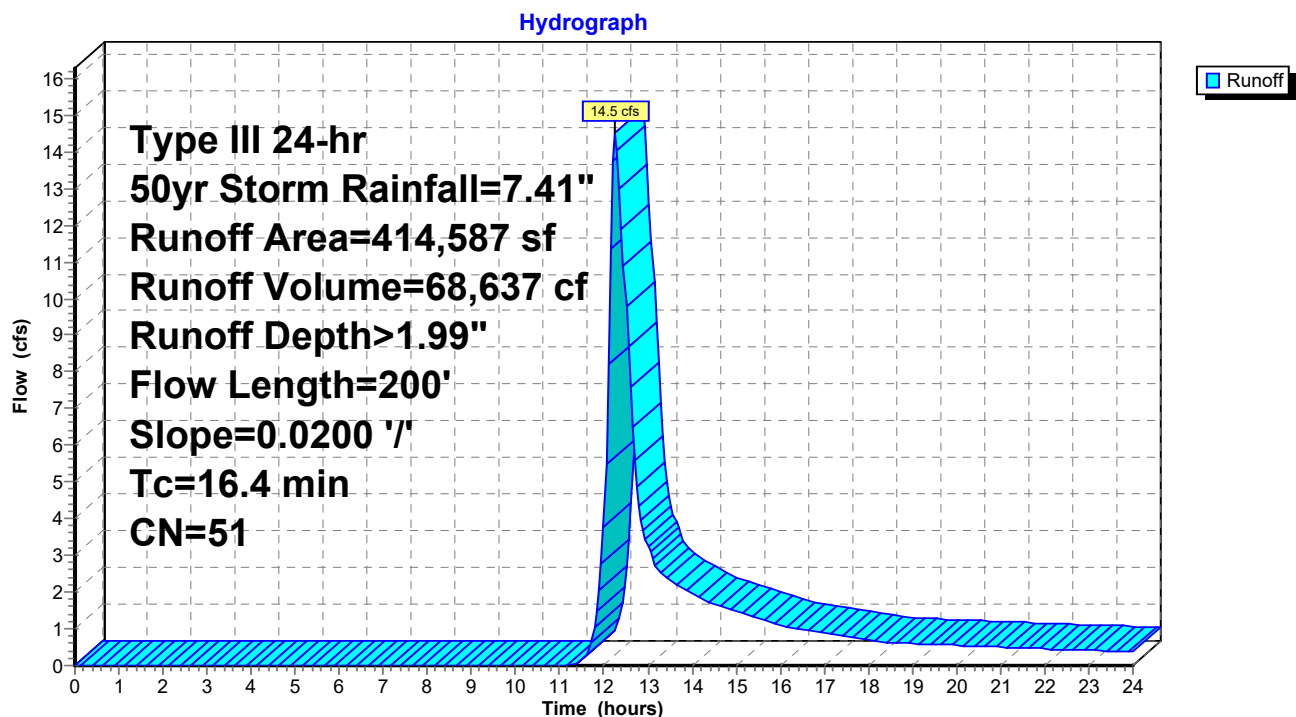
Routed to Link PR POC-1 : Existing Southern Wetlands

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50yr Storm Rainfall=7.41"

	Area (sf)	CN	Description
*	22,158	98	Existing Buildings
*	54,934	98	Existing Parking/Driveway Areas
*	1,455	98	Existing Walks & Stairs
	45,453	61	>75% Grass cover, Good, HSG B
	219,993	30	Woods, Good, HSG A
	70,594	55	Woods, Good, HSG B
	414,587	51	Weighted Average
	336,040		81.05% Pervious Area
	78,547		18.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	200	0.0200	0.20		Sheet Flow, Grass: Short n= 0.150 P2= 3.48"

Subcatchment PR-1B: Drainage Area 1



284 New Canaan Ave - Drainage

Type III 24-hr 50yr Storm Rainfall=7.41"

Prepared by Land-Tech Consultant

Printed 2/28/2025

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Summary for Pond INF-1: Conc. Galleries

Inflow Area = 69,628 sf, 100.00% Impervious, Inflow Depth > 7.17" for 50yr Storm event
 Inflow = 11.7 cfs @ 12.07 hrs, Volume= 41,587 cf
 Outflow = 5.2 cfs @ 12.27 hrs, Volume= 41,321 cf, Atten= 55%, Lag= 11.9 min
 Discarded = 0.6 cfs @ 10.40 hrs, Volume= 37,144 cf
 Primary = 4.6 cfs @ 12.27 hrs, Volume= 4,176 cf

Routed to Link PR POC-1 : Existing Southern Wetlands

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 195.87' @ 12.27 hrs Surf.Area= 9,248 sf Storage= 13,166 cf

Plug-Flow detention time= 146.0 min calculated for 41,321 cf (99% of inflow)
 Center-of-Mass det. time= 141.6 min (882.5 - 740.9)

Volume	Invert	Avail.Storage	Storage Description
#1A	193.45'	74 cf	68.00'W x 136.00'L x 2.00'H Field A 18,496 cf Overall - 18,311 cf Embedded = 185 cf x 40.0% Voids
#2A	193.45'	13,092 cf	Concrete Galley 4x8x2 x 289 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 289 Chambers in 17 Rows
		13,166 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	195.50'	24.0" x 24.0" Horiz. Catch Basin Overflow C= 0.600 Limited to weir flow at low heads
#2	Discarded	193.45'	3.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.6 cfs @ 10.40 hrs HW=193.47' (Free Discharge)
 ↑ **2=Exfiltration** (Exfiltration Controls 0.6 cfs)

Primary OutFlow Max=4.0 cfs @ 12.27 hrs HW=195.79' (Free Discharge)
 ↑ **1=Catch Basin Overflow** (Weir Controls 4.0 cfs @ 1.75 fps)

Pond INF-1: Conc. Galleries - 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

17 Chambers/Row x 8.00' Long = 136.00' Row Length

17 Rows x 48.0" Wide = 68.00' Base Width

24.0" Chamber Height = 2.00' Field Height

289 Chambers x 45.3 cf = 13,091.7 cf Chamber Storage

289 Chambers x 63.4 cf = 18,311.0 cf Displacement

18,496.0 cf Field - 18,311.0 cf Chambers = 185.0 cf Stone x 40.0% Voids = 74.0 cf Stone Storage

Chamber Storage + Stone Storage = 13,165.7 cf = 0.302 af

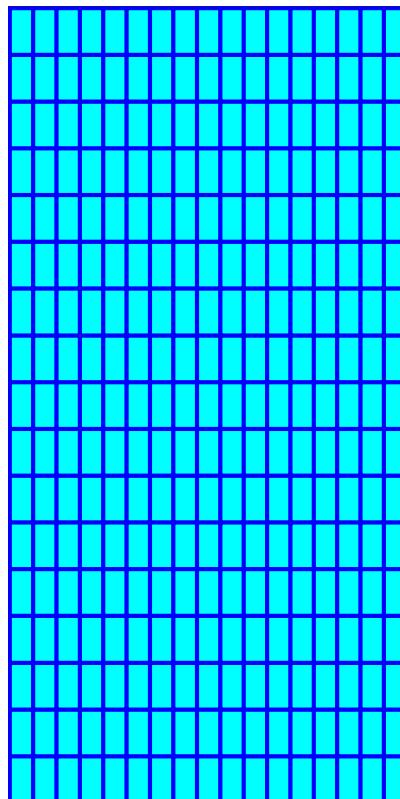
Overall Storage Efficiency = 71.2%

Overall System Size = 136.00' x 68.00' x 2.00'

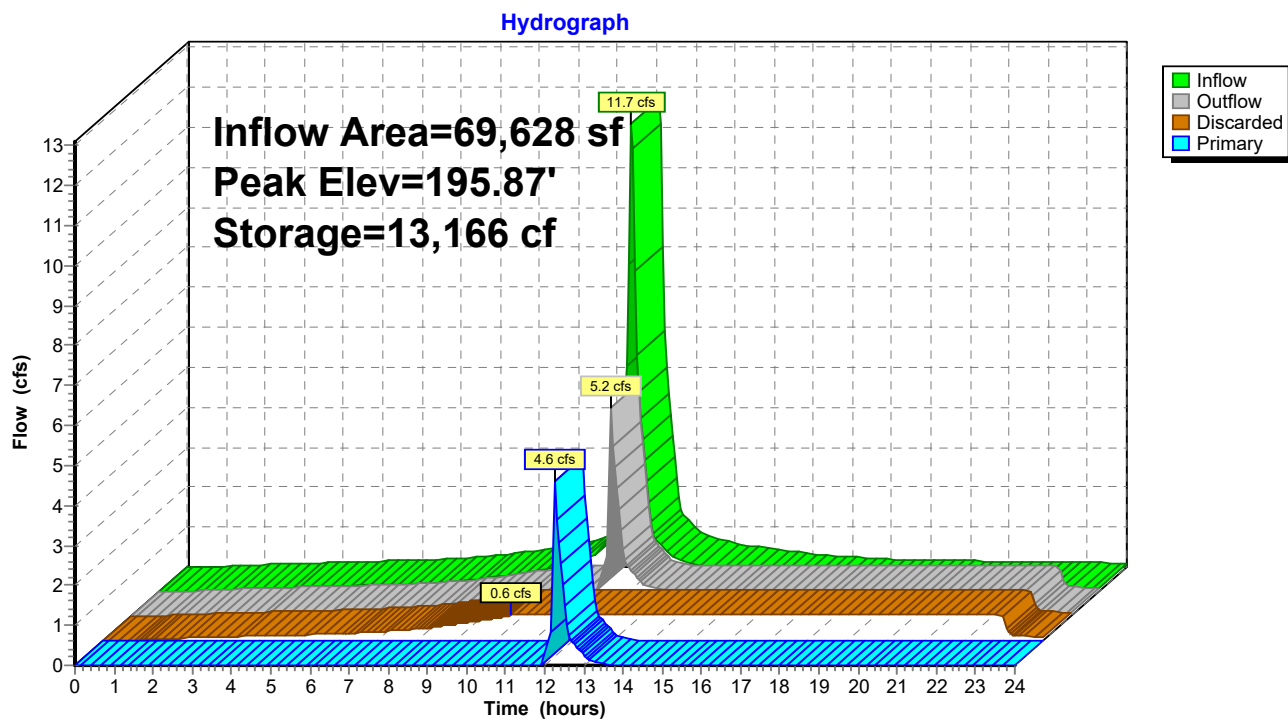
289 Chambers

685.0 cy Field

6.9 cy Stone



Pond INF-1: Conc. Galleries

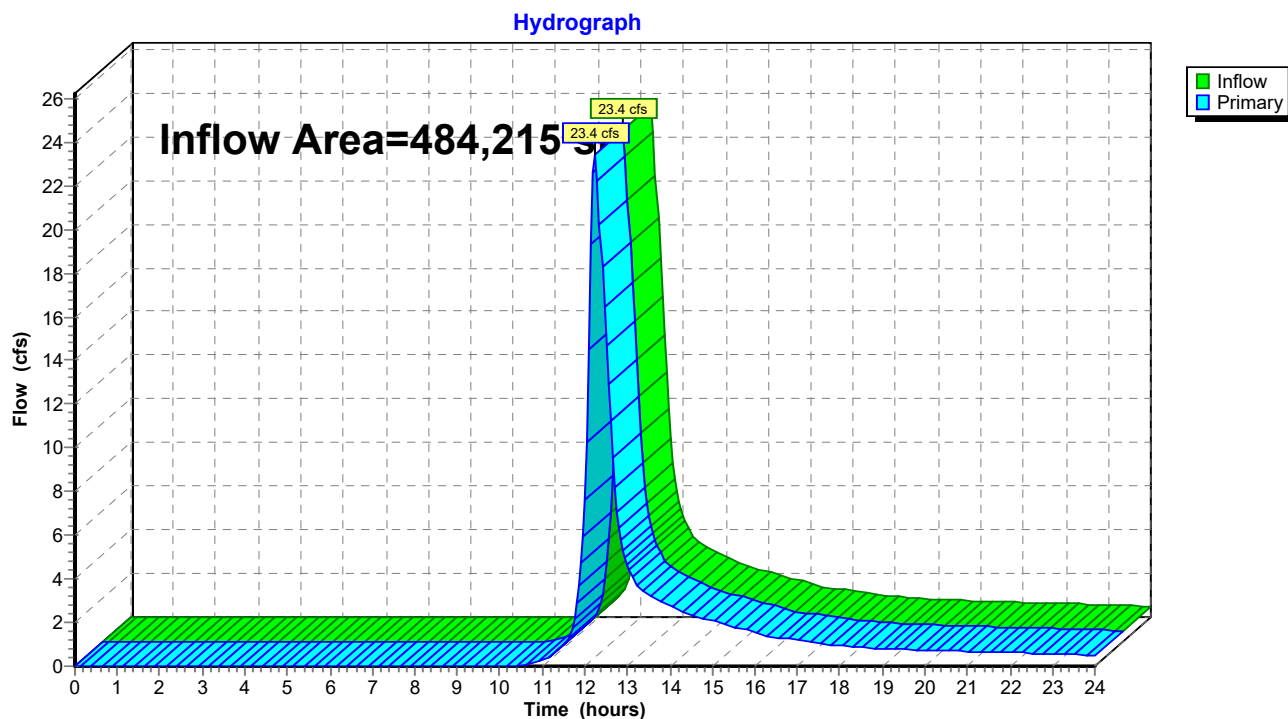


Summary for Link EX POC-1: Existing Southern Wetlands

Inflow Area = 484,215 sf, 29.75% Impervious, Inflow Depth > 2.58" for 50yr Storm event
 Inflow = 23.4 cfs @ 12.24 hrs, Volume= 104,110 cf
 Primary = 23.4 cfs @ 12.24 hrs, Volume= 104,110 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

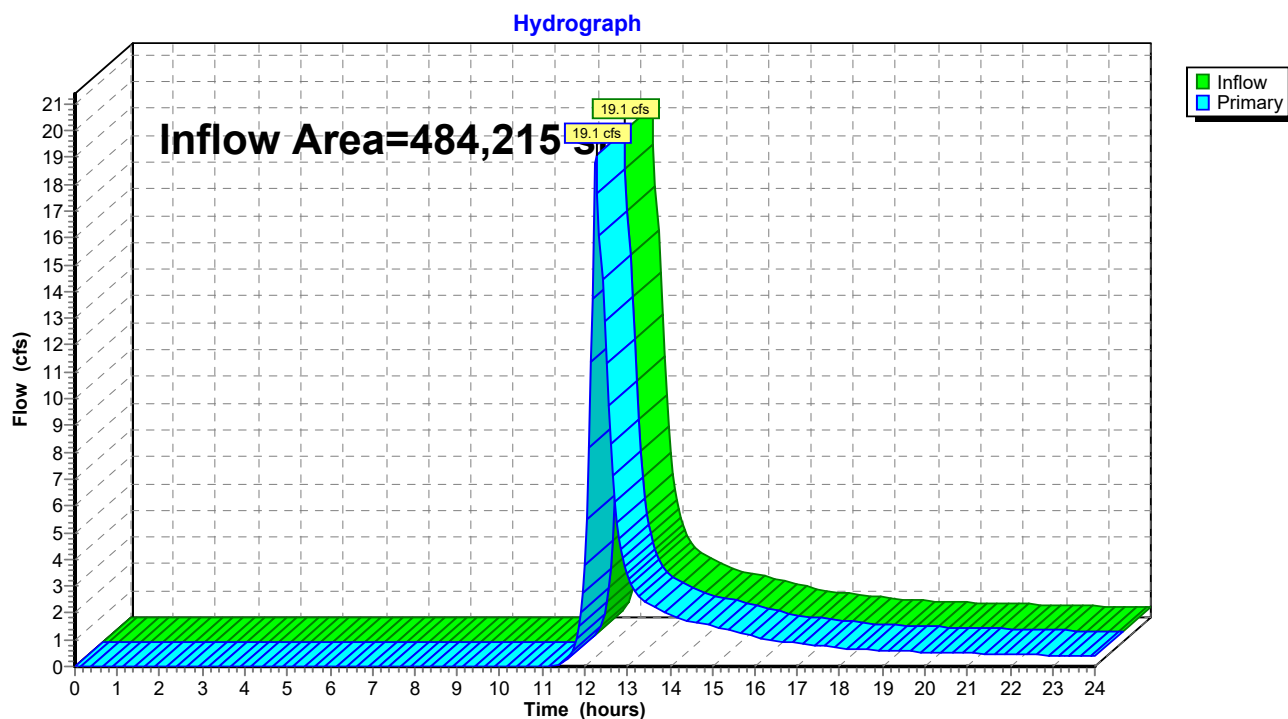
Link EX POC-1: Existing Southern Wetlands



