

Center Point Commons

2271 New London Turnpike
Coventry, Rhode Island

PREPARED FOR

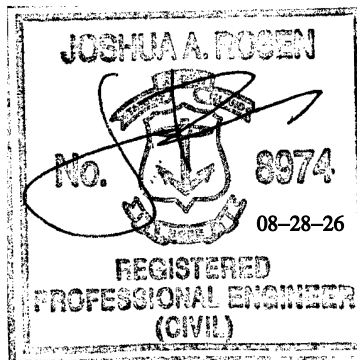
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Project Description

Existing Conditions

The approximate 8.5± acre project site ("the Site") consists of A.P. 7 Lot 24 in Coventry, Rhode Island. An existing 1,100± square foot, one-story building occupies the southern corner of the Site adjacent to New London Turnpike. An associated paved parking area and paved driveway provide access to New London Turnpike to the southeast. The remainder of the Site is primarily unimproved. Slopes on the Site range from about 0–3% along New London Turnpike to approximately 5–15% across most of the interior, with portions of the central and western areas exceeding 15%. Elevations increase from roughly 292 feet at the northeastern corner along New London Turnpike to approximately 342 feet along a central ridgeline that separates the northern and southern parts of the Site, then slope down to approximately 332 feet at the southernmost point along New London Turnpike. Along the northern and eastern boundaries, elevations generally range from about 304 to 314 feet.

The existing site has approximately 0.08± acres of impervious area, and the stormwater runoff is untreated. Stormwater from the site drains to two distinct watersheds. The northern portion of the site lies within the "Trib to Tiogue Lake" watershed, where stormwater flows overland across the northern property boundaries and ultimately discharges to Tiogue Lake. The southern and southeastern portions of the site drain overland toward New London Turnpike, where stormwater is collected within the Town's closed drainage system and ultimately discharges to the South Branch of the Pawtuxet River watershed. Both the "Trib to Tiogue Lake" watershed and the municipal drainage system ultimately

discharge to the South Branch of the Pawtuxet River. Refer to Figure 2.0 for existing drainage patterns. Tiogue Lake is impaired and has a TMDL for Enterococcus, and the South Branch of the Pawtuxet River has a lead impairment per the RIDOT Stormwater Program Public Web Mapping Application accessed on August 18, 2026.

Based on NRCS mapping and VHB testing on site on August 18, 2026 (Appendix I), the in-situ soils are predominantly gravelly loamy sand with a hydrologic soil group (HSG) classification of type A.

Proposed Conditions

The project involves the construction of 215 units divided between three (3) 18,600± to 22,600± square foot multifamily residential buildings on Lot 24 with associated parking, access drive, landscaping, stormwater infrastructure, and utilities. The development also includes an internal pedestrian circulation system. Low impact development (LID) and other best management practices (BMPs) have been proposed to mitigate the impact of the project. The proposed design maintained existing drainage patterns to the maximum extent practicable.

The proposed stormwater management design consists of two primary systems. The northern drainage area is collected and routed to one (1) surface infiltration basin that provides groundwater recharge and treatment of the water quality volume. For larger design storm events, excess runoff is directed to one (1) subsurface detention chamber system that attenuates peak flows prior to discharge. Pretreatment, for impervious area runoff, is provided by a proprietary water quality unit located upstream of the infiltration and detention practices.

The southern drainage area is managed by one (1) surface infiltration basin and two (2) subsurface detention chamber systems. The infiltration basin provides water quality treatment and recharge, while the subsurface systems provide additional storage and peak flow attenuation for larger storm events. Pretreatment is provided by two (2) water quality units located upstream of each subsurface detention system and the infiltration basin.

All conveyance components (closed drainage system, outlets, and overflow structures) and storage practices have been sized in HydroCAD to manage the contributing drainage areas and to comply with RIDEM Stormwater Design and Installation Standards, including requirements for water quality, groundwater recharge, and peak discharge control for the required design storms (e.g., 1-, 2-, 10-, and 100-year events). Modeled post-development peak flow rates at the design points do not exceed existing (pre-development) peak flow rates for the analyzed storm events.

Design Point 1 Offsite to the North**Peak Runoff Rate**

Existing Conditions		Proposed Conditions	
1-year storm:	0.00 CFS	1-year storm:	0.00 CFS
2-year storm:	0.00 CFS	2-year storm:	0.00 CFS
10-year storm:	0.00 CFS	10-year storm:	0.01 CFS
100-year storm:	0.69 CFS	100-year storm:	0.68 CFS

Design Point 2 New London Turnpike Drainage**Peak Runoff Rate**

Existing Conditions		Proposed Conditions	
1-year storm:	0.00 CFS	1-year storm:	0.00 CFS
2-year storm:	0.01 CFS	2-year storm:	0.00 CFS
10-year storm:	0.28 CFS	10-year storm:	0.01 CFS
100-year storm:	4.16 CFS	100-year storm:	4.02 CFS

Site Surface Coverage Tabulation (Overall Drainage Area)**Ground Cover Summary**

Existing Conditions		Proposed Conditions	
Impervious Surface	0.08 AC	Impervious Surface	4.17 AC
Pervious Surface	8.41 AC	Pervious Surface	4.32 AC

Appendix A –RIDEM Stormwater Management Checklist and LID Planning Report

APPENDIX A: STORMWATER MANAGEMENT PLAN CHECKLIST AND LID PLANNING REPORT – STORMWATER DESIGN SUMMARY

PROJECT NAME Center Point Commons		(RIDEM USE ONLY)
TOWN Coventry		STW/WQC File #:
BRIEF PROJECT DESCRIPTION: A three (3)-building multifamily residential program is proposed with associated parking and infrastructure.		Date Received:

Stormwater Management Plan (SMP) Elements – Minimum Standards

When submitting a SMP,¹ submit **four separately bound** documents: Appendix A Checklist; Stormwater Site Planning, Analysis and Design Report with Plan Set/Drawings; Soil Erosion and Sediment Control (SESC) Plan, and Post Construction Operations and Maintenance (O&M) Plan. Please refer to [Suggestions to Promote Brevity](#).

Note: All stormwater construction projects **must create** a Stormwater Management Plan (SMP). However, not every element listed below is required per the [RIDEM Stormwater Rules](#) and the [RIPDES Construction General Permit \(CGP\)](#). This checklist will help identify the required elements to be submitted with an Application for Stormwater Construction Permit & Water Quality Certification.

PART 1. PROJECT AND SITE INFORMATION

PROJECT TYPE (Check all that apply)				
☒ Residential	☐ Commercial	☐ Federal	☐ Retrofit	☐ Restoration
☐ Road	☐ Utility	☐ Fill	☐ Dredge	☐ Mine
☐ Other (specify):				

SITE INFORMATION

☒ Vicinity Map
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INITIAL DISCHARGE LOCATION(S): The WQv discharges to: (You may choose more than one answer if several discharge points are associated with the project.)

☒ Groundwater	☐ Surface Water	☐ MS4
☐ GAA	☐ Isolated Wetland	☐ RIDOT
☒ GA	☐ Named Waterbody	☐ RIDOT Alteration Permit is Approved
☐ GB	☐ Unnamed Waterbody Connected to Named Waterbody	☐ Town
		☐ Other (specify):

ULTIMATE RECEIVING WATERBODY LOCATION(S): Include pertinent information that applies to both WQv and flow from larger storm events, including overflows. Choose all that apply, and repeat table for each waterbody.

☒ Groundwater or Disconnected Wetland	☒ SRWP:		
☒ Waterbody Name: Trib to Tiogue Lake/ Pawtuxet River South Branch	☐ Coldwater	☒ Warmwater	☐ Unassessed
☒ Waterbody ID: RI0006014R-05/ RI0006014R-04A	☒ 4 th order stream of pond 50 acres or more		
☒ TMDL for: Trib to Tiogue Lake: Enterococcus	☒ Watershed of flood prone river (e.g., Pocasset River)		
☐ Contributes to a priority outfall listed in the TMDL	☐ Contributes stormwater to a public beach		

¹ Applications for a Construction General Permit that do not require any other permits from RIDEM and will disturb less than 5 acres over the entire course of the project do not need to submit a SMP. The Appendix A checklist must still be submitted.

Stormwater Management, Design, and Installation Rules (250-RICR-150-10-8)

☐ 303(d) list – Impairment(s) for:	☐ Contributes to shellfishing grounds	
PROJECT HISTORY		
☐ RIDEM Pre- Application Meeting	Meeting Date:	☐ Minutes Attached
☒ Municipal Master Plan Approval	Approval Date: Sept. 30, 2025	☐ Minutes Attached
☐ Subdivision Suitability Required	Approval #:	
☐ Previous Enforcement Action has been taken on the property	Enforcement #:	
FLOODPLAIN & FLOODWAY See Guidance Pertaining to Floodplain and Floodways		
☐ Riverine 100-year floodplain: FEMA FLOODPLAIN FIRMETTE has been reviewed and the 100-year floodplain is on site		
☐ Delineated from FEMA Maps		
NOTE: Per Rule 250-RICR-150-10-8-1.1(B)(5)(d)(3), provide volumetric floodplain compensation calculations for cut and fill/displacement calculated by qualified professional		
☐ Calculated by Professional Engineer		
☐ Calculations are provided for cut vs. fill/displacement volumes proposed within the 100-year floodplain	Amount of Fill (CY):	
	Amount of Cut (CY):	
☐ Restrictions or modifications are proposed to the flow path or velocities in a floodway		
☐ Floodplain storage capacity is impacted		
☒ Project area is not within 100-year floodplain as defined by RIDEM		
CRMC JURISDICTION		
☐ CRMC Assent required		
☐ Property subject to a Special Area Management Plan (SAMP). If so, specify which SAMP:		
☐ Sea level rise mitigation has been designed into this project		
LUHPPL IDENTIFICATION - MINIMUM STANDARD 8:		
1. OFFICE OF Land Revitalization and Sustainable Materials Management (OLRSMM)		
☐ Known or suspected releases of HAZARDOUS MATERIAL are present at the site (Hazardous Material is defined in Rule 1.4(A)(33) of 250-140-30-1 of the RIDEM Rules and Regulations for Investigation and Remediation of Hazardous Materials (the Remediation Regulations))	RIDEM CONTACT:	
☐ Known or suspected releases of PETROLEUM PRODUCT are present at the site (Petroleum Product as defined in Rule 1.5(A)(84) of 250-140-25-1 of the RIDEM Rules and Regulations for Underground Storage Facilities Used for Regulated Substances and Hazardous Materials)		
☐ This site is identified on the RIDEM Environmental Resources Map as one of the following regulated facilities	SITE ID#:	
☐ CERCLIS/Superfund (NPL)		
☐ State Hazardous Waste Site (SHWS)		
☐ Environmental Land Usage Restriction (ELUR)		
☐ Leaking Underground Storage Tank (LUST)		
☐ Closed Landfill		
Note: If any boxes in 1 above are checked, the applicant must contact the RIDEM OLRSM Project Manager associated with the Site to determine if subsurface infiltration of stormwater is allowable for the project. Indicate if the infiltration corresponds to “Red,” “Yellow” or “Green” as described in Section 3.2.8 of the RISDISM Guidance (Subsurface Contamination Guidance). Also, note and reference approval in PART 3, Minimum Standard 2: Groundwater Recharge/Infiltration.		
2. PER MINIMUM STANDARD 8 of RICR 8.14.C.1-6 “LUHPPLS,” THE SITE IS/HAS:		
☐ Industrial Site with RIPDES MSGP, except where No Exposure Certification exists. http://www.dem.ri.gov/programs/water/permits/ripdes/stormwater/status.php		
☐ Auto Fueling Facility (e.g., gas station)		
☐ Exterior Vehicles Service, Maintenance, or Equipment Cleaning Area		
☐ Road Salt Storage and Loading Areas (exposed to rainwater)		
☐ Outdoor Storage and Loading/Unloading of Hazardous Substances		

3. STORMWATER INDUSTRIAL PERMITTING		
	☐ The site is associated with existing or proposed activities that are considered Land Uses with Higher Potential Pollutant Loads (LUHPPLS) (see RICR 8.14.C)	Activities: Sector:
	☐ Construction is proposed on a site that is subject to THE MULTI-SECTOR GENERAL PERMIT (MSGP) UNDER RULE 31(B)15 OF THE RIPDES REGULATIONS.	MSGP permit #
	☐ Additional stormwater treatment is required by the MSGP Explain:	

REDEVELOPMENT STANDARD – MINIMUM STANDARD 6		
☒ Pre Construction Impervious Area		
0.08	☒ Total Pre-Construction Impervious Area (TIA)	
8.48	☒ Total Site Area (TSA)	
0.00	☐ Jurisdictional Wetlands (JW)	
0.00	☐ Conservation Land (CL)	
☒ Calculate the Site Size (defined as contiguous properties under same ownership)		
8.48	☒ Site Size (SS) = (TSA) – (JW) – (CL)	
0.01	☒ (TIA) / (SS) = 0.009	☐ (TIA) / (SS) > 0.4? NO
☐ YES, Redevelopment		

PART 2. LOW IMPACT DEVELOPMENT ASSESSMENT – MINIMUM STANDARD 1 (NOT REQUIRED FOR REDEVELOPMENT OR RETROFITS) This section may be deleted if not required.
Note: A written description must be provided specifying why each method is not being used or is not applicable at the Site. Appropriate answers may include: • Town requires ... (state the specific local requirement) • Meets Town's dimensional requirement of ... • Not practical for site because ... • Applying for waiver/variance to achieve this (pending/approved/denied) • Applying for wavier/variance to seek relief from this (pending/approved/denied)

A) PRESERVATION OF UNDISTURBED AREAS, BUFFERS, AND FLOODPLAINS ☒ Sensitive resource areas and site constraints are identified (required) ☒ Local development regulations have been reviewed (required) ☒ All vegetated buffers and coastal and freshwater wetlands will be protected during and after construction ☒ Conservation Development or another site design technique has been incorporated to protect open space and pre-development hydrology. Note: If Conservation Development has been used, check box and skip to Subpart C ☒ As much natural vegetation and pre-development hydrology as possible has been maintained	• Wetlands do not exist on the site.
B) LOCATE DEVELOPMENT IN LESS SENSITIVE AREAS AND WORK WITH THE NATURAL LANDSCAPE CONDITIONS, HYDROLOGY, AND SOILS ☒ Development sites and building envelopes have been appropriately distanced from wetlands and waterbodies ☒ Development and stormwater systems have been located in areas with greatest infiltration capacity (e.g., soil groups A and B) ☐ Plans show measures to prevent soil compaction in areas designated as Qualified Pervious Areas (QPA's) ☒ Development sites and building envelopes have been positioned outside of floodplains ☒ Site design positions buildings, roadways and parking areas in a manner that avoids impacts to surface water features ☐ Development sites and building envelopes have been located to minimize impacts to steep slopes ($\geq 15\%$) ☐ Other (describe):	• Wetlands do not exist on the site. • QPAs are not proposed for this site • Floodplains are not associated with this site. • Surface Water does not exist on this site.
C) MINIMIZE CLEARING AND GRADING ☒ Site clearing has been restricted to <u>minimum area needed</u> for building footprints, development activities, construction access, and safety. ☐ Site has been designed to position buildings, roadways, and parking areas in a manner that minimizes grading (cut and fill quantities) ☐ Protection for stands of trees and individual trees and their root zones to be preserved has been specified, and such protection extends at least to the tree canopy drip line(s) ☐ Plan notes specify that public trees removed or damaged during construction shall be replaced with equivalent	
D) REDUCE IMPERVIOUS COVER ☒ Reduced roadway widths (≤ 22 feet for $ADT \leq 400$; ≤ 26 feet for $ADT 400 - 2,000$) = 24' ☐ Reduced driveway areas (length minimized via reduced ROW width (≤ 45 ft.) and/or reduced (or absolute minimum) front yard setback; width minimized to ≤ 9 ft. wide one lane; ≤ 18 ft. wide two lanes; shared driveways; pervious surface) ☐ Reduced building footprint: Explain approach: ☐ Reduced sidewalk area (≤ 4 ft. wide; one side of the street; unpaved path; pervious surface) ☐ Reduced cul-de-sacs (radius < 45 ft; vegetated island; alternative turn-around) ☐ Reduced parking lot area: Explain approach: as determined by the planning board. ☐ Use of pervious surfaces for driveways, sidewalks, parking areas/overflow parking areas, etc. ☐ Minimized impervious surfaces (project meets or is less than maximum specified by Zoning Ordinance) ☐ Other (describe):	• Cul-de-sacs are not part of this design. • Sidewalks are in front of all buildings. • Pervious surfaces with the number of residents would not be practicable. • Driveway area is as minimal as practicable for the number of residents.

Stormwater Management, Design, and Installation Rules (250-RICR-150-10-8)

E) DISCONNECT IMPERVIOUS AREA ☐ Impervious surfaces have been disconnected, and runoff has been diverted to QPAs to the maximum extent possible ☐ Residential street edges allow side-of-the-road drainage into vegetated open swales ☒ Parking lot landscaping breaks up impervious expanse AND accepts runoff ☐ Other (describe):	- QPAs are not proposed - Vegetated swales are not feasible for this development
F) MITIGATE RUNOFF AT THE POINT OF GENERATION ☒ Small-scale BMPs have been designated to treat runoff as close as possible to the source	
G) PROVIDE LOW-MAINTENANCE NATIVE VEGETATION ☒ Low-maintenance landscaping has been proposed using native species and cultivars ☒ Plantings of native trees and shrubs in areas previously cleared of native vegetation are shown on site plan ☒ Lawn areas have been limited/minimized, and yards have been kept undisturbed to the maximum extent practicable on residential lots	
H) RESTORE STREAMS/WETLANDS ☐ Historic drainage patterns have been restored by removing closed drainage systems, daylighting buried streams, and/or restoring degraded stream channels and/or wetlands ☐ Removal of invasive species ☐ Other	The site does not include an existing closed drainage system, Historic drainage patterns are maintained to the greatest extent possible.

