

August 14, 2023

Karen Sherman, Town Planner
Holliston Planning Board
703 Washington Street
Holliston, MA 01746

**RE: Response to BWC Bogastow Brook, LLC BESS Project Stormwater Design Peer Review #2
Proposed Battery Energy Storage System – 600 Central Street, Holliston, MA**

Dear Ms. Sherman:

TRC is pleased to provide the following responses to the engineering peer review letter, dated July 13, 2023 and prepared by CMG Environmental, Inc. The letter provided comments on the stormwater design for the proposed battery energy storage system to be located at 600 Central Street in Holliston, Massachusetts. The stormwater design is presented in the Issued-For-Permitting Civil Design Drawing Set (Drawings) and Stormwater Management Report, dated June 2023 and prepared by TRC. This is CMG's second review and the majority of comments initially presented in their October 24, 2022 peer review letter have been addressed. For simplicity, the comments which are resolved have been removed from this response letter.

The BESS equipment as presented in the June 2023 Drawings has since been updated and is depicted in the updated Drawings provided in **Attachment 1**. The BESS facility will be provided in the same fenced-in facility area but with a slightly smaller equipment footprint from the old BESS (Powin system with 1,971 SF footprint) to new BESS (ABS system with 1,606 SF footprint). Since this is a very minor change in equipment footprint and we will still be treating the full fenced-in facility as impervious area, no updates to previously submitted stormwater modelling calculations and submittals are necessary. One additional minor change to the June 2023 Drawings is the addition of landscaped screening along the western boundary of the Project Area. The landscaped screening is provided within the previously proposed limits of work and will be installed outside Ditch D-3 so as not to impact stormwater flows.

General Engineering & Drainage Design Comments

1. *"Existing Conditions Plan" Sheet C1.00 is not stamped by a Licensed State of Massachusetts Land Surveyor. Sheet G1.01 references an Existing Conditions Plan prepared by Land Planning, dated January 19, 2022, however it is not provided.*

TRC Response (1/19/23): An Existing Conditions Plan, prepared by Land Planning and stamped by a Licensed State of Massachusetts Land Surveyor, is provided as Attachment 1.

CMG Comment #1: Comment remains. "Existing Conditions Plan" Sheet C1.00 is stamped by a Professional Engineer and not a Licensed Land Surveyor. A copy of the Land Planning Existing Conditions Plan should be included in the Site Plan set.

Response: The Existing Conditions Plan, prepared by Land Planning and stamped by a Licensed State of Massachusetts Land Surveyor, is now included in the Drawings as Sheet G1.03. The updated Drawings are provided as **Attachment 1**.

Stormwater Standard 1: *No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or water of the Commonwealth.*

15. *Proposed 12" and 24" diameter drain pipe outlets should include reinforced concrete flared end sections (FES) with appropriate trash rack / safety grates.*

TRC Response (1/19/23): A waiver is requested for the use of HDPE pipe instead of RCP. The existing design provides for a trash rack and grate at the outlet structures and a rodent screen at the HDPE outlet pipes.

CMG Comment #2: Rip-rap apron outlet protection should be properly sized based on the 100-year design flow and apron dimensions shown on the Site Plan.

Response: Calculations demonstrating that the rip-rap apron outlet protection and plunge pools are properly sized based on 100-year design flows are provided as **Attachment 2**. The apron schedule, plunge pool schedule, and site plan, as provided on Sheets G1.02, C4.01, and C2.00, have been updated accordingly. The design basis for the plunge pool sizing calculations is USDA Natural Resources Conservation Service Design Note 6 (Dated 1/1986). The table below provides a summary of the outlet stabilization parameters.

Table 1. Summary of Culvert Outlet Stabilization Calculations

CULVERT SUMMARY						
CULVERT OUTLET ID	DRAINAGE AREA (AC.)	PEAK FLOW (CFS) 100-YR STORM	DIAMETER (IN)	LENGTH (FT)	SLOPE (FT/FT)	OUTLET STABILIZATION
SD-1	0.045	0.29	12	25	0.120	D ₅₀ =6" Rip Rap Apron
SD-2	0.183	0.71 (total)	4 (3 culverts)	135	0.003	D ₅₀ =6" Rip Rap Apron
PP-1	0.365	2.47	12	26.5	0.068	D ₅₀ =8" Rip Rap Plunge Pool
PP-2	0.610	0.19	12	34	0.015	D ₅₀ =8" Rip Rap Plunge Pool

Stormwater Standard 8: Construction period erosion and sedimentation control

36. *CMG recommends properly sized temporary sediment basins be provided and shown on the "Erosion and Sediment Control Plan". Consideration should also be given to construction phasing to minimize the potential for erosion until grass areas are established.*

TRC Response (1/19/23): Sheet C1.01 of the Drawings will be updated to include temporary sediment basins and more detailed notes regarding construction phasing.

CMG Comment #2: Comment Remains. CMG recommends temporary sediment basin(s) be provided during construction as part of the erosion and sediment control plan and SWPPP.

Response: Sheet C2.00 of the Drawings has been updated to include specifications for a temporary sediment basin and more detailed notes regarding construction phasing are provided on Sheet G1.02. The proposed excavation and embankment for the permanent infiltration basin will be used as a temporary sediment basin during construction; however, infiltration portions of the BMP (i.e., the pea, gravel, washed stone, and sand filter section) will not be installed until after permanent stabilization of contributing areas is achieved to prevent construction-phase runoff from clogging the BMP. HydroCAD calculations are attached again for reference provided in **Attachment 3**. During the construction phase, the temporary sediment basin will have a maximum drainage area of 0.61 acres. In accordance with the Massachusetts Erosion and Sediment Control Guidelines, the basin should have a minimum volume based on ½ inch of storage for each acre of drainage area. This volume equates to 1,110 cubic feet of storage for the 0.61-acre drainage area. The temporary sediment basin has a storage volume of 3,865 cubic feet which exceeds this requirement. The principal outlet has over 0.2 cfs/acre or 0.12 cfs minimum capacity. A minimum 1 foot of freeboard is provided. A cleanout reference stake will be placed within the basin to note when sediment accumulation has reached 50% of the design volume and requires removal. Additional inspection and maintenance provisions will be specified in the SWPPP to be provided prior to construction. A portion of the Project Area is downgradient of the proposed temporary sediment basin. A second temporary sediment basin is not proposed in order to limit disturbance near the floodplain in the northeastern corner of the property. The Project Site has well-drained soils and the proposed perimeter sediment barriers will be maintained to prevent offsite sedimentation.

Stormwater Standard 9: Long term operation and maintenance plan

39. A copy of the plan and easement deed allowing Site access for the legal entity (Responsible Party) to operate and maintain stormwater BMP functions must be provided. The O&M Plan identifies BWC Bogastow Brook, LLC as the Operator (i.e., Responsible Party) of the stormwater system with a separate Property Owner, Christ The King Lutheran Church.

TRC Response (1/19/23): Bluewave will be submitting the easement deed as a separate document.

CMG Comment #2: Comment Remains.

Response: Bluewave will submit the easement deed as a separate document. We request that this be made a Condition of Approval to file prior to construction.

Stormwater Standard 10: Illicit discharges

40. A signed Illicit Discharge Statement is not included in the submitted stormwater report.

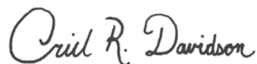
TRC Response (1/19/23): The Stormwater Report will be updated to include a signed Illicit Discharge Statement.

CMG Comment #2: Comment Remains.

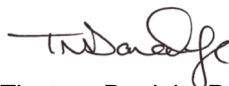
Response: Provisions for illicit discharge compliance are provided in the Stormwater Management System Long-Term Operation and Maintenance Plan (included as **Attachment E** of the Stormwater Report). The signed Illicit Discharge Compliance Statement will be filed with the Notice of Intent prior to start of construction. We request that this be made a Condition of Approval to file prior to construction.

If there are any questions, please do not hesitate to contact me at (207) 620-3804 or via email adavidson@trccompanies.com.

Respectfully submitted,



Ariel Davidson, P.E. (ME)
Project Engineer



Thomas Daniels, P.E.*
Manager | Senior Engineer
*Licensed: ME, NH, VT, MA, NY

Enclosures:

- Attachment 1: Civil Design Drawing Set
- Attachment 2: Outlet Stabilization Calculations
- Attachment 3: Post-Development HydroCAD Model

CC: Joshua Lariscy (BlueWave)

ATTACHMENT 1

Civil Design Drawing Set

BWC BOGASTOW BROOK BESS PROJECT PROPOSED BATTERY ENERGY STORAGE SYSTEM

CENTRAL STREET, HOLLISTON, MIDDLESEX COUNTY, MASSACHUSETTS

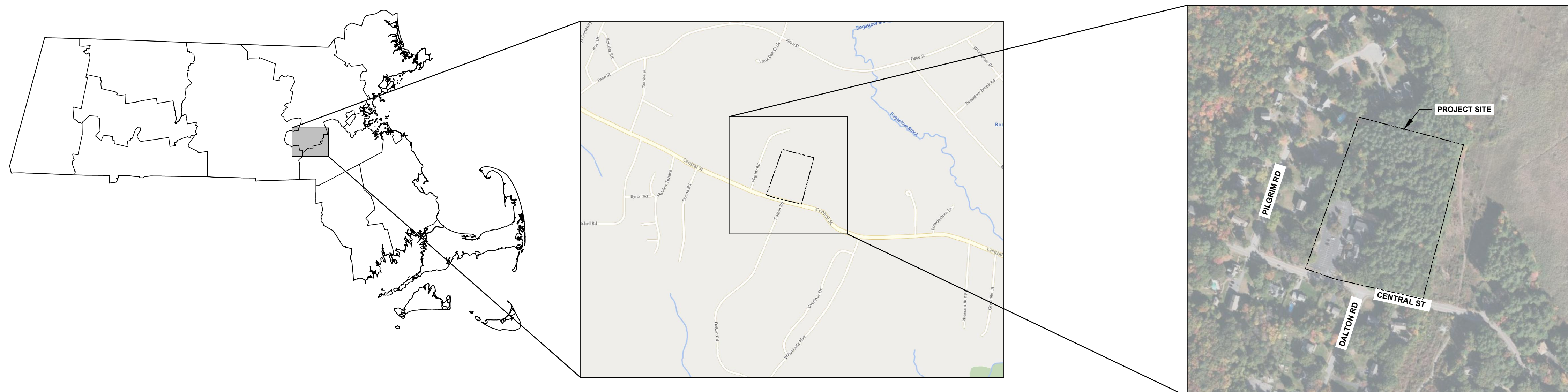
**DEVELOPER: BWC BOGASTOW BROOK, LLC
C/O BLUEWAVE SOLAR
501 BOYLSTON STREET, SUITE 10B134
BOSTON, MA 02116**

PREPARED BY: TRC
LOWELL, MA 01854

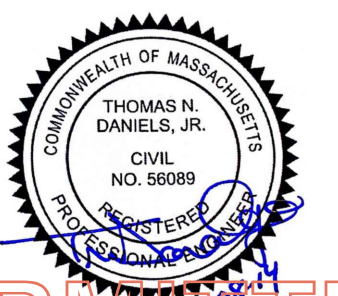
DATE: AUGUST 2023

[illegible]

SHEET INDEX	
SHEET NUMBER	SHEET TITLE
G1.00	CIVIL COVER SHEET
G1.01	GENERAL NOTES & LEGEND
G1.02	EROSION CONTROL NOTES & DETAILS
G1.03	EXISTING CONDITIONS SURVEY PLAN
C1.00	EXISTING CONDITIONS PLAN
C1.01	SITE PREPARATION PLAN
C2.00	SITE GRADING & DRAINAGE PLAN
C4.00	CIVIL CONSTRUCTION DETAILS
C4.01	CIVIL CONSTRUCTION DETAILS
C5.00	PRELIMINARY ELECTRICAL DETAILS

**MASSACHUSETTS****HOLLISTON**

SITE LOCATOR



PERMITTING

NOTE: THESE PLANS ARE ACCOMPANIED BY PERMIT APPLICATIONS OF THE SAME TITLE. THESE DOCUMENTS ARE INTERRELATED AND ARE INTENDED TO BE USED TOGETHER. THESE DOCUMENTS ARE INTENDED TO BE USED FOR REGULATORY PURPOSES ONLY.

Y. NOT FOR CONSTRUCTION



650 Suffolk Street
Suite 200
Lowell, MA 01854
Phone: 978.970.5600

1. THE PROJECT HORIZONTAL COORDINATES SYSTEM IS BASED ON NAD83 MASSACHUSETTS STATE PLANE (US SURVEY FEET, MAINLAND ZONE, MAB3F). ELEVATIONS ARE BASED ON NAVD88 (US SURVEY FEET).
2. PROJECT PROPERTY BOUNDARIES AND SITE TOPOGRAPHIC INFORMATION ARE BASED UPON ON-THE-GROUND FIELD SURVEY COMPLETED BY LAND PLANNING, INC. IN JANUARY 2022 AS PROVIDED IN A PLAN ENTITLED "EXISTING CONDITIONS PLAN, 800 CENTRAL STREET, IN HOLLISTON, MA" AND DATED JANUARY 19, 2022. SURVEY PLANS SEALED BY A LICENSED PROFESSIONAL LAND SURVEYOR ARE PROVIDED AS SHEET G1.03 FOR REFERENCE.
3. SITE TOPOGRAPHIC INFORMATION OUTSIDE PROJECT LIMITS IS FROM AERIAL MAPPING (LIDAR) RETRIEVED FROM NOAA DATA ACCESS VIEWER.
4. UTILITY INFORMATION DEPICTED IS COMPILED USING PHYSICAL SURFACE EVIDENCE LOCATED IN THE FIELD IN CONJUNCTION WITH ANY RECORD INFORMATION AVAILABLE AT THE TIME OF THE FIELD SURVEY AND MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES. THEREFORE, ALL UTILITY LOCATIONS SHOULD BE CONSIDERED APPROXIMATE AND BE VERIFIED BY THE CONTRACTOR. DIGSAFE SHALL BE NOTIFIED A MINIMUM OF 72-HOURS PRIOR TO COMMENCING ANY EXCAVATION. FULL UTILITY COORDINATION WITH NON-MEMBER UTILITIES AND USE OF GROUND-PENETRATING RADAR TO LOCATE UTILITIES SHOULD BE PERFORMED AS NECESSARY.
5. WETLAND DELINEATION WITHIN THE PROJECT AREA WAS PERFORMED BY TRC IN JANUARY 2021 AND LOCATED USING MAPPING GRADE GPS UNITS. ADDITIONAL NATURAL RESOURCE AND ZONING INFORMATION IS COMPILED FROM A COMBINATION OF SOURCES INCLUDING STATE OF MASSACHUSETTS GIS DATA.
6. THIS IS A PRELIMINARY DESIGN PLAN. FINAL DESIGN SHALL BE MODIFIED BY CONTRACTOR TO MATCH FINAL ELECTRICAL INTERCONNECTION STUDIES, EQUIPMENT PURCHASED, AND POSSIBLE PERMIT CONDITIONS REVEALED DURING PROJECT'S REVIEW ELECTRICAL EQUIPMENT LAYOUT, INCLUDING BATTERY UNITS, EQUIPMENT PADS, UTILITY POLES, ETC. WERE PROVIDED BY BLUEVALE SOLAR IN A CAD FILE DATED MAY 19, 2022.
7. ALL WORK DETAILED ON THESE PLANS AND PERFORMED UNDER THIS CONTRACT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT SPECIFICATION, THE PROJECT GEOTECHNICAL REPORT, PERMIT CONDITIONS, AND ANY OTHER APPLICABLE TECHNICAL REPORTS, WHERE INDICATED. STATE AND/OR LOCAL STANDARD SPECIFICATIONS SHALL APPLY. ALL WORK SHALL COMPLY WITH THE ASSOCIATED STANDARDS SET FORTH IN THE TOWN OF HOLLISTON ZONING BYLAWS.
8. THE CONTRACTOR SHALL ABIDE BY ALL LOCAL, STATE, AND FEDERAL LAWS, RULES AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS, INCLUDING STATE AND FEDERAL REQUIREMENTS WITH RESPECT TO STORMWATER DISCHARGE.
9. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITY LINES AND SITE INFRASTRUCTURE WITHIN OR ADJACENT TO THE CONSTRUCTION AREA. ANY DAMAGE TO EXISTING FACILITIES CAUSED BY CONSTRUCTION ACTIVITY SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
10. CONSTRUCTION SHALL NOT OCCUR IN ANY PUBLIC RIGHTS OF WAY, PUBLIC OR PRIVATE EASEMENTS, BEYOND THE LIMITS OF DISTURBANCE, OR OUTSIDE THE PROPERTY LIMITS WITHOUT NECESSARY PERMITS. ANY PUBLIC OR PRIVATE PROPERTY OR IMPROVEMENTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER AT THE COST OF THE CONTRACTOR.
11. OVERNIGHT PARKING OF CONSTRUCTION EQUIPMENT SHALL NOT OBSTRUCT DRIVEWAYS OR DESIGNATED TRAFFIC LANES. THE CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIAL WITHIN THE PUBLIC RIGHT OF WAY. OVERNIGHT PARKING OF CONSTRUCTION VEHICLES ON PRIVATE PROPERTY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
12. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE LANDOWNER FOR SITE ACCESS AND USE AND SHALL COMPLETE WORK IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE ACCESS AGREEMENT.
13. ALL PROPERTY CORNERS OR MONUMENTS DESTROYED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. ALL PROPERTY CORNERS MUST BE RESET BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF MASSACHUSETTS.
14. CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS CONTROLLING THE POLLUTION OF THE ENVIRONMENT.
15. CONTRACTOR TO ENSURE ALL WORK PERFORMED IS IN ACCORDANCE WITH EXISTING PROJECT PERMITS, STUDIES, AND REPORTS PROVIDED IN THE CONTRACT DOCUMENTS INCLUDING STATE STORMWATER MANAGEMENT PERMIT AND LOCAL ORDINANCES.
16. IT IS THE INTENT OF THESE PLANS THAT THE CONTRACTOR SHALL NOT PERFORM ANY WORK OUTSIDE THE IDENTIFIED PROJECT BOUNDARIES AND APPROVED LIMITS OF DISTURBANCE.
17. IT IS THE INTENT OF THESE PLANS THAT THE CONTRACTOR AVOID "FILLING" WETLANDS AT ALL COSTS. CONTRACTOR TO AVOID THE DELINEATED WETLAND AREAS AND NATURAL RESOURCES ONSITE.
18. WHENEVER PRACTICABLE, NO DISTURBANCE ACTIVITIES SHOULD TAKE PLACE WITHIN 90 FEET OF ANY PROTECTED NATURAL RESOURCE. IF DISTURBANCE ACTIVITIES SHOULD TAKE PLACE UPWARDLY TO AND LESS THAN 90 FEET OF ANY PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED. ALL AREAS WITHIN 75 FEET OF A PROTECTED NATURAL RESOURCE MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIERS NOVEMBER 1 THROUGH APRIL 15. EXPOSED AREAS UPWARDLY TO AND LESS THAN 90 FEET OF ANY PROTECTED NATURAL RESOURCE MUST BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 7 DAYS, OR PRIOR TO A STORM EVENT.
19. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING DRAINAGE THROUGHOUT THE CONSTRUCTION OF THE PROJECT.
20. EXISTING ACCESS ROADS TO BE MAINTAINED SHALL BE SMOOTHED AND RESURFACED AS NECESSARY TO PROVIDE AN ACCEPTABLE SURFACE.
21. THE CONTRACTOR SHALL SECURE PERMITS FROM THE STATE AND TOWN OF HOLLISTON AS NECESSARY BEFORE DRIVING CONSTRUCTION EQUIPMENT OVER AND ACROSS STATE AND TOWN MAINTAINED ROADS.
22. ALL WORK IN THE PUBLIC RIGHTS OF WAY SHALL CONFORM WITH THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES".
23. WHERE APPROVAL OR DIRECTION BY AN ENGINEER IS SPECIFIED, THIS INCLUDES A QUALIFIED ENGINEER OR PROFESSIONAL (MASSACHUSETTS REGISTERED PROFESSIONAL ENGINEER (PE), CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENTATION CONTROL (CPESC), OR SIMILAR SPECIALIST).

CONTRACTOR SHALL MAINTAIN THE PROJECT SITE IN ACCORDANCE WITH THE FOLLOWING PERFORMANCE STANDARDS

1. **SPILL PREVENTION.** CONTROLS SHALL BE IN PLACE TO PREVENT POLLUTANTS FROM BEING DISCHARGED FROM MATERIALS USED AND STORED ONSITE. APPROPRIATE CONTROLS INCLUDE, BUT ARE NOT LIMITED TO, PROPER STORAGE PRACTICES THAT MINIMIZE THE RISK OF MATERIALS EXPOSED TO STORMWATER, AND APPROPRIATE SIFT, PREVENTION, CONTAINMENT, AND RESPONSE PLANNING AND IMPLEMENTATION.
2. **GROUNDWATER PROTECTION.** DURING CONSTRUCTION, THE CONTRACTOR MAY NOT STORE OR HANDLE LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER IN AREAS OF THE PROJECT SITES DRAINING TO AN INFILTRATION AREA OR WITHIN 100 FEET OF A CRITICAL RESOURCE AREA OR STREAM, DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORING AND HANDLING LIQUID HAZARDOUS MATERIALS.
3. **FUGITIVE SEDIMENT AND DUST.** CONTRACTOR SHALL TAKE ALL NECESSARY ACTIONS TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OPERATIONS DURING DRY WEATHER SHALL EXIST UNDER WETTER WEATHER CONDITIONS. DUST CONTROL MEASURES SHALL BE USED AS MUCH AS POSSIBLE, FREQUENTLY AS NEEDED WITH WATER. CALCIUM CHLORIDE AND OIL MAY NOT BE USED FOR DUST CONTROL. CONTRACTOR SHALL MONITOR VEHICLES ENTERING AND EXITING THE PROJECT SITE FOR EVIDENCE OF TRACKING MUD ONTO PUBLIC OR PRIVATE PROPERTY. TRACKING MUD ONTO PUBLIC OR PRIVATE PROPERTY SHALL BE IMMEDIATELY CLEANED UP. TRACKING MUD ONTO PUBLIC OR PRIVATE PROPERTY ON ROADWAYS OR ROAD AREAS EXPERIENCING TRACKING, PAVED SURFACES SHALL BE VACUUM SWEEPED WHEN IF OFF-SITE TRACKING OCCURS ON PUBLIC ROADS, THEY SHOULD BE SWEEP IMMEDIATELY AND NO LESS THAN ONE WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS. DURING THE MUD SEASON IT MAY BE NECESSARY TO INCREASE THE SIZE OF STABILIZED CONSTRUCTION ENTRANCES OR PROVIDE A WHEEL WASHING STATION.
4. **DEBRIS AND OTHER MATERIALS.** CONTRACTOR SHALL MANAGE ALL LITTER, CONSTRUCTION DEBRIS, FROM CONSTRUCTION MATERIALS, AND DEBRIS AND LANDSCAPING MATERIALS EXPOSED TO STORMWATER TO PREVENT MATERIALS FROM BECOMING A SOURCE OF POLLUTION.
5. **CONSTRUCTION Dewatering.** TRENCH Dewatering IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, CREEPS DAMS, POND, SUMPS, BASINS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE CONTRACTOR SHALL REMOVE COLLECTED WATER FROM THE PONDED AREAS, EITHER THROUGH GRAVITY OR THROUGH PUMPING. THE MAIN DEPARTMENT OF ENVIRONMENTAL PROTECTION (MDEP) HAS DEVELOPED BEST MANAGEMENT PRACTICES (BMP) DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE (E.G. COFFERDAM FLOW BENTON). THE CONTRACTOR SHALL AVOID PRACTICES THAT ALLOW SEDIMENT LADEN WATER FROM DEWATERING TO FLOW OVER DISTURBED AREAS OF THE PROJECT SITE. OTHER MATERIALS THAT ARE NOT ALLOWED TO BE UTILIZED WITHOUT REVIEWED AND APPROVED BY THE ENGINEER AND, IF NECESSARY, THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
6. **AUTHORIZED NON-STORMWATER DISCHARGES.** THE CONTRACTOR SHALL IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES WHEN ALLOWED NON-STORMWATER DISCHARGES EXIST. THEY MUST BE IDENTIFIED AND STEPS SHALL BE TAKEN TO ENSURE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENTS OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE: DISCHARGES FROM FIREFIGHTING OPERATIONS, HYDRAULIC FILLINGS, DUST CONTROL RUNOFF IN ACCORDANCE WITH THE STATE OF MAINE, ROUTINE EXTERNAL PAVEMENT WASHWATER (EXCLUDING AREAS OF SPILLS OR LEAKS OF TOXICHAZAROUS MATERIALS AND USE OF DETERGENTS), UNCONTAMINATED GROUNDWATER OR SPRING WATER, FOUNDATION OR FOOTING DRAIN WATER WHERE FLOWS ARE NOT CONTAMINATED, UNCONTAMINATED EXCAVATION DEWATERING, POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHING, AND LANDSCAPE IRRIGATION.
7. **UNAUTHORIZED NON-STORMWATER DISCHARGES.** THE CONTRACTOR SHALL IDENTIFY AND PREVENT CONTAMINATION BY UNAUTHORIZED NON-STORMWATER DISCHARGES. UNAUTHORIZED NON-STORMWATER DISCHARGES INCLUDE, BUT ARE NOT LIMITED TO WASTEWATER FROM CONCRETE WASHOUT, FUELS OR HAZARDOUS SUBSTANCES, AND DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING.
8. **ADDITIONAL REQUIREMENTS.** COMPLETION OF THE WORK WILL REQUIRE FREQUENT ACCESS TO VARIOUS PORTIONS OF THE PROJECT AREA FROM STATE AND LOCAL ROADWAYS. CONTRACTOR SHALL MONITOR PUBLIC ROADWAYS AND SHALL CLEAN PAVEMENT BY MEANS NECESSARY IN THE EVENT THAT SEDIMENT OR TRACKING IS OBSERVED. SIGNAGE SHALL BE POSTED AT INTERSECTIONS OF PROJECT ACCESS ROADS AND PUBLIC WAYS, STATING COMPANY NAME AND 24-HOUR CONTACT PHONE NUMBER.

	SURVEYED PROPERTY BOUNDARY
	APPROXIMATE ABUTTING PROPERTY BOUNDARY
	BOUNDARY MONUMENT, FOUND
	IRON PIPE, FOUND
	WATER HYDRANT
	BENCHMARK, FOUND
	LIGHT POST
	EXISTING EDGE OF PAVEMENT/CONCRETE
	EXISTING EDGE OF GRAVEL
	EXISTING FENCE
	EXISTING OVERHEAD ELECTRIC & POLES
	EXISTING RIP RAP
	EXISTING TREE
	EXISTING BUILDING
	EXISTING BUILDING
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	EXISTING SPOT ELEVATION
	EXISTING TREES AND/OR BRUSH
	FIELD DELINEATED WETLAND
	DEP WETLAND
	WETLAND FLAG & I.D.
	CERTIFIED VERNAL POOL IDENTIFIED
	POTENTIAL VERNAL POOL IDENTIFIED
	FIELD DELINEATED STREAM OR WATERBODY
	DEP MAPPED STREAM
	25' NO-DISTURBANCE BUFFER
	100' WETLAND BUFFER
	200' RIVERFRONT AREA
	FEMA 100-YEAR FLOOD ZONE
	APPROXIMATE FLOOD ZONE LIMIT
	PROPOSED GRAVEL ACCESS
	PROPOSED CONCRETE EQUIPMENT PAD
	PROPOSED MINOR CONTOUR
	PROPOSED MAJOR CONTOUR
	PROPOSED TREE LINE/CLEARING LIMITS
	PROPOSED CHAIN LINK FENCE
	PROPOSED OVERHEAD ELECTRIC LINE AND POLE
	PROPOSED MV UNDERGROUND ELECTRIC LINE

ZONING DISTRICTS SUMMARY TABLE									
GENERAL ZONING DISTRICT					OVERLAY ZONING DISTRICTS				
AGRICULTURAL-RESIDENTIAL DISTRICT B (AR-2)					WELLHEAD PROTECTION AREA ZONE 1A, ZONE 3, MA DEP APPROVED ZONE II				

DIMENSIONAL STANDARDS									
DISTRICT	MIN. FRONT YARD SETBACK		MIN. SIDE YARD SETBACK		MIN. REAR YARD SETBACK		BUILDING MAX. HEIGHT		
	REQUIRED	PROVIDED	REQUIRED	PROVIDED	REQUIRED	PROVIDED	REQUIRED	PROVIDED	
AGRICULTURAL-RESIDENTIAL DISTRICT B (AR-2)	40'	380'	30'	70'	40'	115'	35'	12'	

ID	NAME	SLOPE RANGE	TEXTURE	HYDROLOGIC SOIL GROUP
52A	FREETOWN MUCK	0 - 1%	MUCKY PEAT	B/D
253D	HINCKLEY	15 - 25%	LOAMY SAND	A
254C	MERRIMAC	8 - 15%	FINE SANDY LOAM	A
255B	WINDSOR	3 - 8%	LOAMY SAND	A
424C	CANTON	8 - 15%	FINE SANDY LOAM	A

SPECIFICS OF HOW WORK IS TO BE COMPLETED SHALL ALSO BE BASED ON ENVIRONMENTAL CONSIDERATIONS ASSOCIATED WITH SEASONAL CHANGES. THE FOLLOWING DATES ARE PROVIDED TO ESTABLISH A GENERAL GUIDELINE FOR THESE SEASONS:

- WINTER:	NOVEMBER 1 TO MARCH 19
- MUD SEASON:	MARCH 20 TO APRIL 30
- SPRING:	MAY 1 TO JUNE 21
- SUMMER:	JUNE 22 TO SEPTEMBER 21
- FALL:	SEPTEMBER 22 TO OCTOBER 31

IN GENERAL, FERTILIZER AND LIME APPLICATION RATES WILL FOLLOW THE GUIDELINES IDENTIFIED BELOW UNLESS SITE SPECIFIC SOIL TESTS IDENTIFY THE NEED FOR ALTERNATIVE FERTILIZER/LIME APPLICATION RATES. FERTILIZER WILL BE APPLIED TO UPLAND AREAS PRIOR TO SEEDING AT A RATE OF 600 POUNDS PER ACRE USING 0-10-10 ANALYSIS OR EQUIVALENT. GROUND LIMESTONE (EQUIVALENT TO 40 PERCENT CALCIUM PLUS MAGNESIUM OXIDE) WILL BE APPLIED AT A RATE OF 2.5 TONS PER ACRE. AN EQUIVALENT MIXTURE OF FERTILIZER AND LIME MAY BE APPLIED USING THE HYDROSEEDING METHOD. NO LIME OR FERTILIZER WILL BE APPLIED TO WETLANDS.

ON SLOPES GREATER THAN 3 PERCENT, STRAW MULCH WILL BE FIRMLY ANCHORED INTO THE SOIL UTILIZING ONE OF THE FOLLOWING METHODS:

- CRIMPING WITH A STRAIGHT OR NOTCHED MULCH CRIMPING TOOL (FARM DISCS WILL NOT BE ALLOWED);
- TRACK WALKING WITH DEEP-CLEATED EQUIPMENT OPERATING UP AND DOWN THE SLOPE (MULCH CRIMPED PERPENDICULAR TO THE SLOPE) ON SLOPES <25 PERCENT;
- APPLICATION OF MULCH NETTING;
- APPLICATION OF 1000 LB./ACRE OF WOOD FIBER MULCH OVER STRAW/HAY MULCH; AND
- COMMERCIALLY AVAILABLE TACKIFIERS (EXCEPT WITHIN 100 FEET OF WATERBODIES OR WETLANDS).

PARCEL ID	PARCEL ADDRESS	PARCEL AREA (AC.)	OWNER NAME	OWNER ADDRESS	TOWN	STATE	ZIP CODE
009.0-0004-0062.0	600 CENTRAL ST	8.512	CHRIST THE KING LUTHERAN CHURCH	600 CENTRAL ST	HOLLISTON	MA	01746

PARCEL ID	PARCEL ADDRESS	OWNER NAME	OWNER ADDRESS	TOWN	STATE	ZIP CODE
009-0-0004-0028.0	0 CENTRAL ST	OLDE OAKS HOMEOWNERS ASSOC INC	54 PILGRIM ROAD	HOLLISTON	MA	01746
009-0-0004-0030.0	662 CENTRAL ST	PUPOLO, ANTHONY D & DONNA	662 CENTRAL STREET	HOLLISTON	MA	01746
009-0-0004-0044.0	0 FISKE ST	CENTURY-TY WOOD MANUFACTURING INC	79 LOWLAND ST	HOLLISTON	MA	01746
009-0-0004-0045.0	383 FISKE ST	CENTURY-TYWOOD MANUFACTURING INC	79 LOWLAND ST	HOLLISTON	MA	017462030
009-0-0004-0046.0	349 FISKE ST	COCKRILL, HUSTON G & CAROLINE A	349 FISKE ST	HOLLISTON	MA	01746
009-0-0004-0062.0	600 CENTRAL ST	CHRIST THE KING LUTHERAN CHURCH	600 CENTRAL ST	HOLLISTON	MA	01746
009-0-0004-0063.0	654 CENTRAL ST	BYERES, ANNE E	654 CENTRAL ST	HOLLISTON	MA	01746
009-0-0004-0080.0	4 PILGRIM RD	JOHAL, GURDISH S & HARMINDER K	4 PILGRIM RD	HOLLISTON	MA	01746
009-0-0004-0081.0	3 PILGRIM RD	RAYMER, BRIAN & KIMBERLEE	3 PILGRIM RD	HOLLISTON	MA	01746
009-0-0004-0084.0	19 PILGRIM RD	MCDONALD, BENJAMIN E.	19 PILGRIM RD	HOLLISTON	MA	01746
009-0-0004-0085.0	29 PILGRIM RD	BUREAU, DONA D & TANYA D	29 PILGRIM RD	HOLLISTON	MA	01746
009-0-0004-0086.0	37 PILGRIM RD	QUINAN, JESSEPH & AULSON REED	37 PILGRIM RD	HOLLISTON	MA	01746
009-0-0004-0087.0	47 PILGRIM RD	MCSHANE, BRIAN M & MEREDITH	47 PILGRIM RD	HOLLISTON	MA	01746
009-0-0004-0088.0	57 PILGRIM RD	KELLY, BRIAN G & JUDY M	57 PILGRIM RD	HOLLISTON	MA	01746
009-0-0004-0089.0	71 PILGRIM RD	CUMMINS, CHRISTOPHER S.	71 PILGRIM RD	HOLLISTON	MA	01746
009-0-0004-0090.0	81 PILGRIM RD	FLANAGAN, CHRISTOPHER & ANNA S	81 PILGRIM RD	HOLLISTON	MA	01746
009-0-0004-0091.0	87 PILGRIM RD	RANDALL, MARCIE SCHEIN	87 PILGRIM RD	HOLLISTON	MA	01746
009-0-0004-0092.0	99 PILGRIM RD	DE FARIA, FABRICIO L	99 PILGRIM RD	HOLLISTON	MA	01746
009-0-0004-0094.0	82 PILGRIM RD	STANWELL, SCOTT A & CAROLYN R	82 PILGRIM RD	HOLLISTON	MA	01746
009-0-0004-0095.0	74 PILGRIM RD	KELLY, DESMOND M & JOAN H	74 PILGRIM RD	HOLLISTON	MA	01746
009-0-0004-0096.0	68 PILGRIM RD	PENNYPACKER, KATHI L	68 PILGRIM RD	HOLLISTON	MA	01746
009-0-0004-0097.0	60 PILGRIM RD	ARMES, ROBERT C	60 PILGRIM RD	HOLLISTON	MA	01746
009-0-0004-0098.0	54 PILGRIM RD	PRIE, RONALD W & JULIE C.	54 PILGRIM RD	HOLLISTON	MA	01746
009-0-0004-0099.0	46 PILGRIM RD	BARNARD, PAUL A & LINDA J	46 PILGRIM RD	HOLLISTON	MA	01746
009-0-0004-0100.0	38 PILGRIM RD	O'NEILL, SEAN P & KRISTEN G	38 PILGRIM RD	HOLLISTON	MA	01746
009-0-0004-0101.0	28 PILGRIM RD	DILLON, WILLIAM A & HEATHER J.	28 PILGRIM RD	HOLLISTON	MA	01746
009-0-0004-0102.0	20 PILGRIM RD	KAMPERSAL, THOMAS A & JULIE A.	20 PILGRIM ROAD	HOLLISTON	MA	01746
009-0-0005-0136.0	567 CENTRAL ST	GERRY, THOMAS B & BETHANY J	567 CENTRAL ST	HOLLISTON	MA	01746
009-0-0005-0137.0	565 CENTRAL ST	KIPP, DAVID & LAURA	565 CENTRAL ST	HOLLISTON	MA	01746
009-0-0005-0138.0	631 CENTRAL ST	MILLER, JESSICA ANN	631 CENTRAL STREET	HOLLISTON	MA	01746
009-0-0005-0138.8	0 CENTRAL ST	HOLLISTON, TOWN OF	TOWN HALL	HOLLISTON	MA	01746
009-0-0005-0139.0	623 CENTRAL ST	ROWE, MARGARET M TRUSTEE	623 CENTRAL STREET	HOLLISTON	MA	01746
009-0-0005-0140.0	607 CENTRAL ST	TRUITT, DAVID P & LINDA A TTEES	607 CENTRAL ST	HOLLISTON	MA	01746
009-0-0005-0141.0	597 CENTRAL ST	RONSTADT, JASON ALEXANDER	597 CENTRAL ST	HOLLISTON	MA	01746
009-0-0005-0143.0	22 DALTON RD	BEESLEY, CHAD	22 DALTON RD	HOLLISTON	MA	01746
009-0-0005-0162.0	25 DALTON RD	GEBKHY, KATHARIN BOUNDS TTEE	25 DALTON RD	HOLLISTON	MA	01746
009-0-0006-0002.0	655 CENTRAL ST	LACONTE, NANCY J & ARTHUR M TTEES	655 CENTRAL ST	HOLLISTON	MA	01746

SEED MIX SPECIFICATIONS		
SEED MIX NAME	SEED MIX COMPONENTS	LB./ACRE ¹
TEMPORARY SEED MIX	ANNUAL RYEGRASS	40
PERMANENT SEED MIX	PERMANENT SEED MIXTURE #1 PART III, E&SC PRACTICES (OR APPROVED EQUAL)	25
SUPPLEMENTAL WINTER SEED MIX ²	WINTER RYEGRASS	120

NOTES:

1. INCREASE SEEDING RATES 10% WHEN HYDROSEEDING
2. WINTER RYE WILL BE ADDED TO PERMANENT SEED MIX AT A RATE OF 120 LB./ACRE BETWEEN AUGUST 15 AND OCTOBER 15

CONDITION	TIMING	MULCH TYPE	APPLICATION RATES
TEMPORARY			
INACTIVE AREAS	IF NO ACTIVITY IN EXPOSED AREAS FOR 7 DAYS, OR PRIOR TO A STORM EVENT	STRAW MULCH OR WOOD FIBER MULCH OR EROSION CONTROL MIX	1000 LB./ACRE 1000 LB./ACRE 2" THICK OVER AREA
ALL DISTURBED AREAS OF THE CONSTRUCTION WORKSPACE	APPLY MULCH TO ALL EXPOSED AREAS IF NO ACTIVITY OCCURS WITHIN 30 DAYS. APPLY MULCH AND TEMPORARY SEEDING SOONER WHEN IT CAN BE ANTICIPATED THAT ACTIVITY IS NOT GOING TO OCCUR WITHIN 30 DAYS.	STRAW MULCH OR WOOD FIBER MULCH	1000 LB./ACRE
ALL WORK AREAS EXPOSED ARE TO BE MULCHED DAILY EACH TIME SOIL IS DISTURBED ¹	NOVEMBER 1 - APRIL 15	STRAW MULCH OR WOOD FIBER MULCH	1000 LB./ACRE
PERMANENT			
ON ALL EXPOSED AREAS AFTER SEEDING TO STABILIZE THE SOIL SURFACE	PERMANENT GRASS AND/OR LEGUME SEEDING COVERED BY STRAW MULCH ON ALL AREAS THAT HAVE BEEN RESTORED TO FINAL GRADE. THIS DOES NOT APPLY TO AREAS STABILIZED BY OTHER MEANS SUCH AS LITE MATTING OR PERMANENT EROSION CONTROL MIX.	CRIMPED STRAW MULCH OR PAPER MULCH OR WOOD FIBER MULCH	1000 LB./ACRE

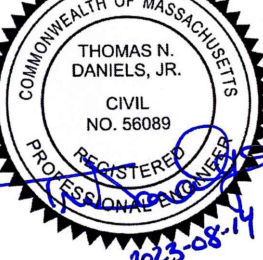
- NOTES:
1. IN ALL CASES, SUFFICIENT MULCH SHALL BE APPLIED SUCH THAT NO SOIL IS VISIBLE THROUGH THE MULCH.
 2. DOUBLE RATE OF WOOD FIBER MULCH WHEN USED IN OR ADJACENT TO CRITICAL AREAS.
 3. PAPER MULCH IS ACCEPTABLE FOR USE DURING THE GROWING SEASON. ON SLOPES >30 PERCENT AND IN AREAS WHERE VEGETATION HAS NOT ESTABLISHED WELL, ADDITIONAL HAY MULCH WILL BE ADDED AS A WINTERIZING MEASURE.
 4. MULCH MAY NOT BE SPREAD ON TOP OF SNOW.

CONDITION	TIMING ²	SEED MIX
TEMPORARY SEEDING ³	TEMPORARY SEED BETWEEN APRIL 1 AND JUNE 30 OR SEPTEMBER 1 AND SEPTEMBER 30. DISTURBED AREAS OR SOIL STOCKPILES WILL BE SEEDED IMMEDIATELY IF FURTHER DISTURBANCE IS NOT EXPECTED FOR 30 DAYS OR MORE.	TEMPORARY SEED MIX
PERMANENT SEEDING ^{3,4}	SEED BETWEEN APRIL 1 AND MAY 31 OR AUGUST 1 AND SEPTEMBER 10	PERMANENT SEED MIX
UPLAND PORTIONS OF THE CONSTRUCTION AREA	DISTURBED AREA WILL BE SEEDED WITHIN 7 DAYS OF FINAL GRADING.	PERMANENT SEED MIX
SLOPES > 3:1	DISTURBED AREA WILL BE SEEDED IMMEDIATELY AFTER SEEDBED PREPARATION.	PERMANENT SEED MIX
WINTER DORMANT SEEDING	DORMANT SEED BETWEEN NOVEMBER 1 AND DECEMBER 15 ONLY. NO SEEDING WILL OCCUR IF SNOW DEPTHS EXCEED 1 INCH.	PERMANENT SEED MIX PLUS SUPPLEMENTAL WINTER SEED MIX

NOTES:

1. WEATHER CONDITIONS PERMITTING.
2. AREAS THAT DO NOT SUCCESSFULLY REVEGETATE WITHIN APPROPRIATE PERIOD OF TIME WILL BE RESEED AS NECESSARY.
3. LOOSEN COMPACTED SOIL TO A MINIMUM DEPTH OF 2 TO 4 INCHES.
4. TOP DRESS WITH 4 TO 6 INCHES LOAM, AS NEEDED.

NOT FOR CONSTRUCTION

SEAL: 		PROFESSIONAL ENGINEER: THOMAS N. DANIELS, JR. DATE: AUGUST 14, 2023 	
1	TRC	08/14/2023	REVISED PER TOWN PEER REVIEWER COMMENTS
0	TRC	06/16/2023	ISSUED FOR PERMITTING
NO.	BY	DATE	REVISION
			APP'D
PROJECT: BLUEWAVE SOLAR BWC BOGASTOW BROOK, LLC HOLLISTON BATTERY ENERGY STORAGE SYSTEM CENTRAL STREET, HOLLISTON, MASSACHUSETTS			
TITLE: GENERAL NOTES & LEGEND			
DRAWN BY:		TRC	PROJ. NO.: 412899-0001
CHECKED BY:		TND	G1.01
APPROVED BY:		TND	
DATE:		AUGUST 2023	
 TRC		650 Suffolk Street Suite 200 Lowell, MA 01854 Phone: 978.970.5800	
FILE NO.:		412899-1 - G SHEETS.dwg	

PERMITTING
NOT FOR CONSTRUCTION

NOTES

THIS EXISTING CONDITIONS PLAN IS PREPARED BY LAND PLANNING, INC. AND BASED UPON ON-THE-GROUND FIELD SURVEY COMPLETED BY LAND PLANNING, INC. IN JANUARY 2022. THIS PLAN HAS BEEN PROVIDED FOR REFERENCE PURPOSES ONLY AND SCALE HAS BEEN REDUCED FOR INCLUSION IN PLAN SET.



PROJECT:	BLUEWAVE SOLAR BWC BOGASTOW BROOK, LLC HOLLISTON BATTERY ENERGY STORAGE SYSTEM CENTRAL STREET, HOLLISTON, MASSACHUSETTS
TITLE:	EXISTING CONDITIONS SURVEY PLAN
PROJ. NO.:	412899.0001
	G1.03

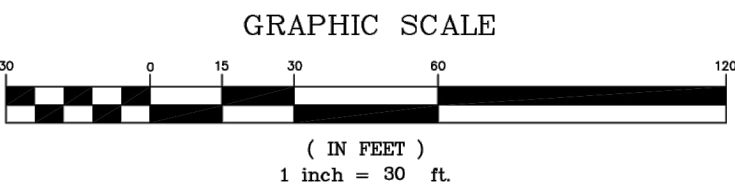
UTILITY NOTE:

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND COMPILED FROM PROPOSED PLAN INFORMATION. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

BEFORE DESIGN AND CONSTRUCTION PLEASE CALL "DIG SAFE" AT 1-888-344-7233.

GENERAL NOTES:

- LOT SUMMARY
MAP LOT OWNERS
9 4-62 CHRIST THE KING LUTHERAN CHURCH
DEED REFERENCE
BK. 18699 PG. 336
- MIDDLESEX COUNTY REGISTRY OF DEEDS DISTRICT
- LAND IS ZONED: AGRICULTURAL-RESIDENTIAL DISTRICT B
- PROPERTY LINES SHOWN AREA COMPILED FROM EITHER FIELD SURVEY INFORMATION OR AVAILABLE PLANS AND DEEDS OF RECORD.
- ELEVATIONS BASED ON NAVD88
- PLAN REFERENCE: BK. 11287 PG. 6

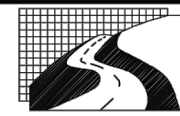


EXISTING CONDITIONS PLAN
600 CENTRAL STREET
IN HOLLISTON, MA

PREPARED FOR:
TRC

650 SUFFOLK STREET
LOWELL, MA 01854

LAND PLANNING, INC.



HANSON: 1115 MAIN STREET 02341 (781) 294-4144

BELLINGHAM: 167 HARTFORD AVE. 02019 (508) 966-4130

N. GRAFTON: 214 WORCESTER ST. 01536 (508) 839-9526

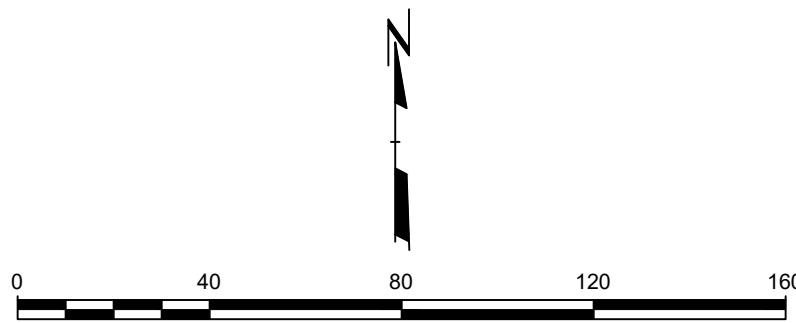
CALCS.	JOB NO.	DWG. NAME.	DATE	SHEET NO.
G.R.R.	P-3658	P3658EX	1/19/2022	1 OF 1

2436 - USER: daniel - ATTACHED FILES: - ATTACHED IMAGES: hdm20230814
DRAWING NAME: E:\RMD\ENV RMD Projects\BlueWave Energy\412899 - BWC BESS Program - Massachusetts\412899.1 - EXISTING.dwg --- PLOT DATE: August 14, 2023 - 11:21 AM --- LAYOUT: C1.00
Version: 2017.02.21



NOTES

1. FEMA FLOOD MAPS DEPICT A BASE FLOOD ELEVATION OF 151 FEET. ACTUAL FLOOD ZONE LIMIT CONFIRMED BY SURVEYOR AS SHOWN IN PLAN.
2. WETLAND PROTECTION AREA DEP APPROVED ZONE III ENCOMPASSES FULL PROJECT SITE.



PERMITTING
NOT FOR CONSTRUCTION

SEAL:		PROFESSIONAL ENGINEER:																				
		THOMAS N. DANIELS, JR.																				
DATE:		AUGUST 14, 2023																				
<table><tr><td></td><td></td><td></td><td></td></tr><tr><td>1</td><td>TRC</td><td>08/14/2023</td><td>REVISED PER TOWN PEER REVIEWER COMMENTS</td><td>TND</td></tr><tr><td>0</td><td>TRC</td><td>06/16/2023</td><td>ISSUED FOR PERMITTING</td><td>TND</td></tr><tr><td>NO.</td><td>BY</td><td>DATE</td><td>REVISION</td><td>APPD.</td></tr></table>								1	TRC	08/14/2023	REVISED PER TOWN PEER REVIEWER COMMENTS	TND	0	TRC	06/16/2023	ISSUED FOR PERMITTING	TND	NO.	BY	DATE	REVISION	APPD.
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PROJECT: BLUEWAVE SOLAR BWC BOGASTOW BROOK, LLC HOLLISTON BATTERY ENERGY STORAGE SYSTEM CENTRAL STREET, HOLLISTON, MASSACHUSETTS																						
TITLE: EXISTING CONDITIONS PLAN																						
DRAWN BY: TRC		PROJ. NO.: 412899.0001																				
CHECKED BY: TND		C1.00																				
APPROVED BY: TND																						
DATE: AUGUST 2023																						
		650 Suffolk Street Suite 200 Lowell, MA 01854 Phone: 978.970.5600																				
FILE NO.: 412899.1 - EXISTING.dwg																						

2428 - USER: Administrator - ATTACHED FILES: - ATTACHED IMAGES: 04/20/2018/4
DRAWING NAME: E:\RMD\ENV RMD Projects\BlueWave Energy\412899 - BWC BESS Program - Massachusetts\412899.1 - EXISTING.dwg --- PLOT DATE: August 14, 2023 - 11:21 AM --- LAYOUT: C1.01
Version: 2017.10.21



NOTES

- FEMA FLOOD MAPS DEPICT A BASE FLOOD ELEVATION OF 151 FEET. ACTUAL FLOOD ZONE LIMIT CONFIRMED BY SURVEYOR AS SHOWN IN PLAN.
- WETLAND PROTECTION AREA DEP APPROVED ZONE III ENCOMPASSES FULL PROJECT SITE.
- EXISTING LEACH FIELD LOCATION TO BE CONFIRMED AND FLAGGED PRIOR TO START OF CONSTRUCTION AND PROTECTED THROUGHOUT CONSTRUCTION.
- TEMPORARY SEDIMENT BASIN SHALL BE PROVIDED. SEE SHEET C2.00 FOR DESIGN SPECIFICATIONS AND SHEET G1.02 FOR CONSTRUCTION SEQUENCING.

PERMITTING
NOT FOR CONSTRUCTION

NO.	BY	DATE	REVISION	APPD.
1	TRC	08/14/2023	REVISED PER TOWN PEER REVIEWER COMMENTS	TND
0	TRC	08/16/2023	ISSUED FOR PERMITTING	TND

PROJECT: BLUEWAVE SOLAR
BWC BOGASTOW BROOK, LLC
HOLLISTON BATTERY ENERGY STORAGE SYSTEM
CENTRAL STREET, HOLLISTON, MASSACHUSETTS

TITLE: **SITE PREPARATION PLAN**

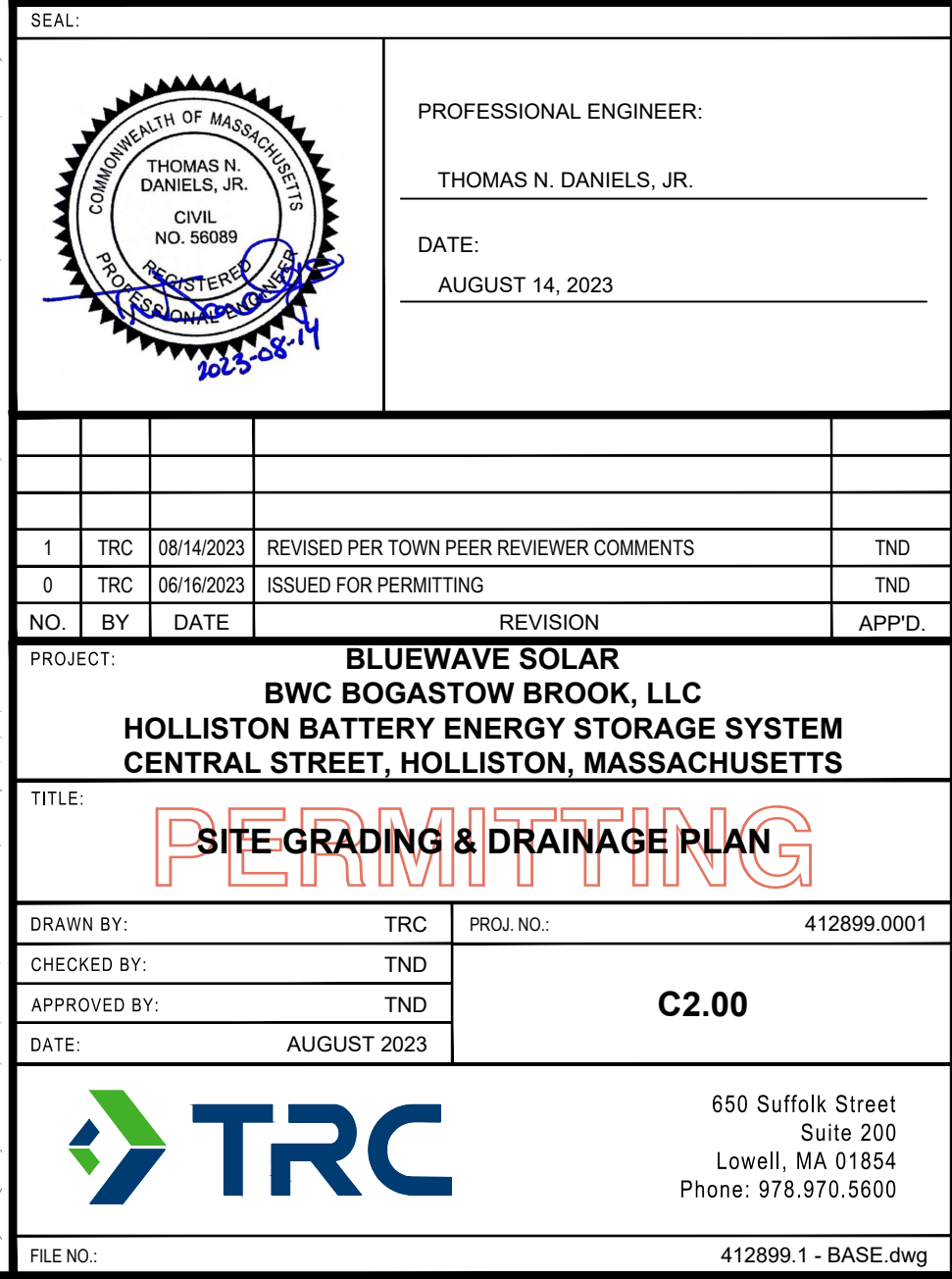
DRAWN BY:	TRC	PROJ. NO.:	412899.0001
CHECKED BY:	TND		
APPROVED BY:	TND		
DATE:	AUGUST 2023		

C1.01

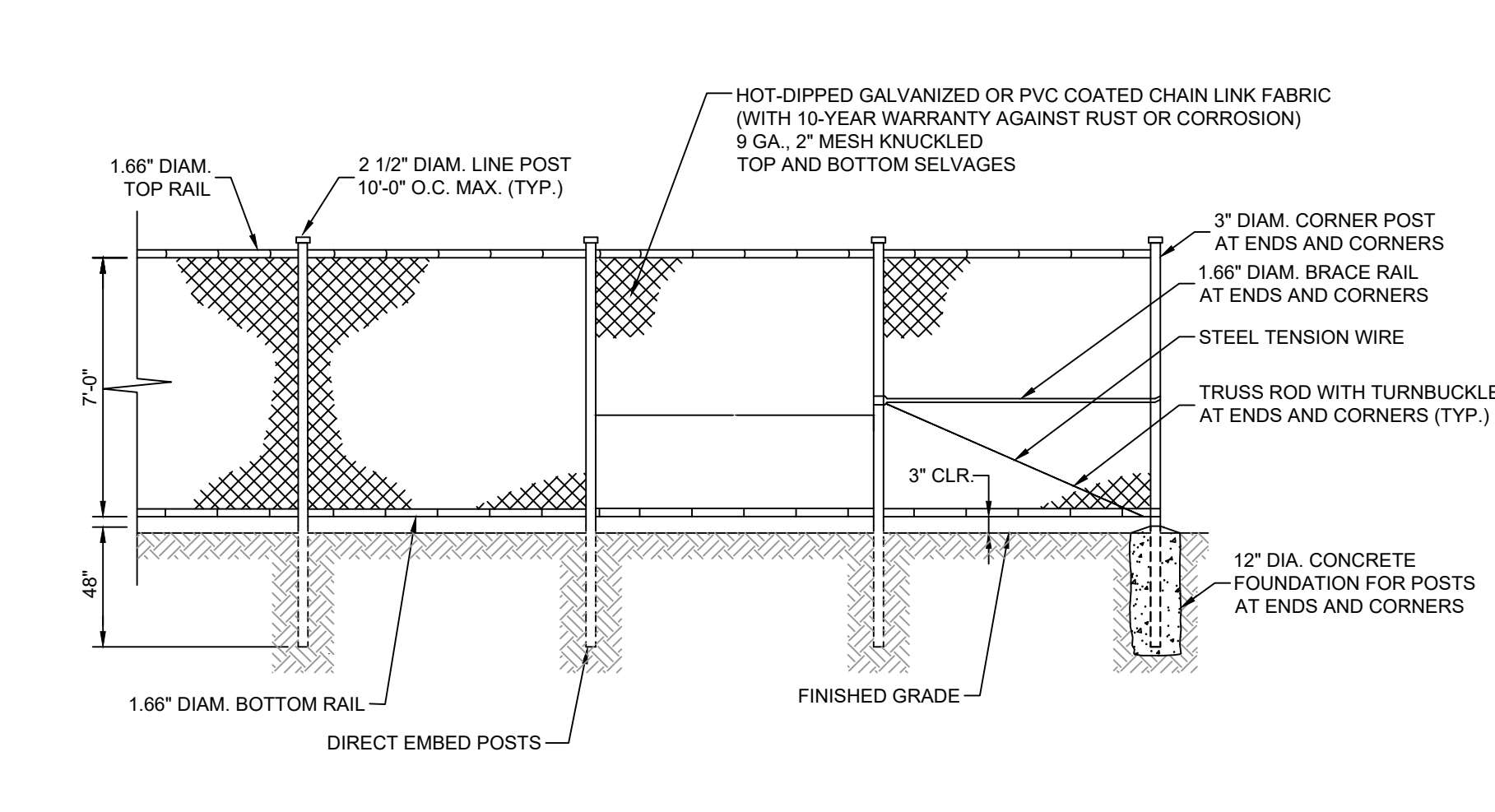
TRC

650 Suffolk Street
Suite 200
Lowell, MA 01854
Phone: 978.970.5600

FILE NO.: 412899.1 - EXISTING.dwg



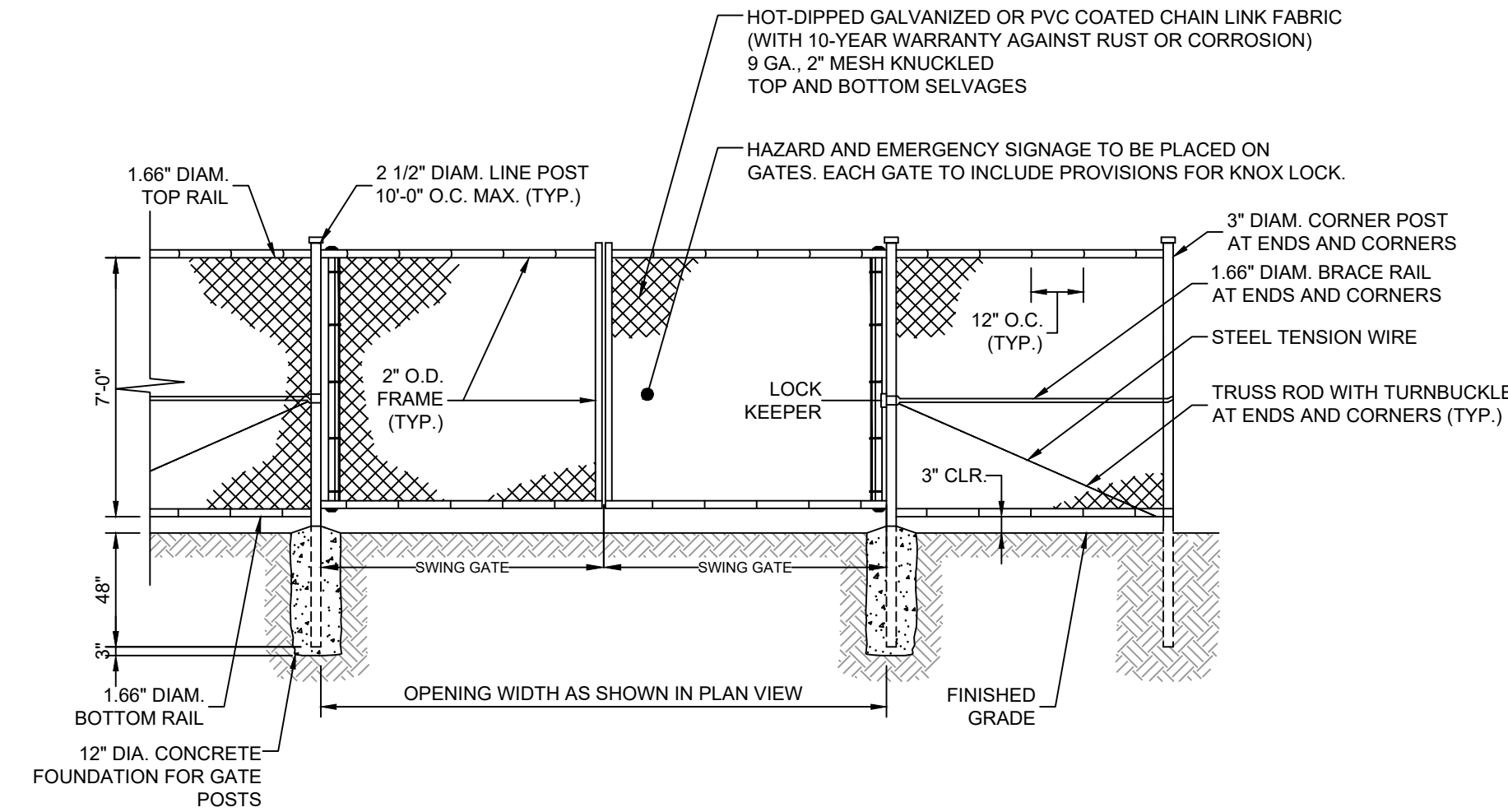
24-08 -- USER: daniel -- ATTACHED IMAGES: -- ATTACHED IMAGES: holliston10-DWG-412899.1 - DT.dwg -- PLOT DATE: August 14, 2023 - 11:23AM --- LAYOUT: C4.00
DRAWING NAME: E:\RMD\ENV RMD Projects\BlueWave Energy\412899 - BWC BESS Program - Massachusetts\412899.1 - Holliston10-DWG-412899.1 - DT.dwg



NOTES:
1. DETAIL IS FOR ILLUSTRATIVE PURPOSES ONLY. FINAL GATE DESIGN AND LAYOUT SUBJECT TO DETAILED ENGINEER AND APPROVAL AND CONTRACTOR SUBMITTAL.

CHAINLINK FENCE

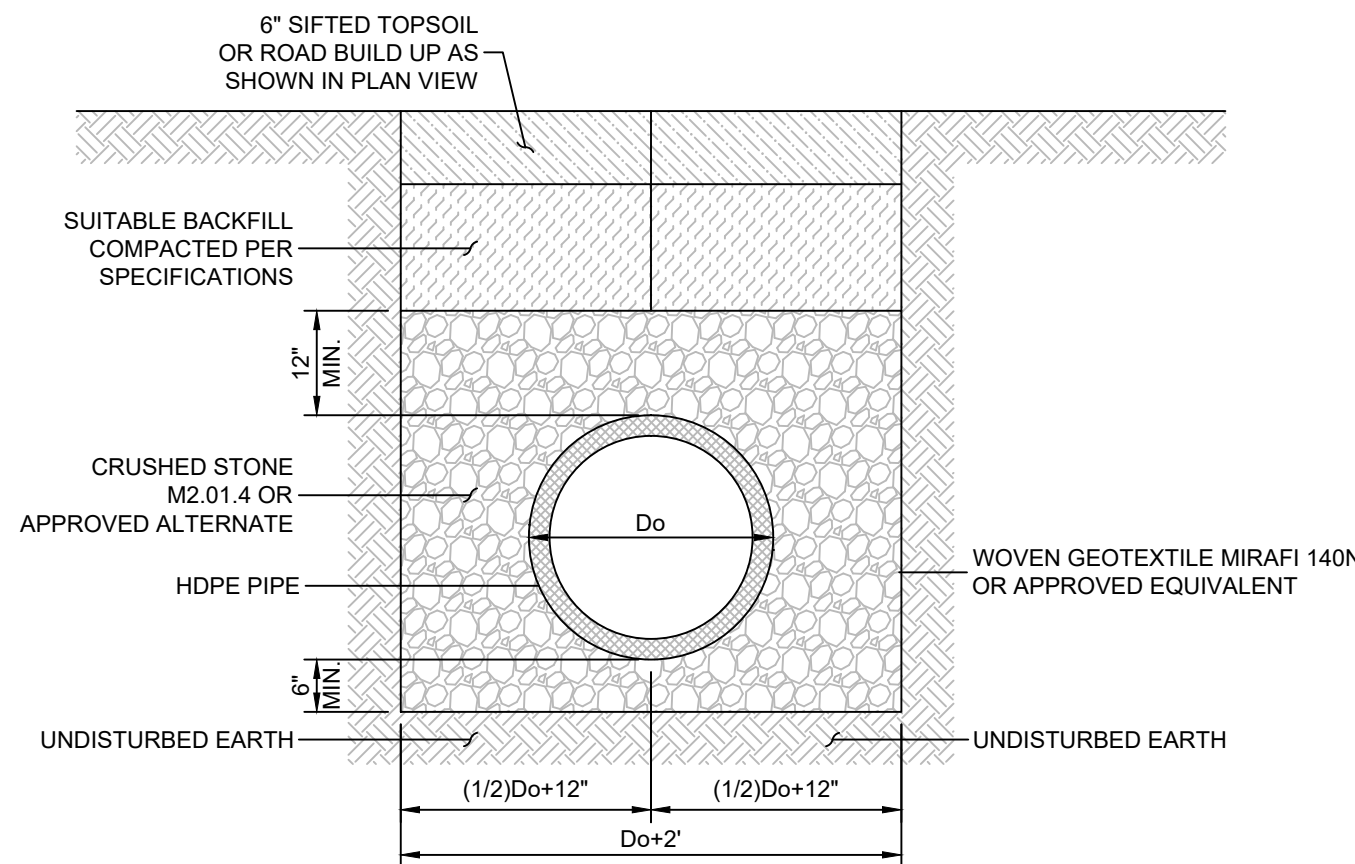
NOT TO SCALE



NOTES:
1. DETAIL IS FOR ILLUSTRATIVE PURPOSES ONLY. FINAL GATE DESIGN AND LAYOUT SUBJECT TO DETAILED ENGINEER AND APPROVAL AND CONTRACTOR SUBMITTAL. ALTERNATIVE DESIGN FOR GATE IS 20FT CANTILEVERED SLIDING GATE.

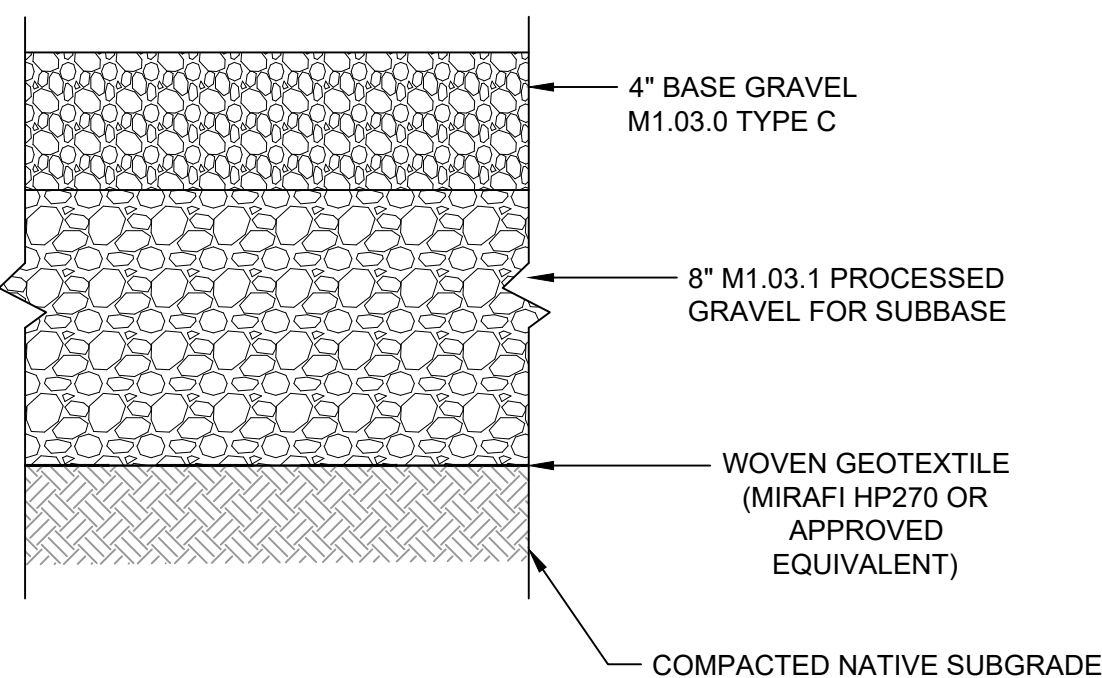
VEHICULAR GATE DETAIL

NOT TO SCALE



STORM PIPE TRENCH DETAIL

NOT TO SCALE

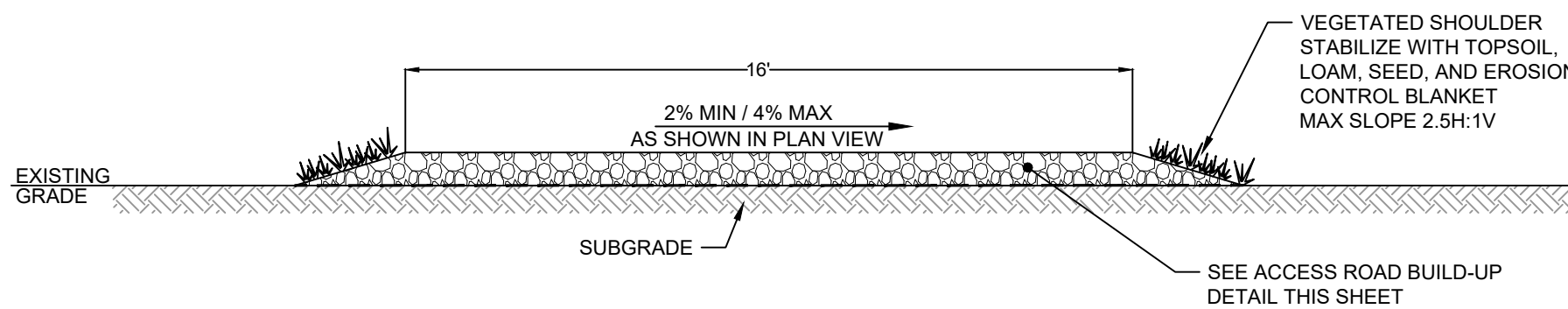


CONSTRUCTION NOTES:

1. BASE GRAVEL AND GRAVEL SUBBASE SHALL BE M1.03.1 AGGREGATE BACKFILL. AGGREGATE SHALL BE DURABLE CRUSHED ROCK CONSISTING OF THE ANGULAR FRAGMENTS OBTAINED BY BREAKING AND CRUSHING SOLID OR SHATTERED NATURAL ROCK, AND FREE FROM A DETRIMENTAL QUANTITY OF THIN, FLAT, ELONGATED, OR OTHER OBJECTIONABLE PIECES.
2. BASE GRAVEL AND SUBBASE GRAVEL, SHALL BE COMPACTED TO 95% OF ASTM D1557 AND PLACED IN MAXIMUM COMPACTED LIFTS OF 9-INCHES.
3. VEGETATION AND TOPSOIL WITHIN LIMIT OF ROAD FILL SHALL BE STRIPPED PRIOR TO PLACEMENT OF GEOTEXTILE.
4. SUBGRADE SHALL BE COMPACTED TO 95% OF ASTM D1557 TO A DEPTH OF 12-INCHES.
5. SUBGRADE FILL REQUIRED TO ACHIEVE DESIGN GRADES, BEYOND DEPTH OF BASE GRAVEL AND GRAVEL SUBBASE, SHALL CONFORM TO THE REQUIREMENTS OF M1.02.0; SPECIAL BORROW MATERIAL EXCEPT THAT IT SHALL CONTAIN NO STONE LARGER THAN 6-INCHES AND SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8-INCHES IN DEPTH, COMPACTED MEASURE.

ACCESS DRIVE BUILD-UP

NOT TO SCALE

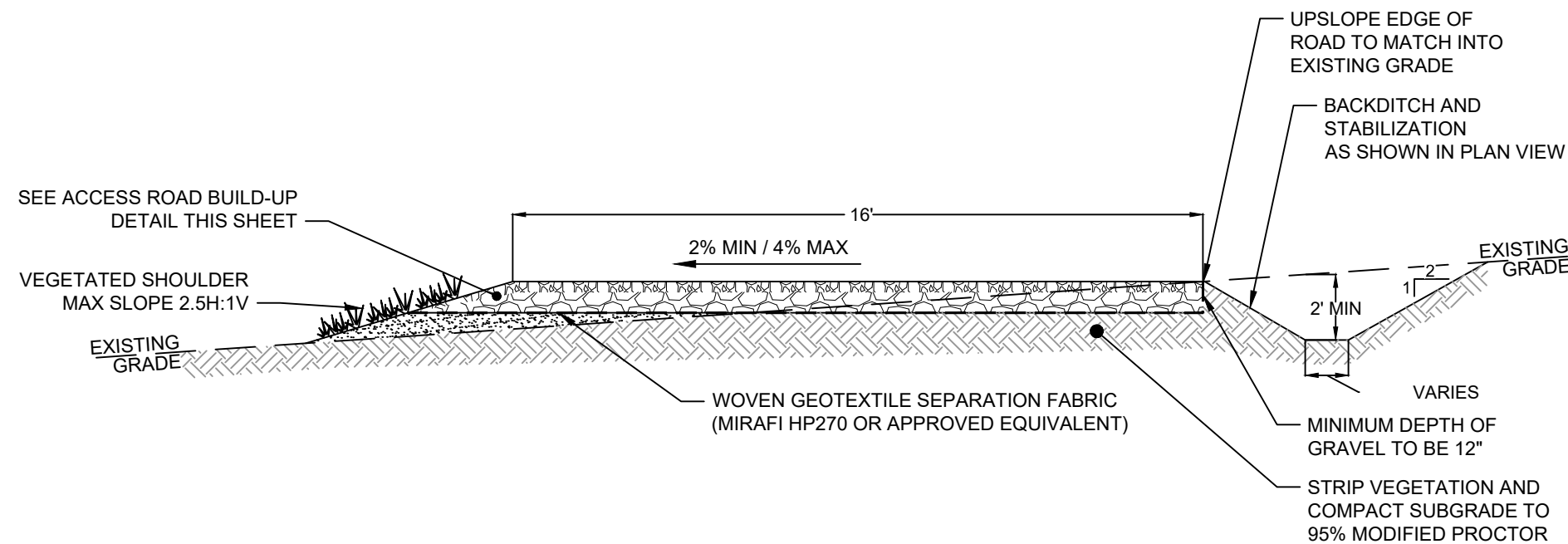


CONSTRUCTION NOTES:

1. BUILD-UP OF ACCESS ROAD SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ACCESS ROAD BUILD-UP DETAIL.
2. GRAVEL SURFACE SHALL BE SUPERELEVATED AND SLOPED A MINIMUM OF 2% AS INDICATED IN PLAN VIEW. CROSS SLOPE SHALL NOT EXCEED 4%.
3. VEGETATION AND TOPSOIL WITHIN LIMIT OF ROAD FILL SHALL BE REMOVED PRIOR TO PLACEMENT OF ROAD BUILD-UP MATERIALS AND USED IN SUPPORT OF STABILIZING ROADWAY SHOULDERS.
4. ROADWAY SHOULDER SHALL BE VEGETATED AND PREPARED TO DIRECT RUNOFF AS SHEETFLOW TO UNDISTURBED AREAS.