Summary for Link PR POC-1: Existing Southern Wetlands

Inflow Area = 484,215 sf, 30.60% Impervious, Inflow Depth > 1.80" for 50yr Storm event
Inflow = 19.1 cfs @ 12.27 hrs, Volume= 72,814 cf
Primary = 19.1 cfs @ 12.27 hrs, Volume= 72,814 cf, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 6L

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link PR POC-1: Existing Southern Wetlands

284 New Canaan Ave - Drainage

Prepared by Land-Tech Consultant

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Type III 24-hr 100yr Storm Rainfall=8.33"

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Summary for Subcatchment EX-1: Drainage Area 1

Runoff = 29.8 cfs @ 12.24 hrs, Volume= 130,218 cf, Depth> 3.23"

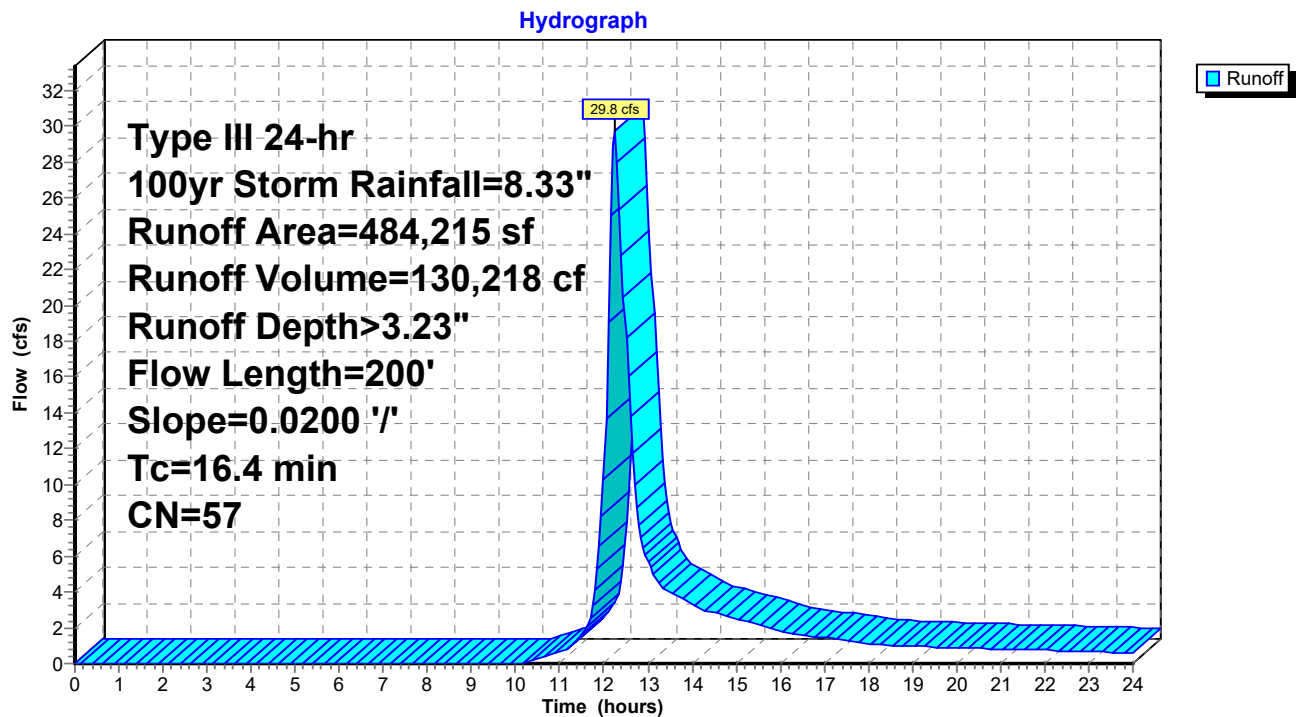
Routed to Link EX POC-1 : Existing Southern Wetlands

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100yr Storm Rainfall=8.33"

	Area (sf)	CN	Description
*	22,158	98	Existing Buildings
*	120,419	98	Existing Parking/Driveway Areas
*	1,455	98	Existing Walks & Stairs
	42,983	61	>75% Grass cover, Good, HSG B
	221,097	30	Woods, Good, HSG A
	76,103	55	Woods, Good, HSG B
	484,215	57	Weighted Average
	340,183		70.25% Pervious Area
	144,032		29.75% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	200	0.0200	0.20		Sheet Flow, Grass: Short n= 0.150 P2= 3.48"

Subcatchment EX-1: Drainage Area 1



284 New Canaan Ave - Drainage

Prepared by Land-Tech Consultant

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Type III 24-hr 100yr Storm Rainfall=8.33"

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Summary for Subcatchment PR-1A: Drainage Area 1

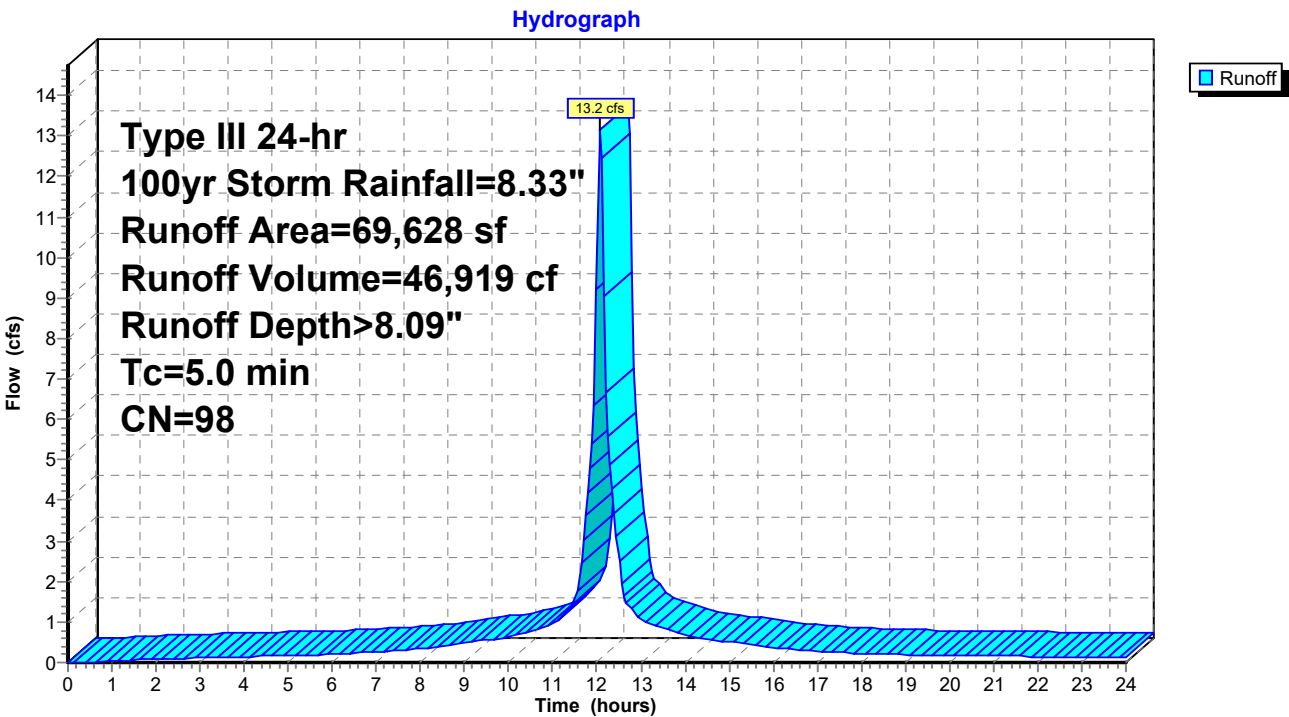
Runoff = 13.2 cfs @ 12.07 hrs, Volume= 46,919 cf, Depth> 8.09"
Routed to Pond INF-1 : Conc. Galleries

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100yr Storm Rainfall=8.33"

	Area (sf)	CN	Description
*	65,485	98	Existing Parking/Driveway Areas
*	4,143	98	Previously Approved Parking/Driveway Areas
	69,628	98	Weighted Average
	69,628		100.00% Impervious Area

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

Subcatchment PR-1A: Drainage Area 1



284 New Canaan Ave - Drainage

Prepared by Land-Tech Consultant

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Type III 24-hr 100yr Storm Rainfall=8.33"

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Summary for Subcatchment PR-1B: Drainage Area 1

Runoff = 19.3 cfs @ 12.25 hrs, Volume= 88,224 cf, Depth> 2.55"

Routed to Link PR POC-1 : Existing Southern Wetlands

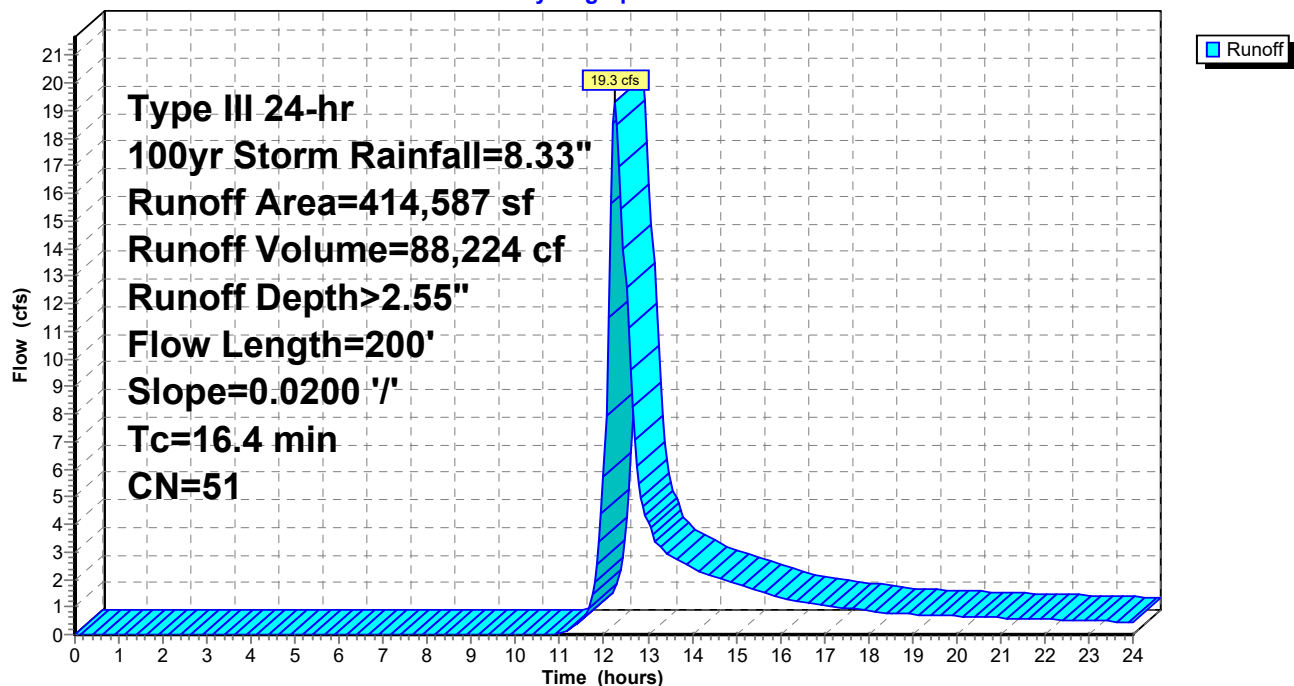
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100yr Storm Rainfall=8.33"

	Area (sf)	CN	Description
*	22,158	98	Existing Buildings
*	54,934	98	Existing Parking/Driveway Areas
*	1,455	98	Existing Walks & Stairs
	45,453	61	>75% Grass cover, Good, HSG B
	219,993	30	Woods, Good, HSG A
	70,594	55	Woods, Good, HSG B
	414,587	51	Weighted Average
	336,040		81.05% Pervious Area
	78,547		18.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	200	0.0200	0.20		Sheet Flow, Grass: Short n= 0.150 P2= 3.48"

Subcatchment PR-1B: Drainage Area 1

Hydrograph



284 New Canaan Ave - Drainage

Type III 24-hr 100yr Storm Rainfall=8.33"

Prepared by Land-Tech Consultant

Printed 2/28/2025

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Summary for Pond INF-1: Conc. Galleries

Inflow Area = 69,628 sf, 100.00% Impervious, Inflow Depth > 8.09" for 100yr Storm event
 Inflow = 13.2 cfs @ 12.07 hrs, Volume= 46,919 cf
 Outflow = 4.3 cfs @ 12.16 hrs, Volume= 40,139 cf, Atten= 67%, Lag= 5.1 min
 Discarded = 0.6 cfs @ 10.10 hrs, Volume= 39,191 cf
 Primary = 3.6 cfs @ 12.16 hrs, Volume= 948 cf

Routed to Link PR POC-1 : Existing Southern Wetlands

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 2

Peak Elev= 195.83' @ 12.17 hrs Surf.Area= 9,248 sf Storage= 13,166 cf

Plug-Flow detention time= 218.4 min calculated for 40,056 cf (85% of inflow)

Center-of-Mass det. time= 154.9 min (894.4 - 739.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	193.45'	74 cf	68.00'W x 136.00'L x 2.00'H Field A 18,496 cf Overall - 18,311 cf Embedded = 185 cf x 40.0% Voids
#2A	193.45'	13,092 cf	Concrete Galley 4x8x2 x 289 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 289 Chambers in 17 Rows
		13,166 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	195.50'	24.0" x 24.0" Horiz. Catch Basin Overflow C= 0.600 Limited to weir flow at low heads
#2	Discarded	193.45'	3.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.6 cfs @ 10.10 hrs HW=193.47' (Free Discharge)↑ **2=Exfiltration** (Exfiltration Controls 0.6 cfs)**Primary OutFlow** Max=3.3 cfs @ 12.16 hrs HW=195.75' (Free Discharge)↑ **1=Catch Basin Overflow** (Weir Controls 3.3 cfs @ 1.64 fps)

Pond INF-1: Conc. Galleries - 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

17 Chambers/Row x 8.00' Long = 136.00' Row Length

17 Rows x 48.0" Wide = 68.00' Base Width

24.0" Chamber Height = 2.00' Field Height

289 Chambers x 45.3 cf = 13,091.7 cf Chamber Storage

289 Chambers x 63.4 cf = 18,311.0 cf Displacement

18,496.0 cf Field - 18,311.0 cf Chambers = 185.0 cf Stone x 40.0% Voids = 74.0 cf Stone Storage

Chamber Storage + Stone Storage = 13,165.7 cf = 0.302 af

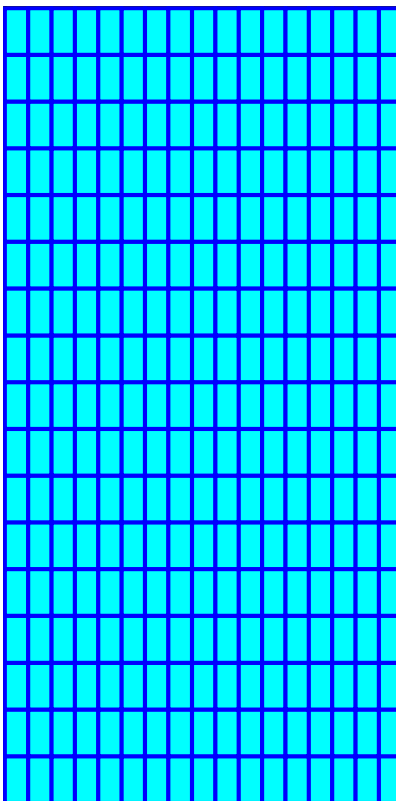
Overall Storage Efficiency = 71.2%

Overall System Size = 136.00' x 68.00' x 2.00'