PART 3. SUMMARY OF REMAINING STANDARDS

GROUNDWATER RECHARGE – MINIMUM STANDARD 2		
YES	NO	
☒	☐	The project has been designed to meet the groundwater recharge standard.
☐	☐	If “No,” the justification for groundwater recharge criterion waiver has been explained in the Narrative (e.g., threat of groundwater contamination or physical limitation), if applicable (see RICR 8.8.D);
☐	☐	Your waiver request has been explained in the Narrative, if applicable.
☐	☒	Is this site identified as a Regulated Facility in Part 1, Minimum Standard 8: LUHPPL Identification?
☐	☐	If “Yes,” has approval for infiltration by the OLRSM Site Project Manager, per Part 1, Minimum Standard 8, been requested?

TABLE 2-1: Summary of Recharge (see RISDISM Section 3.3.2)

(Add or Subtract Rows as Necessary)

Design Point	Impervious Area Treated (sq ft)	Total Rev Required (cu ft)	LID Stormwater Credits (see RISDISM Section 4.6.1)	Recharge Required by Remaining BMPs (cu ft)	Recharge Provided by BMPs (cu ft)
			Portion of Rev directed to a QPA (cu ft)		
DP-1: Offsite North	52,458	2,623	0	2,623	4,308
DP-2: New London Turnpike Drainage	128,986	6,450	0	6,450	10,595
TOTALS:	181,444	9,073	0	9,073	14,903
Notes:					

Stormwater Management, Design, and Installation Rules (250-RICR-150-10-8)

1. Only BMPs listed in RISDISM Table 3-5 “List of BMPs Acceptable for Recharge” may be used to meet the recharge requirement. 2. Recharge requirement must be satisfied for each waterbody ID.		
☒ Indicate where the pertinent calculations and/or information for the above items are provided (i.e., name of report/document, page numbers, appendices, etc.): Appendix B in the Stormwater Report		
WATER QUALITY – MINIMUM STANDARD 3		
YES	NO	
☒	☐	Does this project meet or exceed the required water quality volume WQv (see RICR 8.9.E-I)?
☒	☐	Is the proposed final impervious cover greater than 20% of the disturbed area (see RICR 8.9.E-I)?
☒	☐	If “Yes,” either the Modified Curve Number Method or the Split Pervious/Impervious method in Hydro-CAD was used to calculate WQv; or,
☐	☐	If “Yes,” either TR-55 or TR-20 was used to calculate WQv; and,
☐	☐	If “No,” the project meets the minimum WQv of 0.2 watershed inches over the entire disturbed area.
☐	☐	Not Applicable
☒	☐	Does this project meet or exceed the ability to treat required water quality flow WQf (see RICR 8.9.I.1-3)?
☒	☐	Does this project propose an increase of impervious cover to a receiving water body with impairments? If “Yes,” please indicate below the method that was used to address the water quality requirements of no further degradation to a low-quality water. Contech CDS Water Quality units are proposed for pretreatment and Infiltration Basins are proposed which provide 100% treatment. Furthermore, 100% of the WQv is infiltrated.
☐	☒	RICR 8.36. A Pollutant Loading Analysis is needed and has been completed.
☒	☐	The Water Quality Guidance Document (Water Quality Goals and Pollutant Loading Analysis Guidance for Discharges to Impaired Waters) has been followed as applicable.
☒	☐	BMPs are proposed that are on the approved technology list . If “Yes,” please provide all required worksheets from the manufacturer.
☒	☐	Additional pollutant-specific requirements and/or pollutant removal efficiencies are applicable to the site as the result of a TMDL, SAMP, or other watershed-specific requirements. If “Yes,” please describe: Infiltration basins proposed treat for TMDL

TABLE 3-1: Summary of Water Quality (see RICR 8.9)					
Design Point and WB ID	Impervious area treated (sq ft)	Total WQv Required (cu ft)	LID Stormwater Credits (see RICR 8.18)	Water Quality Treatment Remaining (cu ft)	Water Quality Provided by BMPs (cu ft)
			WQv directed to a QPA (cu ft)		
DP-1: RI0006014R-05	52,458	4,372	0	4,372	4,372
DP-2: RI0006014R-04A	128,986	10,749	0	10,749	10,749
TOTALS:	181,444	15,121	0	15,121	15,121
Notes:					

Stormwater Management, Design, and Installation Rules (250-RICR-150-10-8)

1. Only BMPs listed in RICR 8.20 and 8.25 or the Approved Technologies List of BMPs is Acceptable for Water Quality treatment.	
2. For each Design Point, the Water Quality Volume Standard must be met for each Waterbody ID.	
☒ YES ☐ NO	This project has met the setback requirements for each BMP. If "No," please explain:
☐ Indicate where the pertinent calculations and/or information for the above items are provided (i.e., name of report/document, page numbers, appendices, etc.): Appendix C in the Stormwater Report	
CONVEYANCE AND NATURAL CHANNEL PROTECTION (RICR 8.10) – MINIMUM STANDARD 4	
YES	NO
☒	☐
Is this standard waived? If "Yes," please indicate one or more of the reasons below:	
	☒ The project directs discharge to a large river (i.e., 4th-order stream or larger. See RISDISM Appendix I for State-wide list and map of stream orders), bodies of water >50.0 acres in surface area (i.e., lakes, ponds, reservoirs), or tidal waters. ☐ The project is a small facility with impervious cover of less than or equal to 1 acre. ☐ The project has a post-development peak discharge rate from the facility that is less than 2 cfs for the 1-year, 24-hour Type III design storm event (prior to any attenuation). (<u>Note</u> : LID design strategies can greatly reduce the peak discharge rate).
☒	☐ Conveyance and natural channel protection for the site have been met. If "No," explain why: The entire 1 year storm is infiltrated

TABLE 4-1: Summary of Channel Protection Volumes (see RICR 8.10)					
Design Point	Receiving Water Body Name	Coldwater Fishery? (Y/N)	Total CPv Required (cu ft)	Total CPv Provided (cu ft)	Average Release Rate Modeled in the 1-yr storm (cfs)
DP-1: Northern PL					
DP-2:Southern PL					
TOTALS:					
<u>Note:</u> The Channel Protection Volume Standard must be met in each waterbody ID.					
☐ YES ☐ NO	The CPv is released at roughly a uniform rate over a 24-hour duration (see examples of sizing calculations in Appendix D of the RISDISM).				
☐ YES ☒ NO	Do additional design restrictions apply resulting from any discharge to cold-water fisheries; If “Yes,” please indicate restrictions and solutions below.				
☒ Indicate below where the pertinent calculations and/or information for the above items are provided (i.e., name of report/document, page numbers, appendices, etc.).					
Appendix D in the Stormwater Report, The entire 1-year storm is infiltrated.					

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OVERBANK FLOOD PROTECTION (RICR 8.11) AND OTHER POTENTIAL HIGH FLOWS – MINIMUM STANDARD 5		
YES	NO	
☐	☐	Is this standard waived? If yes, please indicate one or more of the reasons below:
		☐ The project directs discharge to a large river (i.e., 4th-order stream or larger. See Appendix I for state-wide list and map of stream orders), bodies of water >50.0 acres in surface area (i.e., lakes, ponds, reservoirs), or tidal waters. ☐ A Downstream Analysis (see RICR 8.11.D and E) indicates that peak discharge control would not be beneficial or would exacerbate peak flows in a downstream tributary of a particular site (e.g., through coincident peaks).
☒	☐	Does the project flow to an MS4 system or subject to other stormwater requirements? If “Yes,” indicate as follows:
		☐ RIDOT ☒ Other (specify): Town of Coventry
Note: The project could be approved by RIDEM but not meet RIDOT or Town standards. RIDOT’s regulations indicate that post-volumes must be less than pre-volumes for the 10-yr storm at the design point entering the RIDOT system. If you have not already received approval for the discharge to an MS4, please explain below your strategy to comply with RIDEM and the MS4. Post-volumes will be less than pre-volumes for the 10-yr storm at DP-2, which enters the Town of Coventry system.		
		Indicate below which model was used for your analysis. ☐ TR-55 ☐ TR-20 ☒ HydroCAD ☐ Bentley/Haestad ☐ Intellisolve ☐ Other (Specify):
YES	NO	
☒	☐	Does the drainage design demonstrate that flows from the 100-year storm event through a BMP will safely manage and convey the 100-year storm? If “No,” please explain briefly below and reference where in the application further documentation can be found (i.e., name of report/document, page numbers, appendices, etc.): Appendix D in the Stormwater Report
☐	☒	Do off-site areas contribute to the sub-watersheds and design points? If “Yes,”
☐	☐	Are the areas modeled as “present condition” for both pre- and post-development analysis?
☐	☐	Are the off-site areas shown on the subwatershed maps?
☒	☐	Does the drainage design confirm safe passage of the 100-year flow through the site for off-site runoff?
☐	☒	Is a Downstream Analysis required (see RICR 8.11.E.1)?
☒	☐	Calculate the following:
		☒ Area of disturbance within the sub-watershed (areas) 7.63 acres
		☒ Impervious cover (%) 49%
☐	☒	Is a dam breach analysis required (earthen embankments over six (6) feet in height, or a capacity of 15 acre-feet or more, and contributes to a significant or high hazard dam)?
☒	☐	Does this project meet the overbank flood protection standard?

Stormwater Management, Design, and Installation Rules (250-RICR-150-10-8)

Table 5-1 Hydraulic Analysis Summary

Subwatershed (Design Point)	1.2" Peak Flow (cfs) **		1-yr Peak Flow (cfs)		10-yr Peak Flow (cfs)		100-yr Peak Flow (cfs)	
	Pre (cfs)	Post (cfs)	Pre (cfs)	Post (cfs)	Pre (cfs)	Post (cfs)	Pre (cfs)	Post (cfs)
DP-1: Offsite North	0.00	0.00	0.00	0.00	0.00	0.01	0.69	0.61
DP-2: New London Turnpike Drainage	0.06	0.00	0.00	0.00	0.28	0.01	4.16	4.02
TOTALS:	0.06	0.00	0.00	0.00	0.28	0.02	4.85	4.63

** Utilize modified curve number method or split pervious /impervious method in HydroCAD.

Note: The hydraulic analysis must demonstrate no impact to each individual subwatershed DP unless each DP discharges to the same wetland or water resource.

Indicate as follows where the pertinent calculations and/or information for the items above are provided	Name of report/document, page numbers, appendices, etc.
Existing conditions analysis for each subwatershed, including curve numbers, times of concentration, runoff rates, volumes, and water surface elevations showing methodologies used and supporting calculations.	Stormwater Management Report Appendix D – HydroCAD Calculations
Proposed conditions analysis for each subwatershed, including curve numbers, times of concentration, runoff rates, volumes, water surface elevations, and routing showing the methodologies used and supporting calculations.	Stormwater Management Report Appendix D – HydroCAD Calculations
Final sizing calculations for structural stormwater BMPs, including contributing drainage area, storage, and outlet configuration.	Stormwater Management Report Appendix D – HydroCAD Calculations
Stage-storage, inflow and outflow hydrographs for storage facilities (e.g., detention, retention, or infiltration facilities).	Stormwater Management Report Appendix D – HydroCAD Calculations

Table 5-2 Summary of Best Management Practices

Table 5-2 Summary of Best Management Practices											
BMP ID	DP #	BMP Type (e.g., bioretention, tree filter)	BMP Functions					Bypass Type	Horizontal Setback Criteria are met per RICR 8.21.B.10, 8.22.D.11, and 8.35.B.4		
			Pre-Treatment (Y/N/NA)	Re _v	WQ _v	CP _v (Y/N/NA)	Overbank Flood Reduction (Y/N/NA)		External (E) Internal (I) or NA	Yes/No	Technical Justification (Design Report page number)
	DP 1	CDS Unit	Y			NA	NA	NA	Y	-	Y
		Infiltration Basin	N	4308	10749	Y	Y	I	Y	-	Y
										-	Y
	DP 2	CDS Unit	Y			NA	NA	NA	Y	-	Y
		Infiltration Basin	N	10595	4372	Y	Y	I	Y	-	Y
		TOTALS:			14903						

Stormwater Management, Design, and Installation Rules (250-RICR-150-10-8)

Table 5.3 Summary of Soils to Evaluate Each BMP

Table 5.3 Summary of Soils to Evaluate Each BMP									
DP #	BMP ID	BMP Type (e.g., bioretention, tree filter)	Soils Analysis for Each BMP						Exfiltration Rate Applied (in/hr)
			Test Pit ID# and Ground Elevation		SHWT Elevation (ft)	Bottom of Practice Elevation* (ft)	Separation Distance Provided (ft)	Hydrologic Soil Group (A, B, C, D)	
			Primary	Secondary					
DP 1	INF2	Infiltration Basin	104		306.30	311	4.7	A	2.41
DP 2	INF1	Infiltration Basin	100	101	303.42	307.5	4.08	A	2.41
		TOTALS:							

* For underground infiltration systems (UICs) bottom equals bottom of stone, for surface infiltration basins bottom equals bottom of basin, for filters bottom equals interface of storage and top of filter layer

LAND USES WITH HIGHER POTENTIAL POLLUTANTS LOADS (LUHPPLs) – MINIMUM STANDARD 8

YES	NO	N/A	
☐	☐	☒	Describe any LUHPPLs identified in Part 1, Minimum Standard 8, Section 2. If not applicable, continue to Minimum Standard 9.
☐	☐	☒	Are these activities already covered under an MSGP? If “No,” please explain if you have applied for an MSGP or intend to do so?
☐	☐	☒	List the specific BMPs that are proposed for this project that receive stormwater from LUHPPL drainage areas. These BMP types must be listed in RISDISM Table 3-3, “Acceptable BMPs for Use at LUHPPLs.” Please list BMPs:
☐	☐	☒	Additional BMPs, or additional pretreatment BMP’s if any, that meet RIPDES MSGP requirements; Please list BMPs:
			Indicate below where the pertinent calculations and/or information for the above items are provided (i.e., name of report/document, page numbers, appendices, etc.).

ILLICIT DISCHARGES – MINIMUM STANDARD 9

Illicit discharges are defined as unpermitted discharges to Waters of the State that do not consist entirely of stormwater or uncontaminated groundwater, except for certain discharges identified in the RIPDES Phase II Stormwater General Permit.

YES	NO	N/A	
☐	☐	☒	Have you checked for illicit discharges?
☐	☐	☒	Have any been found and/or corrected? If “Yes,” please identify.

Stormwater Management, Design, and Installation Rules (250-RICR-150-10-8)

☐	☐	☒	Does your report explain preventative measures that keep non-stormwater discharges out of the Waters of the State (during and after construction)?
--------------------------	--------------------------	-------------------------------------	--

SOIL EROSION AND SEDIMENT CONTROL (SESC) – MINIMUM STANDARD 10

YES	NO	N/A	
☒	☐	☐	Have you included a Soil Erosion and Sediment Control Plan Set and/or Complete Construction Plan Set?
☒	☐	☐	Have you provided a separately-bound document based upon the SESC Template ? If yes, proceed to Minimum Standard 11 (the following items can be assumed to be addressed).
			If “No,” include a document with your submittal that addresses the following elements of an SESC Plan:
			☐ Soil Erosion and Sediment Control Plan Project Narrative, including a description of how the fifteen (15) Performance Criteria have been met:
			☐ Provide Natural Buffers and Maintain Existing Vegetation
			☐ Minimize Area of Disturbance
			☐ Minimize the Disturbance of Steep Slopes
			☐ Preserve Topsoil
			☐ Stabilize Soils
			☐ Protect Storm Drain Inlets
			☐ Protect Storm Drain Outlets
			☐ Establish Temporary Controls for the Protection of Post-Construction Stormwater Control Measures
			☐ Establish Perimeter Controls and Sediment Barriers
			☐ Divert or Manage Run-On from Up-Gradient Areas
			☐ Properly Design Constructed Stormwater Conveyance Channels
			☐ Retain Sediment On-Site
			☐ Control Temporary Increases in Stormwater Velocity, Volume, and Peak Flows
			☐ Apply Construction Activity Pollution Prevention Control Measures
			☐ Install, Inspect, and Maintain Control Measures and Take Corrective Actions
			☐ Qualified SESC Plan Preparer’s Information and Certification
			☐ Operator’s Information and Certification; if not known at the time of application, the Operator must certify the SESC Plan upon selection and prior to initiating site activities
			☐ Description of Control Measures, such as Temporary Sediment Trapping and Conveyance Practices, including design calculations and supporting documentation, as required

STORMWATER MANAGEMENT SYSTEM OPERATION, MAINTENANCE, AND POLLUTION PREVENTION PLAN – MINIMUM STANDARDS 7 AND 9

Operation and Maintenance Section		
YES	NO	
☒	☐	Have you minimized all sources of pollutant contact with stormwater runoff, to the maximum extent practicable?
☒	☐	Have you provided a separately-bound Operation and Maintenance Plan for the site and for all of the BMPs, and does it address each element of RICR 8.17 and RISDISM Appendix C and E?
☒	☐	Lawn, Garden, and Landscape Management meet the requirements of RISDISM Section G.7? If “No,” why not?
☒	☐	Is the property owner or homeowner’s association responsible for the stormwater maintenance of all BMP’s? If “No,” you must provide a legally binding and enforceable maintenance agreement (see RISDISM Appendix E, page 26) that identifies the entity that will be responsible for maintenance of the stormwater. Indicate where this agreement can be found in your report (i.e., name of report/document, page numbers, appendices, etc.).
☐	☒	Do you anticipate that you will need legal agreements related to the stormwater structures? (e.g. off-site easements, deed restrictions, covenants, or ELUR per the Remediation Regulations).

Stormwater Management, Design, and Installation Rules (250-RICR-150-10-8)

		If “Yes,” have you obtained them? Or please explain your plan to obtain them:
☐	☒	Is stormwater being directed from public areas to private property? If “Yes,” note the following: <u>Note:</u> This is not allowed unless a funding mechanism is in place to provide the finances for the long-term maintenance of the BMP and drainage, or a funding mechanism is demonstrated that can guarantee the long-term maintenance of a stormwater BMP by an individual homeowner.
Pollution Prevention Section		
☒	☐	Designated snow stockpile locations?
☐	☒	Trash racks to prevent floatables, trash, and debris from discharging to Waters of the State?
☒	☐	Asphalt-only based sealants?
☒	☐	Pet waste stations? (<u>Note:</u> If a receiving water has a bacterial impairment, and the project involves housing units, then this could be an important part of your pollution prevention plan).
☒	☐	Regular sweeping? Please describe:
☒	☐	De-icing specifications, in accordance with RISDISM Appendix G. (NOTE: If the groundwater is GAA, or this area contributes to a drinking water supply, then this could be an important part of your pollution prevention plan).
☒	☐	A prohibition of phosphate-based fertilizers? (<u>Note:</u> If the site discharges to a phosphorus impaired waterbody, then this could be an important part of your pollution prevention plan).