TYPICAL ACCESS ROAD SECTION

NOT TO SCALE



CONSTRUCTION NOTES:

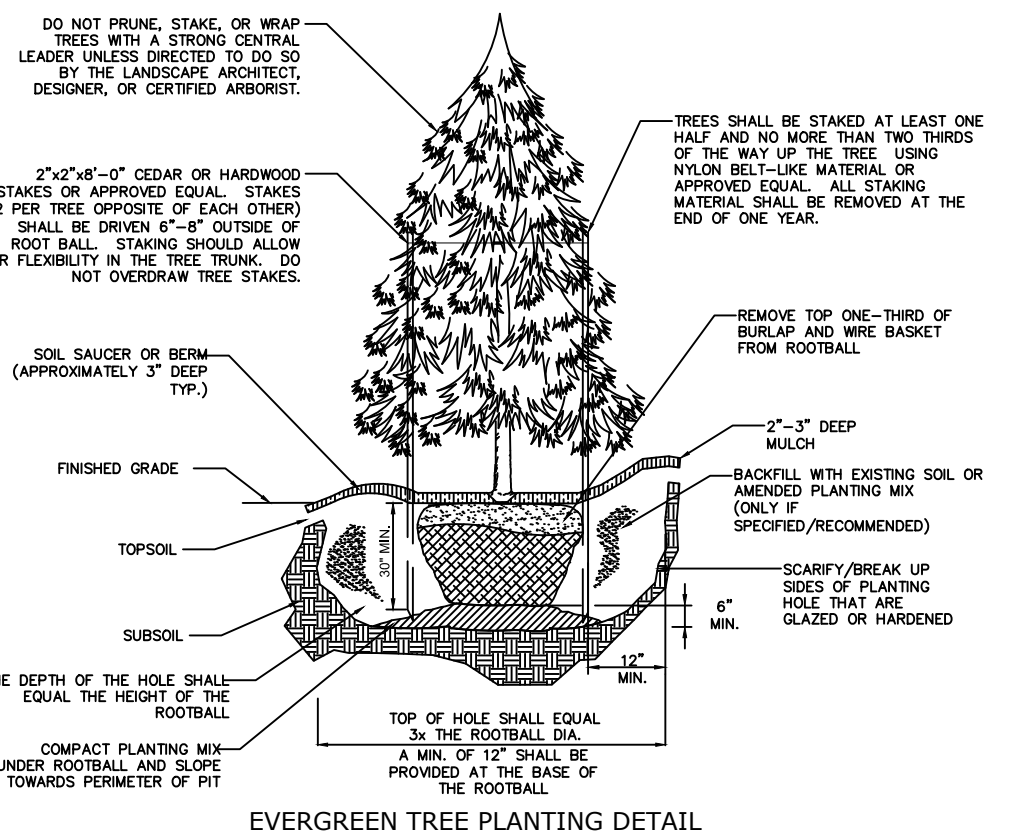
1. GRAVEL SURFACE SHALL BE SUPERELEVATED AND SLOPED A MINIMUM OF 2% AS INDICATED IN PLAN VIEW. CROSS SLOPE SHALL NOT EXCEED 4%.
2. ROADWAY SHOULDER SHALL BE VEGETATED AND PREPARED TO DIRECT RUNOFF AS SHEETFLOW TO IDENTIFIED BUFFER AREAS.
3. DITCH SHALL BE TRAPEZOIDAL WITH MINIMUM 2-FOOT FLAT BOTTOM AND A MINIMUM DEPTH OF 2 FEET. DITCH SHALL BE STABILIZED IN ACCORDANCE WITH CONDITIONS SHOWN ON THE SITE GRADING & DRAINAGE PLAN, SHEET C2.00.

PROPOSED ACCESS DRIVE : STA. 1+75 TO 3+50

NOT TO SCALE

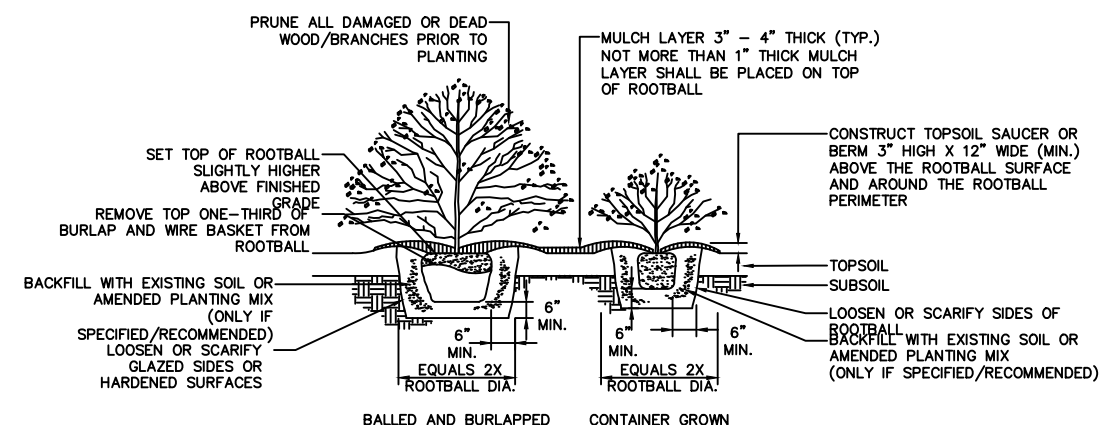
GENERAL LANDSCAPING NOTES AND VEGETATION MANAGEMENT RECOMMENDATIONS

1. THE CONTRACTOR SHALL MONITOR AND GUARANTEE THAT ALL PLANTS, TREES, AND SHRUBS SHALL BE HEALTHY AND FREE OF DISEASE FOR A PERIOD OF (2) TWO YEARS AFTER SUBSTANTIAL COMPLETION AND ACCEPTANCE BY THE OWNER. CONTRACTOR SHALL REPLACE ANY DEAD OR UNHEALTHY PLANTS AT CONTRACTOR'S EXPENSE. FINAL ACCEPTANCE SHALL BE MADE IF ALL PLANTS MEET THE GUARANTEE REQUIREMENTS INCLUDING MAINTENANCE, MAINTENANCE RESPONSIBILITIES INCLUDE INVASIVE SPECIES MONITORING, REMOVAL, AND SUPPLEMENTATION. ADDITIONAL MAINTENANCE RESPONSIBILITIES INCLUDE: APPROVED CULTIVATING, SPRAYING, WEEDING, WATERING, TIGHTENING OF TREE STRAP GUYS, PRUNING, FERTILIZING, MULCHING, AND ANY OTHER OPERATIONS NECESSARY TO MAINTAIN PLANT VIABILITY. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER PLANTING AND CONTINUE UNTIL 90 DAYS AFTER FINAL ACCEPTANCE.
2. PLANTS SHALL BE INSPECTED ANNUALLY FOR (5) FIVE YEARS POST-CONSTRUCTION AND REPLACED AS NEEDED TO ENSURE A CONTINUOUS SCREEN BECOMES ESTABLISHED.
3. WITHIN 24-HOURS OF PLANTING, AND CONTINUING THROUGHOUT ESTABLISHMENT (TWO MONTHS OR LONGER IN DROUGHT CONDITIONS), PLANTS SHALL BE WATERED WEEKLY UNLESS 0.5-INCHES OF RAIN OR GREATER FALLS WITHIN A GIVEN WEEK.
4. THE CONTRACTOR SHALL SUPPLY ALL LABOR, PLANTS, APPROVED SEEDING MIX, AND MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE WORK SHOWN ON THE DRAWING(S) AND LISTED IN THE PLANT SCHEDULE(S) AND/OR SEEDING TABLE(S). IN THE EVENT OF A DISCREPANCY BETWEEN QUANTITIES SHOWN IN THE PLANT SCHEDULE AND/OR SEEDING TABLE AND THOSE REQUIRED BY THE DRAWINGS, THE LARGER SHALL APPLY. ALL PLANTS SHALL BE ACCLIMATED BY THE SUPPLY NURSERY TO THE LOCAL HARDINESS ZONE AND BE CERTIFIED THAT THE PLANTING MATERIAL HAS BEEN GROWN FOR A MINIMUM OF (2) TWO YEARS AT THE SOURCE AND OBTAINED WITHIN 100 MILES OF PROJECT SITE UNLESS OTHERWISE APPROVED BY OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT.
5. THE LOCATIONS FOR PLANT MATERIAL ARE APPROXIMATE AND ARE SUBJECT TO FIELD ADJUSTMENT DUE TO SLOPE, VEGETATION, AND SITE FACTORS SUCH AS THE LOCATION OF ROCK OUTCROPS. PRIOR TO PLANTING THE CONTRACTOR SHALL ACCURATELY STAKE OUT THE LOCATIONS FOR ALL PLANTS. THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT SHALL APPROVE THE FIELD LOCATIONS OR ADJUSTMENTS OF THE PLANT MATERIAL.
6. ALL SHRUB MASSING SHALL BE MULCHED TO A DEPTH OF 2" AND SHREDDED HARDWOOD BARK MULCH SHALL BE USED FOR SHRUB MASSING AREAS.
7. LANDSCAPE PLANTING PITS MUST BE FREE DRAINING. PAVEMENT, COMPACTED SUBGRADE, AND BLASTED ROCK SHALL BE REMOVED TO A DEPTH OF 2" OR TO A GREATER DEPTH IF REQUIRED BY PLANTING DETAILS OR SPECIFICATIONS. REPLACE SOIL WITH MODERATELY COMPACTED, LOAM OR SANDY LOAM FREE FROM STONES AND RUBBISH 1" OR GREATER IN DIAMETER AND ANY OTHER MATERIAL. HARMFUL TO PLANT GROWTH AND DEVELOPMENT. PLANTING INSTALLATION SHALL BE AS DETAILED AND CONTAIN PLANTING MIX AS SPECIFIED UNLESS RECOMMENDED OTHERWISE BY SOIL ANALYSIS.
8. PLANTING SOIL MIXTURE:
 - 2 PARTS PEAT MOSS
 - 5 PARTS TOPSOIL
 - MYCORRHIZA INOCULANT - "TRANSPLANT 1-STEP" AS MANUFACTURED BY ROOTS, INC. OR APPROVED EQUAL. USE PER MANUFACTURER'S RECOMMENDATIONS FOR TREES AND SHRUBS. FERTILIZER/LIME APPLY AS RECOMMENDED BY SOIL ANALYSIS.
9. TREES AND SHRUBS: TREES AND SHRUBS SHALL BE NURSERY GROWN UNLESS OTHERWISE NOTED AND HARDY UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCATION OF THE PROJECT. THEY SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY WITH NORMAL HABIT OF GROWTH. THEY SHALL BE SOUND, HEALTHY, VIGOROUS, WELL-BRANCHED AND DENSELY FOLIATED WHEN IN LEAF. THEY SHALL BE FREE OF DISEASE, INSECT PESTS, EGGS OR PESTS. TREES SHALL HAVE HEALTHY AND WELL-DEVELOPED ROOT SYSTEMS. ALL TREES SHALL HAVE STRAIGHT SINGLE TRUNKS WITH THEIR MAIN LEADER INTACT UNLESS OTHERWISE STATED. THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT SHALL ONLY PERMIT SUBSTITUTIONS UPON WRITTEN APPROVAL. THEIR SIZES SHALL CONFORM TO THE MEASUREMENT SPECIFIED ON THE DRAWINGS. PLANTS LARGER THAN SPECIFIED ON THE DRAWINGS MAY BE USED IF APPROVED. THE USE OF SUCH PLANTS SHALL NOT INCREASE THE CONTRACT PRICE. ALL TREES AND SHRUBS SHALL BE MULCHED IN ACCORDANCE WITH THE RESPECTIVE PLANTING DETAIL(S) PROVIDED IN THE LANDSCAPING PLAN.
10. TOPSOIL SURROUNDING LANDSCAPING FEATURES SHALL BE INSTALLED AT A MINIMUM DEPTH OF 4 INCHES. CONTRACTOR SHALL SUBMIT TOPSOIL TO A CERTIFIED TESTING LABORATORY TO DETERMINE PH, FERTILITY, ORGANIC CONTENT AND MECHANICAL COMPOSITION. THE CONTRACTOR SHALL SUBMIT THE TEST RESULTS FROM REGIONAL EXTENSION OFFICE OF USDA TO THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL. CONTRACTOR SHALL INCORPORATE AMENDMENTS FOR GOOD PLANT GROWTH AND PROPER SOIL ACIDITY RECOMMENDED FROM THE TOPSOIL TEST.
11. NO PHOSPHOROUS SHALL BE USED AT PLANTING TIME UNLESS SOIL TESTING HAS BEEN COMPLETED AND TESTED BY A HORTICULTURAL TESTING LAB AND SOIL TESTS SPECIFICALLY INDICATE A PHOSPHOROUS DEFICIENCY THAT IS HARMFUL, OR WILL PREVENT NEW LAWNS/GRASSES AND PLANTINGS FROM ESTABLISHING PROPERLY.
12. IF SOIL TESTS INDICATE A PHOSPHOROUS DEFICIENCY THAT WILL IMPACT PLANT AND LAWN ESTABLISHMENT, PHOSPHOROUS SHALL BE APPLIED AT THE MINIMUM RECOMMENDED LEVEL PRESCRIBED IN THE SOIL TEST FOLLOWING ALL APPLICABLE STANDARDS, REQUIREMENTS, AND/OR REGULATIONS.
13. ALL WILDFLOWERS AND GRASSES SOWNED SHALL BE ALLOWED TO GROW TO THEIR NATURALLY OCCURRING HEIGHTS WHENEVER POSSIBLE. NATIVE WILDFLOWERS AND/OR GRASSES CAN BE MOWED/MAINTAINED (WITHIN ACCEPTABLE AREAS IDENTIFIED AND/OR APPROVED BY APPROPRIATE REGULATORY AGENCIES) AS OFTEN AS NEEDED TO KEEP THE VEGETATION AT A DESIRED AND/OR MANAGEABLE MAINTAINED HEIGHT.
14. INVASIVE SPECIES SHALL NOT BE PERMITTED.
15. ALL PLANT MATERIAL SHALL CONFORM TO THE PLAN SIZE SPECIFICATIONS AS ESTABLISHED BY THE AMERICAN STANDARD FOR NURSERY STOCK LATEST EDITION.



EVERGREEN TREE PLANTING DETAIL

N.T.S.



SHRUB PLANTING DETAIL

N.T.S.

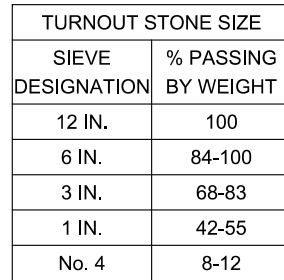
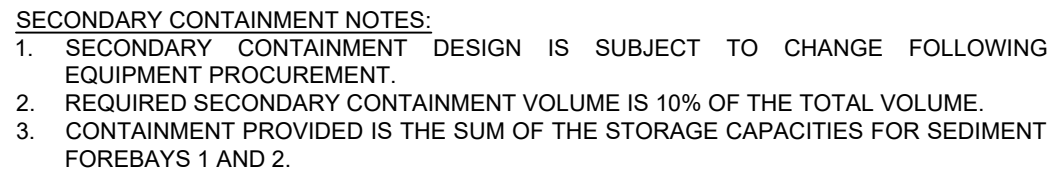
DETAIL NOTES

1. IN AREAS WITH MASS PLANTINGS, CONTINUOUS EXCAVATION AND MULCHING PRACTICES SHALL BE IMPLEMENTED WHENEVER POSSIBLE.
2. IT IS NOT RECOMMENDED TO AMEND THE EXISTING SOIL BEFORE BACKFILLING THE HOLE UNLESS SOIL CONDITIONS ARE POOR FOR PLANTING.
3. WATER THOROUGHLY TO HELP ENSURE THE REMOVAL OF AIR POCKETS.

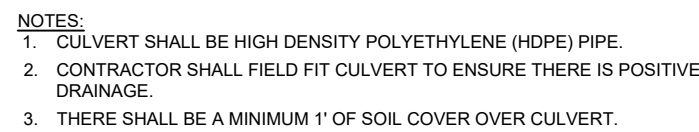
PERMITTING

NOT FOR CONSTRUCTION

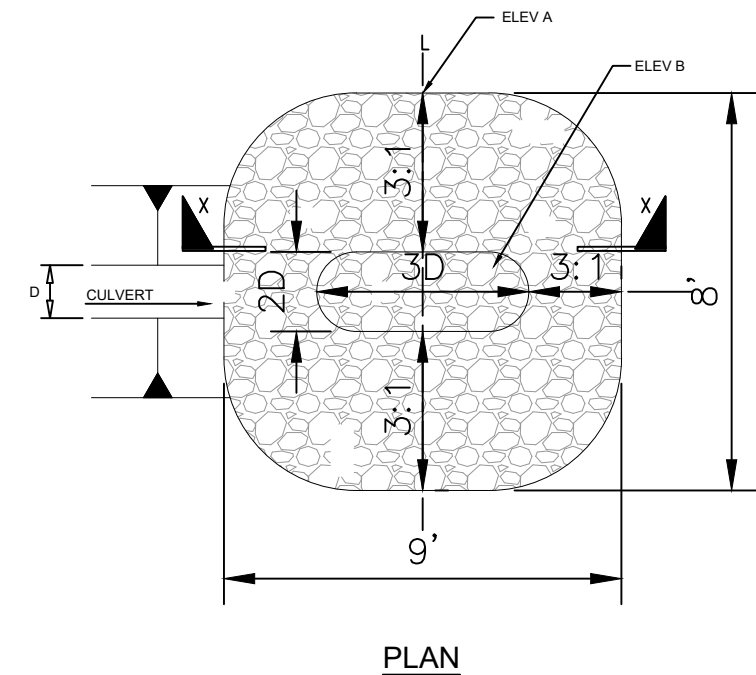
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		THOMAS N. DANIELS, JR.																
DATE:		AUGUST 14, 2023																
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NO.	BY	DATE	REVISION	APPD.														
PROJECT: BLUEWAVE SOLAR BWC BOGASTOW BROOK, LLC HOLLISTON BATTERY ENERGY STORAGE SYSTEM CENTRAL STREET, HOLLISTON, MASSACHUSETTS																		
TITLE: CIVIL CONSTRUCTION DETAILS																		
DRAWN BY: TRC		PROJ. NO.: 412899.0001																
CHECKED BY: TND		C4.00																
APPROVED BY: TND		DATE: AUGUST 2023																
		650 Suffolk Street Suite 200 Lowell, MA 01854 Phone: 978.970.5800																
FILE NO.: 412899.1 - DT.dwg																		



LEVEL SPREADER CHART			
ID	LENGTH (A)	INVERT (B)	DEPTH (C)
LS-1	25'	178.5.0'	18"



PLUNGE POOL SCHEDULE			
ID	INLET DIA.	ELEV. (A)	ELEV. (B)
PP-1	12"	176.0'	175.0'
PP-2	12"	173.5'	172.5'



PERMITTING
NOT FOR CONSTRUCTION



THOMAS N. DANIELS, JR.

DATE: _____

AUGUST 14, 2023

1	TRC	08/14/2023	REVISED PER TOWN PEER REVIEWER COMMENTS		TND
0	TRC	06/16/2023	ISSUED FOR PERMITTING		TND
NO.	BY	DATE	REVISION		APP'D.

PROJECT: **BLUEWAVE SOLAR
BWC BOGASTOW BROOK, LLC
HOLLISTON BATTERY ENERGY STORAGE SYSTEM
CENTRAL STREET, HOLLISTON, MASSACHUSETTS**

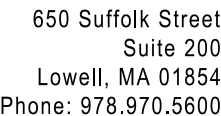
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DRAWN BY:	TRC	PROJ. NO.:	412899.0001
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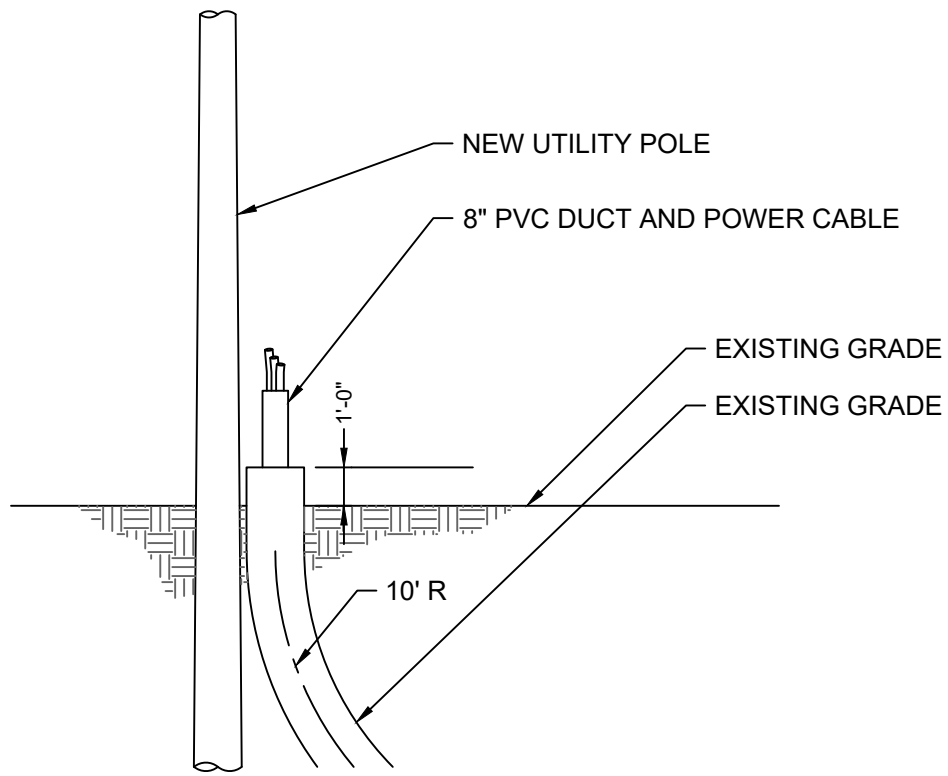
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APPROVED BY: TND C4.01

DATE:	AUGUST 2023
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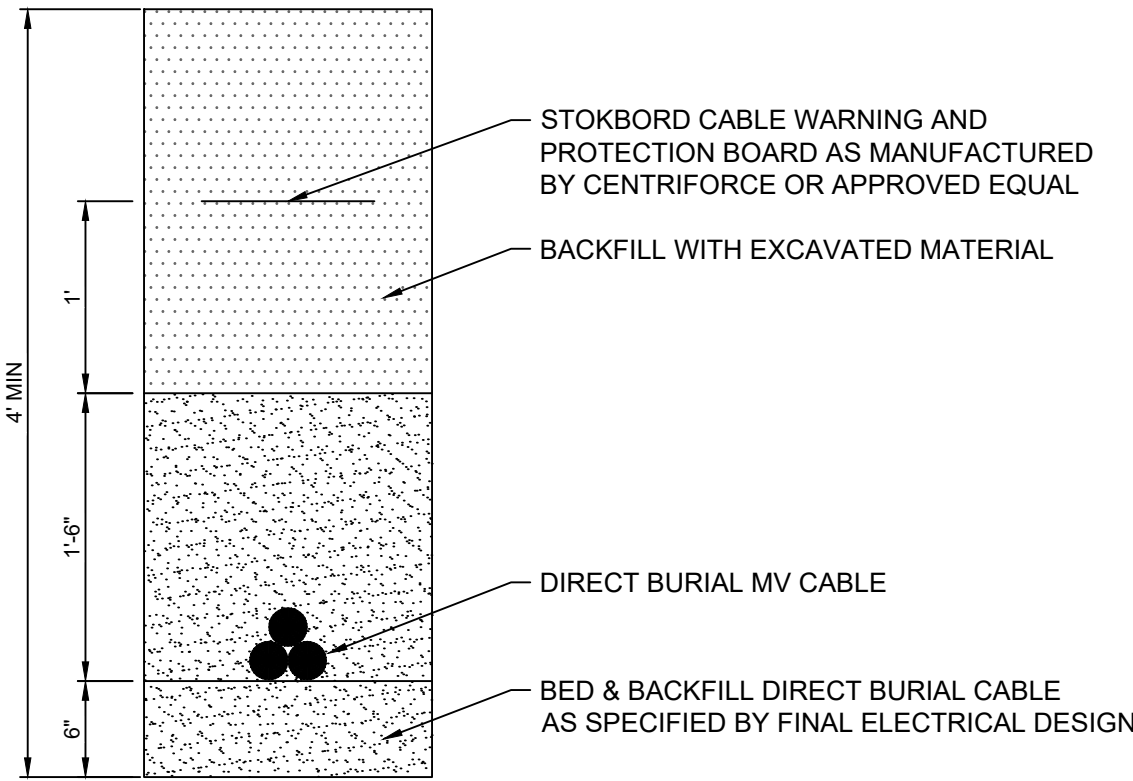


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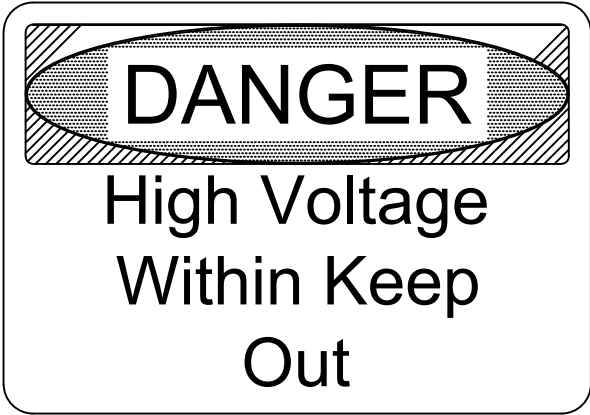
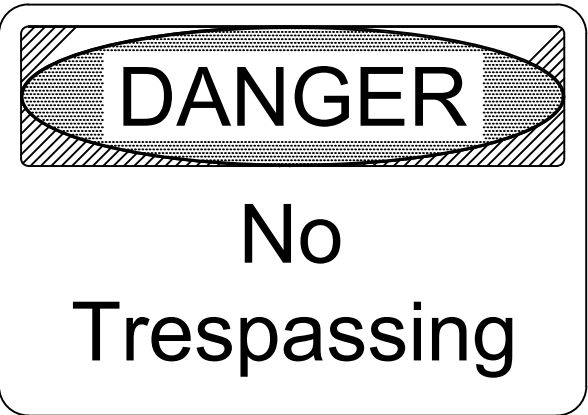


- NOTES:
1. EXTEND CONCRETE ENCASED DUCTBANK TO APPROXIMATELY 1'-0" ABOVE GRADE. CONTINUE PVC DUCT BANK TO TERMINATION / TRIFURCATION.
 2. TOP OF DUCT SHALL BE SEALED WITH APPROVED FIRE RETARDANT SEALER TERMINATION FITTING SUCH AS CONDULATOR BY ROBERT'S ELECTRIC PRODUCTS.

UNDERGROUND TO OVERHEAD TRANSITION DETAIL
NOT TO SCALE

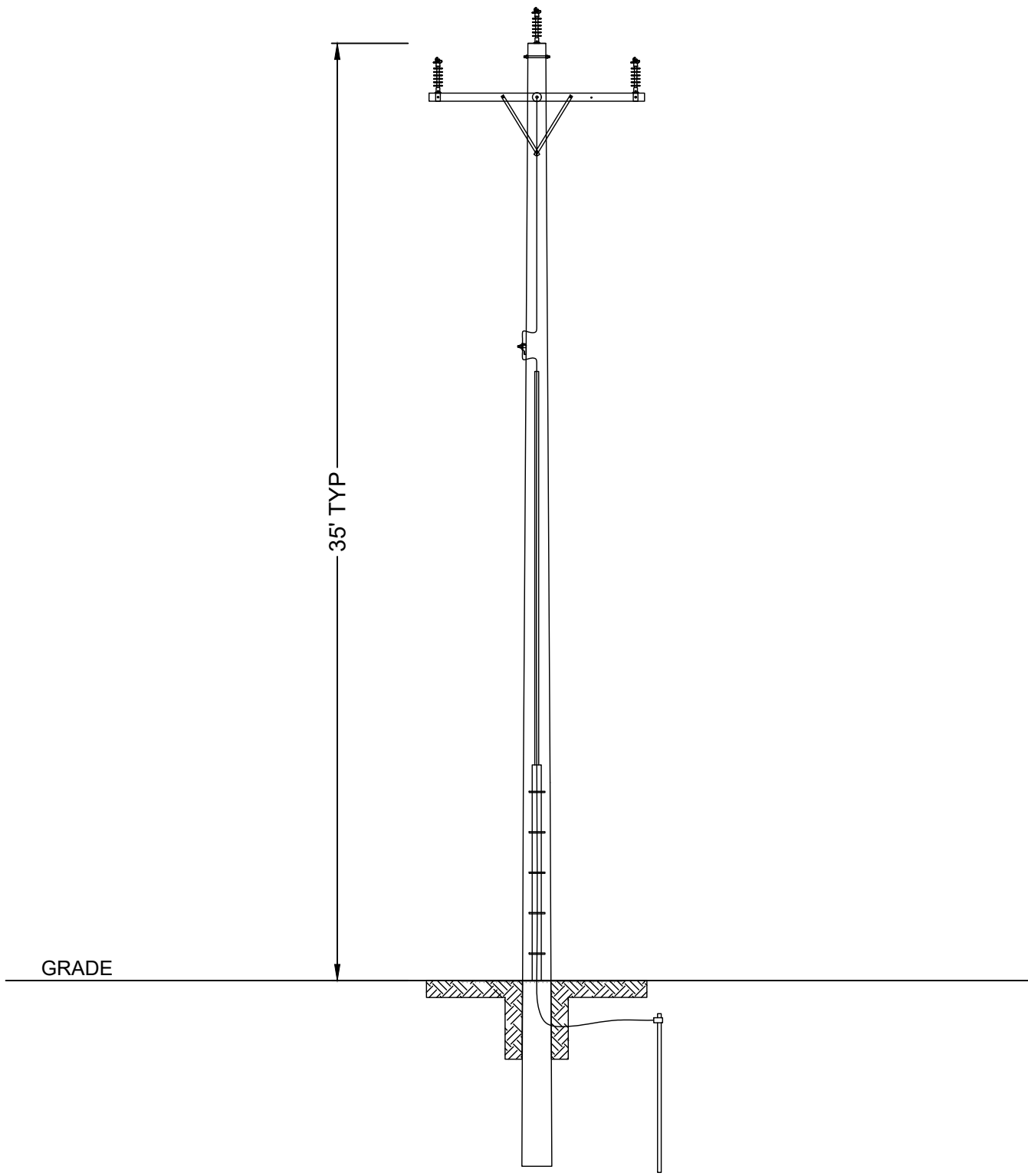


MV UNDERGROUND COLLECTION LINE DETAIL
NOT TO SCALE

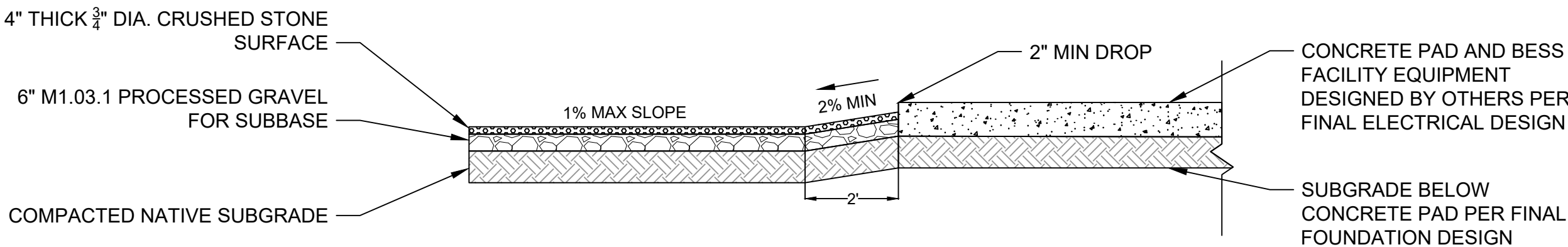


- NOTES
1. NO PARKING SIGN SHALL BE POSTED AT FACILITY ENTRANCE GATE. OTHER SIGNS SHALL BE PLACED ON GATES AND ALONG PERIMETER FENCING.
 2. SIGNS SHALL CONFORM TO THE 2013 OSHA AND ANSI REQUIREMENTS.
 3. SIGNS SHALL BE 20" WIDE BY 14" HIGH.
 4. SIGNS SHALL HAVE A MOUNTING HEIGHT OF BETWEEN 45 TO 66 INCHES.
 5. SIGN PANELS SHALL BE 10 GAUGE ALUMINUM WITH HIGH VISIBILITY REFLECTIVE SHEETING.
 6. SIGNAGE SHALL INCLUDE 24-HR EMERGENCY CONTACT INFORMATION FOR FACILITY OPERATOR.

HAZARD & EMERGENCY SIGNAGE
NOT TO SCALE



TYPICAL UTILITY POLE
NOT TO SCALE



- CONSTRUCTION NOTES:
1. GRAVEL SUBBASE SHALL BE M1.03.1 AGGREGATE BACKFILL. AGGREGATE SHALL BE DURABLE CRUSHED ROCK CONSISTING OF THE ANGULAR FRAGMENTS OBTAINED BY BREAKING AND CRUSHING SOLID OR SHATTERED NATURAL ROCK, AND FREE FROM A DETRIMENTAL QUANTITY OF THIN, FLAT, ELONGATED, OR OTHER OBJECTIONABLE PIECES.
 2. CRUSHED STONE SURFACE AND SUBBASE GRAVEL SHALL BE COMPACTED TO 95% OF ASTM D1557.
 3. VEGETATION AND TOPSOIL WITHIN LIMIT OF CRUSHED STONE YARD SHALL BE STRIPPED PRIOR TO PLACEMENT OF SUBBASE GRAVEL.
 4. SUBGRADE SHALL BE COMPACTED TO 95% OF ASTM D1557 TO A DEPTH OF 12-INCHES.
 5. SUBGRADE FILL REQUIRED TO ACHIEVE DESIGN GRADES, BEYOND DEPTH OF CRUSHED STONE SURFACE AND GRAVEL SUBBASE, SHALL CONFORM TO THE REQUIREMENTS OF M1.02.0: SPECIAL BORROW MATERIAL EXCEPT THAT IT SHALL CONTAIN NO STONE LARGER THAN 6-INCHES AND SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8-INCHES IN DEPTH, COMPACTED MEASURE.

TYPICAL CRUSHED STONE YARD SECTION
NOT TO SCALE

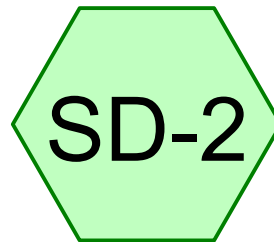
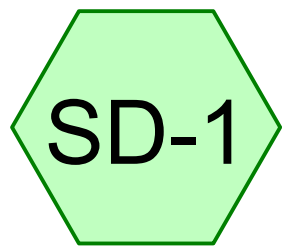
PERMITTING
NOT FOR CONSTRUCTION

SEAL:		PROFESSIONAL ENGINEER:																
		THOMAS N. DANIELS, JR.																
DATE:		AUGUST 14, 2023																
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PROJECT: BLUEWAVE SOLAR BWC BOGASTOW BROOK, LLC HOLLISTON BATTERY ENERGY STORAGE SYSTEM CENTRAL STREET, HOLLISTON, MASSACHUSETTS																		
TITLE: PRELIMINARY ELECTRICAL DETAILS																		
DRAWN BY: TRC		PROJ. NO.: 412899.0001																
CHECKED BY: TND		C5.00																
APPROVED BY: TND		DATE: AUGUST 2023																
		650 Suffolk Street Suite 200 Lowell, MA 01854 Phone: 978.970.5600																
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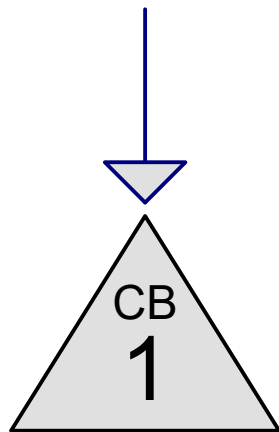
ATTACHMENT 2

Outlet Stabilization Calculations

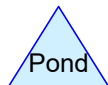
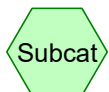
RIP RAP APRONS



4" Pipe x 3



12" Culvert



Routing Diagram for Holliston - Stormwater Model

Prepared by TRC, Printed 7/24/2023

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Holliston - Stormwater Model

Prepared by TRC

Printed 7/24/2023

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Page 2

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	100-year	Type III 24-hr		Default	24.00	1	8.61	2

Holliston - Stormwater Model

Prepared by TRC

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Type III 24-hr 100-year Rainfall=8.61"

Printed 7/24/2023

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Summary for Subcatchment SD-1:

Runoff = 0.29 cfs @ 12.09 hrs, Volume= 0.021 af, Depth= 5.72"

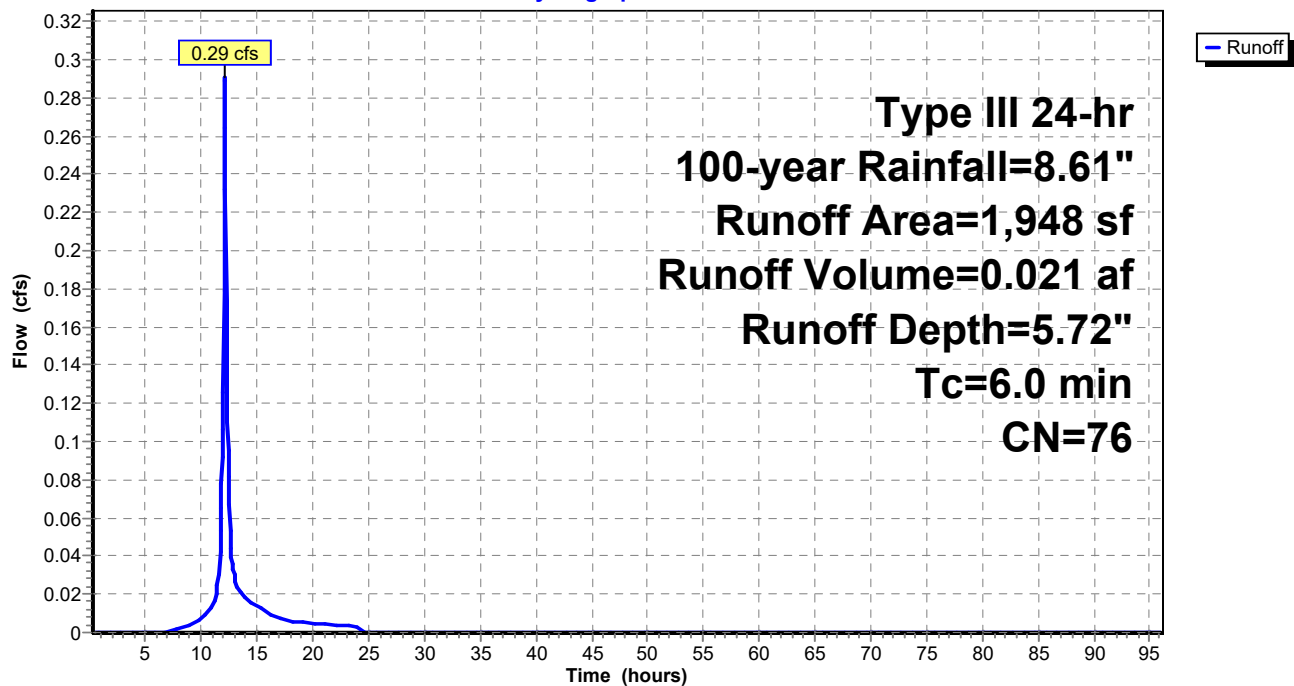
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.61"

	Area (sf)	CN	Description
*	0	98	Pavement, Roofs, Concrete Pads
*	1,280	96	Compacted Gravel
*	0	55	Crushed Stone Yard
	668	39	>75% Grass cover, Good, HSG A
	0	30	Meadow, non-grazed, HSG A
	0	30	Woods, Good, HSG A
	0	80	>75% Grass cover, Good, HSG D
	1,948	76	Weighted Average
	1,948		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum of 6 mins for HydroCAD model

Subcatchment SD-1:

Hydrograph



Holliston - Stormwater Model

Prepared by TRC

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Type III 24-hr 100-year Rainfall=8.61"

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Summary for Subcatchment SD-2: 4" Pipe x 3

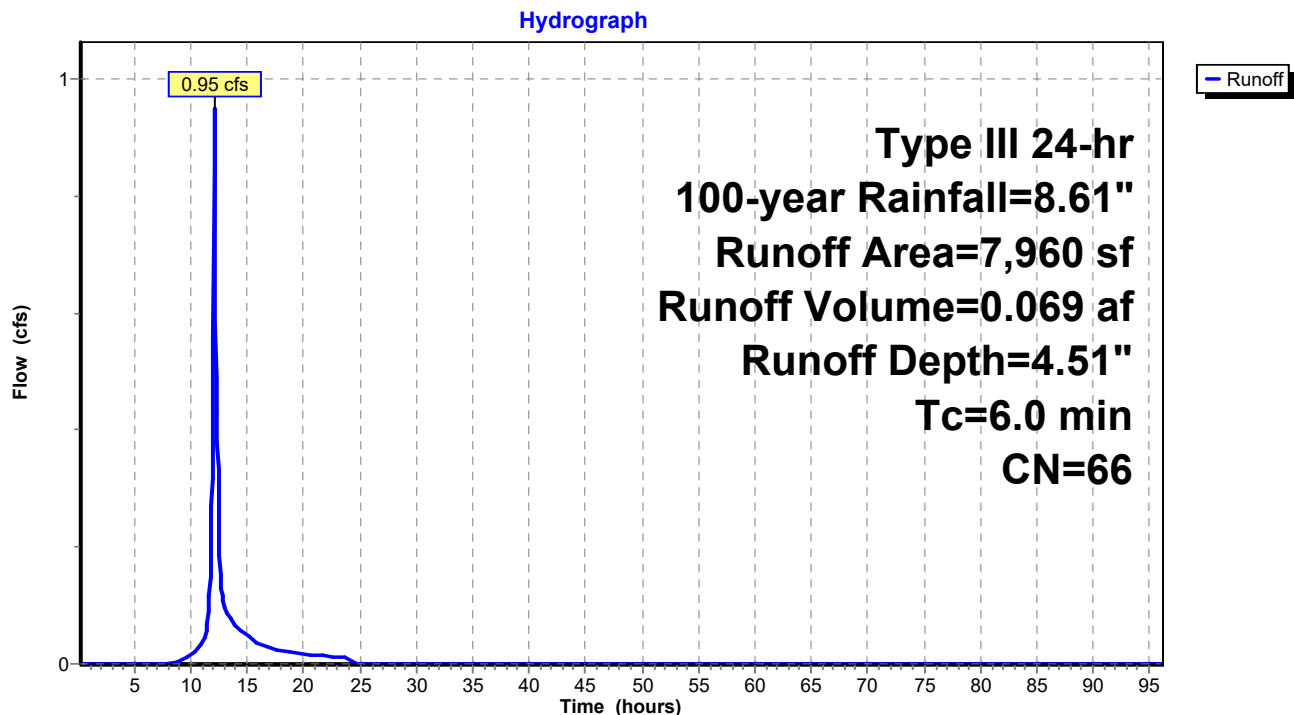
Runoff = 0.95 cfs @ 12.09 hrs, Volume= 0.069 af, Depth= 4.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.61"

	Area (sf)	CN	Description
*	1,971	98	Pavement, Roofs, Concrete Pads
*	0	96	Compacted Gravel
*	5,989	55	Crushed Stone Yard
	0	39	>75% Grass cover, Good, HSG A
	0	30	Meadow, non-grazed, HSG A
	0	30	Woods, Good, HSG A
	0	80	>75% Grass cover, Good, HSG D
	7,960	66	Weighted Average
	5,989		75.24% Pervious Area
	1,971		24.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum of 6 mins for HydroCAD model

Subcatchment SD-2: 4" Pipe x 3



Runoff depth = 4.51"

Infiltration depth = 8.61" - 4.51" = 4.10"

See SD-2 Infiltration model for continued rip rap apron calculation

Holliston - Stormwater Model

Prepared by TRC

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Type III 24-hr 100-year Rainfall=8.61"

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Page 5

Summary for Pond 1: 12" Culvert

Inflow Area = 0.045 ac, 0.00% Impervious, Inflow Depth = 5.72" for 100-year event
Inflow = 0.29 cfs @ 12.09 hrs, Volume= 0.021 af
Outflow = 0.29 cfs @ 12.09 hrs, Volume= 0.021 af, Atten= 0%, Lag= 0.0 min
Primary = 0.29 cfs @ 12.09 hrs, Volume= 0.021 af

Routing by Stor-Ind method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Peak Elev= 190.10' @ 12.09 hrs

Flood Elev= 191.00'

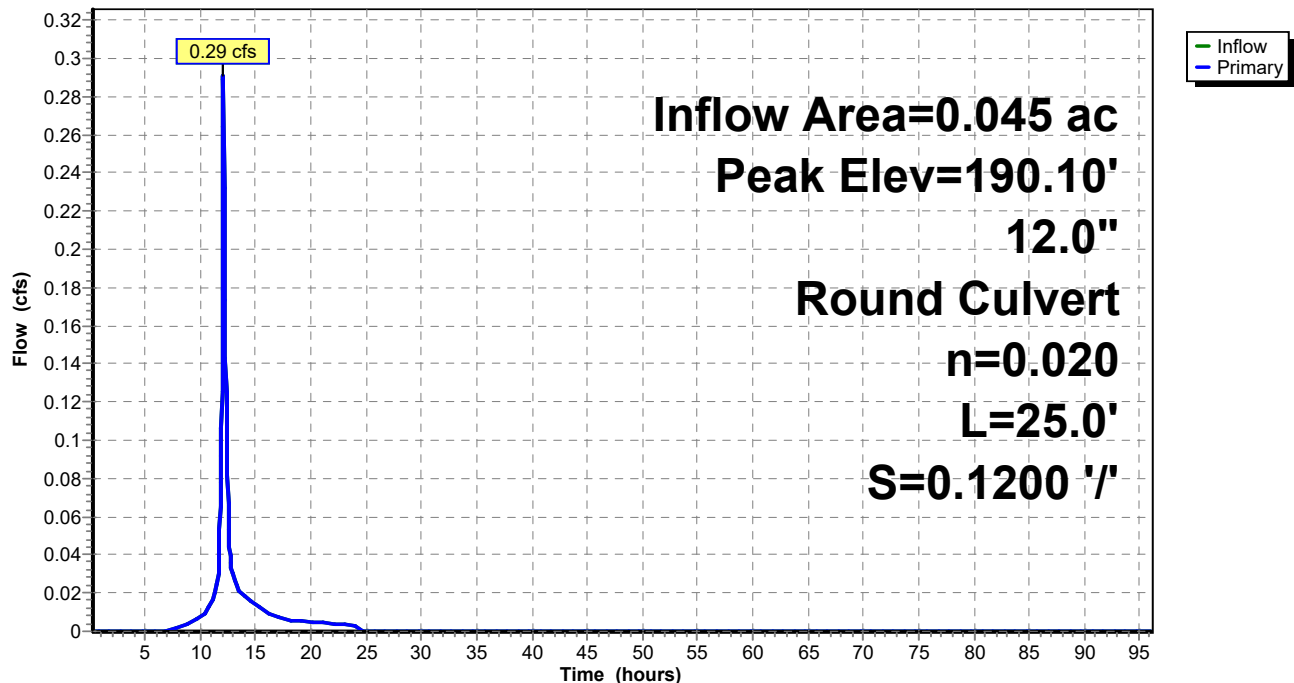
Device	Routing	Invert	Outlet Devices
#1	Primary	189.80'	12.0" Round Culvert L= 25.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 189.80' / 186.80' S= 0.1200 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.28 cfs @ 12.09 hrs HW=190.10' (Free Discharge)

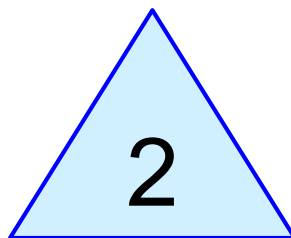
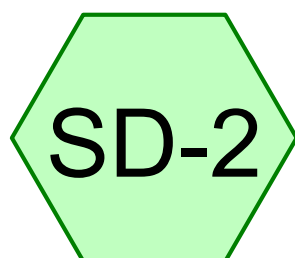
↑1=Culvert (Inlet Controls 0.28 cfs @ 1.46 fps)

Pond 1: 12" Culvert

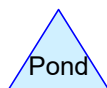
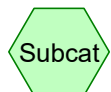
Hydrograph



SD-2 INFILTRATION **MODEL**



4" Pipe x 3



Holliston - SD-2 Infiltration

Prepared by TRC

Printed 7/25/2023

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Page 2

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	100-year Infiltration	Type III 24-hr		Default	24.00	1	4.10	2

Holliston - SD-2 Infiltration

Prepared by TRC

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Type III 24-hr 100-year Infiltration Rainfall=4.10"

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Page 3

Summary for Subcatchment SD-2:

Runoff = 0.72 cfs @ 12.09 hrs, Volume= 0.063 af, Depth= 4.10"

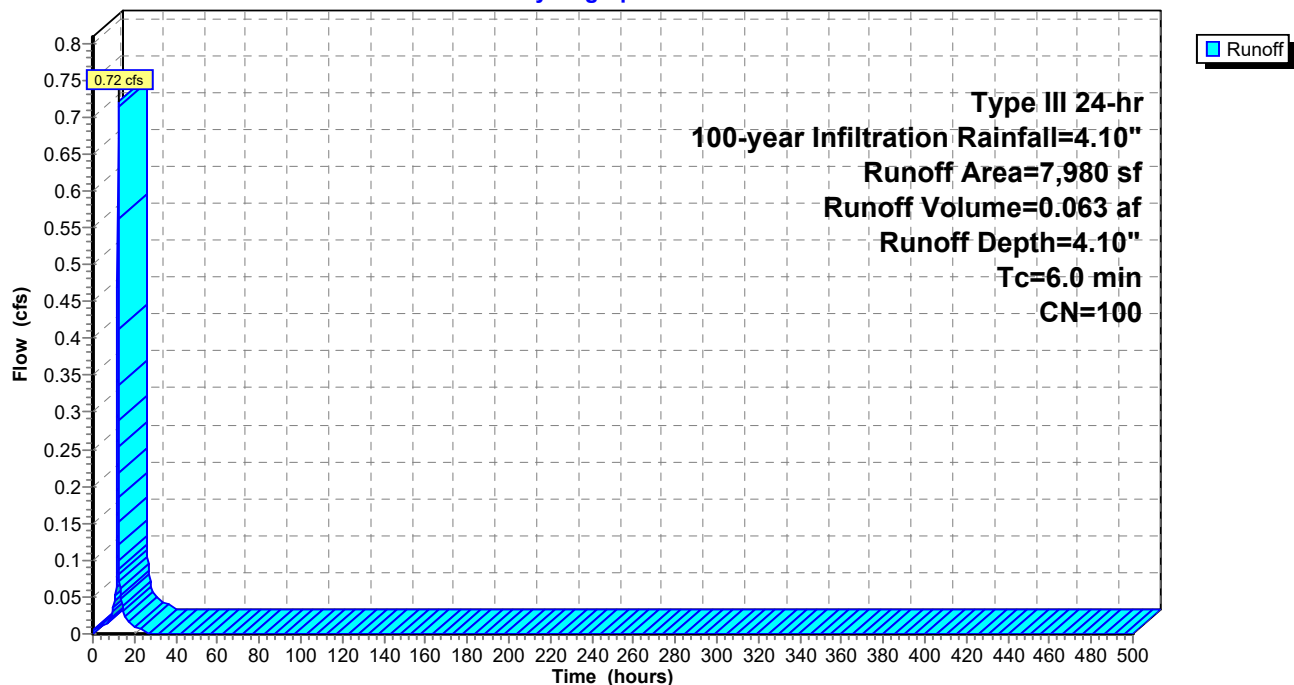
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-500.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Infiltration Rainfall=4.10"

	Area (sf)	CN	Description
*	7,980	100	Infiltration Flows
*	0	98	Pavement, Roofs, Concrete Pads
*	0	96	Compacted Gravel
*	0	55	Crushed Stone Yard
	0	39	>75% Grass cover, Good, HSG A
	0	30	Meadow, non-grazed, HSG A
	0	30	Woods, Good, HSG A
	0	80	>75% Grass cover, Good, HSG D
	7,980	100	Weighted Average
	7,980		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum of 6 mins for HydroCAD model

Subcatchment SD-2:

Hydrograph



Holliston - SD-2 Infiltration

Type III 24-hr 100-year Infiltration Rainfall=4.10"

Prepared by TRC

Printed 7/25/2023

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Summary for Pond 2: 4" Pipe x 3

Inflow Area = 0.183 ac, 100.00% Impervious, Inflow Depth = 4.10" for 100-year Infiltration event
 Inflow = 0.72 cfs @ 12.09 hrs, Volume= 0.063 af
 Outflow = 0.02 cfs @ 15.85 hrs, Volume= 0.062 af, Atten= 97%, Lag= 225.8 min
 Primary = 0.02 cfs @ 15.85 hrs, Volume= 0.062 af

Routing by Stor-Ind method, Time Span= 0.00-500.00 hrs, dt= 0.05 hrs
 Peak Elev= 184.99' @ 15.85 hrs Surf.Area= 7,980 sf Storage= 2,014 cf
 Flood Elev= 185.80' Surf.Area= 7,980 sf Storage= 4,596 cf

Plug-Flow detention time= 1,532.0 min calculated for 0.062 af (99% of inflow)
 Center-of-Mass det. time= 1,523.3 min (2,248.7 - 725.4)

Volume	Invert	Avail.Storage	Storage Description	
#1	184.36'	4,596 cf	Custom Stage Data (Prismatic) Listed below	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
184.36	7,980	0.0	0	0
184.37	7,980	40.0	32	32
185.80	7,980	40.0	4,565	4,596

Device	Routing	Invert	Outlet Devices
#1	Primary	184.32'	4.0" Round Culvert X 3.00 L= 6.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 184.32' / 184.30' S= 0.0033 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf
#2	Device 1	184.37'	0.5" W x 0.5" H 60° Orifice/Grate X 2.00 columns X 270 rows with 6.0" cc spacing C= 0.600 Limited to weir flow at low heads

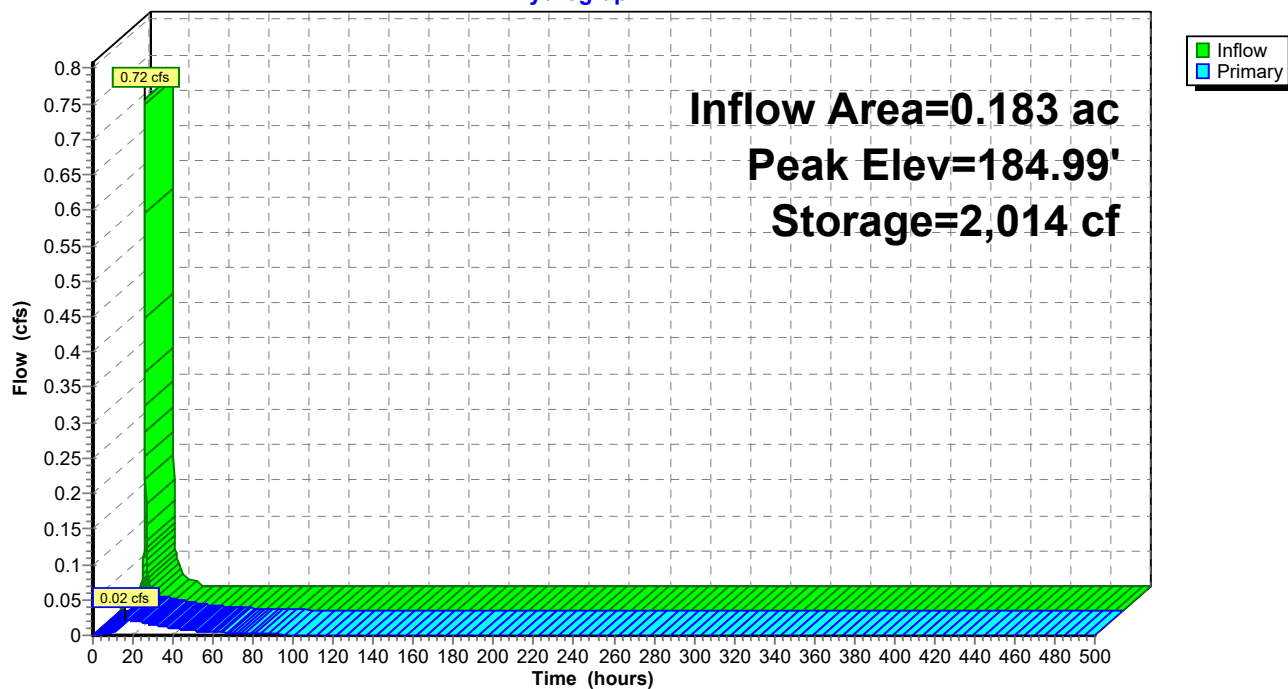
Primary OutFlow Max=0.02 cfs @ 15.85 hrs HW=184.99' (Free Discharge)

↑ **1=Culvert** (Passes 0.02 cfs of 0.71 cfs potential flow)
 ↑ **2=Orifice/Grate** (Orifice Controls 0.02 cfs @ 2.86 fps)

Outflow from culverts is limited by inflow through underdrain perforated pipes. To be conservative, riprap aprons will be sized for full 0.71 cfs potential flow.

Pond 2: 4" Pipe x 3

Hydrograph





PROJECT: HOLLISTON BESS

PROJECT NO.: 412899.0001
CALCULATED: A. DAVIDSON
CHECKED BY: T. DANIELS
DATE: 2023.08.01

Culvert: SD-1

Description: This calculation determines appropriate outlet stabilization for a culvert or channel based on the selected design storm. Reference: NH DES Stormwater Manual Vol. 2

 =Input Value
 =Calculated

Givens:

L_a = Length of Apron Required, ft
 Q = Discharge from Design Storm, cfs
 D_o = Culvert Diameter or Channel Width, ft
 TW = Tailwater Depth, ft
 W_1 = Width of Apron Required at Discharge, ft
 W_2 = Width of Apron Required at Outlet, ft
 D_{50} = Required Diameter of Rip-Rap, ft

Equations:

$$L_a = \frac{1.8Q}{1.50D_o} + 7D_o \quad \text{When } TW < 0.5D_o$$

$$L_a = \frac{3.0Q}{1.50D_o} + 7D_o \quad \text{When } TW > 0.5D_o$$

$$W_1 = 3D_o$$

$$W_2 = 3D_o + L_a \quad \text{When } TW < 0.5D_o$$

$$W_2 = 3D_o + 0.4L_a \quad \text{When } TW > 0.5D_o$$

$$D_{50} = (0.02Q^{1/3}) / (TW * D_o)$$

Input:

Q = 0.29 cfs
 D_o = 1 ft
 TW = 0.3 ft

Output:

	TW < 0.5D _o	TW > 0.5D _o
L_a =	7 ft	L_a = NA ft
W_1 =	3 ft	W_1 = 3 ft
W_2 =	10.348 ft	W_2 = NA ft
D_{50} =	0.0 ft	D_{50} = 0.0 ft

PROJECT: HOLLISTON BESS

PROJECT NO.: 412899.0001
 CALCULATED: A. DAVIDSON
 CHECKED BY: T. DANIELS
 DATE: 2023.08.01

Culvert: SD-2

Description: This calculation determines appropriate outlet stabilization for a culvert or channel based on the selected design storm. Reference: NH DES Stormwater Manual Vol. 2

 =Input Value
 =Calculated

Givens:

L_a = Length of Apron Required, ft
 Q = Discharge from Design Storm, cfs
 D_o = Culvert Diameter or Channel Width, ft
 TW = Tailwater Depth, ft
 W_1 = Width of Apron Required at Discharge, ft
 W_2 = Width of Apron Required at Outlet, ft
 D_{50} = Required Diameter of Rip-Rap, ft

Equations:

$$L_a = \frac{1.8Q}{1.50D_o} + 7D_o \quad \text{When } TW < 0.5D_o$$

$$L_a = \frac{3.0Q}{1.50D_o} + 7D_o \quad \text{When } TW > 0.5D_o$$

$$W_1 = 3D_o$$

$$W_2 = 3D_o + L_a \quad \text{When } TW < 0.5D_o$$

$$W_2 = 3D_o + 0.4L_a \quad \text{When } TW > 0.5D_o$$

$$D_{50} = (0.02Q^{1/3}) / (TW * D_o)$$

Input:

Q = 0.24 cfs (Potential flow = 0.71 cfs / 3 pipes)
 D_o = 0.333 ft
 TW = 0.92 ft (2P peak elev. = 185.22'
 SD-2 outlet invert = 184.30')

Output:

	TW < 0.5D _o	TW > 0.5D _o
L_a =	NA ft	L_a = 4 ft
W_1 =	1 ft	W_1 = 1 ft
W_2 =	NA ft	W_2 = 3 ft
D_{50} =	0.0 ft	D_{50} = 0.0 ft

Plunge Pool Design**Project Name:** Holliston: PP-1**laPlungePool.xls Ver 1.2****Computed by:** ARD**Checked by:** TND**Date:** 8/1/2023**Date:** 8/2/2023**(Inputs)****(Outputs)**

1) Determine Minimum Riprap Size			
Pipe design discharge (CFS)	2.47	Q	
Pipe diameter (Ft)	1	D	
		Minimum Riprap size, d50 (Ft)	-0.02

2) Determine Minimum Basin Dimensions			
Selected Riprap Size, d50 (Ft)	0.667	d_50	
Conduit Outlet Invert Elevation (Ft)	178.2		
Top of Riprap Elevation (Ft)	176		
Tailwater Elevation (Ft)	176		
Outlet Channel Elevation (Ft)	174		
Slope Of Conduit Outlet (Ft/ft)	0.0680	S	
Specific Gravity Of Riprap E.g. 2.65	2.65	Ps	
		Minimum Depth (below tailwater) (Ft)	0.8
		Min. Bottom Length (Ft)	0.6
		Min. Bottom Width (Ft)	0.6
		Pipe Outlet to CL Basin (Xm) (Ft)	1.6
		Minimum Riprap thickness (Normal) (Ft)	1.67

3) Select Basin Size, Slopes			
Plunge Pool Depth (below tailwater) (Ft)	1		
		Basin Bottom Elevation (Ft)	175
Bottom Length (Ft)	3	zl Minimum value (Max Steepness)	0.10
Bottom Width (Ft)	2	zw Minimum value (Max Steepness)	0.52
		Bottom size=OK	
Upstream/Downstream slopes (Z:1)	3	Basin Length=OK	
Perpendicular Side slopes (Z:1)	3	Basin Width=OK	

4) Select Lining Depths			
Lining Depth Method	Normal Thickness		
		Vertical/Normal Thickness Multiplier	1.00
		Minimum Riprap thickness (Normal) (Ft)	1.67
Riprap Thickness (Ft)	1.67	Riprap thickness=OK	
Coarse Filter Thickness (Ft)	0		
Fine Filter Thickness (Ft)	0		
Tie In Slope (Z:1)	1		
		Subgrade Elevation (Ft)	173.33
		Quantity: Riprap/Coarse/Fine (Cu Yds)	9.02
		Overall Length (US/DS) (Ft)	13.56
		Overall Width (Ft)	18.56

5) Determine Stationing of Plunge Pool			
Adjacent slope of dam (Z:1)		US edge of Top RR station (Ft)	+0.0
Elevation of point on DS dam slope (Ft)		CL PP Station (Ft)	+9.8
Station of point on DS dam slope (Ft)		Pipe Outlet Station (Ft)	+8.2

Miscellaneous Calculations (NRCS Design Note 6)			
Vo 3.144901675	Z1 1.147792013		
Vh 3.137622238	Z2 0.969632612		
Vv 13.17707453	Zp/D 2.2		
Vp 13.54547771	Zm 0.969632612		
Xp 1.264729203	Le 1.59522371	Lr Actual 4.5	
Fd 2.276834256	We 1.517797575	Wr Actual 4	

Plunge Pool Design**Project Name:** Holliston: PP-2**laPlungePool.xls Ver 1.2****Computed by:** ARD**Checked by:** TND**Date:** 8/1/2023**Date:** 8/2/2023**(Inputs)****(Outputs)**

1) Determine Minimum Riprap Size			
Pipe design discharge (CFS)	0.19 Q		
Pipe diameter (Ft)	1 D	Minimum Riprap size, d50 (Ft)	-0.04

2) Determine Minimum Basin Dimensions			
Selected Riprap Size, d50 (Ft)	0.667 d_50	Riprap size=OK	
Conduit Outlet Invert Elevation (Ft)	174.5		
Top of Riprap Elevation (Ft)	173.5	Minimum Depth (below tailwater) (Ft)	-1.4
Tailwater Elevation (Ft)	173.5	Min. Bottom Length (Ft)	-1.1
Outlet Channel Elevation (Ft)	173.3	Min. Bottom Width (Ft)	-1.1
Slope Of Conduit Outlet (Ft/ft)	0.0680 S	Pipe Outlet to CL Basin (Xm) (Ft)	0.0
Specific Gravity Of Riprap E.g. 2.65	2.65 Ps	Minimum Riprap thickness (Normal) (Ft)	1.67

3) Select Basin Size, Slopes			
Plunge Pool Depth (below tailwater) (Ft)	1	Basin Bottom Elevation (Ft)	172.5
Bottom Length (Ft)	3	zl Minimum value (Max Steepness)	-1.50
Bottom Width (Ft)	2	zw Minimum value (Max Steepness)	-3.63
Upstream/Downstream slopes (Z:1)	3	Bottom size=OK	
Perpendicular Side slopes (Z:1)	3	Basin Length=OK	
		Basin Width=OK	

4) Select Lining Depths			
Lining Depth Method	Normal Thickness ▼	Vertical/Normal Thickness Multiplier	1.00
		Minimum Riprap thickness (Normal) (Ft)	1.67
Riprap Thickness (Ft)	1.67	Riprap thickness=OK	
Coarse Filter Thickness (Ft)	0		
Fine Filter Thickness (Ft)	0		
Tie In Slope (Z:1)	1	Subgrade Elevation (Ft)	170.83
		Quantity: Riprap/Coarse/Fine (Cu Yds)	12.61
		Overall Length (US/DS) (Ft)	18.96
		Overall Width (Ft)	18.56

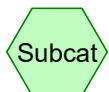
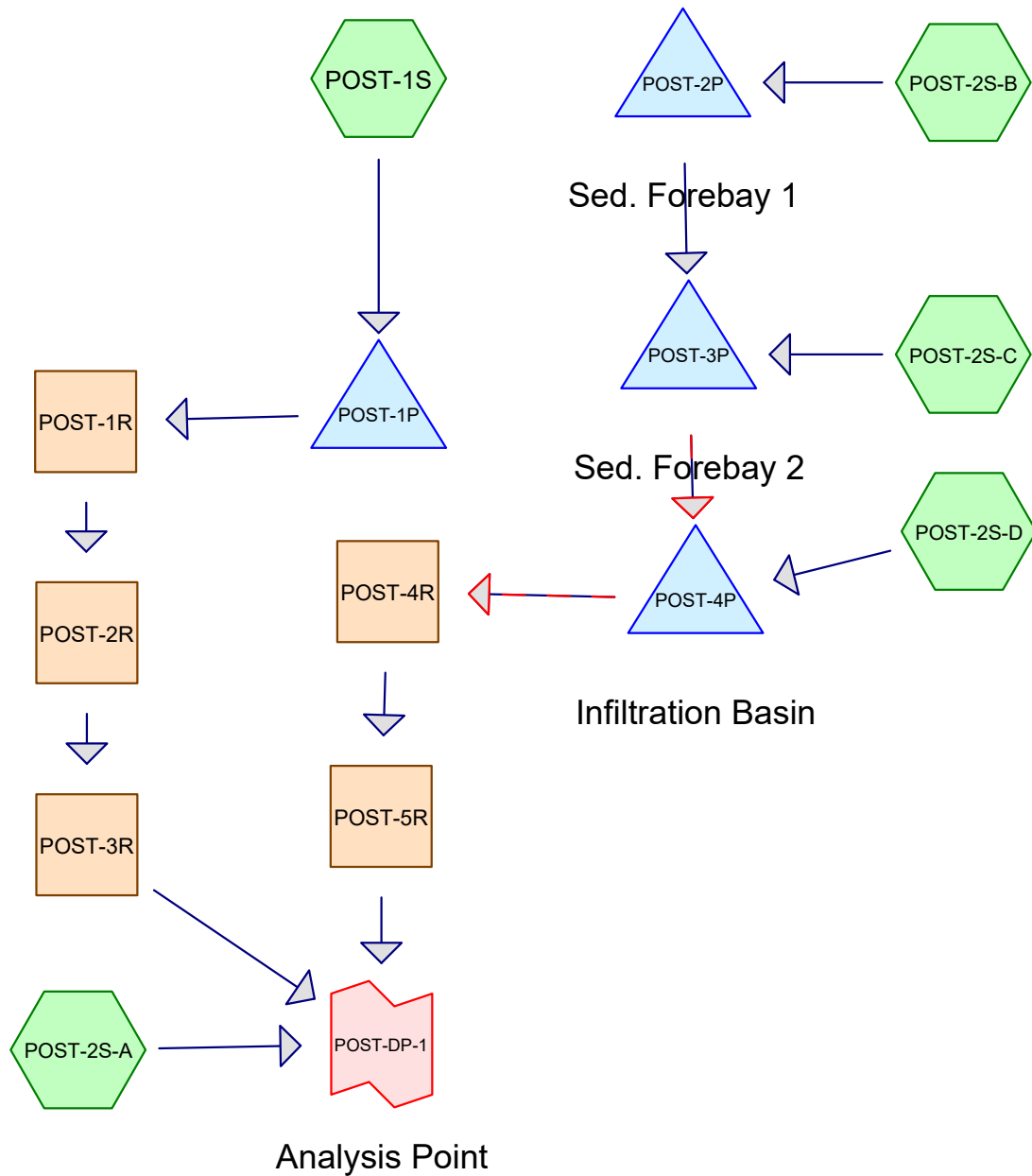
5) Determine Stationing of Plunge Pool			
Adjacent slope of dam (Z:1)		US edge of Top RR station (Ft)	+0.0
Elevation of point on DS dam slope (Ft)		CL PP Station (Ft)	+9.8
Station of point on DS dam slope (Ft)		Pipe Outlet Station (Ft)	+9.8

Miscellaneous Calculations (NRCS Design Note 6)			
Vo 0.241915513	Z1 -1.747608466		
Vh 0.241355557	Z2 -1.364626338		
Vv 9.818647083	Zp/D 1		
Vp 9.821613057	Zm -1.747608466		
Xp 0.073563889	Le -2.640929942	Lr Actual 4.5	
Fd 1.650896744	We -2.630195459	Wr Actual 4	

ATTACHMENT 3

Post-Development HydroCAD Model

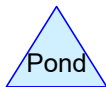
POST-DEVELOPMENT



Subcat



Reach



Link

Routing Diagram for Holliston - Stormwater Model

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Holliston - Stormwater Model

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Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-year	Type III 24-hr		Default	24.00	1	3.21	2
2	10-year	Type III 24-hr		Default	24.00	1	4.81	2
3	25-year	Type III 24-hr		Default	24.00	1	6.06	2
4	100-year	Type III 24-hr		Default	24.00	1	8.61	2

Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Summary for Subcatchment POST-1S:

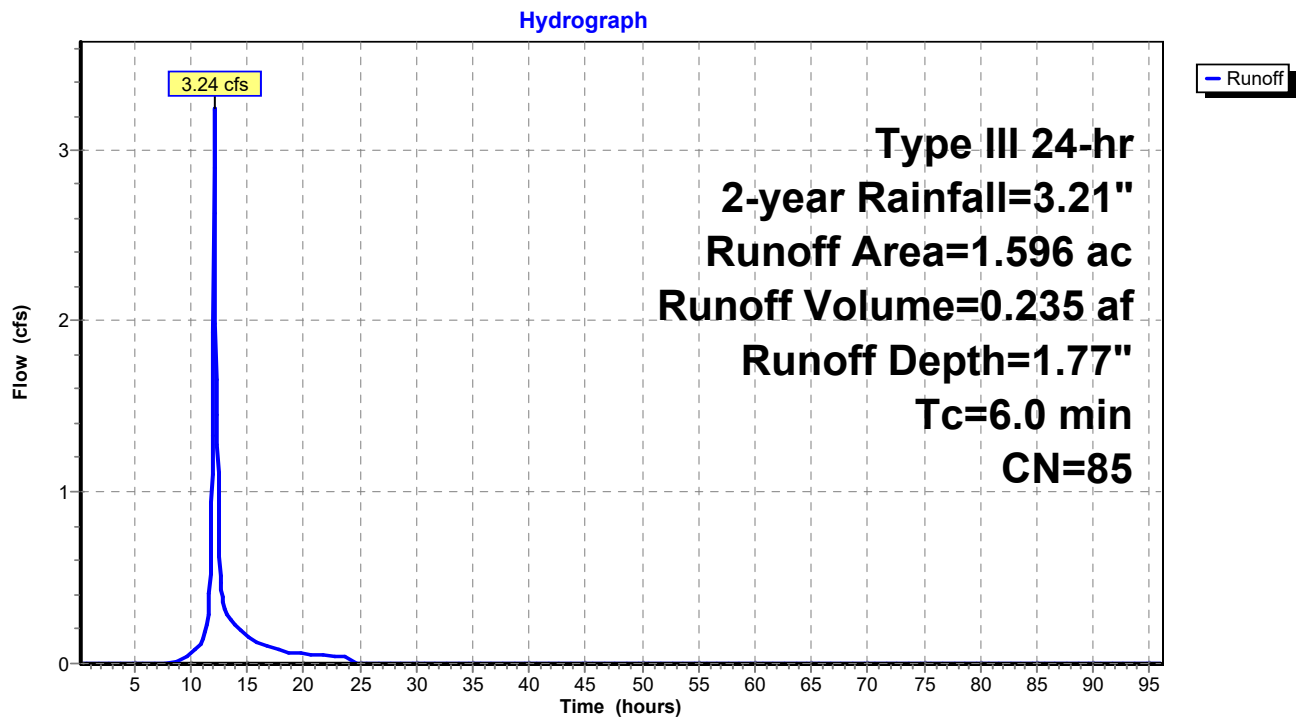
Runoff = 3.24 cfs @ 12.09 hrs, Volume= 0.235 af, Depth= 1.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.21"

	Area (ac)	CN	Description
*	1.260	98	Pavement, Roofs, Concrete Pads
*	0.000	96	Compacted Gravel
*	0.000	76	Crushed Stone Yard
	0.180	39	>75% Grass cover, Good, HSG A
	0.016	30	Meadow, non-grazed, HSG A
	0.140	30	Woods, Good, HSG A
	1.596	85	Weighted Average
	0.336		21.05% Pervious Area
	1.260		78.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum of 6 mins for HydroCAD model

Subcatchment POST-1S:



Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Summary for Subcatchment POST-2S-A:

[45] Hint: Runoff=Zero

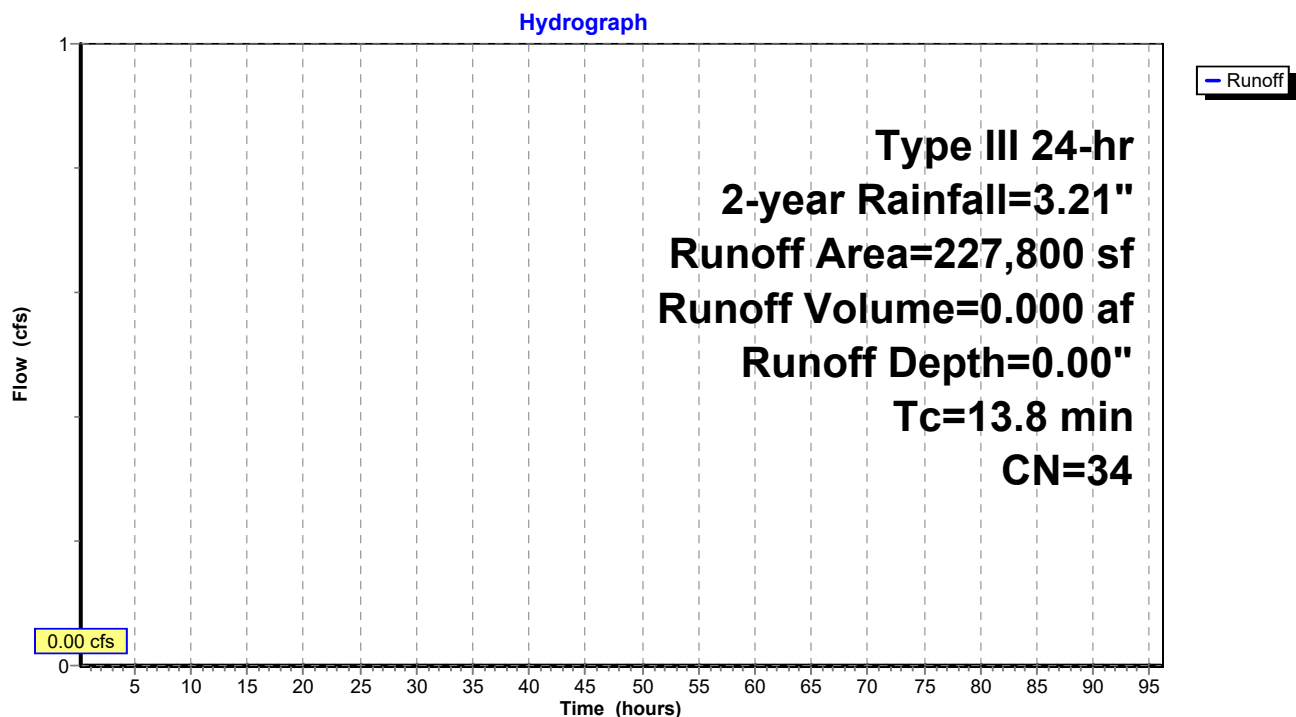
Runoff = 0.00 cfs @ 0.25 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.21"