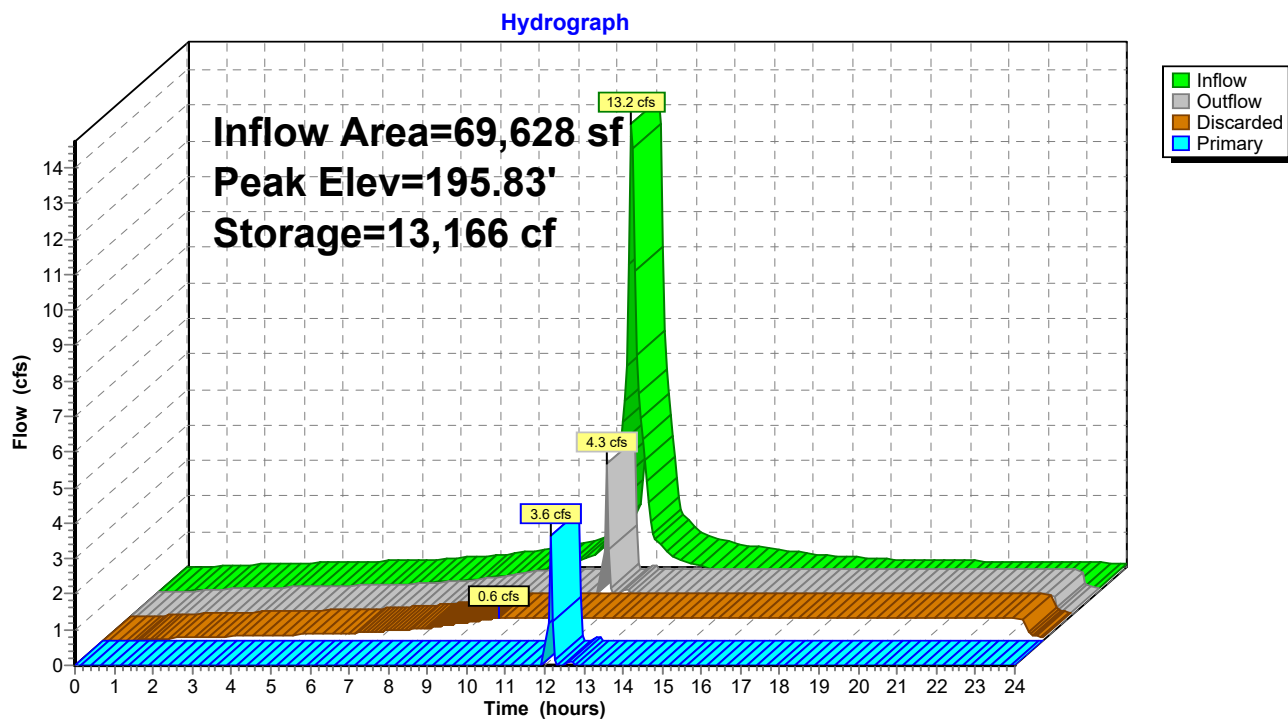
289 Chambers

685.0 cy Field

6.9 cy Stone



Pond INF-1: Conc. Galleries

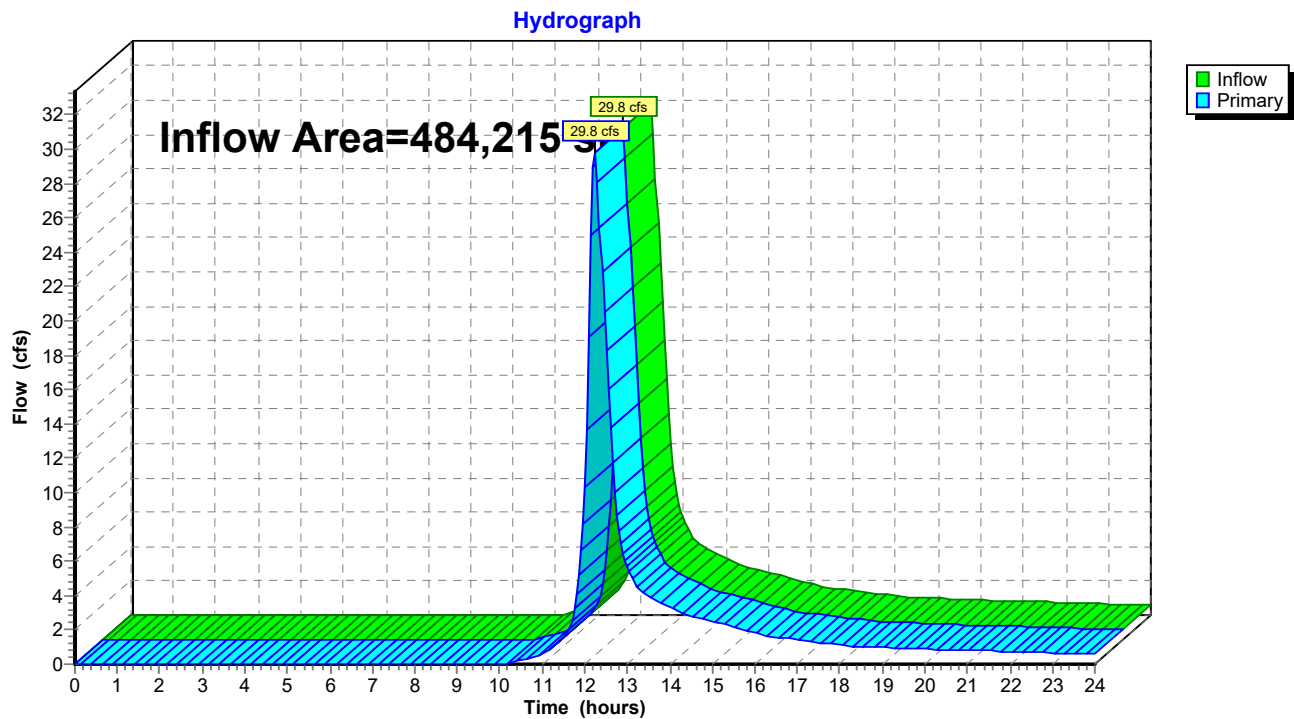


Summary for Link EX POC-1: Existing Southern Wetlands

Inflow Area = 484,215 sf, 29.75% Impervious, Inflow Depth > 3.23" for 100yr Storm event
 Inflow = 29.8 cfs @ 12.24 hrs, Volume= 130,218 cf
 Primary = 29.8 cfs @ 12.24 hrs, Volume= 130,218 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

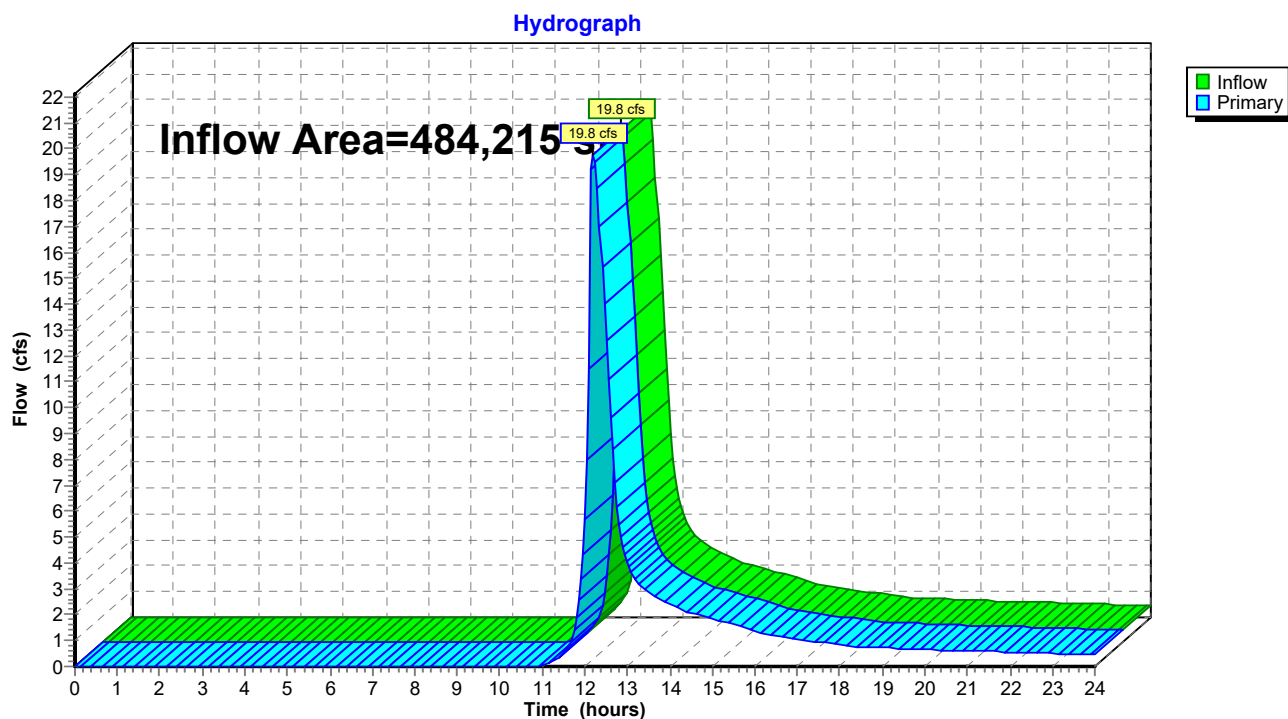
Link EX POC-1: Existing Southern Wetlands



Summary for Link PR POC-1: Existing Southern Wetlands

Inflow Area = 484,215 sf, 30.60% Impervious, Inflow Depth > 2.21" for 100yr Storm event
Inflow = 19.8 cfs @ 12.21 hrs, Volume= 89,172 cf
Primary = 19.8 cfs @ 12.21 hrs, Volume= 89,172 cf, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 6L

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link PR POC-1: Existing Southern Wetlands

Operations and Maintenance Plan

284 New Canaan Avenue, Norwalk, CT

December 18, 2024

Scope:

The purpose of the Operations and Maintenance Plan is to ensure that the existing and proposed stormwater components installed at **284 New Canaan Avenue**. are maintained in operational condition throughout the life of the project. The service procedures associated with this plan shall be performed as required by the parties legally responsible for their maintenance.

Recommended Frequency of Service:

As further defined below, all stormwater components should be checked on a periodic basis and kept in full working order. Ultimately, the required frequency of inspection and service will depend on runoff quantities, pollutant loading, and clogging due to debris. At a minimum, we recommend that all stormwater components be inspected and serviced twice per year, once before winter begins and once during spring cleanup.

Qualified Inspector:

The inspections must be completed by an individual experienced in the construction and maintenance of stormwater drainage systems. Once every five years the inspections must be completed by a professional engineer.

Service Procedures:

1. Catch Basins & Drainage Inlets:

- a. Catch basins and drainage inlets shall be completely cleaned of accumulated debris and sediments at the completion of construction.
- b. For the first year, catch basins and drainage inlets shall be inspected on a quarterly basis.
- c. Any accumulated debris within the catch basins/inlets shall be removed and any repairs as required.
- d. From the second year onward, visual inspections shall occur twice per year, once in the spring and once in the fall, after fall cleanup of leaves has occurred.
- e. Accumulated debris within the catch basins/inlets shall be removed and repairs made as required.
- f. Accumulated sediments shall be removed at which time they are within 12 inches of the invert of the outlet pipe.
- g. Any additional maintenance required per the manufacturer's specifications shall also be completed.

2. Storm Drainage Piping and Manholes/Junction Boxes:

- a. All storm drainage piping shall be completely flushed of debris and accumulated sediment at the completion of construction.
- b. Manholes/Junction Boxes shall be inspected and repaired on an annual basis.
- c. Unless system performance indicates degradation of piping, comprehensive video inspection of storm drainage piping shall occur once every ten years.
- d. Any additional maintenance required per the manufacturer's specifications shall also be completed.

3. Stormwater Control Structures:

- a. All control structures (orifice, weir, etc.) shall be completely cleaned of accumulated debris and sediments at the completion of construction. Any repairs shall be performed.
- b. For the first year, control structures (orifice, weir, etc.) shall be inspected on a quarterly basis.
- c. Any accumulated debris shall be removed and any repairs made to the control structures (orifice, weir, etc.) as required.
- d. From the second year onward, visual inspections shall occur twice per year, once in the spring and once in the fall, after fall cleanup of leaves has occurred.
- e. Accumulated debris shall be removed and repairs made as required.
- f. Any additional maintenance required per the manufacturer's specifications shall also be completed.

4. Drywells and Infiltration Systems:

- a. All drywells/infiltrators shall be completely cleaned of accumulated debris and sediments upon the completion of construction.
- b. For the first year, the drywells/infiltrators shall be inspected on a quarterly basis.
- c. Any accumulated debris within the drywells/infiltrators shall be removed and any repairs made to the units as required.
- d. From the second year onward, visual inspection shall occur twice per year, once in the spring and once in the fall, after fall cleanup of leaves has occurred.
- e. Accumulated debris within the units shall be removed and repairs made as required.
- f. Any additional maintenance required per the manufacturer's specifications shall also be completed.

Disposal of Debris and Sediment:

All debris and sediment removed from the stormwater structures and bioretention/biofiltration basins shall be disposed of legally. There shall be no dumping of silt or debris into or in proximity to any inland or tidal wetlands.

Maintenance Records:

The Owners(s) must maintain all records (logs, invoices, reports, data, etc.) and have them readily available for inspection at all times.

Operations and Maintenance Log (Page 1 of 3)

284 New Canaan Avenue, Norwalk, CT

December 18, 2024

Type of Inspection: ☐ Spring ☐ Fall ☐ Other

Inspector's Name: _____ Date of Inspection: _____

Affiliation: _____ Phone #: _____

Catch Basins & Drainage Inlets:

- Has accumulated debris been removed from grates? ☐ Yes ☐ No ☐ N/A
- Do any basins require additional repair? (identify below): ☐ Yes ☐ No ☐ N/A
- Have sumps been cleaned of sediment? ☐ Yes ☐ No ☐ N/A

Notes:

Storm Drainage Piping and Manholes/Junction Boxes:

- Has accumulated debris been removed? ☐ Yes ☐ No ☐ N/A
- Do any manholes require additional repair? (identify below): ☐ Yes ☐ No ☐ N/A
- Is there any evidence of stormwater piping failure? ☐ Yes ☐ No ☐ N/A
- Has a comprehensive video inspection been completed? ☐ Yes ☐ No ☐ N/A

Notes:

Stormwater Control Structures:

- Has accumulated debris been removed? ☐ Yes ☐ No ☐ N/A
- Are any repairs required? (identify below): ☐ Yes ☐ No ☐ N/A
- Have orifices and weirs been cleaned of debris? ☐ Yes ☐ No ☐ N/A

Notes:

Operations and Maintenance Log (Page 2 of 3)

284 New Canaan Avenue, Norwalk, CT

December 18, 2024

Drywells and Infiltration Systems:

- Have units been cleared of debris/sediments? ☐ Yes ☐ No ☐ N/A
- Do units require additional repair? (identify below): ☐ Yes ☐ No ☐ N/A
- Has draining times of system been verified? ☐ Yes ☐ No ☐ N/A

Notes:

Operations and Maintenance Log (Page 3 of 3)

284 New Canaan Avenue, Norwalk, CT

December 18, 2024

Please make additional notes/observations and particular concerns below. Also record any additional maintenance that has been performed:

Signature of Inspector:

Date:

CITY OF NORWALK
INLAND WETLAND AGENCY
125 EAST AVE., NORWALK, CT 06856
203-854-7744 phone / 203-854-7962 FAX

MEMORANDUM

DATE: February 19, 2025

TO: Norwalk Inland Wetland Agency

FROM: Alexis Cherichetti, Senior Environmental Officer

RE: **#S24-648 - 284 New Canaan Avenue – LandTech for Penna Construction**
Corrective Action planting and restoration of a wetland and upland review area following clearing

The public hearing on this application opened during the January 28th meeting and closed at the February 11th meeting.

Approximately 600 square feet of wetland were clear-cut, as well as approximately 14,500 square feet of upland woodland. Additionally, this restoration plan includes restoration of areas within the upland review area in the western side of the property where the active yard area has been expanded.

The applicant submitted a restoration plan that includes the planting of 60 trees, 240 shrubs and native seed mix. The density and variety of proposed planting, along with the proposed monitoring plan, is anticipated to adequately restore the wetland and the previous upland buffer.