PART 4. SUBWATERSHED MAPPING AND SITE-PLAN DETAILS

Existing and Proposed Subwatershed Mapping (REQUIRED)		
YES	NO	
☒	☐	Existing and proposed drainage area delineations
☒	☐	Locations of all streams and drainage swales
☒	☐	Drainage flow paths, mapped according to the DEM <i>Guidance for Preparation of Drainage Area Maps</i> (included in RISDISM Appendix K)
☒	☐	Complete drainage area boundaries; include off-site areas in both mapping and analyses, as applicable
☒	☐	Logs of borings and/or test pit investigations along with supporting soils/geotechnical report
☒	☐	Mapped seasonal high-water-table test pit locations
☒	☐	Mapped locations of the site-specific borings and/or test pits and soils information from the test pits at the locations of the BMPs
☒	☐	Mapped locations of the BMPs, with the BMPs consistently identified on the Site Construction Plans
☒	☐	Mapped bedrock outcrops adjacent to any infiltration BMP
☒	☐	Soils were logged by a:
		☒ DEM-licensed Class IV soil evaluator Name: Adam Rosenblatt
		☐ RI-registered P.E. Name:

Subwatershed and Impervious Area Summary				
Subwatershed (area to each design point)	First Receiving Water ID or MS4	Area Disturbed (acres)	Existing Impervious (acres)	Proposed Impervious (acres)
DP-1: Off Site North	RI0006014R-05	2.85	0.00	1.20
DP-2: New London Turnpike Drainage	MS4	4.77	0.08	2.96
TOTALS:		7.62	0.08	4.16

Stormwater Management, Design, and Installation Rules (250-RICR-150-10-8)

Site Construction Plans (Indicate that the following applicable specifications are provided)		
YES	NO	
☒	☐	Existing and proposed plans (scale not greater than 1" = 40') with North arrow
☒	☐	Existing and proposed site topography (with 1 or 2-foot contours); 10-foot contours accepted for off-site areas
☒	☐	Boundaries of existing predominant vegetation and proposed limits of clearing
☒	☐	Site Location clarification
☐	☒	Location and field-verified boundaries of resource protection areas such as: ▶ freshwater and coastal wetlands, including lakes and ponds ▶ coastal shoreline features Perennial and intermittent streams, in addition to Areas Subject to Storm Flowage (ASSFs)
☒	☐	All required setbacks (e.g., buffers, water-supply wells, septic systems)
☒	☐	Representative cross-section and profile drawings, and notes and details of structural stormwater management practices and conveyances (i.e., storm drains, open channels, swales, etc.), which include: ▶ Location and size of the stormwater treatment practices (type of practice, depth, area). Stormwater treatment practices (BMPs) must have labels that correspond to RISDISM Table 5-2; ▶ Design water surface elevations (applicable storms); ▶ Structural details of outlet structures, embankments, spillways, stilling basins, grade-control structures, conveyance channels, etc.; ▶ Existing and proposed structural elevations (e.g., inverts of pipes, manholes, etc.); ▶ Location of floodplain and, if applicable, floodway limits and relationship of site to upstream and downstream properties or drainage that could be affected by work in the floodplain; ▶ Planting plans for structural stormwater BMPs, including species, size, planting methods, and maintenance requirements of proposed planting
☒	☐	Logs of borings and/or test pit investigations along with supporting soils/geotechnical report and corresponding water tables
☐	☒	Mapping of any OLRSM-approv'd remedial actions/systems (including ELURs)
☒	☐	Location of existing and proposed roads, buildings, and other structures including limits of disturbance; ▶ Existing and proposed utilities (e.g., water, sewer, gas, electric) and easements; ▶ Location of existing and proposed conveyance systems, such as grass channels, swales, and storm drains, and location(s) of final discharge point(s) (wetland, waterbody, etc.); ▶ Cross sections of roadways, with edge details such as curbs and sidewalks; ▶ Location and dimensions of channel modifications, such as bridge or culvert crossings
☐	☒	Locations, cross sections, and profiles of all stream or wetland crossings and their method of stabilization

Appendix B – Minimum Standard 2 – Groundwater Recharge Calculations

- › Recharge Summary and Calculations
- › 1.2-inch Storm Event HydroCAD for Recharge BMPs

Recharge Summary and Calculations

Project: Center Point Commons	Project # 205244.000
Location: Coventry, RI	Sheet: 1 of 1
Calculated By: GS	Date: 08/28/2026
Checked By: AC	Date: 08/28/2026
Title: Groundwater Recharge	

Section 3.2.2 Minimum Standard 2: Groundwater Recharge (Re_v)

- $Re_v = X'' * (F)(I)/12$

Where:

Re_v = required recharge volume (CF)

F = Recharge Factors Based on Hydrologic Soil Group (HSG) from Table 3-4 of RISDISM (pg 3-11)

HSG	Recharge Factor (F)
A	0.60
B	0.35
C	0.25
D	0.10

I = Total impervious area (SF)

X = 1" new impervious area

- DP1 $Re_v = (1'') * (52,458 \text{ SF}) * 0.60 * 1/12 = 2,623 \text{ CF}$
- DP2 $Re_v = (1'') * (128,986 \text{ SF}) * 0.60 * 1/12 = 6,450 \text{ CF}$

Total Recharge Volume Provided for WQ 1.2" Storm =

DP1: INF-2 = 4,308 CF

DP2: INF-1 = 10,595 CF

1.2-inch Storm Event HydroCAD for Recharge BMPs

205244.00 PR Drainage

Prepared by VHB, Inc

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Center Point Commons

Type III 24-hr 1.2" Runoff Rainfall=1.20"

Printed 8/27/2026

Page 1

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Pond INF1: Infiltration Basin

Peak Elev=308.38' Storage=4,187 cf Inflow=3.15 cfs 10,595 cf

Discarded=0.29 cfs 10,595 cf Primary=0.00 cfs 0 cf Outflow=0.29 cfs 10,595 cf

Pond INF2: Infiltration Basin

Peak Elev=311.39' Storage=1,175 cf Inflow=0.37 cfs 4,308 cf

Discarded=0.16 cfs 4,308 cf Primary=0.00 cfs 0 cf Outflow=0.16 cfs 4,308 cf

Appendix C – Minimum Standard 3 – Water Quality Calculations

- › WQ Summary, Calculations and HydroCAD printouts for BMPs

Project:	Center Point Commons	Project #	205244.000
Location:	Providence, RI	Sheet:	1 of 1
Calculated By:	GS	Date:	08/28/2026
Checked By:	AEC	Date:	
Title:	Water Quality Volume (WQV)		

Section 3.2.3 Minimum Standard 3: Water Quality

WQV REQUIRED:

- DP-1 Required Stormwater Treatment Area = 1.2 acres for one inch of treatment (see calculation titled "Water Quality Volume Calculation Worksheet")
- DP-2 Required Stormwater Treatment Area = 2.96 acres for one inch of treatment (see calculation titled "Water Quality Volume Calculation Worksheet")

$$WQV = (1'')(I)/12$$

Where: WQV = water quality volume and I = impervious area

WQV PROVIDED:

Provided Stormwater Treatment Area For Design Point 1 (DP-1):

- Treatment: Infiltration Basin 2 (INF-2)

Impervious area directed to INF-2 = 52,458 SF = 1.20 AC

- Volume Treated:

100% of the Water Quality Volume is Infiltrated

INF-2: 4,372 cf (See "Infiltration Basins INF-1, INF-2" sheet)

Provided Stormwater Treatment Area For Design Point 2 (DP-2):

- Treatment: Infiltration Basin 1 (INF-1)

Impervious area directed to INF-1 = 128,986 SF = 2.96 AC

- Volume Treated:

100% of the Water Quality Volume is Infiltrated

INF-1: 10,749 cf (See "Infiltration Basins INF-1, INF-2" sheet)

Version: 4/2015

Project Name Center Point Commons

Date 08/28/2026

Water Quality Volume Calculation WorkSheet

This worksheet is designed to assist the project engineer with a determination of the required water quality treatment area. The worksheet leads the designer through redevelopment applicability first and then receiving water requirements. This tool is intended to compliment to the Redevelopment Criteria Guidance and the Water Quality Guidance and assist both the designer and the permit application reviewer towards consistent results. Enter information into only the **YELLOW** Boxes.

[Redevelopment Criteria Guidance](#)

[Water Quality Goals "Stormwater Compensation Method"](#)

Step 1 - Determine which office in OWR you are applying to: [Application Guidance](#)

Step 2 - Site Information

value/calculation

units

Total Site Area (total area of project parcels)	TS	8.48	acres
Total Jurisdictional Wetlands and/or floodplain within the above TSA	JW1	0.00	acres
Existing impervious also within the Jurisdictional Wetlands	-JW2	0.00	acres
Conservation Land within the TSA		0.00	acres
Site Size = (TSA)-(JW1-JW2)-CL	SS=	8.48	acres

Step 3 - Redevelopment Applicability

Total Impervious Area (pre-construction)	TIA=	0.08	acres
% Impervious (if ≥40% - redevelopment standard 3.2.6 applies)		0.01	

REPEAT IF NECESSARY Steps 4, 5 and 6 for EACH Waterbody ID (RIVER-ID as found in the GIS Map Server)

Step 4 - Receiving waterbody information

[Waterbody ID or RIVER ID from GIS Map Server](#)

Waterbody Name from GIS Map Server

Name the sub-watersheds (design-points) contributing to this Waterbody ID

Is this Waterbody Impaired/TMDL for any Phosphorus, Metals or Bacteria?

YES

Is this Waterbody Impaired for Nitrogen?

NO

Step 5 - Pre-Post Construction Conditions to the Waterbody

Total Pre-Construction Impervious Surface to this Waterbody ID	0.00	acres
Total Disturbed Existing Impervious (DI)	0.00	acres
Total Post-Construction Impervious to this Waterbody ID	1.20	acres
Net Increased Impervious (NII)	1.20	acres

Step 6 - Infiltration and BMP information - Note: Increasing infiltration will likely decrease stormwater treatment area for Metals, Bacteria and Phosphorus

I am proposing to infiltrate this percentage WQv to this WBID	100%	%
I am proposing this number of BMP's	1	#

RESULTS - Select the Larger Number of the 2 numbers provided

Applicable Condition	Min Water Quality Treatment Area	Min Treatment w/o WQ consideration
No Impairment or TMDL - New Development		
No Impairment or TMDL - Redevelopment		
Only Phosphorus, Metals or Bacteria Impairment - New Development	1.20	1.20
Only Phosphorus, Metals or Bacteria Impairment - Redevelopment		
Nitrogen Impairment - New Development		
Nitrogen Impairment - Redevelopment		
REQUIRED STORMWATER TREATMENT AREA	1.2	acres

* Enter the name of the STP (both type and label) which has been designed to treat this particular Rev or Rea.

Version: 4/2015

Project Name Center Point Commons

Date 08/28/2026

Water Quality Volume Calculation WorkSheet

This worksheet is designed to assist the project engineer with a determination of the required water quality treatment area. The worksheet leads the designer through redevelopment applicability first and then receiving water requirements. This tool is intended to compliment to the Redevelopment Criteria Guidance and the Water Quality Guidance and assist both the designer and the permit application reviewer towards consistent results. Enter information into only the **YELLOW** Boxes.

[Redevelopment Criteria Guidance](#)

[Water Quality Goals "Stormwater Compensation Method"](#)

Step 1 - Determine which office in OWR you are applying to: [Application Guidance](#)

Step 2 - Site Information

value/calculation

units

Total Site Area (total area of project parcels)	TS	8.48	acres
Total Jurisdictional Wetlands and/or floodplain within the above TSA	JW1	0.00	acres
Existing impervious also within the Jurisdictional Wetlands	-JW2	0.00	acres
Conservation Land within the TSA		0.00	acres
Site Size = (TSA)-(JW1-JW2)-CL	SS=	8.48	acres

Step 3 - Redevelopment Applicability

Total Impervious Area (pre-construction)	TIA=	0.08	acres
% Impervious (if ≥40% - redevelopment standard 3.2.6 applies)		0.01	

REPEAT IF NECESSARY Steps 4, 5 and 6 for EACH Waterbody ID (RIVER-ID as found in the GIS Map Server)

Step 4 - Receiving waterbody information

[Waterbody ID or RIVER ID from GIS Map Server](#)

Waterbody Name from GIS Map Server

Name the sub-watersheds (design-points) contributing to this Waterbody ID

Is this Waterbody Impaired/TMDL for any Phosphorus, Metals or Bacteria?

YES

Is this Waterbody Impaired for Nitrogen?

NO

Step 5 - Pre-Post Construction Conditions to the Waterbody

Total Pre-Construction Impervious Surface to this Waterbody ID	0.08	acres
Total Disturbed Existing Impervious (DI)	0.08	acres
Total Post-Construction Impervious to this Waterbody ID	2.96	acres
Net Increased Impervious (NII)	2.88	acres

Step 6 - Infiltration and BMP information - Note: Increasing infiltration will likely decrease stormwater treatment area for Metals, Bacteria and Phosphorus

I am proposing to infiltrate this percentage WQv to this WBID	100%	%
I am proposing this number of BMP's	1	#

RESULTS - Select the Larger Number of the 2 numbers provided

Applicable Condition	Min Water Quality Treatment Area	Min Treatment w/o WQ consideration
No Impairment or TMDL - New Development		
No Impairment or TMDL - Redevelopment		
Only Phosphorus, Metals or Bacteria Impairment - New Development	2.88	2.96
Only Phosphorus, Metals or Bacteria Impairment - Redevelopment		
Nitrogen Impairment - New Development		
Nitrogen Impairment - Redevelopment		
REQUIRED STORMWATER TREATMENT AREA	3.0	acres

* Enter the name of the STP (both type and label) which has been designed to treat this particular Rev or Rea.

Project:	Center Point Commons	Project #	205244.00
Location:	Coventry, RI	Sheet:	1 of 1
Calculated By:	AEC	Date:	8/27/2026
Checked By:		Date:	
Title:	Infiltration Basins INF-1, INF-2		

Section 5.3 Required Elements (RISDISM)

Section 5.3.1 Feasibility

- Underlying soils shall have an in-situ infiltration rate of at least 0.5 inches per hour. **Infiltration rate = 2.41 in/hr.**
- The bottom of infiltration practices cannot be located in fill. **Basins are not located in fill.**
- The bottom of the infiltration facility shall be separated by at least 3 feet vertically from the seasonal high groundwater table (SHGT) and the bedrock layer (when treating WQv), as documented by on-site soil testing. **All infiltration systems have a minimum of 4 feet of separation.**
- Infiltration practices that are designed for the 10-year storm event or greater and have a separation from the bottom of the system to the seasonal high groundwater of less than four feet shall provide a groundwater mounding analysis. **Infiltration Basins have 4 feet separation to groundwater.**
- Infiltration basins shall meet all the setback requirements in Table 5-2. **Setback requirements are met.**
- The maximum contributing area to infiltration chambers and trenches should generally be less than 10 acres. **Contributing drainage area to each basin is less than 10 acres.**

Section 5.3.2 Conveyance

- Adequate stormwater outfalls shall be provided for the overflow associated with the 1-year design storm event. **Infiltration basins are sized to infiltrate the 1-year storm and therefore meet this requirement.**
- All infiltration systems shall be designed to fully de-water the entire WQv within 48 hours after the storm event. **Basins are fully drained within 48-hours.**

Section 5.3.3 Pretreatment

- A minimum pretreatment volume of at least 25% of the WQv is provided by:
 - INF-1: Contech CDS Units
 - INF-2: Contech CDS Unit

Section 5.3.4 Treatment

- Infiltration practices shall be designed to exfiltrate the entire WQv through the floor of each practice. **Refer to table below:**

<u>Infiltration Basin</u>	<u>Contributing Impervious (I)</u>	<u>Water Quality Volume WQv=1"/12*I</u>	<u>Basin Volume</u>
INF-1	128,986 sf	10,749 cf	28,514 cf
INF-2	52,458 sf	4,372 cf	10,250 cf
Total	181,444 sf	81,083 cf	38,764 cf

205244.00 PR Drainage

Prepared by VHB, Inc

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Center Point Commons

Type III 24-hr 1.2" Runoff Rainfall=1.20"

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Summary for Pond INF1: Infiltration Basin

Inflow Area = 200,976 sf, 64.18% Impervious, Inflow Depth = 0.63" for 1.2" Runoff event
 Inflow = 3.15 cfs @ 12.08 hrs, Volume= 10,595 cf
 Outflow = 0.29 cfs @ 12.96 hrs, Volume= 10,595 cf, Atten= 91%, Lag= 52.9 min
 Discarded = 0.29 cfs @ 12.96 hrs, Volume= 10,595 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link DP2 : New London Turnpike Drainage

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 308.38' @ 12.96 hrs Surf.Area= 5,216 sf Storage= 4,187 cf

Plug-Flow detention time= 120.8 min calculated for 10,593 cf (100% of inflow)
 Center-of-Mass det. time= 120.8 min (902.4 - 781.6)

Volume	Invert	Avail.Storage	Storage Description
#1	307.50'	35,146 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)
307.50	4,331	327.0	0	0	4,331
308.00	4,832	339.0	2,290	2,290	4,988
309.00	5,879	358.0	5,347	7,637	6,098
310.00	6,983	377.0	6,423	14,060	7,269
311.00	8,144	396.0	7,556	21,616	8,500
312.00	9,361	415.0	8,745	30,361	9,791
312.50	9,779	421.0	4,785	35,146	10,242