	Area (sf)	CN	Description
*	5,732	98	Pavement, Roofs, Concrete Pads
*	1,067	96	Compacted Gravel
*	9,568	55	Crushed Stone Yard
	26,647	39	>75% Grass cover, Good, HSG A
	19,869	30	Meadow, non-grazed, HSG A
	164,917	30	Woods, Good, HSG A
	227,800	34	Weighted Average
	222,068		97.48% Pervious Area
	5,732		2.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8					Direct Entry, See Tc calc sheet

Subcatchment POST-2S-A:



Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Summary for Subcatchment POST-2S-B:

Runoff = 0.50 cfs @ 12.10 hrs, Volume= 0.037 af, Depth= 1.22"

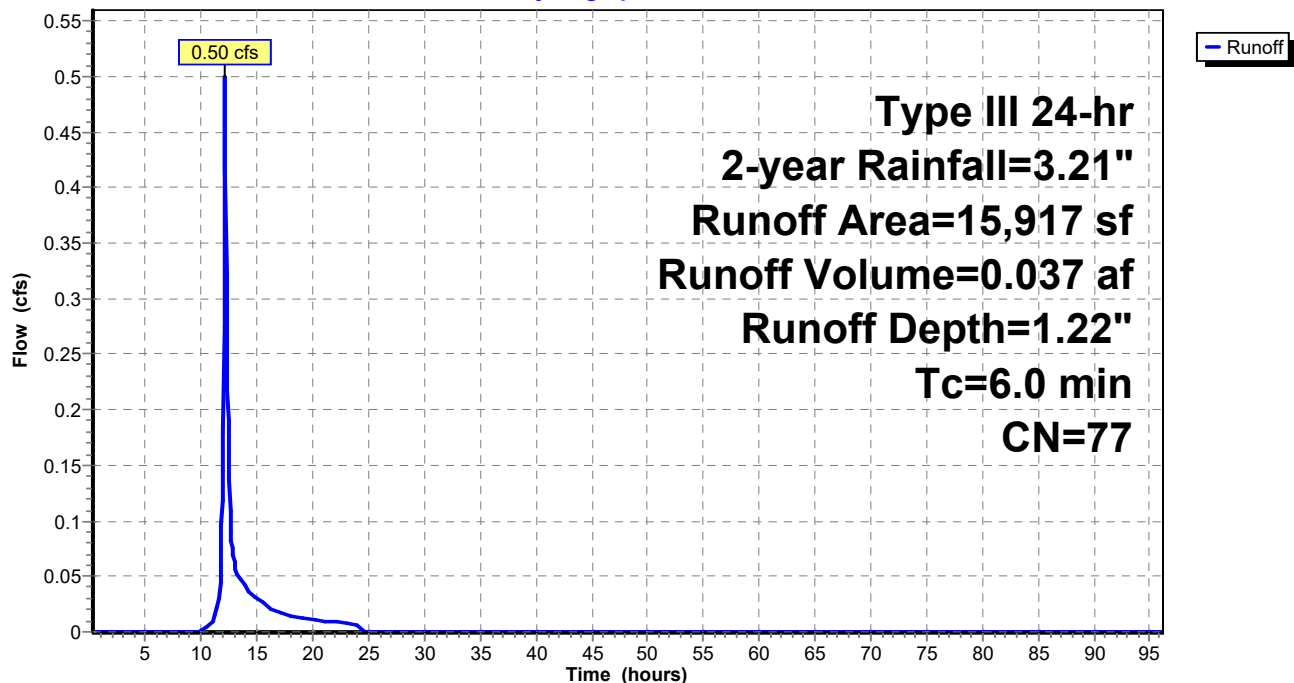
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.21"

	Area (sf)	CN	Description
*	1,971	98	Pavement, Roofs, Concrete Pads
*	6,029	96	Compacted Gravel
*	5,989	55	Crushed Stone Yard
	668	39	>75% Grass cover, Good, HSG A
	0	30	Meadow, non-grazed, HSG A
	0	30	Woods, Good, HSG A
	1,260	80	>75% Grass cover, Good, HSG D
	15,917	77	Weighted Average
	13,946		87.62% Pervious Area
	1,971		12.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum of 6 mins for HydroCAD model

Subcatchment POST-2S-B:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Summary for Subcatchment POST-2S-C:

Runoff = 0.02 cfs @ 12.13 hrs, Volume= 0.002 af, Depth= 0.45"

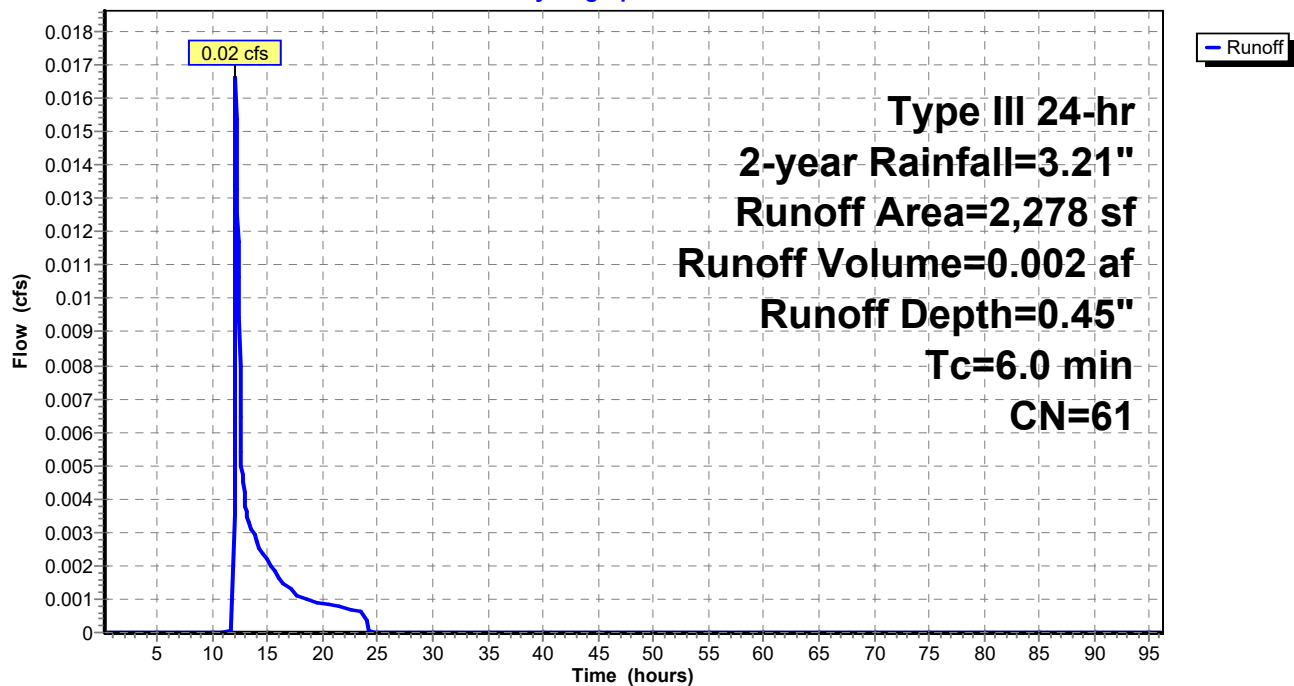
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.21"

	Area (sf)	CN	Description
*	0	98	Pavement, Roofs, Concrete Pads
*	0	96	Compacted Gravel
*	0	55	Crushed Stone Yard
	1,078	39	>75% Grass cover, Good, HSG A
	0	30	Meadow, non-grazed, HSG A
	0	30	Woods, Good, HSG A
	1,200	80	>75% Grass cover, Good, HSG D
	2,278	61	Weighted Average
	2,278		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum of 6 mins for HydroCAD model

Subcatchment POST-2S-C:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Summary for Subcatchment POST-2S-D:

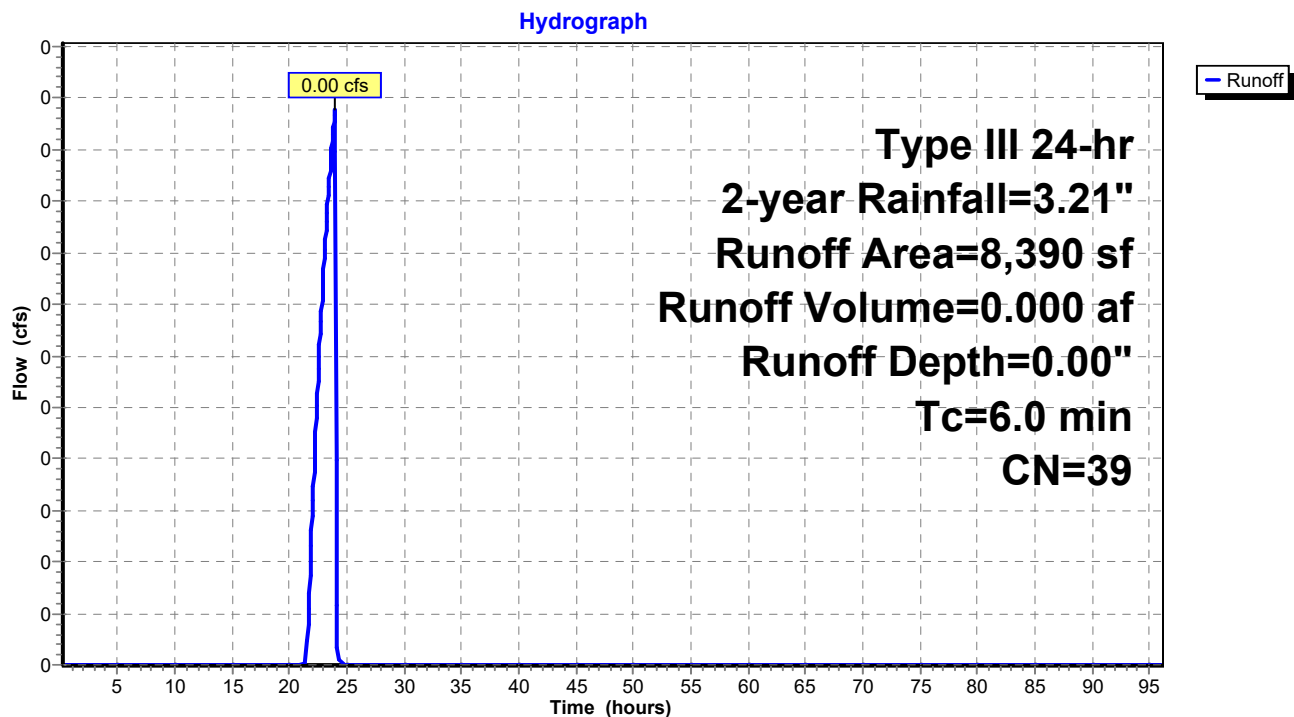
Runoff = 0.00 cfs @ 24.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-year Rainfall=3.21"

	Area (sf)	CN	Description
*	0	98	Pavement, Roofs, Concrete Pads
*	0	96	Compacted Gravel
*	0	55	Crushed Stone Yard
	8,390	39	>75% Grass cover, Good, HSG A
	0	30	Meadow, non-grazed, HSG A
	0	30	Woods, Good, HSG A
	8,390	39	Weighted Average
	8,390		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum of 6 mins for HydroCAD model

Subcatchment POST-2S-D:



Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Summary for Reach POST-1R:

Inflow Area = 1.596 ac, 78.95% Impervious, Inflow Depth = 1.72" for 2-year event
Inflow = 1.06 cfs @ 12.42 hrs, Volume= 0.229 af
Outflow = 1.05 cfs @ 12.45 hrs, Volume= 0.229 af, Atten= 1%, Lag= 1.6 min

Routing by Stor-Ind+Trans method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Max. Velocity= 2.96 fps, Min. Travel Time= 0.8 min

Avg. Velocity = 1.24 fps, Avg. Travel Time= 2.0 min

Peak Storage= 54 cf @ 12.43 hrs

Average Depth at Peak Storage= 0.15' , Surface Width= 2.62'

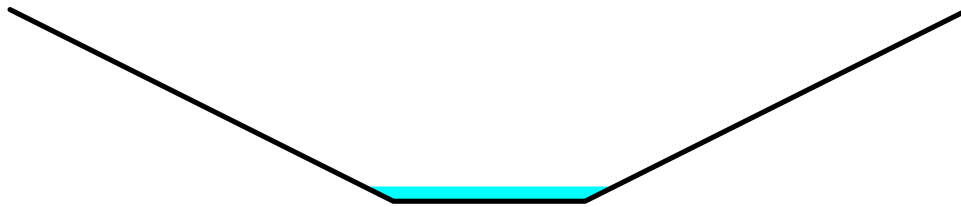
Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 145.48 cfs

2.00' x 2.00' deep channel, n= 0.030 Earth, grassed & winding

Side Slope Z-value= 2.0 ' / ' Top Width= 10.00'

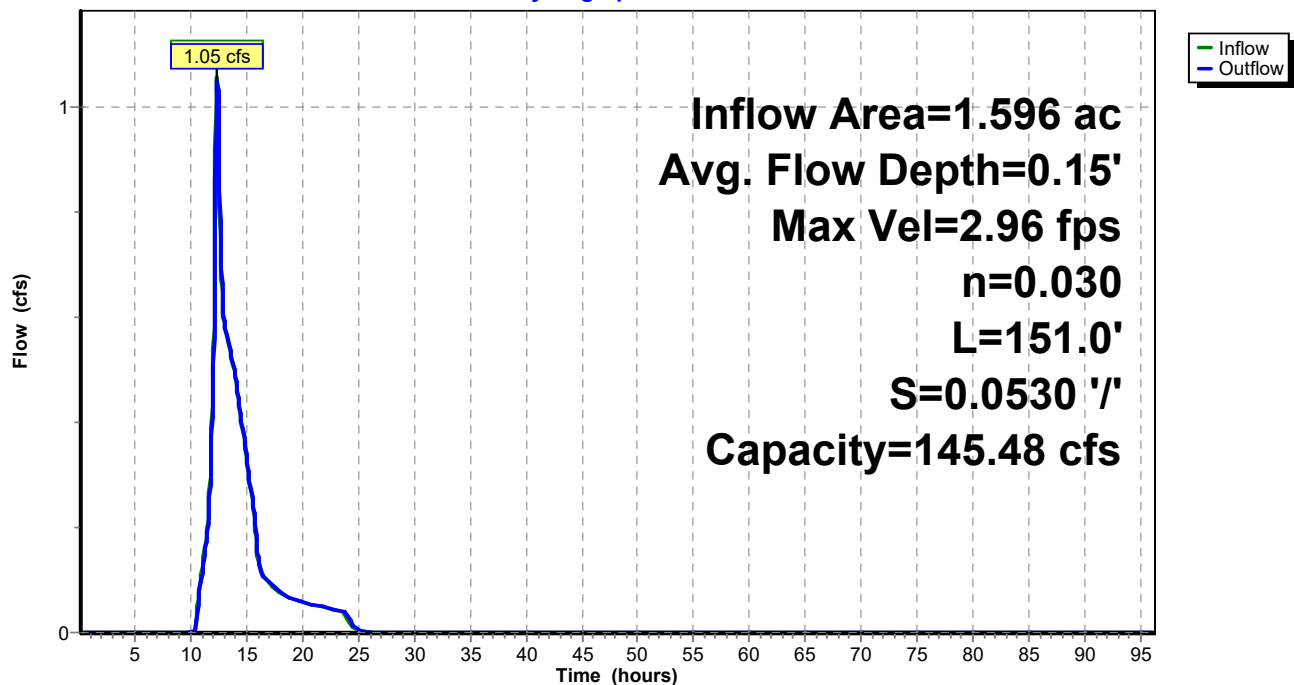
Length= 151.0' Slope= 0.0530 ' / '

Inlet Invert= 187.00', Outlet Invert= 179.00'



Reach POST-1R:

Hydrograph



Holliston - Stormwater Model

Prepared by TRC

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Type III 24-hr 2-year Rainfall=3.21"

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Stage-Area-Storage for Reach POST-1R:

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
187.00	0.0	0	187.52	1.6	239
187.01	0.0	3	187.53	1.6	245
187.02	0.0	6	187.54	1.7	251
187.03	0.1	9	187.55	1.7	257
187.04	0.1	13	187.56	1.7	264
187.05	0.1	16	187.57	1.8	270
187.06	0.1	19	187.58	1.8	277
187.07	0.2	23	187.59	1.9	283
187.08	0.2	26	187.60	1.9	290
187.09	0.2	30	187.61	2.0	297
187.10	0.2	33	187.62	2.0	303
187.11	0.2	37	187.63	2.1	310
187.12	0.3	41	187.64	2.1	317
187.13	0.3	44	187.65	2.1	324
187.14	0.3	48	187.66	2.2	331
187.15	0.3	52	187.67	2.2	338
187.16	0.4	56	187.68	2.3	345
187.17	0.4	60	187.69	2.3	352
187.18	0.4	64	187.70	2.4	359
187.19	0.5	68	187.71	2.4	367
187.20	0.5	72	187.72	2.5	374
187.21	0.5	77	187.73	2.5	381
187.22	0.5	81	187.74	2.6	389
187.23	0.6	85	187.75	2.6	396
187.24	0.6	90	187.76	2.7	404
187.25	0.6	94	187.77	2.7	412
187.26	0.7	99	187.78	2.8	419
187.27	0.7	104	187.79	2.8	427
187.28	0.7	108	187.80	2.9	435
187.29	0.7	113	187.81	2.9	443
187.30	0.8	118	187.82	3.0	451
187.31	0.8	123	187.83	3.0	459
187.32	0.8	128	187.84	3.1	467
187.33	0.9	133	187.85	3.1	475
187.34	0.9	138	187.86	3.2	483
187.35	0.9	143	187.87	3.3	491
187.36	1.0	148	187.88	3.3	500
187.37	1.0	153	187.89	3.4	508
187.38	1.0	158	187.90	3.4	516
187.39	1.1	164	187.91	3.5	525
187.40	1.1	169	187.92	3.5	533
187.41	1.2	175	187.93	3.6	542
187.42	1.2	180	187.94	3.6	551
187.43	1.2	186	187.95	3.7	559
187.44	1.3	191	187.96	3.8	568
187.45	1.3	197	187.97	3.8	577
187.46	1.3	203	187.98	3.9	586
187.47	1.4	209	187.99	3.9	595
187.48	1.4	215	188.00	4.0	604
187.49	1.5	221	188.01	4.1	613
187.50	1.5	227	188.02	4.1	622
187.51	1.5	233	188.03	4.2	631

Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Stage-Area-Storage for Reach POST-1R: (continued)

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
188.04	4.2	641	188.56	8.0	1,206
188.05	4.3	650	188.57	8.1	1,219
188.06	4.4	659	188.58	8.2	1,231
188.07	4.4	669	188.59	8.2	1,244
188.08	4.5	678	188.60	8.3	1,256
188.09	4.6	688	188.61	8.4	1,269
188.10	4.6	698	188.62	8.5	1,282
188.11	4.7	707	188.63	8.6	1,295
188.12	4.7	717	188.64	8.7	1,308
188.13	4.8	727	188.65	8.7	1,321
188.14	4.9	737	188.66	8.8	1,334
188.15	4.9	747	188.67	8.9	1,347
188.16	5.0	757	188.68	9.0	1,360
188.17	5.1	767	188.69	9.1	1,373
188.18	5.1	777	188.70	9.2	1,386
188.19	5.2	787	188.71	9.3	1,400
188.20	5.3	797	188.72	9.4	1,413
188.21	5.3	808	188.73	9.4	1,426
188.22	5.4	818	188.74	9.5	1,440
188.23	5.5	828	188.75	9.6	1,453
188.24	5.6	839	188.76	9.7	1,467
188.25	5.6	849	188.77	9.8	1,481
188.26	5.7	860	188.78	9.9	1,494
188.27	5.8	871	188.79	10.0	1,508
188.28	5.8	881	188.80	10.1	1,522
188.29	5.9	892	188.81	10.2	1,536
188.30	6.0	903	188.82	10.3	1,550
188.31	6.1	914	188.83	10.4	1,564
188.32	6.1	925	188.84	10.5	1,578
188.33	6.2	936	188.85	10.5	1,592
188.34	6.3	947	188.86	10.6	1,607
188.35	6.3	958	188.87	10.7	1,621
188.36	6.4	969	188.88	10.8	1,635
188.37	6.5	981	188.89	10.9	1,650
188.38	6.6	992	188.90	11.0	1,664
188.39	6.6	1,003	188.91	11.1	1,679
188.40	6.7	1,015	188.92	11.2	1,693
188.41	6.8	1,026	188.93	11.3	1,708
188.42	6.9	1,038	188.94	11.4	1,722
188.43	6.9	1,049	188.95	11.5	1,737
188.44	7.0	1,061	188.96	11.6	1,752
188.45	7.1	1,073	188.97	11.7	1,767
188.46	7.2	1,085	188.98	11.8	1,782
188.47	7.3	1,097	188.99	11.9	1,797
188.48	7.3	1,108	189.00	12.0	1,812
188.49	7.4	1,120			
188.50	7.5	1,133			
188.51	7.6	1,145			
188.52	7.7	1,157			
188.53	7.7	1,169			
188.54	7.8	1,181			
188.55	7.9	1,194			

Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Summary for Reach POST-2R:

Inflow Area = 1.596 ac, 78.95% Impervious, Inflow Depth = 1.72" for 2-year event
Inflow = 1.05 cfs @ 12.45 hrs, Volume= 0.229 af
Outflow = 1.04 cfs @ 12.52 hrs, Volume= 0.229 af, Atten= 1%, Lag= 4.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.34 fps, Min. Travel Time= 2.5 min

Avg. Velocity = 0.11 fps, Avg. Travel Time= 7.3 min

Peak Storage= 155 cf @ 12.47 hrs

Average Depth at Peak Storage= 0.12' , Surface Width= 27.37'

Bank-Full Depth= 1.00' Flow Area= 35.0 sf, Capacity= 42.53 cfs

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

Side Slope Z-value= 10.0 ' ' Top Width= 45.00'

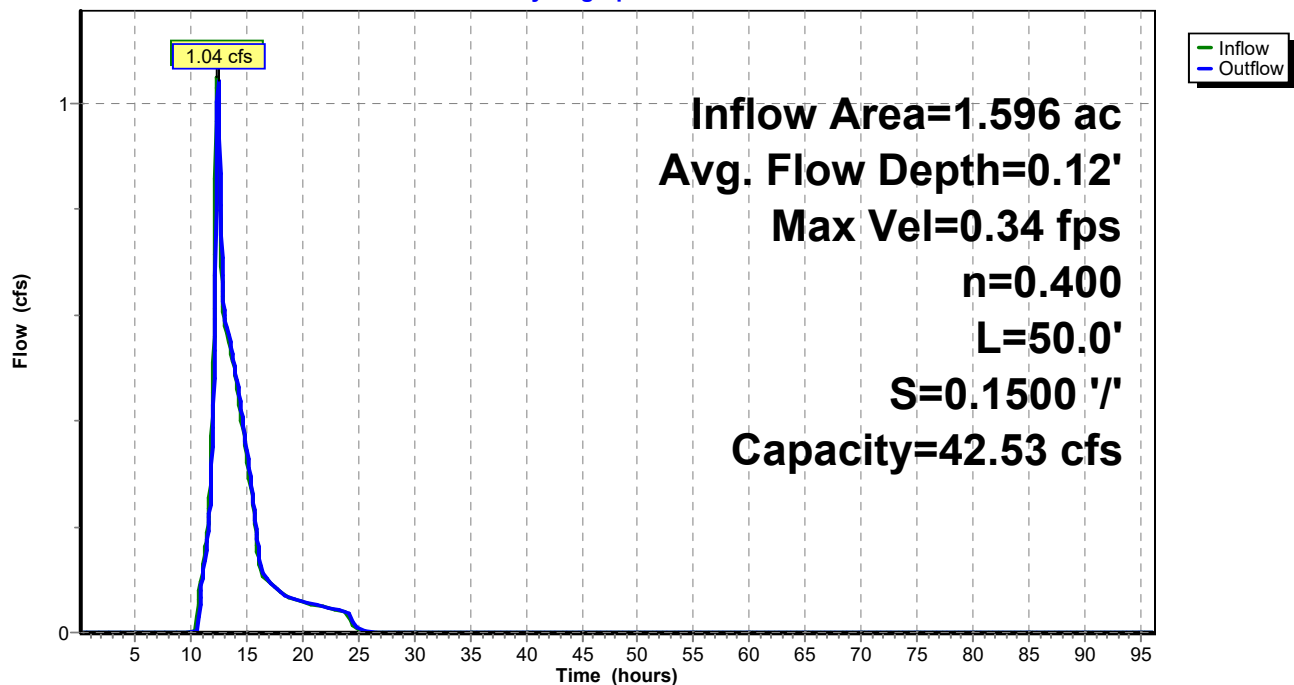
Length= 50.0' Slope= 0.1500 ' '

Inlet Invert= 178.50', Outlet Invert= 171.00'



Reach POST-2R:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Stage-Area-Storage for Reach POST-2R:

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
178.50	0.0	0	179.02	15.7	785
178.51	0.3	13	179.03	16.1	803
178.52	0.5	25	179.04	16.4	821
178.53	0.8	38	179.05	16.8	839
178.54	1.0	51	179.06	17.1	857
178.55	1.3	64	179.07	17.5	875
178.56	1.5	77	179.08	17.9	893
178.57	1.8	90	179.09	18.2	912
178.58	2.1	103	179.10	18.6	930
178.59	2.3	117	179.11	19.0	949
178.60	2.6	130	179.12	19.3	967
178.61	2.9	144	179.13	19.7	986
178.62	3.1	157	179.14	20.1	1,005
178.63	3.4	171	179.15	20.5	1,024
178.64	3.7	185	179.16	20.9	1,043
178.65	4.0	199	179.17	21.2	1,062
178.66	4.3	213	179.18	21.6	1,081
178.67	4.5	227	179.19	22.0	1,101
178.68	4.8	241	179.20	22.4	1,120
178.69	5.1	256	179.21	22.8	1,140
178.70	5.4	270	179.22	23.2	1,159
178.71	5.7	285	179.23	23.6	1,179
178.72	6.0	299	179.24	24.0	1,199
178.73	6.3	314	179.25	24.4	1,219
178.74	6.6	329	179.26	24.8	1,239
178.75	6.9	344	179.27	25.2	1,259
178.76	7.2	359	179.28	25.6	1,279
178.77	7.5	374	179.29	26.0	1,300
178.78	7.8	389	179.30	26.4	1,320
178.79	8.1	405	179.31	26.8	1,341
178.80	8.4	420	179.32	27.2	1,361
178.81	8.7	436	179.33	27.6	1,382
178.82	9.0	451	179.34	28.1	1,403
178.83	9.3	467	179.35	28.5	1,424
178.84	9.7	483	179.36	28.9	1,445
178.85	10.0	499	179.37	29.3	1,466
178.86	10.3	515	179.38	29.7	1,487
178.87	10.6	531	179.39	30.2	1,509
178.88	10.9	547	179.40	30.6	1,530
178.89	11.3	564	179.41	31.0	1,552
178.90	11.6	580	179.42	31.5	1,573
178.91	11.9	597	179.43	31.9	1,595
178.92	12.3	613	179.44	32.3	1,617
178.93	12.6	630	179.45	32.8	1,639
178.94	12.9	647	179.46	33.2	1,661
178.95	13.3	664	179.47	33.7	1,683
178.96	13.6	681	179.48	34.1	1,705
178.97	14.0	698	179.49	34.6	1,728
178.98	14.3	715	179.50	35.0	1,750
178.99	14.7	733			
179.00	15.0	750			
179.01	15.4	768			

Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Summary for Reach POST-3R:

Inflow Area = 1.596 ac, 78.95% Impervious, Inflow Depth = 1.72" for 2-year event
Inflow = 1.04 cfs @ 12.52 hrs, Volume= 0.229 af
Outflow = 0.99 cfs @ 12.72 hrs, Volume= 0.229 af, Atten= 5%, Lag= 12.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Max. Velocity= 1.22 fps, Min. Travel Time= 7.3 min

Avg. Velocity = 0.57 fps, Avg. Travel Time= 15.7 min

Peak Storage= 436 cf @ 12.60 hrs

Average Depth at Peak Storage= 0.04' , Surface Width= 20.32'

Bank-Full Depth= 1.00' Flow Area= 24.0 sf, Capacity= 224.46 cfs

20.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding

Side Slope Z-value= 4.0 '/' Top Width= 28.00'

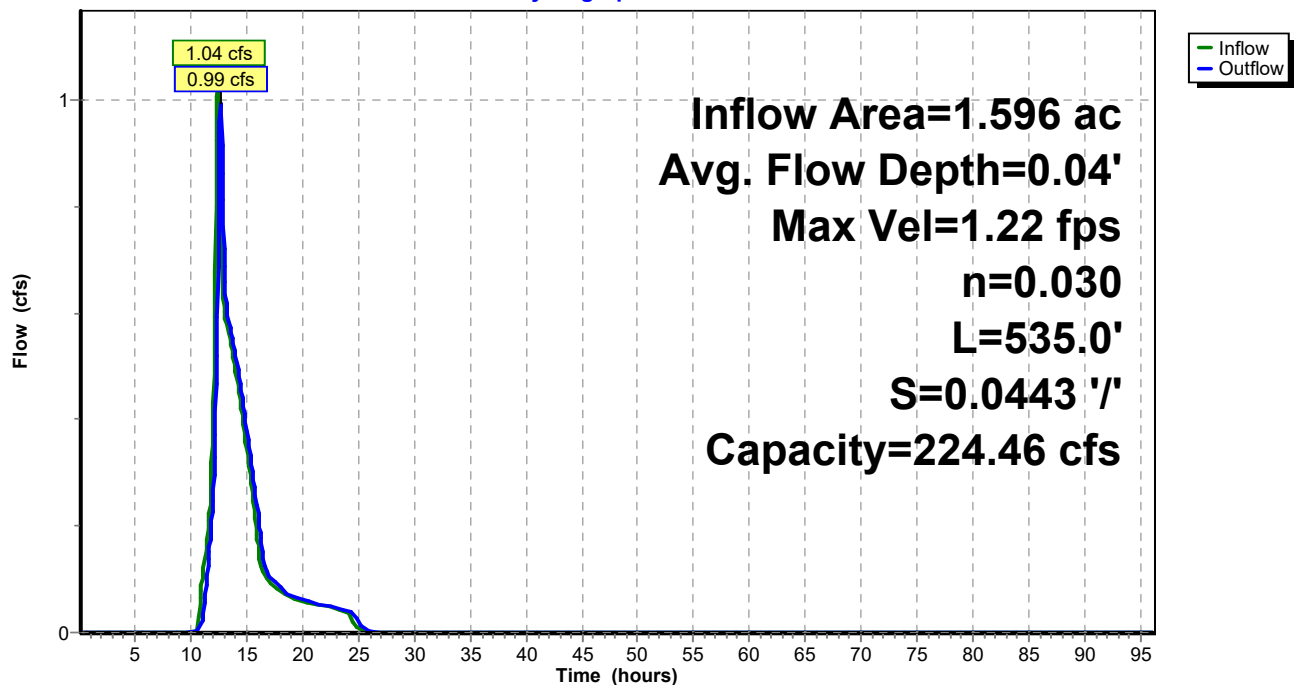
Length= 535.0' Slope= 0.0443 '/'

Inlet Invert= 170.80', Outlet Invert= 147.10'



Reach POST-3R:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Stage-Area-Storage for Reach POST-3R:

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
170.80	0.0	0	171.32	11.5	6,143
170.81	0.2	107	171.33	11.7	6,272
170.82	0.4	215	171.34	12.0	6,402
170.83	0.6	323	171.35	12.2	6,532
170.84	0.8	431	171.36	12.5	6,663
170.85	1.0	540	171.37	12.7	6,794
170.86	1.2	650	171.38	12.9	6,926
170.87	1.4	759	171.39	13.2	7,058
170.88	1.6	870	171.40	13.4	7,190
170.89	1.8	980	171.41	13.7	7,323
170.90	2.0	1,091	171.42	13.9	7,457
170.91	2.2	1,203	171.43	14.2	7,590
170.92	2.5	1,315	171.44	14.4	7,725
170.93	2.7	1,427	171.45	14.7	7,859
170.94	2.9	1,540	171.46	14.9	7,994
170.95	3.1	1,653	171.47	15.2	8,130
170.96	3.3	1,767	171.48	15.4	8,266
170.97	3.5	1,881	171.49	15.7	8,402
170.98	3.7	1,995	171.50	16.0	8,539
170.99	3.9	2,110	171.51	16.2	8,676
171.00	4.2	2,226	171.52	16.5	8,813
171.01	4.4	2,341	171.53	16.7	8,951
171.02	4.6	2,458	171.54	17.0	9,090
171.03	4.8	2,574	171.55	17.3	9,229
171.04	5.0	2,691	171.56	17.5	9,368
171.05	5.3	2,809	171.57	17.8	9,508
171.06	5.5	2,927	171.58	18.0	9,648
171.07	5.7	3,045	171.59	18.3	9,789
171.08	5.9	3,164	171.60	18.6	9,930
171.09	6.1	3,283	171.61	18.8	10,071
171.10	6.4	3,403	171.62	19.1	10,213
171.11	6.6	3,523	171.63	19.4	10,355
171.12	6.8	3,643	171.64	19.6	10,498
171.13	7.0	3,764	171.65	19.9	10,641
171.14	7.3	3,885	171.66	20.2	10,785
171.15	7.5	4,007	171.67	20.4	10,929
171.16	7.7	4,129	171.68	20.7	11,073
171.17	7.9	4,252	171.69	21.0	11,218
171.18	8.2	4,375	171.70	21.2	11,363
171.19	8.4	4,498	171.71	21.5	11,509
171.20	8.6	4,622	171.72	21.8	11,655
171.21	8.9	4,747	171.73	22.1	11,802
171.22	9.1	4,871	171.74	22.3	11,949
171.23	9.3	4,997	171.75	22.6	12,096
171.24	9.6	5,122	171.76	22.9	12,244
171.25	9.8	5,248	171.77	23.2	12,393
171.26	10.0	5,375	171.78	23.4	12,541
171.27	10.3	5,502	171.79	23.7	12,690
171.28	10.5	5,629	171.80	24.0	12,840
171.29	10.8	5,757			
171.30	11.0	5,885			
171.31	11.2	6,014			

Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Summary for Reach POST-4R:

Inflow Area = 0.610 ac, 7.41% Impervious, Inflow Depth = 0.00" for 2-year event
Inflow = 0.00 cfs @ 0.25 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.25 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min

Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.25 hrs

Average Depth at Peak Storage= 0.00'

Bank-Full Depth= 1.00' Flow Area= 24.0 sf, Capacity= 423.66 cfs

20.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding

Side Slope Z-value= 4.0 '/' Top Width= 28.00'

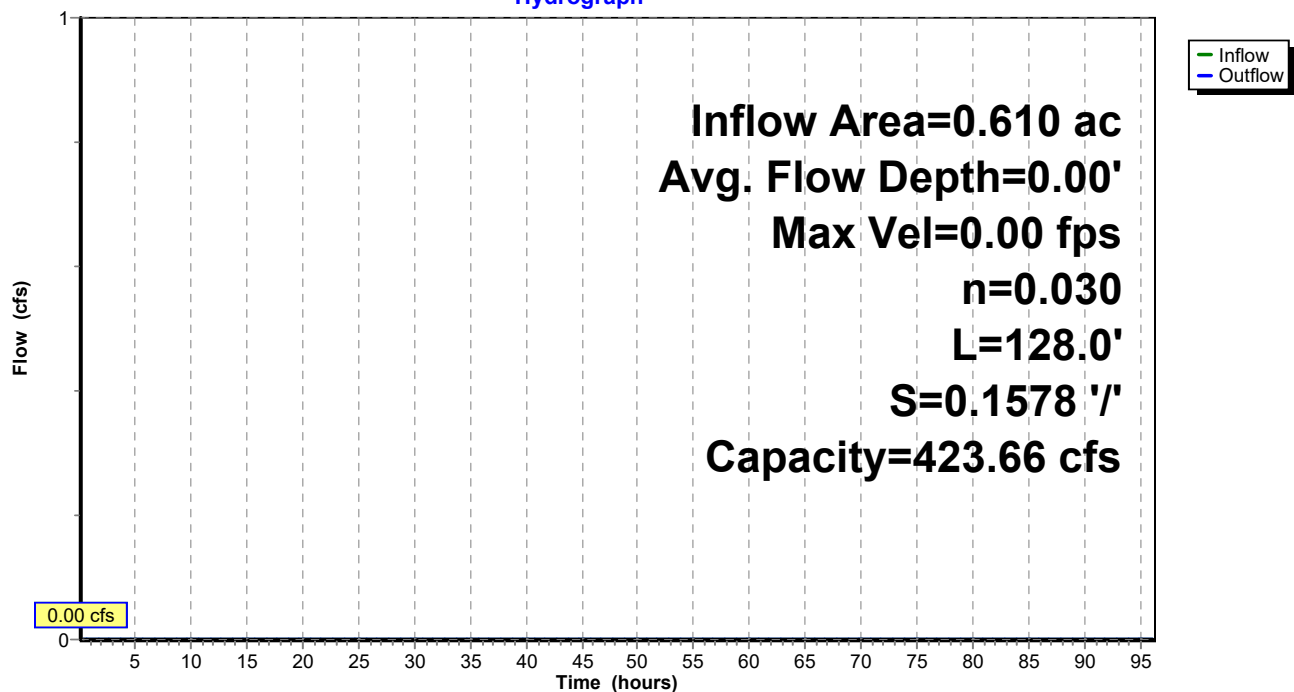
Length= 128.0' Slope= 0.1578 '/'

Inlet Invert= 173.60', Outlet Invert= 153.40'



Reach POST-4R:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Stage-Area-Storage for Reach POST-4R:

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
173.60	0.0	0	174.12	11.5	1,470
173.61	0.2	26	174.13	11.7	1,501
173.62	0.4	51	174.14	12.0	1,532
173.63	0.6	77	174.15	12.2	1,563
173.64	0.8	103	174.16	12.5	1,594
173.65	1.0	129	174.17	12.7	1,626
173.66	1.2	155	174.18	12.9	1,657
173.67	1.4	182	174.19	13.2	1,689
173.68	1.6	208	174.20	13.4	1,720
173.69	1.8	235	174.21	13.7	1,752
173.70	2.0	261	174.22	13.9	1,784
173.71	2.2	288	174.23	14.2	1,816
173.72	2.5	315	174.24	14.4	1,848
173.73	2.7	341	174.25	14.7	1,880
173.74	2.9	368	174.26	14.9	1,913
173.75	3.1	396	174.27	15.2	1,945
173.76	3.3	423	174.28	15.4	1,978
173.77	3.5	450	174.29	15.7	2,010
173.78	3.7	477	174.30	16.0	2,043
173.79	3.9	505	174.31	16.2	2,076
173.80	4.2	532	174.32	16.5	2,109
173.81	4.4	560	174.33	16.7	2,142
173.82	4.6	588	174.34	17.0	2,175
173.83	4.8	616	174.35	17.3	2,208
173.84	5.0	644	174.36	17.5	2,241
173.85	5.3	672	174.37	17.8	2,275
173.86	5.5	700	174.38	18.0	2,308
173.87	5.7	729	174.39	18.3	2,342
173.88	5.9	757	174.40	18.6	2,376
173.89	6.1	785	174.41	18.8	2,410
173.90	6.4	814	174.42	19.1	2,443
173.91	6.6	843	174.43	19.4	2,478
173.92	6.8	872	174.44	19.6	2,512
173.93	7.0	901	174.45	19.9	2,546
173.94	7.3	930	174.46	20.2	2,580
173.95	7.5	959	174.47	20.4	2,615
173.96	7.7	988	174.48	20.7	2,649
173.97	7.9	1,017	174.49	21.0	2,684
173.98	8.2	1,047	174.50	21.2	2,719
173.99	8.4	1,076	174.51	21.5	2,754
174.00	8.6	1,106	174.52	21.8	2,789
174.01	8.9	1,136	174.53	22.1	2,824
174.02	9.1	1,166	174.54	22.3	2,859
174.03	9.3	1,195	174.55	22.6	2,894
174.04	9.6	1,226	174.56	22.9	2,929
174.05	9.8	1,256	174.57	23.2	2,965
174.06	10.0	1,286	174.58	23.4	3,001
174.07	10.3	1,316	174.59	23.7	3,036
174.08	10.5	1,347	174.60	24.0	3,072
174.09	10.8	1,377			
174.10	11.0	1,408			
174.11	11.2	1,439			

Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Summary for Reach POST-5R:

Inflow Area = 0.610 ac, 7.41% Impervious, Inflow Depth = 0.00" for 2-year event
Inflow = 0.00 cfs @ 0.25 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.25 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min

Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.25 hrs

Average Depth at Peak Storage= 0.00'

Bank-Full Depth= 1.00' Flow Area= 24.0 sf, Capacity= 160.96 cfs

20.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding

Side Slope Z-value= 4.0 '/' Top Width= 28.00'

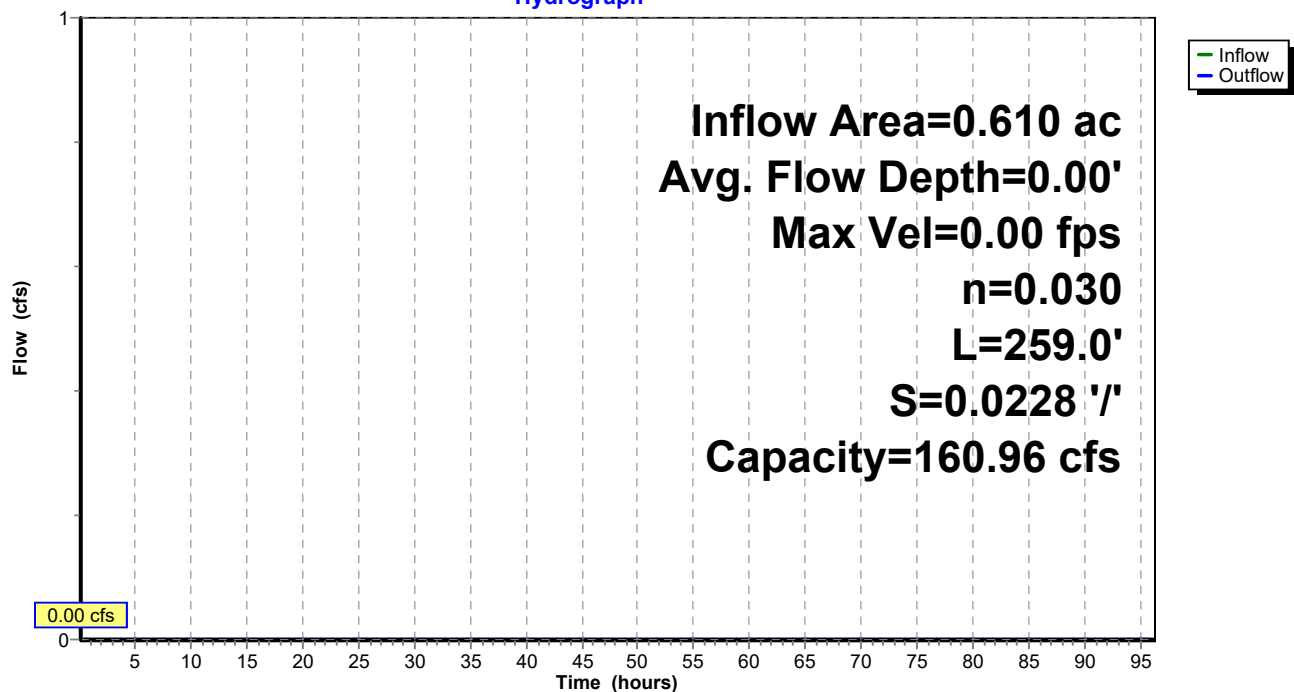
Length= 259.0' Slope= 0.0228 '/'

Inlet Invert= 153.00', Outlet Invert= 147.10'



Reach POST-5R:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Stage-Area-Storage for Reach POST-5R:

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
153.00	0.0	0	153.52	11.5	2,974
153.01	0.2	52	153.53	11.7	3,036
153.02	0.4	104	153.54	12.0	3,099
153.03	0.6	156	153.55	12.2	3,162
153.04	0.8	209	153.56	12.5	3,226
153.05	1.0	262	153.57	12.7	3,289
153.06	1.2	315	153.58	12.9	3,353
153.07	1.4	368	153.59	13.2	3,417
153.08	1.6	421	153.60	13.4	3,481
153.09	1.8	475	153.61	13.7	3,545
153.10	2.0	528	153.62	13.9	3,610
153.11	2.2	582	153.63	14.2	3,675
153.12	2.5	637	153.64	14.4	3,740
153.13	2.7	691	153.65	14.7	3,805
153.14	2.9	746	153.66	14.9	3,870
153.15	3.1	800	153.67	15.2	3,936
153.16	3.3	855	153.68	15.4	4,001
153.17	3.5	911	153.69	15.7	4,067
153.18	3.7	966	153.70	16.0	4,134
153.19	3.9	1,022	153.71	16.2	4,200
153.20	4.2	1,077	153.72	16.5	4,267
153.21	4.4	1,133	153.73	16.7	4,333
153.22	4.6	1,190	153.74	17.0	4,401
153.23	4.8	1,246	153.75	17.3	4,468
153.24	5.0	1,303	153.76	17.5	4,535
153.25	5.3	1,360	153.77	17.8	4,603
153.26	5.5	1,417	153.78	18.0	4,671
153.27	5.7	1,474	153.79	18.3	4,739
153.28	5.9	1,532	153.80	18.6	4,807
153.29	6.1	1,589	153.81	18.8	4,876
153.30	6.4	1,647	153.82	19.1	4,944
153.31	6.6	1,705	153.83	19.4	5,013
153.32	6.8	1,764	153.84	19.6	5,082
153.33	7.0	1,822	153.85	19.9	5,152
153.34	7.3	1,881	153.86	20.2	5,221
153.35	7.5	1,940	153.87	20.4	5,291
153.36	7.7	1,999	153.88	20.7	5,361
153.37	7.9	2,058	153.89	21.0	5,431
153.38	8.2	2,118	153.90	21.2	5,501
153.39	8.4	2,178	153.91	21.5	5,572
153.40	8.6	2,238	153.92	21.8	5,642
153.41	8.9	2,298	153.93	22.1	5,713
153.42	9.1	2,358	153.94	22.3	5,785
153.43	9.3	2,419	153.95	22.6	5,856
153.44	9.6	2,480	153.96	22.9	5,928
153.45	9.8	2,541	153.97	23.2	5,999
153.46	10.0	2,602	153.98	23.4	6,071
153.47	10.3	2,663	153.99	23.7	6,144
153.48	10.5	2,725	154.00	24.0	6,216
153.49	10.8	2,787			
153.50	11.0	2,849			
153.51	11.2	2,911			

Holliston - Stormwater Model

Type III 24-hr 2-year Rainfall=3.21"

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Summary for Pond POST-1P:

Inflow Area = 1.596 ac, 78.95% Impervious, Inflow Depth = 1.77" for 2-year event
 Inflow = 3.24 cfs @ 12.09 hrs, Volume= 0.235 af
 Outflow = 1.06 cfs @ 12.42 hrs, Volume= 0.229 af, Atten= 67%, Lag= 19.7 min
 Primary = 1.06 cfs @ 12.42 hrs, Volume= 0.229 af

Routing by Stor-Ind method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
 Peak Elev= 190.02' @ 12.42 hrs Surf.Area= 1,924 sf Storage= 3,232 cf

Plug-Flow detention time= 61.8 min calculated for 0.229 af (97% of inflow)
 Center-of-Mass det. time= 46.7 min (872.6 - 826.0)

Volume	Invert	Avail.Storage	Storage Description		
#1	187.00'	11,201 cf	Custom Stage Data (Pyramidal) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
187.00	200	0	0	200	
188.00	859	491	491	865	
190.00	1,916	2,705	3,196	1,961	
192.00	2,915	4,796	7,993	3,034	
193.00	3,512	3,209	11,201	3,673	

Device	Routing	Invert	Outlet Devices		
#1	Primary	187.70'	18.0" Round Culvert L= 22.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 187.10' / 187.70' S= -0.0273 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf		
#2	Device 1	187.10'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads		
#3	Device 1	189.70'	12.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads		
#4	Device 1	191.20'	7.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads		

Primary OutFlow Max=1.05 cfs @ 12.42 hrs HW=190.02' (Free Discharge)

- 1=Culvert (Passes 1.05 cfs of 8.41 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.64 cfs @ 7.33 fps)
- 3=Orifice/Grate (Orifice Controls 0.41 cfs @ 1.91 fps)
- 4=Orifice/Grate (Controls 0.00 cfs)

Holliston - Stormwater Model

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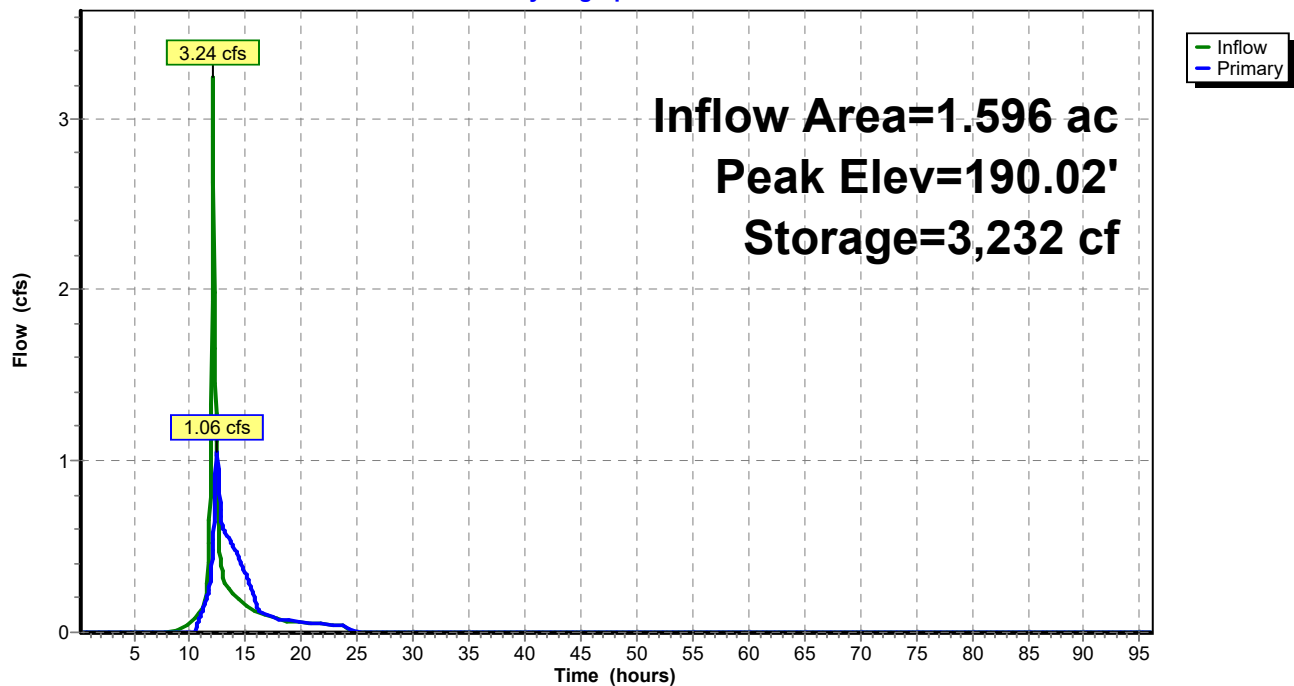
Type III 24-hr 2-year Rainfall=3.21"

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Pond POST-1P:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Stage-Area-Storage for Pond POST-1P:

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
187.00	200	0	187.52	485	173
187.01	204	2	187.53	492	178
187.02	209	4	187.54	499	183
187.03	213	6	187.55	506	188
187.04	218	8	187.56	512	193
187.05	222	11	187.57	519	198
187.06	227	13	187.58	526	203
187.07	231	15	187.59	533	208
187.08	236	17	187.60	540	214
187.09	240	20	187.61	547	219
187.10	245	22	187.62	554	225
187.11	250	25	187.63	562	230
187.12	255	27	187.64	569	236
187.13	260	30	187.65	576	242
187.14	265	32	187.66	583	247
187.15	270	35	187.67	591	253
187.16	275	38	187.68	598	259
187.17	280	41	187.69	606	265
187.18	285	43	187.70	613	271
187.19	290	46	187.71	621	278
187.20	295	49	187.72	628	284
187.21	300	52	187.73	636	290
187.22	306	55	187.74	643	297
187.23	311	58	187.75	651	303
187.24	316	61	187.76	659	310
187.25	322	65	187.77	667	316
187.26	327	68	187.78	675	323
187.27	333	71	187.79	682	330
187.28	338	74	187.80	690	337
187.29	344	78	187.81	698	343
187.30	349	81	187.82	706	350
187.31	355	85	187.83	715	358
187.32	361	88	187.84	723	365
187.33	367	92	187.85	731	372
187.34	372	96	187.86	739	379
187.35	378	100	187.87	747	387
187.36	384	103	187.88	756	394
187.37	390	107	187.89	764	402
187.38	396	111	187.90	772	410
187.39	402	115	187.91	781	417
187.40	408	119	187.92	789	425
187.41	415	123	187.93	798	433
187.42	421	128	187.94	806	441
187.43	427	132	187.95	815	449
187.44	433	136	187.96	824	458
187.45	440	140	187.97	833	466
187.46	446	145	187.98	841	474
187.47	452	149	187.99	850	483
187.48	459	154	188.00	859	491
187.49	465	159	188.01	863	500
187.50	472	163	188.02	867	508
187.51	479	168	188.03	872	517

Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Stage-Area-Storage for Pond POST-1P: (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
188.04	876	526	188.56	1,113	1,042
188.05	880	535	188.57	1,118	1,053
188.06	885	543	188.58	1,122	1,064
188.07	889	552	188.59	1,127	1,075
188.08	893	561	188.60	1,132	1,087
188.09	898	570	188.61	1,137	1,098
188.10	902	579	188.62	1,142	1,109
188.11	906	588	188.63	1,147	1,121
188.12	911	597	188.64	1,152	1,132
188.13	915	606	188.65	1,157	1,144
188.14	919	616	188.66	1,162	1,155
188.15	924	625	188.67	1,166	1,167
188.16	928	634	188.68	1,171	1,179
188.17	933	643	188.69	1,176	1,191
188.18	937	653	188.70	1,181	1,202
188.19	941	662	188.71	1,186	1,214
188.20	946	672	188.72	1,191	1,226
188.21	950	681	188.73	1,196	1,238
188.22	955	691	188.74	1,201	1,250
188.23	959	700	188.75	1,206	1,262
188.24	964	710	188.76	1,211	1,274
188.25	968	719	188.77	1,216	1,286
188.26	973	729	188.78	1,221	1,298
188.27	977	739	188.79	1,227	1,311
188.28	982	749	188.80	1,232	1,323
188.29	986	759	188.81	1,237	1,335
188.30	991	768	188.82	1,242	1,348
188.31	995	778	188.83	1,247	1,360
188.32	1,000	788	188.84	1,252	1,373
188.33	1,005	798	188.85	1,257	1,385
188.34	1,009	808	188.86	1,262	1,398
188.35	1,014	819	188.87	1,267	1,410
188.36	1,018	829	188.88	1,273	1,423
188.37	1,023	839	188.89	1,278	1,436
188.38	1,028	849	188.90	1,283	1,449
188.39	1,032	859	188.91	1,288	1,462
188.40	1,037	870	188.92	1,293	1,474
188.41	1,042	880	188.93	1,298	1,487
188.42	1,046	891	188.94	1,304	1,500
188.43	1,051	901	188.95	1,309	1,513
188.44	1,056	912	188.96	1,314	1,527
188.45	1,060	922	188.97	1,319	1,540
188.46	1,065	933	188.98	1,325	1,553
188.47	1,070	944	188.99	1,330	1,566
188.48	1,075	954	189.00	1,335	1,580
188.49	1,079	965	189.01	1,340	1,593
188.50	1,084	976	189.02	1,346	1,606
188.51	1,089	987	189.03	1,351	1,620
188.52	1,094	998	189.04	1,356	1,633
188.53	1,098	1,009	189.05	1,362	1,647
188.54	1,103	1,020	189.06	1,367	1,661
188.55	1,108	1,031	189.07	1,372	1,674

Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Stage-Area-Storage for Pond POST-1P: (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
189.08	1,378	1,688	189.60	1,671	2,480
189.09	1,383	1,702	189.61	1,677	2,496
189.10	1,389	1,716	189.62	1,683	2,513
189.11	1,394	1,730	189.63	1,689	2,530
189.12	1,399	1,744	189.64	1,695	2,547
189.13	1,405	1,758	189.65	1,701	2,564
189.14	1,410	1,772	189.66	1,707	2,581
189.15	1,416	1,786	189.67	1,713	2,598
189.16	1,421	1,800	189.68	1,719	2,615
189.17	1,427	1,814	189.69	1,725	2,632
189.18	1,432	1,829	189.70	1,731	2,650
189.19	1,438	1,843	189.71	1,737	2,667
189.20	1,443	1,857	189.72	1,743	2,684
189.21	1,448	1,872	189.73	1,749	2,702
189.22	1,454	1,886	189.74	1,755	2,719
189.23	1,460	1,901	189.75	1,761	2,737
189.24	1,465	1,915	189.76	1,767	2,755
189.25	1,471	1,930	189.77	1,773	2,772
189.26	1,476	1,945	189.78	1,779	2,790
189.27	1,482	1,960	189.79	1,785	2,808
189.28	1,487	1,975	189.80	1,791	2,826
189.29	1,493	1,989	189.81	1,798	2,844
189.30	1,498	2,004	189.82	1,804	2,862
189.31	1,504	2,019	189.83	1,810	2,880
189.32	1,510	2,034	189.84	1,816	2,898
189.33	1,515	2,050	189.85	1,822	2,916
189.34	1,521	2,065	189.86	1,828	2,934
189.35	1,527	2,080	189.87	1,835	2,953
189.36	1,532	2,095	189.88	1,841	2,971
189.37	1,538	2,111	189.89	1,847	2,989
189.38	1,544	2,126	189.90	1,853	3,008
189.39	1,549	2,142	189.91	1,859	3,027
189.40	1,555	2,157	189.92	1,866	3,045
189.41	1,561	2,173	189.93	1,872	3,064
189.42	1,566	2,188	189.94	1,878	3,083
189.43	1,572	2,204	189.95	1,884	3,101
189.44	1,578	2,220	189.96	1,891	3,120
189.45	1,584	2,235	189.97	1,897	3,139
189.46	1,589	2,251	189.98	1,903	3,158
189.47	1,595	2,267	189.99	1,910	3,177
189.48	1,601	2,283	190.00	1,916	3,196
189.49	1,607	2,299	190.01	1,920	3,216
189.50	1,613	2,315	190.02	1,925	3,235
189.51	1,618	2,332	190.03	1,929	3,254
189.52	1,624	2,348	190.04	1,934	3,273
189.53	1,630	2,364	190.05	1,938	3,293
189.54	1,636	2,380	190.06	1,943	3,312
189.55	1,642	2,397	190.07	1,947	3,332
189.56	1,648	2,413	190.08	1,952	3,351
189.57	1,653	2,430	190.09	1,956	3,371
189.58	1,659	2,446	190.10	1,961	3,390
189.59	1,665	2,463	190.11	1,966	3,410

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Type III 24-hr 2-year Rainfall=3.21"

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Stage-Area-Storage for Pond POST-1P: (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
190.12	1,970	3,430	190.64	2,213	4,517
190.13	1,975	3,449	190.65	2,218	4,539
190.14	1,979	3,469	190.66	2,223	4,561
190.15	1,984	3,489	190.67	2,227	4,583
190.16	1,988	3,509	190.68	2,232	4,605
190.17	1,993	3,529	190.69	2,237	4,628
190.18	1,997	3,549	190.70	2,242	4,650
190.19	2,002	3,569	190.71	2,247	4,673
190.20	2,007	3,589	190.72	2,252	4,695
190.21	2,011	3,609	190.73	2,256	4,718
190.22	2,016	3,629	190.74	2,261	4,740
190.23	2,020	3,649	190.75	2,266	4,763
190.24	2,025	3,669	190.76	2,271	4,786
190.25	2,029	3,690	190.77	2,276	4,808
190.26	2,034	3,710	190.78	2,281	4,831
190.27	2,039	3,730	190.79	2,286	4,854
190.28	2,043	3,751	190.80	2,291	4,877
190.29	2,048	3,771	190.81	2,295	4,900
190.30	2,053	3,792	190.82	2,300	4,923
190.31	2,057	3,812	190.83	2,305	4,946
190.32	2,062	3,833	190.84	2,310	4,969
190.33	2,066	3,853	190.85	2,315	4,992
190.34	2,071	3,874	190.86	2,320	5,015
190.35	2,076	3,895	190.87	2,325	5,038
190.36	2,080	3,916	190.88	2,330	5,062
190.37	2,085	3,936	190.89	2,335	5,085
190.38	2,090	3,957	190.90	2,340	5,108
190.39	2,094	3,978	190.91	2,345	5,132
190.40	2,099	3,999	190.92	2,350	5,155
190.41	2,104	4,020	190.93	2,355	5,179
190.42	2,108	4,041	190.94	2,360	5,202
190.43	2,113	4,062	190.95	2,364	5,226
190.44	2,118	4,084	190.96	2,369	5,250
190.45	2,123	4,105	190.97	2,374	5,273
190.46	2,127	4,126	190.98	2,379	5,297
190.47	2,132	4,147	190.99	2,384	5,321
190.48	2,137	4,169	191.00	2,389	5,345
190.49	2,141	4,190	191.01	2,394	5,369
190.50	2,146	4,211	191.02	2,399	5,393
190.51	2,151	4,233	191.03	2,404	5,417
190.52	2,156	4,254	191.04	2,409	5,441
190.53	2,160	4,276	191.05	2,414	5,465
190.54	2,165	4,298	191.06	2,419	5,489
190.55	2,170	4,319	191.07	2,424	5,513
190.56	2,175	4,341	191.08	2,430	5,538
190.57	2,179	4,363	191.09	2,435	5,562
190.58	2,184	4,385	191.10	2,440	5,586
190.59	2,189	4,407	191.11	2,445	5,611
190.60	2,194	4,428	191.12	2,450	5,635
190.61	2,199	4,450	191.13	2,455	5,660
190.62	2,203	4,472	191.14	2,460	5,684
190.63	2,208	4,494	191.15	2,465	5,709

Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Stage-Area-Storage for Pond POST-1P: (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
191.16	2,470	5,734	191.68	2,741	7,088
191.17	2,475	5,758	191.69	2,746	7,115
191.18	2,480	5,783	191.70	2,752	7,143
191.19	2,485	5,808	191.71	2,757	7,170
191.20	2,490	5,833	191.72	2,763	7,198
191.21	2,495	5,858	191.73	2,768	7,226
191.22	2,501	5,883	191.74	2,773	7,253
191.23	2,506	5,908	191.75	2,779	7,281
191.24	2,511	5,933	191.76	2,784	7,309
191.25	2,516	5,958	191.77	2,789	7,337
191.26	2,521	5,983	191.78	2,795	7,365
191.27	2,526	6,008	191.79	2,800	7,393
191.28	2,531	6,034	191.80	2,806	7,421
191.29	2,536	6,059	191.81	2,811	7,449
191.30	2,542	6,084	191.82	2,817	7,477
191.31	2,547	6,110	191.83	2,822	7,505
191.32	2,552	6,135	191.84	2,827	7,533
191.33	2,557	6,161	191.85	2,833	7,562
191.34	2,562	6,186	191.86	2,838	7,590
191.35	2,567	6,212	191.87	2,844	7,618
191.36	2,573	6,238	191.88	2,849	7,647
191.37	2,578	6,263	191.89	2,855	7,675
191.38	2,583	6,289	191.90	2,860	7,704
191.39	2,588	6,315	191.91	2,866	7,733
191.40	2,593	6,341	191.92	2,871	7,761
191.41	2,599	6,367	191.93	2,877	7,790
191.42	2,604	6,393	191.94	2,882	7,819
191.43	2,609	6,419	191.95	2,887	7,848
191.44	2,614	6,445	191.96	2,893	7,876
191.45	2,619	6,471	191.97	2,898	7,905
191.46	2,625	6,498	191.98	2,904	7,934
191.47	2,630	6,524	191.99	2,909	7,964
191.48	2,635	6,550	192.00	2,915	7,993
191.49	2,640	6,577	192.01	2,921	8,022
191.50	2,646	6,603	192.02	2,926	8,051
191.51	2,651	6,629	192.03	2,932	8,080
191.52	2,656	6,656	192.04	2,938	8,110
191.53	2,661	6,683	192.05	2,944	8,139
191.54	2,667	6,709	192.06	2,949	8,169
191.55	2,672	6,736	192.07	2,955	8,198
191.56	2,677	6,763	192.08	2,961	8,228
191.57	2,683	6,789	192.09	2,966	8,257
191.58	2,688	6,816	192.10	2,972	8,287
191.59	2,693	6,843	192.11	2,978	8,317
191.60	2,698	6,870	192.12	2,984	8,347
191.61	2,704	6,897	192.13	2,989	8,376
191.62	2,709	6,924	192.14	2,995	8,406
191.63	2,714	6,951	192.15	3,001	8,436
191.64	2,720	6,979	192.16	3,007	8,466
191.65	2,725	7,006	192.17	3,013	8,496
191.66	2,730	7,033	192.18	3,018	8,527
191.67	2,736	7,060	192.19	3,024	8,557

Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Stage-Area-Storage for Pond POST-1P: (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
192.20	3,030	8,587	192.72	3,339	10,242
192.21	3,036	8,617	192.73	3,345	10,276
192.22	3,042	8,648	192.74	3,351	10,309
192.23	3,047	8,678	192.75	3,358	10,343
192.24	3,053	8,709	192.76	3,364	10,376
192.25	3,059	8,739	192.77	3,370	10,410
192.26	3,065	8,770	192.78	3,376	10,444
192.27	3,071	8,801	192.79	3,382	10,478
192.28	3,077	8,831	192.80	3,388	10,512
192.29	3,082	8,862	192.81	3,394	10,545
192.30	3,088	8,893	192.82	3,400	10,579
192.31	3,094	8,924	192.83	3,407	10,613
192.32	3,100	8,955	192.84	3,413	10,648
192.33	3,106	8,986	192.85	3,419	10,682
192.34	3,112	9,017	192.86	3,425	10,716
192.35	3,118	9,048	192.87	3,431	10,750
192.36	3,124	9,079	192.88	3,437	10,785
192.37	3,129	9,111	192.89	3,444	10,819
192.38	3,135	9,142	192.90	3,450	10,853
192.39	3,141	9,173	192.91	3,456	10,888
192.40	3,147	9,205	192.92	3,462	10,923
192.41	3,153	9,236	192.93	3,468	10,957
192.42	3,159	9,268	192.94	3,475	10,992
192.43	3,165	9,299	192.95	3,481	11,027
192.44	3,171	9,331	192.96	3,487	11,062
192.45	3,177	9,363	192.97	3,493	11,096
192.46	3,183	9,395	192.98	3,500	11,131
192.47	3,189	9,427	192.99	3,506	11,166
192.48	3,195	9,458	193.00	3,512	11,201
192.49	3,201	9,490			
192.50	3,207	9,522			
192.51	3,213	9,555			
192.52	3,219	9,587			
192.53	3,224	9,619			
192.54	3,230	9,651			
192.55	3,236	9,684			
192.56	3,242	9,716			
192.57	3,248	9,748			
192.58	3,254	9,781			
192.59	3,261	9,813			
192.60	3,267	9,846			
192.61	3,273	9,879			
192.62	3,279	9,912			
192.63	3,285	9,944			
192.64	3,291	9,977			
192.65	3,297	10,010			
192.66	3,303	10,043			
192.67	3,309	10,076			
192.68	3,315	10,109			
192.69	3,321	10,143			
192.70	3,327	10,176			
192.71	3,333	10,209			

Holliston - Stormwater Model

Type III 24-hr 2-year Rainfall=3.21"

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Summary for Pond POST-2P: Sed. Forebay 1

Inflow Area = 0.365 ac, 12.38% Impervious, Inflow Depth = 1.22" for 2-year event
 Inflow = 0.50 cfs @ 12.10 hrs, Volume= 0.037 af
 Outflow = 0.48 cfs @ 12.15 hrs, Volume= 0.030 af, Atten= 3%, Lag= 3.1 min
 Primary = 0.48 cfs @ 12.15 hrs, Volume= 0.030 af

Routing by Stor-Ind method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
 Peak Elev= 185.07' @ 12.15 hrs Surf.Area= 533 sf Storage= 333 cf
 Flood Elev= 186.00' Surf.Area= 976 sf Storage= 1,021 cf

Plug-Flow detention time= 110.6 min calculated for 0.030 af (82% of inflow)
 Center-of-Mass det. time= 34.4 min (886.6 - 852.2)

Volume	Invert	Avail.Storage	Storage Description
#1	184.00'	1,021 cf	Custom Stage Data (Irregular) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
184.00	127	99.0	0	0	127
185.00	503	141.0	294	294	938
186.00	976	172.0	727	1,021	1,726

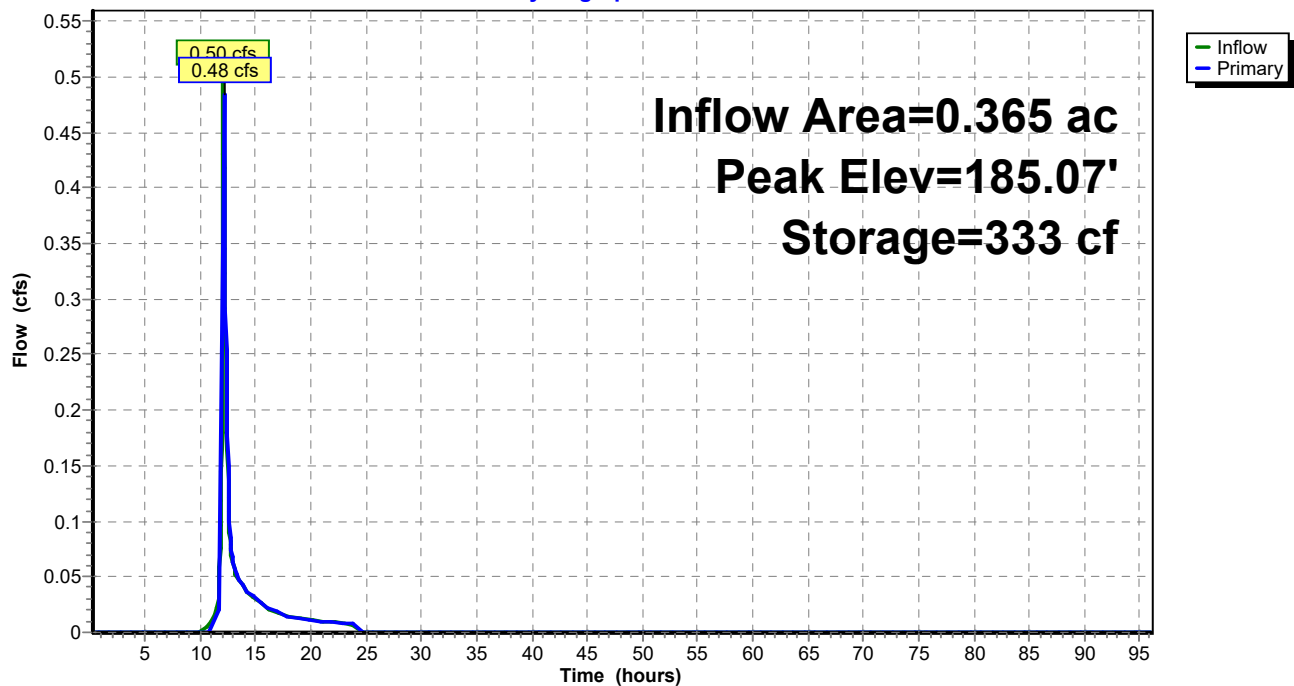
Device	Routing	Invert	Outlet Devices
#1	Primary	185.00'	10.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.48 cfs @ 12.15 hrs HW=185.07' (Free Discharge)

↑ **1=Broad-Crested Rectangular Weir** (Weir Controls 0.48 cfs @ 0.65 fps)

Pond POST-2P: Sed. Forebay 1

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Stage-Area-Storage for Pond POST-2P: Sed. Forebay 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
184.00	127	0	184.52	291	106
184.01	130	1	184.53	295	109
184.02	132	3	184.54	299	112
184.03	135	4	184.55	303	115
184.04	137	5	184.56	307	118
184.05	140	7	184.57	311	121
184.06	143	8	184.58	315	124
184.07	145	10	184.59	319	127
184.08	148	11	184.60	323	130
184.09	151	12	184.61	327	134
184.10	153	14	184.62	331	137
184.11	156	16	184.63	335	140
184.12	159	17	184.64	339	144
184.13	162	19	184.65	343	147
184.14	165	20	184.66	347	151
184.15	168	22	184.67	351	154
184.16	170	24	184.68	356	158
184.17	173	25	184.69	360	161
184.18	176	27	184.70	364	165
184.19	179	29	184.71	368	168
184.20	182	31	184.72	373	172
184.21	185	33	184.73	377	176
184.22	188	34	184.74	381	180
184.23	191	36	184.75	386	183
184.24	195	38	184.76	390	187
184.25	198	40	184.77	394	191
184.26	201	42	184.78	399	195
184.27	204	44	184.79	403	199
184.28	207	46	184.80	408	203
184.29	210	48	184.81	412	207
184.30	214	51	184.82	417	212
184.31	217	53	184.83	422	216
184.32	220	55	184.84	426	220
184.33	224	57	184.85	431	224
184.34	227	59	184.86	435	229
184.35	230	62	184.87	440	233
184.36	234	64	184.88	445	237
184.37	237	66	184.89	449	242
184.38	241	69	184.90	454	246
184.39	244	71	184.91	459	251
184.40	248	74	184.92	464	256
184.41	251	76	184.93	469	260
184.42	255	79	184.94	473	265
184.43	258	81	184.95	478	270
184.44	262	84	184.96	483	275
184.45	265	86	184.97	488	279
184.46	269	89	184.98	493	284
184.47	273	92	184.99	498	289
184.48	276	95	185.00	503	294
184.49	280	97	185.01	507	299
184.50	284	100	185.02	511	304
184.51	288	103	185.03	515	310

Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Stage-Area-Storage for Pond POST-2P: Sed. Forebay 1 (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
185.04	519	315	185.56	749	642
185.05	523	320	185.57	754	650
185.06	527	325	185.58	758	658
185.07	531	330	185.59	763	665
185.08	535	336	185.60	768	673
185.09	539	341	185.61	773	681
185.10	543	347	185.62	778	688
185.11	547	352	185.63	783	696
185.12	552	358	185.64	788	704
185.13	556	363	185.65	793	712
185.14	560	369	185.66	798	720
185.15	564	374	185.67	803	728
185.16	568	380	185.68	808	736
185.17	572	386	185.69	813	744
185.18	577	391	185.70	818	752
185.19	581	397	185.71	823	760
185.20	585	403	185.72	828	769
185.21	589	409	185.73	833	777
185.22	594	415	185.74	838	785
185.23	598	421	185.75	843	794
185.24	602	427	185.76	848	802
185.25	607	433	185.77	853	811
185.26	611	439	185.78	859	819
185.27	615	445	185.79	864	828
185.28	620	451	185.80	869	836
185.29	624	457	185.81	874	845
185.30	629	464	185.82	879	854
185.31	633	470	185.83	885	863
185.32	637	476	185.84	890	872
185.33	642	483	185.85	895	881
185.34	646	489	185.86	900	889
185.35	651	496	185.87	906	899
185.36	655	502	185.88	911	908
185.37	660	509	185.89	916	917
185.38	664	515	185.90	922	926
185.39	669	522	185.91	927	935
185.40	674	529	185.92	932	944
185.41	678	535	185.93	938	954
185.42	683	542	185.94	943	963
185.43	687	549	185.95	949	973
185.44	692	556	185.96	954	982
185.45	697	563	185.97	960	992
185.46	701	570	185.98	965	1,001
185.47	706	577	185.99	971	1,011
185.48	711	584	186.00	976	1,021
185.49	715	591			
185.50	720	598			
185.51	725	606			
185.52	730	613			
185.53	734	620			
185.54	739	628			
185.55	744	635			