Public testimony was somewhat focused on restoration of the visual and acoustical buffering for the neighboring residential properties from the contractor's yard. The applicant has indicated that a revised plan with the addition of evergreen trees would be submitted.

A resolution was drafted for your consideration:

Resolution:

Whereas, the applicant was issued an Order for causing the alteration of a wetland and watercourse by performing regulated activities, including removal of vegetation and clear-cutting without benefit of an Inland Wetland permit; and

Whereas, the applicant is required to apply for a 'Corrective Action' wetland permit for these regulated activities that were performed without benefit of a permit and for corrective work to restore the impacted wetland and watercourse; and

Whereas, these regulated activities have resulted in physical alteration of the wetland and watercourse and have diminished the capacity of the wetland and watercourse to provide functions that they provided prior to the work; and

Whereas, the proposed and conditioned restoration and mitigation activities are likely to result in a reasonable restoration of most of the functions of the wetland and watercourse; and

Whereas, the Inland Wetland Agency has carefully considered all the information submitted and the factors for consideration of decision, as detailed in section 60A-10 of Norwalk's Inland Wetland and Watercourses Regulations;

Now therefore be it Resolved:

that Inland Wetland Application #S24-648, for corrective action restoration landscaping, be **GRANTED** to Indian Hill RE LLC (d/b/a A.J. Penna & Son Construction) for property at 284 New Canaan Avenue [5-46-76-0] , with the following conditions:

1. **ALL PORTIONS OF THE PROPOSED RESTORATION WORK**, as depicted on the plans entitled "Corrective Action Permit #S24-648: Restoration Plan" dated 10/31/2024 and last revised 01/23/2025 by LandTech, be **COMPLETED WITHIN FOUR (4) MONTHS OF ISSUANCE** of this corrective action approval.
2. A finalized *Restoration Monitoring Plan* shall be submitted and approved by Conservation staff prior to planting. The Plan must be revised to clarify timing and extent of replanting for replacement of dead plants and must include measurable metrics of success for annual vegetation survivorship and invasive species control.
3. The approved site plan, "Corrective Action Permit #S24-648: Restoration Plan" dated 10/31/2024 and last revised 01/23/2025 by LandTech, may be modified to accommodate the additional planting of evergreen tree species within the restoration area so long as: there is no reduction in the number of native shade trees (60) and shrubs (240) and all planted species within the wetland or its 100-foot upland review area are native to Connecticut.
4. **PRIOR TO THE RECOMMENCEMENT OF ANY ON-SITE WORK**, a \$43,880.00 Bond is to be posted in a form acceptable to the Agency. Two-thirds of the portion of the bond held for planting (\$38,880.00 total) shall become eligible for release following at least two (2) full growing seasons after the season of initial planting; the other third shall become eligible for release following at least five (5) full growing seasons after the season of initial planting. A growing season extends from May 15 through October 15 of any given year. Other portions of the bond, held for monitoring, are eligible for release following at least five (5) full growing seasons after the season of initial planting. The release or reduction of the bond shall be conditioned on compliance with the terms, conditions and limitations established in the permit.
5. The wetland and restored upland areas shall be maintained in such a manner that allows this area to establish a natural vegetated state; this area shall not be maintained as lawn or used as active or passive contractor's yard area.
6. **FOLLOWING COMPLETION OF RESTORATION**, the permittee shall provide photo documentation of the site and cross-reference the photographs on a site plan. Photographs should represent wide-angle views.
7. Permittee shall cause to have the restored wetland and upland areas managed for vegetation survivorship, hydrology and invasive species control as further detailed in the Plan described in Special Condition #2 above.
8. Any change to the overall plan, as depicted in plans submitted with the application and as described above, will require a return to the Inland Wetland Agency for review.

CITY OF NORWALK
INLAND WETLAND AGENCY
125 EAST AVE., NORWALK, CT 06856
203-854-7744 phone / 203-854-7962 FAX

MEMORANDUM

DATE: February 19, 2025

TO: Norwalk Inland Wetland Agency

FROM: Alexis Cherichetti, Senior Environmental Officer

RE: **#S24-648 - 284 New Canaan Avenue – LandTech for Penna Construction**
Corrective Action planting and restoration of a wetland and upland review area following clearing

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Approximately 600 square feet of wetland were clear-cut, as well as approximately 14,500 square feet of upland woodland. Additionally, this restoration plan includes restoration of areas within the upland review area in the western side of the property where the active yard area has been expanded.

The applicant submitted a restoration plan that includes the planting of 60 trees, 240 shrubs and native seed mix. The density and variety of proposed planting, along with the proposed monitoring plan, is anticipated to adequately restore the wetland and the previous upland buffer.

Public testimony was somewhat focused on restoration of the visual and acoustical buffering for the neighboring residential properties from the contractor's yard. The applicant has indicated that a revised plan with the addition of evergreen trees would be submitted.

A resolution was drafted for your consideration:

Resolution:

Whereas, the applicant was issued an Order for causing the alteration of a wetland and watercourse by performing regulated activities, including removal of vegetation and clear-cutting without benefit of an Inland Wetland permit; and

Whereas, the applicant is required to apply for a 'Corrective Action' wetland permit for these regulated activities that were performed without benefit of a permit and for corrective work to restore the impacted wetland and watercourse; and

Whereas, these regulated activities have resulted in physical alteration of the wetland and watercourse and have diminished the capacity of the wetland and watercourse to provide functions that they provided prior to the work; and

Whereas, the proposed and conditioned restoration and mitigation activities are likely to result in a reasonable restoration of most of the functions of the wetland and watercourse; and

Whereas, the Inland Wetland Agency has carefully considered all the information submitted and the factors for consideration of decision, as detailed in section 60A-10 of Norwalk's Inland Wetland and Watercourses Regulations;

Now therefore be it Resolved:

that Inland Wetland Application #S24-648, for corrective action restoration landscaping, be **GRANTED** to Indian Hill RE LLC (d/b/a A.J. Penna & Son Construction) for property at 284 New Canaan Avenue [5-46-76-0] , with the following conditions:

1. **ALL PORTIONS OF THE PROPOSED RESTORATION WORK**, as depicted on the plans entitled "Corrective Action Permit #S24-648: Restoration Plan" dated 10/31/2024 and last revised 01/23/2025 by LandTech, be **COMPLETED WITHIN FOUR (4) MONTHS OF ISSUANCE** of this corrective action approval.
2. A finalized *Restoration Monitoring Plan* shall be submitted and approved by Conservation staff prior to planting. The Plan must be revised to clarify timing and extent of replanting for replacement of dead plants and must include measurable metrics of success for annual vegetation survivorship and invasive species control.
3. The approved site plan, "Corrective Action Permit #S24-648: Restoration Plan" dated 10/31/2024 and last revised 01/23/2025 by LandTech, may be modified to accommodate the additional planting of evergreen tree species within the restoration area so long as: there is no reduction in the number of native shade trees (60) and shrubs (240) and all planted species within the wetland or its 100-foot upland review area are native to Connecticut.
4. **PRIOR TO THE RECOMMENCEMENT OF ANY ON-SITE WORK**, a \$43,880.00 Bond is to be posted in a form acceptable to the Agency. Two-thirds of the portion of the bond held for planting (\$38,880.00 total) shall become eligible for release following at least two (2) full growing seasons after the season of initial planting; the other third shall become eligible for release following at least five (5) full growing seasons after the season of initial planting. A growing season extends from May 15 through October 15 of any given year. Other portions of the bond, held for monitoring, are eligible for release following at least five (5) full growing seasons after the season of initial planting. The release or reduction of the bond shall be conditioned on compliance with the terms, conditions and limitations established in the permit.
5. The wetland and restored upland areas shall be maintained in such a manner that allows this area to establish a natural vegetated state; this area shall not be maintained as lawn or used as active or passive contractor's yard area.
6. **FOLLOWING COMPLETION OF RESTORATION**, the permittee shall provide photo documentation of the site and cross-reference the photographs on a site plan. Photographs should represent wide-angle views.
7. Permittee shall cause to have the restored wetland and upland areas managed for vegetation survivorship, hydrology and invasive species control as further detailed in the Plan described in Special Condition #2 above.
8. Any change to the overall plan, as depicted in plans submitted with the application and as described above, will require a return to the Inland Wetland Agency for review.

CITY OF NORWALK
INLAND WETLAND AGENCY
125 EAST AVE., NORWALK, CT 06856
203-854-7744 phone / 203-854-7962 FAX

MEMORANDUM

DATE: February 19, 2025

TO: Norwalk Inland Wetland Agency

FROM: Alexis Cherichetti, Senior Environmental Officer

RE: **#S24-648 - 284 New Canaan Avenue – LandTech for Penna Construction**
Corrective Action planting and restoration of a wetland and upland review area following clearing

The public hearing on this application opened during the January 28th meeting and closed at the February 11th meeting.

Approximately 600 square feet of wetland were clear-cut, as well as approximately 14,500 square feet of upland woodland. Additionally, this restoration plan includes restoration of areas within the upland review area in the western side of the property where the active yard area has been expanded.

The applicant submitted a restoration plan that includes the planting of 60 trees, 240 shrubs and native seed mix. The density and variety of proposed planting, along with the proposed monitoring plan, is anticipated to adequately restore the wetland and the previous upland buffer.

Public testimony was somewhat focused on restoration of the visual and acoustical buffering for the neighboring residential properties from the contractor's yard. The applicant has indicated that a revised plan with the addition of evergreen trees would be submitted.

A resolution was drafted for your consideration:

Resolution:

Whereas, the applicant was issued an Order for causing the alteration of a wetland and watercourse by performing regulated activities, including removal of vegetation and clear-cutting without benefit of an Inland Wetland permit; and

Whereas, the applicant is required to apply for a 'Corrective Action' wetland permit for these regulated activities that were performed without benefit of a permit and for corrective work to restore the impacted wetland and watercourse; and

Whereas, these regulated activities have resulted in physical alteration of the wetland and watercourse and have diminished the capacity of the wetland and watercourse to provide functions that they provided prior to the work; and

Whereas, the proposed and conditioned restoration and mitigation activities are likely to result in a reasonable restoration of most of the functions of the wetland and watercourse; and

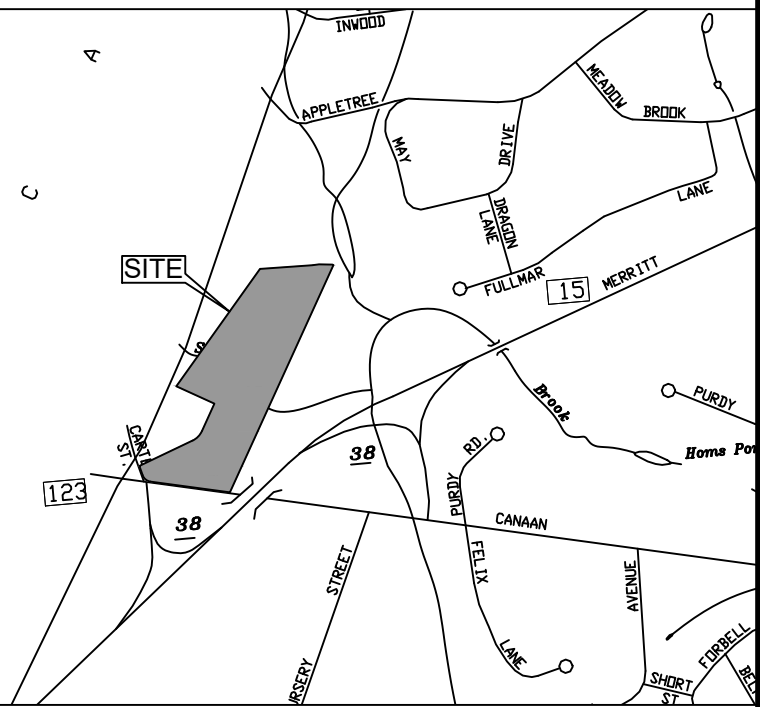
Whereas, the Inland Wetland Agency has carefully considered all the information submitted and the factors for consideration of decision, as detailed in section 60A-10 of Norwalk's Inland Wetland and Watercourses Regulations;

Now therefore be it Resolved:

that Inland Wetland Application #S24-648, for corrective action restoration landscaping, be **GRANTED** to Indian Hill RE LLC (d/b/a A.J. Penna & Son Construction) for property at 284 New Canaan Avenue [5-46-76-0] , with the following conditions:

1. **ALL PORTIONS OF THE PROPOSED RESTORATION WORK**, as depicted on the plans entitled "Corrective Action Permit #S24-648: Restoration Plan" dated 10/31/2024 and last revised 01/23/2025 by LandTech, be **COMPLETED WITHIN FOUR (4) MONTHS OF ISSUANCE** of this corrective action approval.
2. A finalized *Restoration Monitoring Plan* shall be submitted and approved by Conservation staff prior to planting. The Plan must be revised to clarify timing and extent of replanting for replacement of dead plants and must include measurable metrics of success for annual vegetation survivorship and invasive species control.
3. The approved site plan, "Corrective Action Permit #S24-648: Restoration Plan" dated 10/31/2024 and last revised 01/23/2025 by LandTech, may be modified to accommodate the additional planting of evergreen tree species within the restoration area so long as: there is no reduction in the number of native shade trees (60) and shrubs (240) and all planted species within the wetland or its 100-foot upland review area are native to Connecticut.
4. **PRIOR TO THE RECOMMENCEMENT OF ANY ON-SITE WORK**, a \$43,880.00 Bond is to be posted in a form acceptable to the Agency. Two-thirds of the portion of the bond held for planting (\$38,880.00 total) shall become eligible for release following at least two (2) full growing seasons after the season of initial planting; the other third shall become eligible for release following at least five (5) full growing seasons after the season of initial planting. A growing season extends from May 15 through October 15 of any given year. Other portions of the bond, held for monitoring, are eligible for release following at least five (5) full growing seasons after the season of initial planting. The release or reduction of the bond shall be conditioned on compliance with the terms, conditions and limitations established in the permit.
5. The wetland and restored upland areas shall be maintained in such a manner that allows this area to establish a natural vegetated state; this area shall not be maintained as lawn or used as active or passive contractor's yard area.
6. **FOLLOWING COMPLETION OF RESTORATION**, the permittee shall provide photo documentation of the site and cross-reference the photographs on a site plan. Photographs should represent wide-angle views.
7. Permittee shall cause to have the restored wetland and upland areas managed for vegetation survivorship, hydrology and invasive species control as further detailed in the Plan described in Special Condition #2 above.
8. Any change to the overall plan, as depicted in plans submitted with the application and as described above, will require a return to the Inland Wetland Agency for review.

1. LOT LINE & TOPOGRAPHIC INFORMATION FOR 284 NEW CANAAN AVENUE TAKEN FROM ZONING LOCATION SURVEY & TOPOGRAPHIC SURVEY PREPARED BY LANDTECH DATED SEPTEMBER 7.
2. DATUM: NAVD 88
3. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UNDERGROUND PIPING, UTILITIES, AND OTHER FEATURES ARE TAKEN FROM EXISTING AS-BUILT MAPPING AND OTHER SOURCES OF INFORMATION AND ARE APPROXIMATE. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. IN ADDITION, THERE MAY BE OTHER UNDERGROUND PIPING, UTILITIES, AND OTHER FEATURES PRESENT THAT ARE NOT SHOWN ON THE MAP. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE PRESENCE OF ANY OF THESE ELEMENTS BY ANY MEANS HOWEVER MEANS NECESSARY AND PROTECTING THESE ELEMENTS AS REQUIRED OR RELOCATING THEM IF THEY ARE IN CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CALL "CALL BEFORE YOU DIG" 1-800-922-4455, THREE FULL WORKING DAYS PRIOR TO ANY EXCAVATION WORK ON THE PROPERTY.
5. SUBJECT PROPERTY IS LOCATED IN FEMA FLOOD ZONE "X" AS SHOWN ON FEMA FIRM PANEL NO. 09001C0389F. EFFECTIVE JUNE 18, 2010.
6. WETLANDS FLAG AS TAKEN FROM MAP PREPARED BY LRC GROUP, DATED SEPTEMBER 7, 2010.
7. A NEW BENCHMARK SHALL BE SET PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
8. ALL EROSION AND SEDIMENT CONTROL MEASURES SPECIFIED IN THE PLAN SHALL BE MAINTAINED UNTIL DISTURBED AREAS ARE FULLY STABILIZED.