Device	Routing	Invert	Outlet Devices
#1	Discarded	307.50'	2.410 in/hr Exfiltration over Horizontal area
#2	Primary	311.80'	10.0' long x 3.0' 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
			Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68
			2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.29 cfs @ 12.96 hrs HW=308.38' (Free Discharge)
 ↑ **1=Exfiltration** (Exfiltration Controls 0.29 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=307.50' (Free Discharge)
 ↑ **2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

205244.00 PR Drainage

Prepared by VHB, Inc

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Center Point Commons

Type III 24-hr 1.2" Runoff Rainfall=1.20"

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Page 2

Stage-Area-Storage for Pond INF1: Infiltration Basin

Elevation (feet)	Surface (sq-ft)	Horizontal (sq-ft)	Storage (cubic-feet)
307.50	4,331	4,331	0
307.60	4,429	4,429	438
307.70	4,528	4,528	886
307.80	4,628	4,628	1,344
307.90	4,730	4,730	1,812
308.00	4,832	4,832	2,290
308.10	4,932	4,932	2,778
308.20	5,033	5,033	3,276
308.30	5,135	5,135	3,784
308.40	5,238	5,238	4,303
308.50	5,343	5,343	4,832
308.60	5,448	5,448	5,372
308.70	5,554	5,554	5,922
308.80	5,661	5,661	6,483
308.90	5,770	5,770	7,054
309.00	5,879	5,879	7,637
309.10	5,985	5,985	8,230
309.20	6,092	6,092	8,834
309.30	6,200	6,200	9,448
309.40	6,309	6,309	10,074
309.50	6,419	6,419	10,710
309.60	6,530	6,530	11,358
309.70	6,642	6,642	12,016
309.80	6,755	6,755	12,686
309.90	6,868	6,868	13,367
310.00	6,983	6,983	14,060
310.10	7,095	7,095	14,764
310.20	7,208	7,208	15,479
310.30	7,322	7,322	16,205
310.40	7,437	7,437	16,943
310.50	7,552	7,552	17,693
310.60	7,669	7,669	18,454
310.70	7,786	7,786	19,226
310.80	7,905	7,905	20,011
310.90	8,024	8,024	20,807
311.00	8,144	8,144	21,616
311.10	8,262	8,262	22,436
311.20	8,381	8,381	23,268
311.30	8,500	8,500	24,112
311.40	8,621	8,621	24,968
311.50	8,742	8,742	25,836
311.60	8,864	8,864	26,717
311.70	8,987	8,987	27,609
311.80	9,111	9,111	28,514
311.90	9,235	9,235	29,431
312.00	9,361	9,361	30,361
312.10	9,444	9,444	31,301
312.20	9,527	9,527	32,250
312.30	9,611	9,611	33,207
312.40	9,695	9,695	34,172
312.50	9,779	9,779	35,146

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Type III 24-hr 1.2" Runoff Rainfall=1.20"

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Summary for Pond INF2: Infiltration Basin

Inflow Area = 110,182 sf, 47.61% Impervious, Inflow Depth = 0.47" for 1.2" Runoff event
 Inflow = 0.37 cfs @ 12.43 hrs, Volume= 4,308 cf
 Outflow = 0.16 cfs @ 13.92 hrs, Volume= 4,308 cf, Atten= 56%, Lag= 89.6 min
 Discarded = 0.16 cfs @ 13.92 hrs, Volume= 4,308 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link DP1 : Offsite North

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 311.39' @ 13.92 hrs Surf.Area= 2,944 sf Storage= 1,175 cf

Plug-Flow detention time= 55.1 min calculated for 4,308 cf (100% of inflow)
 Center-of-Mass det. time= 55.1 min (888.2 - 833.1)

Volume	Invert	Avail.Storage	Storage Description		
#1	311.00'	13,649 cf	Custom Stage Data (Irregular) Listed below		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
311.00	2,688	209.0	0	0	2,688
312.00	3,343	228.0	3,010	3,010	3,384
313.00	4,055	247.0	3,693	6,703	4,140
314.00	4,823	265.0	4,433	11,136	4,917
314.50	5,229	275.0	2,512	13,649	5,368

Device	Routing	Invert	Outlet Devices													
#1	Discarded	311.00'	2.410 in/hr Exfiltration over Surface area													
#2	Primary	313.80'	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					

Discarded OutFlow Max=0.16 cfs @ 13.92 hrs HW=311.39' (Free Discharge)

↑ **1=Exfiltration** (Exfiltration Controls 0.16 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=311.00' (Free Discharge)

↑ **2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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Stage-Area-Storage for Pond INF2: Infiltration Basin

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
311.00	2,688	0	313.55	4,477	9,141
311.05	2,721	150	313.60	4,516	9,363
311.10	2,754	301	313.65	4,554	9,585
311.15	2,786	451	313.70	4,593	9,806
311.20	2,819	602	313.75	4,631	10,028
311.25	2,852	752	313.80	4,669	10,250
311.30	2,885	903	313.85	4,708	10,471
311.35	2,917	1,053	313.90	4,746	10,693
311.40	2,950	1,204	313.95	4,785	10,915
311.45	2,983	1,354	314.00	4,823	11,136
311.50	3,016	1,505	314.05	4,864	11,388
311.55	3,048	1,655	314.10	4,904	11,639
311.60	3,081	1,806	314.15	4,945	11,890
311.65	3,114	1,956	314.20	4,985	12,141
311.70	3,146	2,107	314.25	5,026	12,392
311.75	3,179	2,257	314.30	5,067	12,644
311.80	3,212	2,408	314.35	5,107	12,895
311.85	3,245	2,558	314.40	5,148	13,146
311.90	3,277	2,709	314.45	5,188	13,397
311.95	3,310	2,859	314.50	5,229	13,649
312.00	3,343	3,010			
312.05	3,379	3,194			
312.10	3,414	3,379			
312.15	3,450	3,564			
312.20	3,485	3,748			
312.25	3,521	3,933			
312.30	3,557	4,118			
312.35	3,592	4,302			
312.40	3,628	4,487			
312.45	3,663	4,672			
312.50	3,699	4,856			
312.55	3,735	5,041			
312.60	3,770	5,226			
312.65	3,806	5,410			
312.70	3,841	5,595			
312.75	3,877	5,780			
312.80	3,913	5,964			
312.85	3,948	6,149			
312.90	3,984	6,334			
312.95	4,019	6,518			
313.00	4,055	6,703			
313.05	4,093	6,925			
313.10	4,132	7,146			
313.15	4,170	7,368			
313.20	4,209	7,590			
313.25	4,247	7,811			
313.30	4,285	8,033			
313.35	4,324	8,255			
313.40	4,362	8,476			
313.45	4,401	8,698			
313.50	4,439	8,920			

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Type III 24-hr 1.2" Runoff Rainfall=1.20"

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv. UI as Pervious
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentP1-1: Subcat P1-1	Runoff Area=33,821 sf 0.01% Impervious Runoff Depth=0.00" Tc=6.0 min CN=36/98 Runoff=0.00 cfs 0 cf
SubcatchmentP1-2: Subcat P1-2	Runoff Area=27,448 sf 0.00% Impervious Runoff Depth=0.00" Tc=6.0 min CN=36/0 Runoff=0.00 cfs 0 cf
SubcatchmentP1-3: Subcat P1-3	Runoff Area=15,939 sf 0.00% Impervious Runoff Depth=0.00" Tc=6.0 min CN=38/0 Runoff=0.00 cfs 0 cf
SubcatchmentP1-4: Subcat P1-4	Runoff Area=10,150 sf 85.21% Impervious Runoff Depth=0.84" Tc=6.0 min CN=39/98 Runoff=0.22 cfs 710 cf
SubcatchmentP1-5: Subcat P1-5	Runoff Area=11,836 sf 80.23% Impervious Runoff Depth=0.79" Tc=6.0 min CN=39/98 Runoff=0.24 cfs 780 cf
SubcatchmentP1-6: Subcat P1-6	Runoff Area=19,796 sf 79.13% Impervious Runoff Depth=0.78" Tc=6.0 min CN=39/98 Runoff=0.39 cfs 1,287 cf
SubcatchmentP1-7: Subcat P1-7	Runoff Area=9,062 sf 100.00% Impervious Runoff Depth=0.99" Tc=6.0 min CN=0/98 Runoff=0.23 cfs 744 cf
SubcatchmentP1-8: Subcat P1-8	Runoff Area=9,580 sf 100.00% Impervious Runoff Depth=0.99" Tc=6.0 min CN=0/98 Runoff=0.24 cfs 787 cf
SubcatchmentP2-1: Subcat P2-1	Runoff Area=15,953 sf 0.00% Impervious Runoff Depth=0.00" Tc=6.0 min CN=39/0 Runoff=0.00 cfs 0 cf
SubcatchmentP2-10: Subcat P2-10	Runoff Area=10,584 sf 80.52% Impervious Runoff Depth=0.79" Tc=6.0 min CN=39/98 Runoff=0.21 cfs 700 cf
SubcatchmentP2-11: Subcat P2-11	Runoff Area=9,062 sf 100.00% Impervious Runoff Depth=0.99" Tc=6.0 min CN=0/98 Runoff=0.23 cfs 744 cf
SubcatchmentP2-12: Subcat P2-12	Runoff Area=15,143 sf 84.60% Impervious Runoff Depth=0.83" Tc=6.0 min CN=39/98 Runoff=0.32 cfs 1,052 cf
SubcatchmentP2-13: Subcat P2-13	Runoff Area=19,716 sf 87.36% Impervious Runoff Depth=0.86" Tc=6.0 min CN=39/98 Runoff=0.43 cfs 1,415 cf
SubcatchmentP2-14: Subcat P2-14	Runoff Area=9,580 sf 100.00% Impervious Runoff Depth=0.99" Tc=6.0 min CN=0/98 Runoff=0.24 cfs 787 cf
SubcatchmentP2-15: Subcat P2-15	Runoff Area=7,584 sf 79.44% Impervious Runoff Depth=0.78" Tc=6.0 min CN=39/98 Runoff=0.15 cfs 495 cf
SubcatchmentP2-2: Subcat P2-2	Runoff Area=15,391 sf 0.19% Impervious Runoff Depth=0.00" Tc=6.0 min CN=38/98 Runoff=0.00 cfs 2 cf

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SubcatchmentP2-3: Subcat P2-3 Runoff Area=38,056 sf 0.00% Impervious Runoff Depth=0.00"
Tc=6.0 min CN=36/0 Runoff=0.00 cfs 0 cf

SubcatchmentP2-4: Subcat P2-4 Runoff Area=11,255 sf 99.98% Impervious Runoff Depth=0.99"
Tc=6.0 min CN=39/98 Runoff=0.28 cfs 924 cf

SubcatchmentP2-5: Subcat P2-5 Runoff Area=11,382 sf 100.00% Impervious Runoff Depth=0.99"
Tc=6.0 min CN=0/98 Runoff=0.29 cfs 935 cf

SubcatchmentP2-6: Subcat P2-6 Runoff Area=32,827 sf 43.96% Impervious Runoff Depth=0.43"
Tc=6.0 min CN=38/98 Runoff=0.36 cfs 1,185 cf

SubcatchmentP2-7: Subcat P2-7 Runoff Area=0.237 ac 86.20% Impervious Runoff Depth=0.85"
Tc=6.0 min CN=39/98 Runoff=0.22 cfs 731 cf

SubcatchmentP2-8: Subcat P2-8 Runoff Area=12,952 sf 80.14% Impervious Runoff Depth=0.79"
Tc=6.0 min CN=39/98 Runoff=0.26 cfs 853 cf

SubcatchmentP2-9: Subcat P2-9 Runoff Area=12,515 sf 75.32% Impervious Runoff Depth=0.74"
Tc=0.0 min CN=39/98 Runoff=0.29 cfs 774 cf

Pond DET1: CULTECH UNDERGROUND DETENTION Peak Elev=319.50' Storage=0 cf Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Pond DET2: CULTECH UNDERGROUND DETENTION Peak Elev=319.00' Storage=0 cf Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Pond DET3: CULTECH UNDERGROUND Peak Elev=320.14' Storage=1,224 cf Inflow=1.32 cfs 4,308 cf
Outflow=0.37 cfs 4,308 cf

Pond DV1: DIVERSION MANHOLE Peak Elev=322.53' Inflow=1.50 cfs 5,178 cf
Primary=1.50 cfs 5,178 cf Secondary=0.00 cfs 0 cf Outflow=1.50 cfs 5,178 cf

Pond DV2: DIVERSION MANHOLE Peak Elev=323.17' Inflow=1.38 cfs 4,493 cf
Primary=1.38 cfs 4,493 cf Secondary=0.00 cfs 0 cf Outflow=1.38 cfs 4,493 cf

Pond INF1: Infiltration Basin Peak Elev=308.38' Storage=4,187 cf Inflow=3.15 cfs 10,595 cf
Discarded=0.29 cfs 10,595 cf Primary=0.00 cfs 0 cf Outflow=0.29 cfs 10,595 cf

Pond INF2: Infiltration Basin Peak Elev=311.39' Storage=1,175 cf Inflow=0.37 cfs 4,308 cf
Discarded=0.16 cfs 4,308 cf Primary=0.00 cfs 0 cf Outflow=0.16 cfs 4,308 cf

Pond WQ1: CDS WATER QUALITY UNIT Inflow=1.50 cfs 5,178 cf
Primary=1.50 cfs 5,178 cf

Pond WQ2: CDS WATER QUALITY UNIT Inflow=1.38 cfs 4,493 cf
Primary=1.38 cfs 4,493 cf

Pond WQ3: CDS WATER QUALITY UNIT Inflow=0.85 cfs 2,777 cf
Primary=0.85 cfs 2,777 cf

ENTIRE WQV IS ROUTED TO THE CDS WATER
QUALITY UNIT

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Link DP1: Offsite North

Inflow=0.00 cfs 0 cf

Primary=0.00 cfs 0 cf

Link DP2: New London Turnpike Drainage

Inflow=0.00 cfs 2 cf

Primary=0.00 cfs 2 cf

Total Runoff Area = 369,950 sf Runoff Volume = 14,906 cf Average Runoff Depth = 0.48"
50.95% Pervious = 188,477 sf 49.05% Impervious = 181,473 sf



Rhode Island Department of Environmental Management
Office of Water Resources – Stormwater Technology Review Committee
235 Promenade St. Providence, RI 02908 Ph: 401-222-4700

Alternative Stormwater Technology Certification

Vendor Contact:

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Director of Stormwater Management - East
Contech Engineered Solutions, LLC
71 US Route 1, Suite F
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www.conteches.com
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Technology Name:

Continuous Deflective Separator (CDS®)

Approval Type:

Pretreatment/Retrofits

Certification Dates:

Issued: December 7, 2021

Revised: May 25, 2022

Expires: December 7, 2026

CERTIFICATION:

The Rhode Island Stormwater Technology Review Committee which consists of members from the Department of Environmental Management (DEM), Department of Transportation (DOT) and the Coastal Resources Management Council (CRMC) have reviewed the **Continuous Deflective Separator (CDS®)** application for certification of its Technology Approval and accepted use for Stormwater Treatment in the State of Rhode Island.

In accordance with Stormwater Rule 250-RICR-150-10-8.9B, **Contech Engineered Solutions, LLC** has petitioned the permitting agencies to certify the **CDS®** as an acceptable structural stormwater control described in Stormwater Rule 250-RICR-150-10-8.31. They have submitted monitoring results and supporting information developed in accordance with the provisions of the Technology Assessment Protocol (TAP) for Innovative and Emerging Technologies as described in in Stormwater Rule 250-RICR-150-10 Sections 8.39 and 8.40.

The **CDS®** is granted reciprocity in Rhode Island as a proprietary stormwater treatment technology, given that it has been issued an MTD (manufactured treatment device) Lab Certification from the New Jersey Department of Environmental Protection (NJDEP) effective January 9, 2015 as a result of the *NJCAT Technology Verification – Continuous Deflective Separator (CDS®) Stormwater Treatment Device* study from September 2014, performed by FB Environmental Associates, Inc. at Contech's Scarborough, Maine laboratory. The study was conducted in accordance with the NJDEP "Laboratory Protocol to Assess Total Suspended Solids Removal by a Hydrodynamic Sedimentation Manufactured Treatment Device" from January 2013. This NJDEP MTD Lab Certification recognizes the **CDS®** as a stormwater treatment technology which provides 50% removal of total suspended solids when operating at the maximum treatment flow rate for each device specified in the attached *Table 1: RIDEM Approved CDS Sizing Table for 50% TSS Removal*. The **CDS®** has also been granted a general use level designation (GULD) for pre-treatment by the Washington Department of Ecology. The State of New Jersey is a member of the Technology Acceptance Reciprocity Partnership (TARP) and the State of Washington's approval process follows its Technology Assessment Protocol – Ecology (TAPE). As per Stormwater Rule 250-RICR-150-10-8.39, both TAPE and TARP approved devices are allowed reciprocity consideration in Rhode Island.

The **CDS®** is a pre-treatment or retrofit device that captures TSS from stormwater runoff as described in Stormwater Rule 250-RICR-150-10-8.31. It is a vertically oriented cylindrical structure manufactured from pre-cast reinforced concrete and fiber reinforced plastic, designed to remove trash and sediment from stormwater. This product was developed by **Contech Engineered Solutions, LLC**. The **CDS®** is approved for online and off-line use.