Holliston - Stormwater Model

Type III 24-hr 2-year Rainfall=3.21"

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Summary for Pond POST-3P: Sed. Forebay 2

Inflow Area = 0.418 ac, 10.83% Impervious, Inflow Depth = 0.93" for 2-year event
 Inflow = 0.50 cfs @ 12.15 hrs, Volume= 0.032 af
 Outflow = 0.28 cfs @ 12.31 hrs, Volume= 0.028 af, Atten= 44%, Lag= 9.3 min
 Primary = 0.28 cfs @ 12.31 hrs, Volume= 0.028 af

Routing by Stor-Ind method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
 Peak Elev= 184.12' @ 12.31 hrs Surf.Area= 370 sf Storage= 232 cf
 Flood Elev= 185.00' Surf.Area= 653 sf Storage= 674 cf

Plug-Flow detention time= 90.4 min calculated for 0.028 af (87% of inflow)
 Center-of-Mass det. time= 29.4 min (917.7 - 888.3)

Volume	Invert	Avail.Storage	Storage Description
#1	183.00'	674 cf	Custom Stage Data (Irregular) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
183.00	73	74.0	0	0	73
184.00	336	97.0	189	189	397
185.00	653	115.0	486	674	719

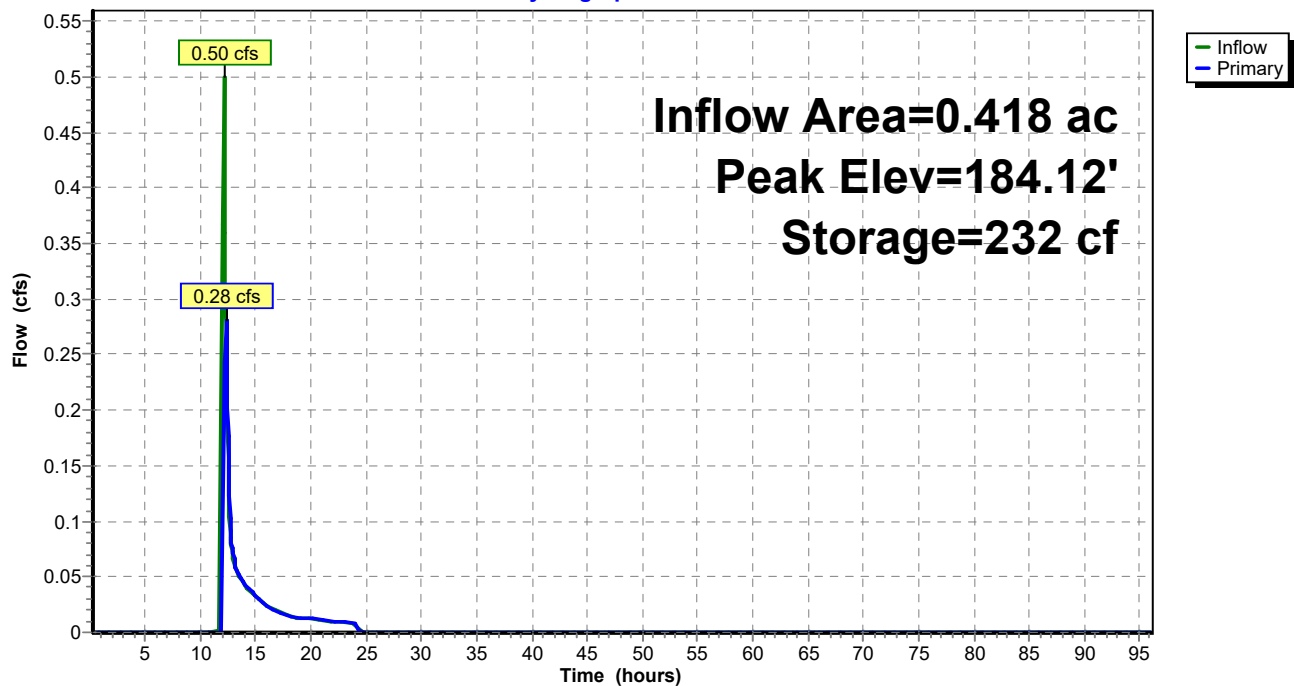
Device	Routing	Invert	Outlet Devices
#1	Primary	180.00'	12.0" Round Culvert L= 26.5' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 180.00' / 178.20' S= 0.0679 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	184.00'	24.0" W x 6.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	184.75'	24.0" x 24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.28 cfs @ 12.31 hrs HW=184.12' (Free Discharge)

↑ **1=Culvert** (Passes 0.28 cfs of 7.20 cfs potential flow)
 ↑ **2=Orifice/Grate** (Orifice Controls 0.28 cfs @ 1.13 fps)
 ↑ **3=Orifice/Grate** (Controls 0.00 cfs)

Pond POST-3P: Sed. Forebay 2

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Stage-Area-Storage for Pond POST-3P: Sed. Forebay 2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
183.00	73	0	183.52	186	65
183.01	75	1	183.53	189	67
183.02	76	1	183.54	191	69
183.03	78	2	183.55	194	71
183.04	80	3	183.56	197	73
183.05	82	4	183.57	199	75
183.06	83	5	183.58	202	77
183.07	85	6	183.59	205	79
183.08	87	6	183.60	208	81
183.09	89	7	183.61	211	83
183.10	91	8	183.62	213	85
183.11	93	9	183.63	216	87
183.12	94	10	183.64	219	89
183.13	96	11	183.65	222	92
183.14	98	12	183.66	225	94
183.15	100	13	183.67	228	96
183.16	102	14	183.68	231	98
183.17	104	15	183.69	234	101
183.18	106	16	183.70	237	103
183.19	108	17	183.71	240	105
183.20	110	18	183.72	243	108
183.21	112	19	183.73	246	110
183.22	114	20	183.74	249	113
183.23	117	22	183.75	252	115
183.24	119	23	183.76	255	118
183.25	121	24	183.77	259	120
183.26	123	25	183.78	262	123
183.27	125	26	183.79	265	126
183.28	127	28	183.80	268	128
183.29	130	29	183.81	271	131
183.30	132	30	183.82	275	134
183.31	134	32	183.83	278	136
183.32	136	33	183.84	281	139
183.33	139	34	183.85	284	142
183.34	141	36	183.86	288	145
183.35	143	37	183.87	291	148
183.36	146	39	183.88	294	151
183.37	148	40	183.89	298	154
183.38	150	42	183.90	301	157
183.39	153	43	183.91	304	160
183.40	155	45	183.92	308	163
183.41	158	46	183.93	311	166
183.42	160	48	183.94	315	169
183.43	163	49	183.95	318	172
183.44	165	51	183.96	322	175
183.45	168	53	183.97	325	179
183.46	170	54	183.98	329	182
183.47	173	56	183.99	332	185
183.48	175	58	184.00	336	189
183.49	178	60	184.01	339	192
183.50	181	61	184.02	341	195
183.51	183	63	184.03	344	199

Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Stage-Area-Storage for Pond POST-3P: Sed. Forebay 2 (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
184.04	347	202	184.56	501	421
184.05	349	206	184.57	504	426
184.06	352	209	184.58	507	431
184.07	355	213	184.59	510	436
184.08	358	216	184.60	514	442
184.09	360	220	184.61	517	447
184.10	363	223	184.62	520	452
184.11	366	227	184.63	524	457
184.12	369	231	184.64	527	462
184.13	371	234	184.65	530	468
184.14	374	238	184.66	534	473
184.15	377	242	184.67	537	478
184.16	380	246	184.68	540	484
184.17	383	250	184.69	544	489
184.18	385	253	184.70	547	495
184.19	388	257	184.71	550	500
184.20	391	261	184.72	554	506
184.21	394	265	184.73	557	511
184.22	397	269	184.74	561	517
184.23	400	273	184.75	564	522
184.24	403	277	184.76	567	528
184.25	405	281	184.77	571	534
184.26	408	285	184.78	574	539
184.27	411	289	184.79	578	545
184.28	414	293	184.80	581	551
184.29	417	298	184.81	585	557
184.30	420	302	184.82	588	563
184.31	423	306	184.83	592	569
184.32	426	310	184.84	595	575
184.33	429	314	184.85	599	580
184.34	432	319	184.86	602	586
184.35	435	323	184.87	606	593
184.36	438	327	184.88	609	599
184.37	441	332	184.89	613	605
184.38	444	336	184.90	617	611
184.39	447	341	184.91	620	617
184.40	450	345	184.92	624	623
184.41	453	350	184.93	627	630
184.42	456	354	184.94	631	636
184.43	460	359	184.95	635	642
184.44	463	363	184.96	638	649
184.45	466	368	184.97	642	655
184.46	469	373	184.98	646	661
184.47	472	378	184.99	649	668
184.48	475	382	185.00	653	674
184.49	478	387			
184.50	481	392			
184.51	485	397			
184.52	488	402			
184.53	491	406			
184.54	494	411			
184.55	497	416			

Holliston - Stormwater Model

Type III 24-hr 2-year Rainfall=3.21"

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Summary for Pond POST-4P: Infiltration Basin

Inflow Area = 0.610 ac, 7.41% Impervious, Inflow Depth = 0.55" for 2-year event
 Inflow = 0.28 cfs @ 12.31 hrs, Volume= 0.028 af
 Outflow = 0.04 cfs @ 12.25 hrs, Volume= 0.028 af, Atten= 86%, Lag= 0.0 min
 Discarded = 0.04 cfs @ 12.25 hrs, Volume= 0.028 af
 Primary = 0.00 cfs @ 0.25 hrs, Volume= 0.000 af
 Secondary = 0.00 cfs @ 0.25 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
 Peak Elev= 173.26' @ 14.33 hrs Surf.Area= 694 sf Storage= 352 cf
 Flood Elev= 179.00' Surf.Area= 3,116 sf Storage= 9,476 cf

Plug-Flow detention time= 90.0 min calculated for 0.028 af (100% of inflow)
 Center-of-Mass det. time= 89.6 min (1,007.3 - 917.8)

Volume	Invert	Avail.Storage	Storage Description			
#1	171.99'	9,476 cf	Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
171.99	694	115.0	0.0	0	0	694
172.00	694	115.0	40.0	3	3	695
173.99	694	115.0	40.0	552	555	924
174.00	694	115.0	100.0	7	562	925
176.00	1,494	152.0	100.0	2,138	2,700	1,755
178.00	2,516	190.0	100.0	3,966	6,666	2,845
179.00	3,116	210.0	100.0	2,811	9,476	3,512

Device	Routing	Invert	Outlet Devices
#1	Discarded	171.99'	2.410 in/hr Exfiltration over Surface area
#2	Primary	175.00'	12.0" Round Culvert L= 34.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 175.00' / 174.50' S= 0.0147 ' S= 0.0147 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	177.00'	24.0" W x 6.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 2	177.75'	24.0" x 24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Secondary	178.00'	16.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Discarded OutFlow Max=0.04 cfs @ 12.25 hrs HW=172.06' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.25 hrs HW=171.99' (Free Discharge)

↑ **2=Culvert** (Controls 0.00 cfs)

↑ **3=Orifice/Grate** (Controls 0.00 cfs)

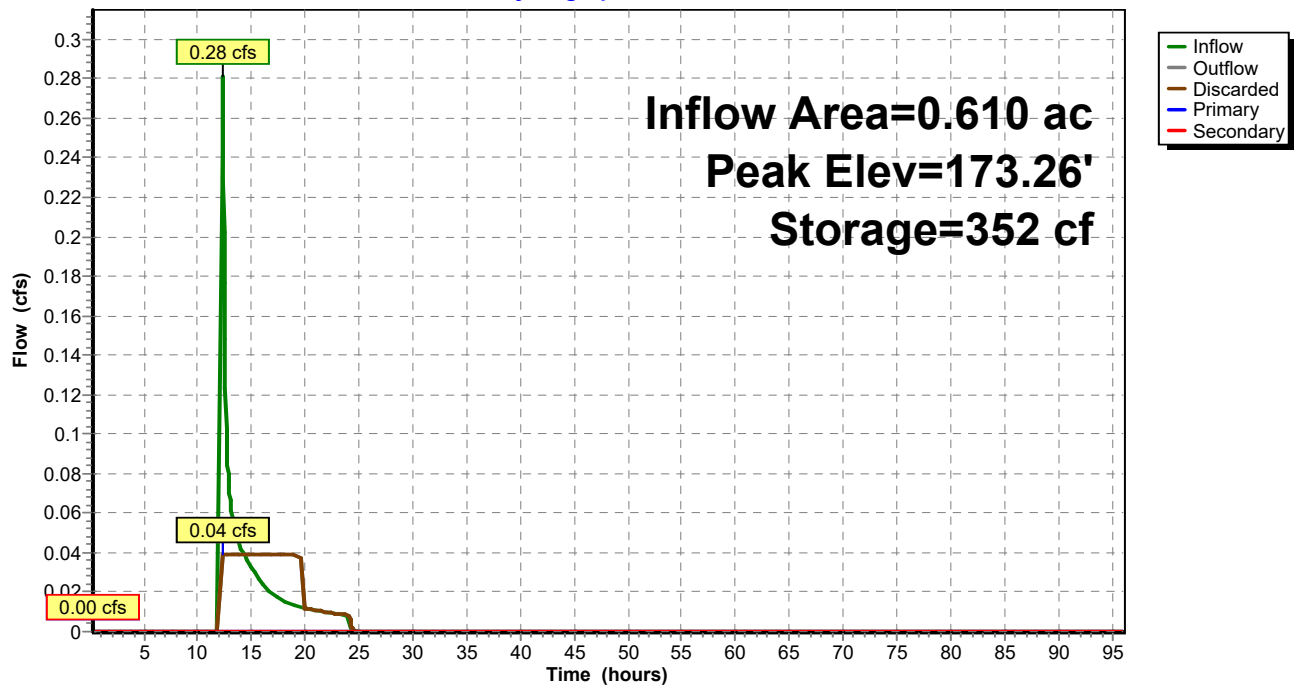
↑ **4=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.25 hrs HW=171.99' (Free Discharge)

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

Pond POST-4P: Infiltration Basin

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Stage-Area-Storage for Pond POST-4P: Infiltration Basin

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
171.99	694	0	172.51	694	144
172.00	694	3	172.52	694	147
172.01	694	6	172.53	694	150
172.02	694	8	172.54	694	153
172.03	694	11	172.55	694	155
172.04	694	14	172.56	694	158
172.05	694	17	172.57	694	161
172.06	694	19	172.58	694	164
172.07	694	22	172.59	694	167
172.08	694	25	172.60	694	169
172.09	694	28	172.61	694	172
172.10	694	31	172.62	694	175
172.11	694	33	172.63	694	178
172.12	694	36	172.64	694	180
172.13	694	39	172.65	694	183
172.14	694	42	172.66	694	186
172.15	694	44	172.67	694	189
172.16	694	47	172.68	694	192
172.17	694	50	172.69	694	194
172.18	694	53	172.70	694	197
172.19	694	56	172.71	694	200
172.20	694	58	172.72	694	203
172.21	694	61	172.73	694	205
172.22	694	64	172.74	694	208
172.23	694	67	172.75	694	211
172.24	694	69	172.76	694	214
172.25	694	72	172.77	694	217
172.26	694	75	172.78	694	219
172.27	694	78	172.79	694	222
172.28	694	81	172.80	694	225
172.29	694	83	172.81	694	228
172.30	694	86	172.82	694	230
172.31	694	89	172.83	694	233
172.32	694	92	172.84	694	236
172.33	694	94	172.85	694	239
172.34	694	97	172.86	694	242
172.35	694	100	172.87	694	244
172.36	694	103	172.88	694	247
172.37	694	105	172.89	694	250
172.38	694	108	172.90	694	253
172.39	694	111	172.91	694	255
172.40	694	114	172.92	694	258
172.41	694	117	172.93	694	261
172.42	694	119	172.94	694	264
172.43	694	122	172.95	694	266
172.44	694	125	172.96	694	269
172.45	694	128	172.97	694	272
172.46	694	130	172.98	694	275
172.47	694	133	172.99	694	278
172.48	694	136	173.00	694	280
172.49	694	139	173.01	694	283
172.50	694	142	173.02	694	286

Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Stage-Area-Storage for Pond POST-4P: Infiltration Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
173.03	694	289	173.55	694	433
173.04	694	291	173.56	694	436
173.05	694	294	173.57	694	439
173.06	694	297	173.58	694	441
173.07	694	300	173.59	694	444
173.08	694	303	173.60	694	447
173.09	694	305	173.61	694	450
173.10	694	308	173.62	694	452
173.11	694	311	173.63	694	455
173.12	694	314	173.64	694	458
173.13	694	316	173.65	694	461
173.14	694	319	173.66	694	464
173.15	694	322	173.67	694	466
173.16	694	325	173.68	694	469
173.17	694	328	173.69	694	472
173.18	694	330	173.70	694	475
173.19	694	333	173.71	694	477
173.20	694	336	173.72	694	480
173.21	694	339	173.73	694	483
173.22	694	341	173.74	694	486
173.23	694	344	173.75	694	489
173.24	694	347	173.76	694	491
173.25	694	350	173.77	694	494
173.26	694	353	173.78	694	497
173.27	694	355	173.79	694	500
173.28	694	358	173.80	694	502
173.29	694	361	173.81	694	505
173.30	694	364	173.82	694	508
173.31	694	366	173.83	694	511
173.32	694	369	173.84	694	514
173.33	694	372	173.85	694	516
173.34	694	375	173.86	694	519
173.35	694	378	173.87	694	522
173.36	694	380	173.88	694	525
173.37	694	383	173.89	694	527
173.38	694	386	173.90	694	530
173.39	694	389	173.91	694	533
173.40	694	391	173.92	694	536
173.41	694	394	173.93	694	539
173.42	694	397	173.94	694	541
173.43	694	400	173.95	694	544
173.44	694	403	173.96	694	547
173.45	694	405	173.97	694	550
173.46	694	408	173.98	694	552
173.47	694	411	173.99	694	555
173.48	694	414	174.00	694	562
173.49	694	416	174.01	697	569
173.50	694	419	174.02	701	576
173.51	694	422	174.03	704	583
173.52	694	425	174.04	707	590
173.53	694	428	174.05	710	597
173.54	694	430	174.06	714	604

Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Stage-Area-Storage for Pond POST-4P: Infiltration Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
174.07	717	612	174.59	898	1,031
174.08	720	619	174.60	902	1,040
174.09	723	626	174.61	906	1,049
174.10	727	633	174.62	910	1,058
174.11	730	640	174.63	913	1,067
174.12	733	648	174.64	917	1,076
174.13	737	655	174.65	921	1,085
174.14	740	663	174.66	925	1,094
174.15	743	670	174.67	928	1,104
174.16	747	677	174.68	932	1,113
174.17	750	685	174.69	936	1,122
174.18	754	692	174.70	940	1,132
174.19	757	700	174.71	943	1,141
174.20	760	708	174.72	947	1,151
174.21	764	715	174.73	951	1,160
174.22	767	723	174.74	955	1,170
174.23	771	730	174.75	958	1,179
174.24	774	738	174.76	962	1,189
174.25	777	746	174.77	966	1,198
174.26	781	754	174.78	970	1,208
174.27	784	762	174.79	974	1,218
174.28	788	769	174.80	978	1,228
174.29	791	777	174.81	981	1,237
174.30	795	785	174.82	985	1,247
174.31	798	793	174.83	989	1,257
174.32	802	801	174.84	993	1,267
174.33	805	809	174.85	997	1,277
174.34	809	817	174.86	1,001	1,287
174.35	812	825	174.87	1,005	1,297
174.36	816	834	174.88	1,009	1,307
174.37	819	842	174.89	1,013	1,317
174.38	823	850	174.90	1,017	1,327
174.39	826	858	174.91	1,020	1,337
174.40	830	866	174.92	1,024	1,348
174.41	833	875	174.93	1,028	1,358
174.42	837	883	174.94	1,032	1,368
174.43	840	892	174.95	1,036	1,379
174.44	844	900	174.96	1,040	1,389
174.45	848	908	174.97	1,044	1,399
174.46	851	917	174.98	1,048	1,410
174.47	855	925	174.99	1,052	1,420
174.48	858	934	175.00	1,056	1,431
174.49	862	943	175.01	1,060	1,441
174.50	866	951	175.02	1,064	1,452
174.51	869	960	175.03	1,068	1,463
174.52	873	969	175.04	1,072	1,473
174.53	876	977	175.05	1,076	1,484
174.54	880	986	175.06	1,080	1,495
174.55	884	995	175.07	1,084	1,506
174.56	887	1,004	175.08	1,088	1,517
174.57	891	1,013	175.09	1,092	1,528
174.58	895	1,022	175.10	1,097	1,539

Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Stage-Area-Storage for Pond POST-4P: Infiltration Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
175.11	1,101	1,550	175.63	1,323	2,179
175.12	1,105	1,561	175.64	1,328	2,192
175.13	1,109	1,572	175.65	1,332	2,205
175.14	1,113	1,583	175.66	1,337	2,219
175.15	1,117	1,594	175.67	1,341	2,232
175.16	1,121	1,605	175.68	1,346	2,246
175.17	1,125	1,616	175.69	1,350	2,259
175.18	1,129	1,628	175.70	1,355	2,273
175.19	1,133	1,639	175.71	1,359	2,286
175.20	1,138	1,650	175.72	1,364	2,300
175.21	1,142	1,662	175.73	1,368	2,313
175.22	1,146	1,673	175.74	1,373	2,327
175.23	1,150	1,685	175.75	1,377	2,341
175.24	1,154	1,696	175.76	1,382	2,355
175.25	1,158	1,708	175.77	1,387	2,368
175.26	1,163	1,719	175.78	1,391	2,382
175.27	1,167	1,731	175.79	1,396	2,396
175.28	1,171	1,743	175.80	1,400	2,410
175.29	1,175	1,754	175.81	1,405	2,424
175.30	1,180	1,766	175.82	1,410	2,438
175.31	1,184	1,778	175.83	1,414	2,452
175.32	1,188	1,790	175.84	1,419	2,467
175.33	1,192	1,802	175.85	1,423	2,481
175.34	1,197	1,814	175.86	1,428	2,495
175.35	1,201	1,826	175.87	1,433	2,509
175.36	1,205	1,838	175.88	1,437	2,524
175.37	1,209	1,850	175.89	1,442	2,538
175.38	1,214	1,862	175.90	1,447	2,553
175.39	1,218	1,874	175.91	1,451	2,567
175.40	1,222	1,886	175.92	1,456	2,582
175.41	1,226	1,898	175.93	1,461	2,596
175.42	1,231	1,911	175.94	1,466	2,611
175.43	1,235	1,923	175.95	1,470	2,626
175.44	1,239	1,935	175.96	1,475	2,640
175.45	1,244	1,948	175.97	1,480	2,655
175.46	1,248	1,960	175.98	1,485	2,670
175.47	1,252	1,973	175.99	1,489	2,685
175.48	1,257	1,985	176.00	1,494	2,700
175.49	1,261	1,998	176.01	1,498	2,715
175.50	1,266	2,011	176.02	1,503	2,730
175.51	1,270	2,023	176.03	1,507	2,745
175.52	1,274	2,036	176.04	1,512	2,760
175.53	1,279	2,049	176.05	1,516	2,775
175.54	1,283	2,062	176.06	1,521	2,790
175.55	1,288	2,074	176.07	1,525	2,805
175.56	1,292	2,087	176.08	1,530	2,821
175.57	1,296	2,100	176.09	1,534	2,836
175.58	1,301	2,113	176.10	1,539	2,851
175.59	1,305	2,126	176.11	1,543	2,867
175.60	1,310	2,139	176.12	1,548	2,882
175.61	1,314	2,152	176.13	1,552	2,898
175.62	1,319	2,166	176.14	1,557	2,913

Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Stage-Area-Storage for Pond POST-4P: Infiltration Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
176.15	1,561	2,929	176.67	1,807	3,804
176.16	1,566	2,944	176.68	1,812	3,822
176.17	1,571	2,960	176.69	1,817	3,840
176.18	1,575	2,976	176.70	1,822	3,858
176.19	1,580	2,992	176.71	1,826	3,876
176.20	1,584	3,007	176.72	1,831	3,895
176.21	1,589	3,023	176.73	1,836	3,913
176.22	1,593	3,039	176.74	1,841	3,931
176.23	1,598	3,055	176.75	1,846	3,950
176.24	1,603	3,071	176.76	1,851	3,968
176.25	1,607	3,087	176.77	1,856	3,987
176.26	1,612	3,103	176.78	1,861	4,006
176.27	1,617	3,119	176.79	1,866	4,024
176.28	1,621	3,136	176.80	1,871	4,043
176.29	1,626	3,152	176.81	1,876	4,062
176.30	1,630	3,168	176.82	1,881	4,080
176.31	1,635	3,184	176.83	1,886	4,099
176.32	1,640	3,201	176.84	1,891	4,118
176.33	1,644	3,217	176.85	1,896	4,137
176.34	1,649	3,234	176.86	1,901	4,156
176.35	1,654	3,250	176.87	1,906	4,175
176.36	1,658	3,267	176.88	1,911	4,194
176.37	1,663	3,283	176.89	1,916	4,213
176.38	1,668	3,300	176.90	1,921	4,232
176.39	1,673	3,317	176.91	1,926	4,252
176.40	1,677	3,334	176.92	1,931	4,271
176.41	1,682	3,350	176.93	1,936	4,290
176.42	1,687	3,367	176.94	1,941	4,310
176.43	1,691	3,384	176.95	1,946	4,329
176.44	1,696	3,401	176.96	1,952	4,349
176.45	1,701	3,418	176.97	1,957	4,368
176.46	1,706	3,435	176.98	1,962	4,388
176.47	1,710	3,452	176.99	1,967	4,407
176.48	1,715	3,469	177.00	1,972	4,427
176.49	1,720	3,486	177.01	1,977	4,447
176.50	1,725	3,504	177.02	1,982	4,467
176.51	1,729	3,521	177.03	1,987	4,486
176.52	1,734	3,538	177.04	1,992	4,506
176.53	1,739	3,556	177.05	1,998	4,526
176.54	1,744	3,573	177.06	2,003	4,546
176.55	1,749	3,590	177.07	2,008	4,566
176.56	1,753	3,608	177.08	2,013	4,586
176.57	1,758	3,626	177.09	2,018	4,607
176.58	1,763	3,643	177.10	2,023	4,627
176.59	1,768	3,661	177.11	2,029	4,647
176.60	1,773	3,678	177.12	2,034	4,667
176.61	1,778	3,696	177.13	2,039	4,688
176.62	1,782	3,714	177.14	2,044	4,708
176.63	1,787	3,732	177.15	2,049	4,729
176.64	1,792	3,750	177.16	2,055	4,749
176.65	1,797	3,768	177.17	2,060	4,770
176.66	1,802	3,786	177.18	2,065	4,790

Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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Stage-Area-Storage for Pond POST-4P: Infiltration Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
177.19	2,070	4,811	177.71	2,351	5,960
177.20	2,075	4,832	177.72	2,357	5,983
177.21	2,081	4,853	177.73	2,363	6,007
177.22	2,086	4,873	177.74	2,368	6,031
177.23	2,091	4,894	177.75	2,374	6,054
177.24	2,096	4,915	177.76	2,379	6,078
177.25	2,102	4,936	177.77	2,385	6,102
177.26	2,107	4,957	177.78	2,391	6,126
177.27	2,112	4,978	177.79	2,396	6,150
177.28	2,118	4,999	177.80	2,402	6,174
177.29	2,123	5,021	177.81	2,408	6,198
177.30	2,128	5,042	177.82	2,413	6,222
177.31	2,133	5,063	177.83	2,419	6,246
177.32	2,139	5,085	177.84	2,424	6,270
177.33	2,144	5,106	177.85	2,430	6,295
177.34	2,149	5,127	177.86	2,436	6,319
177.35	2,155	5,149	177.87	2,442	6,343
177.36	2,160	5,171	177.88	2,447	6,368
177.37	2,165	5,192	177.89	2,453	6,392
177.38	2,171	5,214	177.90	2,459	6,417
177.39	2,176	5,236	177.91	2,464	6,441
177.40	2,182	5,257	177.92	2,470	6,466
177.41	2,187	5,279	177.93	2,476	6,491
177.42	2,192	5,301	177.94	2,481	6,516
177.43	2,198	5,323	177.95	2,487	6,540
177.44	2,203	5,345	177.96	2,493	6,565
177.45	2,209	5,367	177.97	2,499	6,590
177.46	2,214	5,389	177.98	2,504	6,615
177.47	2,219	5,411	177.99	2,510	6,640
177.48	2,225	5,434	178.00	2,516	6,666
177.49	2,230	5,456	178.01	2,522	6,691
177.50	2,236	5,478	178.02	2,527	6,716
177.51	2,241	5,501	178.03	2,533	6,741
177.52	2,247	5,523	178.04	2,539	6,767
177.53	2,252	5,546	178.05	2,544	6,792
177.54	2,257	5,568	178.06	2,550	6,817
177.55	2,263	5,591	178.07	2,556	6,843
177.56	2,268	5,613	178.08	2,562	6,869
177.57	2,274	5,636	178.09	2,567	6,894
177.58	2,279	5,659	178.10	2,573	6,920
177.59	2,285	5,682	178.11	2,579	6,946
177.60	2,290	5,705	178.12	2,585	6,972
177.61	2,296	5,728	178.13	2,590	6,997
177.62	2,301	5,750	178.14	2,596	7,023
177.63	2,307	5,774	178.15	2,602	7,049
177.64	2,312	5,797	178.16	2,608	7,075
177.65	2,318	5,820	178.17	2,613	7,101
177.66	2,324	5,843	178.18	2,619	7,128
177.67	2,329	5,866	178.19	2,625	7,154
177.68	2,335	5,890	178.20	2,631	7,180
177.69	2,340	5,913	178.21	2,637	7,206
177.70	2,346	5,936	178.22	2,642	7,233

Holliston - Stormwater Model

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Type III 24-hr 2-year Rainfall=3.21"

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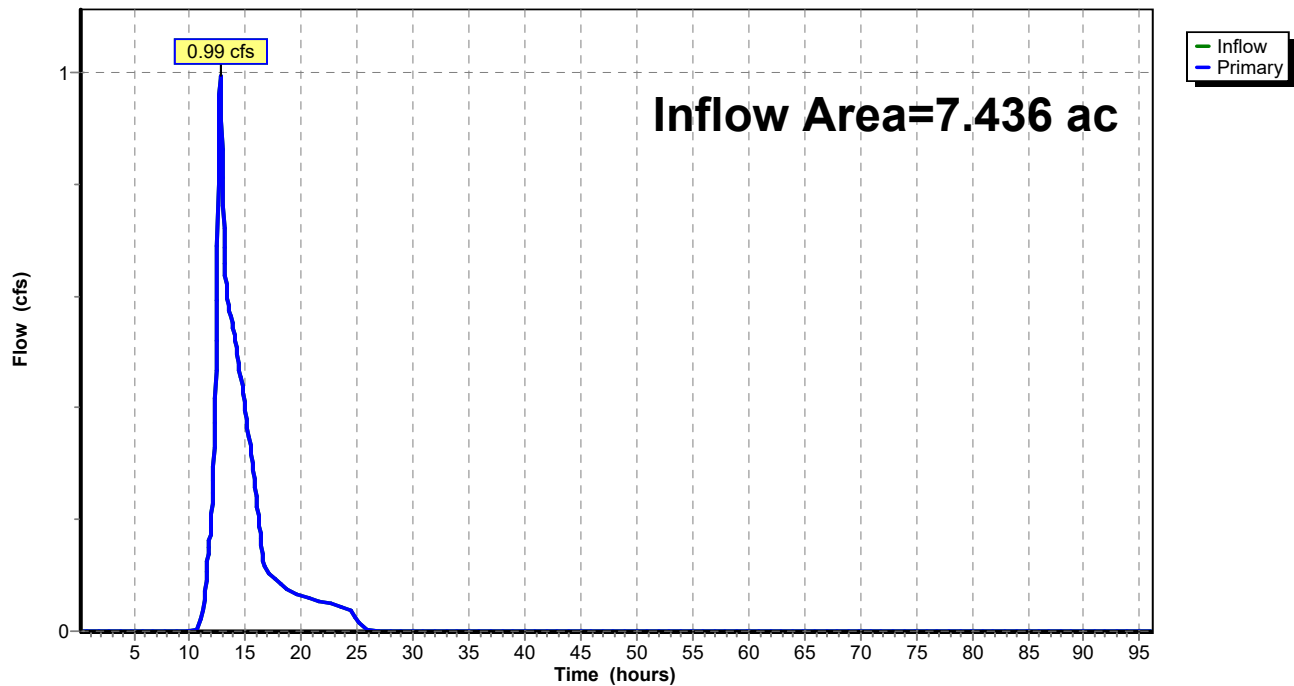
Stage-Area-Storage for Pond POST-4P: Infiltration Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
178.23	2,648	7,259	178.75	2,960	8,717
178.24	2,654	7,286	178.76	2,966	8,746
178.25	2,660	7,312	178.77	2,972	8,776
178.26	2,666	7,339	178.78	2,978	8,806
178.27	2,672	7,366	178.79	2,985	8,836
178.28	2,678	7,392	178.80	2,991	8,866
178.29	2,683	7,419	178.81	2,997	8,895
178.30	2,689	7,446	178.82	3,003	8,925
178.31	2,695	7,473	178.83	3,009	8,956
178.32	2,701	7,500	178.84	3,016	8,986
178.33	2,707	7,527	178.85	3,022	9,016
178.34	2,713	7,554	178.86	3,028	9,046
178.35	2,719	7,581	178.87	3,034	9,076
178.36	2,725	7,609	178.88	3,041	9,107
178.37	2,731	7,636	178.89	3,047	9,137
178.38	2,736	7,663	178.90	3,053	9,168
178.39	2,742	7,691	178.91	3,059	9,198
178.40	2,748	7,718	178.92	3,066	9,229
178.41	2,754	7,746	178.93	3,072	9,260
178.42	2,760	7,773	178.94	3,078	9,290
178.43	2,766	7,801	178.95	3,084	9,321
178.44	2,772	7,828	178.96	3,091	9,352
178.45	2,778	7,856	178.97	3,097	9,383
178.46	2,784	7,884	178.98	3,103	9,414
178.47	2,790	7,912	178.99	3,110	9,445
178.48	2,796	7,940	179.00	3,116	9,476
178.49	2,802	7,968			
178.50	2,808	7,996			
178.51	2,814	8,024			
178.52	2,820	8,052			
178.53	2,826	8,080			
178.54	2,832	8,109			
178.55	2,838	8,137			
178.56	2,844	8,165			
178.57	2,850	8,194			
178.58	2,856	8,222			
178.59	2,862	8,251			
178.60	2,868	8,280			
178.61	2,874	8,308			
178.62	2,880	8,337			
178.63	2,887	8,366			
178.64	2,893	8,395			
178.65	2,899	8,424			
178.66	2,905	8,453			
178.67	2,911	8,482			
178.68	2,917	8,511			
178.69	2,923	8,540			
178.70	2,929	8,570			
178.71	2,935	8,599			
178.72	2,942	8,628			
178.73	2,948	8,658			
178.74	2,954	8,687			

Summary for Link POST-DP-1: Analysis Point

Inflow Area = 7.436 ac, 19.32% Impervious, Inflow Depth = 0.37" for 2-year event
Inflow = 0.99 cfs @ 12.72 hrs, Volume= 0.229 af
Primary = 0.99 cfs @ 12.72 hrs, Volume= 0.229 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Link POST-DP-1: Analysis Point**Hydrograph**

Holliston - Stormwater Model

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Type III 24-hr 10-year Rainfall=4.81"

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Summary for Subcatchment POST-1S:

Runoff = 5.80 cfs @ 12.09 hrs, Volume= 0.425 af, Depth= 3.19"

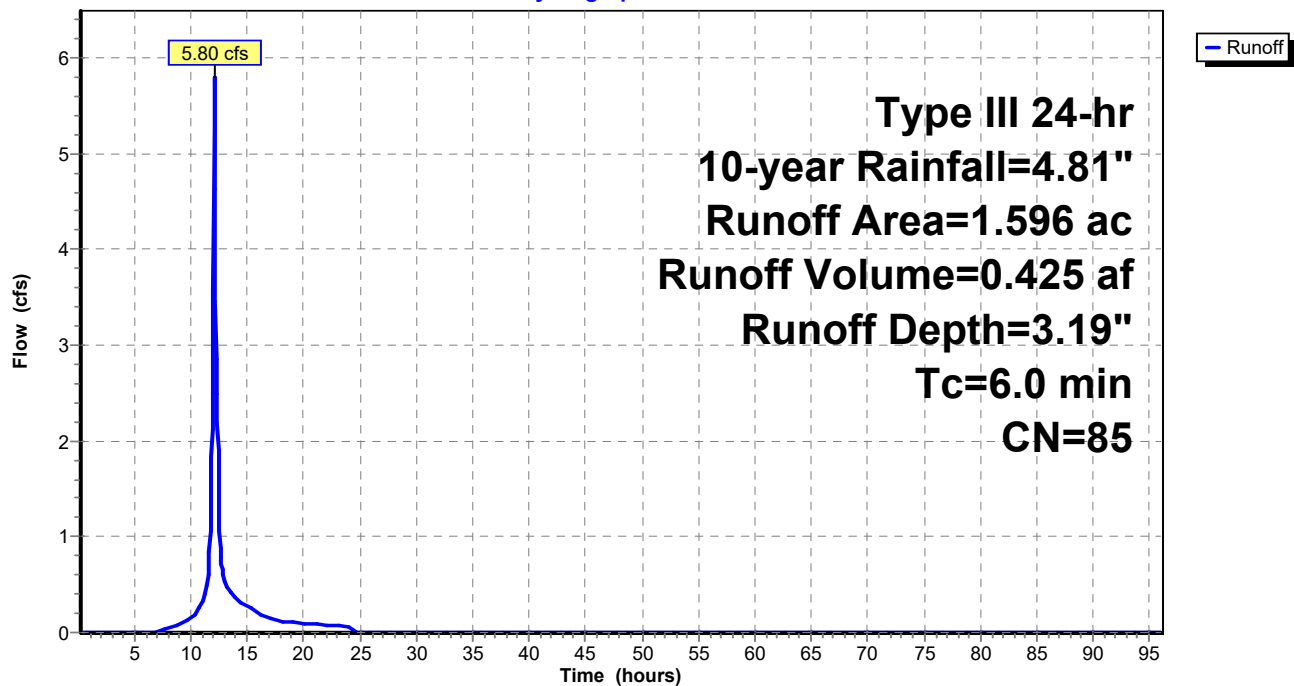
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.81"

	Area (ac)	CN	Description
*	1.260	98	Pavement, Roofs, Concrete Pads
*	0.000	96	Compacted Gravel
*	0.000	76	Crushed Stone Yard
	0.180	39	>75% Grass cover, Good, HSG A
	0.016	30	Meadow, non-grazed, HSG A
	0.140	30	Woods, Good, HSG A
	1.596	85	Weighted Average
	0.336		21.05% Pervious Area
	1.260		78.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum of 6 mins for HydroCAD model

Subcatchment POST-1S:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 10-year Rainfall=4.81"

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Summary for Subcatchment POST-2S-A:

Runoff = 0.03 cfs @ 16.93 hrs, Volume= 0.018 af, Depth= 0.04"

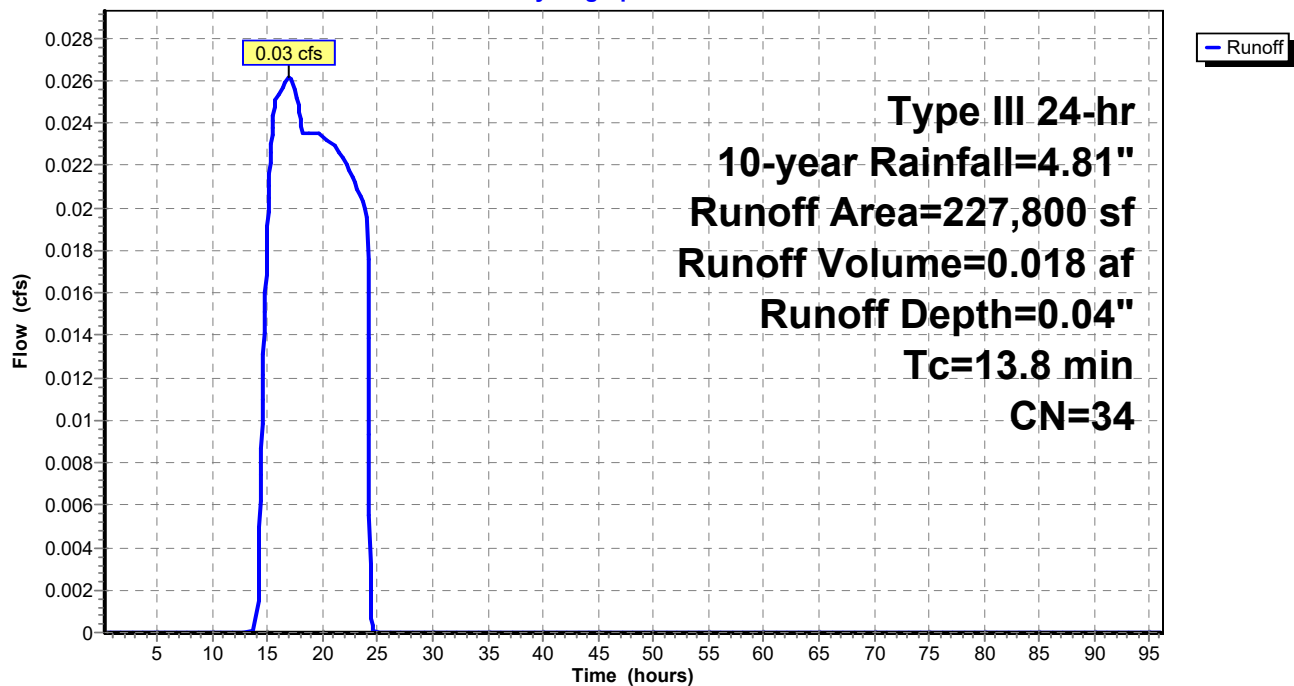
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.81"

	Area (sf)	CN	Description
*	5,732	98	Pavement, Roofs, Concrete Pads
*	1,067	96	Compacted Gravel
*	9,568	55	Crushed Stone Yard
	26,647	39	>75% Grass cover, Good, HSG A
	19,869	30	Meadow, non-grazed, HSG A
	164,917	30	Woods, Good, HSG A
	227,800	34	Weighted Average
	222,068		97.48% Pervious Area
	5,732		2.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8					Direct Entry, See Tc calc sheet

Subcatchment POST-2S-A:

Hydrograph



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Type III 24-hr 10-year Rainfall=4.81"

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Summary for Subcatchment POST-2S-B:

Runoff = 1.03 cfs @ 12.09 hrs, Volume= 0.075 af, Depth= 2.46"

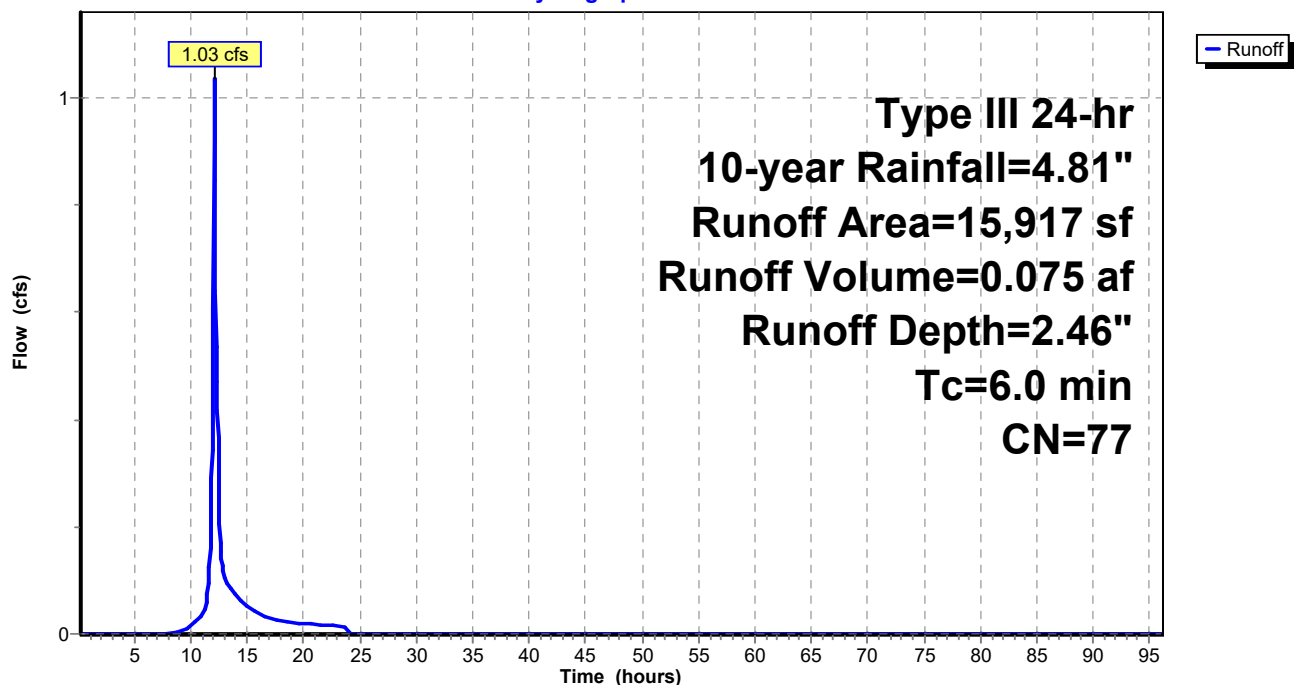
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.81"

	Area (sf)	CN	Description
*	1,971	98	Pavement, Roofs, Concrete Pads
*	6,029	96	Compacted Gravel
*	5,989	55	Crushed Stone Yard
	668	39	>75% Grass cover, Good, HSG A
	0	30	Meadow, non-grazed, HSG A
	0	30	Woods, Good, HSG A
	1,260	80	>75% Grass cover, Good, HSG D
	15,917	77	Weighted Average
	13,946		87.62% Pervious Area
	1,971		12.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum of 6 mins for HydroCAD model

Subcatchment POST-2S-B:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 10-year Rainfall=4.81"

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Summary for Subcatchment POST-2S-C:

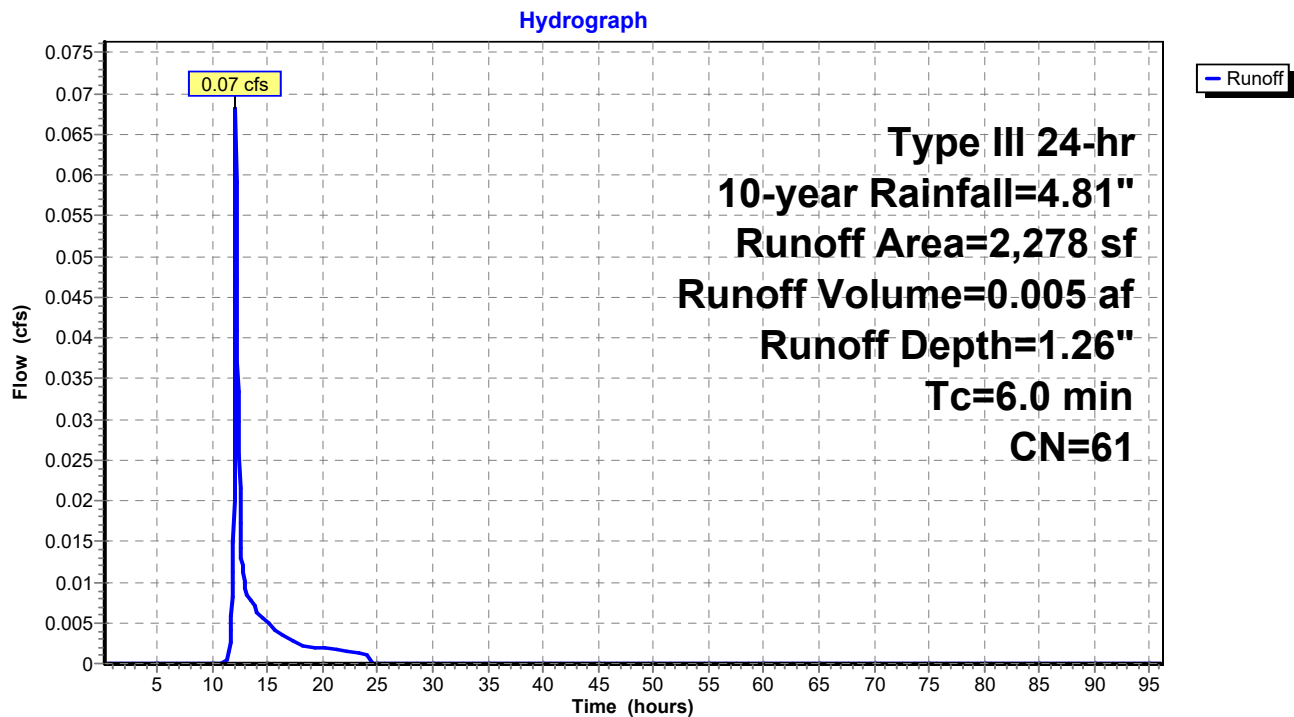
Runoff = 0.07 cfs @ 12.10 hrs, Volume= 0.005 af, Depth= 1.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.81"

	Area (sf)	CN	Description
*	0	98	Pavement, Roofs, Concrete Pads
*	0	96	Compacted Gravel
*	0	55	Crushed Stone Yard
	1,078	39	>75% Grass cover, Good, HSG A
	0	30	Meadow, non-grazed, HSG A
	0	30	Woods, Good, HSG A
	1,200	80	>75% Grass cover, Good, HSG D
	2,278	61	Weighted Average
	2,278		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum of 6 mins for HydroCAD model

Subcatchment POST-2S-C:



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Type III 24-hr 10-year Rainfall=4.81"

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Summary for Subcatchment POST-2S-D:

Runoff = 0.00 cfs @ 13.66 hrs, Volume= 0.003 af, Depth= 0.16"

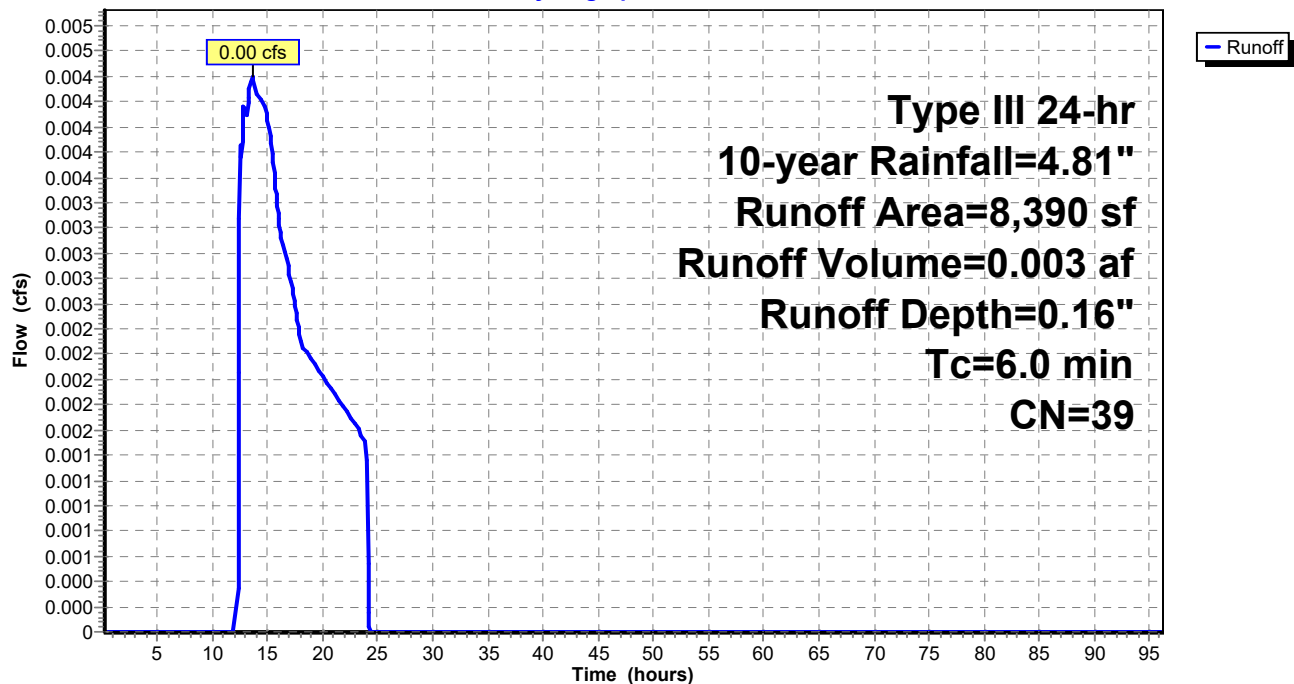
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-year Rainfall=4.81"

	Area (sf)	CN	Description
*	0	98	Pavement, Roofs, Concrete Pads
*	0	96	Compacted Gravel
*	0	55	Crushed Stone Yard
	8,390	39	>75% Grass cover, Good, HSG A
	0	30	Meadow, non-grazed, HSG A
	0	30	Woods, Good, HSG A
	8,390	39	Weighted Average
	8,390		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum of 6 mins for HydroCAD model

Subcatchment POST-2S-D:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 10-year Rainfall=4.81"

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Summary for Reach POST-1R:

Inflow Area = 1.596 ac, 78.95% Impervious, Inflow Depth = 3.15" for 10-year event
Inflow = 3.30 cfs @ 12.22 hrs, Volume= 0.418 af
Outflow = 3.27 cfs @ 12.24 hrs, Volume= 0.418 af, Atten= 1%, Lag= 1.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Max. Velocity= 4.28 fps, Min. Travel Time= 0.6 min

Avg. Velocity = 1.42 fps, Avg. Travel Time= 1.8 min

Peak Storage= 116 cf @ 12.23 hrs

Average Depth at Peak Storage= 0.30' , Surface Width= 3.18'

Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 145.48 cfs

2.00' x 2.00' deep channel, n= 0.030 Earth, grassed & winding

Side Slope Z-value= 2.0 ' / ' Top Width= 10.00'

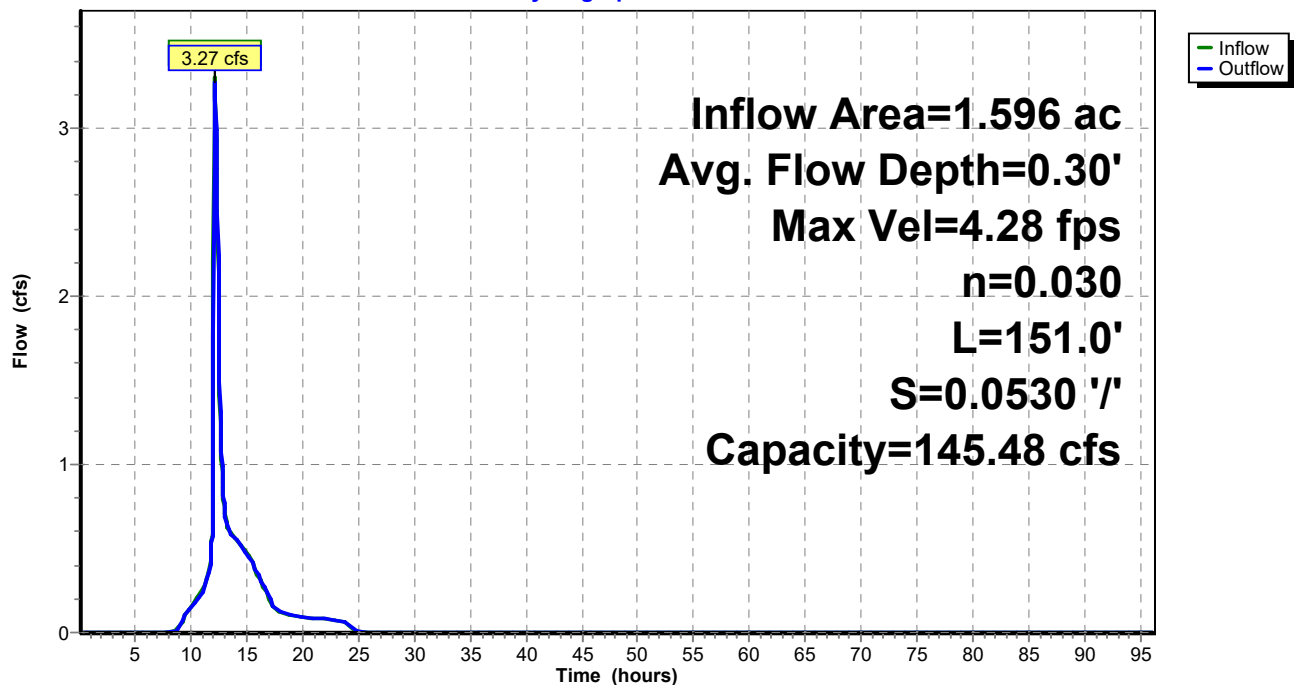
Length= 151.0' Slope= 0.0530 ' / '

Inlet Invert= 187.00', Outlet Invert= 179.00'



Reach POST-1R:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 10-year Rainfall=4.81"

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Stage-Area-Storage for Reach POST-1R:

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
187.00	0.0	0	187.52	1.6	239
187.01	0.0	3	187.53	1.6	245
187.02	0.0	6	187.54	1.7	251
187.03	0.1	9	187.55	1.7	257
187.04	0.1	13	187.56	1.7	264
187.05	0.1	16	187.57	1.8	270
187.06	0.1	19	187.58	1.8	277
187.07	0.2	23	187.59	1.9	283
187.08	0.2	26	187.60	1.9	290
187.09	0.2	30	187.61	2.0	297
187.10	0.2	33	187.62	2.0	303
187.11	0.2	37	187.63	2.1	310
187.12	0.3	41	187.64	2.1	317
187.13	0.3	44	187.65	2.1	324
187.14	0.3	48	187.66	2.2	331
187.15	0.3	52	187.67	2.2	338
187.16	0.4	56	187.68	2.3	345
187.17	0.4	60	187.69	2.3	352
187.18	0.4	64	187.70	2.4	359
187.19	0.5	68	187.71	2.4	367
187.20	0.5	72	187.72	2.5	374
187.21	0.5	77	187.73	2.5	381
187.22	0.5	81	187.74	2.6	389
187.23	0.6	85	187.75	2.6	396
187.24	0.6	90	187.76	2.7	404
187.25	0.6	94	187.77	2.7	412
187.26	0.7	99	187.78	2.8	419
187.27	0.7	104	187.79	2.8	427
187.28	0.7	108	187.80	2.9	435
187.29	0.7	113	187.81	2.9	443
187.30	0.8	118	187.82	3.0	451
187.31	0.8	123	187.83	3.0	459
187.32	0.8	128	187.84	3.1	467
187.33	0.9	133	187.85	3.1	475
187.34	0.9	138	187.86	3.2	483
187.35	0.9	143	187.87	3.3	491
187.36	1.0	148	187.88	3.3	500
187.37	1.0	153	187.89	3.4	508
187.38	1.0	158	187.90	3.4	516
187.39	1.1	164	187.91	3.5	525
187.40	1.1	169	187.92	3.5	533
187.41	1.2	175	187.93	3.6	542
187.42	1.2	180	187.94	3.6	551
187.43	1.2	186	187.95	3.7	559
187.44	1.3	191	187.96	3.8	568
187.45	1.3	197	187.97	3.8	577
187.46	1.3	203	187.98	3.9	586
187.47	1.4	209	187.99	3.9	595
187.48	1.4	215	188.00	4.0	604
187.49	1.5	221	188.01	4.1	613
187.50	1.5	227	188.02	4.1	622
187.51	1.5	233	188.03	4.2	631

Holliston - Stormwater Model

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Type III 24-hr 10-year Rainfall=4.81"

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Stage-Area-Storage for Reach POST-1R: (continued)

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
188.04	4.2	641	188.56	8.0	1,206
188.05	4.3	650	188.57	8.1	1,219
188.06	4.4	659	188.58	8.2	1,231
188.07	4.4	669	188.59	8.2	1,244
188.08	4.5	678	188.60	8.3	1,256
188.09	4.6	688	188.61	8.4	1,269
188.10	4.6	698	188.62	8.5	1,282
188.11	4.7	707	188.63	8.6	1,295
188.12	4.7	717	188.64	8.7	1,308
188.13	4.8	727	188.65	8.7	1,321
188.14	4.9	737	188.66	8.8	1,334
188.15	4.9	747	188.67	8.9	1,347
188.16	5.0	757	188.68	9.0	1,360
188.17	5.1	767	188.69	9.1	1,373
188.18	5.1	777	188.70	9.2	1,386
188.19	5.2	787	188.71	9.3	1,400
188.20	5.3	797	188.72	9.4	1,413
188.21	5.3	808	188.73	9.4	1,426
188.22	5.4	818	188.74	9.5	1,440
188.23	5.5	828	188.75	9.6	1,453
188.24	5.6	839	188.76	9.7	1,467
188.25	5.6	849	188.77	9.8	1,481
188.26	5.7	860	188.78	9.9	1,494
188.27	5.8	871	188.79	10.0	1,508
188.28	5.8	881	188.80	10.1	1,522
188.29	5.9	892	188.81	10.2	1,536
188.30	6.0	903	188.82	10.3	1,550
188.31	6.1	914	188.83	10.4	1,564
188.32	6.1	925	188.84	10.5	1,578
188.33	6.2	936	188.85	10.5	1,592
188.34	6.3	947	188.86	10.6	1,607
188.35	6.3	958	188.87	10.7	1,621
188.36	6.4	969	188.88	10.8	1,635
188.37	6.5	981	188.89	10.9	1,650
188.38	6.6	992	188.90	11.0	1,664
188.39	6.6	1,003	188.91	11.1	1,679
188.40	6.7	1,015	188.92	11.2	1,693
188.41	6.8	1,026	188.93	11.3	1,708
188.42	6.9	1,038	188.94	11.4	1,722
188.43	6.9	1,049	188.95	11.5	1,737
188.44	7.0	1,061	188.96	11.6	1,752
188.45	7.1	1,073	188.97	11.7	1,767
188.46	7.2	1,085	188.98	11.8	1,782
188.47	7.3	1,097	188.99	11.9	1,797
188.48	7.3	1,108	189.00	12.0	1,812
188.49	7.4	1,120			
188.50	7.5	1,133			
188.51	7.6	1,145			
188.52	7.7	1,157			
188.53	7.7	1,169			
188.54	7.8	1,181			
188.55	7.9	1,194			

Holliston - Stormwater Model

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Type III 24-hr 10-year Rainfall=4.81"

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Summary for Reach POST-2R:

Inflow Area = 1.596 ac, 78.95% Impervious, Inflow Depth = 3.15" for 10-year event
Inflow = 3.27 cfs @ 12.24 hrs, Volume= 0.418 af
Outflow = 3.24 cfs @ 12.29 hrs, Volume= 0.418 af, Atten= 1%, Lag= 3.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.51 fps, Min. Travel Time= 1.6 min

Avg. Velocity = 0.13 fps, Avg. Travel Time= 6.3 min

Peak Storage= 317 cf @ 12.26 hrs

Average Depth at Peak Storage= 0.23' , Surface Width= 29.65'

Bank-Full Depth= 1.00' Flow Area= 35.0 sf, Capacity= 42.53 cfs

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

Side Slope Z-value= 10.0 ' ' Top Width= 45.00'

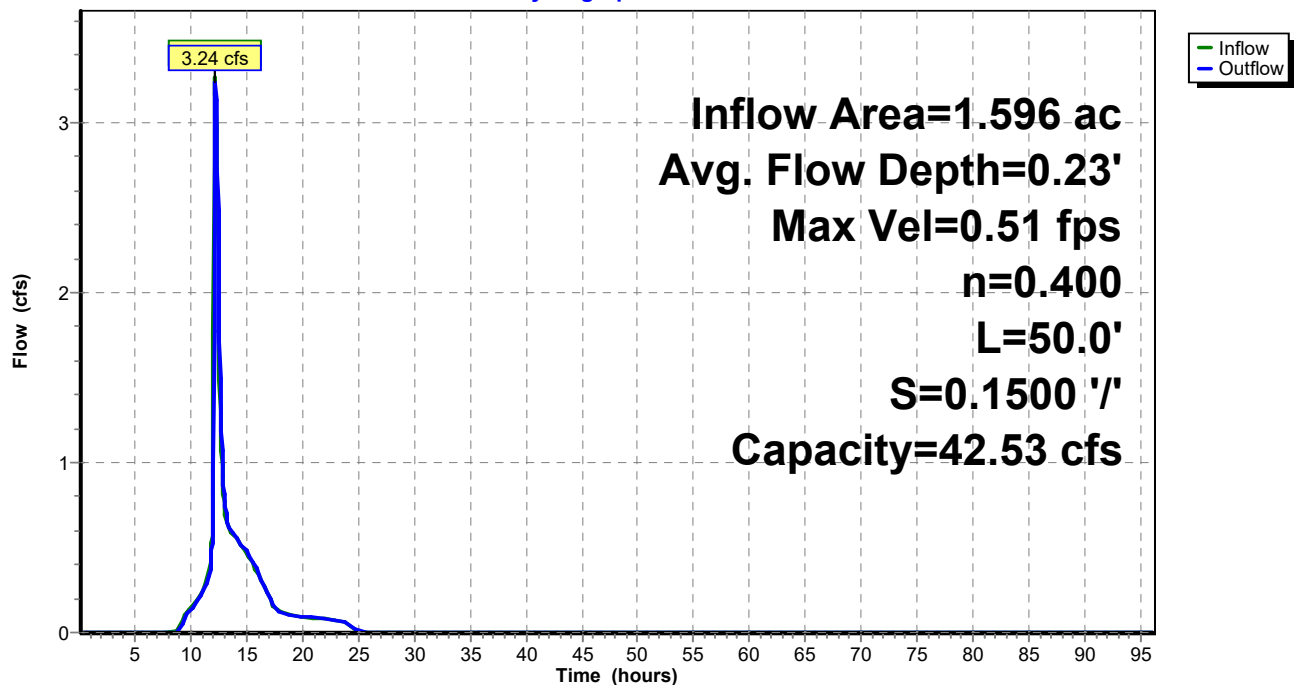
Length= 50.0' Slope= 0.1500 ' '

Inlet Invert= 178.50', Outlet Invert= 171.00'



Reach POST-2R:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 10-year Rainfall=4.81"

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Stage-Area-Storage for Reach POST-2R:

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
178.50	0.0	0	179.02	15.7	785
178.51	0.3	13	179.03	16.1	803
178.52	0.5	25	179.04	16.4	821
178.53	0.8	38	179.05	16.8	839
178.54	1.0	51	179.06	17.1	857
178.55	1.3	64	179.07	17.5	875
178.56	1.5	77	179.08	17.9	893
178.57	1.8	90	179.09	18.2	912
178.58	2.1	103	179.10	18.6	930
178.59	2.3	117	179.11	19.0	949
178.60	2.6	130	179.12	19.3	967
178.61	2.9	144	179.13	19.7	986
178.62	3.1	157	179.14	20.1	1,005
178.63	3.4	171	179.15	20.5	1,024
178.64	3.7	185	179.16	20.9	1,043
178.65	4.0	199	179.17	21.2	1,062
178.66	4.3	213	179.18	21.6	1,081
178.67	4.5	227	179.19	22.0	1,101
178.68	4.8	241	179.20	22.4	1,120
178.69	5.1	256	179.21	22.8	1,140
178.70	5.4	270	179.22	23.2	1,159
178.71	5.7	285	179.23	23.6	1,179
178.72	6.0	299	179.24	24.0	1,199
178.73	6.3	314	179.25	24.4	1,219
178.74	6.6	329	179.26	24.8	1,239
178.75	6.9	344	179.27	25.2	1,259
178.76	7.2	359	179.28	25.6	1,279
178.77	7.5	374	179.29	26.0	1,300
178.78	7.8	389	179.30	26.4	1,320
178.79	8.1	405	179.31	26.8	1,341
178.80	8.4	420	179.32	27.2	1,361
178.81	8.7	436	179.33	27.6	1,382
178.82	9.0	451	179.34	28.1	1,403
178.83	9.3	467	179.35	28.5	1,424
178.84	9.7	483	179.36	28.9	1,445
178.85	10.0	499	179.37	29.3	1,466
178.86	10.3	515	179.38	29.7	1,487
178.87	10.6	531	179.39	30.2	1,509
178.88	10.9	547	179.40	30.6	1,530
178.89	11.3	564	179.41	31.0	1,552
178.90	11.6	580	179.42	31.5	1,573
178.91	11.9	597	179.43	31.9	1,595
178.92	12.3	613	179.44	32.3	1,617
178.93	12.6	630	179.45	32.8	1,639
178.94	12.9	647	179.46	33.2	1,661
178.95	13.3	664	179.47	33.7	1,683
178.96	13.6	681	179.48	34.1	1,705
178.97	14.0	698	179.49	34.6	1,728
178.98	14.3	715	179.50	35.0	1,750
178.99	14.7	733			
179.00	15.0	750			
179.01	15.4	768			

Holliston - Stormwater Model

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Type III 24-hr 10-year Rainfall=4.81"

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Summary for Reach POST-3R:

Inflow Area = 1.596 ac, 78.95% Impervious, Inflow Depth = 3.15" for 10-year event
Inflow = 3.24 cfs @ 12.29 hrs, Volume= 0.418 af
Outflow = 3.09 cfs @ 12.45 hrs, Volume= 0.418 af, Atten= 4%, Lag= 9.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Max. Velocity= 1.91 fps, Min. Travel Time= 4.7 min

Avg. Velocity = 0.62 fps, Avg. Travel Time= 14.3 min

Peak Storage= 871 cf @ 12.36 hrs

Average Depth at Peak Storage= 0.08' , Surface Width= 20.64'

Bank-Full Depth= 1.00' Flow Area= 24.0 sf, Capacity= 224.46 cfs

20.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding

Side Slope Z-value= 4.0 ' ' Top Width= 28.00'

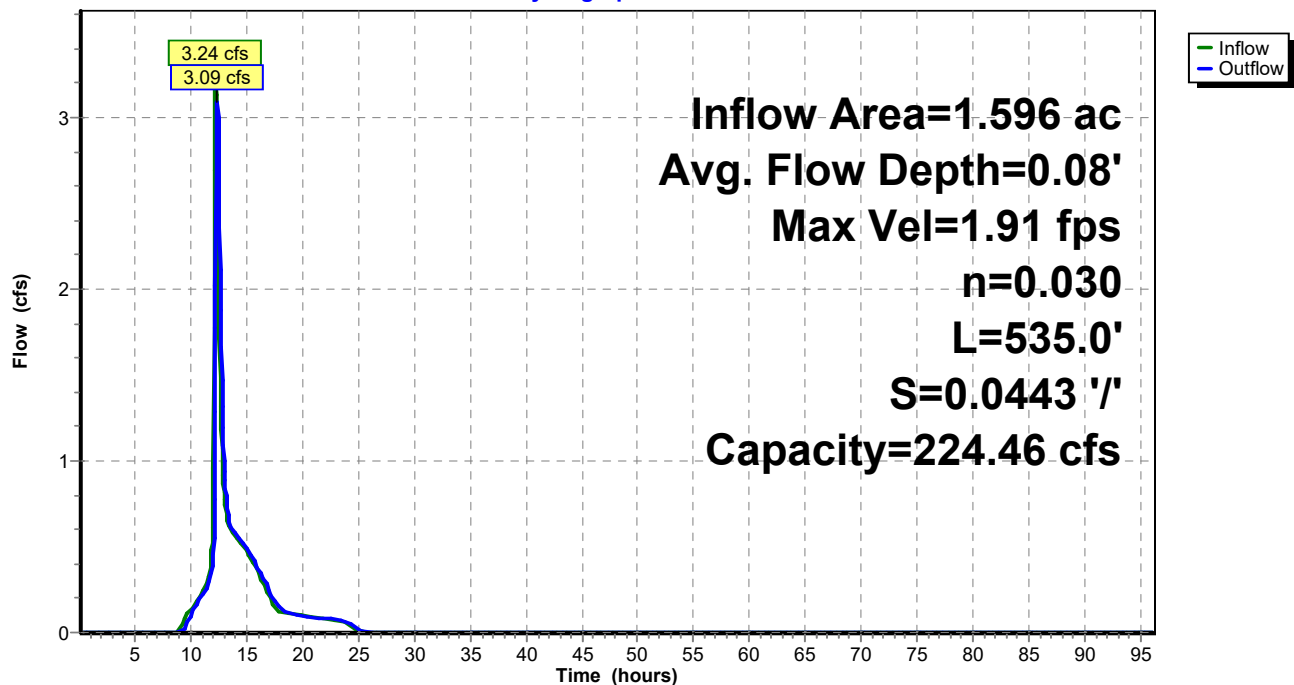
Length= 535.0' Slope= 0.0443 ' '

Inlet Invert= 170.80', Outlet Invert= 147.10'



Reach POST-3R:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 10-year Rainfall=4.81"

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Stage-Area-Storage for Reach POST-3R:

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
170.80	0.0	0	171.32	11.5	6,143
170.81	0.2	107	171.33	11.7	6,272
170.82	0.4	215	171.34	12.0	6,402
170.83	0.6	323	171.35	12.2	6,532
170.84	0.8	431	171.36	12.5	6,663
170.85	1.0	540	171.37	12.7	6,794
170.86	1.2	650	171.38	12.9	6,926
170.87	1.4	759	171.39	13.2	7,058
170.88	1.6	870	171.40	13.4	7,190
170.89	1.8	980	171.41	13.7	7,323
170.90	2.0	1,091	171.42	13.9	7,457
170.91	2.2	1,203	171.43	14.2	7,590
170.92	2.5	1,315	171.44	14.4	7,725
170.93	2.7	1,427	171.45	14.7	7,859
170.94	2.9	1,540	171.46	14.9	7,994
170.95	3.1	1,653	171.47	15.2	8,130
170.96	3.3	1,767	171.48	15.4	8,266
170.97	3.5	1,881	171.49	15.7	8,402
170.98	3.7	1,995	171.50	16.0	8,539
170.99	3.9	2,110	171.51	16.2	8,676
171.00	4.2	2,226	171.52	16.5	8,813
171.01	4.4	2,341	171.53	16.7	8,951
171.02	4.6	2,458	171.54	17.0	9,090
171.03	4.8	2,574	171.55	17.3	9,229
171.04	5.0	2,691	171.56	17.5	9,368
171.05	5.3	2,809	171.57	17.8	9,508
171.06	5.5	2,927	171.58	18.0	9,648
171.07	5.7	3,045	171.59	18.3	9,789
171.08	5.9	3,164	171.60	18.6	9,930
171.09	6.1	3,283	171.61	18.8	10,071
171.10	6.4	3,403	171.62	19.1	10,213
171.11	6.6	3,523	171.63	19.4	10,355
171.12	6.8	3,643	171.64	19.6	10,498
171.13	7.0	3,764	171.65	19.9	10,641
171.14	7.3	3,885	171.66	20.2	10,785
171.15	7.5	4,007	171.67	20.4	10,929
171.16	7.7	4,129	171.68	20.7	11,073
171.17	7.9	4,252	171.69	21.0	11,218
171.18	8.2	4,375	171.70	21.2	11,363
171.19	8.4	4,498	171.71	21.5	11,509
171.20	8.6	4,622	171.72	21.8	11,655
171.21	8.9	4,747	171.73	22.1	11,802
171.22	9.1	4,871	171.74	22.3	11,949
171.23	9.3	4,997	171.75	22.6	12,096
171.24	9.6	5,122	171.76	22.9	12,244
171.25	9.8	5,248	171.77	23.2	12,393
171.26	10.0	5,375	171.78	23.4	12,541
171.27	10.3	5,502	171.79	23.7	12,690
171.28	10.5	5,629	171.80	24.0	12,840
171.29	10.8	5,757			
171.30	11.0	5,885			
171.31	11.2	6,014			

Holliston - Stormwater Model

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Type III 24-hr 10-year Rainfall=4.81"

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Summary for Reach POST-4R:

Inflow Area = 0.610 ac, 7.41% Impervious, Inflow Depth = 0.00" for 10-year event
Inflow = 0.00 cfs @ 0.25 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.25 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min

Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.25 hrs

Average Depth at Peak Storage= 0.00'

Bank-Full Depth= 1.00' Flow Area= 24.0 sf, Capacity= 423.66 cfs

20.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding

Side Slope Z-value= 4.0 '/' Top Width= 28.00'