LOCATION MAP

(NTS)



CITY OF NORWALK
Planning and Zoning Department
Enforcement
www.norwalkct.org
P: 203-854-7960
Norwalk City Hall
Room 129
125 East Avenue, PO Box 5125
Norwalk, CT 06856-5125

10/24/2024

Via Certified & Regular US Mail
9589 0710 5270 0980 7711 19

Indian Hill Re LLC co/ Robin & Vincent Penna
9 Braybourne Drive
Norwalk, CT 06855

Re: NOTICE OF ZONING VIOLATION: 284 NEW CANAAN AVE (5-46-76-0)

Dear Owner:

Pursuant to Norwalk Municipal Code § 117-4, you are hereby notified that your property has zoning violations. You are hereby ordered to correct the following zoning violation(s) **within fifteen (15) days of the date of this notice:**

Norwalk Building Zone Regs – Section - 6.2.2. D (Article 6)

The following activities may be permitted provided the proposed Use of the property otherwise complies with these Regulations, and the Commission issues a Special Permit for the activity: 1. Excavation or Grading of more than 1,000 cubic yards of earth material; 2. Soil disturbance, Clear-cutting (including removal of vegetative ground cover) of 10,000 square feet in area or more.

To Wit: *Clear-cutting of more than 10,000 square feet*

Norwalk Building Zone Regs – Section - 8.4.8 (page 419)

Special Permits are for Uses, Buildings, or Structures that are considered to be generally appropriate in the applicable District, but because of their potential for incompatibility with Adjacent Uses, Buildings, or Structures, require individual review for specific locations. Special Permits may be considered only to the extent provided in this Section 8.4.8.

To Wit: *Noncompliance with previously approved Special Permit conditions included but not limited to:*

- 1. That any change to the plan will require Zoning Commission approval*
- 2. That all landscaping and site improvements are required to be maintained in good condition, as approved, for the life of the project*
- 3. That other than in the designated outdoor storage bins there be no storage of materials outside; and that the bins have sprinklers to control any dust, as shown on the submitted plan*
- 4. That any activity, horn blowing, idling of trucks, and exhaust discharge be in compliance with Chapter 68{§ 68-6 Prohibited Activities} – Noise Ordinance of the City Code of Norwalk;*

5. That no work, storage or expansion, temporary or permanent, is allowed into any areas of the site, beyond what is shown on the about referenced plans,
6. That parking of vehicles shall only occur in the locations designated on the approved Site Plan
7. That all stockpiles be covered or a sprinkler run to prevent any erosion or sedimentation;
8. That any modifications to the approved plan, including any changes required by any other agency that requires a substantial change to these plans, be submitted to the Zoning Commission for review and approval
9. That the hours of operation be generally Monday-Friday from 6:30a, - 5:30pm; (although the facility may operate later seasonally or on weekends during utility emergencies) be made part of this approval

Norwalk Building Zone Regs – Section - 8.4.11.B (Article 8) - Requirement to obtain a Certificate of Zoning Compliance (page 433)

Unless otherwise exempted pursuant to these Regulations, a separate Certificate of Zoning Compliance issued by the Planning and Zoning Director upon completion of the Development, proposed within the Permit, provided that the Development complies with the standards set forth in these regulations and any other approvals related to this Development

To Wit: *Failure to obtain a Certificate of Zoning Compliance*

To bring property into compliance with the City of Norwalk Zoning Regulations, the following actions are required:

1. Cease all active operations beyond the previously approved active yard areas,
2. Submit Special Permit application for clear-cutting of more than 10,000 sqft,
3. Submit application for modification of existing Special Permit,
4. Take steps to reduce activity to previously permitted scope of approval, and
5. Request inspection to obtain Certificate of Zoning Compliance

If you do not correct these zoning violation(s) within fifteen (15) days of the date of this notice, then you may be subject to a citation of up to \$150.00 for each day that the violations remain. You may also be subject to subsequent enforcement procedures by the Deputy Zoning Inspector (DZI) and/or an injunctive or civil action in the Connecticut Superior Court.

If hardship or good cause is proven, in a written request to the DZI, by delivering to the below address, or via e-mail to the address below, on or before fifteen (15) days of the date of this notice, he may grant an extension of fifteen (15) days to remedy the above-referenced violation.

If you have any questions or concerns about this notice, please do not hesitate to contact me. Thank you for your anticipated time and cooperation.

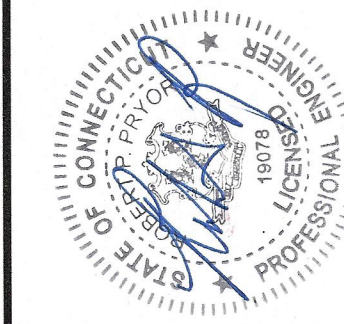
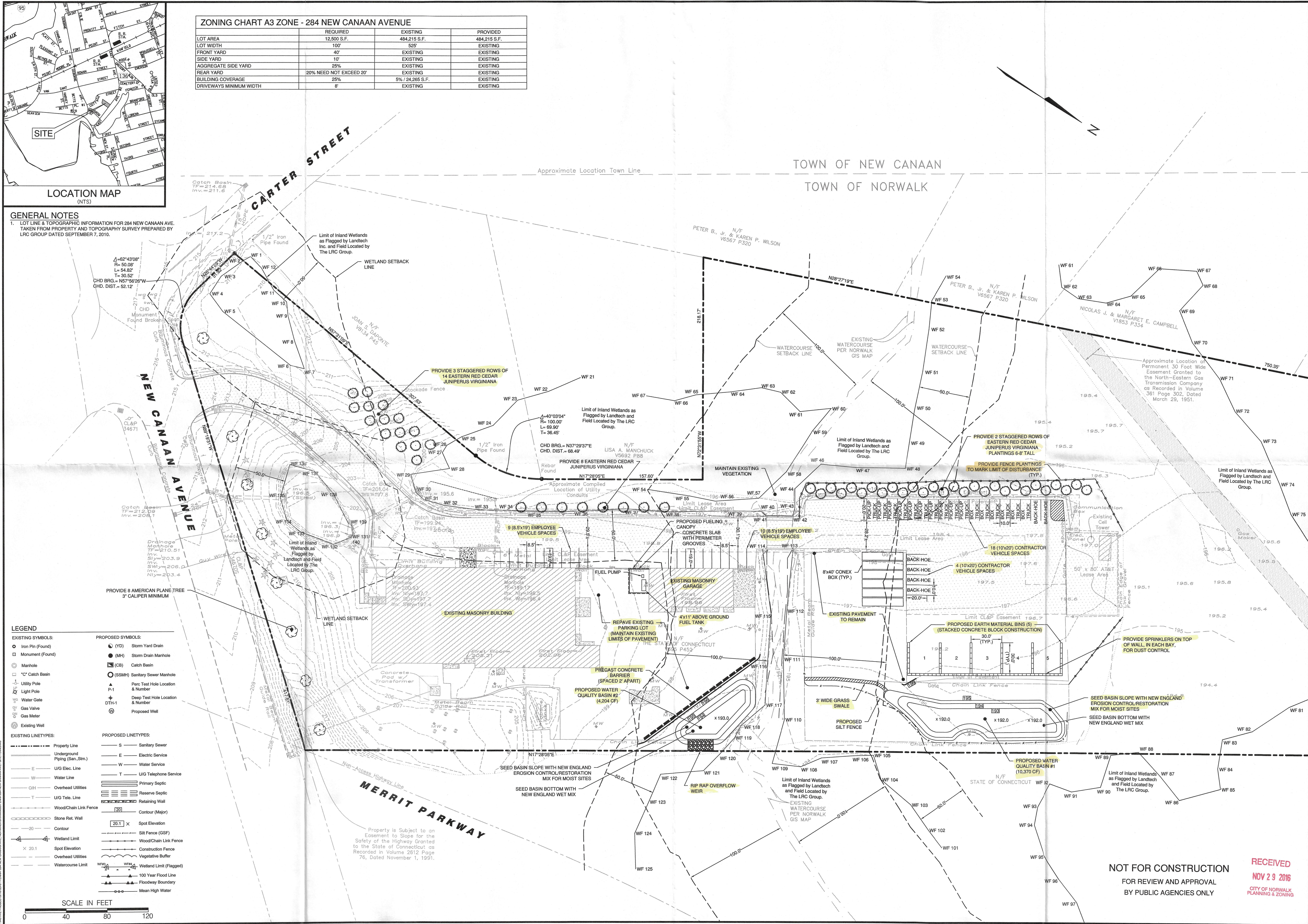
Sincerely,
Ian Hall
Deputy Zoning Inspector
203.854.7954
ihall@norwalkct.gov ***preferred***



ZONING CHART A3 ZONE - 284 NEW CANAAN AVENUE			
	REQUIRED	EXISTING	PROVIDED
LOT AREA	12,500 S.F.	484,215 S.F.	484,215 S.F.
LOT WIDTH	100'	525'	EXISTING
FRONT YARD	40'	EXISTING	EXISTING
SIDE YARD	10'	EXISTING	EXISTING
AGGREGATE SIDE YARD	25%	EXISTING	EXISTING
REAR YARD	20% NEED NOT EXCEED 20'	EXISTING	EXISTING
BUILDING COVERAGE	25%	5% / 24,265 S.F.	EXISTING
DRIVEWAYS MINIMUM WIDTH	8'	EXISTING	EXISTING

GENERAL NOTES

1. LOT LINE & TOPOGRAPHIC INFORMATION FOR 284 NEW CANAAN AVE. TAKEN FROM PROPERTY AND TOPOGRAPHY SURVEY PREPARED BY LRC GROUP DATED SEPTEMBER 7, 2010.



REVISION	DATE	DESCRIPTION
1	11/29/16	ISSUE
2		REVISED PER CITY REVIEW COMMENTS

Civil Engineering Site Planning
Environmental Science & Engineering
Surveying
Professional Engineering
Construction Management & Financing

518 Riverside Avenue • Westport, Connecticut 06890 • 203-454-2110 • info@landtechconsult.com

PREPARED FOR: PENNA

PROJECT LOCATION: 284 NEW CANAAN AVENUE, NORWALK, CT

TITLE: SITE IMPROVEMENTS FOR A PROPOSED CONTRACTOR'S YARD, SITE PLAN

PROJECT NO.: 16125-01

SCALE: 1" = 40'

DATE: 10/18/2016

DRAWN BY: CL

CHECKED BY: RPP

NOT FOR CONSTRUCTION
FOR REVIEW AND APPROVAL
BY PUBLIC AGENCIES ONLY

RECEIVED
NOV 29 2016
CITY OF NORWALK
PLANNING & ZONING

C-1



**CITY OF NORWALK
Inland Wetland Agency**

www.norwalkct.gov

P: 203-854-7744

Norwalk City Hall
Room 129
125 East Avenue, PO Box 5125
Norwalk, CT 06856-5125

February 26, 2025

Vincent Penna
Indian Hill RE LLC
46 Indian Hill Road
Westport, CT 06880

**Subject: Permit Application #S24-648
284 New Canaan Avenue, Norwalk, CT**

Dear Mr. Penna:

The Inland Wetland Agency of the City of Norwalk has **GRANTED** your application for the Corrective Action clearing in and adjacent to wetlands and a watercourse. The permit contains a description of the permitted work and the terms and conditions of the work are attached. Site work must conform to your permit.

For your records, a copy of the Legal Notice of the Agency's decision is enclosed. If you have any questions or comments regarding your permit, please contact this office. Thank you for your cooperation in protecting the valuable natural resources of the City of Norwalk.

Sincerely,

Alexis Cherichetti
Senior Environmental Officer

cc: Brian Carey, LandTech via email

encl. Permit #S24-648
Legal Notice of Publication
Cash Bond Form

CITY OF NORWALK
INLAND WETLAND AGENCY
125 EAST AVE., NORWALK, CT 06856
203-854-7744 phone

DECISION – February 25, 2025
PERMIT – #S24-648

As the licensing Agency, this Agency takes the following action on the proposed activity in accordance with the Inland Wetlands and Watercourses Regulations of the City of Norwalk concerning regulated activity affecting a wetland.

APPLICANT: Brian Carey
LANDTECH
518 Riverside Avenue
Westport, CT 06680

OWNER: Indian Hill RE, LLC
46 Indian Hill Road
Westport, CT 06880

PROPERTY: **284 New Canaan Avenue**, Norwalk, CT
Fifth Taxing District, Block 46, Tax Lot 76

ACTIVITY: Corrective Action clearing in and adjacent to wetlands and a watercourse

RESOLVED:

Whereas, the applicant was issued an Order for causing the alteration of a wetland and watercourse by performing regulated activities, including removal of vegetation and clear-cutting without benefit of an Inland Wetland permit; and

Whereas, the applicant is required to apply for a ‘Corrective Action’ wetland permit for these regulated activities that were performed without benefit of a permit and for corrective work to restore the impacted wetland and watercourse; and

Whereas, these regulated activities have resulted in physical alteration of the wetland and watercourse and have diminished the capacity of the wetland and watercourse to provide functions that they provided prior to the work; and

Whereas, the proposed and conditioned restoration and mitigation activities are likely to result in a reasonable restoration of most of the functions of the wetland and watercourse; and

Whereas, the Inland Wetland Agency has carefully considered all the information submitted and the factors for consideration of decision, as detailed in section 60A-10 of Norwalk’s Inland Wetland and Watercourses Regulations;

Now therefore be it Resolved:

that Inland Wetland Application #S24-648, for corrective action restoration landscaping, be **GRANTED** to Indian Hill RE LLC (d/b/a A.J. Penna & Son Construction) for property at 284 New Canaan Avenue [5-46-76-0] , with the following conditions:

1. **ALL PORTIONS OF THE PROPOSED RESTORATION WORK**, as depicted on the plans entitled “Corrective Action Permit #S24-648: Restoration Plan” dated 10/31/2024 and last revised 01/23/2025 by LandTech, be **COMPLETED WITHIN FOUR (4) MONTHS OF ISSUANCE** of this corrective action approval.
2. A finalized *Restoration Monitoring Plan* shall be submitted and approved by Conservation staff prior to planting. The Plan must be revised to clarify timing and extent of replanting for replacement of dead plants and must include measurable metrics of success for annual vegetation survivorship and invasive species control.
3. The approved site plan, “Corrective Action Permit #S24-648: Restoration Plan” dated 10/31/2024 and last revised 01/23/2025 by LandTech, shall be modified to accommodate the additional planting of evergreen tree species within the restoration area so long as: there is no reduction in the number of native shade trees (60) and shrubs (240) and all planted species within the wetland or its 100-foot upland review area are native to Connecticut.
4. **PRIOR TO THE RECOMMENCEMENT OF ANY ON-SITE WORK**, a \$43,880.00 Bond is to be posted in a form acceptable to the Agency. Two-thirds of the portion of the bond held for planting (\$38,880.00 total) shall become eligible for release following at least two (2) full growing seasons after the season of initial planting; the other third shall become eligible for release following at least five (5) full growing seasons after the season of initial planting. A growing season extends from May 15 through October 15 of any given year. Other portions of the bond, held for monitoring, are eligible for release following at least five (5) full growing seasons after the season of initial planting. The release or reduction of the bond shall be conditioned on compliance with the terms, conditions and limitations established in the permit.
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6. **FOLLOWING COMPLETION OF RESTORATION**, the permittee shall provide photo documentation of the site and cross-reference the photographs on a site plan. Photographs should represent wide-angle views.
7. Permittee shall cause to have the restored wetland and upland areas managed for vegetation survivorship, hydrology and invasive species control as further detailed in the Plan described in Special Condition #2 above.
8. Any change to the overall plan, as depicted in plans submitted with the application and as described above, will require a return to the Inland Wetland Agency for review.