The manufacturer has demonstrated that this product meets the minimum water quality standards for pretreatment as described in Stormwater Rule 250-RICR-150-10-8.31. The **CDS®** is approved for **50%** removal of total suspended solids (TSS) when designed using flow rates specified in the attached *Table 1: RIDEM Approved CDS® Sizing Table for 50% TSS Removal*. The **CDS®** is NOT recognized for removal of Pathogens, Total Phosphorus

or Nitrogen. This device may be used as an approved pretreatment or retrofit device provided that the design, installation, and maintenance are conducted in accordance with the following terms and conditions:

I. GENERAL CERTIFICATION REQUIREMENTS

1. The system must be designed and installed to adhere to the manufacturer's specifications titled "CDS General Specification" which can be found on at: <https://www.conteches.com/stormwater-management/treatment/cds>
2. The CDS® is **certified as a pretreatment** device in accordance with Stormwater Rule 250-RICR-150-10-8.31, provided the device treats the flow of the first inch of runoff from the capture area, unless waived by the state permitting agency. The system's design must utilize flow rates, impervious catchment sizes, hydrocarbon storage capacities and maximum sediment capacities listed in the attached *Table 1: RIDEM Approved CDS® Sizing Table for 50% TSS Removal* and *Table 2: Standard Sediment Storage Capacity of CDS® Devices*.
3. The applicant must provide the RI specific manufacturers design sheet for Departmental review or provide the manufacturer's review approval. All units that capture greater than one acre of impervious cover must be reviewed by the manufacturer.
4. This device is **certified as a retrofit device** in accordance with Stormwater Rule 250-RICR-150-10-8.6A. Retrofits are allowed flexibility with regards to the eleven minimum standards described in Sections 8.6 through 8.17 of Stormwater Rule 250-RICR-150-10, but in general they are considered effective if they capture at least 50% of the catchment and meet the target water quality treatment of at least the first 0.5 inches of the water quality volume.
5. The approved devices shall be located such that they are accessible for maintenance and/or emergency removal of oil or chemical spills.
6. The device cannot be used in series with another Hydrodynamic separator to achieve enhanced removal rates for TSS.

II. MAINTENANCE REQUIREMENTS

1. Standard permitting conditions for inclusion of this technology will, at a minimum include the following:
 - a. Each individual owner must ensure that any and all of their proprietary stormwater treatment devices are maintained in accordance with the manufacturer's specifications, which are provided in the CDS® Inspection and Maintenance Guide: <https://www.conteches.com/Portals/0/Documents/Design%20Guides/CDS-Design%20Guide.pdf?ver=2018-05-16-083621-907>
 - b. Each individual owner must ensure that any and all of their proprietary stormwater pre-treatment devices are maintained in accordance with the requirements stated in Stormwater Rule 250-RICR-150-10-8.31-C, which requires the sump to be inspected a minimum of 2 times per year. Additionally, the device must be cleaned out when either pollutant removal capacity is reduced by 50% or more, or when 50% or more of the device's pollutant storage capacity is filled or displaced.
 - c. All material removed from the unit must be properly disposed of and is the responsibility of the owner.

- d. The applicant must include a copy of the **CDS®** Inspection and Maintenance Guide in their project specific long term operation and maintenance plan.
2. The applicant must provide evidence of a maintenance contract which extends for a minimum of two years. The contracted maintenance provider must receive training by **Contech Engineered Solutions, LLC** on how to properly maintain **CDS®** devices. This requirement excludes maintenance providers recognized by the RIDEM to be qualified in maintenance of **CDS®** devices.

III. REPORTING REQUIREMENTS

1. Upon request from the owner of any CDS system installed in the State of Rhode Island, the vendor shall provide the owner with a recommended maintenance schedule after the first year of the device's operation. If a recommended maintenance schedule is requested by the owner after the first year of the device's operation, then the owner is responsible for notifying the vendor of any additional pollutant loading sites where contributing drainage areas may be subject to further development (i.e., strip malls).
2. The Vendor shall provide a listing to the RIDEM Office of Water Resources of all systems installed within the State of Rhode Island on an annual basis.
3. The Vendor shall provide an annual listing to the RIDEM Office of Water Resources of all Rhode Island maintenance providers that they trained in **CDS®** maintenance.
4. The Vendor shall immediately notify the RIDEM Office of Water Resources if and when any changes are made to the model name or number of any **CDS®** device for all models applicable to this certification.
5. The Vendor shall immediately notify the RIDEM Office of Water Resources if and when any revisions are made to the design, installation operation and maintenance manuals for all models applicable to this certification. Revisions deemed by the RIDEM to be substantial, may require re-application to the Alternative Stormwater Technology Program.
6. The Vendor shall notify the RIDEM at least thirty (30) days following any proposed transfer of ownership of the Component technology. Notification shall include the name and address of the new owner and a written agreement between the existing and new owner specifying a date for transfer of ownership, responsibility, and liability for the Component. All provisions of this Certification shall be applicable to any new owners.

IV. RIGHTS OF THE RIDEM AND CRMC

1. The RIDEM may suspend, modify, or revoke this approval for cause, including but not limited to non-compliance with any of the conditions or provisions of this approval, mis-representation, or failure to fully disclose all relevant data, or receipt of new information indicating that the use of the **CDS®** system is contrary to the public interest, public health, or the environment.
2. This approval does not represent an endorsement of the **CDS®** system by the RIDEM, RIDOT or CRMC. This letter of approval may be reproduced only in its entirety.
3. The **CDS®** General Specification and **CDS®** Inspection and Maintenance Guide referenced herein are approved upon the date of approval of this Certification.

4. The RIDEM reserves the right to suspend or revoke this Certification if updated design, installation, and O&M manuals are not provided to the RIDEM within thirty (30) days of RIDEM request or one hundred and eighty (180) days prior to the expiration date of this Certification. All revisions must be reviewed and approved by the RIDEM prior to re-certification.

Eric Beck

Eric A. Beck, P.E.

Administrator of Groundwater and Wetlands Protection
RIDEM

Digitally signed by Eric Beck

Date: 2022.06.02 13:01:29 -04'00'

Date

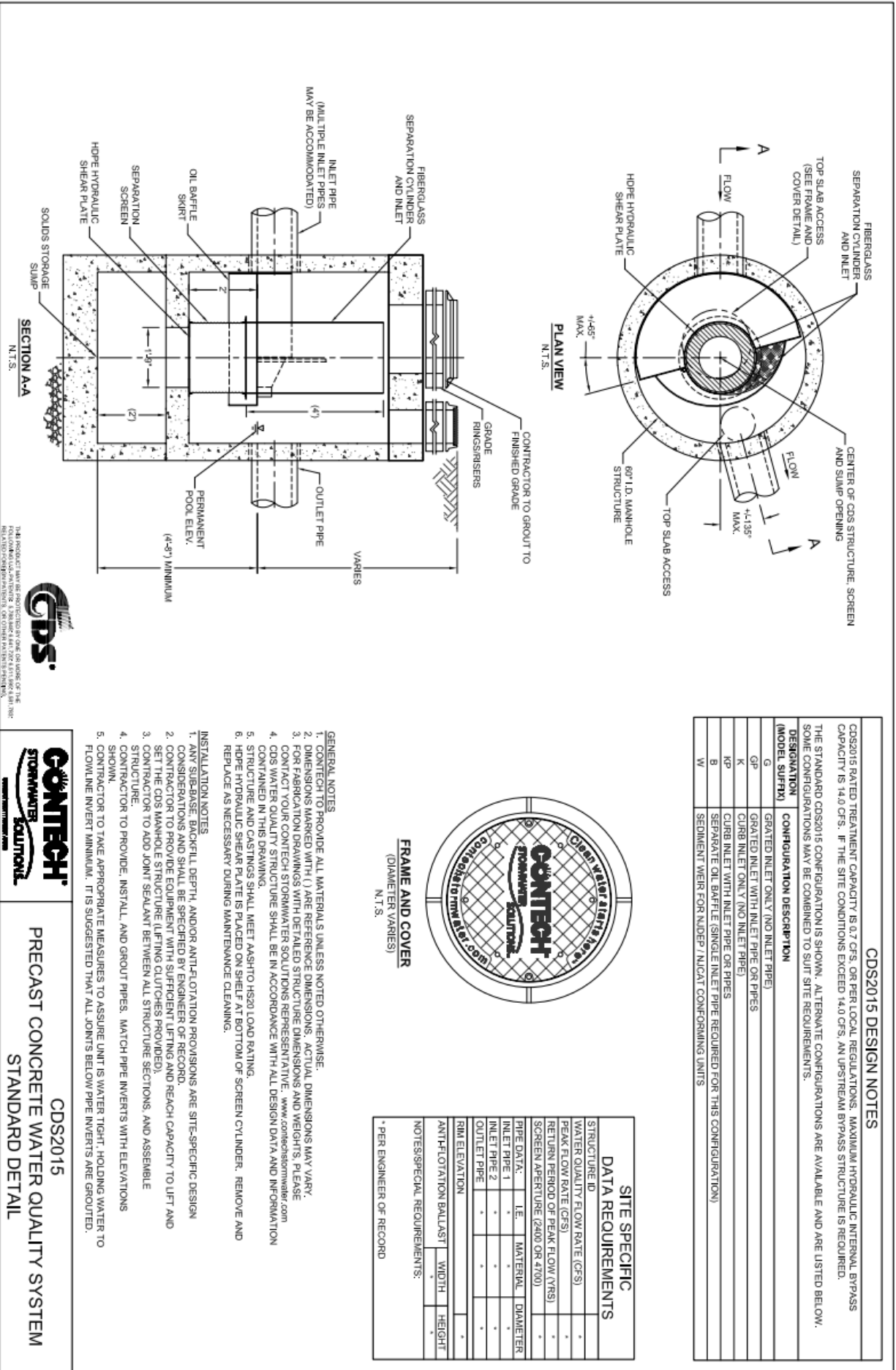
ATTACHMENTS:

Table 1: RIDEM Approved CDS® Sizing Table for 50% TSS Removal

Model #	Maximum Treatment Flow Rate (cfs)	Approximate Impervious Treatment Area (acres)
CDS-3	0.52	0.472
CDS-4	0.93	0.852
CDS-5	1.50	1.374
CDS-6	2.10	1.922
CDS-7	2.80	2.560
CDS-8	3.70	3.383
CDS-10	5.80	5.299
CDS-12	8.40	7.673

Table 2: Standard Sediment Storage Capacity of CDS® Devices

Model #	Structure Inside Diameter (ft)	Sediment Storage Volume (ft ³)
CDS-3	3	14.2
CDS-4	4	25.2
CDS-5	5	39.2
CDS-6	6	56.6
CDS-7	7	77.0
CS-8	8	100.6
CS-10	10	157.0
CS-12	12	226.2



THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING PATENTS: 1,708,846; 4,441,702; 4,511,062; 4,541,702; 4,541,703; 4,541,704; 4,541,705; 4,541,706; 4,541,707; 4,541,708; 4,541,709; 4,541,710; 4,541,711; 4,541,712; 4,541,713; 4,541,714; 4,541,715; 4,541,716; 4,541,717; 4,541,718; 4,541,719; 4,541,720; 4,541,721; 4,541,722; 4,541,723; 4,541,724; 4,541,725; 4,541,726; 4,541,727; 4,541,728; 4,541,729; 4,541,730; 4,541,731; 4,541,732; 4,541,733; 4,541,734; 4,541,735; 4,541,736; 4,541,737; 4,541,738; 4,541,739; 4,541,740; 4,541,741; 4,541,742; 4,541,743; 4,541,744; 4,541,745; 4,541,746; 4,541,747; 4,541,748; 4,541,749; 4,541,750; 4,541,751; 4,541,752; 4,541,753; 4,541,754; 4,541,755; 4,541,756; 4,541,757; 4,541,758; 4,541,759; 4,541,760; 4,541,761; 4,541,762; 4,541,763; 4,541,764; 4,541,765; 4,541,766; 4,541,767; 4,541,768; 4,541,769; 4,541,770; 4,541,771; 4,541,772; 4,541,773; 4,541,774; 4,541,775; 4,541,776; 4,541,777; 4,541,778; 4,541,779; 4,541,780; 4,541,781; 4,541,782; 4,541,783; 4,541,784; 4,541,785; 4,541,786; 4,541,787; 4,541,788; 4,541,789; 4,541,790; 4,541,791; 4,541,792; 4,541,793; 4,541,794; 4,541,795; 4,541,796; 4,541,797; 4,541,798; 4,541,799; 4,541,800; 4,541,801; 4,541,802; 4,541,803; 4,541,804; 4,541,805; 4,541,806; 4,541,807; 4,541,808; 4,541,809; 4,541,810; 4,541,811; 4,541,812; 4,541,813; 4,541,814; 4,541,815; 4,541,816; 4,541,817; 4,541,818; 4,541,819; 4,541,820; 4,541,821; 4,541,822; 4,541,823; 4,541,824; 4,541,825; 4,541,826; 4,541,827; 4,541,828; 4,541,829; 4,541,830; 4,541,831; 4,541,832; 4,541,833; 4,541,834; 4,541,835; 4,541,836; 4,541,837; 4,541,838; 4,541,839; 4,541,840; 4,541,841; 4,541,842; 4,541,843; 4,541,844; 4,541,845; 4,541,846; 4,541,847; 4,541,848; 4,541,849; 4,541,850; 4,541,851; 4,541,852; 4,541,853; 4,541,854; 4,541,855; 4,541,856; 4,541,857; 4,541,858; 4,541,859; 4,541,860; 4,541,861; 4,541,862; 4,541,863; 4,541,864; 4,541,865; 4,541,866; 4,541,867; 4,541,868; 4,541,869; 4,541,870; 4,541,871; 4,541,872; 4,541,873; 4,541,874; 4,541,875; 4,541,876; 4,541,877; 4,541,878; 4,541,879; 4,541,880; 4,541,881; 4,541,882; 4,541,883; 4,541,884; 4,541,885; 4,541,886; 4,541,887; 4,541,888; 4,541,889; 4,541,890; 4,541,891; 4,541,892; 4,541,893; 4,541,894; 4,541,895; 4,541,896; 4,541,897; 4,541,898; 4,541,899; 4,541,900; 4,541,901; 4,541,902; 4,541,903; 4,541,904; 4,541,905; 4,541,906; 4,541,907; 4,541,908; 4,541,909; 4,541,910; 4,541,911; 4,541,912; 4,541,913; 4,541,914; 4,541,915; 4,541,916; 4,541,917; 4,541,918; 4,541,919; 4,541,920; 4,541,921; 4,541,922; 4,541,923; 4,541,924; 4,541,925; 4,541,926; 4,541,927; 4,541,928; 4,541,929; 4,541,930; 4,541,931; 4,541,932; 4,541,933; 4,541,934; 4,541,935; 4,541,936; 4,541,937; 4,541,938; 4,541,939; 4,541,940; 4,541,941; 4,541,942; 4,541,943; 4,541,944; 4,541,945; 4,541,946; 4,541,947; 4,541,948; 4,541,949; 4,541,950; 4,541,951; 4,541,952; 4,541,953; 4,541,954; 4,541,955; 4,541,956; 4,541,957; 4,541,958; 4,541,959; 4,541,960; 4,541,961; 4,541,962; 4,541,963; 4,541,964; 4,541,965; 4,541,966; 4,541,967; 4,541,968; 4,541,969; 4,541,970; 4,541,971; 4,541,972; 4,541,973; 4,541,974; 4,541,975; 4,541,976; 4,541,977; 4,541,978; 4,541,979; 4,541,980; 4,541,981; 4,541,982; 4,541,983; 4,541,984; 4,541,985; 4,541,986; 4,541,987; 4,541,988; 4,541,989; 4,541,990; 4,541,991; 4,541,992; 4,541,993; 4,541,994; 4,541,995; 4,541,996; 4,541,997; 4,541,998; 4,541,999; 4,542,000; 4,542,001; 4,542,002; 4,542,003; 4,542,004; 4,542,005; 4,542,006; 4,542,007; 4,542,008; 4,542,009; 4,542,010; 4,542,011; 4,542,012; 4,542,013; 4,542,014; 4,542,015; 4,542,016; 4,542,017; 4,542,018; 4,542,019; 4,542,020; 4,542,021; 4,542,022; 4,542,023; 4,542,024; 4,542,025; 4,542,026; 4,542,027; 4,542,028; 4,542,029; 4,542,030; 4,542,031; 4,542,032; 4,542,033; 4,542,034; 4,542,035; 4,542,036; 4,542,037; 4,542,038; 4,542,039; 4,542,040; 4,542,041; 4,542,042; 4,542,043; 4,542,044; 4,542,045; 4,542,046; 4,542,047; 4,542,048; 4,542,049; 4,542,050; 4,542,051; 4,542,052; 4,542,053; 4,542,054; 4,542,055; 4,542,056; 4,542,057; 4,542,058; 4,542,059; 4,542,060; 4,542,061; 4,542,062; 4,542,063; 4,542,064; 4,542,065; 4,542,066; 4,542,067; 4,542,068; 4,542,069; 4,542,070; 4,542,071; 4,542,072; 4,542,073; 4,542,074; 4,542,075; 4,542,076; 4,542,077; 4,542,078; 4,542,079; 4,542,080; 4,542,081; 4,542,082; 4,542,083; 4,542,084; 4,542,085; 4,542,086; 4,542,087; 4,542,088; 4,542,089; 4,542,090; 4,542,091; 4,542,092; 4,542,093; 4,542,094; 4,542,095; 4,542,096; 4,542,097; 4,542,098; 4,542,099; 4,542,100; 4,542,101; 4,542,102; 4,542,103; 4,542,104; 4,542,105; 4,542,106; 4,542,107; 4,542,108; 4,542,109; 4,542,110; 4,542,111; 4,542,112; 4,542,113; 4,542,114; 4,542,115; 4,542,116; 4,542,117; 4,542,118; 4,542,119; 4,542,120; 4,542,121; 4,542,122; 4,542,123; 4,542,124; 4,542,125; 4,542,126; 4,542,127; 4,542,128; 4,542,129; 4,542,130; 4,542,131; 4,542,132; 4,542,133; 4,542,134; 4,542,135; 4,542,136; 4,542,137; 4,542,138; 4,542,139; 4,542,140; 4,542,141; 4,542,142; 4,542,143; 4,542,144; 4,542,145; 4,542,146; 4,542,147; 4,542,148; 4,542,149; 4,542,150; 4,542,151; 4,542,152; 4,542,153; 4,542,154; 4,542,155; 4,542,156; 4,542,157; 4,542,158; 4,542,159; 4,542,160; 4,542,161; 4,542,162; 4,542,163; 4,542,164; 4,542,165; 4,542,166; 4,542,167; 4,542,168; 4,542,169; 4,542,170; 4,542,171; 4,542,172; 4,542,173; 4,542,174; 4,542,175; 4,542,176; 4,542,177; 4,542,178; 4,542,179; 4,542,180; 4,542,181; 4,542,182; 4,542,183; 4,542,184; 4,542,185; 4,542,186; 4,542,187; 4,542,188; 4,542,189; 4,542,190; 4,542,191; 4,542,192; 4,542,193; 4,542,194; 4,542,195; 4,542,196; 4,542,197; 4,542,198; 4,542,199; 4,542,200; 4,542,201; 4,542,202; 4,542,203; 4,542,204; 4,542,205; 4,542,206; 4,542,207; 4,542,208; 4,542,209; 4,542,210; 4,542,211; 4,542,212; 4,542,213; 4,542,214; 4,542,215; 4,542,216; 4,542,217; 4,542,218; 4,542,219; 4,542,220; 4,542,221; 4,542,222; 4,542,223; 4,542,224; 4,542,225; 4,542,226; 4,542,227; 4,542,228; 4,542,229; 4,542,230; 4,542,231; 4,542,232; 4,542,233; 4,542,234; 4,542,235; 4,542,236; 4,542,237; 4,542,238; 4,542,239; 4,542,240; 4,542,241; 4,542,242; 4,542,243; 4,542,244; 4,542,245; 4,542,246; 4,542,247; 4,542,248; 4,542,249; 4,542,250; 4,542,251; 4,542,252; 4,542,253; 4,542,254; 4,542,255; 4,542,256; 4,542,257; 4,542,258; 4,542,259; 4,542,260; 4,542,261; 4,542,262; 4,542,263; 4,542,264; 4,542,265; 4,542,266; 4,542,267; 4,542,268; 4,542,269; 4,542,270; 4,542,271; 4,542,272; 4,542,273; 4,542,274; 4,542,275; 4,542,276; 4,542,277; 4,542,278; 4,542,279; 4,542,280; 4,542,281; 4,542,282; 4,542,283; 4,542,284; 4,542,285; 4,542,286; 4,542,287; 4,542,288; 4,542,289; 4,542,290; 4,542,291; 4,542,292; 4,542,293; 4,542,294; 4,542,295; 4,542,296; 4,542,297; 4,542,298; 4,542,299; 4,542,300; 4,542,301; 4,542,302; 4,542,303; 4,542,304; 4,542,305; 4,542,306; 4,542,307; 4,542,308; 4,542,309; 4,542,310; 4,542,311; 4,542,312; 4,542,313; 4,542,314; 4,542,315; 4,542,316; 4,542,317; 4,542,318; 4,542,319; 4,542,320; 4,542,321; 4,542,322; 4,542,323; 4,542,324; 4,542,325; 4,542,326; 4,542,327; 4,542,328; 4,542,329; 4,542,330; 4,542,331; 4,542,332; 4,542,333; 4,542,334; 4,542,335; 4,542,336; 4,542,337; 4,542,338; 4,542,339; 4,542,340; 4,542,341; 4,542,342; 4,542,343; 4,542,344; 4,542,345; 4,542,346; 4,542,347; 4,542,348; 4,542,349; 4,542,350; 4,542,351; 4,542,352; 4,542,353; 4,542,354; 4,542,355; 4,542,356; 4,542,357; 4,542,358; 4,542,359; 4,542,360; 4,542,361; 4,542,362; 4,542,363; 4,542,364; 4,542,365; 4,542,366; 4,542,367; 4,542,368; 4,542,369; 4,542,370; 4,542,371; 4,542,372; 4,542,373; 4,542,374; 4,542,375; 4,542,376; 4,542,377; 4,542,378; 4,542,379; 4,542,380; 4,542,381; 4,542,382; 4,542,383; 4,542,384; 4,542,385; 4,542,386; 4,542,387; 4,542,388; 4,542,389; 4,542,390; 4,542,391; 4,542,392; 4,542,393; 4,542,394; 4,542,395; 4,542,396; 4,542,397; 4,542,398; 4,542,399; 4,542,400; 4,542,401; 4,542,402; 4,542,403; 4,542,404; 4,542,405; 4,542,406; 4,542,407; 4,542,408; 4,542,409; 4,542,410; 4,542,411; 4,542,412; 4,542,413; 4,542,414; 4,542,415; 4,542,416; 4,542,417; 4,542,418; 4,542,419; 4,542,420; 4,542,421; 4,542,422; 4,542,423; 4,542,424; 4,542,425; 4,542,426; 4,542,427; 4,542,428; 4,542,429; 4,542,430; 4,542,431; 4,542,432; 4,542,433; 4,542,434; 4,542,435; 4,542,436; 4,542,437; 4,542,438; 4,542,439; 4,542,440; 4,542,441; 4,542,442; 4,542,443; 4,542,444; 4,542,445; 4,542,446; 4,542,447; 4,542,448; 4,542,449; 4,542,450; 4,542,451; 4,542,452; 4,542,453; 4,542,454; 4,542,455; 4,542,456; 4,542,457; 4,542,458; 4,542,459; 4,542,460; 4,542,461; 4,542,462; 4,542,463; 4,542,464; 4,542,465; 4,542,466; 4,542,467; 4,542,468; 4,542,469; 4,542,470; 4,542,471; 4,542,472; 4,542,473; 4,542,474; 4,542,475; 4,542,476; 4,542,477; 4,542,478; 4,542,479; 4,542,480; 4,542,481; 4,542,482; 4,542,483; 4,542,484; 4,542,485; 4,542,486; 4,542,487; 4,542,488; 4,542,489; 4,542,490; 4,542,491; 4,542,492; 4,542,493; 4,542,494; 4,542,495; 4,542,496; 4,542,497; 4,542,498; 4,542,499; 4,542,500; 4,542,501; 4,542,502; 4,542,503; 4,542,504; 4,542,505; 4,542,506; 4,542,507; 4,542,508; 4,542,509; 4,542,510; 4,542,511; 4,542,512; 4,542,513; 4,542,514; 4,542,515; 4,542,516; 4,542,517; 4,542,518; 4,542,519; 4,542,520; 4,542,521; 4,542,522; 4,542,523; 4,542,524; 4,542,525; 4,542,526; 4,542,527; 4,542,528; 4,542,529; 4,542,530; 4,542,531; 4,542,532; 4,542,533; 4,542,534; 4,542,535; 4,542,536; 4,542,537; 4,542,538; 4,542,539; 4,542,540; 4,542,541; 4,542,542; 4,542,543; 4,542,544; 4,542,545; 4,542,546; 4,542,547; 4,542,548; 4,542,549; 4,542,550; 4,542,551; 4,542,552; 4,542,553; 4,542,554; 4,542,555; 4,542,556; 4,542,557; 4,542,558; 4,542,559; 4,542,560; 4,542,561; 4,542,562; 4,542,563; 4,542,564; 4,542,565; 4,542,566; 4,542,567; 4,542,568; 4,542,569; 4,542,570; 4,542,571; 4,542,572; 4,542,573; 4,542,574; 4,542,575; 4,542,576; 4,542,577; 4,542,578; 4,542,579; 4,542,580; 4,542,581; 4,542,582; 4,542,583; 4,542,584; 4,542,585; 4,542,586; 4,542,587; 4,542,588; 4,542,589; 4,542,590; 4,542,591; 4,542,592; 4,542,593; 4,542,594; 4,542,595; 4,542,596; 4,542,597; 4,542,598; 4,542,599; 4,542,600; 4,542,601; 4,542,602; 4,542,603; 4,542,604; 4,542,605; 4,542,606; 4,542,607; 4,542,608; 4,542,609; 4,542,610; 4,542,611; 4,542,612; 4,542,613; 4,542,614; 4,542,615; 4,542,616; 4,542,617; 4,542,618; 4,542,619; 4,542,620; 4,542,621; 4,542,622; 4,542,623; 4,542,624; 4,542,625; 4,542,626; 4,542,627; 4,542,628; 4,542,629; 4,542,630; 4,542,631; 4,542,632; 4,542,633; 4,542,634; 4,542,635; 4,542,636; 4,542,637; 4,542,638; 4,542,639; 4,542,640; 4,542,641; 4,542,642; 4,542,643; 4,542,644; 4,542,645; 4,542,646; 4,542,647; 4,542,648; 4,542,649; 4,542,650; 4,542,651; 4,542,652; 4,542,653; 4,542,654; 4,542,655; 4,542,656; 4,542,657; 4,542,658; 4,542,659; 4,542,660; 4,542,661; 4,542,662; 4,542,663; 4,542,664; 4,542,665; 4,542,666; 4,542,667; 4,542,668; 4,542,669; 4,542,670; 4,542,671; 4,542,672; 4,542,673; 4,542,674; 4,542,675; 4,542,676; 4,542,677; 4,542,678; 4,542,679; 4,542,680; 4,542,681; 4,542,682; 4,542,683; 4,542,684; 4,542,685; 4,542,686; 4,542,687; 4,542,688; 4,542,689; 4,542,690; 4,542,691; 4,542,692; 4,542,693; 4,542,694; 4,542,695; 4,542,696; 4,542,697; 4,542,698; 4,542,699; 4,542,700; 4,542,701; 4,542,702; 4,542,703; 4,542,7

Appendix D – Minimum Standard 4 – Conveyance and Natural Channel Protection Calculations

- › Hydraulic Calculations
- › Channel Protection – CPv
- › FES CALCULATIONS

Hydraulic Calculations



Storm Drainage Computations

Design Parameters:
Design Storm: 100 Year

k_e= 0.2

Project 205244

Calculated I 8/26/2026
Checked by

DESCRIPTION	LOCATION		AREA (AC.)	C	C x A	SUM C x A	FLOW TIME (MIN)		i*	DESIGN					CAPACITY		PROFILE							JUNCTION LOSSES		
	FROM	TO					PIPE	CONC TIME		Q cfs	V fps	n	PIPE SIZE	SLOPE	Q full ft^3/s	V full ft/s	LENGTH ft	FALL ft	RIM	INV UPPER	INV LOWER	W.S.E. ft	Freeboard ft	K _m junction	K _d junction	H loss junction
	CB 1	CB 2	0.24	0.80	0.19	0.19	0.36	5.0	11.1	2.1	3.3	0.012	12	0.0049	2.7	3.5	73	0.36	328.9	326.4	326.0	326.4	2.5	0.20	0.80	0.17
	CB 2	CB 3	0.30	0.76	0.23	0.42	0.33	5.0	11.1	4.6	4.5	0.012	15	0.0061	5.5	4.5	88	0.54	328.6	326.0	325.5	325.8	2.8	0.20	0.00	0.06
	RD 1A	CB 3	0.26	0.90	0.23	0.23	0.38	5.0	11.1	2.6	6.8	0.012	10	0.0292	4.1	7.4	156	4.55	332.0	330.0	325.5	329.4	2.6	0.20	0.00	0.14
	CB 3	DMH 4	1.26	0.64	0.81	1.22	0.23	5.0	11.1	13.6	9.1	0.012	18	0.0203	16.2	9.2	123	2.50	329.5	325.5	323.0	324.5	5.0	0.20	0.00	0.26
	CB 20	DMH 4	0.29	0.90	0.26	0.26	0.18	5.0	11.1	2.9	5.5	0.012	12	0.0164	4.9	6.3	61	1.00	324.0	326.0	325.0	325.6	-1.6	0.20	0.00	0.10
	RD2B	CB 12	0.21	0.90	0.19	0.19	0.63	5.0	11.1	2.1	5.3	0.012	10	0.0180	3.2	5.8	200	3.60	330.0	327.0	323.4	327.0	3.0	0.20	0.80	0.44
	CB 12	CB 11	0.35	0.79	0.28	0.46	0.57	5.0	11.1	5.1	4.3	0.012	15	0.0054	5.1	4.2	149	0.80	328.0	325.5	324.7	325.3	2.7	0.20	0.00	0.06
	CB 11	DMH 10	0.45	0.81	0.37	0.83	0.21	5.0	11.1	9.2	6.8	0.012	18	0.0125	12.7	7.2	85	1.06	328.1	324.8	323.7	324.2	3.9	0.20	0.00	0.14
	DMH 10	DMH 9	0.00	0.00	0.00	1.16	0.18	5.0	11.1	12.9	6.1	0.012	24	0.0078	21.7	6.9	64	0.50	329.4	323.7	323.2	323.2	6.2	0.20	0.00	0.11
	RD 2A	DMH 10	0.22	0.90	0.20	0.20	0.37	5.0	11.1	2.2	5.0	0.012	10	0.0135	2.8	5.1	111	1.50	330.0	327.0	325.5	326.7	3.3	0.20	0.00	0.08
	CB 6	DMH 7	0.17	0.76	0.13	0.13	0.11	5.0	11.1	1.5	3.1	0.012	12	0.0057	2.9	3.7	21	0.12	327.6	326.1	326.0	326.1	1.5	0.20	0.80	0.15
	DMH 7	DMH 10	0.00	0.00	0.00	0.13	0.59	5.0	11.1	1.5	3.1	0.012	12	0.0055	2.9	3.6	110	0.60	328.0	326.0	325.4	325.9	2.1	0.20	0.00	0.03
	CB 13	CB 14	0.22	0.80	0.18	0.18	0.68	5.0	11.1	2.0	3.6	0.012	12	0.0065	3.1	4.0	145	0.94	328.7	324.8	323.9	324.8	3.9	0.20	0.80	0.20
	CB 14	DMH 15	0.27	0.76	0.21	0.38	0.33	5.0	11.1	4.2	5.5	0.012	12	0.0117	4.2	5.3	111	1.30	328.3	323.9	322.6	323.5	4.8	0.20	0.00	0.10
	DMH 15	CB 16	0.00	0.00	0.00	0.38	0.27	5.0	11.1	4.2	4.7	0.012	15	0.0080	6.3	5.1	75	0.60	329.2	322.6	322.0	322.3	6.9	0.20	0.00	0.07
	CB 16	CDS 17	0.46	0.75	0.34	0.72	0.02	5.0	11.1	8.0	8.8	0.012	15	0.0273	11.6	9.4	11	0.30	328.6	322.0	321.7	321.0	7.6	0.20	0.00	0.24
	RD 3A	DET 3	0.22	0.90	0.20	0.20	0.96	5.0	11.1	2.2	5.9	0.012	10	0.0234	3.6	6.7	342	8.00	330.0	329.0	321.0	328.6	1.4	0.20	0.00	0.11
	RD 3B	DET 3	0.22	0.90	0.20	0.20	0.05	5.0	11.1	2.2	12.1	0.012	8	0.1622	5.3	15.1	37	6.00	330.5	327.0	321.0	325.2	5.3	0.20	0.00	0.45
	CB 18	CB 19	0.30	0.20	0.06	0.06	1.19	5.0	11.1	0.7	2.4	0.012	12	0.0048	2.7	3.4	169	0.80	329.7	324.7	323.9	324.6	5.1	0.20	0.00	0.02
	CB 19	FES 21	0.30	0.20	0.06	0.12	1.36	5.0	11.1	1.3	4.2	0.012	12	0.0132	4.4	5.6	342	4.52	328.9	317.0	312.5	316.8	12.1	0.20	0.00	0.05

Channel Protection – CPv

The Entire 1 yr storm is infiltrated.

205244.00 PR Drainage

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Type III 24-hr 1- Year Rainfall=2.70"

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1a: Subcat P1-1	Runoff Area=33,821 sf 0.01% Impervious Runoff Depth=0.00" Tc=6.0 min CN=36 Runoff=0.00 cfs 0 cf
SubcatchmentP1-2: Subcat P1-2	Runoff Area=27,448 sf 0.00% Impervious Runoff Depth=0.00" Tc=6.0 min CN=36 Runoff=0.00 cfs 0 cf
SubcatchmentP1-3: Subcat P1-3	Runoff Area=15,939 sf 0.00% Impervious Runoff Depth=0.00" Tc=6.0 min CN=38 Runoff=0.00 cfs 0 cf
SubcatchmentP1-4: Subcat P1-4	Runoff Area=10,150 sf 85.21% Impervious Runoff Depth=1.63" Tc=6.0 min CN=89 Runoff=0.44 cfs 1,379 cf
SubcatchmentP1-5: Subcat P1-5	Runoff Area=11,836 sf 80.23% Impervious Runoff Depth=1.41" Tc=6.0 min CN=86 Runoff=0.45 cfs 1,389 cf
SubcatchmentP1-6: Subcat P1-6	Runoff Area=19,796 sf 79.13% Impervious Runoff Depth=1.41" Tc=6.0 min CN=86 Runoff=0.75 cfs 2,324 cf
SubcatchmentP1-7: Subcat P1-7	Runoff Area=9,062 sf 100.00% Impervious Runoff Depth=2.47" Tc=6.0 min CN=98 Runoff=0.54 cfs 1,865 cf
SubcatchmentP1-8: Subcat P1-8	Runoff Area=9,580 sf 100.00% Impervious Runoff Depth=2.47" Tc=6.0 min CN=98 Runoff=0.57 cfs 1,972 cf
SubcatchmentP2-1: Subcat P2-1	Runoff Area=15,953 sf 0.00% Impervious Runoff Depth=0.00" Tc=6.0 min CN=39 Runoff=0.00 cfs 0 cf
SubcatchmentP2-10: Subcat P2-10	Runoff Area=10,584 sf 80.52% Impervious Runoff Depth=1.48" Tc=6.0 min CN=87 Runoff=0.42 cfs 1,305 cf
SubcatchmentP2-11: Subcat P2-11	Runoff Area=9,062 sf 100.00% Impervious Runoff Depth=2.47" Tc=6.0 min CN=98 Runoff=0.54 cfs 1,865 cf
SubcatchmentP2-12: Subcat P2-12	Runoff Area=15,143 sf 84.60% Impervious Runoff Depth=1.63" Tc=6.0 min CN=89 Runoff=0.66 cfs 2,058 cf
SubcatchmentP2-13: Subcat P2-13	Runoff Area=19,716 sf 87.36% Impervious Runoff Depth=1.79" Tc=6.0 min CN=91 Runoff=0.94 cfs 2,947 cf
SubcatchmentP2-14: Subcat P2-14	Runoff Area=9,580 sf 100.00% Impervious Runoff Depth=2.47" Tc=6.0 min CN=98 Runoff=0.57 cfs 1,972 cf
SubcatchmentP2-15: Subcat P2-15	Runoff Area=7,584 sf 79.44% Impervious Runoff Depth=1.41" Tc=6.0 min CN=86 Runoff=0.29 cfs 890 cf
SubcatchmentP2-2: Subcat P2-2	Runoff Area=15,391 sf 0.19% Impervious Runoff Depth=0.00" Tc=6.0 min CN=38 Runoff=0.00 cfs 0 cf