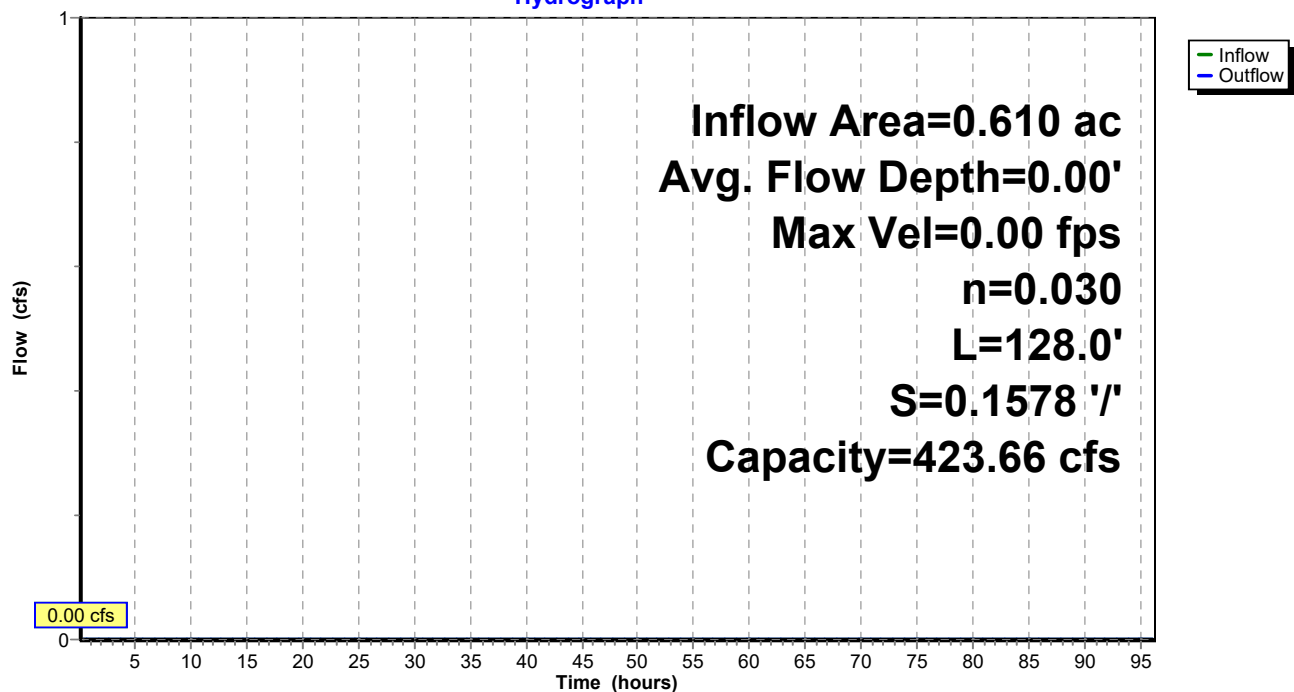
Length= 128.0' Slope= 0.1578 '/'

Inlet Invert= 173.60', Outlet Invert= 153.40'



Reach POST-4R:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 10-year Rainfall=4.81"

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Stage-Area-Storage for Reach POST-4R:

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
173.60	0.0	0	174.12	11.5	1,470
173.61	0.2	26	174.13	11.7	1,501
173.62	0.4	51	174.14	12.0	1,532
173.63	0.6	77	174.15	12.2	1,563
173.64	0.8	103	174.16	12.5	1,594
173.65	1.0	129	174.17	12.7	1,626
173.66	1.2	155	174.18	12.9	1,657
173.67	1.4	182	174.19	13.2	1,689
173.68	1.6	208	174.20	13.4	1,720
173.69	1.8	235	174.21	13.7	1,752
173.70	2.0	261	174.22	13.9	1,784
173.71	2.2	288	174.23	14.2	1,816
173.72	2.5	315	174.24	14.4	1,848
173.73	2.7	341	174.25	14.7	1,880
173.74	2.9	368	174.26	14.9	1,913
173.75	3.1	396	174.27	15.2	1,945
173.76	3.3	423	174.28	15.4	1,978
173.77	3.5	450	174.29	15.7	2,010
173.78	3.7	477	174.30	16.0	2,043
173.79	3.9	505	174.31	16.2	2,076
173.80	4.2	532	174.32	16.5	2,109
173.81	4.4	560	174.33	16.7	2,142
173.82	4.6	588	174.34	17.0	2,175
173.83	4.8	616	174.35	17.3	2,208
173.84	5.0	644	174.36	17.5	2,241
173.85	5.3	672	174.37	17.8	2,275
173.86	5.5	700	174.38	18.0	2,308
173.87	5.7	729	174.39	18.3	2,342
173.88	5.9	757	174.40	18.6	2,376
173.89	6.1	785	174.41	18.8	2,410
173.90	6.4	814	174.42	19.1	2,443
173.91	6.6	843	174.43	19.4	2,478
173.92	6.8	872	174.44	19.6	2,512
173.93	7.0	901	174.45	19.9	2,546
173.94	7.3	930	174.46	20.2	2,580
173.95	7.5	959	174.47	20.4	2,615
173.96	7.7	988	174.48	20.7	2,649
173.97	7.9	1,017	174.49	21.0	2,684
173.98	8.2	1,047	174.50	21.2	2,719
173.99	8.4	1,076	174.51	21.5	2,754
174.00	8.6	1,106	174.52	21.8	2,789
174.01	8.9	1,136	174.53	22.1	2,824
174.02	9.1	1,166	174.54	22.3	2,859
174.03	9.3	1,195	174.55	22.6	2,894
174.04	9.6	1,226	174.56	22.9	2,929
174.05	9.8	1,256	174.57	23.2	2,965
174.06	10.0	1,286	174.58	23.4	3,001
174.07	10.3	1,316	174.59	23.7	3,036
174.08	10.5	1,347	174.60	24.0	3,072
174.09	10.8	1,377			
174.10	11.0	1,408			
174.11	11.2	1,439			

Holliston - Stormwater Model

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Type III 24-hr 10-year Rainfall=4.81"

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Summary for Reach POST-5R:

Inflow Area = 0.610 ac, 7.41% Impervious, Inflow Depth = 0.00" for 10-year event
Inflow = 0.00 cfs @ 0.25 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.25 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min

Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.25 hrs

Average Depth at Peak Storage= 0.00'

Bank-Full Depth= 1.00' Flow Area= 24.0 sf, Capacity= 160.96 cfs

20.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding

Side Slope Z-value= 4.0 '/' Top Width= 28.00'

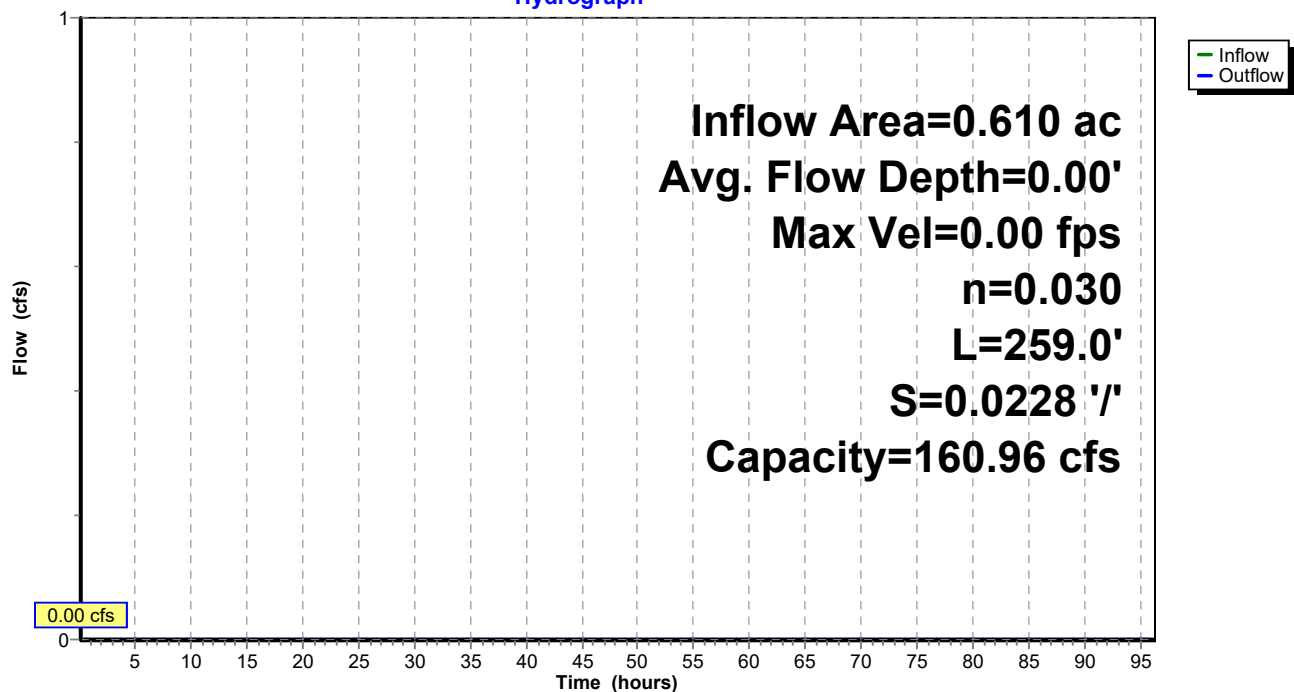
Length= 259.0' Slope= 0.0228 '/'

Inlet Invert= 153.00', Outlet Invert= 147.10'



Reach POST-5R:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 10-year Rainfall=4.81"

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Stage-Area-Storage for Reach POST-5R:

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
153.00	0.0	0	153.52	11.5	2,974
153.01	0.2	52	153.53	11.7	3,036
153.02	0.4	104	153.54	12.0	3,099
153.03	0.6	156	153.55	12.2	3,162
153.04	0.8	209	153.56	12.5	3,226
153.05	1.0	262	153.57	12.7	3,289
153.06	1.2	315	153.58	12.9	3,353
153.07	1.4	368	153.59	13.2	3,417
153.08	1.6	421	153.60	13.4	3,481
153.09	1.8	475	153.61	13.7	3,545
153.10	2.0	528	153.62	13.9	3,610
153.11	2.2	582	153.63	14.2	3,675
153.12	2.5	637	153.64	14.4	3,740
153.13	2.7	691	153.65	14.7	3,805
153.14	2.9	746	153.66	14.9	3,870
153.15	3.1	800	153.67	15.2	3,936
153.16	3.3	855	153.68	15.4	4,001
153.17	3.5	911	153.69	15.7	4,067
153.18	3.7	966	153.70	16.0	4,134
153.19	3.9	1,022	153.71	16.2	4,200
153.20	4.2	1,077	153.72	16.5	4,267
153.21	4.4	1,133	153.73	16.7	4,333
153.22	4.6	1,190	153.74	17.0	4,401
153.23	4.8	1,246	153.75	17.3	4,468
153.24	5.0	1,303	153.76	17.5	4,535
153.25	5.3	1,360	153.77	17.8	4,603
153.26	5.5	1,417	153.78	18.0	4,671
153.27	5.7	1,474	153.79	18.3	4,739
153.28	5.9	1,532	153.80	18.6	4,807
153.29	6.1	1,589	153.81	18.8	4,876
153.30	6.4	1,647	153.82	19.1	4,944
153.31	6.6	1,705	153.83	19.4	5,013
153.32	6.8	1,764	153.84	19.6	5,082
153.33	7.0	1,822	153.85	19.9	5,152
153.34	7.3	1,881	153.86	20.2	5,221
153.35	7.5	1,940	153.87	20.4	5,291
153.36	7.7	1,999	153.88	20.7	5,361
153.37	7.9	2,058	153.89	21.0	5,431
153.38	8.2	2,118	153.90	21.2	5,501
153.39	8.4	2,178	153.91	21.5	5,572
153.40	8.6	2,238	153.92	21.8	5,642
153.41	8.9	2,298	153.93	22.1	5,713
153.42	9.1	2,358	153.94	22.3	5,785
153.43	9.3	2,419	153.95	22.6	5,856
153.44	9.6	2,480	153.96	22.9	5,928
153.45	9.8	2,541	153.97	23.2	5,999
153.46	10.0	2,602	153.98	23.4	6,071
153.47	10.3	2,663	153.99	23.7	6,144
153.48	10.5	2,725	154.00	24.0	6,216
153.49	10.8	2,787			
153.50	11.0	2,849			
153.51	11.2	2,911			

Holliston - Stormwater Model

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Type III 24-hr 10-year Rainfall=4.81"

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Summary for Pond POST-1P:

Inflow Area = 1.596 ac, 78.95% Impervious, Inflow Depth = 3.19" for 10-year event
Inflow = 5.80 cfs @ 12.09 hrs, Volume= 0.425 af
Outflow = 3.30 cfs @ 12.22 hrs, Volume= 0.418 af, Atten= 43%, Lag= 7.8 min
Primary = 3.30 cfs @ 12.22 hrs, Volume= 0.418 af

Routing by Stor-Ind method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
Peak Elev= 190.66' @ 12.22 hrs Surf.Area= 2,221 sf Storage= 4,553 cf

Plug-Flow detention time= 48.1 min calculated for 0.418 af (98% of inflow)
Center-of-Mass det. time= 39.3 min (848.4 - 809.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	187.00'	11,201 cf	Custom Stage Data (Pyramidal) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
187.00	200	0	0	200
188.00	859	491	491	865
190.00	1,916	2,705	3,196	1,961
192.00	2,915	4,796	7,993	3,034
193.00	3,512	3,209	11,201	3,673

Device	Routing	Invert	Outlet Devices
#1	Primary	187.70'	18.0" Round Culvert L= 22.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 187.10' / 187.70' S= -0.0273 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf
#2	Device 1	187.10'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	189.70'	12.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 1	191.20'	7.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.27 cfs @ 12.22 hrs HW=190.65' (Free Discharge)

- 1=Culvert (Passes 3.27 cfs of 9.96 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.72 cfs @ 8.27 fps)
- 3=Orifice/Grate (Orifice Controls 2.55 cfs @ 3.31 fps)
- 4=Orifice/Grate (Controls 0.00 cfs)

Holliston - Stormwater Model

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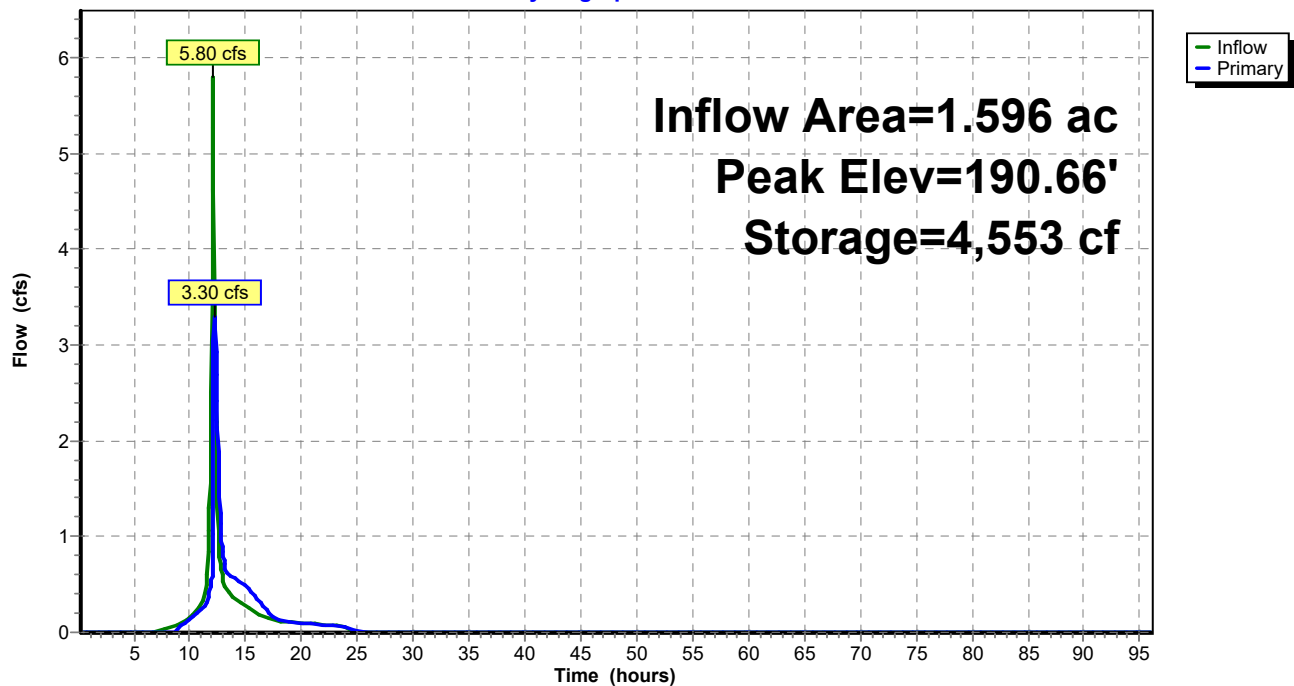
Type III 24-hr 10-year Rainfall=4.81"

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Pond POST-1P:

Hydrograph



Holliston - Stormwater Model

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Stage-Area-Storage for Pond POST-1P:

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
187.00	200	0	187.52	485	173
187.01	204	2	187.53	492	178
187.02	209	4	187.54	499	183
187.03	213	6	187.55	506	188
187.04	218	8	187.56	512	193
187.05	222	11	187.57	519	198
187.06	227	13	187.58	526	203
187.07	231	15	187.59	533	208
187.08	236	17	187.60	540	214
187.09	240	20	187.61	547	219
187.10	245	22	187.62	554	225
187.11	250	25	187.63	562	230
187.12	255	27	187.64	569	236
187.13	260	30	187.65	576	242
187.14	265	32	187.66	583	247
187.15	270	35	187.67	591	253
187.16	275	38	187.68	598	259
187.17	280	41	187.69	606	265
187.18	285	43	187.70	613	271
187.19	290	46	187.71	621	278
187.20	295	49	187.72	628	284
187.21	300	52	187.73	636	290
187.22	306	55	187.74	643	297
187.23	311	58	187.75	651	303
187.24	316	61	187.76	659	310
187.25	322	65	187.77	667	316
187.26	327	68	187.78	675	323
187.27	333	71	187.79	682	330
187.28	338	74	187.80	690	337
187.29	344	78	187.81	698	343
187.30	349	81	187.82	706	350
187.31	355	85	187.83	715	358
187.32	361	88	187.84	723	365
187.33	367	92	187.85	731	372
187.34	372	96	187.86	739	379
187.35	378	100	187.87	747	387
187.36	384	103	187.88	756	394
187.37	390	107	187.89	764	402
187.38	396	111	187.90	772	410
187.39	402	115	187.91	781	417
187.40	408	119	187.92	789	425
187.41	415	123	187.93	798	433
187.42	421	128	187.94	806	441
187.43	427	132	187.95	815	449
187.44	433	136	187.96	824	458
187.45	440	140	187.97	833	466
187.46	446	145	187.98	841	474
187.47	452	149	187.99	850	483
187.48	459	154	188.00	859	491
187.49	465	159	188.01	863	500
187.50	472	163	188.02	867	508
187.51	479	168	188.03	872	517

Holliston - Stormwater Model

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Type III 24-hr 10-year Rainfall=4.81"

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Stage-Area-Storage for Pond POST-1P: (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
188.04	876	526	188.56	1,113	1,042
188.05	880	535	188.57	1,118	1,053
188.06	885	543	188.58	1,122	1,064
188.07	889	552	188.59	1,127	1,075
188.08	893	561	188.60	1,132	1,087
188.09	898	570	188.61	1,137	1,098
188.10	902	579	188.62	1,142	1,109
188.11	906	588	188.63	1,147	1,121
188.12	911	597	188.64	1,152	1,132
188.13	915	606	188.65	1,157	1,144
188.14	919	616	188.66	1,162	1,155
188.15	924	625	188.67	1,166	1,167
188.16	928	634	188.68	1,171	1,179
188.17	933	643	188.69	1,176	1,191
188.18	937	653	188.70	1,181	1,202
188.19	941	662	188.71	1,186	1,214
188.20	946	672	188.72	1,191	1,226
188.21	950	681	188.73	1,196	1,238
188.22	955	691	188.74	1,201	1,250
188.23	959	700	188.75	1,206	1,262
188.24	964	710	188.76	1,211	1,274
188.25	968	719	188.77	1,216	1,286
188.26	973	729	188.78	1,221	1,298
188.27	977	739	188.79	1,227	1,311
188.28	982	749	188.80	1,232	1,323
188.29	986	759	188.81	1,237	1,335
188.30	991	768	188.82	1,242	1,348
188.31	995	778	188.83	1,247	1,360
188.32	1,000	788	188.84	1,252	1,373
188.33	1,005	798	188.85	1,257	1,385
188.34	1,009	808	188.86	1,262	1,398
188.35	1,014	819	188.87	1,267	1,410
188.36	1,018	829	188.88	1,273	1,423
188.37	1,023	839	188.89	1,278	1,436
188.38	1,028	849	188.90	1,283	1,449
188.39	1,032	859	188.91	1,288	1,462
188.40	1,037	870	188.92	1,293	1,474
188.41	1,042	880	188.93	1,298	1,487
188.42	1,046	891	188.94	1,304	1,500
188.43	1,051	901	188.95	1,309	1,513
188.44	1,056	912	188.96	1,314	1,527
188.45	1,060	922	188.97	1,319	1,540
188.46	1,065	933	188.98	1,325	1,553
188.47	1,070	944	188.99	1,330	1,566
188.48	1,075	954	189.00	1,335	1,580
188.49	1,079	965	189.01	1,340	1,593
188.50	1,084	976	189.02	1,346	1,606
188.51	1,089	987	189.03	1,351	1,620
188.52	1,094	998	189.04	1,356	1,633
188.53	1,098	1,009	189.05	1,362	1,647
188.54	1,103	1,020	189.06	1,367	1,661
188.55	1,108	1,031	189.07	1,372	1,674

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Stage-Area-Storage for Pond POST-1P: (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
189.08	1,378	1,688	189.60	1,671	2,480
189.09	1,383	1,702	189.61	1,677	2,496
189.10	1,389	1,716	189.62	1,683	2,513
189.11	1,394	1,730	189.63	1,689	2,530
189.12	1,399	1,744	189.64	1,695	2,547
189.13	1,405	1,758	189.65	1,701	2,564
189.14	1,410	1,772	189.66	1,707	2,581
189.15	1,416	1,786	189.67	1,713	2,598
189.16	1,421	1,800	189.68	1,719	2,615
189.17	1,427	1,814	189.69	1,725	2,632
189.18	1,432	1,829	189.70	1,731	2,650
189.19	1,438	1,843	189.71	1,737	2,667
189.20	1,443	1,857	189.72	1,743	2,684
189.21	1,448	1,872	189.73	1,749	2,702
189.22	1,454	1,886	189.74	1,755	2,719
189.23	1,460	1,901	189.75	1,761	2,737
189.24	1,465	1,915	189.76	1,767	2,755
189.25	1,471	1,930	189.77	1,773	2,772
189.26	1,476	1,945	189.78	1,779	2,790
189.27	1,482	1,960	189.79	1,785	2,808
189.28	1,487	1,975	189.80	1,791	2,826
189.29	1,493	1,989	189.81	1,798	2,844
189.30	1,498	2,004	189.82	1,804	2,862
189.31	1,504	2,019	189.83	1,810	2,880
189.32	1,510	2,034	189.84	1,816	2,898
189.33	1,515	2,050	189.85	1,822	2,916
189.34	1,521	2,065	189.86	1,828	2,934
189.35	1,527	2,080	189.87	1,835	2,953
189.36	1,532	2,095	189.88	1,841	2,971
189.37	1,538	2,111	189.89	1,847	2,989
189.38	1,544	2,126	189.90	1,853	3,008
189.39	1,549	2,142	189.91	1,859	3,027
189.40	1,555	2,157	189.92	1,866	3,045
189.41	1,561	2,173	189.93	1,872	3,064
189.42	1,566	2,188	189.94	1,878	3,083
189.43	1,572	2,204	189.95	1,884	3,101
189.44	1,578	2,220	189.96	1,891	3,120
189.45	1,584	2,235	189.97	1,897	3,139
189.46	1,589	2,251	189.98	1,903	3,158
189.47	1,595	2,267	189.99	1,910	3,177
189.48	1,601	2,283	190.00	1,916	3,196
189.49	1,607	2,299	190.01	1,920	3,216
189.50	1,613	2,315	190.02	1,925	3,235
189.51	1,618	2,332	190.03	1,929	3,254
189.52	1,624	2,348	190.04	1,934	3,273
189.53	1,630	2,364	190.05	1,938	3,293
189.54	1,636	2,380	190.06	1,943	3,312
189.55	1,642	2,397	190.07	1,947	3,332
189.56	1,648	2,413	190.08	1,952	3,351
189.57	1,653	2,430	190.09	1,956	3,371
189.58	1,659	2,446	190.10	1,961	3,390
189.59	1,665	2,463	190.11	1,966	3,410

Holliston - Stormwater Model

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Type III 24-hr 10-year Rainfall=4.81"

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Stage-Area-Storage for Pond POST-1P: (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
190.12	1,970	3,430	190.64	2,213	4,517
190.13	1,975	3,449	190.65	2,218	4,539
190.14	1,979	3,469	190.66	2,223	4,561
190.15	1,984	3,489	190.67	2,227	4,583
190.16	1,988	3,509	190.68	2,232	4,605
190.17	1,993	3,529	190.69	2,237	4,628
190.18	1,997	3,549	190.70	2,242	4,650
190.19	2,002	3,569	190.71	2,247	4,673
190.20	2,007	3,589	190.72	2,252	4,695
190.21	2,011	3,609	190.73	2,256	4,718
190.22	2,016	3,629	190.74	2,261	4,740
190.23	2,020	3,649	190.75	2,266	4,763
190.24	2,025	3,669	190.76	2,271	4,786
190.25	2,029	3,690	190.77	2,276	4,808
190.26	2,034	3,710	190.78	2,281	4,831
190.27	2,039	3,730	190.79	2,286	4,854
190.28	2,043	3,751	190.80	2,291	4,877
190.29	2,048	3,771	190.81	2,295	4,900
190.30	2,053	3,792	190.82	2,300	4,923
190.31	2,057	3,812	190.83	2,305	4,946
190.32	2,062	3,833	190.84	2,310	4,969
190.33	2,066	3,853	190.85	2,315	4,992
190.34	2,071	3,874	190.86	2,320	5,015
190.35	2,076	3,895	190.87	2,325	5,038
190.36	2,080	3,916	190.88	2,330	5,062
190.37	2,085	3,936	190.89	2,335	5,085
190.38	2,090	3,957	190.90	2,340	5,108
190.39	2,094	3,978	190.91	2,345	5,132
190.40	2,099	3,999	190.92	2,350	5,155
190.41	2,104	4,020	190.93	2,355	5,179
190.42	2,108	4,041	190.94	2,360	5,202
190.43	2,113	4,062	190.95	2,364	5,226
190.44	2,118	4,084	190.96	2,369	5,250
190.45	2,123	4,105	190.97	2,374	5,273
190.46	2,127	4,126	190.98	2,379	5,297
190.47	2,132	4,147	190.99	2,384	5,321
190.48	2,137	4,169	191.00	2,389	5,345
190.49	2,141	4,190	191.01	2,394	5,369
190.50	2,146	4,211	191.02	2,399	5,393
190.51	2,151	4,233	191.03	2,404	5,417
190.52	2,156	4,254	191.04	2,409	5,441
190.53	2,160	4,276	191.05	2,414	5,465
190.54	2,165	4,298	191.06	2,419	5,489
190.55	2,170	4,319	191.07	2,424	5,513
190.56	2,175	4,341	191.08	2,430	5,538
190.57	2,179	4,363	191.09	2,435	5,562
190.58	2,184	4,385	191.10	2,440	5,586
190.59	2,189	4,407	191.11	2,445	5,611
190.60	2,194	4,428	191.12	2,450	5,635
190.61	2,199	4,450	191.13	2,455	5,660
190.62	2,203	4,472	191.14	2,460	5,684
190.63	2,208	4,494	191.15	2,465	5,709

Holliston - Stormwater Model

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Stage-Area-Storage for Pond POST-1P: (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
191.16	2,470	5,734	191.68	2,741	7,088
191.17	2,475	5,758	191.69	2,746	7,115
191.18	2,480	5,783	191.70	2,752	7,143
191.19	2,485	5,808	191.71	2,757	7,170
191.20	2,490	5,833	191.72	2,763	7,198
191.21	2,495	5,858	191.73	2,768	7,226
191.22	2,501	5,883	191.74	2,773	7,253
191.23	2,506	5,908	191.75	2,779	7,281
191.24	2,511	5,933	191.76	2,784	7,309
191.25	2,516	5,958	191.77	2,789	7,337
191.26	2,521	5,983	191.78	2,795	7,365
191.27	2,526	6,008	191.79	2,800	7,393
191.28	2,531	6,034	191.80	2,806	7,421
191.29	2,536	6,059	191.81	2,811	7,449
191.30	2,542	6,084	191.82	2,817	7,477
191.31	2,547	6,110	191.83	2,822	7,505
191.32	2,552	6,135	191.84	2,827	7,533
191.33	2,557	6,161	191.85	2,833	7,562
191.34	2,562	6,186	191.86	2,838	7,590
191.35	2,567	6,212	191.87	2,844	7,618
191.36	2,573	6,238	191.88	2,849	7,647
191.37	2,578	6,263	191.89	2,855	7,675
191.38	2,583	6,289	191.90	2,860	7,704
191.39	2,588	6,315	191.91	2,866	7,733
191.40	2,593	6,341	191.92	2,871	7,761
191.41	2,599	6,367	191.93	2,877	7,790
191.42	2,604	6,393	191.94	2,882	7,819
191.43	2,609	6,419	191.95	2,887	7,848
191.44	2,614	6,445	191.96	2,893	7,876
191.45	2,619	6,471	191.97	2,898	7,905
191.46	2,625	6,498	191.98	2,904	7,934
191.47	2,630	6,524	191.99	2,909	7,964
191.48	2,635	6,550	192.00	2,915	7,993
191.49	2,640	6,577	192.01	2,921	8,022
191.50	2,646	6,603	192.02	2,926	8,051
191.51	2,651	6,629	192.03	2,932	8,080
191.52	2,656	6,656	192.04	2,938	8,110
191.53	2,661	6,683	192.05	2,944	8,139
191.54	2,667	6,709	192.06	2,949	8,169
191.55	2,672	6,736	192.07	2,955	8,198
191.56	2,677	6,763	192.08	2,961	8,228
191.57	2,683	6,789	192.09	2,966	8,257
191.58	2,688	6,816	192.10	2,972	8,287
191.59	2,693	6,843	192.11	2,978	8,317
191.60	2,698	6,870	192.12	2,984	8,347
191.61	2,704	6,897	192.13	2,989	8,376
191.62	2,709	6,924	192.14	2,995	8,406
191.63	2,714	6,951	192.15	3,001	8,436
191.64	2,720	6,979	192.16	3,007	8,466
191.65	2,725	7,006	192.17	3,013	8,496
191.66	2,730	7,033	192.18	3,018	8,527
191.67	2,736	7,060	192.19	3,024	8,557

Holliston - Stormwater Model

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Stage-Area-Storage for Pond POST-1P: (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
192.20	3,030	8,587	192.72	3,339	10,242
192.21	3,036	8,617	192.73	3,345	10,276
192.22	3,042	8,648	192.74	3,351	10,309
192.23	3,047	8,678	192.75	3,358	10,343
192.24	3,053	8,709	192.76	3,364	10,376
192.25	3,059	8,739	192.77	3,370	10,410
192.26	3,065	8,770	192.78	3,376	10,444
192.27	3,071	8,801	192.79	3,382	10,478
192.28	3,077	8,831	192.80	3,388	10,512
192.29	3,082	8,862	192.81	3,394	10,545
192.30	3,088	8,893	192.82	3,400	10,579
192.31	3,094	8,924	192.83	3,407	10,613
192.32	3,100	8,955	192.84	3,413	10,648
192.33	3,106	8,986	192.85	3,419	10,682
192.34	3,112	9,017	192.86	3,425	10,716
192.35	3,118	9,048	192.87	3,431	10,750
192.36	3,124	9,079	192.88	3,437	10,785
192.37	3,129	9,111	192.89	3,444	10,819
192.38	3,135	9,142	192.90	3,450	10,853
192.39	3,141	9,173	192.91	3,456	10,888
192.40	3,147	9,205	192.92	3,462	10,923
192.41	3,153	9,236	192.93	3,468	10,957
192.42	3,159	9,268	192.94	3,475	10,992
192.43	3,165	9,299	192.95	3,481	11,027
192.44	3,171	9,331	192.96	3,487	11,062
192.45	3,177	9,363	192.97	3,493	11,096
192.46	3,183	9,395	192.98	3,500	11,131
192.47	3,189	9,427	192.99	3,506	11,166
192.48	3,195	9,458	193.00	3,512	11,201
192.49	3,201	9,490			
192.50	3,207	9,522			
192.51	3,213	9,555			
192.52	3,219	9,587			
192.53	3,224	9,619			
192.54	3,230	9,651			
192.55	3,236	9,684			
192.56	3,242	9,716			
192.57	3,248	9,748			
192.58	3,254	9,781			
192.59	3,261	9,813			
192.60	3,267	9,846			
192.61	3,273	9,879			
192.62	3,279	9,912			
192.63	3,285	9,944			
192.64	3,291	9,977			
192.65	3,297	10,010			
192.66	3,303	10,043			
192.67	3,309	10,076			
192.68	3,315	10,109			
192.69	3,321	10,143			
192.70	3,327	10,176			
192.71	3,333	10,209			

Holliston - Stormwater Model

Type III 24-hr 10-year Rainfall=4.81"

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Summary for Pond POST-2P: Sed. Forebay 1

Inflow Area = 0.365 ac, 12.38% Impervious, Inflow Depth = 2.46" for 10-year event
 Inflow = 1.03 cfs @ 12.09 hrs, Volume= 0.075 af
 Outflow = 1.03 cfs @ 12.11 hrs, Volume= 0.068 af, Atten= 1%, Lag= 0.8 min
 Primary = 1.03 cfs @ 12.11 hrs, Volume= 0.068 af

Routing by Stor-Ind method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
 Peak Elev= 185.12' @ 12.11 hrs Surf.Area= 553 sf Storage= 359 cf
 Flood Elev= 186.00' Surf.Area= 976 sf Storage= 1,021 cf

Plug-Flow detention time= 63.9 min calculated for 0.068 af (91% of inflow)
 Center-of-Mass det. time= 19.1 min (850.6 - 831.5)

Volume	Invert	Avail.Storage	Storage Description
#1	184.00'	1,021 cf	Custom Stage Data (Irregular) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
184.00	127	99.0	0	0	127
185.00	503	141.0	294	294	938
186.00	976	172.0	727	1,021	1,726

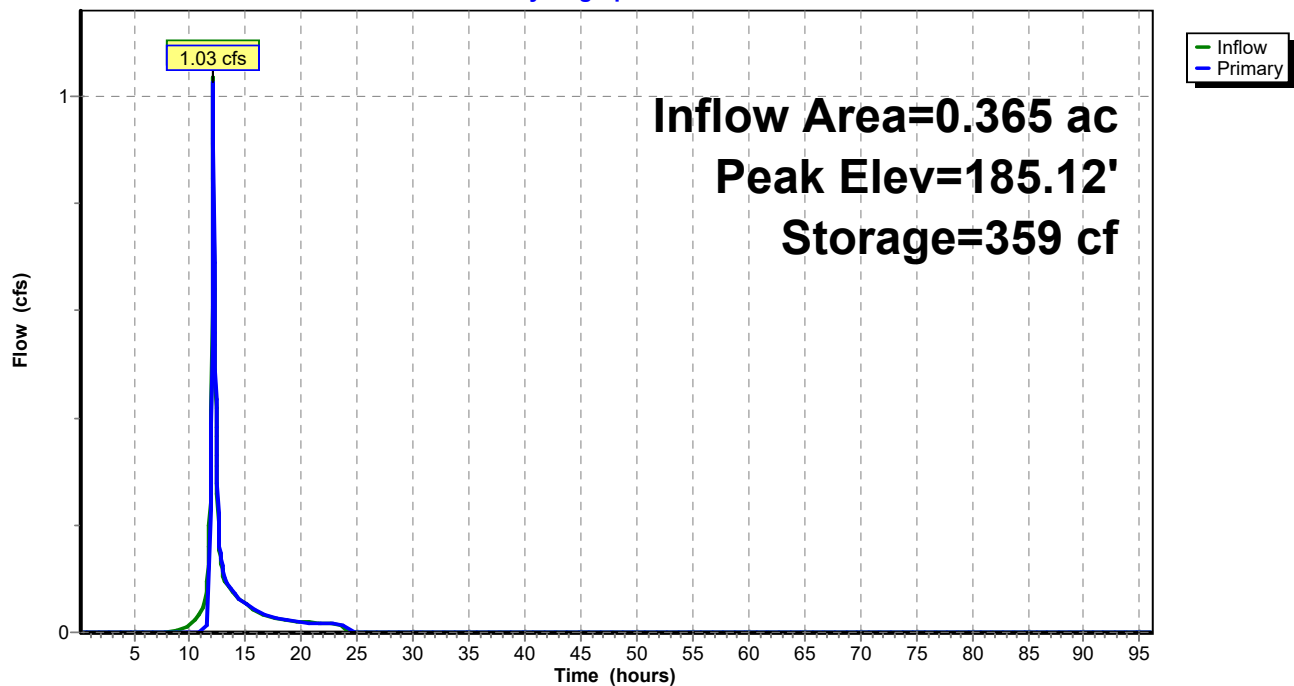
Device	Routing	Invert	Outlet Devices
#1	Primary	185.00'	10.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=1.01 cfs @ 12.11 hrs HW=185.12' (Free Discharge)

↑ **1=Broad-Crested Rectangular Weir** (Weir Controls 1.01 cfs @ 0.83 fps)

Pond POST-2P: Sed. Forebay 1

Hydrograph



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Stage-Area-Storage for Pond POST-2P: Sed. Forebay 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
184.00	127	0	184.52	291	106
184.01	130	1	184.53	295	109
184.02	132	3	184.54	299	112
184.03	135	4	184.55	303	115
184.04	137	5	184.56	307	118
184.05	140	7	184.57	311	121
184.06	143	8	184.58	315	124
184.07	145	10	184.59	319	127
184.08	148	11	184.60	323	130
184.09	151	12	184.61	327	134
184.10	153	14	184.62	331	137
184.11	156	16	184.63	335	140
184.12	159	17	184.64	339	144
184.13	162	19	184.65	343	147
184.14	165	20	184.66	347	151
184.15	168	22	184.67	351	154
184.16	170	24	184.68	356	158
184.17	173	25	184.69	360	161
184.18	176	27	184.70	364	165
184.19	179	29	184.71	368	168
184.20	182	31	184.72	373	172
184.21	185	33	184.73	377	176
184.22	188	34	184.74	381	180
184.23	191	36	184.75	386	183
184.24	195	38	184.76	390	187
184.25	198	40	184.77	394	191
184.26	201	42	184.78	399	195
184.27	204	44	184.79	403	199
184.28	207	46	184.80	408	203
184.29	210	48	184.81	412	207
184.30	214	51	184.82	417	212
184.31	217	53	184.83	422	216
184.32	220	55	184.84	426	220
184.33	224	57	184.85	431	224
184.34	227	59	184.86	435	229
184.35	230	62	184.87	440	233
184.36	234	64	184.88	445	237
184.37	237	66	184.89	449	242
184.38	241	69	184.90	454	246
184.39	244	71	184.91	459	251
184.40	248	74	184.92	464	256
184.41	251	76	184.93	469	260
184.42	255	79	184.94	473	265
184.43	258	81	184.95	478	270
184.44	262	84	184.96	483	275
184.45	265	86	184.97	488	279
184.46	269	89	184.98	493	284
184.47	273	92	184.99	498	289
184.48	276	95	185.00	503	294
184.49	280	97	185.01	507	299
184.50	284	100	185.02	511	304
184.51	288	103	185.03	515	310

Holliston - Stormwater Model

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Stage-Area-Storage for Pond POST-2P: Sed. Forebay 1 (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
185.04	519	315	185.56	749	642
185.05	523	320	185.57	754	650
185.06	527	325	185.58	758	658
185.07	531	330	185.59	763	665
185.08	535	336	185.60	768	673
185.09	539	341	185.61	773	681
185.10	543	347	185.62	778	688
185.11	547	352	185.63	783	696
185.12	552	358	185.64	788	704
185.13	556	363	185.65	793	712
185.14	560	369	185.66	798	720
185.15	564	374	185.67	803	728
185.16	568	380	185.68	808	736
185.17	572	386	185.69	813	744
185.18	577	391	185.70	818	752
185.19	581	397	185.71	823	760
185.20	585	403	185.72	828	769
185.21	589	409	185.73	833	777
185.22	594	415	185.74	838	785
185.23	598	421	185.75	843	794
185.24	602	427	185.76	848	802
185.25	607	433	185.77	853	811
185.26	611	439	185.78	859	819
185.27	615	445	185.79	864	828
185.28	620	451	185.80	869	836
185.29	624	457	185.81	874	845
185.30	629	464	185.82	879	854
185.31	633	470	185.83	885	863
185.32	637	476	185.84	890	872
185.33	642	483	185.85	895	881
185.34	646	489	185.86	900	889
185.35	651	496	185.87	906	899
185.36	655	502	185.88	911	908
185.37	660	509	185.89	916	917
185.38	664	515	185.90	922	926
185.39	669	522	185.91	927	935
185.40	674	529	185.92	932	944
185.41	678	535	185.93	938	954
185.42	683	542	185.94	943	963
185.43	687	549	185.95	949	973
185.44	692	556	185.96	954	982
185.45	697	563	185.97	960	992
185.46	701	570	185.98	965	1,001
185.47	706	577	185.99	971	1,011
185.48	711	584	186.00	976	1,021
185.49	715	591			
185.50	720	598			
185.51	725	606			
185.52	730	613			
185.53	734	620			
185.54	739	628			
185.55	744	635			

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Summary for Pond POST-3P: Sed. Forebay 2

Inflow Area = 0.418 ac, 10.83% Impervious, Inflow Depth = 2.12" for 10-year event
Inflow = 1.09 cfs @ 12.11 hrs, Volume= 0.074 af
Outflow = 1.05 cfs @ 12.13 hrs, Volume= 0.069 af, Atten= 4%, Lag= 1.6 min
Primary = 1.05 cfs @ 12.13 hrs, Volume= 0.069 af

Routing by Stor-Ind method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
Peak Elev= 184.30' @ 12.13 hrs Surf.Area= 420 sf Storage= 301 cf
Flood Elev= 185.00' Surf.Area= 653 sf Storage= 674 cf

Plug-Flow detention time= 43.2 min calculated for 0.069 af (94% of inflow)
Center-of-Mass det. time= 12.3 min (864.7 - 852.4)

Volume	Invert	Avail.Storage	Storage Description		
#1	183.00'	674 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
183.00	73	74.0	0	0	73
184.00	336	97.0	189	189	397
185.00	653	115.0	486	674	719

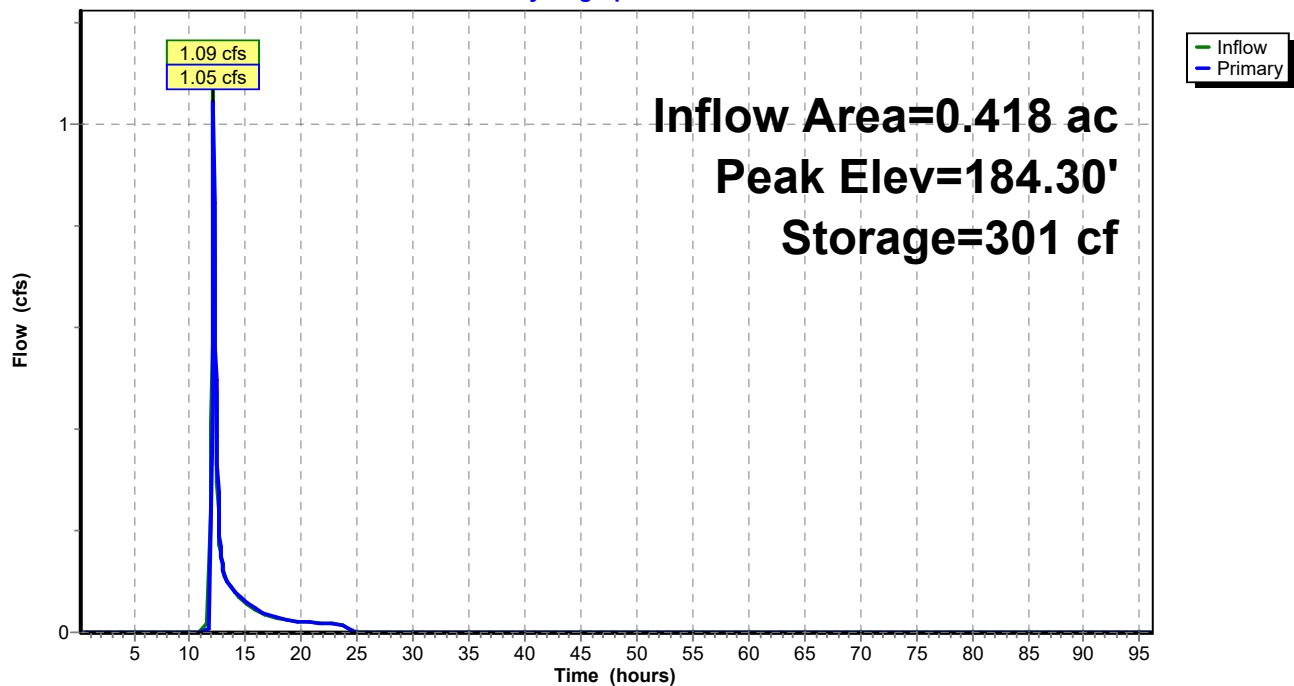
Device	Routing	Invert	Outlet Devices
#1	Primary	180.00'	12.0" Round Culvert L= 26.5' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 180.00' / 178.20' S= 0.0679 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	184.00'	24.0" W x 6.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	184.75'	24.0" x 24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.02 cfs @ 12.13 hrs HW=184.29' (Free Discharge)

- 1=Culvert (Passes 1.02 cfs of 7.37 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 1.02 cfs @ 1.74 fps)
- 3=Orifice/Grate (Controls 0.00 cfs)

Pond POST-3P: Sed. Forebay 2

Hydrograph



Holliston - Stormwater Model

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Stage-Area-Storage for Pond POST-3P: Sed. Forebay 2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
183.00	73	0	183.52	186	65
183.01	75	1	183.53	189	67
183.02	76	1	183.54	191	69
183.03	78	2	183.55	194	71
183.04	80	3	183.56	197	73
183.05	82	4	183.57	199	75
183.06	83	5	183.58	202	77
183.07	85	6	183.59	205	79
183.08	87	6	183.60	208	81
183.09	89	7	183.61	211	83
183.10	91	8	183.62	213	85
183.11	93	9	183.63	216	87
183.12	94	10	183.64	219	89
183.13	96	11	183.65	222	92
183.14	98	12	183.66	225	94
183.15	100	13	183.67	228	96
183.16	102	14	183.68	231	98
183.17	104	15	183.69	234	101
183.18	106	16	183.70	237	103
183.19	108	17	183.71	240	105
183.20	110	18	183.72	243	108
183.21	112	19	183.73	246	110
183.22	114	20	183.74	249	113
183.23	117	22	183.75	252	115
183.24	119	23	183.76	255	118
183.25	121	24	183.77	259	120
183.26	123	25	183.78	262	123
183.27	125	26	183.79	265	126
183.28	127	28	183.80	268	128
183.29	130	29	183.81	271	131
183.30	132	30	183.82	275	134
183.31	134	32	183.83	278	136
183.32	136	33	183.84	281	139
183.33	139	34	183.85	284	142
183.34	141	36	183.86	288	145
183.35	143	37	183.87	291	148
183.36	146	39	183.88	294	151
183.37	148	40	183.89	298	154
183.38	150	42	183.90	301	157
183.39	153	43	183.91	304	160
183.40	155	45	183.92	308	163
183.41	158	46	183.93	311	166
183.42	160	48	183.94	315	169
183.43	163	49	183.95	318	172
183.44	165	51	183.96	322	175
183.45	168	53	183.97	325	179
183.46	170	54	183.98	329	182
183.47	173	56	183.99	332	185
183.48	175	58	184.00	336	189
183.49	178	60	184.01	339	192
183.50	181	61	184.02	341	195
183.51	183	63	184.03	344	199

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Stage-Area-Storage for Pond POST-3P: Sed. Forebay 2 (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
184.04	347	202	184.56	501	421
184.05	349	206	184.57	504	426
184.06	352	209	184.58	507	431
184.07	355	213	184.59	510	436
184.08	358	216	184.60	514	442
184.09	360	220	184.61	517	447
184.10	363	223	184.62	520	452
184.11	366	227	184.63	524	457
184.12	369	231	184.64	527	462
184.13	371	234	184.65	530	468
184.14	374	238	184.66	534	473
184.15	377	242	184.67	537	478
184.16	380	246	184.68	540	484
184.17	383	250	184.69	544	489
184.18	385	253	184.70	547	495
184.19	388	257	184.71	550	500
184.20	391	261	184.72	554	506
184.21	394	265	184.73	557	511
184.22	397	269	184.74	561	517
184.23	400	273	184.75	564	522
184.24	403	277	184.76	567	528
184.25	405	281	184.77	571	534
184.26	408	285	184.78	574	539
184.27	411	289	184.79	578	545
184.28	414	293	184.80	581	551
184.29	417	298	184.81	585	557
184.30	420	302	184.82	588	563
184.31	423	306	184.83	592	569
184.32	426	310	184.84	595	575
184.33	429	314	184.85	599	580
184.34	432	319	184.86	602	586
184.35	435	323	184.87	606	593
184.36	438	327	184.88	609	599
184.37	441	332	184.89	613	605
184.38	444	336	184.90	617	611
184.39	447	341	184.91	620	617
184.40	450	345	184.92	624	623
184.41	453	350	184.93	627	630
184.42	456	354	184.94	631	636
184.43	460	359	184.95	635	642
184.44	463	363	184.96	638	649
184.45	466	368	184.97	642	655
184.46	469	373	184.98	646	661
184.47	472	378	184.99	649	668
184.48	475	382	185.00	653	674
184.49	478	387			
184.50	481	392			
184.51	485	397			
184.52	488	402			
184.53	491	406			
184.54	494	411			
184.55	497	416			

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Summary for Pond POST-4P: Infiltration Basin

Inflow Area = 0.610 ac, 7.41% Impervious, Inflow Depth = 1.42" for 10-year event
 Inflow = 1.05 cfs @ 12.13 hrs, Volume= 0.072 af
 Outflow = 0.06 cfs @ 15.15 hrs, Volume= 0.072 af, Atten= 94%, Lag= 181.0 min
 Discarded = 0.06 cfs @ 15.15 hrs, Volume= 0.072 af
 Primary = 0.00 cfs @ 0.25 hrs, Volume= 0.000 af
 Secondary = 0.00 cfs @ 0.25 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
 Peak Elev= 175.13' @ 15.15 hrs Surf.Area= 1,108 sf Storage= 1,569 cf
 Flood Elev= 179.00' Surf.Area= 3,116 sf Storage= 9,476 cf

Plug-Flow detention time= 323.5 min calculated for 0.072 af (100% of inflow)
 Center-of-Mass det. time= 323.5 min (1,194.0 - 870.5)

Volume	Invert	Avail.Storage	Storage Description			
#1	171.99'	9,476 cf	Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
171.99	694	115.0	0.0	0	0	694
172.00	694	115.0	40.0	3	3	695
173.99	694	115.0	40.0	552	555	924
174.00	694	115.0	100.0	7	562	925
176.00	1,494	152.0	100.0	2,138	2,700	1,755
178.00	2,516	190.0	100.0	3,966	6,666	2,845
179.00	3,116	210.0	100.0	2,811	9,476	3,512

Device	Routing	Invert	Outlet Devices
#1	Discarded	171.99'	2.410 in/hr Exfiltration over Surface area
#2	Primary	175.00'	12.0" Round Culvert L= 34.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 175.00' / 174.50' S= 0.0147 ' S= 0.0147 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	177.00'	24.0" W x 6.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 2	177.75'	24.0" x 24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Secondary	178.00'	16.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

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Discarded OutFlow Max=0.06 cfs @ 15.15 hrs HW=175.13' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.25 hrs HW=171.99' (Free Discharge)

↑ **2=Culvert** (Controls 0.00 cfs)

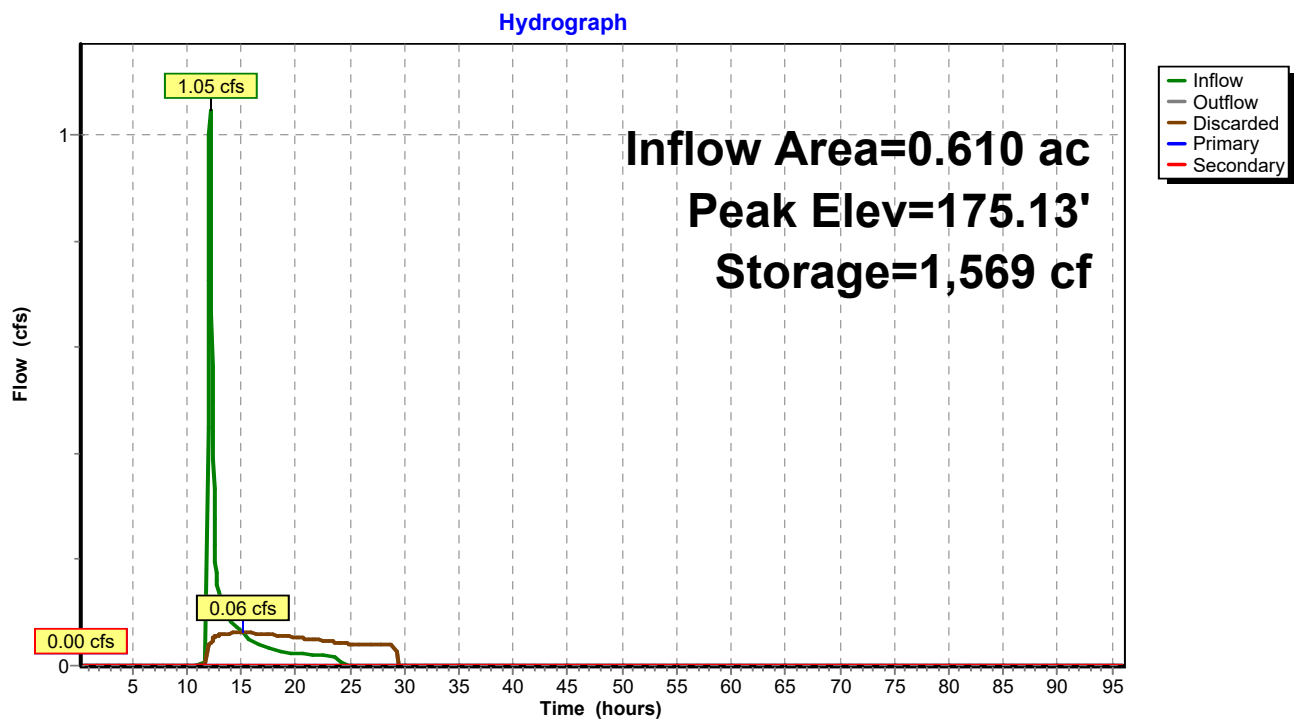
↑ **3=Orifice/Grate** (Controls 0.00 cfs)

↑ **4=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.25 hrs HW=171.99' (Free Discharge)

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

Pond POST-4P: Infiltration Basin



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Stage-Area-Storage for Pond POST-4P: Infiltration Basin

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
171.99	694	0	172.51	694	144
172.00	694	3	172.52	694	147
172.01	694	6	172.53	694	150
172.02	694	8	172.54	694	153
172.03	694	11	172.55	694	155
172.04	694	14	172.56	694	158
172.05	694	17	172.57	694	161
172.06	694	19	172.58	694	164
172.07	694	22	172.59	694	167
172.08	694	25	172.60	694	169
172.09	694	28	172.61	694	172
172.10	694	31	172.62	694	175
172.11	694	33	172.63	694	178
172.12	694	36	172.64	694	180
172.13	694	39	172.65	694	183
172.14	694	42	172.66	694	186
172.15	694	44	172.67	694	189
172.16	694	47	172.68	694	192
172.17	694	50	172.69	694	194
172.18	694	53	172.70	694	197
172.19	694	56	172.71	694	200
172.20	694	58	172.72	694	203
172.21	694	61	172.73	694	205
172.22	694	64	172.74	694	208
172.23	694	67	172.75	694	211
172.24	694	69	172.76	694	214
172.25	694	72	172.77	694	217
172.26	694	75	172.78	694	219
172.27	694	78	172.79	694	222
172.28	694	81	172.80	694	225
172.29	694	83	172.81	694	228
172.30	694	86	172.82	694	230
172.31	694	89	172.83	694	233
172.32	694	92	172.84	694	236
172.33	694	94	172.85	694	239
172.34	694	97	172.86	694	242
172.35	694	100	172.87	694	244
172.36	694	103	172.88	694	247
172.37	694	105	172.89	694	250
172.38	694	108	172.90	694	253
172.39	694	111	172.91	694	255
172.40	694	114	172.92	694	258
172.41	694	117	172.93	694	261
172.42	694	119	172.94	694	264
172.43	694	122	172.95	694	266
172.44	694	125	172.96	694	269
172.45	694	128	172.97	694	272
172.46	694	130	172.98	694	275
172.47	694	133	172.99	694	278
172.48	694	136	173.00	694	280
172.49	694	139	173.01	694	283
172.50	694	142	173.02	694	286

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Stage-Area-Storage for Pond POST-4P: Infiltration Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
173.03	694	289	173.55	694	433
173.04	694	291	173.56	694	436
173.05	694	294	173.57	694	439
173.06	694	297	173.58	694	441
173.07	694	300	173.59	694	444
173.08	694	303	173.60	694	447
173.09	694	305	173.61	694	450
173.10	694	308	173.62	694	452
173.11	694	311	173.63	694	455
173.12	694	314	173.64	694	458
173.13	694	316	173.65	694	461
173.14	694	319	173.66	694	464
173.15	694	322	173.67	694	466
173.16	694	325	173.68	694	469
173.17	694	328	173.69	694	472
173.18	694	330	173.70	694	475
173.19	694	333	173.71	694	477
173.20	694	336	173.72	694	480
173.21	694	339	173.73	694	483
173.22	694	341	173.74	694	486
173.23	694	344	173.75	694	489
173.24	694	347	173.76	694	491
173.25	694	350	173.77	694	494
173.26	694	353	173.78	694	497
173.27	694	355	173.79	694	500
173.28	694	358	173.80	694	502
173.29	694	361	173.81	694	505
173.30	694	364	173.82	694	508
173.31	694	366	173.83	694	511
173.32	694	369	173.84	694	514
173.33	694	372	173.85	694	516
173.34	694	375	173.86	694	519
173.35	694	378	173.87	694	522
173.36	694	380	173.88	694	525
173.37	694	383	173.89	694	527
173.38	694	386	173.90	694	530
173.39	694	389	173.91	694	533
173.40	694	391	173.92	694	536
173.41	694	394	173.93	694	539
173.42	694	397	173.94	694	541
173.43	694	400	173.95	694	544
173.44	694	403	173.96	694	547
173.45	694	405	173.97	694	550
173.46	694	408	173.98	694	552
173.47	694	411	173.99	694	555
173.48	694	414	174.00	694	562
173.49	694	416	174.01	697	569
173.50	694	419	174.02	701	576
173.51	694	422	174.03	704	583
173.52	694	425	174.04	707	590
173.53	694	428	174.05	710	597
173.54	694	430	174.06	714	604

Holliston - Stormwater Model

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Stage-Area-Storage for Pond POST-4P: Infiltration Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
174.07	717	612	174.59	898	1,031
174.08	720	619	174.60	902	1,040
174.09	723	626	174.61	906	1,049
174.10	727	633	174.62	910	1,058
174.11	730	640	174.63	913	1,067
174.12	733	648	174.64	917	1,076
174.13	737	655	174.65	921	1,085
174.14	740	663	174.66	925	1,094
174.15	743	670	174.67	928	1,104
174.16	747	677	174.68	932	1,113
174.17	750	685	174.69	936	1,122
174.18	754	692	174.70	940	1,132
174.19	757	700	174.71	943	1,141
174.20	760	708	174.72	947	1,151
174.21	764	715	174.73	951	1,160
174.22	767	723	174.74	955	1,170
174.23	771	730	174.75	958	1,179
174.24	774	738	174.76	962	1,189
174.25	777	746	174.77	966	1,198
174.26	781	754	174.78	970	1,208
174.27	784	762	174.79	974	1,218
174.28	788	769	174.80	978	1,228
174.29	791	777	174.81	981	1,237
174.30	795	785	174.82	985	1,247
174.31	798	793	174.83	989	1,257
174.32	802	801	174.84	993	1,267
174.33	805	809	174.85	997	1,277
174.34	809	817	174.86	1,001	1,287
174.35	812	825	174.87	1,005	1,297
174.36	816	834	174.88	1,009	1,307
174.37	819	842	174.89	1,013	1,317
174.38	823	850	174.90	1,017	1,327
174.39	826	858	174.91	1,020	1,337
174.40	830	866	174.92	1,024	1,348
174.41	833	875	174.93	1,028	1,358
174.42	837	883	174.94	1,032	1,368
174.43	840	892	174.95	1,036	1,379
174.44	844	900	174.96	1,040	1,389
174.45	848	908	174.97	1,044	1,399
174.46	851	917	174.98	1,048	1,410
174.47	855	925	174.99	1,052	1,420
174.48	858	934	175.00	1,056	1,431
174.49	862	943	175.01	1,060	1,441
174.50	866	951	175.02	1,064	1,452
174.51	869	960	175.03	1,068	1,463
174.52	873	969	175.04	1,072	1,473
174.53	876	977	175.05	1,076	1,484
174.54	880	986	175.06	1,080	1,495
174.55	884	995	175.07	1,084	1,506
174.56	887	1,004	175.08	1,088	1,517
174.57	891	1,013	175.09	1,092	1,528
174.58	895	1,022	175.10	1,097	1,539

Holliston - Stormwater Model

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Type III 24-hr 10-year Rainfall=4.81"

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Stage-Area-Storage for Pond POST-4P: Infiltration Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
175.11	1,101	1,550	175.63	1,323	2,179
175.12	1,105	1,561	175.64	1,328	2,192
175.13	1,109	1,572	175.65	1,332	2,205
175.14	1,113	1,583	175.66	1,337	2,219
175.15	1,117	1,594	175.67	1,341	2,232
175.16	1,121	1,605	175.68	1,346	2,246
175.17	1,125	1,616	175.69	1,350	2,259
175.18	1,129	1,628	175.70	1,355	2,273
175.19	1,133	1,639	175.71	1,359	2,286
175.20	1,138	1,650	175.72	1,364	2,300
175.21	1,142	1,662	175.73	1,368	2,313
175.22	1,146	1,673	175.74	1,373	2,327
175.23	1,150	1,685	175.75	1,377	2,341
175.24	1,154	1,696	175.76	1,382	2,355
175.25	1,158	1,708	175.77	1,387	2,368
175.26	1,163	1,719	175.78	1,391	2,382
175.27	1,167	1,731	175.79	1,396	2,396
175.28	1,171	1,743	175.80	1,400	2,410
175.29	1,175	1,754	175.81	1,405	2,424
175.30	1,180	1,766	175.82	1,410	2,438
175.31	1,184	1,778	175.83	1,414	2,452
175.32	1,188	1,790	175.84	1,419	2,467
175.33	1,192	1,802	175.85	1,423	2,481
175.34	1,197	1,814	175.86	1,428	2,495
175.35	1,201	1,826	175.87	1,433	2,509
175.36	1,205	1,838	175.88	1,437	2,524
175.37	1,209	1,850	175.89	1,442	2,538
175.38	1,214	1,862	175.90	1,447	2,553
175.39	1,218	1,874	175.91	1,451	2,567
175.40	1,222	1,886	175.92	1,456	2,582
175.41	1,226	1,898	175.93	1,461	2,596
175.42	1,231	1,911	175.94	1,466	2,611
175.43	1,235	1,923	175.95	1,470	2,626
175.44	1,239	1,935	175.96	1,475	2,640
175.45	1,244	1,948	175.97	1,480	2,655
175.46	1,248	1,960	175.98	1,485	2,670
175.47	1,252	1,973	175.99	1,489	2,685
175.48	1,257	1,985	176.00	1,494	2,700
175.49	1,261	1,998	176.01	1,498	2,715
175.50	1,266	2,011	176.02	1,503	2,730
175.51	1,270	2,023	176.03	1,507	2,745
175.52	1,274	2,036	176.04	1,512	2,760
175.53	1,279	2,049	176.05	1,516	2,775
175.54	1,283	2,062	176.06	1,521	2,790
175.55	1,288	2,074	176.07	1,525	2,805
175.56	1,292	2,087	176.08	1,530	2,821
175.57	1,296	2,100	176.09	1,534	2,836
175.58	1,301	2,113	176.10	1,539	2,851
175.59	1,305	2,126	176.11	1,543	2,867
175.60	1,310	2,139	176.12	1,548	2,882
175.61	1,314	2,152	176.13	1,552	2,898
175.62	1,319	2,166	176.14	1,557	2,913

Holliston - Stormwater Model

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Type III 24-hr 10-year Rainfall=4.81"

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Stage-Area-Storage for Pond POST-4P: Infiltration Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
176.15	1,561	2,929	176.67	1,807	3,804
176.16	1,566	2,944	176.68	1,812	3,822
176.17	1,571	2,960	176.69	1,817	3,840
176.18	1,575	2,976	176.70	1,822	3,858
176.19	1,580	2,992	176.71	1,826	3,876
176.20	1,584	3,007	176.72	1,831	3,895
176.21	1,589	3,023	176.73	1,836	3,913
176.22	1,593	3,039	176.74	1,841	3,931
176.23	1,598	3,055	176.75	1,846	3,950
176.24	1,603	3,071	176.76	1,851	3,968
176.25	1,607	3,087	176.77	1,856	3,987
176.26	1,612	3,103	176.78	1,861	4,006
176.27	1,617	3,119	176.79	1,866	4,024
176.28	1,621	3,136	176.80	1,871	4,043
176.29	1,626	3,152	176.81	1,876	4,062
176.30	1,630	3,168	176.82	1,881	4,080
176.31	1,635	3,184	176.83	1,886	4,099
176.32	1,640	3,201	176.84	1,891	4,118
176.33	1,644	3,217	176.85	1,896	4,137
176.34	1,649	3,234	176.86	1,901	4,156
176.35	1,654	3,250	176.87	1,906	4,175
176.36	1,658	3,267	176.88	1,911	4,194
176.37	1,663	3,283	176.89	1,916	4,213
176.38	1,668	3,300	176.90	1,921	4,232
176.39	1,673	3,317	176.91	1,926	4,252
176.40	1,677	3,334	176.92	1,931	4,271
176.41	1,682	3,350	176.93	1,936	4,290
176.42	1,687	3,367	176.94	1,941	4,310
176.43	1,691	3,384	176.95	1,946	4,329
176.44	1,696	3,401	176.96	1,952	4,349
176.45	1,701	3,418	176.97	1,957	4,368
176.46	1,706	3,435	176.98	1,962	4,388
176.47	1,710	3,452	176.99	1,967	4,407
176.48	1,715	3,469	177.00	1,972	4,427
176.49	1,720	3,486	177.01	1,977	4,447
176.50	1,725	3,504	177.02	1,982	4,467
176.51	1,729	3,521	177.03	1,987	4,486
176.52	1,734	3,538	177.04	1,992	4,506
176.53	1,739	3,556	177.05	1,998	4,526
176.54	1,744	3,573	177.06	2,003	4,546
176.55	1,749	3,590	177.07	2,008	4,566
176.56	1,753	3,608	177.08	2,013	4,586
176.57	1,758	3,626	177.09	2,018	4,607
176.58	1,763	3,643	177.10	2,023	4,627
176.59	1,768	3,661	177.11	2,029	4,647
176.60	1,773	3,678	177.12	2,034	4,667
176.61	1,778	3,696	177.13	2,039	4,688
176.62	1,782	3,714	177.14	2,044	4,708
176.63	1,787	3,732	177.15	2,049	4,729
176.64	1,792	3,750	177.16	2,055	4,749
176.65	1,797	3,768	177.17	2,060	4,770
176.66	1,802	3,786	177.18	2,065	4,790

Holliston - Stormwater Model

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Type III 24-hr 10-year Rainfall=4.81"

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Stage-Area-Storage for Pond POST-4P: Infiltration Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
177.19	2,070	4,811	177.71	2,351	5,960
177.20	2,075	4,832	177.72	2,357	5,983
177.21	2,081	4,853	177.73	2,363	6,007
177.22	2,086	4,873	177.74	2,368	6,031
177.23	2,091	4,894	177.75	2,374	6,054
177.24	2,096	4,915	177.76	2,379	6,078
177.25	2,102	4,936	177.77	2,385	6,102
177.26	2,107	4,957	177.78	2,391	6,126
177.27	2,112	4,978	177.79	2,396	6,150
177.28	2,118	4,999	177.80	2,402	6,174
177.29	2,123	5,021	177.81	2,408	6,198
177.30	2,128	5,042	177.82	2,413	6,222
177.31	2,133	5,063	177.83	2,419	6,246
177.32	2,139	5,085	177.84	2,424	6,270
177.33	2,144	5,106	177.85	2,430	6,295
177.34	2,149	5,127	177.86	2,436	6,319
177.35	2,155	5,149	177.87	2,442	6,343
177.36	2,160	5,171	177.88	2,447	6,368
177.37	2,165	5,192	177.89	2,453	6,392
177.38	2,171	5,214	177.90	2,459	6,417
177.39	2,176	5,236	177.91	2,464	6,441
177.40	2,182	5,257	177.92	2,470	6,466
177.41	2,187	5,279	177.93	2,476	6,491
177.42	2,192	5,301	177.94	2,481	6,516
177.43	2,198	5,323	177.95	2,487	6,540
177.44	2,203	5,345	177.96	2,493	6,565
177.45	2,209	5,367	177.97	2,499	6,590
177.46	2,214	5,389	177.98	2,504	6,615
177.47	2,219	5,411	177.99	2,510	6,640
177.48	2,225	5,434	178.00	2,516	6,666
177.49	2,230	5,456	178.01	2,522	6,691
177.50	2,236	5,478	178.02	2,527	6,716
177.51	2,241	5,501	178.03	2,533	6,741
177.52	2,247	5,523	178.04	2,539	6,767
177.53	2,252	5,546	178.05	2,544	6,792
177.54	2,257	5,568	178.06	2,550	6,817
177.55	2,263	5,591	178.07	2,556	6,843
177.56	2,268	5,613	178.08	2,562	6,869
177.57	2,274	5,636	178.09	2,567	6,894
177.58	2,279	5,659	178.10	2,573	6,920
177.59	2,285	5,682	178.11	2,579	6,946
177.60	2,290	5,705	178.12	2,585	6,972
177.61	2,296	5,728	178.13	2,590	6,997
177.62	2,301	5,750	178.14	2,596	7,023
177.63	2,307	5,774	178.15	2,602	7,049
177.64	2,312	5,797	178.16	2,608	7,075
177.65	2,318	5,820	178.17	2,613	7,101
177.66	2,324	5,843	178.18	2,619	7,128
177.67	2,329	5,866	178.19	2,625	7,154
177.68	2,335	5,890	178.20	2,631	7,180
177.69	2,340	5,913	178.21	2,637	7,206
177.70	2,346	5,936	178.22	2,642	7,233

Holliston - Stormwater Model

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Type III 24-hr 10-year Rainfall=4.81"

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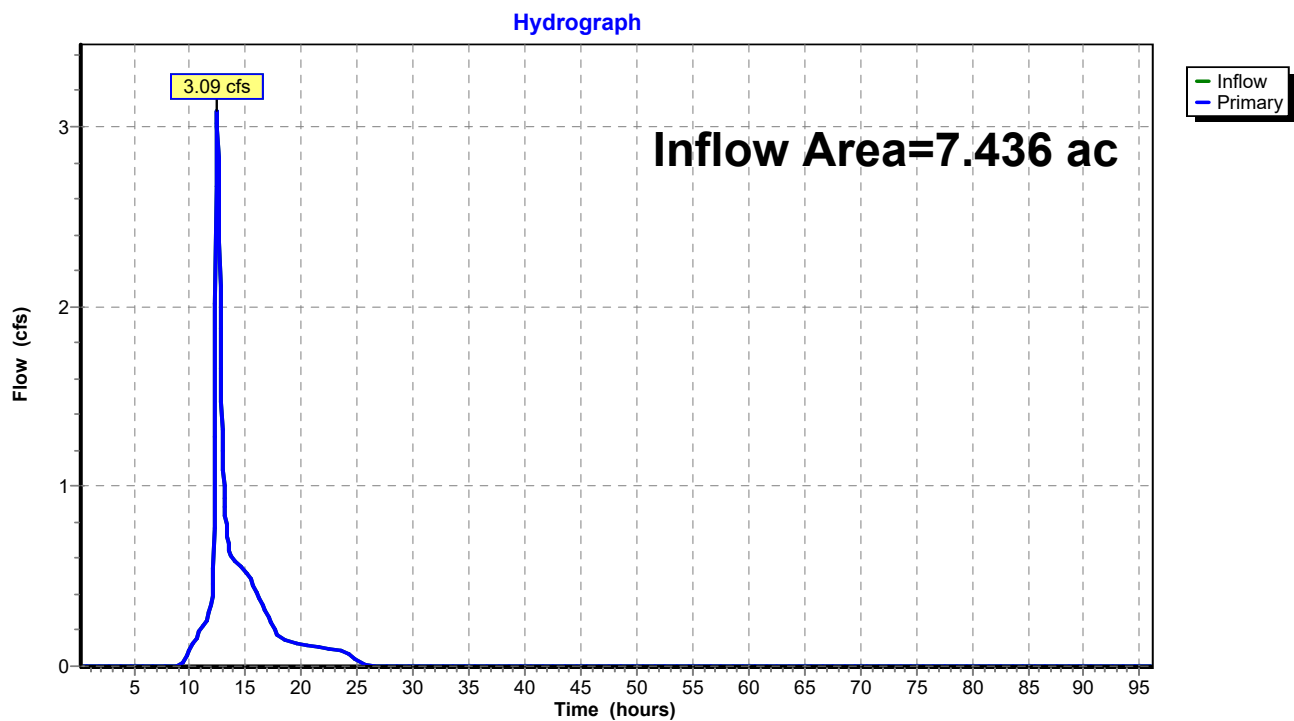
Stage-Area-Storage for Pond POST-4P: Infiltration Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
178.23	2,648	7,259	178.75	2,960	8,717
178.24	2,654	7,286	178.76	2,966	8,746
178.25	2,660	7,312	178.77	2,972	8,776
178.26	2,666	7,339	178.78	2,978	8,806
178.27	2,672	7,366	178.79	2,985	8,836
178.28	2,678	7,392	178.80	2,991	8,866
178.29	2,683	7,419	178.81	2,997	8,895
178.30	2,689	7,446	178.82	3,003	8,925
178.31	2,695	7,473	178.83	3,009	8,956
178.32	2,701	7,500	178.84	3,016	8,986
178.33	2,707	7,527	178.85	3,022	9,016
178.34	2,713	7,554	178.86	3,028	9,046
178.35	2,719	7,581	178.87	3,034	9,076
178.36	2,725	7,609	178.88	3,041	9,107
178.37	2,731	7,636	178.89	3,047	9,137
178.38	2,736	7,663	178.90	3,053	9,168
178.39	2,742	7,691	178.91	3,059	9,198
178.40	2,748	7,718	178.92	3,066	9,229
178.41	2,754	7,746	178.93	3,072	9,260
178.42	2,760	7,773	178.94	3,078	9,290
178.43	2,766	7,801	178.95	3,084	9,321
178.44	2,772	7,828	178.96	3,091	9,352
178.45	2,778	7,856	178.97	3,097	9,383
178.46	2,784	7,884	178.98	3,103	9,414
178.47	2,790	7,912	178.99	3,110	9,445
178.48	2,796	7,940	179.00	3,116	9,476
178.49	2,802	7,968			
178.50	2,808	7,996			
178.51	2,814	8,024			
178.52	2,820	8,052			
178.53	2,826	8,080			
178.54	2,832	8,109			
178.55	2,838	8,137			
178.56	2,844	8,165			
178.57	2,850	8,194			
178.58	2,856	8,222			
178.59	2,862	8,251			
178.60	2,868	8,280			
178.61	2,874	8,308			
178.62	2,880	8,337			
178.63	2,887	8,366			
178.64	2,893	8,395			
178.65	2,899	8,424			
178.66	2,905	8,453			
178.67	2,911	8,482			
178.68	2,917	8,511			
178.69	2,923	8,540			
178.70	2,929	8,570			
178.71	2,935	8,599			
178.72	2,942	8,628			
178.73	2,948	8,658			
178.74	2,954	8,687			

Summary for Link POST-DP-1: Analysis Point

Inflow Area = 7.436 ac, 19.32% Impervious, Inflow Depth = 0.71" for 10-year event
Inflow = 3.09 cfs @ 12.45 hrs, Volume= 0.437 af
Primary = 3.09 cfs @ 12.45 hrs, Volume= 0.437 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Link POST-DP-1: Analysis Point

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Type III 24-hr 25-year Rainfall=6.06"

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Summary for Subcatchment POST-1S:

Runoff = 7.82 cfs @ 12.09 hrs, Volume= 0.580 af, Depth= 4.36"