GENERAL CONDITIONS in the issuance of all Norwalk Inland Wetland Agency permits:

1. The permittee shall notify the Senior Environmental Officer 24 hours prior to the commencement of work and upon its completion.
2. This permit, for which an approval is required under chapter 124, 124b, 126 or 126a of the Connecticut General Statutes, shall be valid until the approval granted under such above chapter expires or ten (10) years, whichever is earlier.
3. No equipment or material including fill, construction materials, or debris, shall be deposited, placed, or stored in any wetland or watercourse on or off site unless specifically authorized by this permit.
4. All work conducted pursuant to this authorization shall be consistent with the terms and conditions of this permit. Any structures, excavation, fill, obstructions, encroachments or regulated activities not specifically identified and authorized herein shall constitute a violation of this permit and may result in its modification, suspension, or revocation.
5. Upon initiation of the activities authorized herein, the permittee thereby accepts and agrees to comply with the terms and conditions of this permit.
6. Prior to commencement of any work, each and every general contractor and subcontractor employed by the applicant shall complete a Contractor Agreement, indicating that the contractor or subcontractor has fully familiarized itself with and understands the Norwalk Inland Wetlands and Watercourses Regulations as they apply to its project, and with the terms of the permitted activity, including the general and special conditions which may pertain.
7. In evaluating this application, the Agency has relied on information provided by the applicant and, if such information subsequently proves to be false, deceptive, incomplete and/or inaccurate, this permit shall be modified, suspended or revoked.
8. Nothing in this permit shall obviate the requirements for the applicant to obtain any other assents, permits or licenses required by law or regulation by the City of Norwalk, State of Connecticut or the Government of the United States, including any approval required by the Connecticut Department of Environmental Protection and U.S. Army Corps of Engineers. Obtaining such assents, permits or licenses is the sole responsibility of the applicant.
9. This authorization is not transferable without the written consent of the Norwalk Inland Wetland Agency.
10. All disturbed areas are to be stabilized immediately upon completion of work.

END

CONTRACTOR AGREEMENT

INLAND WETLAND AGENCY PERMIT NUMBER: # **S24-648**

As a contractor/subcontractor engaged by _____ to perform the regulated activities described in Norwalk Inland Wetland Agency Permit referenced above, I am familiar with the applicable State and City of Norwalk Inland Wetlands and Water Courses Regulations and the Permit, and will comply with all the conditions therein.

Work will commence on or about _____ and will be completed within _____ weeks.

Name: _____

Address: _____

Telephone: _____

Signature

Date Signed

RETURN OR MAIL TO: Conservation Office
 City Hall, Room 129
 125 East Avenue
 Norwalk, CT 06856-5125
 Amelia.williams@norwalkct.gov

NOTICE TO CONTRACTORS

Failure to comply with the terms and conditions of this permit shall subject the permittee and the contractor to enforcement actions, as per Chapter 60A-10 of the City of Norwalk Inland Wetlands and Watercourses Regulations, and Section 22a-361 of the State Statutes. Enforcement actions may include penalties and injunctions as provided by law.



**CITY OF NORWALK
Inland Wetland Agency**

www.norwalkct.gov
P: 203-854-7744
Norwalk City Hall
Room 129
125 East Avenue, PO Box 5125
Norwalk, CT 06856-5125

Agency Use Only
IW Permit #: _____
Account #: _____

Cash Bond for Completion of Inland Wetland Permit Conditions

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, I, _____ have made application to the Conservation Commission /Inland Wetland Agency for the approval of a plan to conduct regulated activities, subject to the City of Norwalk Inland Wetlands & Watercourses Regulations, on certain lands located in the City of Norwalk, CT.

WHEREAS, the Commission/Agency has approved said plan on condition that the Applicant(s) submit cash surety, payable to the City of Norwalk, to the Commission/Agency in the amount of _____ DOLLARS (\$ _____),
(amount in words) (amount in figures)

to secure to the City the actual installation and maintenance of sedimentation & erosion control measures and wetland enhancement and/or other wetland mitigation activities required by the Commission as more fully appear on Schedule A attached hereto entitled "Wetland Permit # _____", approved on _____.

WHEREAS, the Permittee understands that said cash or check will be deposited in an interest bearing account and that interest income will be returned with the final release of the bond.

NOW, THEREFORE, I, _____, do hereby deposit with the
(Permittee)
City of Norwalk the amount of \$ _____. I, _____

shall faithfully make and complete to the satisfaction of the Commission/Agency, the work herein referred to on or before _____. If said work is completed in accordance with
(required completion date)

Norwalk Inland Wetlands & Watercourses Regulations and Wetland Permit # _____, this obligation shall be null and void; otherwise it shall remain in full force and effect. In the event of default in the performance of the terms hereof, the determination of which default shall be made at the sole discretion of the Norwalk Conservation Commission/Inland Wetland Agency, on the record and only after a hearing preceded by due notice mailed to the Permittee for purposes of allowing the Permittee the right to be present, heard and to submit evidence, the City shall be and hereby is empowered to complete the work required hereunder, and to reimburse itself for any and all expenses incurred therewith, from the funds deposited hereunder and any interest accrued on some.

Signature

Date

(print name & title)

Designated Agent for Norwalk Conservation Commission

327
237 DBKK

NORWALK ZONING COMMISSION
CITY HALL, 125 EAST AVENUE
NORWALK, CONNECTICUT
CERTIFICATE OF SPECIAL PERMIT

Special Permit No.12-16 SP

Town Clerk's No. _____

I, Nate Sumpter, Chair, Norwalk Zoning Commission, do hereby certify that a regular meeting of the Zoning Commission was held on January 18, 2017, on the following application:

#12-16 SP – V. Penna Sr. – 284 New Canaan Avenue – Special Permit to reuse former State Armory Building for a public utility storage facility owned by an independent entity

PROPERTY OWNER: Indian Hill R.E., LLC, 46 Indian Hill Rd, Westport, CT 06680

PROPERTY ADDRESS: # 284 New Canaan Avenue, Norwalk, CT
(District 5, Block 46, Lot 76)

The following resolution was approved:

RESOLVED that application #12-16 SP, submitted by V. Penna, Sr for a reuse of the former armory property at 284 New Canaan Avenue for a public utility contractor, as shown on plans by Landtech, Westport, CT, dated 11/29/16, as amended be approved with the following conditions:

1. That any change to the plan will require Zoning Commission approval; and
2. That any graffiti on the site, now or in the future, be removed immediately; and
3. That all required CEAC signoffs are submitted; and
4. That all required soil and sedimentation controls be installed prior to the start of construction and maintained until the project is completed and stabilized; and
5. That all landscaping and site improvements are required to be maintained in good condition, as approved, for the life of the project; and
6. That the plans comply with the terms and conditions contained in the Aquifer Protection Agency (APA) Permit # S16-499, dated December 13, 2016 and that these permits be made part of this approval; and
7. That a certificate of special permit and the approved site plan (as modified to address any conditions of approval) be filed on the Norwalk Land Records; and
8. That a surety, in an amount to be determined by staff, be submitted to guarantee the installation of the required erosion and sediment controls; and
9. That there be only one tenant on the site and that the site not be rented for storage of any kind nor any additional occupants of the buildings; and
10. That no snow plowing services shall be conducted out of the site, except for what is necessary to clear the utility client's site(s); and
11. That other than in the designated outdoor storage bins there be no storage of materials outside; and that the bins have sprinklers to control any dust, as shown on the submitted plan; and

12. That any activity, horn blowing, idling of trucks, and exhaust discharge be in compliance with Chapter 68 [§68-6 Prohibited Activities] - Noise Ordinance of the City Code of Norwalk; and
13. That no noise amplifying devices shall be utilized on site.
14. That no work, storage or expansion, temporary or permanent, is allowed into any areas of the site, beyond what is shown on the above referenced plans; and
15. That all lighting shall be fully shielded and shall not trespass on adjacent properties; and
16. That no work, storage or expansion, temporary or permanent, is allowed in any areas of the site beyond what is shown on the above referenced plans; and
17. That parking of vehicles shall only occur in the locations designated on the approved Site Plan; and
18. That all stockpiles be covered or a sprinkler run to prevent any erosion or sedimentation; and
19. That any modifications to the approved plan, including any changes required by any other agency that requires a substantial change to these plans, be submitted to the Zoning Commission for review and approval; and
20. That the hours of operation be generally Monday – Friday from 6:30 am – 5:30 pm; although the facility may operate later seasonally or on weekends during utility emergencies) be made part of this approval;
21. That deliveries, garbage pickup and recycling pickup be restricted to the hours of 7:00Am to 6:00 PM; and
22. That a licensed Connecticut engineer certify that all of the required improvements were installed in accordance with City standards prior to the issuance of a certificate of zoning compliance; and
23. That the total number of vehicles (pickup trucks, dump trucks, box trucks, etc) on the site (inside and outside) is initially proposed to be 30. The applicants are allowed a 50% future growth, to a maximum of 45 vehicles on the site, and
24. That as offered at the public hearing by the applicant, the applicant shall plant 5 (five) eight to ten (8-10) feet tall additional evergreen trees at the property of Mr. and Mrs. Wilson, Poconock Dr, New Canaan to provide additional buffer; and
25. That the proposed landscaping trees, offered by the applicant, be increased to eight to ten (8-10) feet tall.

BE IT FURTHER RESOLVED that this application complies with Section 118-310 AAA Residential zone and with applicable sections of the Building Zone Regulations for the City of Norwalk, as amended.

BE IT FURTHER RESOLVED that a Special Permit Certificate and map be placed on the Norwalk Land Records;

BE IT FURTHER RESOLVED that the effective date of this action be January 27, 2017.

**EXECUTED AT NORWALK, CONNECTICUT THIS ____ DAY OF
October, 2017.**

Nathan Sumpter, Chair
Norwalk Zoning commission



CITY OF NORWALK
Planning & Zoning Commission
Norwalk City Hall, Room 129
125 East Avenue,
Norwalk, CT 06856-5125

MEMORANDUM

March 28th, 2025

TO: Planning and Zoning Commission – Galen Wells, Chair

FROM: Amelia Williams, Land Use Planner

SUBJECT: Preliminary Review of #2025 - 18 SP – Enrico R. Costantini, Esq. – 284 New Canaan Avenue – After-the-fact clearing of 15,000 square feet which is to be restored with plantings.

District: 5 **Block:** 46 **Lot:** 76

Zone: CD-1L

The applicant applied for a Special Permit as directed by the Notice of Violation (enclosed) issued to them in October 2024. The NoV cites the clearing of more than 10,000 sq ft on the Western side of the property which requires a Special Permit, as well as non-compliance with their existing Special Permit (12-16SP). The existing Special Permit is for a public utility storage facility use, restricted to a single tenant. The approval is enclosed, and condition #14 states that no work, storage or expansion, temporary or permanent, is allowed into any areas of the site, beyond what is shown on the approved site plan (also enclosed). The applicant has expanded East beyond the approved area and is seeking a modification to their 2016 Special Permit to bring the property into compliance. There are other conditions of the Special Permit they are not currently in compliance with and are seeking to rectify, which are cited in NoV.

The NoV requires two separate applications be made to the Commission. One for the clearing of more than 10,000 square feet which requires a Special Permit, and a separate application to modify their existing Special Permit to allow an expansion of the use beyond what was depicted on the approved site plan. What the applicant has submitted does not meet this requirement, as only one package of materials was received and does not differentiate between the two issues. The project description also conflates their existing wetland permit and Special Permit and should be revised to reference the correct approvals.

The applicant is also in the midst of a public hearing with the Inland Wetland Agency (tabled to 4/22, earliest decision 5/13) and at their most recent (3/25) meeting, significant revisions to their proposal were discussed and requested. This pertains to the work the applicant is seeking to approve through the modification of their existing Special Permit, including the expansion of the yard area beyond the approved boundaries. The IWA approved a permit for the restoration of the cleared area (enclosed), which is the work that requires a new Special Permit.

As a part of their modification request, the applicant is also proposing to change the stormwater management. The 2016 approval includes the installation of a grass swale and water quality basin to capture, treat, and recharge stormwater. The water quality basin would take up a

considerable amount of land area and that is currently being used as (unapproved) active yard area. The applicant is now proposing the installation of underground retention galleries. Per the City's Senior Environmental Officer, they would provide retention and peak runoff attenuation, but they must have pretreatment. Without pretreatment and removal of excess silt and sediment, the galleries clog and do not operate properly. Given the contractor yard use of the drainage area, robust pretreatment should be required.

These applications have been referred to the town of New Canaan and WestCoG.

Norwalk Planning & Zoning Commission
125 East Avenue
Norwalk, Connecticut

Memorandum

To:

From: Bryan Baker, AICP, Principal Planner

Re: #

Please accept this letter as the statutorily required referral for amendments to the City of Norwalk's Zoning Regulations. The Norwalk Planning & Zoning Commission will be holding a public hearing on the following zoning regulations amendments at a meeting that is tentatively scheduled for _____.

The zoning map can be found here:

https://www.norwalkct.gov/DocumentCenter/View/32441/ApprovedZoningMap_Effective2_19_24

The existing Zoning Regulations can be found here: <https://norwalkct.gov/3445/New-Zoning-Regulations-Map>

For clarity:

- Each proposed revision will be under a separate page
- New/Proposed text is indicated in **red text**
- Deleted text is indicated as ~~struck through text~~

1. Modify Section 6.9.5.C.1 which applies to construction within the Special Flood Hazard Zone to include the following amendments:

- a. Residential Construction.

All new Construction, Substantial Improvements, and repair to Structures that have sustained Substantial Damage which are Residential Structures shall have the bottom of the **Lowest Floor** lowest floor, including Basement, elevated two (2) feet above the Base Flood Elevation (BFE). Electrical, plumbing, machinery or other utility equipment that service the structure must be elevated two (2.0) feet above the BFE. **Any level below the Lowest Floor shall be Unfinished Area.**

- c. Fully Enclosed Areas Below the Base Flood Elevation **Plus Two (2) Feet** of Elevated Buildings.

All new Construction, Substantial Improvements, or repair to Structures that have sustained Substantial Damage that include fully enclosed areas formed by a foundation and other exterior Walls shall have the lowest floor **Lowest Floor** elevated to two (2) feet above the Base Flood Elevation (BFE). The elevated Building shall be designed to preclude finished living space as **Unfinished Area** below the lowest floor **Lowest Floor** and be designed to allow for the entry and exit of Flood waters to automatically equalize hydrostatic flood forces on exterior walls (wet flood-proofing), **except where dry flood-proofing is allowed per Section 6.9.5.C.1.b.** Designs for complying with this requirement must either be certified by a registered professional engineer or architect, **within the State of Connecticut**, as meeting the requirements of ASCE 24 Section 2.6.2.2., or meet the following minimum criteria listed in Sections (1)-(8) below:

- (5) The area cannot **shall not** be used as finished living space **Finished (Habitable) Area and shall be an Unfinished Area**. Use of the enclosed area shall be the minimum necessary and shall only be used for the parking of vehicles, Building access or limited storage. Access to the enclosed area shall **not exceed** be the minimum necessary to allow for the parking of vehicles (Garage door) or limited storage of maintenance equipment used in the connection with the premises (standard exterior door) or entry to the living area (stairway or elevator). The enclosed area shall not be used for human habitation;
- (6) All interior Walls, floor, and ceiling materials located below two (2) feet above the BFE shall be **in accordance with the definition of Unfinished Area** unfinished and flood damage-resistant in accordance with FEMA Technical Bulletin 2, Flood Damage-Resistant Requirements.

2. Modify Section 6.9.5.D.1 which applies to construction within the Special Flood Hazard Zone to include the following amendments:
- 1) All new Construction, Substantial Improvement and repair to Structures that have sustained Substantial Damage shall be located at least twenty-five (25) feet landward of the **Coastal Jurisdiction Line** reach of the mean high tide, **except for the following:**
- a. **Existing Residences being raised to comply with Section 6.9.5.C.1 provided that there is no increase in Massing.**
 - b. **Interior renovations to a Principal Building.**
 - c. **Pools, provided that they are at least ten (10) feet landward of the Coastal Jurisdiction Line.**
 - d. **Docks.**
 - e. **Public access requirements as required within these Regulations.**
 - f. **Civic Districts.**
 - g. **Water-dependent Uses and Marine & Vessel Uses within Table 4.3.9.A**

3. Modify a portion of Table 4.3.1-L and M (SD-LI and SD-HI) to the following:

(SD-LI)

Ceiling Height	
Principal Building	1) Shall May not exceed 15 ft. from finished floor to finished floor, except that the first floor must be a minimum of 20 ft., not to exceed 30 ft. 2) When Abutting a residential Zoning District, each Story beginning with the third floor shall be setback at least ten (10) feet from the Story below. 3) A Special Permit shall be required for Structure(s) with a Total Height exceeding 65 ft.