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Type III 24-hr 1- Year Rainfall=2.70"

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SubcatchmentP2-3: Subcat P2-3	Runoff Area=38,056 sf 0.00% Impervious Runoff Depth=0.00" Tc=6.0 min CN=36 Runoff=0.00 cfs 0 cf
SubcatchmentP2-4: Subcat P2-4	Runoff Area=11,255 sf 99.98% Impervious Runoff Depth=2.47" Tc=6.0 min CN=98 Runoff=0.67 cfs 2,316 cf
SubcatchmentP2-5: Subcat P2-5	Runoff Area=11,382 sf 100.00% Impervious Runoff Depth=2.47" Tc=6.0 min CN=98 Runoff=0.68 cfs 2,343 cf
SubcatchmentP2-6: Subcat P2-6	Runoff Area=32,827 sf 43.96% Impervious Runoff Depth=0.38" Tc=6.0 min CN=65 Runoff=0.21 cfs 1,028 cf
SubcatchmentP2-7: Subcat P2-7	Runoff Area=0.237 ac 86.20% Impervious Runoff Depth=1.71" Tc=6.0 min CN=90 Runoff=0.47 cfs 1,471 cf
SubcatchmentP2-8: Subcat P2-8	Runoff Area=12,952 sf 80.14% Impervious Runoff Depth=1.41" Tc=6.0 min CN=86 Runoff=0.49 cfs 1,520 cf
SubcatchmentP2-9: Subcat P2-9	Runoff Area=12,515 sf 75.32% Impervious Runoff Depth=1.21" Tc=0.0 min CN=83 Runoff=0.49 cfs 1,261 cf
Pond DET1: CULTECH UNDERGROUND	Peak Elev=319.67' Storage=233 cf Inflow=0.68 cfs 278 cf Outflow=0.15 cfs 278 cf
Pond DET2: CULTECH UNDERGROUND	Peak Elev=319.50' Storage=554 cf Inflow=1.46 cfs 731 cf Outflow=0.33 cfs 731 cf
Pond DET3: CULTECH UNDERGROUND	Peak Elev=320.59' Storage=3,058 cf Inflow=2.76 cfs 8,929 cf Outflow=0.47 cfs 8,929 cf
Pond DV1: DIVERSION MANHOLE	Peak Elev=322.93' Inflow=2.52 cfs 8,929 cf Primary=1.84 cfs 8,651 cf Secondary=0.68 cfs 278 cf Outflow=2.52 cfs 8,929 cf
Pond DV2: DIVERSION MANHOLE	Peak Elev=323.74' Inflow=3.01 cfs 9,731 cf Primary=1.55 cfs 9,001 cf Secondary=1.46 cfs 731 cf Outflow=3.01 cfs 9,731 cf
Pond INF1: Infiltration Basin	Peak Elev=309.40' Storage=10,070 cf Inflow=4.40 cfs 20,977 cf Discarded=0.35 cfs 20,977 cf Primary=0.00 cfs 0 cf Outflow=0.35 cfs 20,977 cf
Pond INF2: Infiltration Basin	Peak Elev=312.13' Storage=3,473 cf Inflow=0.47 cfs 8,929 cf Discarded=0.19 cfs 8,929 cf Primary=0.00 cfs 0 cf Outflow=0.19 cfs 8,929 cf
Pond WQ1: CDS WATER QUALITY UNIT	Inflow=1.84 cfs 8,651 cf Primary=1.84 cfs 8,651 cf
Pond WQ2: CDS WATER QUALITY UNIT	Inflow=1.55 cfs 9,001 cf Primary=1.55 cfs 9,001 cf
Pond WQ3: CDS WATER QUALITY UNIT	Inflow=1.64 cfs 5,093 cf Primary=1.64 cfs 5,093 cf

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Link DP1: Offsite North

Inflow=0.00 cfs 0 cf

Primary=0.00 cfs 0 cf

Link DP2: New London Turnpike Drainage

Inflow=0.00 cfs 0 cf

Primary=0.00 cfs 0 cf

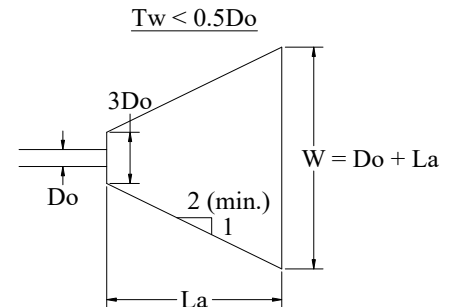
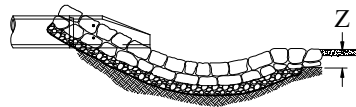
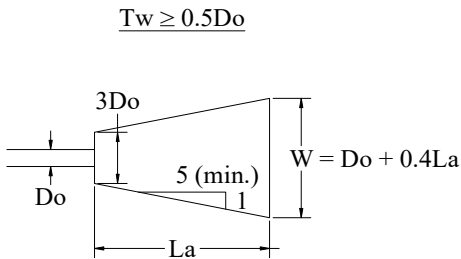
Total Runoff Area = 369,950 sf Runoff Volume = 29,906 cf Average Runoff Depth = 0.97"
50.95% Pervious = 188,477 sf 49.05% Impervious = 181,473 sf

THE ENTIRE 1 YEAR STORM IS INFILTRATED



Outfall Riprap Sizing and Velocity Calculations

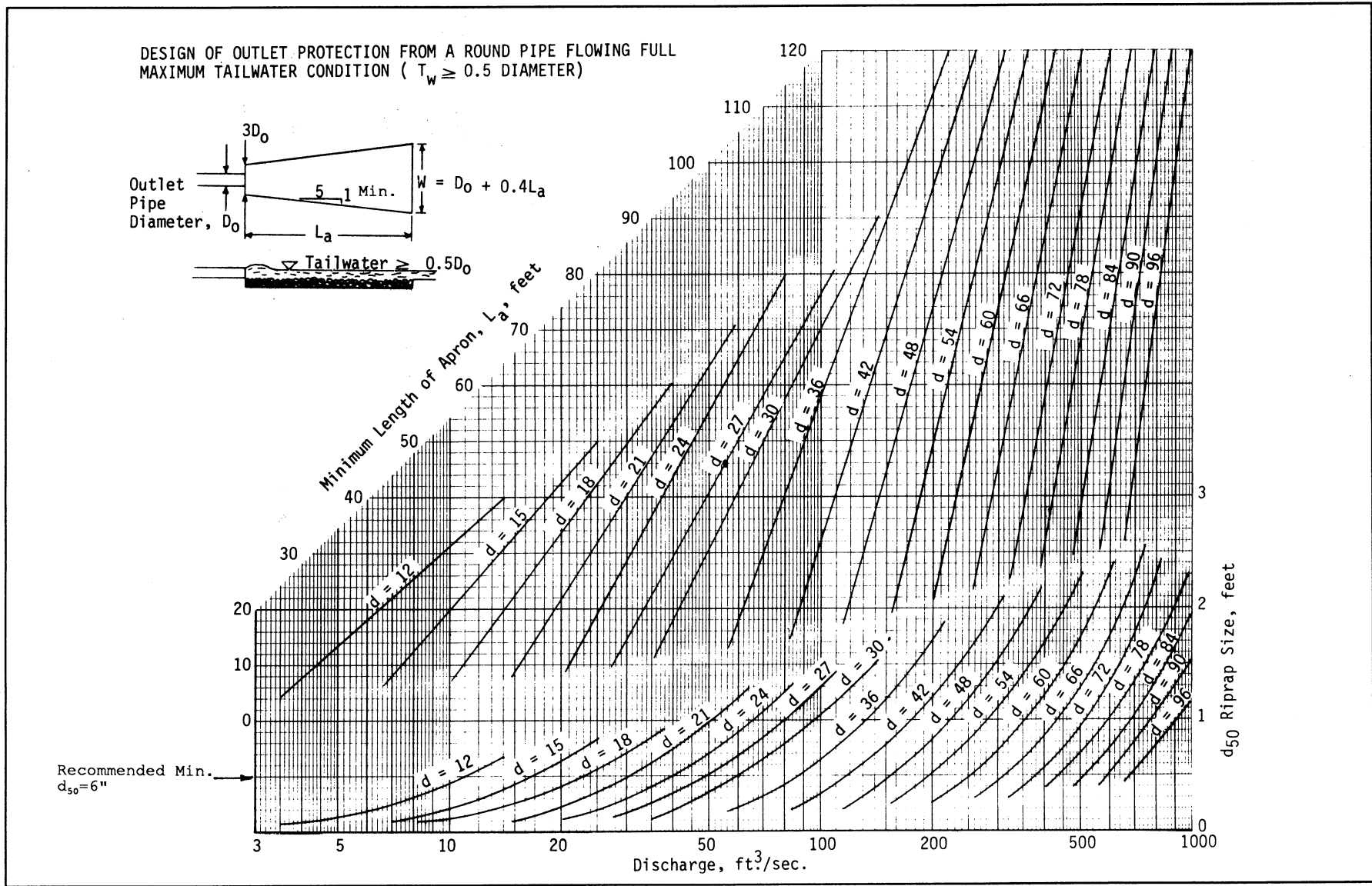
Project	Center Point Commons	Project #	205244.00
	2271 New London Turnpike		
Calculated by	EOB	Date	5/24/2021
Checked by		Date	



OUTLET DESCRIPTION:

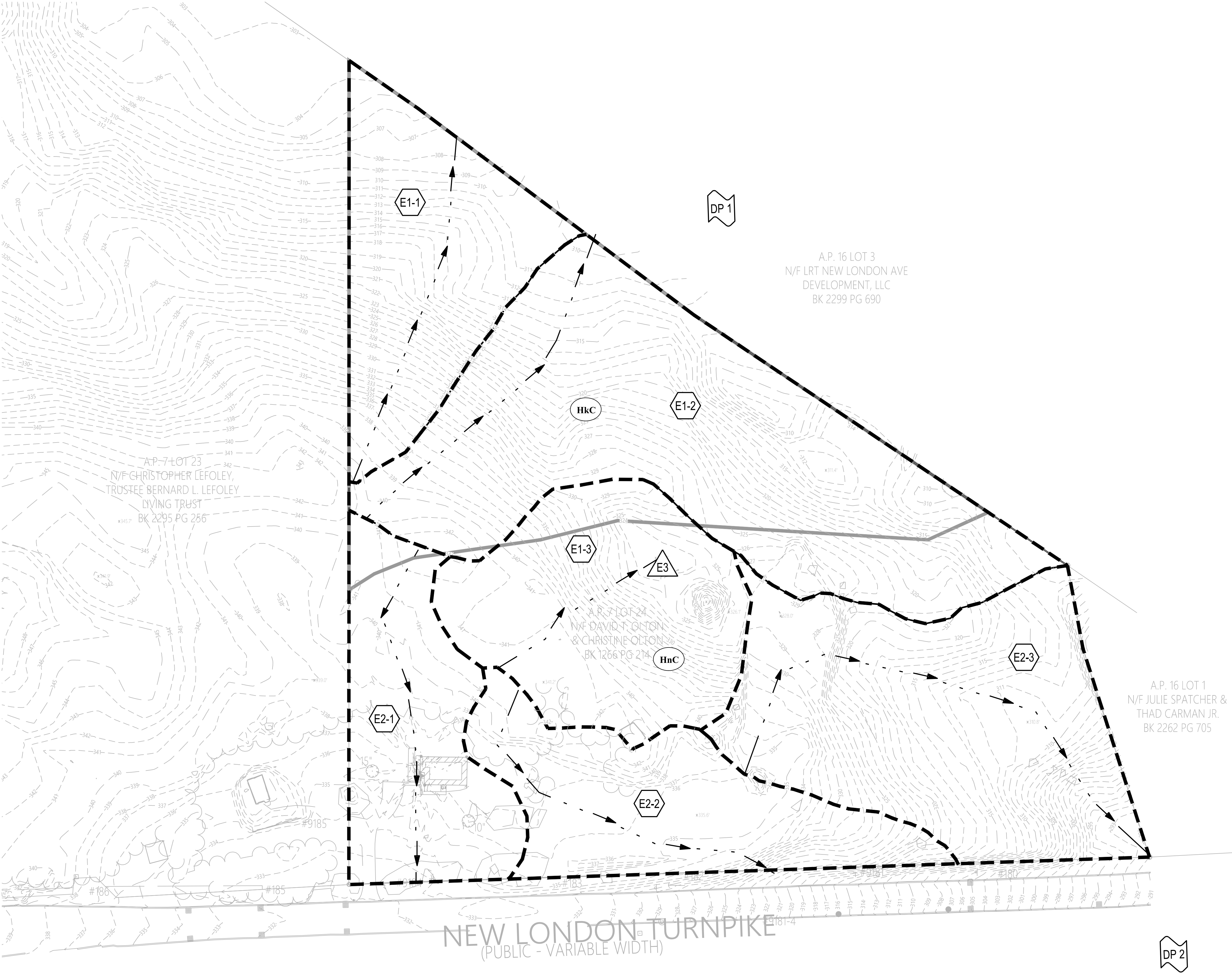
		21	22	23	24	25	26
Design Storm	(yr)	100	100	100	100	100	100
Flow / Discharge (Q)	(cfs)	0.4	0.5	2.6	0.4	1.9	0.8
Defined Channel ?	-	NO	NO	NO	NO	NO	NO
Defined Channel Width	(ft)	0	0	0	0	0	0
Outlet Pipe Diameter (D_o)	(in)	12	4	4	6	6	4
Tailwater Condition (T_w)	(ft)	$T_w \geq 0.5D$	$T_w \geq 0.5D$	$T_w \geq 0.5D$	$T_w \geq 0.5D$	$T_w \geq 0.5D$	$T_w \geq 0.5D$
Apron Length (L_A)	(ft)	4	4	4	4	4	4
Apron Width at Outlet ($3D_o$)	(ft)	3	1	1	1.5	1.5	1
Apron Width at End (W)	(ft)	2.6	1.933333	1.933333	2.1	2.1	1.933333
Median Stone Diameter	(in)	6	6	6	6	6	6
Largest Stone Diameter	(in)	9	9	9	9	9	9
Apron Depth	(in)	13.5	13.5	13.5	13.5	13.5	13.5

Apron Length (L_A):	Length = From Virginia DCR Handbook - Plate 3.18-3	if $T_w < 0.5D$
	Length = From Virginia DCR Handbook - Plate 3.18-4	if $T_w \geq 0.5D$
Apron Width at Outlet ($3D_o$):	Width = 3 x pipe dia. (or width of channel)	
Apron Width at End (W):	Width = dia. + apron length	if $T_w < 0.5D$
	Width = dia. + 0.4 x apron length	if $T_w \geq 0.5D$
	or apron width = channel width if a well defined channel exists	
Rock Riprap:	Median Diameter (d_{50}) = From Virginia DCR Handbook - Plate 3.18-3 or 4	
	Largest stone dia = 1.5 x d_{50}	
Apron Depth:	6" or 1.5 x largest stone dia	



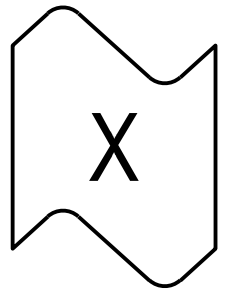
Appendix E – Minimum Standard 5 – Overbank Flood Protection – HydroCAD Calculations

- › Existing Conditions - HydroCAD Model
 - 1-Year Storm Event
 - 2-Year Storm Event
 - 10-Year Storm Event
 - 100-Year Storm Event
- › Proposed Conditions – HydroCAD Model
 - 1-Year Storm Event
 - 2-Year Storm Event
 - 10-Year Storm Event
 - 100-Year Storm Event

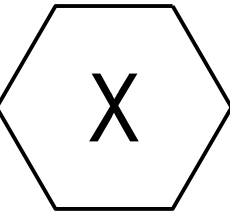


Legend

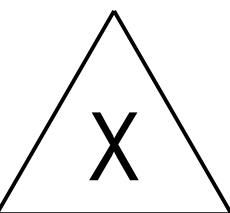
SYMBOLS



DESIGN POINT



DRAINAGE AREA DESIGNATION



POND

LINETYPES



DRAINAGE AREA BOUNDARY



TIME OF CONCENTRATION FLOW LINE - 6 MINUTES

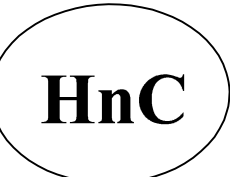


NOT SHOWN
SOIL TYPE BOUNDARY

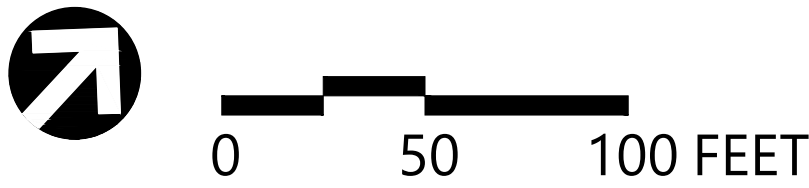
SCS SOIL CLASSIFICATIONS



HINCKLEY LOAM SAND, 8 TO 15 PERCENT SLOPES, HSG A



HINCKLEY-ENFIELD COMPLEX, 3 TO 15 PERCENT SLOPES, HSG A

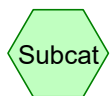
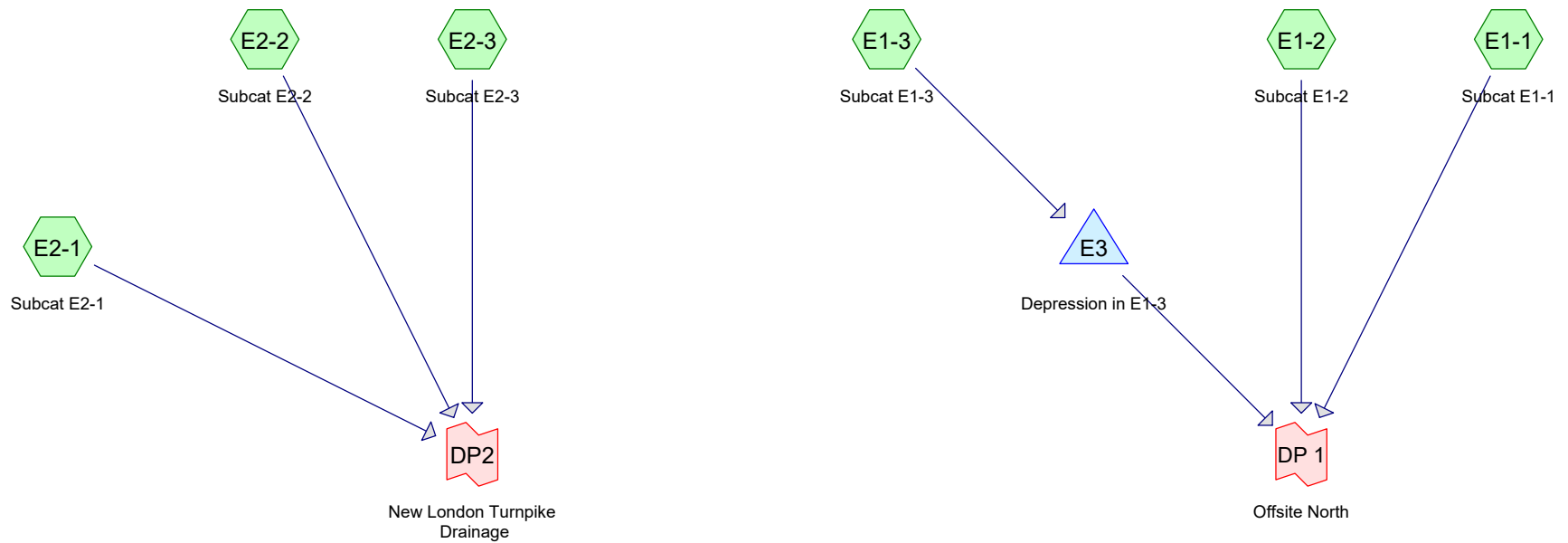