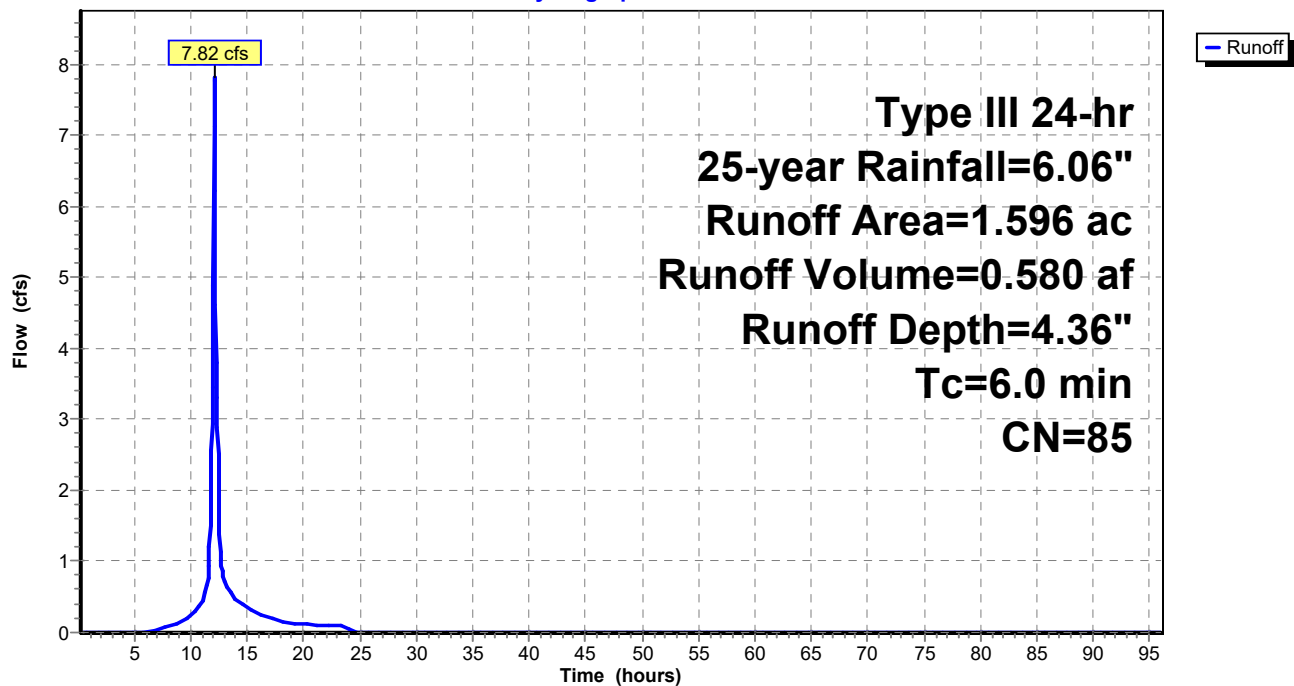
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=6.06"

	Area (ac)	CN	Description
*	1.260	98	Pavement, Roofs, Concrete Pads
*	0.000	96	Compacted Gravel
*	0.000	76	Crushed Stone Yard
	0.180	39	>75% Grass cover, Good, HSG A
	0.016	30	Meadow, non-grazed, HSG A
	0.140	30	Woods, Good, HSG A
	1.596	85	Weighted Average
	0.336		21.05% Pervious Area
	1.260		78.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum of 6 mins for HydroCAD model

Subcatchment POST-1S:

Hydrograph



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Type III 24-hr 25-year Rainfall=6.06"

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Summary for Subcatchment POST-2S-A:

Runoff = 0.16 cfs @ 13.72 hrs, Volume= 0.096 af, Depth= 0.22"

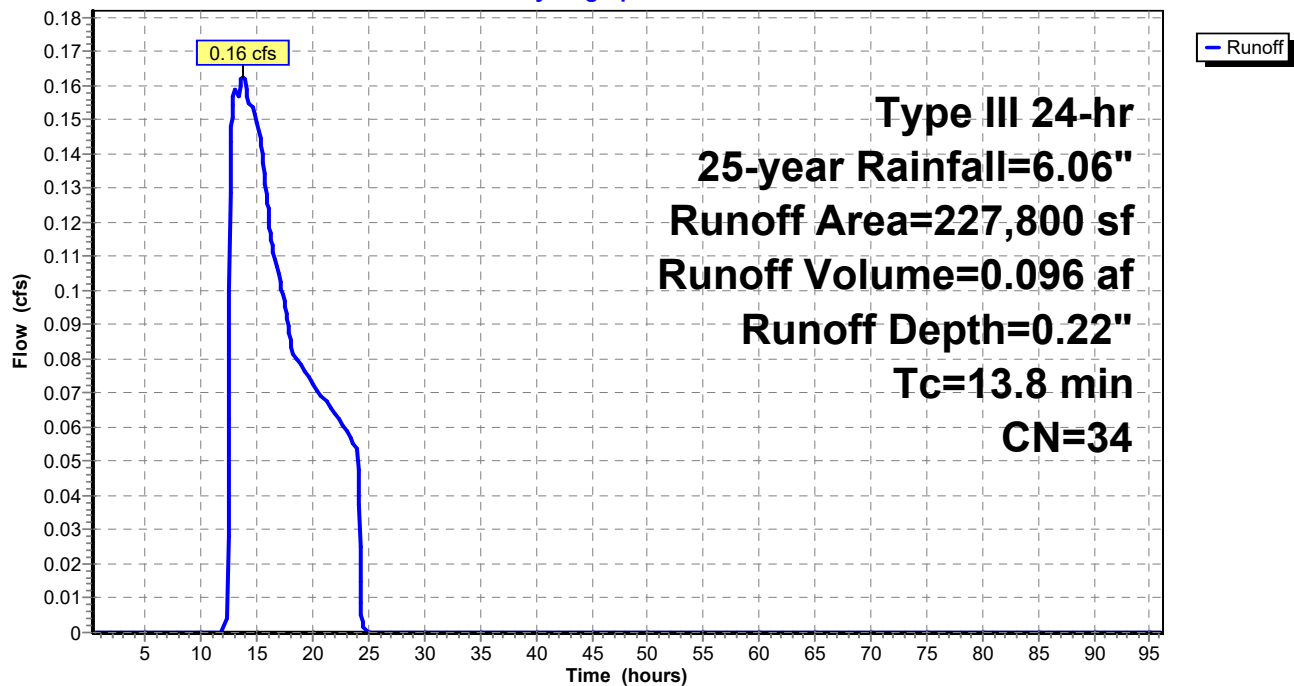
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=6.06"

	Area (sf)	CN	Description
*	5,732	98	Pavement, Roofs, Concrete Pads
*	1,067	96	Compacted Gravel
*	9,568	55	Crushed Stone Yard
	26,647	39	>75% Grass cover, Good, HSG A
	19,869	30	Meadow, non-grazed, HSG A
	164,917	30	Woods, Good, HSG A
	227,800	34	Weighted Average
	222,068		97.48% Pervious Area
	5,732		2.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8					Direct Entry, See Tc calc sheet

Subcatchment POST-2S-A:

Hydrograph



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Type III 24-hr 25-year Rainfall=6.06"

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Summary for Subcatchment POST-2S-B:

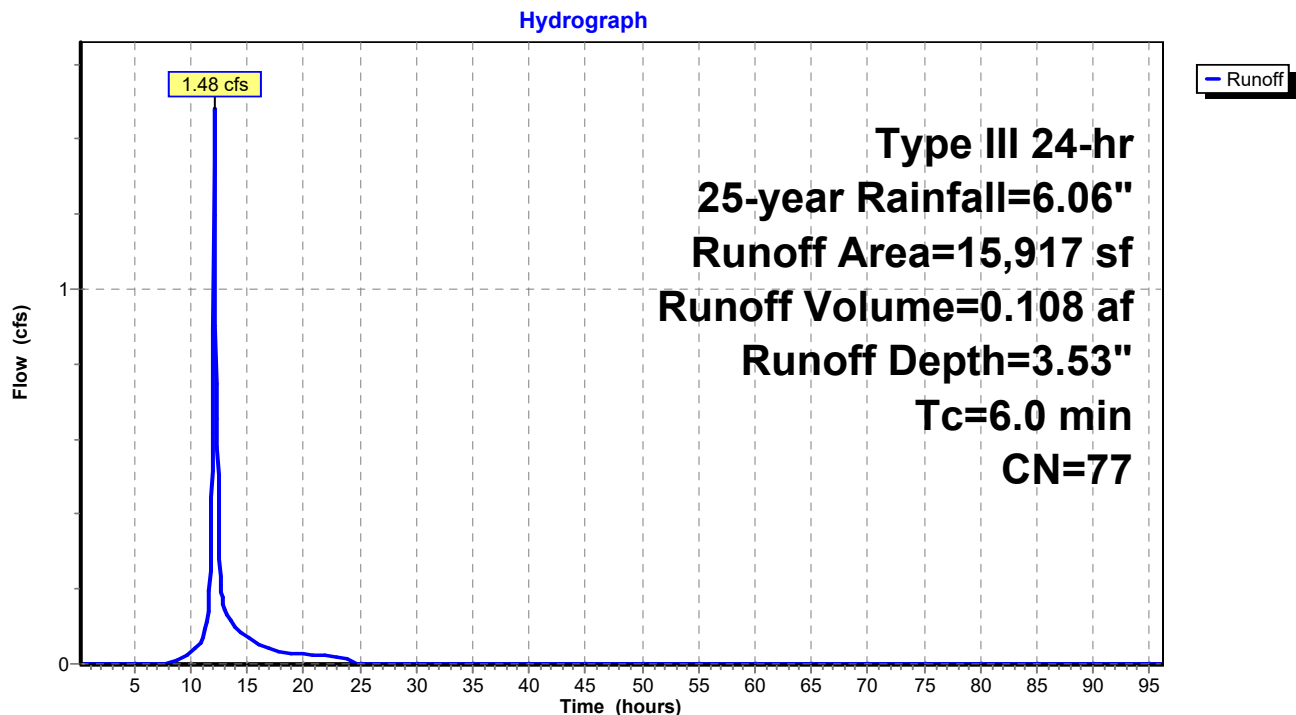
Runoff = 1.48 cfs @ 12.09 hrs, Volume= 0.108 af, Depth= 3.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=6.06"

	Area (sf)	CN	Description
*	1,971	98	Pavement, Roofs, Concrete Pads
*	6,029	96	Compacted Gravel
*	5,989	55	Crushed Stone Yard
	668	39	>75% Grass cover, Good, HSG A
	0	30	Meadow, non-grazed, HSG A
	0	30	Woods, Good, HSG A
	1,260	80	>75% Grass cover, Good, HSG D
	15,917	77	Weighted Average
	13,946		87.62% Pervious Area
	1,971		12.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum of 6 mins for HydroCAD model

Subcatchment POST-2S-B:



Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Summary for Subcatchment POST-2S-C:

Runoff = 0.12 cfs @ 12.10 hrs, Volume= 0.009 af, Depth= 2.05"

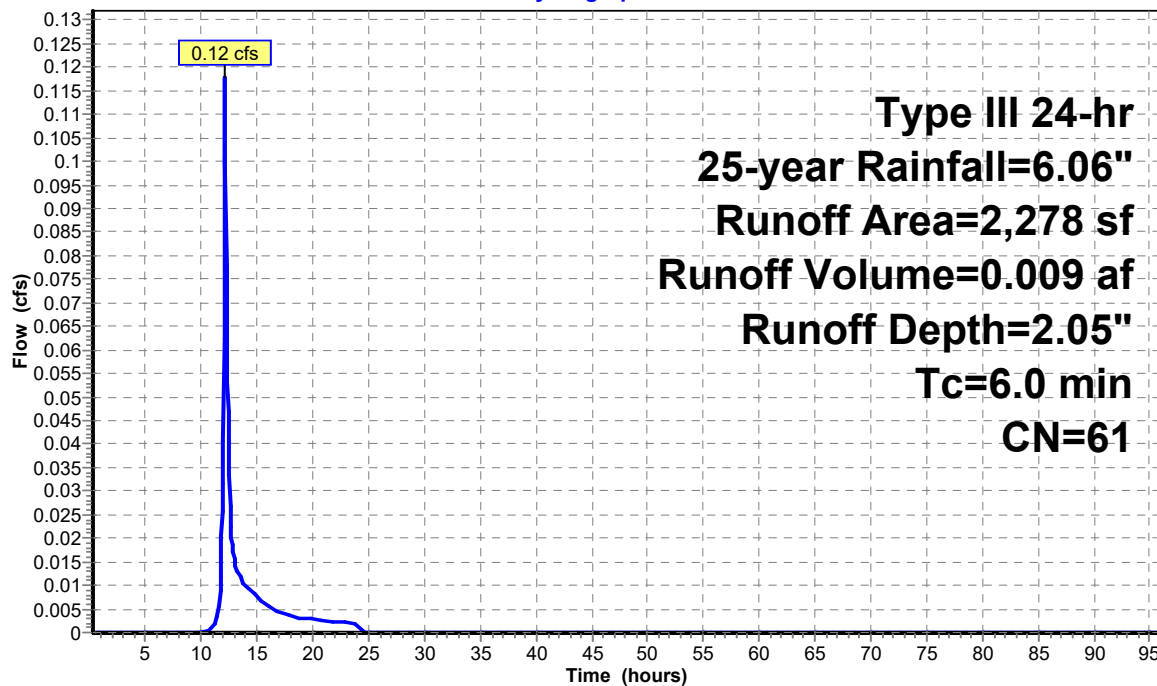
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=6.06"

	Area (sf)	CN	Description
*	0	98	Pavement, Roofs, Concrete Pads
*	0	96	Compacted Gravel
*	0	55	Crushed Stone Yard
	1,078	39	>75% Grass cover, Good, HSG A
	0	30	Meadow, non-grazed, HSG A
	0	30	Woods, Good, HSG A
	1,200	80	>75% Grass cover, Good, HSG D
	2,278	61	Weighted Average
	2,278		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum of 6 mins for HydroCAD model

Subcatchment POST-2S-C:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Summary for Subcatchment POST-2S-D:

Runoff = 0.04 cfs @ 12.34 hrs, Volume= 0.007 af, Depth= 0.46"

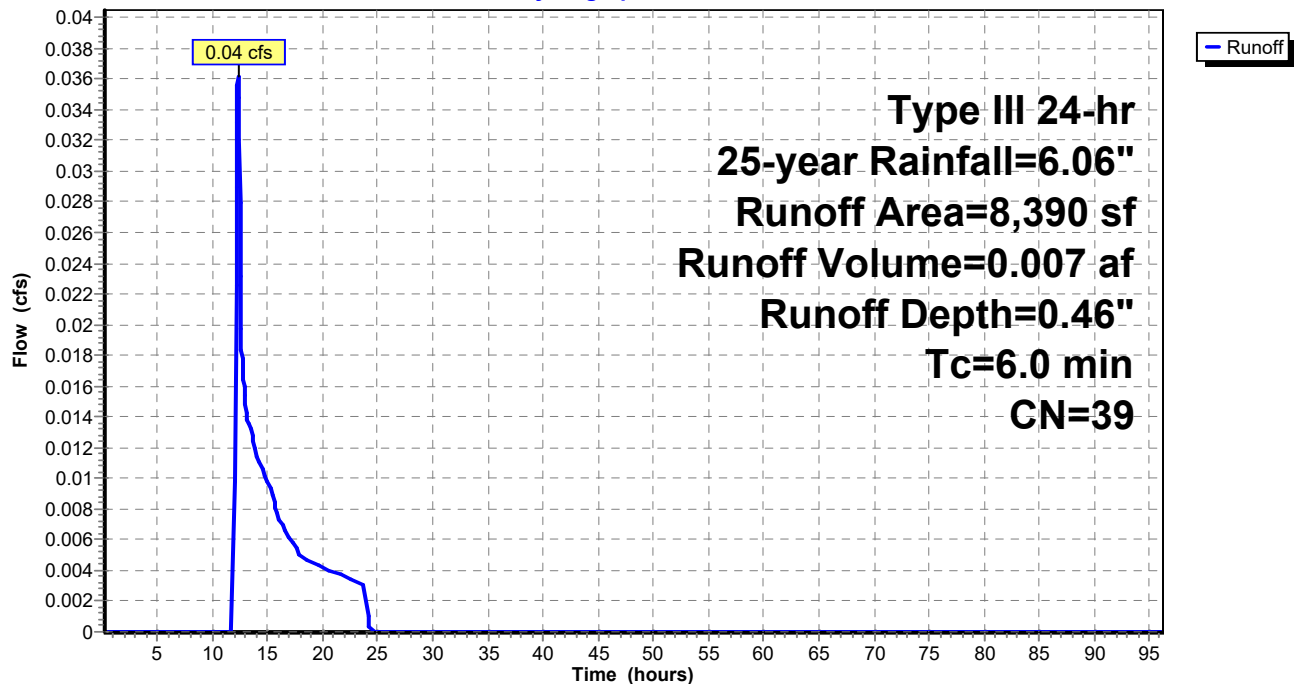
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-year Rainfall=6.06"

	Area (sf)	CN	Description
*	0	98	Pavement, Roofs, Concrete Pads
*	0	96	Compacted Gravel
*	0	55	Crushed Stone Yard
	8,390	39	>75% Grass cover, Good, HSG A
	0	30	Meadow, non-grazed, HSG A
	0	30	Woods, Good, HSG A
	8,390	39	Weighted Average
	8,390		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum of 6 mins for HydroCAD model

Subcatchment POST-2S-D:

Hydrograph



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Type III 24-hr 25-year Rainfall=6.06"

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Summary for Reach POST-1R:

Inflow Area = 1.596 ac, 78.95% Impervious, Inflow Depth = 4.31" for 25-year event
Inflow = 4.51 cfs @ 12.21 hrs, Volume= 0.574 af
Outflow = 4.48 cfs @ 12.23 hrs, Volume= 0.574 af, Atten= 1%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Max. Velocity= 4.72 fps, Min. Travel Time= 0.5 min

Avg. Velocity = 1.53 fps, Avg. Travel Time= 1.6 min

Peak Storage= 144 cf @ 12.22 hrs

Average Depth at Peak Storage= 0.35' , Surface Width= 3.41'

Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 145.48 cfs

2.00' x 2.00' deep channel, n= 0.030 Earth, grassed & winding

Side Slope Z-value= 2.0 ' ' Top Width= 10.00'

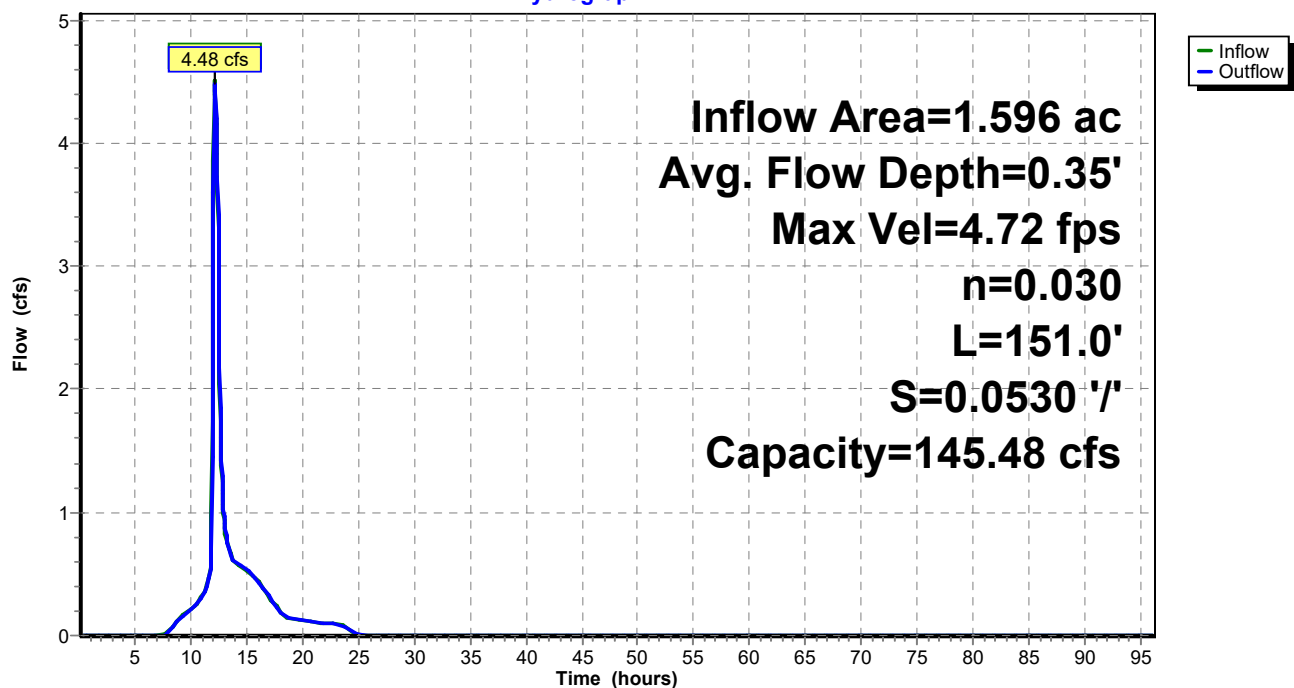
Length= 151.0' Slope= 0.0530 ' '

Inlet Invert= 187.00', Outlet Invert= 179.00'



Reach POST-1R:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Stage-Area-Storage for Reach POST-1R:

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
187.00	0.0	0	187.52	1.6	239
187.01	0.0	3	187.53	1.6	245
187.02	0.0	6	187.54	1.7	251
187.03	0.1	9	187.55	1.7	257
187.04	0.1	13	187.56	1.7	264
187.05	0.1	16	187.57	1.8	270
187.06	0.1	19	187.58	1.8	277
187.07	0.2	23	187.59	1.9	283
187.08	0.2	26	187.60	1.9	290
187.09	0.2	30	187.61	2.0	297
187.10	0.2	33	187.62	2.0	303
187.11	0.2	37	187.63	2.1	310
187.12	0.3	41	187.64	2.1	317
187.13	0.3	44	187.65	2.1	324
187.14	0.3	48	187.66	2.2	331
187.15	0.3	52	187.67	2.2	338
187.16	0.4	56	187.68	2.3	345
187.17	0.4	60	187.69	2.3	352
187.18	0.4	64	187.70	2.4	359
187.19	0.5	68	187.71	2.4	367
187.20	0.5	72	187.72	2.5	374
187.21	0.5	77	187.73	2.5	381
187.22	0.5	81	187.74	2.6	389
187.23	0.6	85	187.75	2.6	396
187.24	0.6	90	187.76	2.7	404
187.25	0.6	94	187.77	2.7	412
187.26	0.7	99	187.78	2.8	419
187.27	0.7	104	187.79	2.8	427
187.28	0.7	108	187.80	2.9	435
187.29	0.7	113	187.81	2.9	443
187.30	0.8	118	187.82	3.0	451
187.31	0.8	123	187.83	3.0	459
187.32	0.8	128	187.84	3.1	467
187.33	0.9	133	187.85	3.1	475
187.34	0.9	138	187.86	3.2	483
187.35	0.9	143	187.87	3.3	491
187.36	1.0	148	187.88	3.3	500
187.37	1.0	153	187.89	3.4	508
187.38	1.0	158	187.90	3.4	516
187.39	1.1	164	187.91	3.5	525
187.40	1.1	169	187.92	3.5	533
187.41	1.2	175	187.93	3.6	542
187.42	1.2	180	187.94	3.6	551
187.43	1.2	186	187.95	3.7	559
187.44	1.3	191	187.96	3.8	568
187.45	1.3	197	187.97	3.8	577
187.46	1.3	203	187.98	3.9	586
187.47	1.4	209	187.99	3.9	595
187.48	1.4	215	188.00	4.0	604
187.49	1.5	221	188.01	4.1	613
187.50	1.5	227	188.02	4.1	622
187.51	1.5	233	188.03	4.2	631

Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Stage-Area-Storage for Reach POST-1R: (continued)

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
188.04	4.2	641	188.56	8.0	1,206
188.05	4.3	650	188.57	8.1	1,219
188.06	4.4	659	188.58	8.2	1,231
188.07	4.4	669	188.59	8.2	1,244
188.08	4.5	678	188.60	8.3	1,256
188.09	4.6	688	188.61	8.4	1,269
188.10	4.6	698	188.62	8.5	1,282
188.11	4.7	707	188.63	8.6	1,295
188.12	4.7	717	188.64	8.7	1,308
188.13	4.8	727	188.65	8.7	1,321
188.14	4.9	737	188.66	8.8	1,334
188.15	4.9	747	188.67	8.9	1,347
188.16	5.0	757	188.68	9.0	1,360
188.17	5.1	767	188.69	9.1	1,373
188.18	5.1	777	188.70	9.2	1,386
188.19	5.2	787	188.71	9.3	1,400
188.20	5.3	797	188.72	9.4	1,413
188.21	5.3	808	188.73	9.4	1,426
188.22	5.4	818	188.74	9.5	1,440
188.23	5.5	828	188.75	9.6	1,453
188.24	5.6	839	188.76	9.7	1,467
188.25	5.6	849	188.77	9.8	1,481
188.26	5.7	860	188.78	9.9	1,494
188.27	5.8	871	188.79	10.0	1,508
188.28	5.8	881	188.80	10.1	1,522
188.29	5.9	892	188.81	10.2	1,536
188.30	6.0	903	188.82	10.3	1,550
188.31	6.1	914	188.83	10.4	1,564
188.32	6.1	925	188.84	10.5	1,578
188.33	6.2	936	188.85	10.5	1,592
188.34	6.3	947	188.86	10.6	1,607
188.35	6.3	958	188.87	10.7	1,621
188.36	6.4	969	188.88	10.8	1,635
188.37	6.5	981	188.89	10.9	1,650
188.38	6.6	992	188.90	11.0	1,664
188.39	6.6	1,003	188.91	11.1	1,679
188.40	6.7	1,015	188.92	11.2	1,693
188.41	6.8	1,026	188.93	11.3	1,708
188.42	6.9	1,038	188.94	11.4	1,722
188.43	6.9	1,049	188.95	11.5	1,737
188.44	7.0	1,061	188.96	11.6	1,752
188.45	7.1	1,073	188.97	11.7	1,767
188.46	7.2	1,085	188.98	11.8	1,782
188.47	7.3	1,097	188.99	11.9	1,797
188.48	7.3	1,108	189.00	12.0	1,812
188.49	7.4	1,120			
188.50	7.5	1,133			
188.51	7.6	1,145			
188.52	7.7	1,157			
188.53	7.7	1,169			
188.54	7.8	1,181			
188.55	7.9	1,194			

Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Summary for Reach POST-2R:

Inflow Area = 1.596 ac, 78.95% Impervious, Inflow Depth = 4.31" for 25-year event
Inflow = 4.48 cfs @ 12.23 hrs, Volume= 0.574 af
Outflow = 4.46 cfs @ 12.28 hrs, Volume= 0.574 af, Atten= 1%, Lag= 2.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.58 fps, Min. Travel Time= 1.4 min

Avg. Velocity = 0.14 fps, Avg. Travel Time= 5.8 min

Peak Storage= 389 cf @ 12.25 hrs

Average Depth at Peak Storage= 0.28' , Surface Width= 30.59'

Bank-Full Depth= 1.00' Flow Area= 35.0 sf, Capacity= 42.53 cfs

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

Side Slope Z-value= 10.0 ' ' Top Width= 45.00'

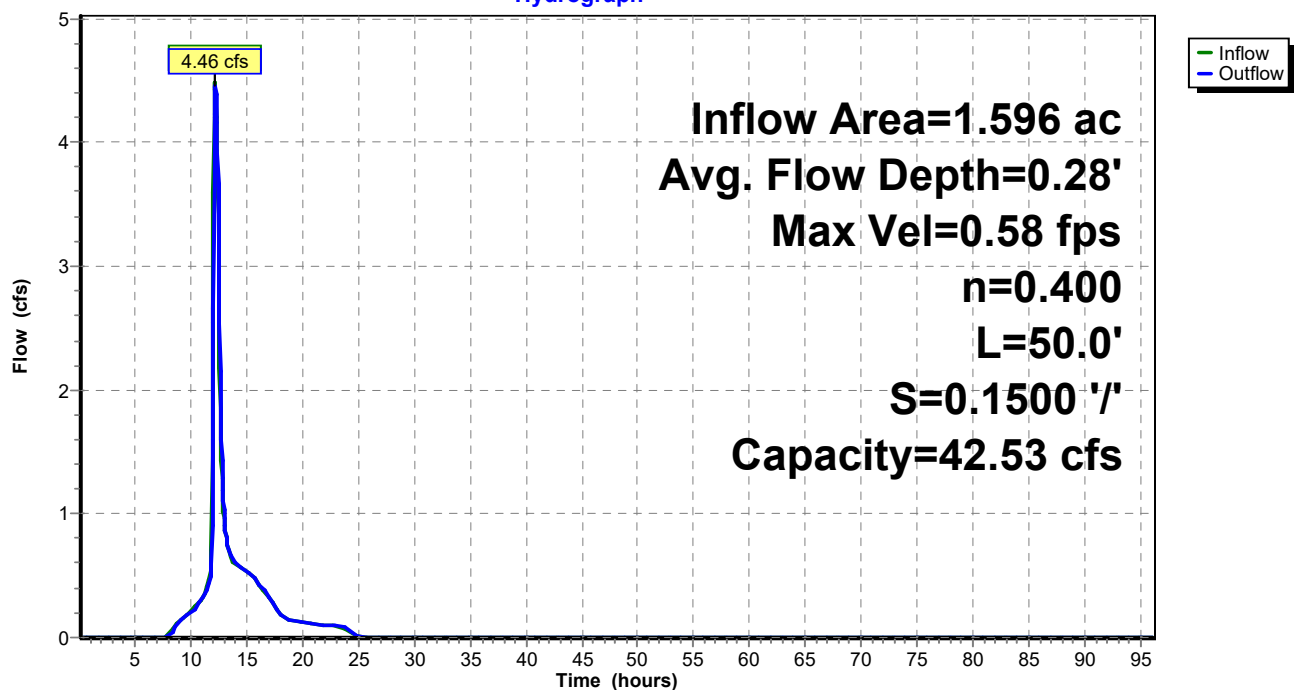
Length= 50.0' Slope= 0.1500 ' '

Inlet Invert= 178.50', Outlet Invert= 171.00'



Reach POST-2R:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Stage-Area-Storage for Reach POST-2R:

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
178.50	0.0	0	179.02	15.7	785
178.51	0.3	13	179.03	16.1	803
178.52	0.5	25	179.04	16.4	821
178.53	0.8	38	179.05	16.8	839
178.54	1.0	51	179.06	17.1	857
178.55	1.3	64	179.07	17.5	875
178.56	1.5	77	179.08	17.9	893
178.57	1.8	90	179.09	18.2	912
178.58	2.1	103	179.10	18.6	930
178.59	2.3	117	179.11	19.0	949
178.60	2.6	130	179.12	19.3	967
178.61	2.9	144	179.13	19.7	986
178.62	3.1	157	179.14	20.1	1,005
178.63	3.4	171	179.15	20.5	1,024
178.64	3.7	185	179.16	20.9	1,043
178.65	4.0	199	179.17	21.2	1,062
178.66	4.3	213	179.18	21.6	1,081
178.67	4.5	227	179.19	22.0	1,101
178.68	4.8	241	179.20	22.4	1,120
178.69	5.1	256	179.21	22.8	1,140
178.70	5.4	270	179.22	23.2	1,159
178.71	5.7	285	179.23	23.6	1,179
178.72	6.0	299	179.24	24.0	1,199
178.73	6.3	314	179.25	24.4	1,219
178.74	6.6	329	179.26	24.8	1,239
178.75	6.9	344	179.27	25.2	1,259
178.76	7.2	359	179.28	25.6	1,279
178.77	7.5	374	179.29	26.0	1,300
178.78	7.8	389	179.30	26.4	1,320
178.79	8.1	405	179.31	26.8	1,341
178.80	8.4	420	179.32	27.2	1,361
178.81	8.7	436	179.33	27.6	1,382
178.82	9.0	451	179.34	28.1	1,403
178.83	9.3	467	179.35	28.5	1,424
178.84	9.7	483	179.36	28.9	1,445
178.85	10.0	499	179.37	29.3	1,466
178.86	10.3	515	179.38	29.7	1,487
178.87	10.6	531	179.39	30.2	1,509
178.88	10.9	547	179.40	30.6	1,530
178.89	11.3	564	179.41	31.0	1,552
178.90	11.6	580	179.42	31.5	1,573
178.91	11.9	597	179.43	31.9	1,595
178.92	12.3	613	179.44	32.3	1,617
178.93	12.6	630	179.45	32.8	1,639
178.94	12.9	647	179.46	33.2	1,661
178.95	13.3	664	179.47	33.7	1,683
178.96	13.6	681	179.48	34.1	1,705
178.97	14.0	698	179.49	34.6	1,728
178.98	14.3	715	179.50	35.0	1,750
178.99	14.7	733			
179.00	15.0	750			
179.01	15.4	768			

Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Summary for Reach POST-3R:

Inflow Area = 1.596 ac, 78.95% Impervious, Inflow Depth = 4.31" for 25-year event
Inflow = 4.46 cfs @ 12.28 hrs, Volume= 0.574 af
Outflow = 4.38 cfs @ 12.41 hrs, Volume= 0.574 af, Atten= 2%, Lag= 7.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Max. Velocity= 2.19 fps, Min. Travel Time= 4.1 min

Avg. Velocity= 0.66 fps, Avg. Travel Time= 13.4 min

Peak Storage= 1,071 cf @ 12.33 hrs

Average Depth at Peak Storage= 0.10' , Surface Width= 20.79'

Bank-Full Depth= 1.00' Flow Area= 24.0 sf, Capacity= 224.46 cfs

20.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding

Side Slope Z-value= 4.0 ' ' Top Width= 28.00'

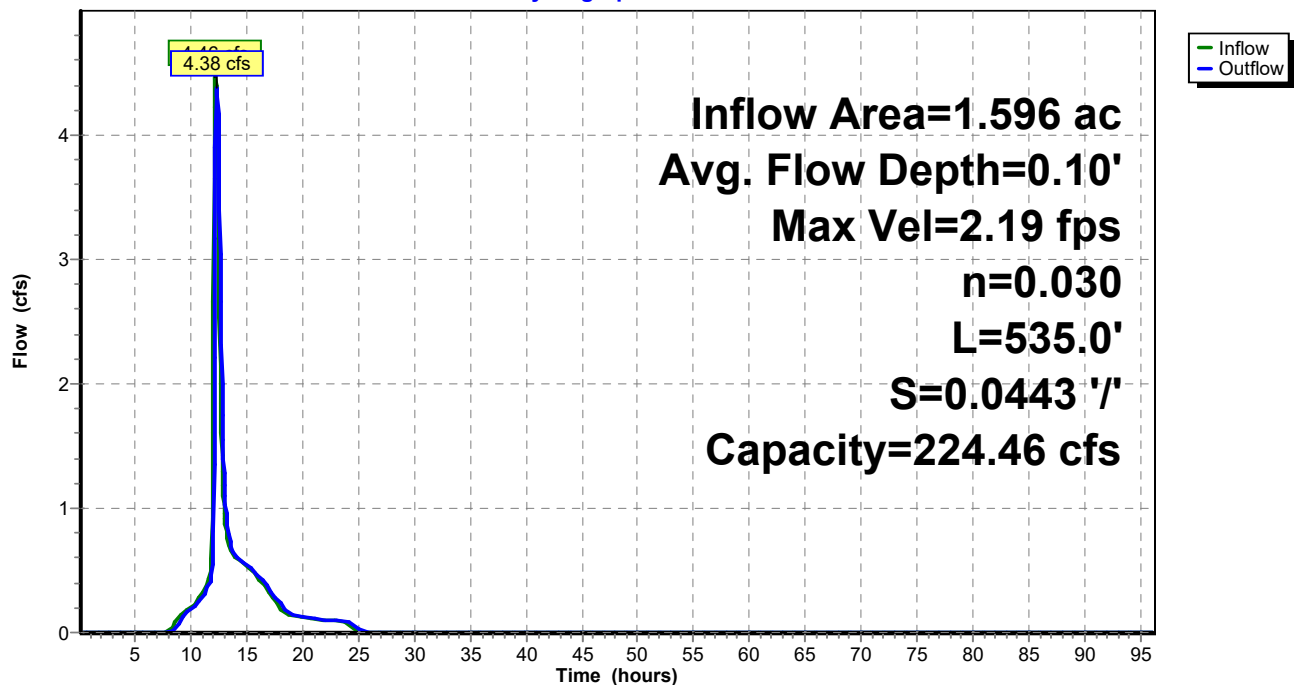
Length= 535.0' Slope= 0.0443 ' '

Inlet Invert= 170.80', Outlet Invert= 147.10'



Reach POST-3R:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Stage-Area-Storage for Reach POST-3R:

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
170.80	0.0	0	171.32	11.5	6,143
170.81	0.2	107	171.33	11.7	6,272
170.82	0.4	215	171.34	12.0	6,402
170.83	0.6	323	171.35	12.2	6,532
170.84	0.8	431	171.36	12.5	6,663
170.85	1.0	540	171.37	12.7	6,794
170.86	1.2	650	171.38	12.9	6,926
170.87	1.4	759	171.39	13.2	7,058
170.88	1.6	870	171.40	13.4	7,190
170.89	1.8	980	171.41	13.7	7,323
170.90	2.0	1,091	171.42	13.9	7,457
170.91	2.2	1,203	171.43	14.2	7,590
170.92	2.5	1,315	171.44	14.4	7,725
170.93	2.7	1,427	171.45	14.7	7,859
170.94	2.9	1,540	171.46	14.9	7,994
170.95	3.1	1,653	171.47	15.2	8,130
170.96	3.3	1,767	171.48	15.4	8,266
170.97	3.5	1,881	171.49	15.7	8,402
170.98	3.7	1,995	171.50	16.0	8,539
170.99	3.9	2,110	171.51	16.2	8,676
171.00	4.2	2,226	171.52	16.5	8,813
171.01	4.4	2,341	171.53	16.7	8,951
171.02	4.6	2,458	171.54	17.0	9,090
171.03	4.8	2,574	171.55	17.3	9,229
171.04	5.0	2,691	171.56	17.5	9,368
171.05	5.3	2,809	171.57	17.8	9,508
171.06	5.5	2,927	171.58	18.0	9,648
171.07	5.7	3,045	171.59	18.3	9,789
171.08	5.9	3,164	171.60	18.6	9,930
171.09	6.1	3,283	171.61	18.8	10,071
171.10	6.4	3,403	171.62	19.1	10,213
171.11	6.6	3,523	171.63	19.4	10,355
171.12	6.8	3,643	171.64	19.6	10,498
171.13	7.0	3,764	171.65	19.9	10,641
171.14	7.3	3,885	171.66	20.2	10,785
171.15	7.5	4,007	171.67	20.4	10,929
171.16	7.7	4,129	171.68	20.7	11,073
171.17	7.9	4,252	171.69	21.0	11,218
171.18	8.2	4,375	171.70	21.2	11,363
171.19	8.4	4,498	171.71	21.5	11,509
171.20	8.6	4,622	171.72	21.8	11,655
171.21	8.9	4,747	171.73	22.1	11,802
171.22	9.1	4,871	171.74	22.3	11,949
171.23	9.3	4,997	171.75	22.6	12,096
171.24	9.6	5,122	171.76	22.9	12,244
171.25	9.8	5,248	171.77	23.2	12,393
171.26	10.0	5,375	171.78	23.4	12,541
171.27	10.3	5,502	171.79	23.7	12,690
171.28	10.5	5,629	171.80	24.0	12,840
171.29	10.8	5,757			
171.30	11.0	5,885			
171.31	11.2	6,014			

Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Summary for Reach POST-4R:

Inflow Area = 0.610 ac, 7.41% Impervious, Inflow Depth = 0.00" for 25-year event
Inflow = 0.00 cfs @ 0.25 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.25 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min

Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.25 hrs

Average Depth at Peak Storage= 0.00'

Bank-Full Depth= 1.00' Flow Area= 24.0 sf, Capacity= 423.66 cfs

20.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding

Side Slope Z-value= 4.0 '/' Top Width= 28.00'

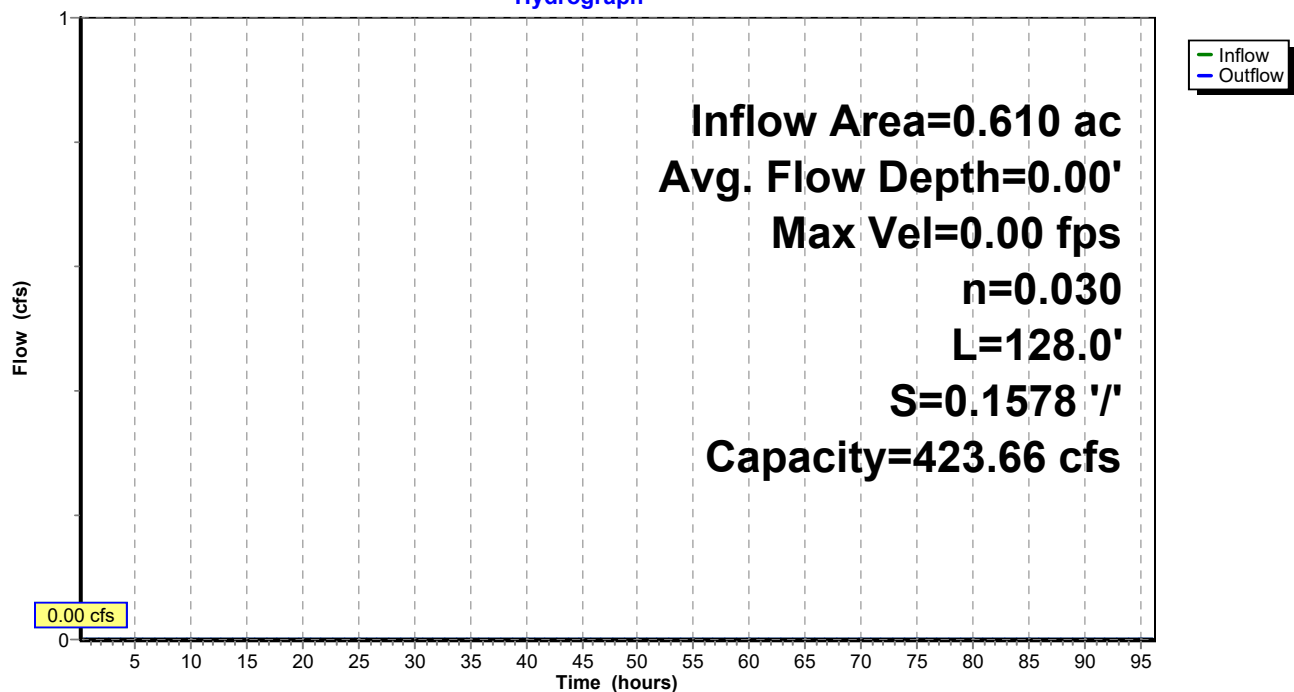
Length= 128.0' Slope= 0.1578 '/'

Inlet Invert= 173.60', Outlet Invert= 153.40'



Reach POST-4R:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Stage-Area-Storage for Reach POST-4R:

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
173.60	0.0	0	174.12	11.5	1,470
173.61	0.2	26	174.13	11.7	1,501
173.62	0.4	51	174.14	12.0	1,532
173.63	0.6	77	174.15	12.2	1,563
173.64	0.8	103	174.16	12.5	1,594
173.65	1.0	129	174.17	12.7	1,626
173.66	1.2	155	174.18	12.9	1,657
173.67	1.4	182	174.19	13.2	1,689
173.68	1.6	208	174.20	13.4	1,720
173.69	1.8	235	174.21	13.7	1,752
173.70	2.0	261	174.22	13.9	1,784
173.71	2.2	288	174.23	14.2	1,816
173.72	2.5	315	174.24	14.4	1,848
173.73	2.7	341	174.25	14.7	1,880
173.74	2.9	368	174.26	14.9	1,913
173.75	3.1	396	174.27	15.2	1,945
173.76	3.3	423	174.28	15.4	1,978
173.77	3.5	450	174.29	15.7	2,010
173.78	3.7	477	174.30	16.0	2,043
173.79	3.9	505	174.31	16.2	2,076
173.80	4.2	532	174.32	16.5	2,109
173.81	4.4	560	174.33	16.7	2,142
173.82	4.6	588	174.34	17.0	2,175
173.83	4.8	616	174.35	17.3	2,208
173.84	5.0	644	174.36	17.5	2,241
173.85	5.3	672	174.37	17.8	2,275
173.86	5.5	700	174.38	18.0	2,308
173.87	5.7	729	174.39	18.3	2,342
173.88	5.9	757	174.40	18.6	2,376
173.89	6.1	785	174.41	18.8	2,410
173.90	6.4	814	174.42	19.1	2,443
173.91	6.6	843	174.43	19.4	2,478
173.92	6.8	872	174.44	19.6	2,512
173.93	7.0	901	174.45	19.9	2,546
173.94	7.3	930	174.46	20.2	2,580
173.95	7.5	959	174.47	20.4	2,615
173.96	7.7	988	174.48	20.7	2,649
173.97	7.9	1,017	174.49	21.0	2,684
173.98	8.2	1,047	174.50	21.2	2,719
173.99	8.4	1,076	174.51	21.5	2,754
174.00	8.6	1,106	174.52	21.8	2,789
174.01	8.9	1,136	174.53	22.1	2,824
174.02	9.1	1,166	174.54	22.3	2,859
174.03	9.3	1,195	174.55	22.6	2,894
174.04	9.6	1,226	174.56	22.9	2,929
174.05	9.8	1,256	174.57	23.2	2,965
174.06	10.0	1,286	174.58	23.4	3,001
174.07	10.3	1,316	174.59	23.7	3,036
174.08	10.5	1,347	174.60	24.0	3,072
174.09	10.8	1,377			
174.10	11.0	1,408			
174.11	11.2	1,439			

Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Summary for Reach POST-5R:

Inflow Area = 0.610 ac, 7.41% Impervious, Inflow Depth = 0.00" for 25-year event
Inflow = 0.00 cfs @ 0.25 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.25 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min

Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.25 hrs

Average Depth at Peak Storage= 0.00'

Bank-Full Depth= 1.00' Flow Area= 24.0 sf, Capacity= 160.96 cfs

20.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding

Side Slope Z-value= 4.0 '/' Top Width= 28.00'

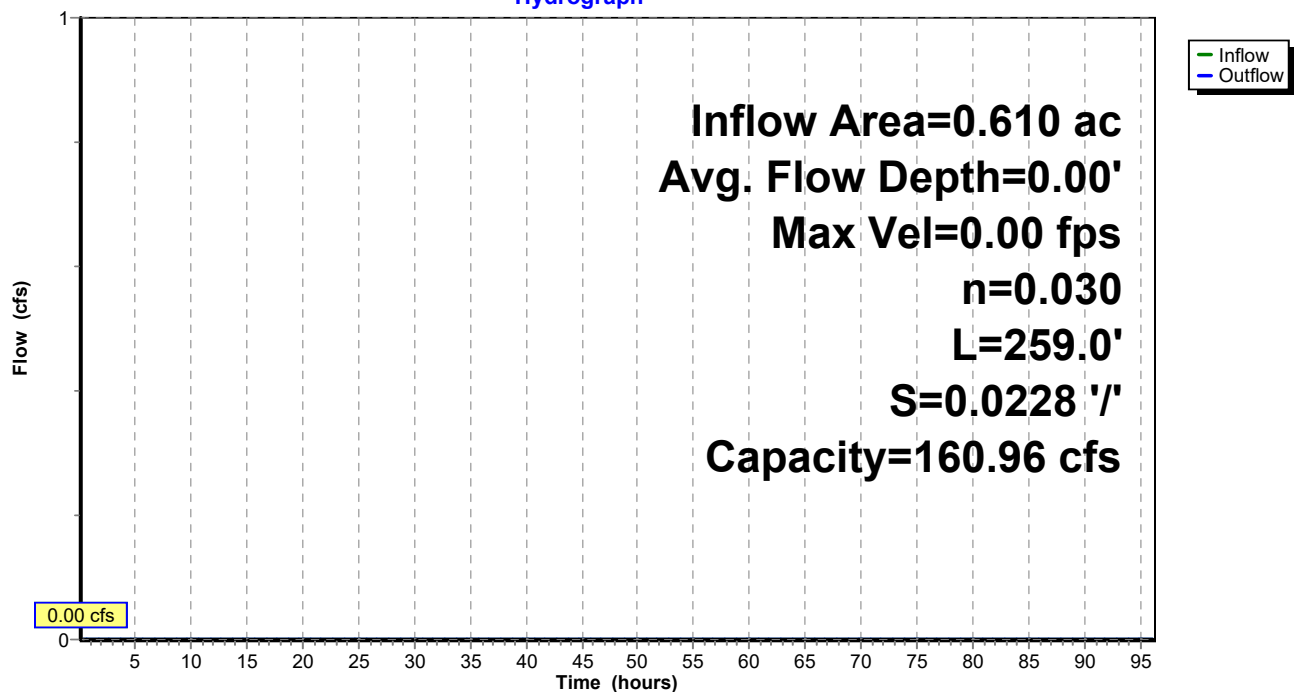
Length= 259.0' Slope= 0.0228 '/'

Inlet Invert= 153.00', Outlet Invert= 147.10'



Reach POST-5R:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Stage-Area-Storage for Reach POST-5R:

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
153.00	0.0	0	153.52	11.5	2,974
153.01	0.2	52	153.53	11.7	3,036
153.02	0.4	104	153.54	12.0	3,099
153.03	0.6	156	153.55	12.2	3,162
153.04	0.8	209	153.56	12.5	3,226
153.05	1.0	262	153.57	12.7	3,289
153.06	1.2	315	153.58	12.9	3,353
153.07	1.4	368	153.59	13.2	3,417
153.08	1.6	421	153.60	13.4	3,481
153.09	1.8	475	153.61	13.7	3,545
153.10	2.0	528	153.62	13.9	3,610
153.11	2.2	582	153.63	14.2	3,675
153.12	2.5	637	153.64	14.4	3,740
153.13	2.7	691	153.65	14.7	3,805
153.14	2.9	746	153.66	14.9	3,870
153.15	3.1	800	153.67	15.2	3,936
153.16	3.3	855	153.68	15.4	4,001
153.17	3.5	911	153.69	15.7	4,067
153.18	3.7	966	153.70	16.0	4,134
153.19	3.9	1,022	153.71	16.2	4,200
153.20	4.2	1,077	153.72	16.5	4,267
153.21	4.4	1,133	153.73	16.7	4,333
153.22	4.6	1,190	153.74	17.0	4,401
153.23	4.8	1,246	153.75	17.3	4,468
153.24	5.0	1,303	153.76	17.5	4,535
153.25	5.3	1,360	153.77	17.8	4,603
153.26	5.5	1,417	153.78	18.0	4,671
153.27	5.7	1,474	153.79	18.3	4,739
153.28	5.9	1,532	153.80	18.6	4,807
153.29	6.1	1,589	153.81	18.8	4,876
153.30	6.4	1,647	153.82	19.1	4,944
153.31	6.6	1,705	153.83	19.4	5,013
153.32	6.8	1,764	153.84	19.6	5,082
153.33	7.0	1,822	153.85	19.9	5,152
153.34	7.3	1,881	153.86	20.2	5,221
153.35	7.5	1,940	153.87	20.4	5,291
153.36	7.7	1,999	153.88	20.7	5,361
153.37	7.9	2,058	153.89	21.0	5,431
153.38	8.2	2,118	153.90	21.2	5,501
153.39	8.4	2,178	153.91	21.5	5,572
153.40	8.6	2,238	153.92	21.8	5,642
153.41	8.9	2,298	153.93	22.1	5,713
153.42	9.1	2,358	153.94	22.3	5,785
153.43	9.3	2,419	153.95	22.6	5,856
153.44	9.6	2,480	153.96	22.9	5,928
153.45	9.8	2,541	153.97	23.2	5,999
153.46	10.0	2,602	153.98	23.4	6,071
153.47	10.3	2,663	153.99	23.7	6,144
153.48	10.5	2,725	154.00	24.0	6,216
153.49	10.8	2,787			
153.50	11.0	2,849			
153.51	11.2	2,911			

Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Summary for Pond POST-1P:

Inflow Area = 1.596 ac, 78.95% Impervious, Inflow Depth = 4.36" for 25-year event
 Inflow = 7.82 cfs @ 12.09 hrs, Volume= 0.580 af
 Outflow = 4.51 cfs @ 12.21 hrs, Volume= 0.574 af, Atten= 42%, Lag= 7.5 min
 Primary = 4.51 cfs @ 12.21 hrs, Volume= 0.574 af

Routing by Stor-Ind method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
 Peak Elev= 191.17' @ 12.21 hrs Surf.Area= 2,476 sf Storage= 5,761 cf

Plug-Flow detention time= 43.6 min calculated for 0.573 af (99% of inflow)
 Center-of-Mass det. time= 37.0 min (837.3 - 800.3)

Volume	Invert	Avail.Storage	Storage Description		
#1	187.00'	11,201 cf	Custom Stage Data (Pyramidal) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
187.00	200	0	0	200	
188.00	859	491	491	865	
190.00	1,916	2,705	3,196	1,961	
192.00	2,915	4,796	7,993	3,034	
193.00	3,512	3,209	11,201	3,673	

Device	Routing	Invert	Outlet Devices		
#1	Primary	187.70'	18.0" Round Culvert L= 22.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 187.10' / 187.70' S= -0.0273 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf		
#2	Device 1	187.10'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads		
#3	Device 1	189.70'	12.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads		
#4	Device 1	191.20'	7.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads		

Primary OutFlow Max=4.49 cfs @ 12.21 hrs HW=191.16' (Free Discharge)

- 1=Culvert (Passes 4.49 cfs of 11.06 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.78 cfs @ 8.96 fps)
- 3=Orifice/Grate (Orifice Controls 3.71 cfs @ 4.72 fps)
- 4=Orifice/Grate (Controls 0.00 cfs)

Holliston - Stormwater Model

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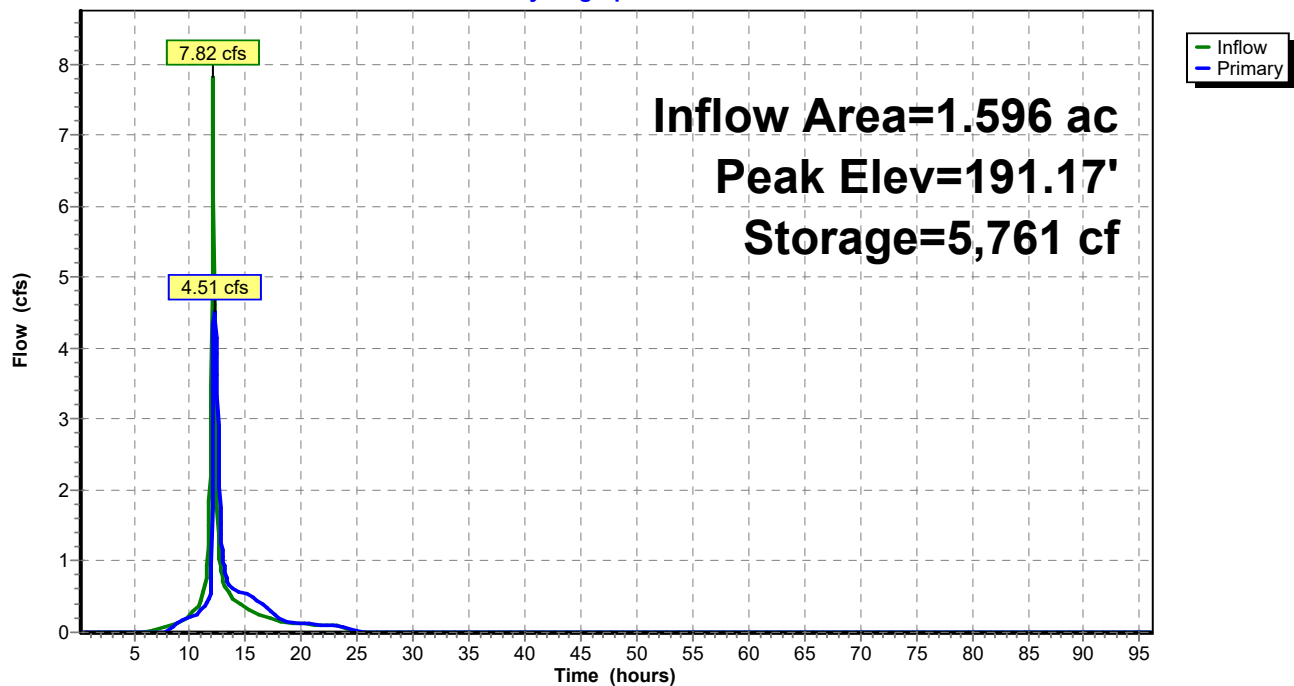
Type III 24-hr 25-year Rainfall=6.06"

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Pond POST-1P:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Stage-Area-Storage for Pond POST-1P:

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
187.00	200	0	187.52	485	173
187.01	204	2	187.53	492	178
187.02	209	4	187.54	499	183
187.03	213	6	187.55	506	188
187.04	218	8	187.56	512	193
187.05	222	11	187.57	519	198
187.06	227	13	187.58	526	203
187.07	231	15	187.59	533	208
187.08	236	17	187.60	540	214
187.09	240	20	187.61	547	219
187.10	245	22	187.62	554	225
187.11	250	25	187.63	562	230
187.12	255	27	187.64	569	236
187.13	260	30	187.65	576	242
187.14	265	32	187.66	583	247
187.15	270	35	187.67	591	253
187.16	275	38	187.68	598	259
187.17	280	41	187.69	606	265
187.18	285	43	187.70	613	271
187.19	290	46	187.71	621	278
187.20	295	49	187.72	628	284
187.21	300	52	187.73	636	290
187.22	306	55	187.74	643	297
187.23	311	58	187.75	651	303
187.24	316	61	187.76	659	310
187.25	322	65	187.77	667	316
187.26	327	68	187.78	675	323
187.27	333	71	187.79	682	330
187.28	338	74	187.80	690	337
187.29	344	78	187.81	698	343
187.30	349	81	187.82	706	350
187.31	355	85	187.83	715	358
187.32	361	88	187.84	723	365
187.33	367	92	187.85	731	372
187.34	372	96	187.86	739	379
187.35	378	100	187.87	747	387
187.36	384	103	187.88	756	394
187.37	390	107	187.89	764	402
187.38	396	111	187.90	772	410
187.39	402	115	187.91	781	417
187.40	408	119	187.92	789	425
187.41	415	123	187.93	798	433
187.42	421	128	187.94	806	441
187.43	427	132	187.95	815	449
187.44	433	136	187.96	824	458
187.45	440	140	187.97	833	466
187.46	446	145	187.98	841	474
187.47	452	149	187.99	850	483
187.48	459	154	188.00	859	491
187.49	465	159	188.01	863	500
187.50	472	163	188.02	867	508
187.51	479	168	188.03	872	517

Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Stage-Area-Storage for Pond POST-1P: (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
188.04	876	526	188.56	1,113	1,042
188.05	880	535	188.57	1,118	1,053
188.06	885	543	188.58	1,122	1,064
188.07	889	552	188.59	1,127	1,075
188.08	893	561	188.60	1,132	1,087
188.09	898	570	188.61	1,137	1,098
188.10	902	579	188.62	1,142	1,109
188.11	906	588	188.63	1,147	1,121
188.12	911	597	188.64	1,152	1,132
188.13	915	606	188.65	1,157	1,144
188.14	919	616	188.66	1,162	1,155
188.15	924	625	188.67	1,166	1,167
188.16	928	634	188.68	1,171	1,179
188.17	933	643	188.69	1,176	1,191
188.18	937	653	188.70	1,181	1,202
188.19	941	662	188.71	1,186	1,214
188.20	946	672	188.72	1,191	1,226
188.21	950	681	188.73	1,196	1,238
188.22	955	691	188.74	1,201	1,250
188.23	959	700	188.75	1,206	1,262
188.24	964	710	188.76	1,211	1,274
188.25	968	719	188.77	1,216	1,286
188.26	973	729	188.78	1,221	1,298
188.27	977	739	188.79	1,227	1,311
188.28	982	749	188.80	1,232	1,323
188.29	986	759	188.81	1,237	1,335
188.30	991	768	188.82	1,242	1,348
188.31	995	778	188.83	1,247	1,360
188.32	1,000	788	188.84	1,252	1,373
188.33	1,005	798	188.85	1,257	1,385
188.34	1,009	808	188.86	1,262	1,398
188.35	1,014	819	188.87	1,267	1,410
188.36	1,018	829	188.88	1,273	1,423
188.37	1,023	839	188.89	1,278	1,436
188.38	1,028	849	188.90	1,283	1,449
188.39	1,032	859	188.91	1,288	1,462
188.40	1,037	870	188.92	1,293	1,474
188.41	1,042	880	188.93	1,298	1,487
188.42	1,046	891	188.94	1,304	1,500
188.43	1,051	901	188.95	1,309	1,513
188.44	1,056	912	188.96	1,314	1,527
188.45	1,060	922	188.97	1,319	1,540
188.46	1,065	933	188.98	1,325	1,553
188.47	1,070	944	188.99	1,330	1,566
188.48	1,075	954	189.00	1,335	1,580
188.49	1,079	965	189.01	1,340	1,593
188.50	1,084	976	189.02	1,346	1,606
188.51	1,089	987	189.03	1,351	1,620
188.52	1,094	998	189.04	1,356	1,633
188.53	1,098	1,009	189.05	1,362	1,647
188.54	1,103	1,020	189.06	1,367	1,661
188.55	1,108	1,031	189.07	1,372	1,674

Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Stage-Area-Storage for Pond POST-1P: (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
189.08	1,378	1,688	189.60	1,671	2,480
189.09	1,383	1,702	189.61	1,677	2,496
189.10	1,389	1,716	189.62	1,683	2,513
189.11	1,394	1,730	189.63	1,689	2,530
189.12	1,399	1,744	189.64	1,695	2,547
189.13	1,405	1,758	189.65	1,701	2,564
189.14	1,410	1,772	189.66	1,707	2,581
189.15	1,416	1,786	189.67	1,713	2,598
189.16	1,421	1,800	189.68	1,719	2,615
189.17	1,427	1,814	189.69	1,725	2,632
189.18	1,432	1,829	189.70	1,731	2,650
189.19	1,438	1,843	189.71	1,737	2,667
189.20	1,443	1,857	189.72	1,743	2,684
189.21	1,448	1,872	189.73	1,749	2,702
189.22	1,454	1,886	189.74	1,755	2,719
189.23	1,460	1,901	189.75	1,761	2,737
189.24	1,465	1,915	189.76	1,767	2,755
189.25	1,471	1,930	189.77	1,773	2,772
189.26	1,476	1,945	189.78	1,779	2,790
189.27	1,482	1,960	189.79	1,785	2,808
189.28	1,487	1,975	189.80	1,791	2,826
189.29	1,493	1,989	189.81	1,798	2,844
189.30	1,498	2,004	189.82	1,804	2,862
189.31	1,504	2,019	189.83	1,810	2,880
189.32	1,510	2,034	189.84	1,816	2,898
189.33	1,515	2,050	189.85	1,822	2,916
189.34	1,521	2,065	189.86	1,828	2,934
189.35	1,527	2,080	189.87	1,835	2,953
189.36	1,532	2,095	189.88	1,841	2,971
189.37	1,538	2,111	189.89	1,847	2,989
189.38	1,544	2,126	189.90	1,853	3,008
189.39	1,549	2,142	189.91	1,859	3,027
189.40	1,555	2,157	189.92	1,866	3,045
189.41	1,561	2,173	189.93	1,872	3,064
189.42	1,566	2,188	189.94	1,878	3,083
189.43	1,572	2,204	189.95	1,884	3,101
189.44	1,578	2,220	189.96	1,891	3,120
189.45	1,584	2,235	189.97	1,897	3,139
189.46	1,589	2,251	189.98	1,903	3,158
189.47	1,595	2,267	189.99	1,910	3,177
189.48	1,601	2,283	190.00	1,916	3,196
189.49	1,607	2,299	190.01	1,920	3,216
189.50	1,613	2,315	190.02	1,925	3,235
189.51	1,618	2,332	190.03	1,929	3,254
189.52	1,624	2,348	190.04	1,934	3,273
189.53	1,630	2,364	190.05	1,938	3,293
189.54	1,636	2,380	190.06	1,943	3,312
189.55	1,642	2,397	190.07	1,947	3,332
189.56	1,648	2,413	190.08	1,952	3,351
189.57	1,653	2,430	190.09	1,956	3,371
189.58	1,659	2,446	190.10	1,961	3,390
189.59	1,665	2,463	190.11	1,966	3,410

Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Stage-Area-Storage for Pond POST-1P: (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
190.12	1,970	3,430	190.64	2,213	4,517
190.13	1,975	3,449	190.65	2,218	4,539
190.14	1,979	3,469	190.66	2,223	4,561
190.15	1,984	3,489	190.67	2,227	4,583
190.16	1,988	3,509	190.68	2,232	4,605
190.17	1,993	3,529	190.69	2,237	4,628
190.18	1,997	3,549	190.70	2,242	4,650
190.19	2,002	3,569	190.71	2,247	4,673
190.20	2,007	3,589	190.72	2,252	4,695
190.21	2,011	3,609	190.73	2,256	4,718
190.22	2,016	3,629	190.74	2,261	4,740
190.23	2,020	3,649	190.75	2,266	4,763
190.24	2,025	3,669	190.76	2,271	4,786
190.25	2,029	3,690	190.77	2,276	4,808
190.26	2,034	3,710	190.78	2,281	4,831
190.27	2,039	3,730	190.79	2,286	4,854
190.28	2,043	3,751	190.80	2,291	4,877
190.29	2,048	3,771	190.81	2,295	4,900
190.30	2,053	3,792	190.82	2,300	4,923
190.31	2,057	3,812	190.83	2,305	4,946
190.32	2,062	3,833	190.84	2,310	4,969
190.33	2,066	3,853	190.85	2,315	4,992
190.34	2,071	3,874	190.86	2,320	5,015
190.35	2,076	3,895	190.87	2,325	5,038
190.36	2,080	3,916	190.88	2,330	5,062
190.37	2,085	3,936	190.89	2,335	5,085
190.38	2,090	3,957	190.90	2,340	5,108
190.39	2,094	3,978	190.91	2,345	5,132
190.40	2,099	3,999	190.92	2,350	5,155
190.41	2,104	4,020	190.93	2,355	5,179
190.42	2,108	4,041	190.94	2,360	5,202
190.43	2,113	4,062	190.95	2,364	5,226
190.44	2,118	4,084	190.96	2,369	5,250
190.45	2,123	4,105	190.97	2,374	5,273
190.46	2,127	4,126	190.98	2,379	5,297
190.47	2,132	4,147	190.99	2,384	5,321
190.48	2,137	4,169	191.00	2,389	5,345
190.49	2,141	4,190	191.01	2,394	5,369
190.50	2,146	4,211	191.02	2,399	5,393
190.51	2,151	4,233	191.03	2,404	5,417
190.52	2,156	4,254	191.04	2,409	5,441
190.53	2,160	4,276	191.05	2,414	5,465
190.54	2,165	4,298	191.06	2,419	5,489
190.55	2,170	4,319	191.07	2,424	5,513
190.56	2,175	4,341	191.08	2,430	5,538
190.57	2,179	4,363	191.09	2,435	5,562
190.58	2,184	4,385	191.10	2,440	5,586
190.59	2,189	4,407	191.11	2,445	5,611
190.60	2,194	4,428	191.12	2,450	5,635
190.61	2,199	4,450	191.13	2,455	5,660
190.62	2,203	4,472	191.14	2,460	5,684
190.63	2,208	4,494	191.15	2,465	5,709

Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Stage-Area-Storage for Pond POST-1P: (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
191.16	2,470	5,734	191.68	2,741	7,088
191.17	2,475	5,758	191.69	2,746	7,115
191.18	2,480	5,783	191.70	2,752	7,143
191.19	2,485	5,808	191.71	2,757	7,170
191.20	2,490	5,833	191.72	2,763	7,198
191.21	2,495	5,858	191.73	2,768	7,226
191.22	2,501	5,883	191.74	2,773	7,253
191.23	2,506	5,908	191.75	2,779	7,281
191.24	2,511	5,933	191.76	2,784	7,309
191.25	2,516	5,958	191.77	2,789	7,337
191.26	2,521	5,983	191.78	2,795	7,365
191.27	2,526	6,008	191.79	2,800	7,393
191.28	2,531	6,034	191.80	2,806	7,421
191.29	2,536	6,059	191.81	2,811	7,449
191.30	2,542	6,084	191.82	2,817	7,477
191.31	2,547	6,110	191.83	2,822	7,505
191.32	2,552	6,135	191.84	2,827	7,533
191.33	2,557	6,161	191.85	2,833	7,562
191.34	2,562	6,186	191.86	2,838	7,590
191.35	2,567	6,212	191.87	2,844	7,618
191.36	2,573	6,238	191.88	2,849	7,647
191.37	2,578	6,263	191.89	2,855	7,675
191.38	2,583	6,289	191.90	2,860	7,704
191.39	2,588	6,315	191.91	2,866	7,733
191.40	2,593	6,341	191.92	2,871	7,761
191.41	2,599	6,367	191.93	2,877	7,790
191.42	2,604	6,393	191.94	2,882	7,819
191.43	2,609	6,419	191.95	2,887	7,848
191.44	2,614	6,445	191.96	2,893	7,876
191.45	2,619	6,471	191.97	2,898	7,905
191.46	2,625	6,498	191.98	2,904	7,934
191.47	2,630	6,524	191.99	2,909	7,964
191.48	2,635	6,550	192.00	2,915	7,993
191.49	2,640	6,577	192.01	2,921	8,022
191.50	2,646	6,603	192.02	2,926	8,051
191.51	2,651	6,629	192.03	2,932	8,080
191.52	2,656	6,656	192.04	2,938	8,110
191.53	2,661	6,683	192.05	2,944	8,139
191.54	2,667	6,709	192.06	2,949	8,169
191.55	2,672	6,736	192.07	2,955	8,198
191.56	2,677	6,763	192.08	2,961	8,228
191.57	2,683	6,789	192.09	2,966	8,257
191.58	2,688	6,816	192.10	2,972	8,287
191.59	2,693	6,843	192.11	2,978	8,317
191.60	2,698	6,870	192.12	2,984	8,347
191.61	2,704	6,897	192.13	2,989	8,376
191.62	2,709	6,924	192.14	2,995	8,406
191.63	2,714	6,951	192.15	3,001	8,436
191.64	2,720	6,979	192.16	3,007	8,466
191.65	2,725	7,006	192.17	3,013	8,496
191.66	2,730	7,033	192.18	3,018	8,527
191.67	2,736	7,060	192.19	3,024	8,557

Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Stage-Area-Storage for Pond POST-1P: (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
192.20	3,030	8,587	192.72	3,339	10,242
192.21	3,036	8,617	192.73	3,345	10,276
192.22	3,042	8,648	192.74	3,351	10,309
192.23	3,047	8,678	192.75	3,358	10,343
192.24	3,053	8,709	192.76	3,364	10,376
192.25	3,059	8,739	192.77	3,370	10,410
192.26	3,065	8,770	192.78	3,376	10,444
192.27	3,071	8,801	192.79	3,382	10,478
192.28	3,077	8,831	192.80	3,388	10,512
192.29	3,082	8,862	192.81	3,394	10,545
192.30	3,088	8,893	192.82	3,400	10,579
192.31	3,094	8,924	192.83	3,407	10,613
192.32	3,100	8,955	192.84	3,413	10,648
192.33	3,106	8,986	192.85	3,419	10,682
192.34	3,112	9,017	192.86	3,425	10,716
192.35	3,118	9,048	192.87	3,431	10,750
192.36	3,124	9,079	192.88	3,437	10,785
192.37	3,129	9,111	192.89	3,444	10,819
192.38	3,135	9,142	192.90	3,450	10,853
192.39	3,141	9,173	192.91	3,456	10,888
192.40	3,147	9,205	192.92	3,462	10,923
192.41	3,153	9,236	192.93	3,468	10,957
192.42	3,159	9,268	192.94	3,475	10,992
192.43	3,165	9,299	192.95	3,481	11,027
192.44	3,171	9,331	192.96	3,487	11,062
192.45	3,177	9,363	192.97	3,493	11,096
192.46	3,183	9,395	192.98	3,500	11,131
192.47	3,189	9,427	192.99	3,506	11,166
192.48	3,195	9,458	193.00	3,512	11,201
192.49	3,201	9,490			
192.50	3,207	9,522			
192.51	3,213	9,555			
192.52	3,219	9,587			
192.53	3,224	9,619			
192.54	3,230	9,651			
192.55	3,236	9,684			
192.56	3,242	9,716			
192.57	3,248	9,748			
192.58	3,254	9,781			
192.59	3,261	9,813			
192.60	3,267	9,846			
192.61	3,273	9,879			
192.62	3,279	9,912			
192.63	3,285	9,944			
192.64	3,291	9,977			
192.65	3,297	10,010			
192.66	3,303	10,043			
192.67	3,309	10,076			
192.68	3,315	10,109			
192.69	3,321	10,143			
192.70	3,327	10,176			
192.71	3,333	10,209			

Holliston - Stormwater Model

Type III 24-hr 25-year Rainfall=6.06"

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Summary for Pond POST-2P: Sed. Forebay 1

Inflow Area = 0.365 ac, 12.38% Impervious, Inflow Depth = 3.53" for 25-year event
 Inflow = 1.48 cfs @ 12.09 hrs, Volume= 0.108 af
 Outflow = 1.48 cfs @ 12.10 hrs, Volume= 0.101 af, Atten= 0%, Lag= 0.7 min
 Primary = 1.48 cfs @ 12.10 hrs, Volume= 0.101 af

Routing by Stor-Ind method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
 Peak Elev= 185.16' @ 12.10 hrs Surf.Area= 567 sf Storage= 378 cf
 Flood Elev= 186.00' Surf.Area= 976 sf Storage= 1,021 cf

Plug-Flow detention time= 49.3 min calculated for 0.101 af (94% of inflow)
 Center-of-Mass det. time= 15.9 min (837.1 - 821.2)

Volume	Invert	Avail.Storage	Storage Description
#1	184.00'	1,021 cf	Custom Stage Data (Irregular) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
184.00	127	99.0	0	0	127
185.00	503	141.0	294	294	938
186.00	976	172.0	727	1,021	1,726

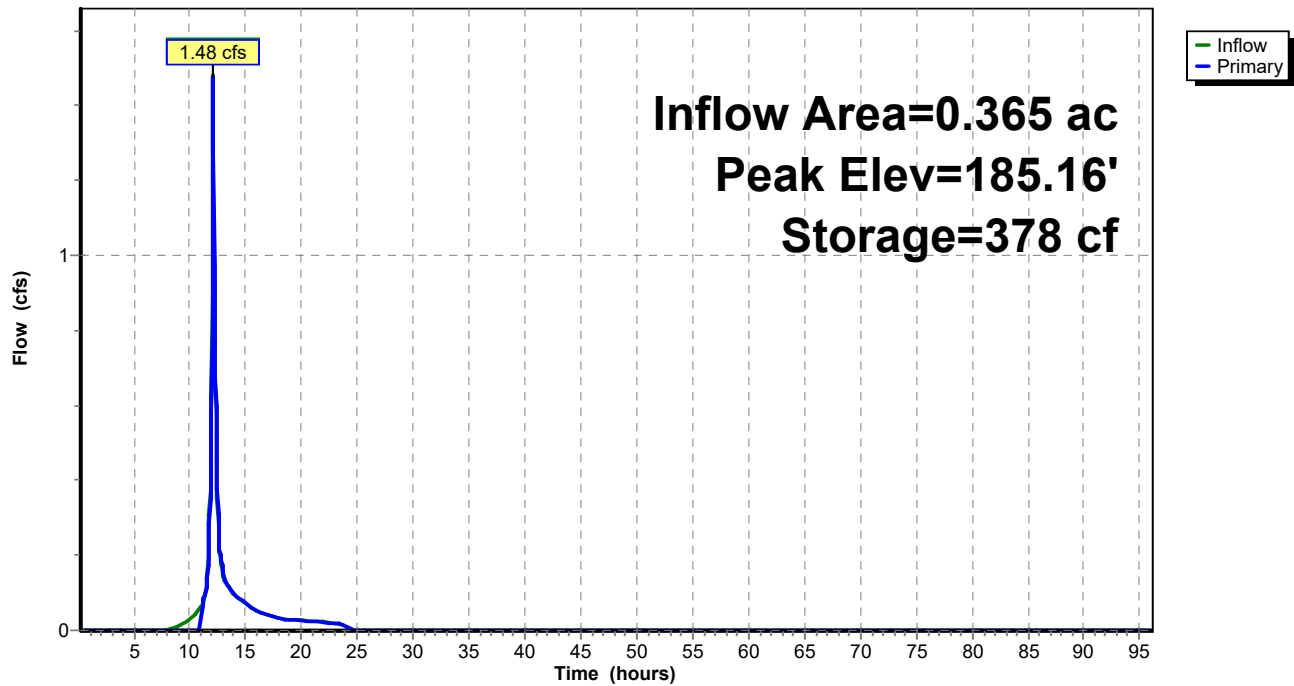
Device	Routing	Invert	Outlet Devices
#1	Primary	185.00'	10.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=1.46 cfs @ 12.10 hrs HW=185.16' (Free Discharge)

↑ **1=Broad-Crested Rectangular Weir** (Weir Controls 1.46 cfs @ 0.94 fps)