(SD-HI)

Ceiling Height	
Principal Building	1) Shall not exceed 15 ft. from finished floor to finished floor, except that the first floor must be a minimum of 20 ft. min. ground floor, not to exceed 40 ft. 2) When Abutting a residential Zoning District, each Story beginning with the third floor shall be setback at least ten (10) feet from the Story below. 3) A Special Permit shall be required for Structure(s) with a Total Height exceeding 65 ft. and/or for a Structure(s) with a first floor height exceeding 30 ft.

4. Modify a portion of Table 4.3.1-N (SD-MC) to the following:

Setbacks	
Principal Building	
Front Setback, Principal Frontage	5 ft. min
Front Setback, Secondary Frontage	5 ft. min
Side Setback, per Side	5 ft. min
Rear Setback	25 ft. from the coastal jurisdiction line mean high water , which area must be dedicated for public Use and water quality Improvements; except that the Rear Setback may be reduced by the Planning and Zoning Commission where the proposed Use preserves and enhances water-dependent uses or where the reuse of existing Building and Structures is considered to be consistent with the purposes of the District.

Setbacks	
Accessory Building	
Front Setback, Principal Frontage	25 ft. min
Front Setback, Secondary Frontage	25 ft. min
Side Setback, per Side	5 ft. min
Rear Setback	25 ft. from the coastal jurisdiction line mean high water , which area must be dedicated for public Use and water quality Improvements; except that the Rear Setback may be reduced by the Planning and Zoning Commission where the proposed Use preserves and enhances water-dependent uses or where the reuse of existing Building and Structures is considered to be consistent with the purposes of the District.

5. *Modify Section 4.3.3.D Watercourse Lots/Building Sites to the following:*

Within all Districts **the CD-3, CD-3W, CD-4, CD-4W, and SD-MC** and the Civic District, each Lot or Building Site that abuts both a Street or Internal Drive, and a Watercourse **and are a Residential (except for Single-Family Detached Dwelling, Two-Family Detached Dwelling, or Townhouse), Lodging, Office, Commercial, Civic, and/or Institutional Use(s) as listed within Table 4.3.9.A** must **provide a Private Frontage Type along each Frontage in accordance with Section 4.3.7.** ~~have Frontage along both, and the Frontage regulations shall apply to both Frontages.~~ **Maximum Setbacks from the Frontage along the Watercourse shall not apply. The minimum Frontage buildout shall not be required to exceed 40% along the Frontage adjacent to the Watercourse.**

6. *Modify Section 4.3.9.C. Uses to the following:*

1. In addition to the Use standards in Table 4.3.9.A (Building & Lot Principal Uses) and Table 4.3.9.D (Building, Lot & Building Site Accessory Uses);
 - a. Any proposed Building with a Footprint of five thousand (5,000) square feet or more or a gross Floor Area of twenty thousand (20,000) square feet or more shall be subject to Section 8.4.5, Site Plan Review, unless a Special Permit is required in which case the Building is subject to Section 8.4.8, Special Permits.
 - b. **Any change in Use with a gross Floor Area of twenty thousand (20,000) square feet or more shall be subject to Section 8.4.5, Site Plan Review, unless a Special Permit is required in which case the Use is subject to Section 8.4.8, Special Permits.**

7. Modify Table 4.3.9.A Building, Lot & Building Site Principal Uses to include the following:

Principal Use	C D-1L	C D-1M	C D-1S	C D-2	CD-3	CD-3W	CD-3C	CD-4	CD-4W	SD-H	S D-IC	SD-LI	SD-HI	SD-MC	C V
Trade or Vocational School	N P	N P	N P	N P	SP U-L PL	SP U-L PL	SP U-L PL	SP U-L PL	SP U-L PL	SP U PL	N P	SP U-L PL	SP U-L PL	NP SP U	N P PL

cl. Trade or Vocational Schools shall be permitted in accordance with the applicable Use Table, subject to the following:

- (1) Training or educational programs shall be certified by the State of Connecticut, ~~subject to the following requirements:~~
 - a. ~~Shall have a minimum lot size of fifteen thousand (15,000) square feet;~~
- (2) Use of a technical school **Trade or Vocational School** shall be limited to members of trade or profession enrolled in apprenticeship and upgrading programs as defined in **Chapter 557, Part Ia, Section 31-22m to 31-22q of the Connecticut General Statutes Annotated Title 31, Section 31-51a to 31-51e, as amended.**
- (3) ~~Trade or Vocational School(s) entirely within existing Structure(s) shall be Permitted in accordance with the following:~~
 - a. ~~Trade or Vocational School(s) with an aggregate total Floor Area of twenty thousand (20,000) square feet or less, via Section 8.4.10, Zoning Permits.~~
 - b. ~~Trade or Vocational School(s) with an aggregate total Floor Area greater than twenty thousand (20,000) square feet, via Section 8.4.5, Site Plan Review.~~
- (4) ~~Trade or Vocational School(s) within a proposed Structure(s) shall be Permitted in accordance with the following:~~
 - a. ~~Trade or Vocational School(s) with an aggregate total Floor Area of ten thousand (10,000) square feet to twenty thousand (20,000) square feet shall require approval of a Site Plan Review, pursuant to Section 8.4.5.~~
 - b. ~~Trade or Vocational School(s) with an aggregate total Floor Area greater than twenty thousand (20,000) square feet shall require approval of a Special Permit, pursuant to Section 8.4.8.~~
- (5) ~~Shall require approval of a Special Permit pursuant to Section 8.4.8.~~

8. Modify Table 4.3.9.A Building, Lot & Building Site Principal Uses and Table 4.3.9.D Building, Lot & Building Site Accessory Uses to include the following:

TABLE 4.3.9.A BUILDING, LOT & BUILDING SITE PRINCIPAL USES															
Principal Use	CD -1L	CD -1M	CD -1S	CD -2	CD -3	CD -3W	CD -3C	CD -4	CD -4W	SD -H	SD -IC	SD-LI	SD -HI	SD -M C	C V
Indoor & outdoor storage of passenger motor vehicles	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	SP U-L	NP	NP	N P
Motor Vehicle Storage	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	SP U	SP U	NP	N P
Warehouse	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	PL	PL	N P

TABLE 4.3.9.D BUILDING, LOT & BUILDING SITE ACCESSORY USES															
Accessory Use	CD -1L	CD -1M	CD -1S	CD -2	CD -3	CD -3W	CD -3C	CD -4	CD -4W	SD -H	SD -IC	SD-LI	SD -HI	SD -M C	C V
Warehousing	NP	NP	NP	NP	PL	PL	PL	PL	PL	NP	NP	PL	PL	PL	P L

cn. Warehouse shall be permitted in accordance with the applicable Use Table, subject to the following:

1. A Site Plan Review, pursuant to Section 8.4.5, shall be required in accordance with Section 4.3.9.C and/or when on a Lot or Building Site that abuts a residential Zoning District..
2. A Special Permit, pursuant to Section 8.4.8, shall be required for a Warehouse Use and/or Structure that exceeds twenty thousand (20,000) square feet in gross Floor Area.
3. Motor Vehicle Storage is Permitted within a Warehouse, provided that:
 - a. There is no on-site motor vehicle repair which requires a K-7 license from the Connecticut Department of Motor Vehicles.
 - b. There is no retail or wholesale sales of motor vehicles or motor vehicle parts.

co. Warehousing shall be permitted in accordance with the applicable Use Table, subject to the following:

2. Warehousing shall only be Accessory to the following Use(s):

- a. Cannabis Delivery Service; Cannabis Food & Beverage Mfg.; Cannabis Transporter; Manufacturing & Processing, Boutique; Manufacturing & Processing, Light; Brew Pub/Distillery; Boat-Building facility; Boat repair and service facility; Commercial fishing facility; Finfish and shellfish processing plant; Harbor/Port Facility; Marina; Ship Chandlery; Shipyard; Research and Development Facility; Municipal Utility Plant or Storage Yard; Warehouse
- 3. A Site Plan Review, pursuant to Section 8.4.5, shall be required **in accordance with Section 4.3.9.C** and/or when on a Lot or Building Site that abuts a residential Zoning District.

DRAFT

9. *Modify Section 6.12.4 Regulations for Workforce Housing to include the following:*

14. If a Workforce Household within a designated Workforce Housing Unit realizes an increase in income, such that they exceed 80% state median income based on family size, the occupant of the Workforce Housing Unit may remain within that Dwelling Unit upon annual recertification, so long as their income does not equal or exceed 90% state median income; provided that at least 12% of the City's total Dwelling Units are (1) assisted housing, (2) currently financed by Connecticut Housing Finance Authority mortgages, or (3) subject to binding recorded deeds containing covenants or restrictions which require that such dwelling units be sold or rented at, or below, prices which will preserve the units as housing for which persons and families pay thirty per cent or less of income, where such income is less than or equal to 80% state median income.
15. In addition to the requirements in Articles 6.12.4.1 and 6.12.4.2, any Zoning Permit for the Construction of multifamily or mixed-use Developments containing ten (10) or more Dwelling Units may increase the maximum allowed Density by five (5%) percent, rounded up to the nearest whole number, provided that:
 - a. the annual income for the Families in the additional units is between 80 – 90% of state median income, and
 - b. the additional units are deed-restricted in perpetuity and occupied by Families whose annual income is between 80 – 90% of state median income, and
 - c. the additional units are subject to the same annual reporting requirements as Workforce Units as required within the Affordability Plan.
 - d. provided that at least 12% of the City's total Dwelling Units are (1) assisted housing, (2) currently financed by Connecticut Housing Finance Authority mortgages, or (3) subject to binding recorded deeds containing covenants or restrictions which require that such dwelling units be sold or rented at, or below, prices which will preserve the units as
 - e. housing for which persons and families pay thirty per cent or less of income, where such income is less than or equal to 80% state median income.
 - f. provided that at least 12% of City's total Dwelling Units meet or exceed the criteria in Connecticut General Statute, 8-30g(k), as amended.

10. Modify Section 8.4.4.D.6 to include the following:

6. For mailed notice, in addition to other requirements that may be required for the specific procedure, the following shall be required:
 - a. All letters shall be sent by the Applicant using ~~certified~~ U.S. **P.S.** Mail, with a Certificate of Mailing **-Firm**.

DRAFT

11. Modify Section 9.3 Defined Terms, to include the following:

Unfinished Area: An enclosed area that is used only for the parking of vehicles, building access or storage purposes and that does not meet the definition of a Finished (Habitable) Area. Drywall used for fire protection is permitted in Unfinished Areas.

Finished (Habitable) Area: An enclosed area having more than twenty (20) linear feet of finished interior walls (paneling, etc.) or used for any purpose other than solely for parking of vehicles, building access or storage.

Story: a level within a Building, being that portion between the surface of any floor and the surface of the floor next above it; if there is no floor above it, then the space between the floor and ceiling next above it; unless that space is a Half Story. The number of Stories shall be measured from the Finished Grade along the Principal Frontage of a Structure and/or Building.

- (1) A Basement is a Story when the ceiling height is more than three (3) feet above the Finished grade measured along the Principal Frontage of the Structure and/or Building; except that, within the Special Flood Hazard Area, the lowest level is not a Story provided that:
 - a. It is uninhabitable space **Unfinished Area** and can only be used for Parking or storage; and
 - b. More than 50% of the floor-to-ceiling height is below the Base Flood Elevation.
- (2) For Structures on pilings within the Special Flood Hazard Area, the area between the ground and the floor next above it shall not count as a Story, provided that more than 50% of the Existing Grade is below the Base Flood Elevation.

Lowest Floor: the lowest floor of the lowest enclosed area (including Basement); except **within a Special Flood Hazard Area**, an unfinished **Unfinished Area** or flood resistant enclosure usable solely for parking of vehicles, building access or storage, in an area other than a basement area is not considered a Building's lowest floor.

12. *Modify Article 9, Definitions, to include the following:*

Motor Vehicle Body Shop: premises or a portion of a premises used for the adjustment, painting, replacement of parts, or body repair of Motor Vehicles, **including incidental storage for fewer than sixty (60) days of Motor Vehicles that are being adjusted, painted, parts replaced, or body repaired.**

DRAFT

CITY OF NORWALK
PLANNING & ZONING COMMISSION MINUTES
March 19, 2025

PRESENT: Galen Wells, Chair; Chapin Bryce; Diana Lenkowsky; Louis Schulman; Jacquen Jordan-Byron; Darius Williams; Tammy Langalis

STAFF: Steve Kleppin; Bryan Baker

OTHERS: Wilber Geron; Ralph Kolb; Atty Darin Callahan; Atty Liz Suchy

I. CALL TO ORDER

Mr. Bryce called the meeting to order at 6:01 p.m. It should be noted that this meeting was held on Zoom.com with participants calling in, separately.

II. ROLL CALL

Mr. Baker called the roll.

III. EXECUTIVE SESSION

At this point, Ms. Wells announced that the first two items would be handled together. The commissioners went into Executive Session at 6:03 pm

A. Terzian, Bryan S. v. Planning and Zoning Commission of the City of Norwalk (HHD-CV24-6182559-S) and B. Terzian, Bryan S. v. Planning and Zoning Commission of the City of Norwalk (HHD-CV-22-6182560-S)

**** MR. SCHULMAN MOVED THAT THE PLANNING & ZONING COMMISSION WOULD NOW BE IN EXECUTIVE SESSION.**

Ms. Langalis seconded.

Galen Wells; Chapin Bryce; Diana Lenkowsky; Louis Schulman; Jacquen Jordan-Byron; Darius Williams; Tammy Langalis approved.

No one opposed.

No one abstained.

IV. DISCUSSION AND ACTION ON POSSIBLE SETTLEMENT OF LITIGATION

The commissioners returned from Executive Session at 6:44 pm.

A. Discussion and action regarding possible settlement of litigation docketed as Terzian, Bryan S. v. Planning and Zoning Commission of the City of Norwalk (HHD-CV24-6182559-S)

**** MR. SCHULMAN MOVED** to approve the settlement based on the fact that (i) the stipulation is mutually beneficial, in that despite the long history and varied uses of the subject premises, it provides both the Planning & Zoning Commission and Mr. Terzian more certainty in their expectations for the subject property in the near-term and long-term development; (ii) the risk of an adverse decision at trial warrants consideration of this settlement; and (iii) the resolution of the appeal pursuant to the terms of the stipulation protects the commission's regulations that were passed in the last two years.

Mr. Bryce seconded.

Galen Wells; Chapin Bryce; Diana Lenkowsky; Louis Schulman; Jacquen Jordan-Byron; Darius Williams; Tammy Langalis approved.

No one opposed.

No one abstained.

B. Discussion and action regarding possible settlement of litigation docketed as Terzian, Bryan S. v. Planning and Zoning Commission of the City of Norwalk (HHD-CV-22-6182560-S)

**** MR. SCHULMAN MOVED** to approve the settlement based on the fact that (i) the stipulation is mutually beneficial, in that despite the long history and varied uses of the subject premises, it provides both the Planning & Zoning Commission and Mr. Terzian more certainty in their expectations for the subject property in the near-term and long-term development; (ii) the risk of an adverse decision at trial warrants consideration of this settlement; and (iii) the resolution of the appeal pursuant to the terms of the stipulation protects the commission's regulations that were passed in the last two years.

Mr. Bryce seconded.

Galen Wells; Chapin Bryce; Diana Lenkowsky; Louis Schulman; Jacquen Jordan-Byron; Darius Williams; Tammy Langalis approved.

No one opposed.

No one abstained.

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Mr. Schulman made a final comment that this has been the only challenge to the new regulations.

V. REVIEW AND ACTION ON APPLICATIONS

Ms. Wells said that the A, B and C would be heard together since they were easements with the Eversource Company.

A. #2025-19 8-24 Referral - City of Norwalk - Referral of the proposed easement in the vicinity of Williams Street for purposes of access and maintenance - Report & recommended action

Wilber Geron, permit engineer for DPW, said that he would review all three. He then oriented the commissioners as to the location of the properties on an aerial map as well as showed them pictures of where the regulator station was and where Eversource would like it to be located. Eversource would provide trees and canopy to hide them.