Pond POST-2P: Sed. Forebay 1

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Stage-Area-Storage for Pond POST-2P: Sed. Forebay 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
184.00	127	0	184.52	291	106
184.01	130	1	184.53	295	109
184.02	132	3	184.54	299	112
184.03	135	4	184.55	303	115
184.04	137	5	184.56	307	118
184.05	140	7	184.57	311	121
184.06	143	8	184.58	315	124
184.07	145	10	184.59	319	127
184.08	148	11	184.60	323	130
184.09	151	12	184.61	327	134
184.10	153	14	184.62	331	137
184.11	156	16	184.63	335	140
184.12	159	17	184.64	339	144
184.13	162	19	184.65	343	147
184.14	165	20	184.66	347	151
184.15	168	22	184.67	351	154
184.16	170	24	184.68	356	158
184.17	173	25	184.69	360	161
184.18	176	27	184.70	364	165
184.19	179	29	184.71	368	168
184.20	182	31	184.72	373	172
184.21	185	33	184.73	377	176
184.22	188	34	184.74	381	180
184.23	191	36	184.75	386	183
184.24	195	38	184.76	390	187
184.25	198	40	184.77	394	191
184.26	201	42	184.78	399	195
184.27	204	44	184.79	403	199
184.28	207	46	184.80	408	203
184.29	210	48	184.81	412	207
184.30	214	51	184.82	417	212
184.31	217	53	184.83	422	216
184.32	220	55	184.84	426	220
184.33	224	57	184.85	431	224
184.34	227	59	184.86	435	229
184.35	230	62	184.87	440	233
184.36	234	64	184.88	445	237
184.37	237	66	184.89	449	242
184.38	241	69	184.90	454	246
184.39	244	71	184.91	459	251
184.40	248	74	184.92	464	256
184.41	251	76	184.93	469	260
184.42	255	79	184.94	473	265
184.43	258	81	184.95	478	270
184.44	262	84	184.96	483	275
184.45	265	86	184.97	488	279
184.46	269	89	184.98	493	284
184.47	273	92	184.99	498	289
184.48	276	95	185.00	503	294
184.49	280	97	185.01	507	299
184.50	284	100	185.02	511	304
184.51	288	103	185.03	515	310

Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Stage-Area-Storage for Pond POST-2P: Sed. Forebay 1 (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
185.04	519	315	185.56	749	642
185.05	523	320	185.57	754	650
185.06	527	325	185.58	758	658
185.07	531	330	185.59	763	665
185.08	535	336	185.60	768	673
185.09	539	341	185.61	773	681
185.10	543	347	185.62	778	688
185.11	547	352	185.63	783	696
185.12	552	358	185.64	788	704
185.13	556	363	185.65	793	712
185.14	560	369	185.66	798	720
185.15	564	374	185.67	803	728
185.16	568	380	185.68	808	736
185.17	572	386	185.69	813	744
185.18	577	391	185.70	818	752
185.19	581	397	185.71	823	760
185.20	585	403	185.72	828	769
185.21	589	409	185.73	833	777
185.22	594	415	185.74	838	785
185.23	598	421	185.75	843	794
185.24	602	427	185.76	848	802
185.25	607	433	185.77	853	811
185.26	611	439	185.78	859	819
185.27	615	445	185.79	864	828
185.28	620	451	185.80	869	836
185.29	624	457	185.81	874	845
185.30	629	464	185.82	879	854
185.31	633	470	185.83	885	863
185.32	637	476	185.84	890	872
185.33	642	483	185.85	895	881
185.34	646	489	185.86	900	889
185.35	651	496	185.87	906	899
185.36	655	502	185.88	911	908
185.37	660	509	185.89	916	917
185.38	664	515	185.90	922	926
185.39	669	522	185.91	927	935
185.40	674	529	185.92	932	944
185.41	678	535	185.93	938	954
185.42	683	542	185.94	943	963
185.43	687	549	185.95	949	973
185.44	692	556	185.96	954	982
185.45	697	563	185.97	960	992
185.46	701	570	185.98	965	1,001
185.47	706	577	185.99	971	1,011
185.48	711	584	186.00	976	1,021
185.49	715	591			
185.50	720	598			
185.51	725	606			
185.52	730	613			
185.53	734	620			
185.54	739	628			
185.55	744	635			

Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Summary for Pond POST-3P: Sed. Forebay 2

Inflow Area = 0.418 ac, 10.83% Impervious, Inflow Depth = 3.15" for 25-year event
 Inflow = 1.59 cfs @ 12.10 hrs, Volume= 0.110 af
 Outflow = 1.52 cfs @ 12.13 hrs, Volume= 0.105 af, Atten= 4%, Lag= 1.4 min
 Primary = 1.52 cfs @ 12.13 hrs, Volume= 0.105 af

Routing by Stor-Ind method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
 Peak Elev= 184.38' @ 12.13 hrs Surf.Area= 445 sf Storage= 338 cf
 Flood Elev= 185.00' Surf.Area= 653 sf Storage= 674 cf

Plug-Flow detention time= 31.1 min calculated for 0.105 af (96% of inflow)
 Center-of-Mass det. time= 9.3 min (848.2 - 838.9)

Volume	Invert	Avail.Storage	Storage Description		
#1	183.00'	674 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
183.00	73	74.0	0	0	73
184.00	336	97.0	189	189	397
185.00	653	115.0	486	674	719

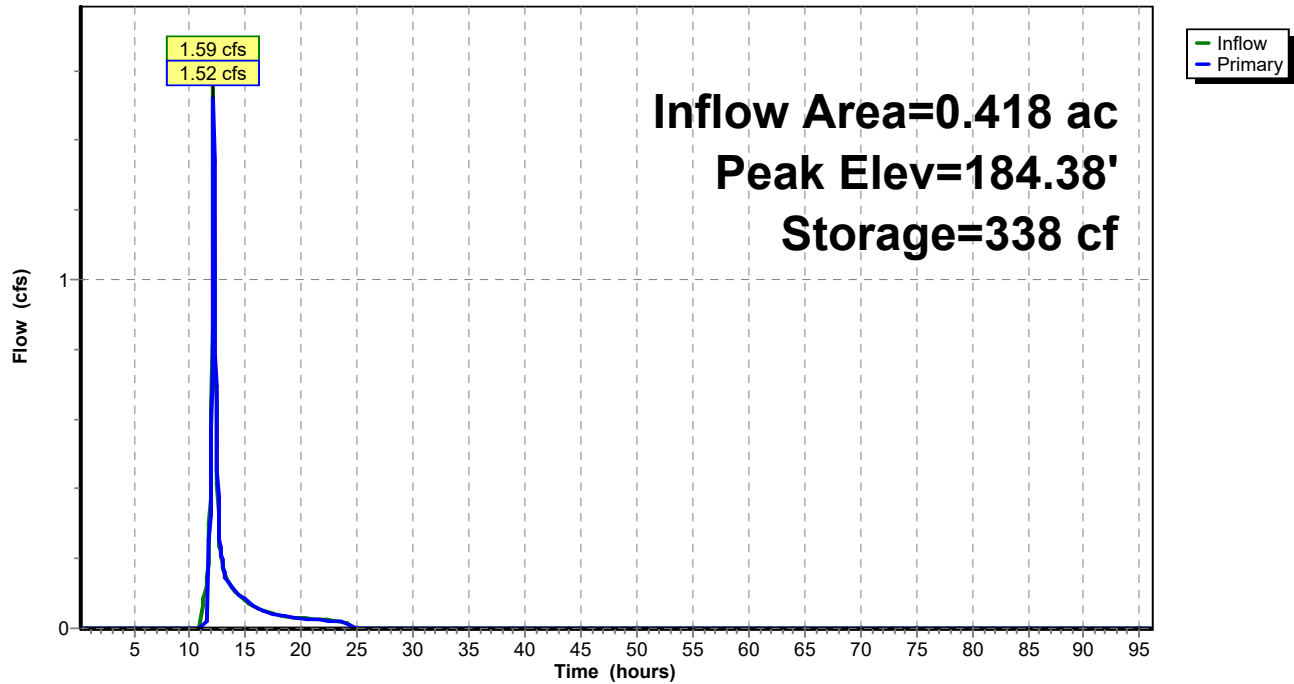
Device	Routing	Invert	Outlet Devices
#1	Primary	180.00'	12.0" Round Culvert L= 26.5' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 180.00' / 178.20' S= 0.0679 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	184.00'	24.0" W x 6.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	184.75'	24.0" x 24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.48 cfs @ 12.13 hrs HW=184.38' (Free Discharge)

- ↑ **1=Culvert** (Passes 1.48 cfs of 7.45 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 1.48 cfs @ 1.97 fps)
- ↑ **3=Orifice/Grate** (Controls 0.00 cfs)

Pond POST-3P: Sed. Forebay 2

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Stage-Area-Storage for Pond POST-3P: Sed. Forebay 2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
183.00	73	0	183.52	186	65
183.01	75	1	183.53	189	67
183.02	76	1	183.54	191	69
183.03	78	2	183.55	194	71
183.04	80	3	183.56	197	73
183.05	82	4	183.57	199	75
183.06	83	5	183.58	202	77
183.07	85	6	183.59	205	79
183.08	87	6	183.60	208	81
183.09	89	7	183.61	211	83
183.10	91	8	183.62	213	85
183.11	93	9	183.63	216	87
183.12	94	10	183.64	219	89
183.13	96	11	183.65	222	92
183.14	98	12	183.66	225	94
183.15	100	13	183.67	228	96
183.16	102	14	183.68	231	98
183.17	104	15	183.69	234	101
183.18	106	16	183.70	237	103
183.19	108	17	183.71	240	105
183.20	110	18	183.72	243	108
183.21	112	19	183.73	246	110
183.22	114	20	183.74	249	113
183.23	117	22	183.75	252	115
183.24	119	23	183.76	255	118
183.25	121	24	183.77	259	120
183.26	123	25	183.78	262	123
183.27	125	26	183.79	265	126
183.28	127	28	183.80	268	128
183.29	130	29	183.81	271	131
183.30	132	30	183.82	275	134
183.31	134	32	183.83	278	136
183.32	136	33	183.84	281	139
183.33	139	34	183.85	284	142
183.34	141	36	183.86	288	145
183.35	143	37	183.87	291	148
183.36	146	39	183.88	294	151
183.37	148	40	183.89	298	154
183.38	150	42	183.90	301	157
183.39	153	43	183.91	304	160
183.40	155	45	183.92	308	163
183.41	158	46	183.93	311	166
183.42	160	48	183.94	315	169
183.43	163	49	183.95	318	172
183.44	165	51	183.96	322	175
183.45	168	53	183.97	325	179
183.46	170	54	183.98	329	182
183.47	173	56	183.99	332	185
183.48	175	58	184.00	336	189
183.49	178	60	184.01	339	192
183.50	181	61	184.02	341	195
183.51	183	63	184.03	344	199

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Stage-Area-Storage for Pond POST-3P: Sed. Forebay 2 (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
184.04	347	202	184.56	501	421
184.05	349	206	184.57	504	426
184.06	352	209	184.58	507	431
184.07	355	213	184.59	510	436
184.08	358	216	184.60	514	442
184.09	360	220	184.61	517	447
184.10	363	223	184.62	520	452
184.11	366	227	184.63	524	457
184.12	369	231	184.64	527	462
184.13	371	234	184.65	530	468
184.14	374	238	184.66	534	473
184.15	377	242	184.67	537	478
184.16	380	246	184.68	540	484
184.17	383	250	184.69	544	489
184.18	385	253	184.70	547	495
184.19	388	257	184.71	550	500
184.20	391	261	184.72	554	506
184.21	394	265	184.73	557	511
184.22	397	269	184.74	561	517
184.23	400	273	184.75	564	522
184.24	403	277	184.76	567	528
184.25	405	281	184.77	571	534
184.26	408	285	184.78	574	539
184.27	411	289	184.79	578	545
184.28	414	293	184.80	581	551
184.29	417	298	184.81	585	557
184.30	420	302	184.82	588	563
184.31	423	306	184.83	592	569
184.32	426	310	184.84	595	575
184.33	429	314	184.85	599	580
184.34	432	319	184.86	602	586
184.35	435	323	184.87	606	593
184.36	438	327	184.88	609	599
184.37	441	332	184.89	613	605
184.38	444	336	184.90	617	611
184.39	447	341	184.91	620	617
184.40	450	345	184.92	624	623
184.41	453	350	184.93	627	630
184.42	456	354	184.94	631	636
184.43	460	359	184.95	635	642
184.44	463	363	184.96	638	649
184.45	466	368	184.97	642	655
184.46	469	373	184.98	646	661
184.47	472	378	184.99	649	668
184.48	475	382	185.00	653	674
184.49	478	387			
184.50	481	392			
184.51	485	397			
184.52	488	402			
184.53	491	406			
184.54	494	411			
184.55	497	416			

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Summary for Pond POST-4P: Infiltration Basin

Inflow Area = 0.610 ac, 7.41% Impervious, Inflow Depth = 2.22" for 25-year event
 Inflow = 1.54 cfs @ 12.13 hrs, Volume= 0.113 af
 Outflow = 0.08 cfs @ 15.32 hrs, Volume= 0.113 af, Atten= 95%, Lag= 191.5 min
 Discarded = 0.08 cfs @ 15.32 hrs, Volume= 0.113 af
 Primary = 0.00 cfs @ 0.25 hrs, Volume= 0.000 af
 Secondary = 0.00 cfs @ 0.25 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
 Peak Elev= 176.01' @ 15.32 hrs Surf.Area= 1,498 sf Storage= 2,712 cf
 Flood Elev= 179.00' Surf.Area= 3,116 sf Storage= 9,476 cf

Plug-Flow detention time= 420.9 min calculated for 0.113 af (100% of inflow)
 Center-of-Mass det. time= 421.0 min (1,276.4 - 855.4)

Volume	Invert	Avail.Storage	Storage Description			
#1	171.99'	9,476 cf	Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
171.99	694	115.0	0.0	0	0	694
172.00	694	115.0	40.0	3	3	695
173.99	694	115.0	40.0	552	555	924
174.00	694	115.0	100.0	7	562	925
176.00	1,494	152.0	100.0	2,138	2,700	1,755
178.00	2,516	190.0	100.0	3,966	6,666	2,845
179.00	3,116	210.0	100.0	2,811	9,476	3,512

Device	Routing	Invert	Outlet Devices
#1	Discarded	171.99'	2.410 in/hr Exfiltration over Surface area
#2	Primary	175.00'	12.0" Round Culvert L= 34.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 175.00' / 174.50' S= 0.0147 ' S= 0.0147 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	177.00'	24.0" W x 6.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 2	177.75'	24.0" x 24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Secondary	178.00'	16.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

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Discarded OutFlow Max=0.08 cfs @ 15.32 hrs HW=176.01' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.08 cfs)

Primary OutFlow Max=0.00 cfs @ 0.25 hrs HW=171.99' (Free Discharge)

↑ **2=Culvert** (Controls 0.00 cfs)

↑ **3=Orifice/Grate** (Controls 0.00 cfs)

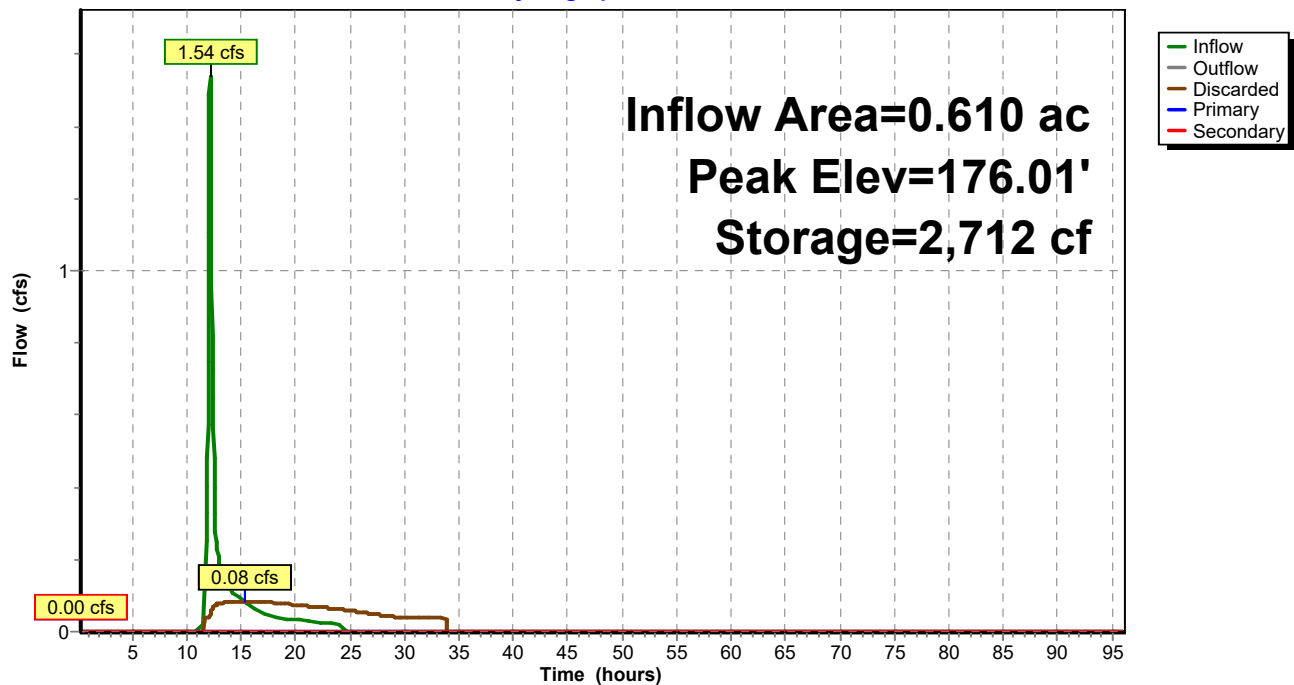
↑ **4=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.25 hrs HW=171.99' (Free Discharge)

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

Pond POST-4P: Infiltration Basin

Hydrograph



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Stage-Area-Storage for Pond POST-4P: Infiltration Basin

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
171.99	694	0	172.51	694	144
172.00	694	3	172.52	694	147
172.01	694	6	172.53	694	150
172.02	694	8	172.54	694	153
172.03	694	11	172.55	694	155
172.04	694	14	172.56	694	158
172.05	694	17	172.57	694	161
172.06	694	19	172.58	694	164
172.07	694	22	172.59	694	167
172.08	694	25	172.60	694	169
172.09	694	28	172.61	694	172
172.10	694	31	172.62	694	175
172.11	694	33	172.63	694	178
172.12	694	36	172.64	694	180
172.13	694	39	172.65	694	183
172.14	694	42	172.66	694	186
172.15	694	44	172.67	694	189
172.16	694	47	172.68	694	192
172.17	694	50	172.69	694	194
172.18	694	53	172.70	694	197
172.19	694	56	172.71	694	200
172.20	694	58	172.72	694	203
172.21	694	61	172.73	694	205
172.22	694	64	172.74	694	208
172.23	694	67	172.75	694	211
172.24	694	69	172.76	694	214
172.25	694	72	172.77	694	217
172.26	694	75	172.78	694	219
172.27	694	78	172.79	694	222
172.28	694	81	172.80	694	225
172.29	694	83	172.81	694	228
172.30	694	86	172.82	694	230
172.31	694	89	172.83	694	233
172.32	694	92	172.84	694	236
172.33	694	94	172.85	694	239
172.34	694	97	172.86	694	242
172.35	694	100	172.87	694	244
172.36	694	103	172.88	694	247
172.37	694	105	172.89	694	250
172.38	694	108	172.90	694	253
172.39	694	111	172.91	694	255
172.40	694	114	172.92	694	258
172.41	694	117	172.93	694	261
172.42	694	119	172.94	694	264
172.43	694	122	172.95	694	266
172.44	694	125	172.96	694	269
172.45	694	128	172.97	694	272
172.46	694	130	172.98	694	275
172.47	694	133	172.99	694	278
172.48	694	136	173.00	694	280
172.49	694	139	173.01	694	283
172.50	694	142	173.02	694	286

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Stage-Area-Storage for Pond POST-4P: Infiltration Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
173.03	694	289	173.55	694	433
173.04	694	291	173.56	694	436
173.05	694	294	173.57	694	439
173.06	694	297	173.58	694	441
173.07	694	300	173.59	694	444
173.08	694	303	173.60	694	447
173.09	694	305	173.61	694	450
173.10	694	308	173.62	694	452
173.11	694	311	173.63	694	455
173.12	694	314	173.64	694	458
173.13	694	316	173.65	694	461
173.14	694	319	173.66	694	464
173.15	694	322	173.67	694	466
173.16	694	325	173.68	694	469
173.17	694	328	173.69	694	472
173.18	694	330	173.70	694	475
173.19	694	333	173.71	694	477
173.20	694	336	173.72	694	480
173.21	694	339	173.73	694	483
173.22	694	341	173.74	694	486
173.23	694	344	173.75	694	489
173.24	694	347	173.76	694	491
173.25	694	350	173.77	694	494
173.26	694	353	173.78	694	497
173.27	694	355	173.79	694	500
173.28	694	358	173.80	694	502
173.29	694	361	173.81	694	505
173.30	694	364	173.82	694	508
173.31	694	366	173.83	694	511
173.32	694	369	173.84	694	514
173.33	694	372	173.85	694	516
173.34	694	375	173.86	694	519
173.35	694	378	173.87	694	522
173.36	694	380	173.88	694	525
173.37	694	383	173.89	694	527
173.38	694	386	173.90	694	530
173.39	694	389	173.91	694	533
173.40	694	391	173.92	694	536
173.41	694	394	173.93	694	539
173.42	694	397	173.94	694	541
173.43	694	400	173.95	694	544
173.44	694	403	173.96	694	547
173.45	694	405	173.97	694	550
173.46	694	408	173.98	694	552
173.47	694	411	173.99	694	555
173.48	694	414	174.00	694	562
173.49	694	416	174.01	697	569
173.50	694	419	174.02	701	576
173.51	694	422	174.03	704	583
173.52	694	425	174.04	707	590
173.53	694	428	174.05	710	597
173.54	694	430	174.06	714	604

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Stage-Area-Storage for Pond POST-4P: Infiltration Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
174.07	717	612	174.59	898	1,031
174.08	720	619	174.60	902	1,040
174.09	723	626	174.61	906	1,049
174.10	727	633	174.62	910	1,058
174.11	730	640	174.63	913	1,067
174.12	733	648	174.64	917	1,076
174.13	737	655	174.65	921	1,085
174.14	740	663	174.66	925	1,094
174.15	743	670	174.67	928	1,104
174.16	747	677	174.68	932	1,113
174.17	750	685	174.69	936	1,122
174.18	754	692	174.70	940	1,132
174.19	757	700	174.71	943	1,141
174.20	760	708	174.72	947	1,151
174.21	764	715	174.73	951	1,160
174.22	767	723	174.74	955	1,170
174.23	771	730	174.75	958	1,179
174.24	774	738	174.76	962	1,189
174.25	777	746	174.77	966	1,198
174.26	781	754	174.78	970	1,208
174.27	784	762	174.79	974	1,218
174.28	788	769	174.80	978	1,228
174.29	791	777	174.81	981	1,237
174.30	795	785	174.82	985	1,247
174.31	798	793	174.83	989	1,257
174.32	802	801	174.84	993	1,267
174.33	805	809	174.85	997	1,277
174.34	809	817	174.86	1,001	1,287
174.35	812	825	174.87	1,005	1,297
174.36	816	834	174.88	1,009	1,307
174.37	819	842	174.89	1,013	1,317
174.38	823	850	174.90	1,017	1,327
174.39	826	858	174.91	1,020	1,337
174.40	830	866	174.92	1,024	1,348
174.41	833	875	174.93	1,028	1,358
174.42	837	883	174.94	1,032	1,368
174.43	840	892	174.95	1,036	1,379
174.44	844	900	174.96	1,040	1,389
174.45	848	908	174.97	1,044	1,399
174.46	851	917	174.98	1,048	1,410
174.47	855	925	174.99	1,052	1,420
174.48	858	934	175.00	1,056	1,431
174.49	862	943	175.01	1,060	1,441
174.50	866	951	175.02	1,064	1,452
174.51	869	960	175.03	1,068	1,463
174.52	873	969	175.04	1,072	1,473
174.53	876	977	175.05	1,076	1,484
174.54	880	986	175.06	1,080	1,495
174.55	884	995	175.07	1,084	1,506
174.56	887	1,004	175.08	1,088	1,517
174.57	891	1,013	175.09	1,092	1,528
174.58	895	1,022	175.10	1,097	1,539

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Stage-Area-Storage for Pond POST-4P: Infiltration Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
175.11	1,101	1,550	175.63	1,323	2,179
175.12	1,105	1,561	175.64	1,328	2,192
175.13	1,109	1,572	175.65	1,332	2,205
175.14	1,113	1,583	175.66	1,337	2,219
175.15	1,117	1,594	175.67	1,341	2,232
175.16	1,121	1,605	175.68	1,346	2,246
175.17	1,125	1,616	175.69	1,350	2,259
175.18	1,129	1,628	175.70	1,355	2,273
175.19	1,133	1,639	175.71	1,359	2,286
175.20	1,138	1,650	175.72	1,364	2,300
175.21	1,142	1,662	175.73	1,368	2,313
175.22	1,146	1,673	175.74	1,373	2,327
175.23	1,150	1,685	175.75	1,377	2,341
175.24	1,154	1,696	175.76	1,382	2,355
175.25	1,158	1,708	175.77	1,387	2,368
175.26	1,163	1,719	175.78	1,391	2,382
175.27	1,167	1,731	175.79	1,396	2,396
175.28	1,171	1,743	175.80	1,400	2,410
175.29	1,175	1,754	175.81	1,405	2,424
175.30	1,180	1,766	175.82	1,410	2,438
175.31	1,184	1,778	175.83	1,414	2,452
175.32	1,188	1,790	175.84	1,419	2,467
175.33	1,192	1,802	175.85	1,423	2,481
175.34	1,197	1,814	175.86	1,428	2,495
175.35	1,201	1,826	175.87	1,433	2,509
175.36	1,205	1,838	175.88	1,437	2,524
175.37	1,209	1,850	175.89	1,442	2,538
175.38	1,214	1,862	175.90	1,447	2,553
175.39	1,218	1,874	175.91	1,451	2,567
175.40	1,222	1,886	175.92	1,456	2,582
175.41	1,226	1,898	175.93	1,461	2,596
175.42	1,231	1,911	175.94	1,466	2,611
175.43	1,235	1,923	175.95	1,470	2,626
175.44	1,239	1,935	175.96	1,475	2,640
175.45	1,244	1,948	175.97	1,480	2,655
175.46	1,248	1,960	175.98	1,485	2,670
175.47	1,252	1,973	175.99	1,489	2,685
175.48	1,257	1,985	176.00	1,494	2,700
175.49	1,261	1,998	176.01	1,498	2,715
175.50	1,266	2,011	176.02	1,503	2,730
175.51	1,270	2,023	176.03	1,507	2,745
175.52	1,274	2,036	176.04	1,512	2,760
175.53	1,279	2,049	176.05	1,516	2,775
175.54	1,283	2,062	176.06	1,521	2,790
175.55	1,288	2,074	176.07	1,525	2,805
175.56	1,292	2,087	176.08	1,530	2,821
175.57	1,296	2,100	176.09	1,534	2,836
175.58	1,301	2,113	176.10	1,539	2,851
175.59	1,305	2,126	176.11	1,543	2,867
175.60	1,310	2,139	176.12	1,548	2,882
175.61	1,314	2,152	176.13	1,552	2,898
175.62	1,319	2,166	176.14	1,557	2,913

Holliston - Stormwater Model

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Stage-Area-Storage for Pond POST-4P: Infiltration Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
176.15	1,561	2,929	176.67	1,807	3,804
176.16	1,566	2,944	176.68	1,812	3,822
176.17	1,571	2,960	176.69	1,817	3,840
176.18	1,575	2,976	176.70	1,822	3,858
176.19	1,580	2,992	176.71	1,826	3,876
176.20	1,584	3,007	176.72	1,831	3,895
176.21	1,589	3,023	176.73	1,836	3,913
176.22	1,593	3,039	176.74	1,841	3,931
176.23	1,598	3,055	176.75	1,846	3,950
176.24	1,603	3,071	176.76	1,851	3,968
176.25	1,607	3,087	176.77	1,856	3,987
176.26	1,612	3,103	176.78	1,861	4,006
176.27	1,617	3,119	176.79	1,866	4,024
176.28	1,621	3,136	176.80	1,871	4,043
176.29	1,626	3,152	176.81	1,876	4,062
176.30	1,630	3,168	176.82	1,881	4,080
176.31	1,635	3,184	176.83	1,886	4,099
176.32	1,640	3,201	176.84	1,891	4,118
176.33	1,644	3,217	176.85	1,896	4,137
176.34	1,649	3,234	176.86	1,901	4,156
176.35	1,654	3,250	176.87	1,906	4,175
176.36	1,658	3,267	176.88	1,911	4,194
176.37	1,663	3,283	176.89	1,916	4,213
176.38	1,668	3,300	176.90	1,921	4,232
176.39	1,673	3,317	176.91	1,926	4,252
176.40	1,677	3,334	176.92	1,931	4,271
176.41	1,682	3,350	176.93	1,936	4,290
176.42	1,687	3,367	176.94	1,941	4,310
176.43	1,691	3,384	176.95	1,946	4,329
176.44	1,696	3,401	176.96	1,952	4,349
176.45	1,701	3,418	176.97	1,957	4,368
176.46	1,706	3,435	176.98	1,962	4,388
176.47	1,710	3,452	176.99	1,967	4,407
176.48	1,715	3,469	177.00	1,972	4,427
176.49	1,720	3,486	177.01	1,977	4,447
176.50	1,725	3,504	177.02	1,982	4,467
176.51	1,729	3,521	177.03	1,987	4,486
176.52	1,734	3,538	177.04	1,992	4,506
176.53	1,739	3,556	177.05	1,998	4,526
176.54	1,744	3,573	177.06	2,003	4,546
176.55	1,749	3,590	177.07	2,008	4,566
176.56	1,753	3,608	177.08	2,013	4,586
176.57	1,758	3,626	177.09	2,018	4,607
176.58	1,763	3,643	177.10	2,023	4,627
176.59	1,768	3,661	177.11	2,029	4,647
176.60	1,773	3,678	177.12	2,034	4,667
176.61	1,778	3,696	177.13	2,039	4,688
176.62	1,782	3,714	177.14	2,044	4,708
176.63	1,787	3,732	177.15	2,049	4,729
176.64	1,792	3,750	177.16	2,055	4,749
176.65	1,797	3,768	177.17	2,060	4,770
176.66	1,802	3,786	177.18	2,065	4,790

Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Stage-Area-Storage for Pond POST-4P: Infiltration Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
177.19	2,070	4,811	177.71	2,351	5,960
177.20	2,075	4,832	177.72	2,357	5,983
177.21	2,081	4,853	177.73	2,363	6,007
177.22	2,086	4,873	177.74	2,368	6,031
177.23	2,091	4,894	177.75	2,374	6,054
177.24	2,096	4,915	177.76	2,379	6,078
177.25	2,102	4,936	177.77	2,385	6,102
177.26	2,107	4,957	177.78	2,391	6,126
177.27	2,112	4,978	177.79	2,396	6,150
177.28	2,118	4,999	177.80	2,402	6,174
177.29	2,123	5,021	177.81	2,408	6,198
177.30	2,128	5,042	177.82	2,413	6,222
177.31	2,133	5,063	177.83	2,419	6,246
177.32	2,139	5,085	177.84	2,424	6,270
177.33	2,144	5,106	177.85	2,430	6,295
177.34	2,149	5,127	177.86	2,436	6,319
177.35	2,155	5,149	177.87	2,442	6,343
177.36	2,160	5,171	177.88	2,447	6,368
177.37	2,165	5,192	177.89	2,453	6,392
177.38	2,171	5,214	177.90	2,459	6,417
177.39	2,176	5,236	177.91	2,464	6,441
177.40	2,182	5,257	177.92	2,470	6,466
177.41	2,187	5,279	177.93	2,476	6,491
177.42	2,192	5,301	177.94	2,481	6,516
177.43	2,198	5,323	177.95	2,487	6,540
177.44	2,203	5,345	177.96	2,493	6,565
177.45	2,209	5,367	177.97	2,499	6,590
177.46	2,214	5,389	177.98	2,504	6,615
177.47	2,219	5,411	177.99	2,510	6,640
177.48	2,225	5,434	178.00	2,516	6,666
177.49	2,230	5,456	178.01	2,522	6,691
177.50	2,236	5,478	178.02	2,527	6,716
177.51	2,241	5,501	178.03	2,533	6,741
177.52	2,247	5,523	178.04	2,539	6,767
177.53	2,252	5,546	178.05	2,544	6,792
177.54	2,257	5,568	178.06	2,550	6,817
177.55	2,263	5,591	178.07	2,556	6,843
177.56	2,268	5,613	178.08	2,562	6,869
177.57	2,274	5,636	178.09	2,567	6,894
177.58	2,279	5,659	178.10	2,573	6,920
177.59	2,285	5,682	178.11	2,579	6,946
177.60	2,290	5,705	178.12	2,585	6,972
177.61	2,296	5,728	178.13	2,590	6,997
177.62	2,301	5,750	178.14	2,596	7,023
177.63	2,307	5,774	178.15	2,602	7,049
177.64	2,312	5,797	178.16	2,608	7,075
177.65	2,318	5,820	178.17	2,613	7,101
177.66	2,324	5,843	178.18	2,619	7,128
177.67	2,329	5,866	178.19	2,625	7,154
177.68	2,335	5,890	178.20	2,631	7,180
177.69	2,340	5,913	178.21	2,637	7,206
177.70	2,346	5,936	178.22	2,642	7,233

Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Stage-Area-Storage for Pond POST-4P: Infiltration Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
178.23	2,648	7,259	178.75	2,960	8,717
178.24	2,654	7,286	178.76	2,966	8,746
178.25	2,660	7,312	178.77	2,972	8,776
178.26	2,666	7,339	178.78	2,978	8,806
178.27	2,672	7,366	178.79	2,985	8,836
178.28	2,678	7,392	178.80	2,991	8,866
178.29	2,683	7,419	178.81	2,997	8,895
178.30	2,689	7,446	178.82	3,003	8,925
178.31	2,695	7,473	178.83	3,009	8,956
178.32	2,701	7,500	178.84	3,016	8,986
178.33	2,707	7,527	178.85	3,022	9,016
178.34	2,713	7,554	178.86	3,028	9,046
178.35	2,719	7,581	178.87	3,034	9,076
178.36	2,725	7,609	178.88	3,041	9,107
178.37	2,731	7,636	178.89	3,047	9,137
178.38	2,736	7,663	178.90	3,053	9,168
178.39	2,742	7,691	178.91	3,059	9,198
178.40	2,748	7,718	178.92	3,066	9,229
178.41	2,754	7,746	178.93	3,072	9,260
178.42	2,760	7,773	178.94	3,078	9,290
178.43	2,766	7,801	178.95	3,084	9,321
178.44	2,772	7,828	178.96	3,091	9,352
178.45	2,778	7,856	178.97	3,097	9,383
178.46	2,784	7,884	178.98	3,103	9,414
178.47	2,790	7,912	178.99	3,110	9,445
178.48	2,796	7,940	179.00	3,116	9,476
178.49	2,802	7,968			
178.50	2,808	7,996			
178.51	2,814	8,024			
178.52	2,820	8,052			
178.53	2,826	8,080			
178.54	2,832	8,109			
178.55	2,838	8,137			
178.56	2,844	8,165			
178.57	2,850	8,194			
178.58	2,856	8,222			
178.59	2,862	8,251			
178.60	2,868	8,280			
178.61	2,874	8,308			
178.62	2,880	8,337			
178.63	2,887	8,366			
178.64	2,893	8,395			
178.65	2,899	8,424			
178.66	2,905	8,453			
178.67	2,911	8,482			
178.68	2,917	8,511			
178.69	2,923	8,540			
178.70	2,929	8,570			
178.71	2,935	8,599			
178.72	2,942	8,628			
178.73	2,948	8,658			
178.74	2,954	8,687			

Holliston - Stormwater Model

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Type III 24-hr 25-year Rainfall=6.06"

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Summary for Link POST-DP-1: Analysis Point

Inflow Area = 7.436 ac, 19.32% Impervious, Inflow Depth = 1.08" for 25-year event

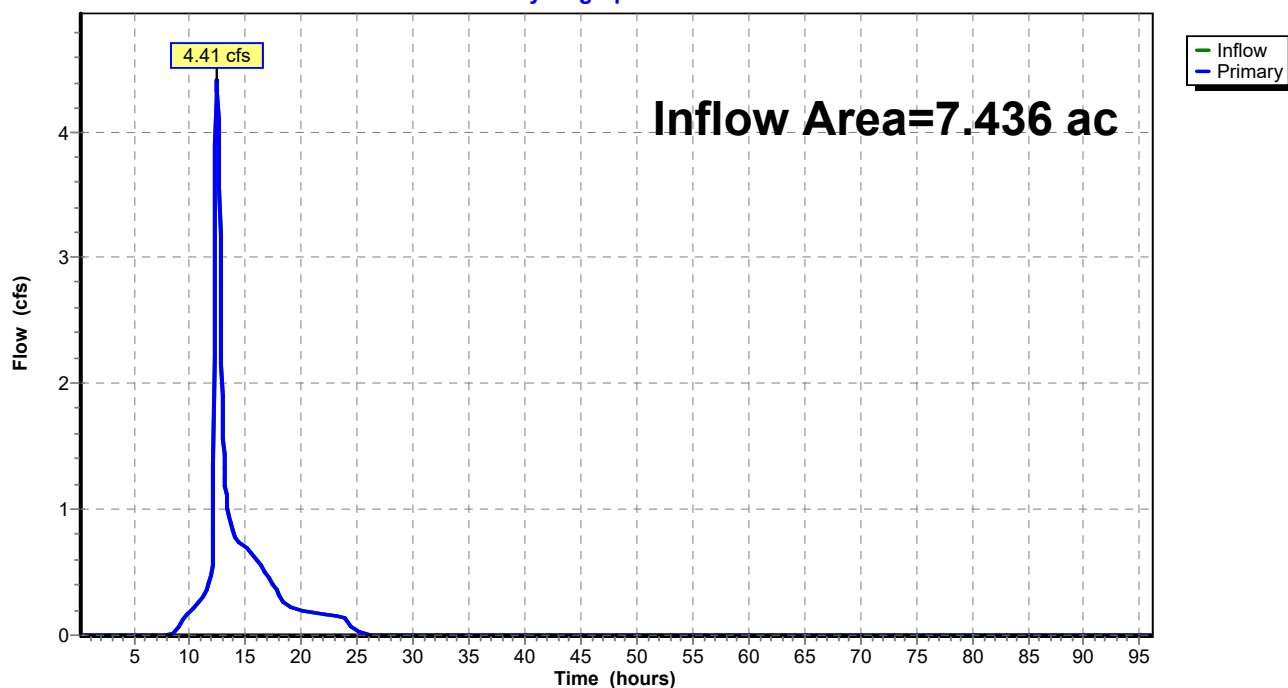
Inflow = 4.41 cfs @ 12.42 hrs, Volume= 0.669 af

Primary = 4.41 cfs @ 12.42 hrs, Volume= 0.669 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Link POST-DP-1: Analysis Point

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Summary for Subcatchment POST-1S:

Runoff = 11.94 cfs @ 12.09 hrs, Volume= 0.905 af, Depth= 6.80"

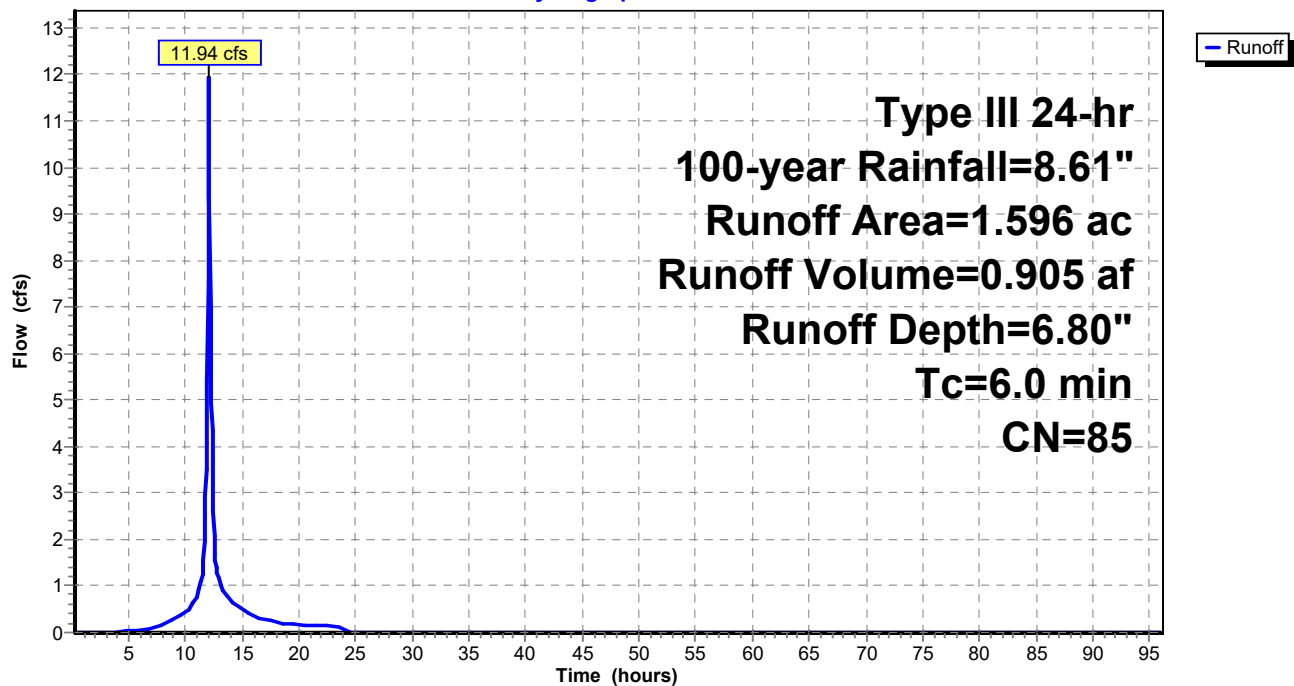
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.61"

	Area (ac)	CN	Description
*	1.260	98	Pavement, Roofs, Concrete Pads
*	0.000	96	Compacted Gravel
*	0.000	76	Crushed Stone Yard
	0.180	39	>75% Grass cover, Good, HSG A
	0.016	30	Meadow, non-grazed, HSG A
	0.140	30	Woods, Good, HSG A
	1.596	85	Weighted Average
	0.336		21.05% Pervious Area
	1.260		78.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum of 6 mins for HydroCAD model

Subcatchment POST-1S:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Summary for Subcatchment POST-2S-A:

Runoff = 2.30 cfs @ 12.38 hrs, Volume= 0.404 af, Depth= 0.93"

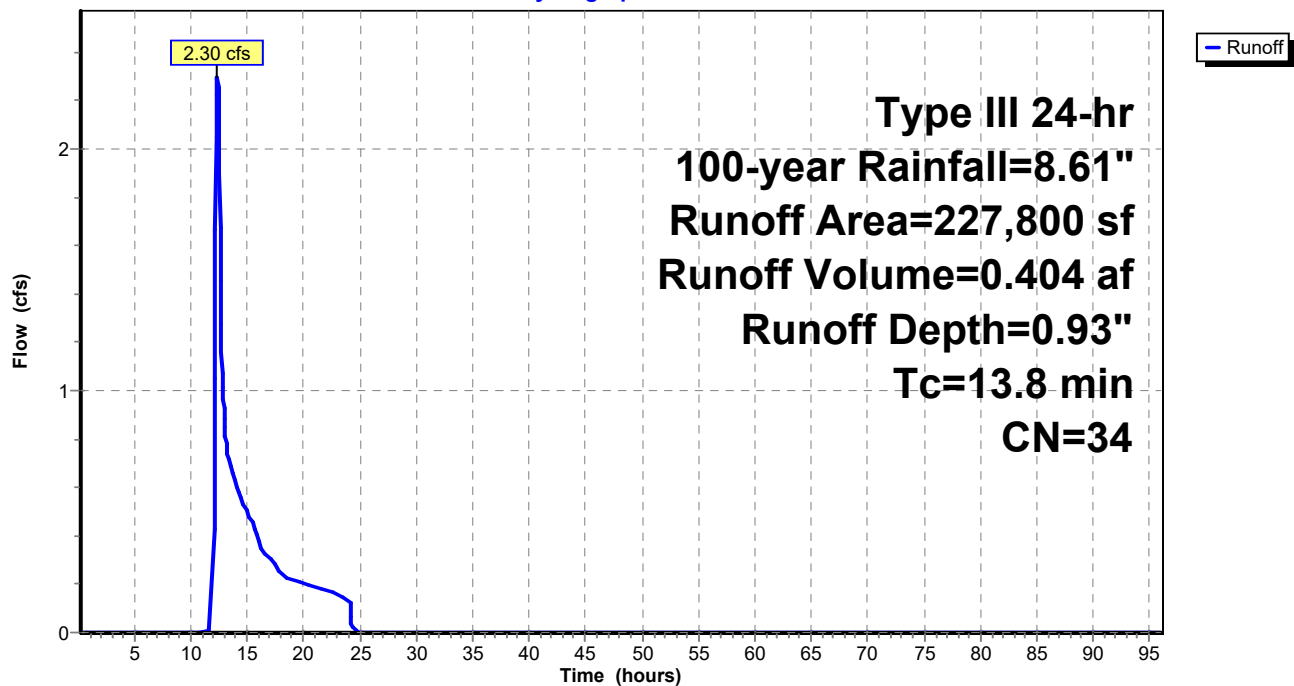
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.61"

	Area (sf)	CN	Description
*	5,732	98	Pavement, Roofs, Concrete Pads
*	1,067	96	Compacted Gravel
*	9,568	55	Crushed Stone Yard
	26,647	39	>75% Grass cover, Good, HSG A
	19,869	30	Meadow, non-grazed, HSG A
	164,917	30	Woods, Good, HSG A
	227,800	34	Weighted Average
	222,068		97.48% Pervious Area
	5,732		2.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8					Direct Entry, See Tc calc sheet

Subcatchment POST-2S-A:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Summary for Subcatchment POST-2S-B:

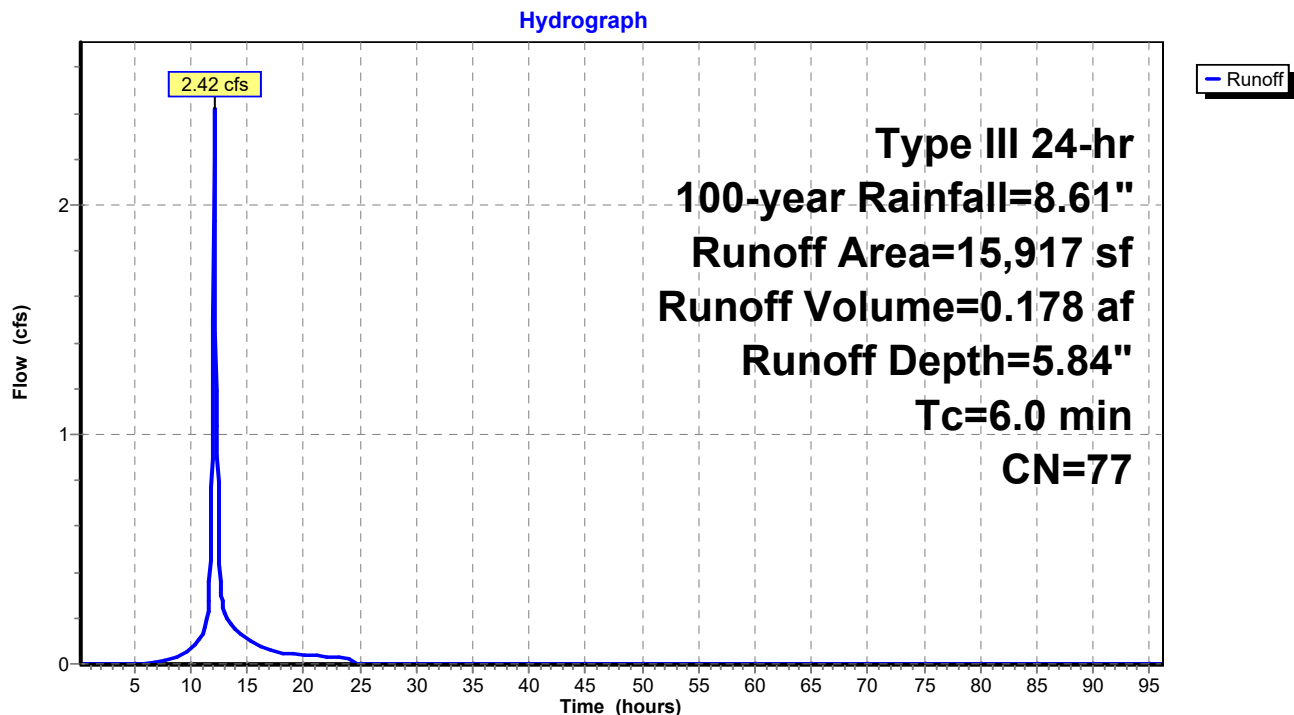
Runoff = 2.42 cfs @ 12.09 hrs, Volume= 0.178 af, Depth= 5.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.61"

	Area (sf)	CN	Description
*	1,971	98	Pavement, Roofs, Concrete Pads
*	6,029	96	Compacted Gravel
*	5,989	55	Crushed Stone Yard
	668	39	>75% Grass cover, Good, HSG A
	0	30	Meadow, non-grazed, HSG A
	0	30	Woods, Good, HSG A
	1,260	80	>75% Grass cover, Good, HSG D
	15,917	77	Weighted Average
	13,946		87.62% Pervious Area
	1,971		12.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum of 6 mins for HydroCAD model

Subcatchment POST-2S-B:



Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Summary for Subcatchment POST-2S-C:

Runoff = 0.23 cfs @ 12.10 hrs, Volume= 0.017 af, Depth= 3.92"

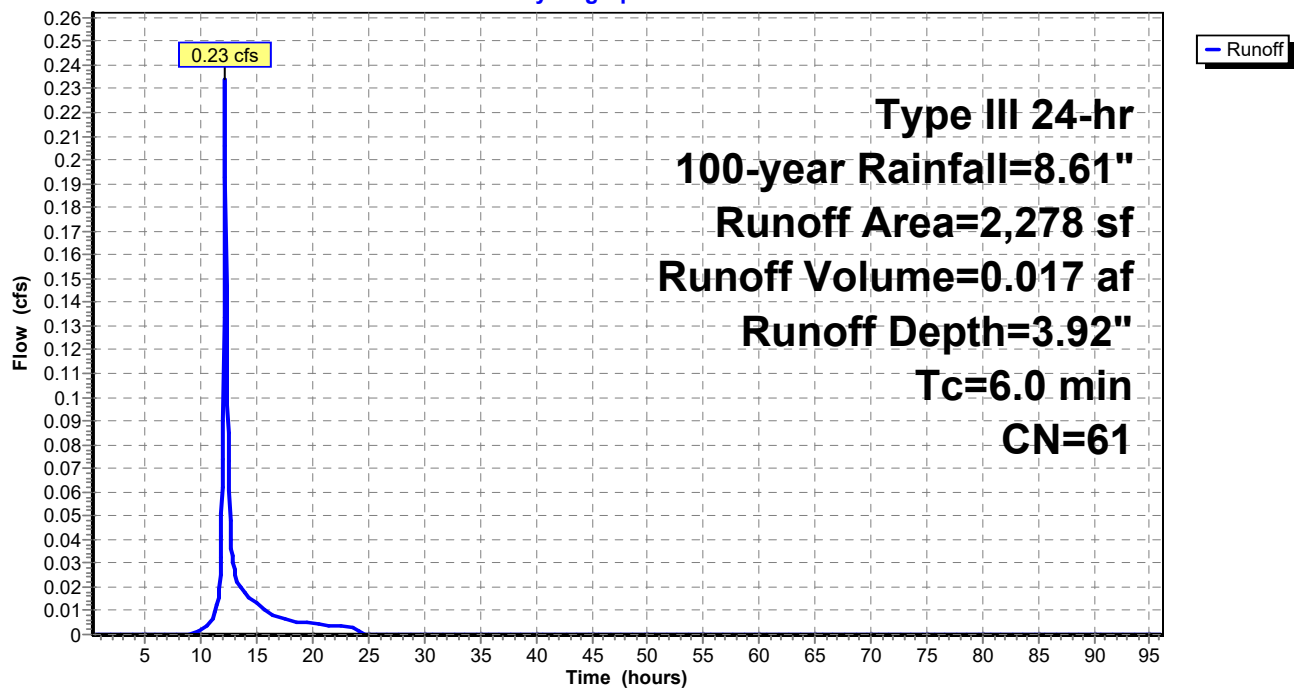
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.61"

	Area (sf)	CN	Description
*	0	98	Pavement, Roofs, Concrete Pads
*	0	96	Compacted Gravel
*	0	55	Crushed Stone Yard
	1,078	39	>75% Grass cover, Good, HSG A
	0	30	Meadow, non-grazed, HSG A
	0	30	Woods, Good, HSG A
	1,200	80	>75% Grass cover, Good, HSG D
	2,278	61	Weighted Average
	2,278		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum of 6 mins for HydroCAD model

Subcatchment POST-2S-C:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Summary for Subcatchment POST-2S-D:

Runoff = 0.23 cfs @ 12.12 hrs, Volume= 0.023 af, Depth= 1.42"

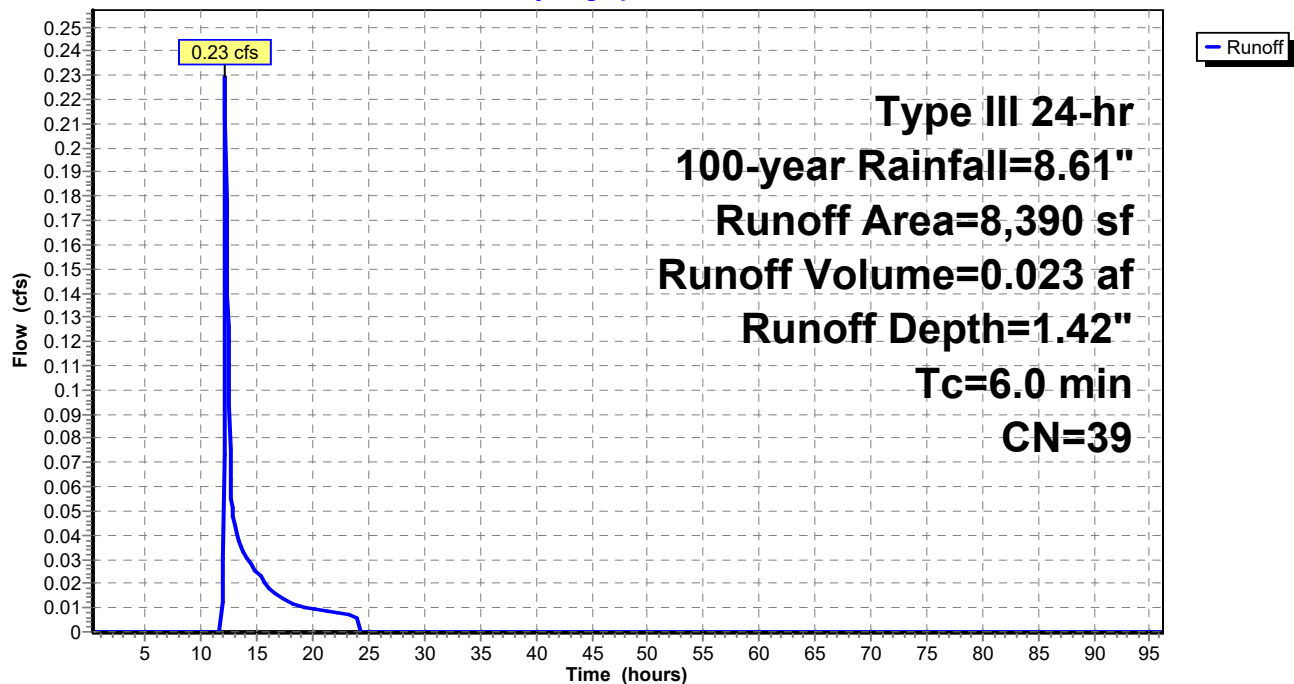
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-year Rainfall=8.61"

	Area (sf)	CN	Description
*	0	98	Pavement, Roofs, Concrete Pads
*	0	96	Compacted Gravel
*	0	55	Crushed Stone Yard
	8,390	39	>75% Grass cover, Good, HSG A
	0	30	Meadow, non-grazed, HSG A
	0	30	Woods, Good, HSG A
	8,390	39	Weighted Average
	8,390		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum of 6 mins for HydroCAD model

Subcatchment POST-2S-D:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Summary for Reach POST-1R:

Inflow Area = 1.596 ac, 78.95% Impervious, Inflow Depth = 6.76" for 100-year event
Inflow = 6.96 cfs @ 12.21 hrs, Volume= 0.899 af
Outflow = 6.93 cfs @ 12.23 hrs, Volume= 0.899 af, Atten= 0%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Max. Velocity= 5.37 fps, Min. Travel Time= 0.5 min

Avg. Velocity = 1.71 fps, Avg. Travel Time= 1.5 min

Peak Storage= 195 cf @ 12.22 hrs

Average Depth at Peak Storage= 0.45' , Surface Width= 3.79'

Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 145.48 cfs

2.00' x 2.00' deep channel, n= 0.030 Earth, grassed & winding

Side Slope Z-value= 2.0 ' ' Top Width= 10.00'

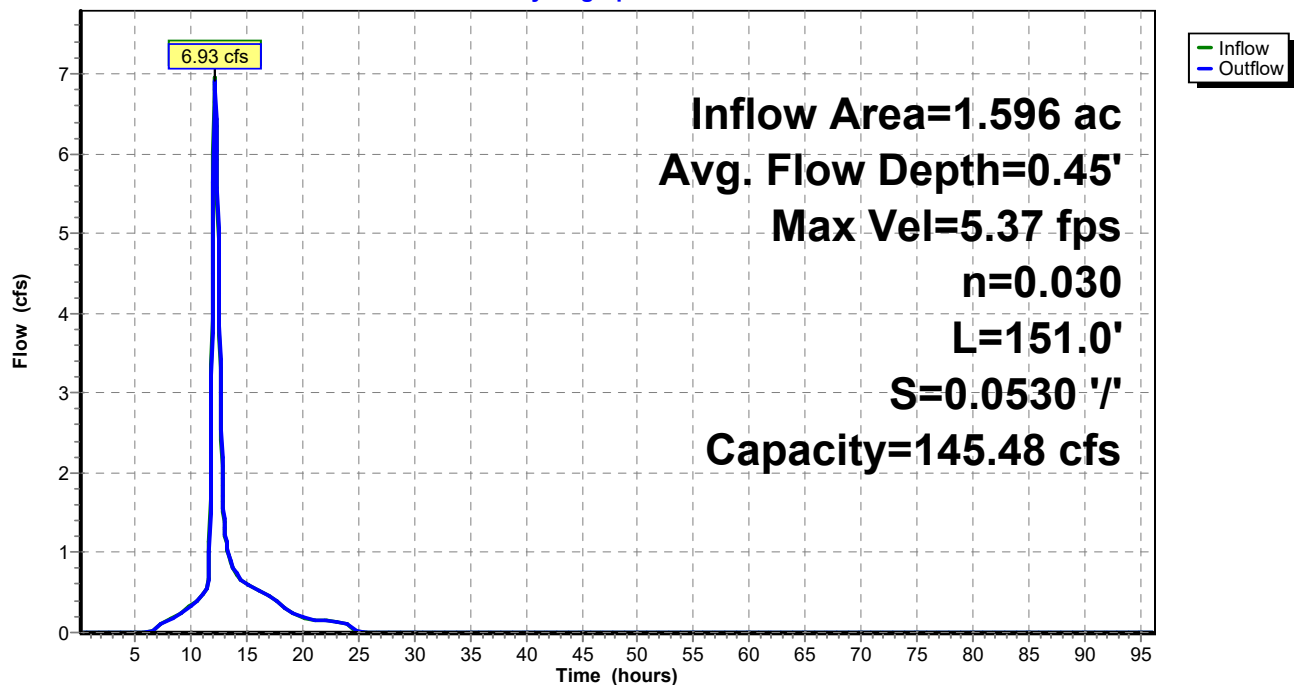
Length= 151.0' Slope= 0.0530 ' '

Inlet Invert= 187.00', Outlet Invert= 179.00'



Reach POST-1R:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Stage-Area-Storage for Reach POST-1R:

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
187.00	0.0	0	187.52	1.6	239
187.01	0.0	3	187.53	1.6	245
187.02	0.0	6	187.54	1.7	251
187.03	0.1	9	187.55	1.7	257
187.04	0.1	13	187.56	1.7	264
187.05	0.1	16	187.57	1.8	270
187.06	0.1	19	187.58	1.8	277
187.07	0.2	23	187.59	1.9	283
187.08	0.2	26	187.60	1.9	290
187.09	0.2	30	187.61	2.0	297
187.10	0.2	33	187.62	2.0	303
187.11	0.2	37	187.63	2.1	310
187.12	0.3	41	187.64	2.1	317
187.13	0.3	44	187.65	2.1	324
187.14	0.3	48	187.66	2.2	331
187.15	0.3	52	187.67	2.2	338
187.16	0.4	56	187.68	2.3	345
187.17	0.4	60	187.69	2.3	352
187.18	0.4	64	187.70	2.4	359
187.19	0.5	68	187.71	2.4	367
187.20	0.5	72	187.72	2.5	374
187.21	0.5	77	187.73	2.5	381
187.22	0.5	81	187.74	2.6	389
187.23	0.6	85	187.75	2.6	396
187.24	0.6	90	187.76	2.7	404
187.25	0.6	94	187.77	2.7	412
187.26	0.7	99	187.78	2.8	419
187.27	0.7	104	187.79	2.8	427
187.28	0.7	108	187.80	2.9	435
187.29	0.7	113	187.81	2.9	443
187.30	0.8	118	187.82	3.0	451
187.31	0.8	123	187.83	3.0	459
187.32	0.8	128	187.84	3.1	467
187.33	0.9	133	187.85	3.1	475
187.34	0.9	138	187.86	3.2	483
187.35	0.9	143	187.87	3.3	491
187.36	1.0	148	187.88	3.3	500
187.37	1.0	153	187.89	3.4	508
187.38	1.0	158	187.90	3.4	516
187.39	1.1	164	187.91	3.5	525
187.40	1.1	169	187.92	3.5	533
187.41	1.2	175	187.93	3.6	542
187.42	1.2	180	187.94	3.6	551
187.43	1.2	186	187.95	3.7	559
187.44	1.3	191	187.96	3.8	568
187.45	1.3	197	187.97	3.8	577
187.46	1.3	203	187.98	3.9	586
187.47	1.4	209	187.99	3.9	595
187.48	1.4	215	188.00	4.0	604
187.49	1.5	221	188.01	4.1	613
187.50	1.5	227	188.02	4.1	622
187.51	1.5	233	188.03	4.2	631

Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Stage-Area-Storage for Reach POST-1R: (continued)

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
188.04	4.2	641	188.56	8.0	1,206
188.05	4.3	650	188.57	8.1	1,219
188.06	4.4	659	188.58	8.2	1,231
188.07	4.4	669	188.59	8.2	1,244
188.08	4.5	678	188.60	8.3	1,256
188.09	4.6	688	188.61	8.4	1,269
188.10	4.6	698	188.62	8.5	1,282
188.11	4.7	707	188.63	8.6	1,295
188.12	4.7	717	188.64	8.7	1,308
188.13	4.8	727	188.65	8.7	1,321
188.14	4.9	737	188.66	8.8	1,334
188.15	4.9	747	188.67	8.9	1,347
188.16	5.0	757	188.68	9.0	1,360
188.17	5.1	767	188.69	9.1	1,373
188.18	5.1	777	188.70	9.2	1,386
188.19	5.2	787	188.71	9.3	1,400
188.20	5.3	797	188.72	9.4	1,413
188.21	5.3	808	188.73	9.4	1,426
188.22	5.4	818	188.74	9.5	1,440
188.23	5.5	828	188.75	9.6	1,453
188.24	5.6	839	188.76	9.7	1,467
188.25	5.6	849	188.77	9.8	1,481
188.26	5.7	860	188.78	9.9	1,494
188.27	5.8	871	188.79	10.0	1,508
188.28	5.8	881	188.80	10.1	1,522
188.29	5.9	892	188.81	10.2	1,536
188.30	6.0	903	188.82	10.3	1,550
188.31	6.1	914	188.83	10.4	1,564
188.32	6.1	925	188.84	10.5	1,578
188.33	6.2	936	188.85	10.5	1,592
188.34	6.3	947	188.86	10.6	1,607
188.35	6.3	958	188.87	10.7	1,621
188.36	6.4	969	188.88	10.8	1,635
188.37	6.5	981	188.89	10.9	1,650
188.38	6.6	992	188.90	11.0	1,664
188.39	6.6	1,003	188.91	11.1	1,679
188.40	6.7	1,015	188.92	11.2	1,693
188.41	6.8	1,026	188.93	11.3	1,708
188.42	6.9	1,038	188.94	11.4	1,722
188.43	6.9	1,049	188.95	11.5	1,737
188.44	7.0	1,061	188.96	11.6	1,752
188.45	7.1	1,073	188.97	11.7	1,767
188.46	7.2	1,085	188.98	11.8	1,782
188.47	7.3	1,097	188.99	11.9	1,797
188.48	7.3	1,108	189.00	12.0	1,812
188.49	7.4	1,120			
188.50	7.5	1,133			
188.51	7.6	1,145			
188.52	7.7	1,157			
188.53	7.7	1,169			
188.54	7.8	1,181			
188.55	7.9	1,194			

Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Summary for Reach POST-2R:

Inflow Area = 1.596 ac, 78.95% Impervious, Inflow Depth = 6.76" for 100-year event
Inflow = 6.93 cfs @ 12.23 hrs, Volume= 0.899 af
Outflow = 6.91 cfs @ 12.26 hrs, Volume= 0.899 af, Atten= 0%, Lag= 2.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.67 fps, Min. Travel Time= 1.2 min

Avg. Velocity = 0.16 fps, Avg. Travel Time= 5.1 min

Peak Storage= 515 cf @ 12.24 hrs

Average Depth at Peak Storage= 0.36' , Surface Width= 32.20'

Bank-Full Depth= 1.00' Flow Area= 35.0 sf, Capacity= 42.53 cfs

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

Side Slope Z-value= 10.0 ' ' Top Width= 45.00'

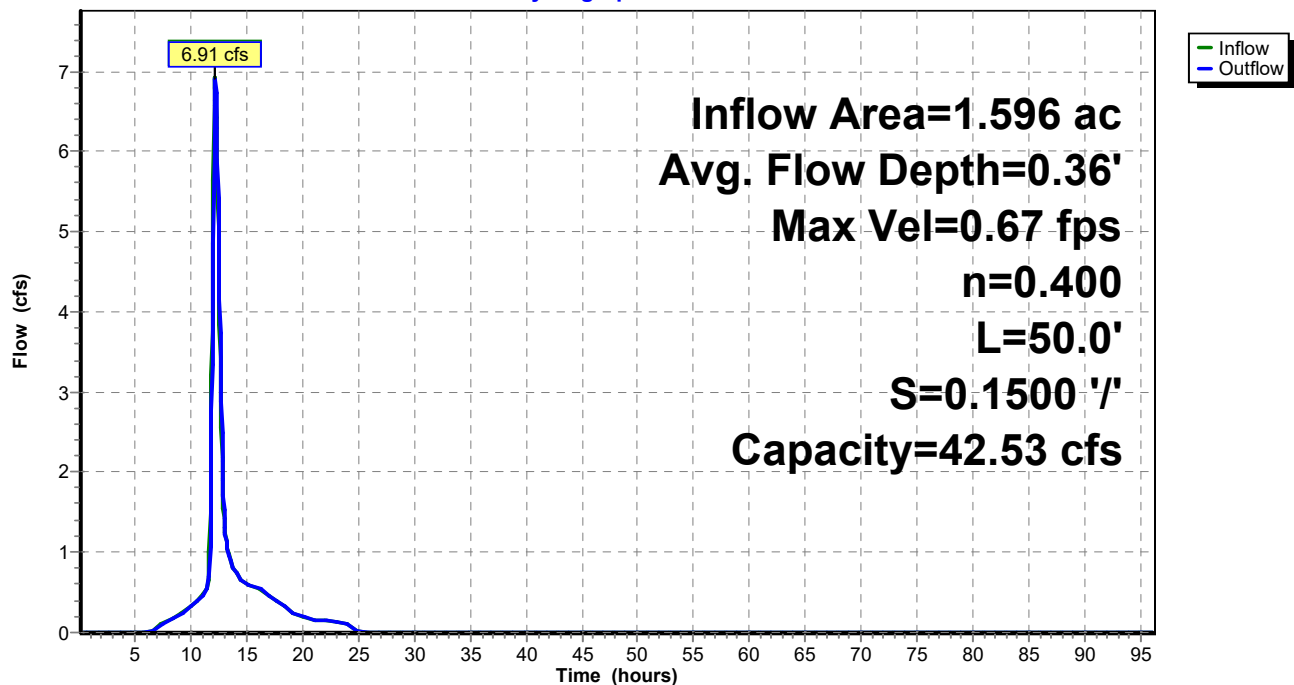
Length= 50.0' Slope= 0.1500 ' '

Inlet Invert= 178.50', Outlet Invert= 171.00'



Reach POST-2R:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Stage-Area-Storage for Reach POST-2R:

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
178.50	0.0	0	179.02	15.7	785
178.51	0.3	13	179.03	16.1	803
178.52	0.5	25	179.04	16.4	821
178.53	0.8	38	179.05	16.8	839
178.54	1.0	51	179.06	17.1	857
178.55	1.3	64	179.07	17.5	875
178.56	1.5	77	179.08	17.9	893
178.57	1.8	90	179.09	18.2	912
178.58	2.1	103	179.10	18.6	930
178.59	2.3	117	179.11	19.0	949
178.60	2.6	130	179.12	19.3	967
178.61	2.9	144	179.13	19.7	986
178.62	3.1	157	179.14	20.1	1,005
178.63	3.4	171	179.15	20.5	1,024
178.64	3.7	185	179.16	20.9	1,043
178.65	4.0	199	179.17	21.2	1,062
178.66	4.3	213	179.18	21.6	1,081
178.67	4.5	227	179.19	22.0	1,101
178.68	4.8	241	179.20	22.4	1,120
178.69	5.1	256	179.21	22.8	1,140
178.70	5.4	270	179.22	23.2	1,159
178.71	5.7	285	179.23	23.6	1,179
178.72	6.0	299	179.24	24.0	1,199
178.73	6.3	314	179.25	24.4	1,219
178.74	6.6	329	179.26	24.8	1,239
178.75	6.9	344	179.27	25.2	1,259
178.76	7.2	359	179.28	25.6	1,279
178.77	7.5	374	179.29	26.0	1,300
178.78	7.8	389	179.30	26.4	1,320
178.79	8.1	405	179.31	26.8	1,341
178.80	8.4	420	179.32	27.2	1,361
178.81	8.7	436	179.33	27.6	1,382
178.82	9.0	451	179.34	28.1	1,403
178.83	9.3	467	179.35	28.5	1,424
178.84	9.7	483	179.36	28.9	1,445
178.85	10.0	499	179.37	29.3	1,466
178.86	10.3	515	179.38	29.7	1,487
178.87	10.6	531	179.39	30.2	1,509
178.88	10.9	547	179.40	30.6	1,530
178.89	11.3	564	179.41	31.0	1,552
178.90	11.6	580	179.42	31.5	1,573
178.91	11.9	597	179.43	31.9	1,595
178.92	12.3	613	179.44	32.3	1,617
178.93	12.6	630	179.45	32.8	1,639
178.94	12.9	647	179.46	33.2	1,661
178.95	13.3	664	179.47	33.7	1,683
178.96	13.6	681	179.48	34.1	1,705
178.97	14.0	698	179.49	34.6	1,728
178.98	14.3	715	179.50	35.0	1,750
178.99	14.7	733			
179.00	15.0	750			
179.01	15.4	768			

Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Summary for Reach POST-3R:

Inflow Area = 1.596 ac, 78.95% Impervious, Inflow Depth = 6.76" for 100-year event
Inflow = 6.91 cfs @ 12.26 hrs, Volume= 0.899 af
Outflow = 6.81 cfs @ 12.37 hrs, Volume= 0.899 af, Atten= 1%, Lag= 6.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Max. Velocity= 2.60 fps, Min. Travel Time= 3.4 min

Avg. Velocity = 0.74 fps, Avg. Travel Time= 12.1 min

Peak Storage= 1,404 cf @ 12.31 hrs

Average Depth at Peak Storage= 0.13' , Surface Width= 21.02'

Bank-Full Depth= 1.00' Flow Area= 24.0 sf, Capacity= 224.46 cfs

20.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding

Side Slope Z-value= 4.0 ' ' Top Width= 28.00'

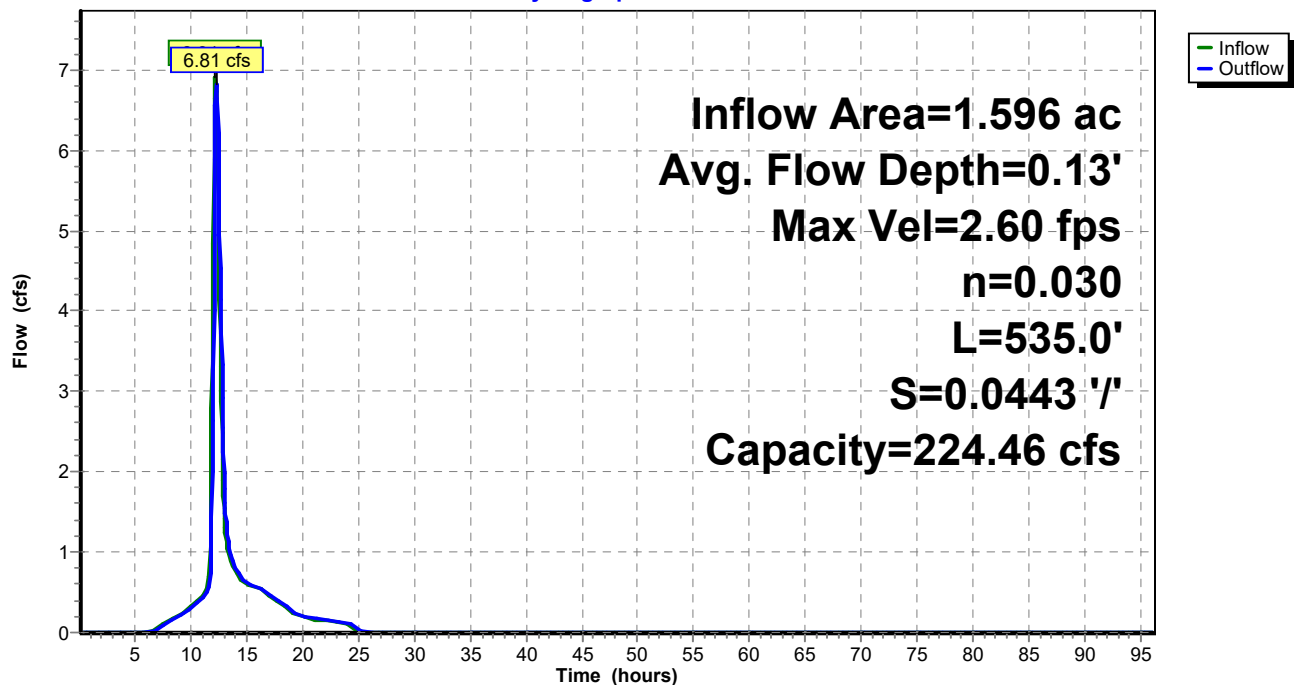
Length= 535.0' Slope= 0.0443 ' '

Inlet Invert= 170.80', Outlet Invert= 147.10'



Reach POST-3R:

Hydrograph



Holliston - Stormwater Model

Type III 24-hr 100-year Rainfall=8.61"

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Stage-Area-Storage for Reach POST-3R:

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
170.80	0.0	0	171.32	11.5	6,143
170.81	0.2	107	171.33	11.7	6,272
170.82	0.4	215	171.34	12.0	6,402
170.83	0.6	323	171.35	12.2	6,532
170.84	0.8	431	171.36	12.5	6,663
170.85	1.0	540	171.37	12.7	6,794
170.86	1.2	650	171.38	12.9	6,926
170.87	1.4	759	171.39	13.2	7,058
170.88	1.6	870	171.40	13.4	7,190
170.89	1.8	980	171.41	13.7	7,323
170.90	2.0	1,091	171.42	13.9	7,457
170.91	2.2	1,203	171.43	14.2	7,590
170.92	2.5	1,315	171.44	14.4	7,725
170.93	2.7	1,427	171.45	14.7	7,859
170.94	2.9	1,540	171.46	14.9	7,994
170.95	3.1	1,653	171.47	15.2	8,130
170.96	3.3	1,767	171.48	15.4	8,266
170.97	3.5	1,881	171.49	15.7	8,402
170.98	3.7	1,995	171.50	16.0	8,539
170.99	3.9	2,110	171.51	16.2	8,676
171.00	4.2	2,226	171.52	16.5	8,813
171.01	4.4	2,341	171.53	16.7	8,951
171.02	4.6	2,458	171.54	17.0	9,090
171.03	4.8	2,574	171.55	17.3	9,229
171.04	5.0	2,691	171.56	17.5	9,368
171.05	5.3	2,809	171.57	17.8	9,508
171.06	5.5	2,927	171.58	18.0	9,648
171.07	5.7	3,045	171.59	18.3	9,789
171.08	5.9	3,164	171.60	18.6	9,930
171.09	6.1	3,283	171.61	18.8	10,071
171.10	6.4	3,403	171.62	19.1	10,213
171.11	6.6	3,523	171.63	19.4	10,355
171.12	6.8	3,643	171.64	19.6	10,498
171.13	7.0	3,764	171.65	19.9	10,641
171.14	7.3	3,885	171.66	20.2	10,785
171.15	7.5	4,007	171.67	20.4	10,929
171.16	7.7	4,129	171.68	20.7	11,073
171.17	7.9	4,252	171.69	21.0	11,218
171.18	8.2	4,375	171.70	21.2	11,363
171.19	8.4	4,498	171.71	21.5	11,509
171.20	8.6	4,622	171.72	21.8	11,655
171.21	8.9	4,747	171.73	22.1	11,802
171.22	9.1	4,871	171.74	22.3	11,949
171.23	9.3	4,997	171.75	22.6	12,096
171.24	9.6	5,122	171.76	22.9	12,244
171.25	9.8	5,248	171.77	23.2	12,393
171.26	10.0	5,375	171.78	23.4	12,541
171.27	10.3	5,502	171.79	23.7	12,690
171.28	10.5	5,629	171.80	24.0	12,840
171.29	10.8	5,757			
171.30	11.0	5,885			
171.31	11.2	6,014			

Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Summary for Reach POST-4R:

Inflow Area = 0.610 ac, 7.41% Impervious, Inflow Depth = 0.49" for 100-year event
Inflow = 0.19 cfs @ 13.02 hrs, Volume= 0.025 af
Outflow = 0.19 cfs @ 13.07 hrs, Volume= 0.025 af, Atten= 0%, Lag= 3.4 min

Routing by Stor-Ind+Trans method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.94 fps, Min. Travel Time= 2.3 min

Avg. Velocity = 0.91 fps, Avg. Travel Time= 2.3 min

Peak Storage= 26 cf @ 13.03 hrs

Average Depth at Peak Storage= 0.01' , Surface Width= 20.08'

Bank-Full Depth= 1.00' Flow Area= 24.0 sf, Capacity= 423.66 cfs

20.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding

Side Slope Z-value= 4.0 ' ' Top Width= 28.00'

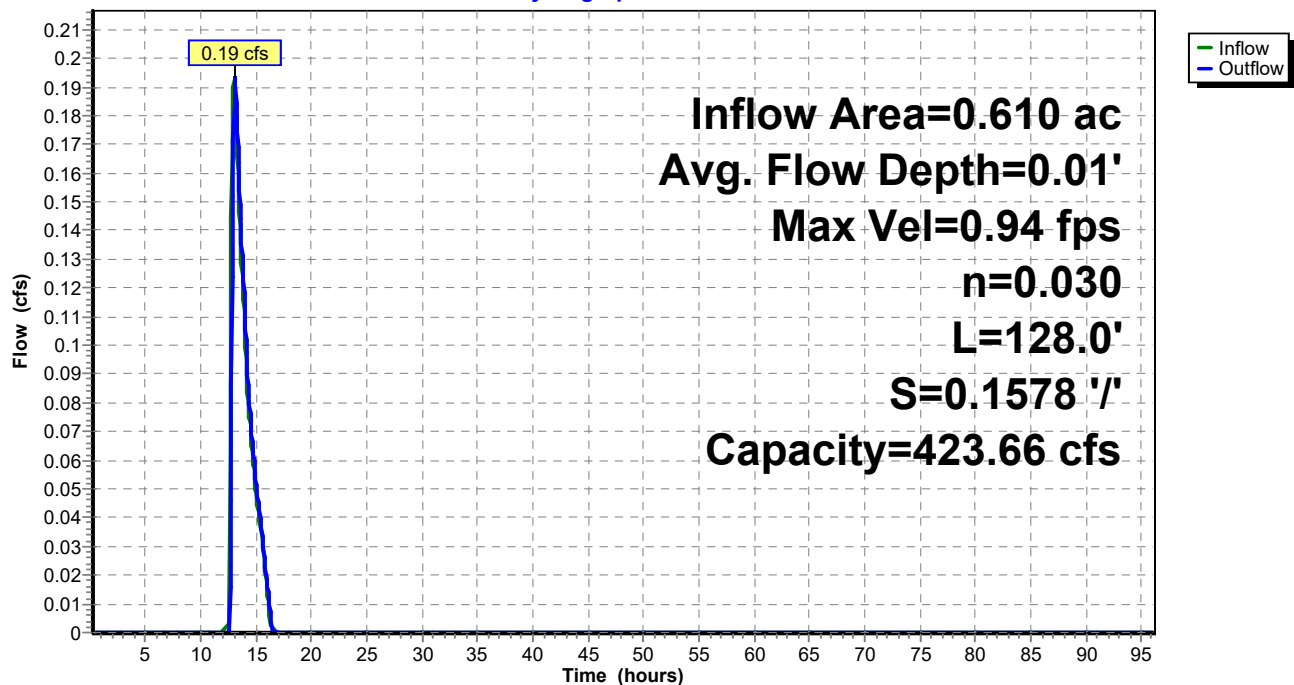
Length= 128.0' Slope= 0.1578 ' '

Inlet Invert= 173.60', Outlet Invert= 153.40'



Reach POST-4R:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Stage-Area-Storage for Reach POST-4R:

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
173.60	0.0	0	174.12	11.5	1,470
173.61	0.2	26	174.13	11.7	1,501
173.62	0.4	51	174.14	12.0	1,532
173.63	0.6	77	174.15	12.2	1,563
173.64	0.8	103	174.16	12.5	1,594
173.65	1.0	129	174.17	12.7	1,626
173.66	1.2	155	174.18	12.9	1,657
173.67	1.4	182	174.19	13.2	1,689
173.68	1.6	208	174.20	13.4	1,720
173.69	1.8	235	174.21	13.7	1,752
173.70	2.0	261	174.22	13.9	1,784
173.71	2.2	288	174.23	14.2	1,816
173.72	2.5	315	174.24	14.4	1,848
173.73	2.7	341	174.25	14.7	1,880
173.74	2.9	368	174.26	14.9	1,913
173.75	3.1	396	174.27	15.2	1,945
173.76	3.3	423	174.28	15.4	1,978
173.77	3.5	450	174.29	15.7	2,010
173.78	3.7	477	174.30	16.0	2,043
173.79	3.9	505	174.31	16.2	2,076
173.80	4.2	532	174.32	16.5	2,109
173.81	4.4	560	174.33	16.7	2,142
173.82	4.6	588	174.34	17.0	2,175
173.83	4.8	616	174.35	17.3	2,208
173.84	5.0	644	174.36	17.5	2,241
173.85	5.3	672	174.37	17.8	2,275
173.86	5.5	700	174.38	18.0	2,308
173.87	5.7	729	174.39	18.3	2,342
173.88	5.9	757	174.40	18.6	2,376
173.89	6.1	785	174.41	18.8	2,410
173.90	6.4	814	174.42	19.1	2,443
173.91	6.6	843	174.43	19.4	2,478
173.92	6.8	872	174.44	19.6	2,512
173.93	7.0	901	174.45	19.9	2,546
173.94	7.3	930	174.46	20.2	2,580
173.95	7.5	959	174.47	20.4	2,615
173.96	7.7	988	174.48	20.7	2,649
173.97	7.9	1,017	174.49	21.0	2,684
173.98	8.2	1,047	174.50	21.2	2,719
173.99	8.4	1,076	174.51	21.5	2,754
174.00	8.6	1,106	174.52	21.8	2,789
174.01	8.9	1,136	174.53	22.1	2,824
174.02	9.1	1,166	174.54	22.3	2,859
174.03	9.3	1,195	174.55	22.6	2,894
174.04	9.6	1,226	174.56	22.9	2,929
174.05	9.8	1,256	174.57	23.2	2,965
174.06	10.0	1,286	174.58	23.4	3,001
174.07	10.3	1,316	174.59	23.7	3,036
174.08	10.5	1,347	174.60	24.0	3,072
174.09	10.8	1,377			
174.10	11.0	1,408			
174.11	11.2	1,439			

Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Summary for Reach POST-5R:

Inflow Area = 0.610 ac, 7.41% Impervious, Inflow Depth = 0.49" for 100-year event
Inflow = 0.19 cfs @ 13.07 hrs, Volume= 0.025 af
Outflow = 0.18 cfs @ 13.37 hrs, Volume= 0.025 af, Atten= 6%, Lag= 17.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.52 fps, Min. Travel Time= 8.3 min

Avg. Velocity = 0.38 fps, Avg. Travel Time= 11.2 min

Peak Storage= 91 cf @ 13.23 hrs

Average Depth at Peak Storage= 0.02' , Surface Width= 20.14'

Bank-Full Depth= 1.00' Flow Area= 24.0 sf, Capacity= 160.96 cfs

20.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding

Side Slope Z-value= 4.0 ' ' Top Width= 28.00'

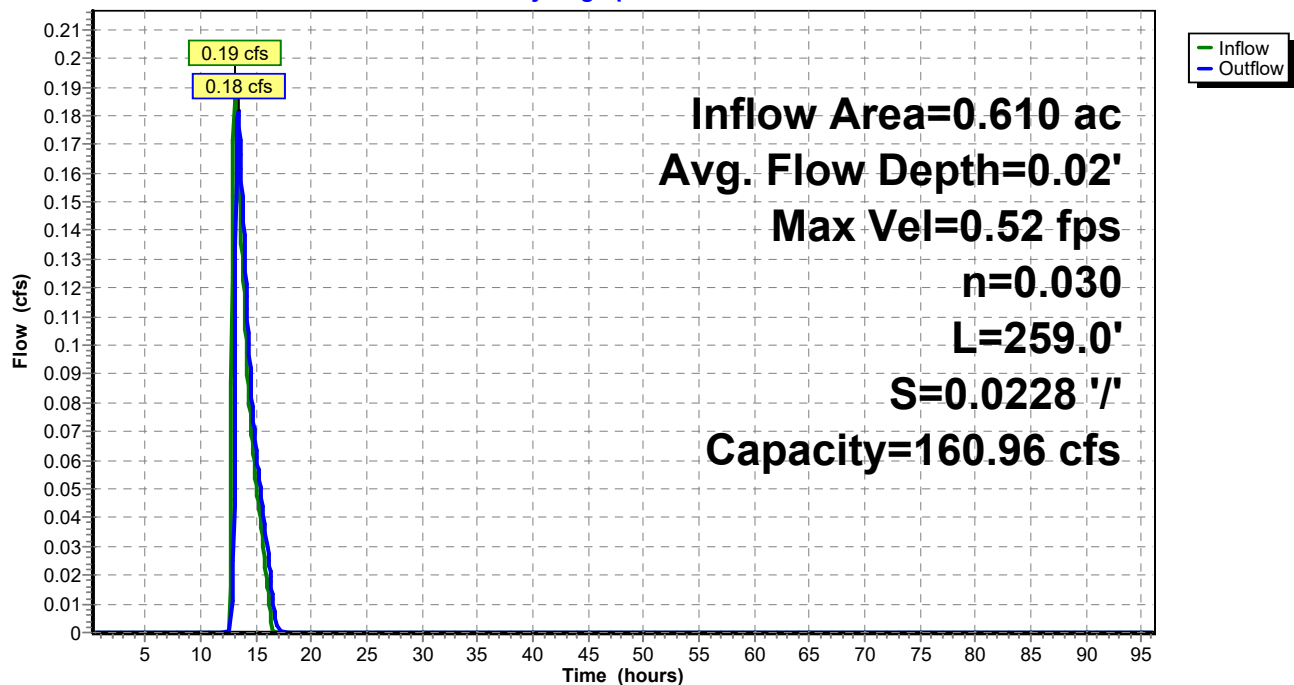
Length= 259.0' Slope= 0.0228 ' '

Inlet Invert= 153.00', Outlet Invert= 147.10'



Reach POST-5R:

Hydrograph



Holliston - Stormwater Model

Prepared by TRC

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Type III 24-hr 100-year Rainfall=8.61"

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Stage-Area-Storage for Reach POST-5R:

Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)	Elevation (feet)	End-Area (sq-ft)	Storage (cubic-feet)
153.00	0.0	0	153.52	11.5	2,974
153.01	0.2	52	153.53	11.7	3,036
153.02	0.4	104	153.54	12.0	3,099
153.03	0.6	156	153.55	12.2	3,162
153.04	0.8	209	153.56	12.5	3,226
153.05	1.0	262	153.57	12.7	3,289
153.06	1.2	315	153.58	12.9	3,353
153.07	1.4	368	153.59	13.2	3,417
153.08	1.6	421	153.60	13.4	3,481
153.09	1.8	475	153.61	13.7	3,545
153.10	2.0	528	153.62	13.9	3,610
153.11	2.2	582	153.63	14.2	3,675
153.12	2.5	637	153.64	14.4	3,740
153.13	2.7	691	153.65	14.7	3,805
153.14	2.9	746	153.66	14.9	3,870
153.15	3.1	800	153.67	15.2	3,936
153.16	3.3	855	153.68	15.4	4,001
153.17	3.5	911	153.69	15.7	4,067
153.18	3.7	966	153.70	16.0	4,134
153.19	3.9	1,022	153.71	16.2	4,200
153.20	4.2	1,077	153.72	16.5	4,267
153.21	4.4	1,133	153.73	16.7	4,333
153.22	4.6	1,190	153.74	17.0	4,401
153.23	4.8	1,246	153.75	17.3	4,468
153.24	5.0	1,303	153.76	17.5	4,535
153.25	5.3	1,360	153.77	17.8	4,603
153.26	5.5	1,417	153.78	18.0	4,671
153.27	5.7	1,474	153.79	18.3	4,739
153.28	5.9	1,532	153.80	18.6	4,807
153.29	6.1	1,589	153.81	18.8	4,876
153.30	6.4	1,647	153.82	19.1	4,944
153.31	6.6	1,705	153.83	19.4	5,013
153.32	6.8	1,764	153.84	19.6	5,082
153.33	7.0	1,822	153.85	19.9	5,152
153.34	7.3	1,881	153.86	20.2	5,221
153.35	7.5	1,940	153.87	20.4	5,291
153.36	7.7	1,999	153.88	20.7	5,361
153.37	7.9	2,058	153.89	21.0	5,431
153.38	8.2	2,118	153.90	21.2	5,501
153.39	8.4	2,178	153.91	21.5	5,572
153.40	8.6	2,238	153.92	21.8	5,642
153.41	8.9	2,298	153.93	22.1	5,713
153.42	9.1	2,358	153.94	22.3	5,785
153.43	9.3	2,419	153.95	22.6	5,856
153.44	9.6	2,480	153.96	22.9	5,928
153.45	9.8	2,541	153.97	23.2	5,999
153.46	10.0	2,602	153.98	23.4	6,071
153.47	10.3	2,663	153.99	23.7	6,144
153.48	10.5	2,725	154.00	24.0	6,216
153.49	10.8	2,787			
153.50	11.0	2,849			
153.51	11.2	2,911			

Holliston - Stormwater Model

Type III 24-hr 100-year Rainfall=8.61"

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Summary for Pond POST-1P:

Inflow Area = 1.596 ac, 78.95% Impervious, Inflow Depth = 6.80" for 100-year event
 Inflow = 11.94 cfs @ 12.09 hrs, Volume= 0.905 af
 Outflow = 6.96 cfs @ 12.21 hrs, Volume= 0.899 af, Atten= 42%, Lag= 7.3 min
 Primary = 6.96 cfs @ 12.21 hrs, Volume= 0.899 af

Routing by Stor-Ind method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
 Peak Elev= 192.04' @ 12.21 hrs Surf.Area= 2,938 sf Storage= 8,112 cf

Plug-Flow detention time= 39.9 min calculated for 0.899 af (99% of inflow)
 Center-of-Mass det. time= 34.9 min (822.9 - 788.0)

Volume	Invert	Avail.Storage	Storage Description		
#1	187.00'	11,201 cf	Custom Stage Data (Pyramidal) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
187.00	200	0	0	200	
188.00	859	491	491	865	
190.00	1,916	2,705	3,196	1,961	
192.00	2,915	4,796	7,993	3,034	
193.00	3,512	3,209	11,201	3,673	

Device	Routing	Invert	Outlet Devices		
#1	Primary	187.70'	18.0" Round Culvert L= 22.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 187.10' / 187.70' S= -0.0273 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf		
#2	Device 1	187.10'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads		
#3	Device 1	189.70'	12.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads		
#4	Device 1	191.20'	7.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads		

Primary OutFlow Max=6.94 cfs @ 12.21 hrs HW=192.03' (Free Discharge)

- 1=Culvert (Passes 6.94 cfs of 12.71 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.87 cfs @ 10.02 fps)
- 3=Orifice/Grate (Orifice Controls 5.12 cfs @ 6.52 fps)
- 4=Orifice/Grate (Orifice Controls 0.95 cfs @ 3.54 fps)

Holliston - Stormwater Model

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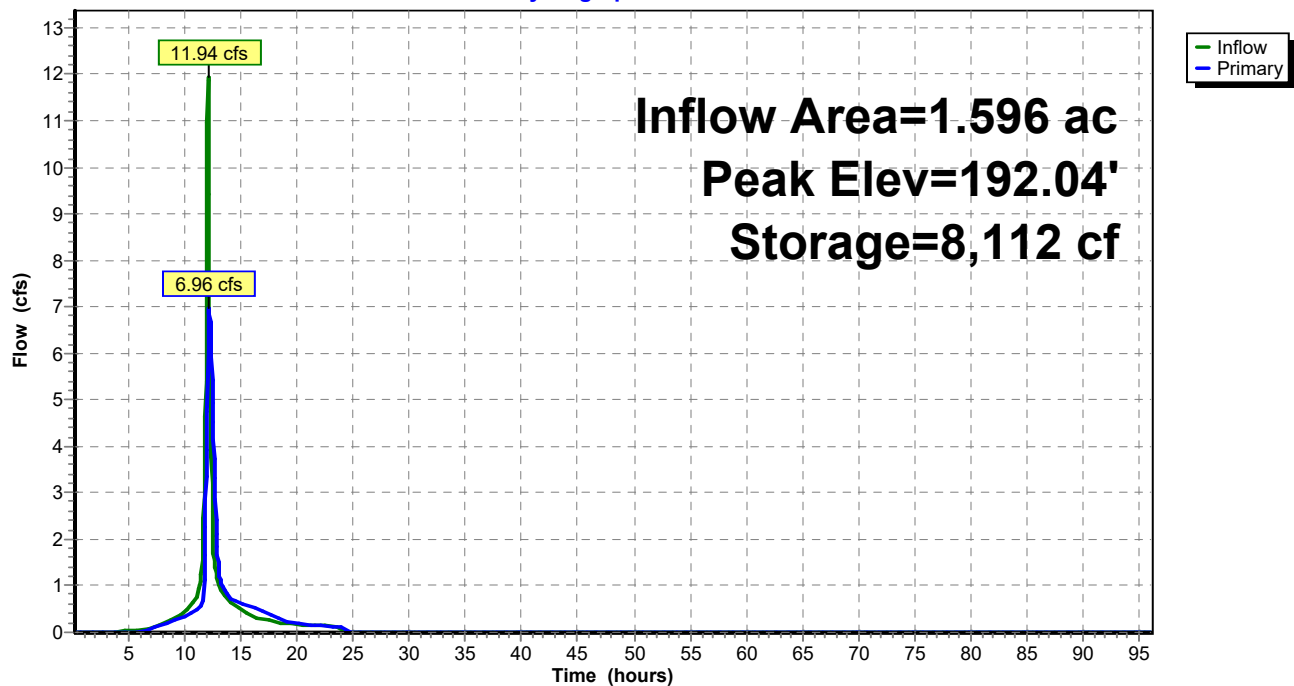
Type III 24-hr 100-year Rainfall=8.61"

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Pond POST-1P:

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Stage-Area-Storage for Pond POST-1P:

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
187.00	200	0	187.52	485	173
187.01	204	2	187.53	492	178
187.02	209	4	187.54	499	183
187.03	213	6	187.55	506	188
187.04	218	8	187.56	512	193
187.05	222	11	187.57	519	198
187.06	227	13	187.58	526	203
187.07	231	15	187.59	533	208
187.08	236	17	187.60	540	214
187.09	240	20	187.61	547	219
187.10	245	22	187.62	554	225
187.11	250	25	187.63	562	230
187.12	255	27	187.64	569	236
187.13	260	30	187.65	576	242
187.14	265	32	187.66	583	247
187.15	270	35	187.67	591	253
187.16	275	38	187.68	598	259
187.17	280	41	187.69	606	265
187.18	285	43	187.70	613	271
187.19	290	46	187.71	621	278
187.20	295	49	187.72	628	284
187.21	300	52	187.73	636	290
187.22	306	55	187.74	643	297
187.23	311	58	187.75	651	303
187.24	316	61	187.76	659	310
187.25	322	65	187.77	667	316
187.26	327	68	187.78	675	323
187.27	333	71	187.79	682	330
187.28	338	74	187.80	690	337
187.29	344	78	187.81	698	343
187.30	349	81	187.82	706	350
187.31	355	85	187.83	715	358
187.32	361	88	187.84	723	365
187.33	367	92	187.85	731	372
187.34	372	96	187.86	739	379
187.35	378	100	187.87	747	387
187.36	384	103	187.88	756	394
187.37	390	107	187.89	764	402
187.38	396	111	187.90	772	410
187.39	402	115	187.91	781	417
187.40	408	119	187.92	789	425
187.41	415	123	187.93	798	433
187.42	421	128	187.94	806	441
187.43	427	132	187.95	815	449
187.44	433	136	187.96	824	458
187.45	440	140	187.97	833	466
187.46	446	145	187.98	841	474
187.47	452	149	187.99	850	483
187.48	459	154	188.00	859	491
187.49	465	159	188.01	863	500
187.50	472	163	188.02	867	508
187.51	479	168	188.03	872	517

Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Stage-Area-Storage for Pond POST-1P: (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
188.04	876	526	188.56	1,113	1,042
188.05	880	535	188.57	1,118	1,053
188.06	885	543	188.58	1,122	1,064
188.07	889	552	188.59	1,127	1,075
188.08	893	561	188.60	1,132	1,087
188.09	898	570	188.61	1,137	1,098
188.10	902	579	188.62	1,142	1,109
188.11	906	588	188.63	1,147	1,121
188.12	911	597	188.64	1,152	1,132
188.13	915	606	188.65	1,157	1,144
188.14	919	616	188.66	1,162	1,155
188.15	924	625	188.67	1,166	1,167
188.16	928	634	188.68	1,171	1,179
188.17	933	643	188.69	1,176	1,191
188.18	937	653	188.70	1,181	1,202
188.19	941	662	188.71	1,186	1,214
188.20	946	672	188.72	1,191	1,226
188.21	950	681	188.73	1,196	1,238
188.22	955	691	188.74	1,201	1,250
188.23	959	700	188.75	1,206	1,262
188.24	964	710	188.76	1,211	1,274
188.25	968	719	188.77	1,216	1,286
188.26	973	729	188.78	1,221	1,298
188.27	977	739	188.79	1,227	1,311
188.28	982	749	188.80	1,232	1,323
188.29	986	759	188.81	1,237	1,335
188.30	991	768	188.82	1,242	1,348
188.31	995	778	188.83	1,247	1,360
188.32	1,000	788	188.84	1,252	1,373
188.33	1,005	798	188.85	1,257	1,385
188.34	1,009	808	188.86	1,262	1,398
188.35	1,014	819	188.87	1,267	1,410
188.36	1,018	829	188.88	1,273	1,423
188.37	1,023	839	188.89	1,278	1,436
188.38	1,028	849	188.90	1,283	1,449
188.39	1,032	859	188.91	1,288	1,462
188.40	1,037	870	188.92	1,293	1,474
188.41	1,042	880	188.93	1,298	1,487
188.42	1,046	891	188.94	1,304	1,500
188.43	1,051	901	188.95	1,309	1,513
188.44	1,056	912	188.96	1,314	1,527
188.45	1,060	922	188.97	1,319	1,540
188.46	1,065	933	188.98	1,325	1,553
188.47	1,070	944	188.99	1,330	1,566
188.48	1,075	954	189.00	1,335	1,580
188.49	1,079	965	189.01	1,340	1,593
188.50	1,084	976	189.02	1,346	1,606
188.51	1,089	987	189.03	1,351	1,620
188.52	1,094	998	189.04	1,356	1,633
188.53	1,098	1,009	189.05	1,362	1,647
188.54	1,103	1,020	189.06	1,367	1,661
188.55	1,108	1,031	189.07	1,372	1,674

Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Stage-Area-Storage for Pond POST-1P: (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
189.08	1,378	1,688	189.60	1,671	2,480
189.09	1,383	1,702	189.61	1,677	2,496
189.10	1,389	1,716	189.62	1,683	2,513
189.11	1,394	1,730	189.63	1,689	2,530
189.12	1,399	1,744	189.64	1,695	2,547
189.13	1,405	1,758	189.65	1,701	2,564
189.14	1,410	1,772	189.66	1,707	2,581
189.15	1,416	1,786	189.67	1,713	2,598
189.16	1,421	1,800	189.68	1,719	2,615
189.17	1,427	1,814	189.69	1,725	2,632
189.18	1,432	1,829	189.70	1,731	2,650
189.19	1,438	1,843	189.71	1,737	2,667
189.20	1,443	1,857	189.72	1,743	2,684
189.21	1,448	1,872	189.73	1,749	2,702
189.22	1,454	1,886	189.74	1,755	2,719
189.23	1,460	1,901	189.75	1,761	2,737
189.24	1,465	1,915	189.76	1,767	2,755
189.25	1,471	1,930	189.77	1,773	2,772
189.26	1,476	1,945	189.78	1,779	2,790
189.27	1,482	1,960	189.79	1,785	2,808
189.28	1,487	1,975	189.80	1,791	2,826
189.29	1,493	1,989	189.81	1,798	2,844
189.30	1,498	2,004	189.82	1,804	2,862
189.31	1,504	2,019	189.83	1,810	2,880
189.32	1,510	2,034	189.84	1,816	2,898
189.33	1,515	2,050	189.85	1,822	2,916
189.34	1,521	2,065	189.86	1,828	2,934
189.35	1,527	2,080	189.87	1,835	2,953
189.36	1,532	2,095	189.88	1,841	2,971
189.37	1,538	2,111	189.89	1,847	2,989
189.38	1,544	2,126	189.90	1,853	3,008
189.39	1,549	2,142	189.91	1,859	3,027
189.40	1,555	2,157	189.92	1,866	3,045
189.41	1,561	2,173	189.93	1,872	3,064
189.42	1,566	2,188	189.94	1,878	3,083
189.43	1,572	2,204	189.95	1,884	3,101
189.44	1,578	2,220	189.96	1,891	3,120
189.45	1,584	2,235	189.97	1,897	3,139
189.46	1,589	2,251	189.98	1,903	3,158
189.47	1,595	2,267	189.99	1,910	3,177
189.48	1,601	2,283	190.00	1,916	3,196
189.49	1,607	2,299	190.01	1,920	3,216
189.50	1,613	2,315	190.02	1,925	3,235
189.51	1,618	2,332	190.03	1,929	3,254
189.52	1,624	2,348	190.04	1,934	3,273
189.53	1,630	2,364	190.05	1,938	3,293
189.54	1,636	2,380	190.06	1,943	3,312
189.55	1,642	2,397	190.07	1,947	3,332
189.56	1,648	2,413	190.08	1,952	3,351
189.57	1,653	2,430	190.09	1,956	3,371
189.58	1,659	2,446	190.10	1,961	3,390
189.59	1,665	2,463	190.11	1,966	3,410

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Type III 24-hr 100-year Rainfall=8.61"

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Stage-Area-Storage for Pond POST-1P: (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
190.12	1,970	3,430	190.64	2,213	4,517
190.13	1,975	3,449	190.65	2,218	4,539
190.14	1,979	3,469	190.66	2,223	4,561
190.15	1,984	3,489	190.67	2,227	4,583
190.16	1,988	3,509	190.68	2,232	4,605
190.17	1,993	3,529	190.69	2,237	4,628
190.18	1,997	3,549	190.70	2,242	4,650
190.19	2,002	3,569	190.71	2,247	4,673
190.20	2,007	3,589	190.72	2,252	4,695
190.21	2,011	3,609	190.73	2,256	4,718
190.22	2,016	3,629	190.74	2,261	4,740
190.23	2,020	3,649	190.75	2,266	4,763
190.24	2,025	3,669	190.76	2,271	4,786
190.25	2,029	3,690	190.77	2,276	4,808
190.26	2,034	3,710	190.78	2,281	4,831
190.27	2,039	3,730	190.79	2,286	4,854
190.28	2,043	3,751	190.80	2,291	4,877
190.29	2,048	3,771	190.81	2,295	4,900
190.30	2,053	3,792	190.82	2,300	4,923
190.31	2,057	3,812	190.83	2,305	4,946
190.32	2,062	3,833	190.84	2,310	4,969
190.33	2,066	3,853	190.85	2,315	4,992
190.34	2,071	3,874	190.86	2,320	5,015
190.35	2,076	3,895	190.87	2,325	5,038
190.36	2,080	3,916	190.88	2,330	5,062
190.37	2,085	3,936	190.89	2,335	5,085
190.38	2,090	3,957	190.90	2,340	5,108
190.39	2,094	3,978	190.91	2,345	5,132
190.40	2,099	3,999	190.92	2,350	5,155
190.41	2,104	4,020	190.93	2,355	5,179
190.42	2,108	4,041	190.94	2,360	5,202
190.43	2,113	4,062	190.95	2,364	5,226
190.44	2,118	4,084	190.96	2,369	5,250
190.45	2,123	4,105	190.97	2,374	5,273
190.46	2,127	4,126	190.98	2,379	5,297
190.47	2,132	4,147	190.99	2,384	5,321
190.48	2,137	4,169	191.00	2,389	5,345
190.49	2,141	4,190	191.01	2,394	5,369
190.50	2,146	4,211	191.02	2,399	5,393
190.51	2,151	4,233	191.03	2,404	5,417
190.52	2,156	4,254	191.04	2,409	5,441
190.53	2,160	4,276	191.05	2,414	5,465
190.54	2,165	4,298	191.06	2,419	5,489
190.55	2,170	4,319	191.07	2,424	5,513
190.56	2,175	4,341	191.08	2,430	5,538
190.57	2,179	4,363	191.09	2,435	5,562
190.58	2,184	4,385	191.10	2,440	5,586
190.59	2,189	4,407	191.11	2,445	5,611
190.60	2,194	4,428	191.12	2,450	5,635
190.61	2,199	4,450	191.13	2,455	5,660
190.62	2,203	4,472	191.14	2,460	5,684
190.63	2,208	4,494	191.15	2,465	5,709

Holliston - Stormwater Model

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Stage-Area-Storage for Pond POST-1P: (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
191.16	2,470	5,734	191.68	2,741	7,088
191.17	2,475	5,758	191.69	2,746	7,115
191.18	2,480	5,783	191.70	2,752	7,143
191.19	2,485	5,808	191.71	2,757	7,170
191.20	2,490	5,833	191.72	2,763	7,198
191.21	2,495	5,858	191.73	2,768	7,226
191.22	2,501	5,883	191.74	2,773	7,253
191.23	2,506	5,908	191.75	2,779	7,281
191.24	2,511	5,933	191.76	2,784	7,309
191.25	2,516	5,958	191.77	2,789	7,337
191.26	2,521	5,983	191.78	2,795	7,365
191.27	2,526	6,008	191.79	2,800	7,393
191.28	2,531	6,034	191.80	2,806	7,421
191.29	2,536	6,059	191.81	2,811	7,449
191.30	2,542	6,084	191.82	2,817	7,477
191.31	2,547	6,110	191.83	2,822	7,505
191.32	2,552	6,135	191.84	2,827	7,533
191.33	2,557	6,161	191.85	2,833	7,562
191.34	2,562	6,186	191.86	2,838	7,590
191.35	2,567	6,212	191.87	2,844	7,618
191.36	2,573	6,238	191.88	2,849	7,647
191.37	2,578	6,263	191.89	2,855	7,675
191.38	2,583	6,289	191.90	2,860	7,704
191.39	2,588	6,315	191.91	2,866	7,733
191.40	2,593	6,341	191.92	2,871	7,761
191.41	2,599	6,367	191.93	2,877	7,790
191.42	2,604	6,393	191.94	2,882	7,819
191.43	2,609	6,419	191.95	2,887	7,848
191.44	2,614	6,445	191.96	2,893	7,876
191.45	2,619	6,471	191.97	2,898	7,905
191.46	2,625	6,498	191.98	2,904	7,934
191.47	2,630	6,524	191.99	2,909	7,964
191.48	2,635	6,550	192.00	2,915	7,993
191.49	2,640	6,577	192.01	2,921	8,022
191.50	2,646	6,603	192.02	2,926	8,051
191.51	2,651	6,629	192.03	2,932	8,080
191.52	2,656	6,656	192.04	2,938	8,110
191.53	2,661	6,683	192.05	2,944	8,139
191.54	2,667	6,709	192.06	2,949	8,169
191.55	2,672	6,736	192.07	2,955	8,198
191.56	2,677	6,763	192.08	2,961	8,228
191.57	2,683	6,789	192.09	2,966	8,257
191.58	2,688	6,816	192.10	2,972	8,287
191.59	2,693	6,843	192.11	2,978	8,317
191.60	2,698	6,870	192.12	2,984	8,347
191.61	2,704	6,897	192.13	2,989	8,376
191.62	2,709	6,924	192.14	2,995	8,406
191.63	2,714	6,951	192.15	3,001	8,436
191.64	2,720	6,979	192.16	3,007	8,466
191.65	2,725	7,006	192.17	3,013	8,496
191.66	2,730	7,033	192.18	3,018	8,527
191.67	2,736	7,060	192.19	3,024	8,557

Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Stage-Area-Storage for Pond POST-1P: (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
192.20	3,030	8,587	192.72	3,339	10,242
192.21	3,036	8,617	192.73	3,345	10,276
192.22	3,042	8,648	192.74	3,351	10,309
192.23	3,047	8,678	192.75	3,358	10,343
192.24	3,053	8,709	192.76	3,364	10,376
192.25	3,059	8,739	192.77	3,370	10,410
192.26	3,065	8,770	192.78	3,376	10,444
192.27	3,071	8,801	192.79	3,382	10,478
192.28	3,077	8,831	192.80	3,388	10,512
192.29	3,082	8,862	192.81	3,394	10,545
192.30	3,088	8,893	192.82	3,400	10,579
192.31	3,094	8,924	192.83	3,407	10,613
192.32	3,100	8,955	192.84	3,413	10,648
192.33	3,106	8,986	192.85	3,419	10,682
192.34	3,112	9,017	192.86	3,425	10,716
192.35	3,118	9,048	192.87	3,431	10,750
192.36	3,124	9,079	192.88	3,437	10,785
192.37	3,129	9,111	192.89	3,444	10,819
192.38	3,135	9,142	192.90	3,450	10,853
192.39	3,141	9,173	192.91	3,456	10,888
192.40	3,147	9,205	192.92	3,462	10,923
192.41	3,153	9,236	192.93	3,468	10,957
192.42	3,159	9,268	192.94	3,475	10,992
192.43	3,165	9,299	192.95	3,481	11,027
192.44	3,171	9,331	192.96	3,487	11,062
192.45	3,177	9,363	192.97	3,493	11,096
192.46	3,183	9,395	192.98	3,500	11,131
192.47	3,189	9,427	192.99	3,506	11,166
192.48	3,195	9,458	193.00	3,512	11,201
192.49	3,201	9,490			
192.50	3,207	9,522			
192.51	3,213	9,555			
192.52	3,219	9,587			
192.53	3,224	9,619			
192.54	3,230	9,651			
192.55	3,236	9,684			
192.56	3,242	9,716			
192.57	3,248	9,748			
192.58	3,254	9,781			
192.59	3,261	9,813			
192.60	3,267	9,846			
192.61	3,273	9,879			
192.62	3,279	9,912			
192.63	3,285	9,944			
192.64	3,291	9,977			
192.65	3,297	10,010			
192.66	3,303	10,043			
192.67	3,309	10,076			
192.68	3,315	10,109			
192.69	3,321	10,143			
192.70	3,327	10,176			
192.71	3,333	10,209			

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Summary for Pond POST-2P: Sed. Forebay 1

Inflow Area = 0.365 ac, 12.38% Impervious, Inflow Depth = 5.84" for 100-year event
 Inflow = 2.42 cfs @ 12.09 hrs, Volume= 0.178 af
 Outflow = 2.42 cfs @ 12.10 hrs, Volume= 0.171 af, Atten= 0%, Lag= 0.6 min
 Primary = 2.42 cfs @ 12.10 hrs, Volume= 0.171 af

Routing by Stor-Ind method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
 Peak Elev= 185.22' @ 12.10 hrs Surf.Area= 593 sf Storage= 413 cf
 Flood Elev= 186.00' Surf.Area= 976 sf Storage= 1,021 cf

Plug-Flow detention time= 34.3 min calculated for 0.171 af (96% of inflow)
 Center-of-Mass det. time= 12.6 min (819.4 - 806.9)

Volume	Invert	Avail.Storage	Storage Description
#1	184.00'	1,021 cf	Custom Stage Data (Irregular) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
184.00	127	99.0	0	0	127
185.00	503	141.0	294	294	938
186.00	976	172.0	727	1,021	1,726

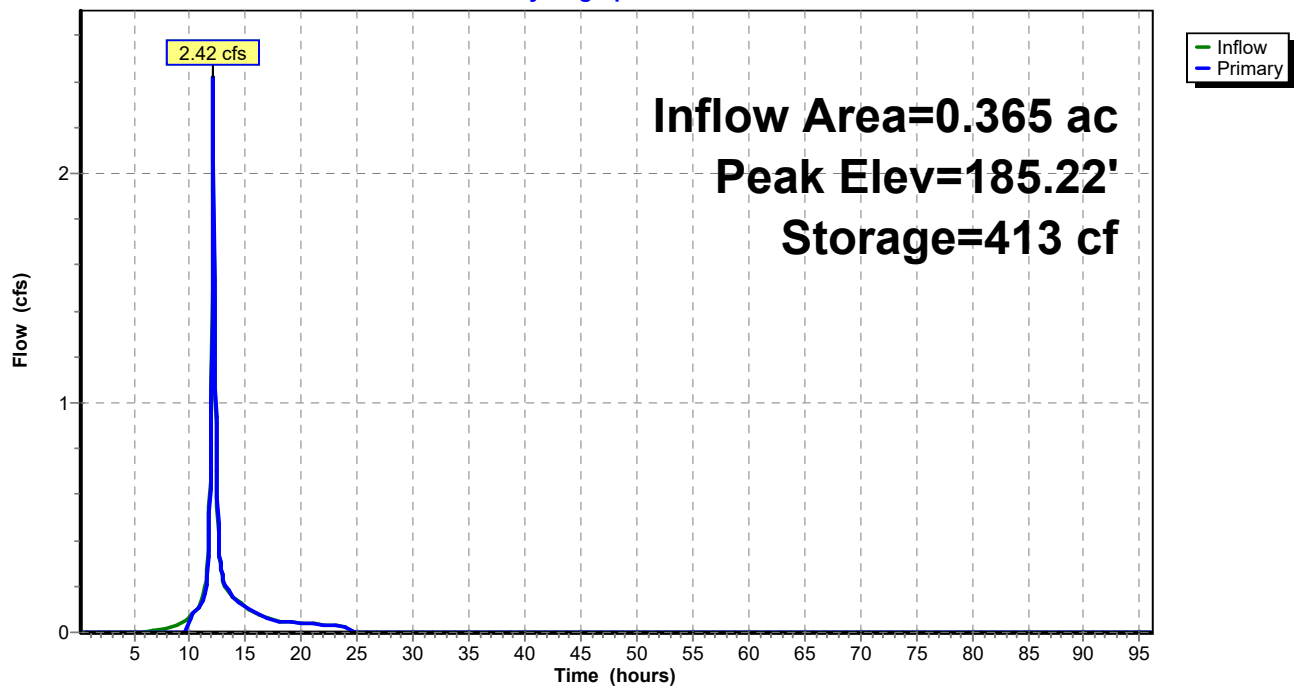
Device	Routing	Invert	Outlet Devices
#1	Primary	185.00'	10.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=2.41 cfs @ 12.10 hrs HW=185.22' (Free Discharge)

↑ **1=Broad-Crested Rectangular Weir** (Weir Controls 2.41 cfs @ 1.11 fps)

Pond POST-2P: Sed. Forebay 1

Hydrograph



Holliston - Stormwater Model

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Stage-Area-Storage for Pond POST-2P: Sed. Forebay 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
184.00	127	0	184.52	291	106
184.01	130	1	184.53	295	109
184.02	132	3	184.54	299	112
184.03	135	4	184.55	303	115
184.04	137	5	184.56	307	118
184.05	140	7	184.57	311	121
184.06	143	8	184.58	315	124
184.07	145	10	184.59	319	127
184.08	148	11	184.60	323	130
184.09	151	12	184.61	327	134
184.10	153	14	184.62	331	137
184.11	156	16	184.63	335	140
184.12	159	17	184.64	339	144
184.13	162	19	184.65	343	147
184.14	165	20	184.66	347	151
184.15	168	22	184.67	351	154
184.16	170	24	184.68	356	158
184.17	173	25	184.69	360	161
184.18	176	27	184.70	364	165
184.19	179	29	184.71	368	168
184.20	182	31	184.72	373	172
184.21	185	33	184.73	377	176
184.22	188	34	184.74	381	180
184.23	191	36	184.75	386	183
184.24	195	38	184.76	390	187
184.25	198	40	184.77	394	191
184.26	201	42	184.78	399	195
184.27	204	44	184.79	403	199
184.28	207	46	184.80	408	203
184.29	210	48	184.81	412	207
184.30	214	51	184.82	417	212
184.31	217	53	184.83	422	216
184.32	220	55	184.84	426	220
184.33	224	57	184.85	431	224
184.34	227	59	184.86	435	229
184.35	230	62	184.87	440	233
184.36	234	64	184.88	445	237
184.37	237	66	184.89	449	242
184.38	241	69	184.90	454	246
184.39	244	71	184.91	459	251
184.40	248	74	184.92	464	256
184.41	251	76	184.93	469	260
184.42	255	79	184.94	473	265
184.43	258	81	184.95	478	270
184.44	262	84	184.96	483	275
184.45	265	86	184.97	488	279
184.46	269	89	184.98	493	284
184.47	273	92	184.99	498	289
184.48	276	95	185.00	503	294
184.49	280	97	185.01	507	299
184.50	284	100	185.02	511	304
184.51	288	103	185.03	515	310

Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Stage-Area-Storage for Pond POST-2P: Sed. Forebay 1 (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
185.04	519	315	185.56	749	642
185.05	523	320	185.57	754	650
185.06	527	325	185.58	758	658
185.07	531	330	185.59	763	665
185.08	535	336	185.60	768	673
185.09	539	341	185.61	773	681
185.10	543	347	185.62	778	688
185.11	547	352	185.63	783	696
185.12	552	358	185.64	788	704
185.13	556	363	185.65	793	712
185.14	560	369	185.66	798	720
185.15	564	374	185.67	803	728
185.16	568	380	185.68	808	736
185.17	572	386	185.69	813	744
185.18	577	391	185.70	818	752
185.19	581	397	185.71	823	760
185.20	585	403	185.72	828	769
185.21	589	409	185.73	833	777
185.22	594	415	185.74	838	785
185.23	598	421	185.75	843	794
185.24	602	427	185.76	848	802
185.25	607	433	185.77	853	811
185.26	611	439	185.78	859	819
185.27	615	445	185.79	864	828
185.28	620	451	185.80	869	836
185.29	624	457	185.81	874	845
185.30	629	464	185.82	879	854
185.31	633	470	185.83	885	863
185.32	637	476	185.84	890	872
185.33	642	483	185.85	895	881
185.34	646	489	185.86	900	889
185.35	651	496	185.87	906	899
185.36	655	502	185.88	911	908
185.37	660	509	185.89	916	917
185.38	664	515	185.90	922	926
185.39	669	522	185.91	927	935
185.40	674	529	185.92	932	944
185.41	678	535	185.93	938	954
185.42	683	542	185.94	943	963
185.43	687	549	185.95	949	973
185.44	692	556	185.96	954	982
185.45	697	563	185.97	960	992
185.46	701	570	185.98	965	1,001
185.47	706	577	185.99	971	1,011
185.48	711	584	186.00	976	1,021
185.49	715	591			
185.50	720	598			
185.51	725	606			
185.52	730	613			
185.53	734	620			
185.54	739	628			
185.55	744	635			

Holliston - Stormwater Model

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Summary for Pond POST-3P: Sed. Forebay 2

Inflow Area = 0.418 ac, 10.83% Impervious, Inflow Depth = 5.40" for 100-year event
 Inflow = 2.65 cfs @ 12.10 hrs, Volume= 0.188 af
 Outflow = 2.55 cfs @ 12.12 hrs, Volume= 0.184 af, Atten= 4%, Lag= 1.3 min
 Primary = 2.55 cfs @ 12.12 hrs, Volume= 0.184 af

Routing by Stor-Ind method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
 Peak Elev= 184.55' @ 12.12 hrs Surf.Area= 497 sf Storage= 415 cf
 Flood Elev= 185.00' Surf.Area= 653 sf Storage= 674 cf

Plug-Flow detention time= 21.1 min calculated for 0.184 af (98% of inflow)
 Center-of-Mass det. time= 7.5 min (828.8 - 821.3)

Volume	Invert	Avail.Storage	Storage Description		
#1	183.00'	674 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
183.00	73	74.0	0	0	73
184.00	336	97.0	189	189	397
185.00	653	115.0	486	674	719

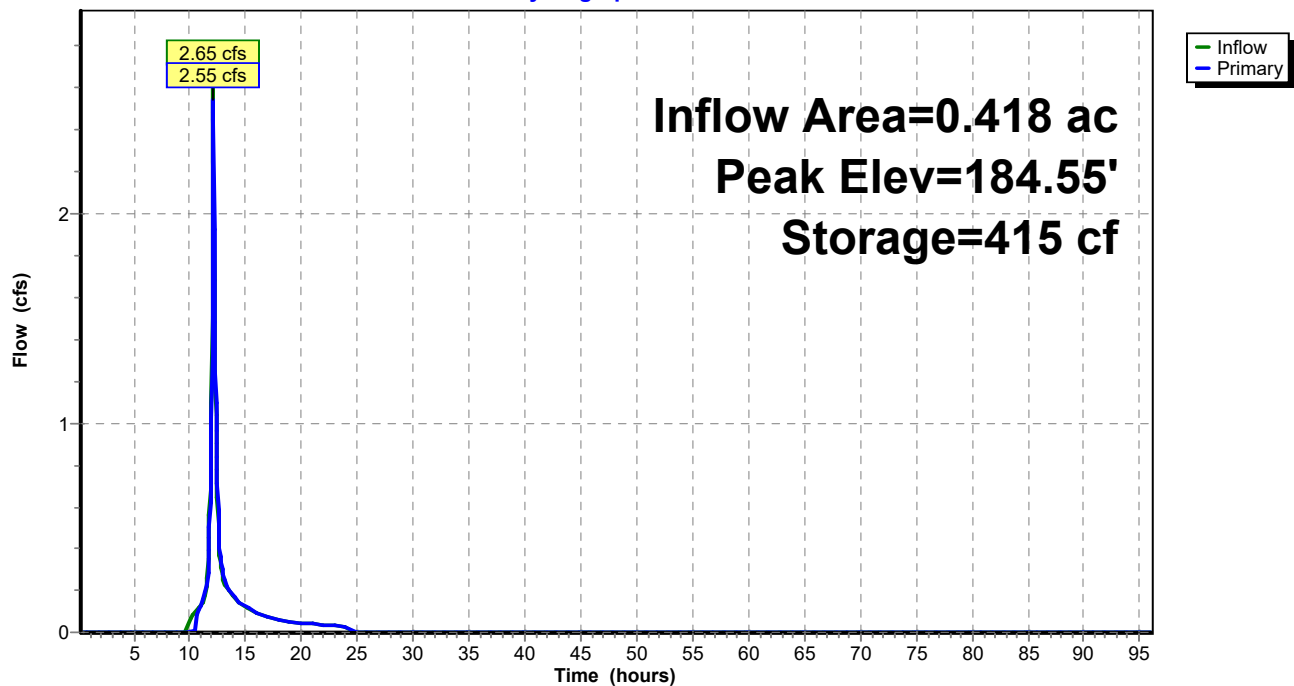
Device	Routing	Invert	Outlet Devices
#1	Primary	180.00'	12.0" Round Culvert L= 26.5' CPP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 180.00' / 178.20' S= 0.0679 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	184.00'	24.0" W x 6.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	184.75'	24.0" x 24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.47 cfs @ 12.12 hrs HW=184.54' (Free Discharge)

- ↑ **1=Culvert** (Passes 2.47 cfs of 7.60 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 2.47 cfs @ 2.47 fps)
- ↑ **3=Orifice/Grate** (Controls 0.00 cfs)

Pond POST-3P: Sed. Forebay 2

Hydrograph



Holliston - Stormwater Model

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Stage-Area-Storage for Pond POST-3P: Sed. Forebay 2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
183.00	73	0	183.52	186	65
183.01	75	1	183.53	189	67
183.02	76	1	183.54	191	69
183.03	78	2	183.55	194	71
183.04	80	3	183.56	197	73
183.05	82	4	183.57	199	75
183.06	83	5	183.58	202	77
183.07	85	6	183.59	205	79
183.08	87	6	183.60	208	81
183.09	89	7	183.61	211	83
183.10	91	8	183.62	213	85
183.11	93	9	183.63	216	87
183.12	94	10	183.64	219	89
183.13	96	11	183.65	222	92
183.14	98	12	183.66	225	94
183.15	100	13	183.67	228	96
183.16	102	14	183.68	231	98
183.17	104	15	183.69	234	101
183.18	106	16	183.70	237	103
183.19	108	17	183.71	240	105
183.20	110	18	183.72	243	108
183.21	112	19	183.73	246	110
183.22	114	20	183.74	249	113
183.23	117	22	183.75	252	115
183.24	119	23	183.76	255	118
183.25	121	24	183.77	259	120
183.26	123	25	183.78	262	123
183.27	125	26	183.79	265	126
183.28	127	28	183.80	268	128
183.29	130	29	183.81	271	131
183.30	132	30	183.82	275	134
183.31	134	32	183.83	278	136
183.32	136	33	183.84	281	139
183.33	139	34	183.85	284	142
183.34	141	36	183.86	288	145
183.35	143	37	183.87	291	148
183.36	146	39	183.88	294	151
183.37	148	40	183.89	298	154
183.38	150	42	183.90	301	157
183.39	153	43	183.91	304	160
183.40	155	45	183.92	308	163
183.41	158	46	183.93	311	166
183.42	160	48	183.94	315	169
183.43	163	49	183.95	318	172
183.44	165	51	183.96	322	175
183.45	168	53	183.97	325	179
183.46	170	54	183.98	329	182
183.47	173	56	183.99	332	185
183.48	175	58	184.00	336	189
183.49	178	60	184.01	339	192
183.50	181	61	184.02	341	195
183.51	183	63	184.03	344	199

Holliston - Stormwater Model

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Stage-Area-Storage for Pond POST-3P: Sed. Forebay 2 (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
184.04	347	202	184.56	501	421
184.05	349	206	184.57	504	426
184.06	352	209	184.58	507	431
184.07	355	213	184.59	510	436
184.08	358	216	184.60	514	442
184.09	360	220	184.61	517	447
184.10	363	223	184.62	520	452
184.11	366	227	184.63	524	457
184.12	369	231	184.64	527	462
184.13	371	234	184.65	530	468
184.14	374	238	184.66	534	473
184.15	377	242	184.67	537	478
184.16	380	246	184.68	540	484
184.17	383	250	184.69	544	489
184.18	385	253	184.70	547	495
184.19	388	257	184.71	550	500
184.20	391	261	184.72	554	506
184.21	394	265	184.73	557	511
184.22	397	269	184.74	561	517
184.23	400	273	184.75	564	522
184.24	403	277	184.76	567	528
184.25	405	281	184.77	571	534
184.26	408	285	184.78	574	539
184.27	411	289	184.79	578	545
184.28	414	293	184.80	581	551
184.29	417	298	184.81	585	557
184.30	420	302	184.82	588	563
184.31	423	306	184.83	592	569
184.32	426	310	184.84	595	575
184.33	429	314	184.85	599	580
184.34	432	319	184.86	602	586
184.35	435	323	184.87	606	593
184.36	438	327	184.88	609	599
184.37	441	332	184.89	613	605
184.38	444	336	184.90	617	611
184.39	447	341	184.91	620	617
184.40	450	345	184.92	624	623
184.41	453	350	184.93	627	630
184.42	456	354	184.94	631	636
184.43	460	359	184.95	635	642
184.44	463	363	184.96	638	649
184.45	466	368	184.97	642	655
184.46	469	373	184.98	646	661
184.47	472	378	184.99	649	668
184.48	475	382	185.00	653	674
184.49	478	387			
184.50	481	392			
184.51	485	397			
184.52	488	402			
184.53	491	406			
184.54	494	411			
184.55	497	416			

Holliston - Stormwater Model

Type III 24-hr 100-year Rainfall=8.61"

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Summary for Pond POST-4P: Infiltration Basin

Inflow Area = 0.610 ac, 7.41% Impervious, Inflow Depth = 4.06" for 100-year event
 Inflow = 2.78 cfs @ 12.12 hrs, Volume= 0.207 af
 Outflow = 0.31 cfs @ 13.02 hrs, Volume= 0.207 af, Atten= 89%, Lag= 53.7 min
 Discarded = 0.11 cfs @ 13.02 hrs, Volume= 0.181 af
 Primary = 0.19 cfs @ 13.02 hrs, Volume= 0.025 af
 Secondary = 0.00 cfs @ 0.25 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs
 Peak Elev= 177.09' @ 13.02 hrs Surf.Area= 2,021 sf Storage= 4,616 cf
 Flood Elev= 179.00' Surf.Area= 3,116 sf Storage= 9,476 cf

Plug-Flow detention time= 464.4 min calculated for 0.206 af (100% of inflow)
 Center-of-Mass det. time= 464.7 min (1,301.8 - 837.1)

Volume	Invert	Avail.Storage	Storage Description			
#1	171.99'	9,476 cf	Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
171.99	694	115.0	0.0	0	0	694
172.00	694	115.0	40.0	3	3	695
173.99	694	115.0	40.0	552	555	924
174.00	694	115.0	100.0	7	562	925
176.00	1,494	152.0	100.0	2,138	2,700	1,755
178.00	2,516	190.0	100.0	3,966	6,666	2,845
179.00	3,116	210.0	100.0	2,811	9,476	3,512

Device	Routing	Invert	Outlet Devices
#1	Discarded	171.99'	2.410 in/hr Exfiltration over Surface area
#2	Primary	175.00'	12.0" Round Culvert L= 34.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 175.00' / 174.50' S= 0.0147 ' S= 0.0147 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#3	Device 2	177.00'	24.0" W x 6.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 2	177.75'	24.0" x 24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Secondary	178.00'	16.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Holliston - Stormwater Model

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Discarded OutFlow Max=0.11 cfs @ 13.02 hrs HW=177.09' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.11 cfs)

Primary OutFlow Max=0.19 cfs @ 13.02 hrs HW=177.09' (Free Discharge)

↑ **2=Culvert** (Passes 0.19 cfs of 4.78 cfs potential flow)

↑ **3=Orifice/Grate** (Orifice Controls 0.19 cfs @ 0.99 fps)

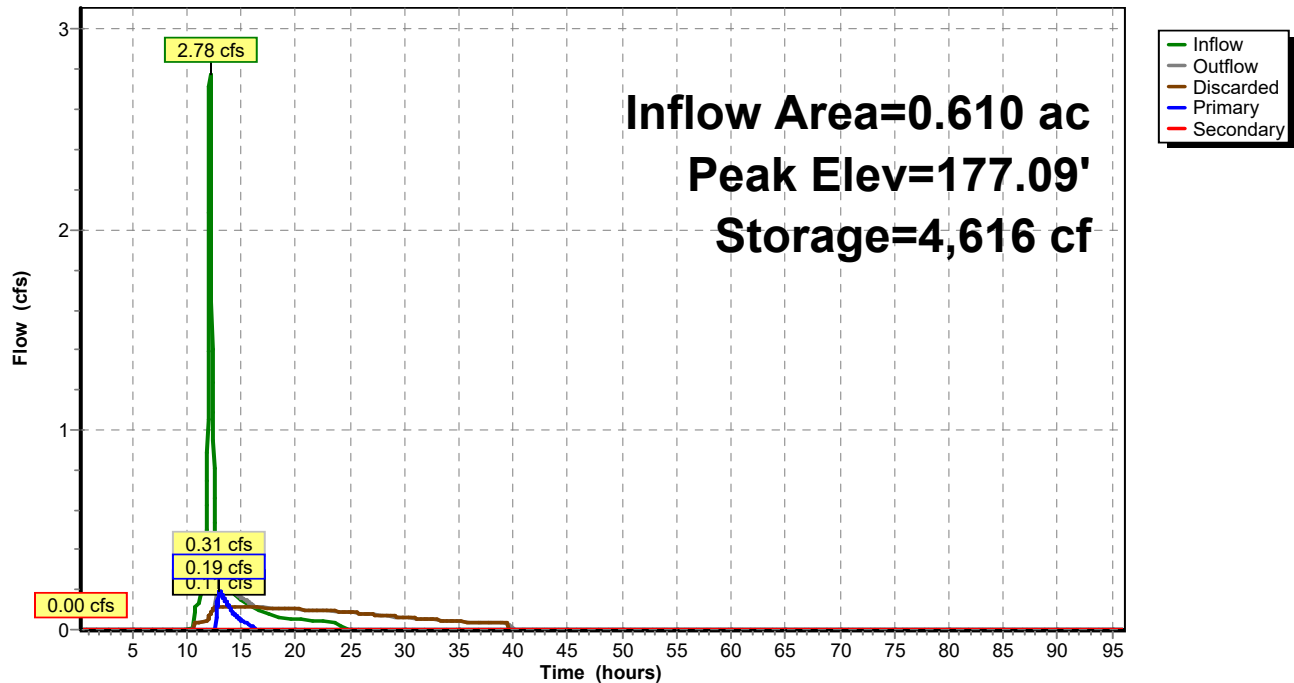
↑ **4=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.25 hrs HW=171.99' (Free Discharge)

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

Pond POST-4P: Infiltration Basin

Hydrograph



Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Stage-Area-Storage for Pond POST-4P: Infiltration Basin

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
171.99	694	0	172.51	694	144
172.00	694	3	172.52	694	147
172.01	694	6	172.53	694	150
172.02	694	8	172.54	694	153
172.03	694	11	172.55	694	155
172.04	694	14	172.56	694	158
172.05	694	17	172.57	694	161
172.06	694	19	172.58	694	164
172.07	694	22	172.59	694	167
172.08	694	25	172.60	694	169
172.09	694	28	172.61	694	172
172.10	694	31	172.62	694	175
172.11	694	33	172.63	694	178
172.12	694	36	172.64	694	180
172.13	694	39	172.65	694	183
172.14	694	42	172.66	694	186
172.15	694	44	172.67	694	189
172.16	694	47	172.68	694	192
172.17	694	50	172.69	694	194
172.18	694	53	172.70	694	197
172.19	694	56	172.71	694	200
172.20	694	58	172.72	694	203
172.21	694	61	172.73	694	205
172.22	694	64	172.74	694	208
172.23	694	67	172.75	694	211
172.24	694	69	172.76	694	214
172.25	694	72	172.77	694	217
172.26	694	75	172.78	694	219
172.27	694	78	172.79	694	222
172.28	694	81	172.80	694	225
172.29	694	83	172.81	694	228
172.30	694	86	172.82	694	230
172.31	694	89	172.83	694	233
172.32	694	92	172.84	694	236
172.33	694	94	172.85	694	239
172.34	694	97	172.86	694	242
172.35	694	100	172.87	694	244
172.36	694	103	172.88	694	247
172.37	694	105	172.89	694	250
172.38	694	108	172.90	694	253
172.39	694	111	172.91	694	255
172.40	694	114	172.92	694	258
172.41	694	117	172.93	694	261
172.42	694	119	172.94	694	264
172.43	694	122	172.95	694	266
172.44	694	125	172.96	694	269
172.45	694	128	172.97	694	272
172.46	694	130	172.98	694	275
172.47	694	133	172.99	694	278
172.48	694	136	173.00	694	280
172.49	694	139	173.01	694	283
172.50	694	142	173.02	694	286

Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Stage-Area-Storage for Pond POST-4P: Infiltration Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
173.03	694	289	173.55	694	433
173.04	694	291	173.56	694	436
173.05	694	294	173.57	694	439
173.06	694	297	173.58	694	441
173.07	694	300	173.59	694	444
173.08	694	303	173.60	694	447
173.09	694	305	173.61	694	450
173.10	694	308	173.62	694	452
173.11	694	311	173.63	694	455
173.12	694	314	173.64	694	458
173.13	694	316	173.65	694	461
173.14	694	319	173.66	694	464
173.15	694	322	173.67	694	466
173.16	694	325	173.68	694	469
173.17	694	328	173.69	694	472
173.18	694	330	173.70	694	475
173.19	694	333	173.71	694	477
173.20	694	336	173.72	694	480
173.21	694	339	173.73	694	483
173.22	694	341	173.74	694	486
173.23	694	344	173.75	694	489
173.24	694	347	173.76	694	491
173.25	694	350	173.77	694	494
173.26	694	353	173.78	694	497
173.27	694	355	173.79	694	500
173.28	694	358	173.80	694	502
173.29	694	361	173.81	694	505
173.30	694	364	173.82	694	508
173.31	694	366	173.83	694	511
173.32	694	369	173.84	694	514
173.33	694	372	173.85	694	516
173.34	694	375	173.86	694	519
173.35	694	378	173.87	694	522
173.36	694	380	173.88	694	525
173.37	694	383	173.89	694	527
173.38	694	386	173.90	694	530
173.39	694	389	173.91	694	533
173.40	694	391	173.92	694	536
173.41	694	394	173.93	694	539
173.42	694	397	173.94	694	541
173.43	694	400	173.95	694	544
173.44	694	403	173.96	694	547
173.45	694	405	173.97	694	550
173.46	694	408	173.98	694	552
173.47	694	411	173.99	694	555
173.48	694	414	174.00	694	562
173.49	694	416	174.01	697	569
173.50	694	419	174.02	701	576
173.51	694	422	174.03	704	583
173.52	694	425	174.04	707	590
173.53	694	428	174.05	710	597
173.54	694	430	174.06	714	604

Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Stage-Area-Storage for Pond POST-4P: Infiltration Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
174.07	717	612	174.59	898	1,031
174.08	720	619	174.60	902	1,040
174.09	723	626	174.61	906	1,049
174.10	727	633	174.62	910	1,058
174.11	730	640	174.63	913	1,067
174.12	733	648	174.64	917	1,076
174.13	737	655	174.65	921	1,085
174.14	740	663	174.66	925	1,094
174.15	743	670	174.67	928	1,104
174.16	747	677	174.68	932	1,113
174.17	750	685	174.69	936	1,122
174.18	754	692	174.70	940	1,132
174.19	757	700	174.71	943	1,141
174.20	760	708	174.72	947	1,151
174.21	764	715	174.73	951	1,160
174.22	767	723	174.74	955	1,170
174.23	771	730	174.75	958	1,179
174.24	774	738	174.76	962	1,189
174.25	777	746	174.77	966	1,198
174.26	781	754	174.78	970	1,208
174.27	784	762	174.79	974	1,218
174.28	788	769	174.80	978	1,228
174.29	791	777	174.81	981	1,237
174.30	795	785	174.82	985	1,247
174.31	798	793	174.83	989	1,257
174.32	802	801	174.84	993	1,267
174.33	805	809	174.85	997	1,277
174.34	809	817	174.86	1,001	1,287
174.35	812	825	174.87	1,005	1,297
174.36	816	834	174.88	1,009	1,307
174.37	819	842	174.89	1,013	1,317
174.38	823	850	174.90	1,017	1,327
174.39	826	858	174.91	1,020	1,337
174.40	830	866	174.92	1,024	1,348
174.41	833	875	174.93	1,028	1,358
174.42	837	883	174.94	1,032	1,368
174.43	840	892	174.95	1,036	1,379
174.44	844	900	174.96	1,040	1,389
174.45	848	908	174.97	1,044	1,399
174.46	851	917	174.98	1,048	1,410
174.47	855	925	174.99	1,052	1,420
174.48	858	934	175.00	1,056	1,431
174.49	862	943	175.01	1,060	1,441
174.50	866	951	175.02	1,064	1,452
174.51	869	960	175.03	1,068	1,463
174.52	873	969	175.04	1,072	1,473
174.53	876	977	175.05	1,076	1,484
174.54	880	986	175.06	1,080	1,495
174.55	884	995	175.07	1,084	1,506
174.56	887	1,004	175.08	1,088	1,517
174.57	891	1,013	175.09	1,092	1,528
174.58	895	1,022	175.10	1,097	1,539

Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Stage-Area-Storage for Pond POST-4P: Infiltration Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
175.11	1,101	1,550	175.63	1,323	2,179
175.12	1,105	1,561	175.64	1,328	2,192
175.13	1,109	1,572	175.65	1,332	2,205
175.14	1,113	1,583	175.66	1,337	2,219
175.15	1,117	1,594	175.67	1,341	2,232
175.16	1,121	1,605	175.68	1,346	2,246
175.17	1,125	1,616	175.69	1,350	2,259
175.18	1,129	1,628	175.70	1,355	2,273
175.19	1,133	1,639	175.71	1,359	2,286
175.20	1,138	1,650	175.72	1,364	2,300
175.21	1,142	1,662	175.73	1,368	2,313
175.22	1,146	1,673	175.74	1,373	2,327
175.23	1,150	1,685	175.75	1,377	2,341
175.24	1,154	1,696	175.76	1,382	2,355
175.25	1,158	1,708	175.77	1,387	2,368
175.26	1,163	1,719	175.78	1,391	2,382
175.27	1,167	1,731	175.79	1,396	2,396
175.28	1,171	1,743	175.80	1,400	2,410
175.29	1,175	1,754	175.81	1,405	2,424
175.30	1,180	1,766	175.82	1,410	2,438
175.31	1,184	1,778	175.83	1,414	2,452
175.32	1,188	1,790	175.84	1,419	2,467
175.33	1,192	1,802	175.85	1,423	2,481
175.34	1,197	1,814	175.86	1,428	2,495
175.35	1,201	1,826	175.87	1,433	2,509
175.36	1,205	1,838	175.88	1,437	2,524
175.37	1,209	1,850	175.89	1,442	2,538
175.38	1,214	1,862	175.90	1,447	2,553
175.39	1,218	1,874	175.91	1,451	2,567
175.40	1,222	1,886	175.92	1,456	2,582
175.41	1,226	1,898	175.93	1,461	2,596
175.42	1,231	1,911	175.94	1,466	2,611
175.43	1,235	1,923	175.95	1,470	2,626
175.44	1,239	1,935	175.96	1,475	2,640
175.45	1,244	1,948	175.97	1,480	2,655
175.46	1,248	1,960	175.98	1,485	2,670
175.47	1,252	1,973	175.99	1,489	2,685
175.48	1,257	1,985	176.00	1,494	2,700
175.49	1,261	1,998	176.01	1,498	2,715
175.50	1,266	2,011	176.02	1,503	2,730
175.51	1,270	2,023	176.03	1,507	2,745
175.52	1,274	2,036	176.04	1,512	2,760
175.53	1,279	2,049	176.05	1,516	2,775
175.54	1,283	2,062	176.06	1,521	2,790
175.55	1,288	2,074	176.07	1,525	2,805
175.56	1,292	2,087	176.08	1,530	2,821
175.57	1,296	2,100	176.09	1,534	2,836
175.58	1,301	2,113	176.10	1,539	2,851
175.59	1,305	2,126	176.11	1,543	2,867
175.60	1,310	2,139	176.12	1,548	2,882
175.61	1,314	2,152	176.13	1,552	2,898
175.62	1,319	2,166	176.14	1,557	2,913

Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Stage-Area-Storage for Pond POST-4P: Infiltration Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
176.15	1,561	2,929	176.67	1,807	3,804
176.16	1,566	2,944	176.68	1,812	3,822
176.17	1,571	2,960	176.69	1,817	3,840
176.18	1,575	2,976	176.70	1,822	3,858
176.19	1,580	2,992	176.71	1,826	3,876
176.20	1,584	3,007	176.72	1,831	3,895
176.21	1,589	3,023	176.73	1,836	3,913
176.22	1,593	3,039	176.74	1,841	3,931
176.23	1,598	3,055	176.75	1,846	3,950
176.24	1,603	3,071	176.76	1,851	3,968
176.25	1,607	3,087	176.77	1,856	3,987
176.26	1,612	3,103	176.78	1,861	4,006
176.27	1,617	3,119	176.79	1,866	4,024
176.28	1,621	3,136	176.80	1,871	4,043
176.29	1,626	3,152	176.81	1,876	4,062
176.30	1,630	3,168	176.82	1,881	4,080
176.31	1,635	3,184	176.83	1,886	4,099
176.32	1,640	3,201	176.84	1,891	4,118
176.33	1,644	3,217	176.85	1,896	4,137
176.34	1,649	3,234	176.86	1,901	4,156
176.35	1,654	3,250	176.87	1,906	4,175
176.36	1,658	3,267	176.88	1,911	4,194
176.37	1,663	3,283	176.89	1,916	4,213
176.38	1,668	3,300	176.90	1,921	4,232
176.39	1,673	3,317	176.91	1,926	4,252
176.40	1,677	3,334	176.92	1,931	4,271
176.41	1,682	3,350	176.93	1,936	4,290
176.42	1,687	3,367	176.94	1,941	4,310
176.43	1,691	3,384	176.95	1,946	4,329
176.44	1,696	3,401	176.96	1,952	4,349
176.45	1,701	3,418	176.97	1,957	4,368
176.46	1,706	3,435	176.98	1,962	4,388
176.47	1,710	3,452	176.99	1,967	4,407
176.48	1,715	3,469	177.00	1,972	4,427
176.49	1,720	3,486	177.01	1,977	4,447
176.50	1,725	3,504	177.02	1,982	4,467
176.51	1,729	3,521	177.03	1,987	4,486
176.52	1,734	3,538	177.04	1,992	4,506
176.53	1,739	3,556	177.05	1,998	4,526
176.54	1,744	3,573	177.06	2,003	4,546
176.55	1,749	3,590	177.07	2,008	4,566
176.56	1,753	3,608	177.08	2,013	4,586
176.57	1,758	3,626	177.09	2,018	4,607
176.58	1,763	3,643	177.10	2,023	4,627
176.59	1,768	3,661	177.11	2,029	4,647
176.60	1,773	3,678	177.12	2,034	4,667
176.61	1,778	3,696	177.13	2,039	4,688
176.62	1,782	3,714	177.14	2,044	4,708
176.63	1,787	3,732	177.15	2,049	4,729
176.64	1,792	3,750	177.16	2,055	4,749
176.65	1,797	3,768	177.17	2,060	4,770
176.66	1,802	3,786	177.18	2,065	4,790

Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Stage-Area-Storage for Pond POST-4P: Infiltration Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
177.19	2,070	4,811	177.71	2,351	5,960
177.20	2,075	4,832	177.72	2,357	5,983
177.21	2,081	4,853	177.73	2,363	6,007
177.22	2,086	4,873	177.74	2,368	6,031
177.23	2,091	4,894	177.75	2,374	6,054
177.24	2,096	4,915	177.76	2,379	6,078
177.25	2,102	4,936	177.77	2,385	6,102
177.26	2,107	4,957	177.78	2,391	6,126
177.27	2,112	4,978	177.79	2,396	6,150
177.28	2,118	4,999	177.80	2,402	6,174
177.29	2,123	5,021	177.81	2,408	6,198
177.30	2,128	5,042	177.82	2,413	6,222
177.31	2,133	5,063	177.83	2,419	6,246
177.32	2,139	5,085	177.84	2,424	6,270
177.33	2,144	5,106	177.85	2,430	6,295
177.34	2,149	5,127	177.86	2,436	6,319
177.35	2,155	5,149	177.87	2,442	6,343
177.36	2,160	5,171	177.88	2,447	6,368
177.37	2,165	5,192	177.89	2,453	6,392
177.38	2,171	5,214	177.90	2,459	6,417
177.39	2,176	5,236	177.91	2,464	6,441
177.40	2,182	5,257	177.92	2,470	6,466
177.41	2,187	5,279	177.93	2,476	6,491
177.42	2,192	5,301	177.94	2,481	6,516
177.43	2,198	5,323	177.95	2,487	6,540
177.44	2,203	5,345	177.96	2,493	6,565
177.45	2,209	5,367	177.97	2,499	6,590
177.46	2,214	5,389	177.98	2,504	6,615
177.47	2,219	5,411	177.99	2,510	6,640
177.48	2,225	5,434	178.00	2,516	6,666
177.49	2,230	5,456	178.01	2,522	6,691
177.50	2,236	5,478	178.02	2,527	6,716
177.51	2,241	5,501	178.03	2,533	6,741
177.52	2,247	5,523	178.04	2,539	6,767
177.53	2,252	5,546	178.05	2,544	6,792
177.54	2,257	5,568	178.06	2,550	6,817
177.55	2,263	5,591	178.07	2,556	6,843
177.56	2,268	5,613	178.08	2,562	6,869
177.57	2,274	5,636	178.09	2,567	6,894
177.58	2,279	5,659	178.10	2,573	6,920
177.59	2,285	5,682	178.11	2,579	6,946
177.60	2,290	5,705	178.12	2,585	6,972
177.61	2,296	5,728	178.13	2,590	6,997
177.62	2,301	5,750	178.14	2,596	7,023
177.63	2,307	5,774	178.15	2,602	7,049
177.64	2,312	5,797	178.16	2,608	7,075
177.65	2,318	5,820	178.17	2,613	7,101
177.66	2,324	5,843	178.18	2,619	7,128
177.67	2,329	5,866	178.19	2,625	7,154
177.68	2,335	5,890	178.20	2,631	7,180
177.69	2,340	5,913	178.21	2,637	7,206
177.70	2,346	5,936	178.22	2,642	7,233

Holliston - Stormwater Model

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Type III 24-hr 100-year Rainfall=8.61"

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Stage-Area-Storage for Pond POST-4P: Infiltration Basin (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
178.23	2,648	7,259	178.75	2,960	8,717
178.24	2,654	7,286	178.76	2,966	8,746
178.25	2,660	7,312	178.77	2,972	8,776
178.26	2,666	7,339	178.78	2,978	8,806
178.27	2,672	7,366	178.79	2,985	8,836
178.28	2,678	7,392	178.80	2,991	8,866
178.29	2,683	7,419	178.81	2,997	8,895
178.30	2,689	7,446	178.82	3,003	8,925
178.31	2,695	7,473	178.83	3,009	8,956
178.32	2,701	7,500	178.84	3,016	8,986
178.33	2,707	7,527	178.85	3,022	9,016
178.34	2,713	7,554	178.86	3,028	9,046
178.35	2,719	7,581	178.87	3,034	9,076
178.36	2,725	7,609	178.88	3,041	9,107
178.37	2,731	7,636	178.89	3,047	9,137
178.38	2,736	7,663	178.90	3,053	9,168
178.39	2,742	7,691	178.91	3,059	9,198
178.40	2,748	7,718	178.92	3,066	9,229
178.41	2,754	7,746	178.93	3,072	9,260
178.42	2,760	7,773	178.94	3,078	9,290
178.43	2,766	7,801	178.95	3,084	9,321
178.44	2,772	7,828	178.96	3,091	9,352
178.45	2,778	7,856	178.97	3,097	9,383
178.46	2,784	7,884	178.98	3,103	9,414
178.47	2,790	7,912	178.99	3,110	9,445
178.48	2,796	7,940	179.00	3,116	9,476
178.49	2,802	7,968			
178.50	2,808	7,996			
178.51	2,814	8,024			
178.52	2,820	8,052			
178.53	2,826	8,080			
178.54	2,832	8,109			
178.55	2,838	8,137			
178.56	2,844	8,165			
178.57	2,850	8,194			
178.58	2,856	8,222			
178.59	2,862	8,251			
178.60	2,868	8,280			
178.61	2,874	8,308			
178.62	2,880	8,337			
178.63	2,887	8,366			
178.64	2,893	8,395			
178.65	2,899	8,424			
178.66	2,905	8,453			
178.67	2,911	8,482			
178.68	2,917	8,511			
178.69	2,923	8,540			
178.70	2,929	8,570			
178.71	2,935	8,599			
178.72	2,942	8,628			
178.73	2,948	8,658			
178.74	2,954	8,687			

Holliston - Stormwater Model

Prepared by TRC

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Type III 24-hr 100-year Rainfall=8.61"

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Summary for Link POST-DP-1: Analysis Point

Inflow Area = 7.436 ac, 19.32% Impervious, Inflow Depth = 2.14" for 100-year event
Inflow = 9.11 cfs @ 12.37 hrs, Volume= 1.327 af
Primary = 9.11 cfs @ 12.37 hrs, Volume= 1.327 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.25-96.00 hrs, dt= 0.05 hrs

Link POST-DP-1: Analysis Point