There was a discussion about the regulator stations. Mr. Geron said that it regulated the infrastructure that is underground. Darin Callahan, the attorney for the city, said that they were working on an agreement and that compensation is still being addressed.

B. #2025-20 8-24 Referral - City of Norwalk - Referral of the proposed easement in the vicinity of Calf Pasture Beach Road for purposes of access and maintenance - Report & recommended action

Mr. Geron showed them pictures of where the regulating station would be located. The footprint would be smaller than the previous one. There was a discussion about cutting down trees which he said would not be necessary. No screening has been proposed for this one.

C. #2025-21 8-24 Referral - City of Norwalk - Referral of the proposed easement in the vicinity of Marvin Street for purposes of access and maintenance - Report & recommended action

Mr. Geron then showed them a picture of where Eversource would like the third easement which was behind a guardrail. It is near Calf Pasture Beach and would be a temporary project since they need it to upgrade their infrastructure in the Gregory Boulevard neighborhood. Once it is upgraded the regulator station would be removed. The project should take 2 years to complete. Eversource will have to restore the road since it had recently been repaved.

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**** MS. LANGALIS MOVED: THEREFORE, BE IT RESOLVED** by the Norwalk Planning & Zoning Commission that application #2025-19 8-24 Referral – City of Norwalk – Referral of the proposed easement in the vicinity of Williams Street for purposes of access and maintenance be **APPROVED**.

BE IT FURTHER RESOLVED that the reasons for this action are to implement the following Plan of Conservation and Development goals, policies and actions:

1. To achieve the goal that “Norwalk’s infrastructure and public facilities are resource-efficient, well-maintained, cost-effective, sustainable and resilient,” through the strategy to “continue to update, modernize, and maintain Norwalk’s infrastructure and city facilities.”

BE IT FURTHER RESOLVED that notice of this action be forwarded to the Common Council.

Mr. Bryce seconded.

Galen Wells; Chapin Bryce; Diana Lenkowsky; Louis Schulman; Jacquen Jordan-Byron; Darius Williams; Tammy Langalis approved.

No one opposed.

No one abstained.

**** MS. LANGALIS MOVED: THEREFORE, BE IT RESOLVED** by the Norwalk Planning & Zoning Commission that application #2025-20 8-24 Referral – City of Norwalk – Referral of the proposed easement in the vicinity of Calf Pasture Beach Road for purposes of access and maintenance be **APPROVED**.

BE IT FURTHER RESOLVED that the reasons for this action are to implement the following Plan of Conservation and Development goals, policies and actions:

1. To achieve the goal that “Norwalk’s infrastructure and public facilities are resource-efficient, well-maintained, cost-effective, sustainable and resilient,” through the strategy to “continue to update, modernize, and maintain Norwalk’s infrastructure and city facilities.”

BE IT FURTHER RESOLVED that notice of this action be forwarded to the Common Council.

Mr. Bryce seconded.

Galen Wells; Chapin Bryce; Diana Lenkowsky; Louis Schulman; Jacquen Jordan-Byron; Darius Williams; Tammy Langalis approved.

No one opposed.

No one abstained.

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**** MR. WILLIAMS MOVED: THEREFORE, BE IT RESOLVED** by the Norwalk Planning & Zoning Commission that application #2025-21 8-24 Referral – City of Norwalk – Referral of the proposed easement in the vicinity of Marvin Street for purposes of access and maintenance be **APPROVED**.

BE IT FURTHER RESOLVED that the reasons for this action are to implement the following Plan of Conservation and Development goals, policies and actions:

1. To achieve the goal that “Norwalk’s infrastructure and public facilities are resource-efficient, well-maintained, cost-effective, sustainable and resilient,” through the strategy to “continue to update, modernize, and maintain Norwalk’s infrastructure and city facilities.”

BE IT FURTHER RESOLVED that notice of this action be forwarded to the Common Council.

Ms. Lenkowsky seconded.

Galen Wells; Chapin Bryce; Diana Lenkowsky; Louis Schulman; Jacquen Jordan-Byron; Darius Williams; Tammy Langalis approved.

No one opposed.

No one abstained.

D. #2025-22 8-24 Referral - City of Norwalk - Referral of acquisition of 493 Connecticut Avenue - Report & recommended action

Ralph Kolb, WPCA, began the presentation by orienting the commissioners as to the location of the Keeler Brook pump station. He said that the station now has to be rebuilt due to flooding but it cannot be rebuilt in the same location. They have worked with Eversource to relocate the station which Mr. Kolb showed them on an aerial map. FEMA had concerns about the location being in the 100 year flood plain. He then discussed another location, 493 Connecticut Avenue, which is not in the 100 year flood plain. This property would also have less construction requirements from Eversource.

Atty Darin Callahan said that there had been ongoing discussions with Eversource since 2018. Eversource proposed limitations for safety reasons as well as protecting infrastructure. He said that the Common Council had approved an acquisition by eminent domain. They are also working with the owner on an acquisition price.

There was a discussion about the demolition of a building on the property. Some of the building might remain, but a portion of it would have to be removed for the new pumping station. Design work still has to happen to find the optimal place for it. The

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owners would sell but they are negotiating a price. There were concerns about displacing a business in the building. The costs of construction have escalated.

Mr. Kolb described how the pump station in the area would work. He also noted that components of the flood station would have to be raised to be out of the 100 year flood plain. Because of this they did need a variance from the Zoning Board of Appeals (ZBA). He explained how they could receive funding from FEMA.

Atty Callahan said that they have attempted to work with Eversource for 7 years but are now realizing that the project may be unconstructable due to height issues. He also noted that the city is spending a lot of money operating the temporary pump station.

There was a discussion about the impervious surfaces on nearby properties. Atty Callahan said there was potential to reduce the asphalt during the design phase. There was also a discussion about the footprint size for the pump station, as well as the wet well. The project has been approved by the Common Council and the WPCA as well as the funding for the acquisition.

**** MR. SCHULMAN MOVED: THEREFORE, BE IT RESOLVED** by the Norwalk Planning & Zoning Commission that application #2025-22 8-24 Referral – City of Norwalk – Referral of acquisition of 493 Connecticut Avenue be **APPROVED**.

BE IT FURTHER RESOLVED that the reasons for this action are to implement the following Plan of Conservation and Development goals, policies and actions:

1. To achieve the goal that “Norwalk’s infrastructure and public facilities are resource-efficient, well-maintained, cost-effective, sustainable and resilient,” through the strategy to “continue to update, modernize, and maintain Norwalk’s infrastructure and city facilities.”

BE IT FURTHER RESOLVED that notice of this action be forwarded to the Common Council.

Mr. Williams seconded.

Galen Wells; Chapin Bryce; Diana Lenkowsky; Louis Schulman; Jacquen Jordan-Byron; Darius Williams approved.

Tammy Langalis opposed.

No one abstained.

E. #10-20 SP - Zion Properties, LLC - 512-528 Main Avenue - Request for bond release for approved car dealership - Report & recommended action

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Mr. Baker began the presentation by explaining that the applicants had received their Certificates of Occupancy. They are requesting the release of the erosion and control bond.

**** MR. WILLIAMS MOVED: THEREFORE, BE IT RESOLVED** by the Norwalk Planning & Zoning Commission that application #10-20 SP - Zion Properties, LLC - 512-528 Main Avenue, a request for bond release for approved car dealership be **APPROVED**.

Ms. Langalis seconded.

Galen Wells; Chapin Bryce; Diana Lenkowsky; Louis Schulman; Jacquen Jordan-Byron; Darius Williams; Tammy Langalis approved.

No one opposed.

No one abstained.

F. #2024-10 SP/CAM – WEB Construction LLC – 34 Meadow Street (District 2, Block 91, Lot 105) – Extension of time request for approved contractor’s storage yard and rock crushing and processing use

Atty Liz Suchy, the attorney for the applicant, noted that they had received a permit for a contractor’s yard. She explained what the applicant had done since receiving it last year. She also explained the reasons why they were requesting an extension. She also noted what had been put in place. They expected to begin demolition soon. She then requested a six month extension but would abide by any extension that the commission deemed appropriate.

**** MR. SCHULMAN MOVED: THEREFORE, BE IT RESOLVED** by the Norwalk Planning & Zoning Commission that application #2024-10 SP/CAM – WEB Construction LLC – 34 Meadow Street (District 2, Block 91, Lot 105) – a request for a one year extension of time for an approved contractor’s storage yard and rock crushing and processing use be **APPROVED**.

Mr. Bryce seconded.

Galen Wells; Chapin Bryce; Diana Lenkowsky; Louis Schulman; Jacquen Jordan-Byron; Darius Williams; Tammy Langalis approved.

No one opposed.

No one abstained.

G. #2024-08 SP/CAM – Harbor Ventures, LLC and Plumbing Works, LLC – 18 Harbor Avenue (District 1, Block 25, Lot 7) – Extension of time request to construct a new building and use the entire property as an Earth Processing and Contractor Materials Storage Yard

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Atty Liz Suchy began the presentation with an introduction of the project and then discussed the approval that they had received. She also discussed the delay in receiving permits. She requested a one year permit but would abide with whatever the commission granted.

**** MR. SCHULMAN MOVED: THEREFORE, BE IT RESOLVED** by the Norwalk Planning & Zoning Commission that application #2024-08 SP/CAM – Harbor Ventures, LLC and Plumbing Works, LLC – 18 Harbor Avenue (District 1, Block 25, Lot 7) – a request for an extension of time for one year to construct a new building and use the entire property as an Earth Processing and Contractor Materials Storage Yard

Mr. Williams seconded.

Galen Wells; Chapin Bryce; Diana Lenkowsky; Louis Schulman; Jacquen Jordan-Byron; Darius Williams; Tammy Langalis approved.

No one opposed.

No one abstained.

VI. PUBLIC HEARINGS

A. #2025-06 R – City of Norwalk – Zoning Regulation Text Amendments to Articles 4, 6, and 8 relating to setbacks within the SD-LI, SD-HI and SD-MC zones; updating terminology to reference the Norwalk Complete Streets ordinance and design guide; revising where certain building types are permitted; updating language to reference stormwater and drainage best practices per the MS4 program; revisions to parking space dimensions; incentives to certain workforce housing criteria and clarifications to site plan review and special permit requirements - Public hearing, report & recommended action

Ms. Wells opened the public hearing. Mr. Baker began the presentation by noting that they had presented the changes in a previous meeting. Changes had been requested by TMP and WPCA but were too late to be added to the previous updates of the regulations. He then reviewed some of the changes which included ones that were staff initiated. There would be some modifications to the setback tables. There would also be references to the Norwalk Complete Streets Design Guide made to the regulations. There was also a change to the waterfront club. There was also a discussion about the minimum size of parking spaces. There were also changes to the workforce housing regulations. There was also a discussion about site plan review applications.

Mr. Baker noted that the application was referred out to the appropriate agencies and read the letter from DEEP into the record. He said they were in favor of the changes.

Ms. Wells explained to the public how they could comment for this hearing. There were no comments for or against the application. She closed the public hearing.

There was a discussion about the Planning & Zoning Department being comfortable with the changes. Mr. Baker said that they were minor and provided more clarity for the staff and the commission. Mr. Kleppin said that there would still be a few more changes to the workforce housing regulations after the affordable housing study. There was also a discussion about compact parking spaces.

**** MR. SCHULMAN MOVED: THEREFORE, BE IT RESOLVED** by the Norwalk Planning & Zoning Commission that application #2025-06 R – be **APPROVED**.

BE IT FURTHER RESOLVED that the reason for these actions is to implement the following goals, policies, strategies, and actions of the Norwalk Plan of Conservation and Development:

1. Chapter 10, Goal 1: “Norwalk has a comprehensive and balanced transportation system, with safety and multimodal accessibility the top priority of citywide transportation planning.”

a. Policy: “Support Complete Streets policies and multimodal level of service analysis to improve streets for all users and varying abilities.”

i. Strategy B: “Provide roads that serve the needs of Norwalk residents and commerce, and that facilitate safe and convenient access to transit, bicycle facilities, and pedestrian facilities.”

1. Action i: “Make land use decisions that support walking, bicycling, and public transit use.”

2. Chapter 11, Goal 1: “Norwalk’s infrastructure and public facilities are resource-efficient, well-maintained, cost-effective, sustainable, and resilient.”

a. Policy: “City government actions are guided by sustainability principles.”

i. Action xii: “Use green infrastructure and Best Management Practices to manage stormwater on City property.”

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b. Policy: "Promote green infrastructure strategies to improve environmental quality and sustainability."

3. Chapter 12, Goal 1: "General guidelines guide land use decision making."

a. Policy: "Promote urban design guidelines for walkability for development in urbanized parts of Norwalk."

b. Policy: "Implement transit-oriented design (TOD) guidelines promoting density, walkability, and mix of uses for development near transit stations (rail and high-frequency bus).

4. Chapter 12, Goal 2: "Neighborhood and corridor activity centers have urban design standards that promote walkability."

a. Policy: "Support mixed-use redevelopment along commercial corridors."

5. Chapter 12, Goal 3: "The user-friendly zoning ordinance is consistent with the future land use map and achievement of the vision and goals of the POCD."

a. Policy: "Support revision of the zoning ordinance to promote desired development and design patterns."

b. Policy: "Support permit streamlining for projects with desired characteristics."

i. Strategy A: "Modernize the zoning ordinance and the development approval process to achieve the goals of the POCD."

1. Action i: "Rewrite the zoning ordinance to reflect contemporary best practices in administration and user-friendliness and to be consistent with the POCD."

BE IT FURTHER RESOLVED that the effective date of this action shall be March 28, 2025.

Mr. Williams seconded.

Galen Wells; Chapin Bryce; Diana Lenkowsky; Louis Schulman; Jacquen Jordan-Byron; Darius Williams; Tammy Langalis approved.

No one opposed.

No one abstained.

VII. DISCUSSION

A. Capital Budget Ordinance Discussion

Mr. Kleppin explained how the city was thinking of streamlining the process. He had been working with the city's CFO, Jared Schmitt on the process. Mr. Schmitt had been working with the Common Council's charter revision committee. He explained how there would be one presentation to all of the appropriate agencies, rather than the current multiple presentations. He said that he thought it was necessary for the commission to see how money is being spent for the long term. He would keep them apprised of his conversations with Mr. Schmitt.

VIII. ACCEPTANCE OF MINUTES

A. Regular Meeting: March 5, 2025

**** MR. BRYCE MOVED to approve the March 5, 2025 minutes.**

Ms. Langalis seconded.

Galen Wells; Chapin Bryce; Diana Lenkowsky; Louis Schulman; Tammy Langalis approved.

No one opposed.

Jacquen Jordan-Byron; Darius Williams abstained.

IX. COMMENTS OF DIRECTOR

Mr. Kleppin said that he had sent out a training opportunity for the commissioners, if they were interested.

He also said that there is an application from Grey BAarns for events at the site. The applicant had requested a site visit which would be a special meeting in April.

The April 16th meeting would be in person at the Common Council chambers. There would be a Zoom option.

Mr. Kleppin said that he thought it should wait because some commissioners had been trained. He said that Mario Coppola, the city's corporation counsel, has a program that they present to other municipalities as well. Mr. Schulman thought the training should be sooner rather than later.

Mr. Kleppin said that the fountain on Washington Street would be running again. Mr. Schulman asked to confirm that the number of trees on Water Street would be the same as what was required.

X. COMMENTS OF COMMISSIONERS

Mr. Williams said that he had spoken with the CFO of the Norwalk Public Schools, Lunda Asmani, who invited the commissioners for a site visit of the South Norwalk elementary school.

Ms. Langalis had comments about the businesses on Meadow Street that had said they would beautify the area at one point. She thought everything looked the same as before. She also had a question about an application from the previous meeting which converted commercial space to residential. She wondered if the property would be reassessed.

XI. ADJOURNMENT

Mr. Bryce made a Motion to Adjourn.

Mr. Williams seconded.

Galen Wells; Chapin Bryce; Diana Lenkowsky; Louis Schulman; Jacquen Jordan-Byron; Darius Williams; Tammy Langalis approved.

No one opposed.

No one abstained.

The meeting was adjourned at 8:14 p.m.

Respectfully submitted,

Diana Palmentiero