Proposed Drainage Conditions
Center Point Commons
2271 New London Turnpike
Coventry, Rhode Island

Figure 2.0

08/28/2026

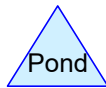
Existing Conditions – HydroCAD Model



Subcat



Reach



Pond



Link

Routing Diagram for 205244.00 ex Drainage

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1-Year Storm Event

205244.00 ex Drainage

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Type III 24-hr 1- Year Rainfall=2.70"

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Page 1

Summary for Subcatchment E1-1: Subcat E1-1

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"
 Routed to Link DP 1 : Offsite North

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Type III 24-hr 1- Year Rainfall=2.70"

Area (sf)	CN	Description
46,592	30	Woods, Good, HSG A
46,592	30	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.6	67	0.0500	0.10		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
4.2	33	0.1250	0.13		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
0.2	80	0.1670	6.58		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.5	165	0.1000	5.09		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
15.5	345	Total			

Summary for Subcatchment E1-2: Subcat E1-2

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"
 Routed to Link DP 1 : Offsite North

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Type III 24-hr 1- Year Rainfall=2.70"

Area (sf)	CN	Description
855	76	Gravel roads, HSG A
105,915	30	Woods, Good, HSG A
106,770	30	Weighted Average
106,770	30	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.3	100	0.0450	0.11		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
0.4	149	0.1670	6.58		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.4	102	0.0740	4.38		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
16.1	351	Total			

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Type III 24-hr 1- Year Rainfall=2.70"

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Summary for Subcatchment E1-3: Subcat E1-3

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"
 Routed to Pond E3 : Depression in E1-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Type III 24-hr 1- Year Rainfall=2.70"

Area (sf)	CN	Description
914	76	Gravel roads, HSG A
457	96	Gravel surface, HSG A
51,762	30	Woods, Good, HSG A
53,132	31	Weighted Average
53,132	31	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.9	80	0.0070	0.05		Sheet Flow,
					Woods: Light underbrush n= 0.400 P2= 3.30"
0.0	6	0.2200	7.55		Shallow Concentrated Flow,
					Unpaved Kv= 16.1 fps
26.9	86	Total			

Summary for Subcatchment E2-1: Subcat E2-1

Runoff = 0.00 cfs @ 24.07 hrs, Volume= 1 cf, Depth= 0.00"
 Routed to Link DP2 : New London Turnpike Drainage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Type III 24-hr 1- Year Rainfall=2.70"

Area (sf)	CN	Description
17,984	30	Woods, Good, HSG A
2,315	30	Brush, Good, HSG A
14,099	39	>75% Grass cover, Good, HSG A
2,205	96	Gravel surface, HSG A
2,444	98	Paved parking, HSG A
1,138	98	Roofs, HSG A
40,185	43	Weighted Average
36,603	37	91.09% Pervious Area
3,582	98	8.91% Impervious Area

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Type III 24-hr 1- Year Rainfall=2.70"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.9	100	0.0350	0.10		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
0.6	98	0.0300	2.79		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.2	39	0.0300	2.79		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.4	92	0.0590	3.91		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
18.1	329	Total			

Summary for Subcatchment E2-2: Subcat E2-2

Runoff = 0.00 cfs @ 20.78 hrs, Volume= 62 cf, Depth= 0.02"

Routed to Link DP2 : New London Turnpike Drainage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 1- Year Rainfall=2.70"

Area (sf)	CN	Description
25,455	30	Woods, Good, HSG A
627	30	Brush, Good, HSG A
2,352	39	>75% Grass cover, Good, HSG A
15,924	76	Gravel roads, HSG A
44,358	47	Weighted Average
44,358	47	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	34	0.0150	0.06		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
0.1	25	0.1000	5.09		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
2.0	247	0.0170	2.10		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.1	47	0.3330	9.29		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
12.2	353	Total			

Summary for Subcatchment E2-3: Subcat E2-3

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"

Routed to Link DP2 : New London Turnpike Drainage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 1- Year Rainfall=2.70"

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Type III 24-hr 1- Year Rainfall=2.70"

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Area (sf)	CN	Description
68,831	30	Woods, Good, HSG A
1,780	39	>75% Grass cover, Good, HSG A
8,303	76	Gravel roads, HSG A
78,914	35	Weighted Average
78,914	35	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	100	0.0500	0.25		Sheet Flow, Grass: Short n= 0.150 P2= 3.30"
0.2	46	0.0500	3.60		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.0	15	0.5000	11.38		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.6	159	0.0770	4.47		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.6	68	0.0130	1.84		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.2	71	0.1670	6.58		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.3	68	0.0670	4.17		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
8.6	527	Total			

Summary for Pond E3: Depression in E1-3

Inflow Area = 53,132 sf, 0.00% Impervious, Inflow Depth = 0.00" for 1- Year event
 Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
 Discarded = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link DP 1 : Offsite North

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 316.00' @ 0.00 hrs Surf.Area= 35 sf Storage= 0 cf

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

Volume	Invert	Avail.Storage	Storage Description
#1	316.00'	12,232 cf	Custom Stage Data (Irregular) Listed below (Recalc)

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Type III 24-hr 1- Year Rainfall=2.70"

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Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
316.00	35	23.0	0	0	35
317.00	106	38.0	67	67	114
318.00	185	51.0	144	211	216
319.00	283	62.0	232	443	330
320.00	407	75.0	343	786	488
321.00	546	85.0	475	1,261	638
322.00	714	97.0	628	1,889	834
323.00	882	108.0	797	2,686	1,041
324.00	3,263	320.0	1,947	4,633	8,264
325.00	5,630	450.0	4,393	9,026	16,239
325.50	7,227	491.0	3,206	12,232	19,319

Device	Routing	Invert	Outlet Devices
#1	Discarded	316.00'	8.270 in/hr Exfiltration over Surface area
#2	Primary	325.45'	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

Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=316.00' (Free Discharge)↑**1=Exfiltration** (Passes 0.00 cfs of 0.01 cfs potential flow)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=316.00' (Free Discharge)↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)**Summary for Link DP 1: Offsite North**

Inflow Area = 206,494 sf, 0.00% Impervious, Inflow Depth = 0.00" for 1- Year event
 Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Link DP2: New London Turnpike Drainage

Inflow Area = 163,456 sf, 2.19% Impervious, Inflow Depth = 0.00" for 1- Year event
 Inflow = 0.00 cfs @ 20.78 hrs, Volume= 63 cf
 Primary = 0.00 cfs @ 20.78 hrs, Volume= 63 cf, Atten= 0%, Lag= 0.0 min

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

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Type III 24-hr 1- Year Rainfall=2.70"

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentE1-1: Subcat E1-1 Runoff Area=46,592 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=345' Tc=15.5 min CN=30 Runoff=0.00 cfs 0 cf

SubcatchmentE1-2: Subcat E1-2 Runoff Area=106,770 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=351' Tc=16.1 min CN=30 Runoff=0.00 cfs 0 cf

SubcatchmentE1-3: Subcat E1-3 Runoff Area=53,132 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=86' Tc=26.9 min CN=31 Runoff=0.00 cfs 0 cf

SubcatchmentE2-1: Subcat E2-1 Runoff Area=40,185 sf 8.91% Impervious Runoff Depth=0.00"
Flow Length=329' Tc=18.1 min CN=43 Runoff=0.00 cfs 1 cf

SubcatchmentE2-2: Subcat E2-2 Runoff Area=44,358 sf 0.00% Impervious Runoff Depth=0.02"
Flow Length=353' Tc=12.2 min CN=47 Runoff=0.00 cfs 62 cf

SubcatchmentE2-3: Subcat E2-3 Runoff Area=78,914 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=527' Tc=8.6 min CN=35 Runoff=0.00 cfs 0 cf

Pond E3: Depression in E1-3 Peak Elev=316.00' Storage=0 cf Inflow=0.00 cfs 0 cf
Discarded=0.00 cfs 0 cf Primary=0.00 cfs 0 cf Outflow=0.00 cfs 0 cf

Link DP 1: Offsite North Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link DP2: New London Turnpike Drainage Inflow=0.00 cfs 63 cf
Primary=0.00 cfs 63 cf

Total Runoff Area = 369,950 sf Runoff Volume = 63 cf Average Runoff Depth = 0.00"
99.03% Pervious = 366,368 sf 0.97% Impervious = 3,582 sf

2-Year Storm Event

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Type III 24-hr 2- Year Rainfall=3.30"

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentE1-1: Subcat E1-1 Runoff Area=46,592 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=345' Tc=15.5 min CN=30 Runoff=0.00 cfs 0 cf

SubcatchmentE1-2: Subcat E1-2 Runoff Area=106,770 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=351' Tc=16.1 min CN=30 Runoff=0.00 cfs 0 cf

SubcatchmentE1-3: Subcat E1-3 Runoff Area=53,132 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=86' Tc=26.9 min CN=31 Runoff=0.00 cfs 0 cf

SubcatchmentE2-1: Subcat E2-1 Runoff Area=40,185 sf 8.91% Impervious Runoff Depth=0.03"
Flow Length=329' Tc=18.1 min CN=43 Runoff=0.00 cfs 101 cf

SubcatchmentE2-2: Subcat E2-2 Runoff Area=44,358 sf 0.00% Impervious Runoff Depth=0.09"
Flow Length=353' Tc=12.2 min CN=47 Runoff=0.01 cfs 327 cf

SubcatchmentE2-3: Subcat E2-3 Runoff Area=78,914 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=527' Tc=8.6 min CN=35 Runoff=0.00 cfs 0 cf

Pond E3: Depression in E1-3 Peak Elev=316.00' Storage=0 cf Inflow=0.00 cfs 0 cf
Discarded=0.00 cfs 0 cf Primary=0.00 cfs 0 cf Outflow=0.00 cfs 0 cf

Link DP 1: Offsite North Inflow=0.00 cfs 0 cf
Primary=0.00 cfs 0 cf

Link DP2: New London Turnpike Drainage Inflow=0.01 cfs 429 cf
Primary=0.01 cfs 429 cf

Total Runoff Area = 369,950 sf Runoff Volume = 429 cf Average Runoff Depth = 0.01"
99.03% Pervious = 366,368 sf 0.97% Impervious = 3,582 sf

10-Year Storm Event

205244.00 ex Drainage

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Type III 24-hr 10- Year Rainfall=4.80"

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentE1-1: Subcat E1-1 Runoff Area=46,592 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=345' Tc=15.5 min CN=30 Runoff=0.00 cfs 3 cf

SubcatchmentE1-2: Subcat E1-2 Runoff Area=106,770 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=351' Tc=16.1 min CN=30 Runoff=0.00 cfs 7 cf

SubcatchmentE1-3: Subcat E1-3 Runoff Area=53,132 sf 0.00% Impervious Runoff Depth=0.01"
Flow Length=86' Tc=26.9 min CN=31 Runoff=0.00 cfs 24 cf

SubcatchmentE2-1: Subcat E2-1 Runoff Area=40,185 sf 8.91% Impervious Runoff Depth=0.30"
Flow Length=329' Tc=18.1 min CN=43 Runoff=0.08 cfs 1,004 cf

SubcatchmentE2-2: Subcat E2-2 Runoff Area=44,358 sf 0.00% Impervious Runoff Depth=0.47"
Flow Length=353' Tc=12.2 min CN=47 Runoff=0.22 cfs 1,732 cf

SubcatchmentE2-3: Subcat E2-3 Runoff Area=78,914 sf 0.00% Impervious Runoff Depth=0.06"
Flow Length=527' Tc=8.6 min CN=35 Runoff=0.01 cfs 394 cf

Pond E3: Depression in E1-3 Peak Elev=316.02' Storage=1 cf Inflow=0.00 cfs 24 cf
Discarded=0.00 cfs 24 cf Primary=0.00 cfs 0 cf Outflow=0.00 cfs 24 cf

Link DP 1: Offsite North Inflow=0.00 cfs 10 cf
Primary=0.00 cfs 10 cf

Link DP2: New London Turnpike Drainage Inflow=0.28 cfs 3,130 cf
Primary=0.28 cfs 3,130 cf

Total Runoff Area = 369,950 sf Runoff Volume = 3,163 cf Average Runoff Depth = 0.10"
99.03% Pervious = 366,368 sf 0.97% Impervious = 3,582 sf

100-Year Storm Event

205244.00 ex Drainage

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Type III 24-hr 100- Year Rainfall=8.70"

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentE1-1: Subcat E1-1

Runoff Area=46,592 sf 0.00% Impervious Runoff Depth=0.59"
Flow Length=345' Tc=15.5 min CN=30 Runoff=0.21 cfs 2,308 cf

SubcatchmentE1-2: Subcat E1-2

Runoff Area=106,770 sf 0.00% Impervious Runoff Depth=0.59"
Flow Length=351' Tc=16.1 min CN=30 Runoff=0.48 cfs 5,289 cf

SubcatchmentE1-3: Subcat E1-3

Runoff Area=53,132 sf 0.00% Impervious Runoff Depth=0.68"
Flow Length=86' Tc=26.9 min CN=31 Runoff=0.26 cfs 3,015 cf

SubcatchmentE2-1: Subcat E2-1

Runoff Area=40,185 sf 8.91% Impervious Runoff Depth=1.90"
Flow Length=329' Tc=18.1 min CN=43 Runoff=1.20 cfs 6,347 cf

SubcatchmentE2-2: Subcat E2-2

Runoff Area=44,358 sf 0.00% Impervious Runoff Depth=2.34"
Flow Length=353' Tc=12.2 min CN=47 Runoff=2.05 cfs 8,664 cf

SubcatchmentE2-3: Subcat E2-3

Runoff Area=78,914 sf 0.00% Impervious Runoff Depth=1.06"
Flow Length=527' Tc=8.6 min CN=35 Runoff=1.10 cfs 6,939 cf

Pond E3: Depression in E1-3

Peak Elev=320.12' Storage=838 cf Inflow=0.26 cfs 3,015 cf
Discarded=0.08 cfs 3,015 cf Primary=0.00 cfs 0 cf Outflow=0.08 cfs 3,015 cf

Link DP 1: Offsite North

Inflow=0.69 cfs 7,597 cf
Primary=0.69 cfs 7,597 cf

Link DP2: New London Turnpike Drainage

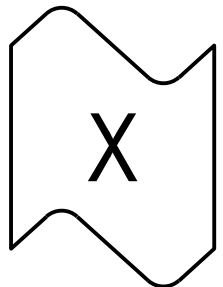
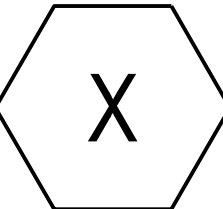
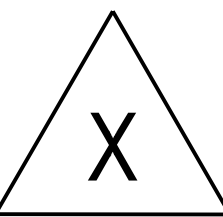
Inflow=4.16 cfs 21,950 cf
Primary=4.16 cfs 21,950 cf

Total Runoff Area = 369,950 sf Runoff Volume = 32,562 cf Average Runoff Depth = 1.06"
99.03% Pervious = 366,368 sf 0.97% Impervious = 3,582 sf



Legend

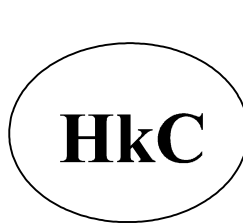
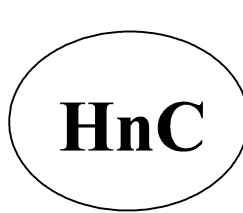
SYMBOLS

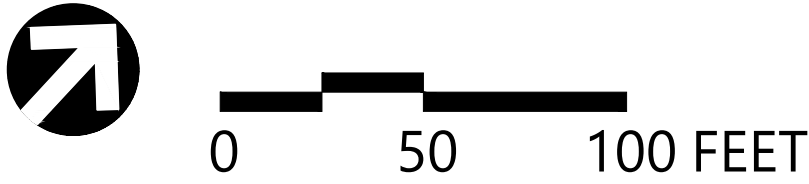
-  **DESIGN POINT**
-  **DRAINAGE AREA DESIGNATION**
-  **POND**

LINETYPES

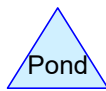
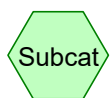
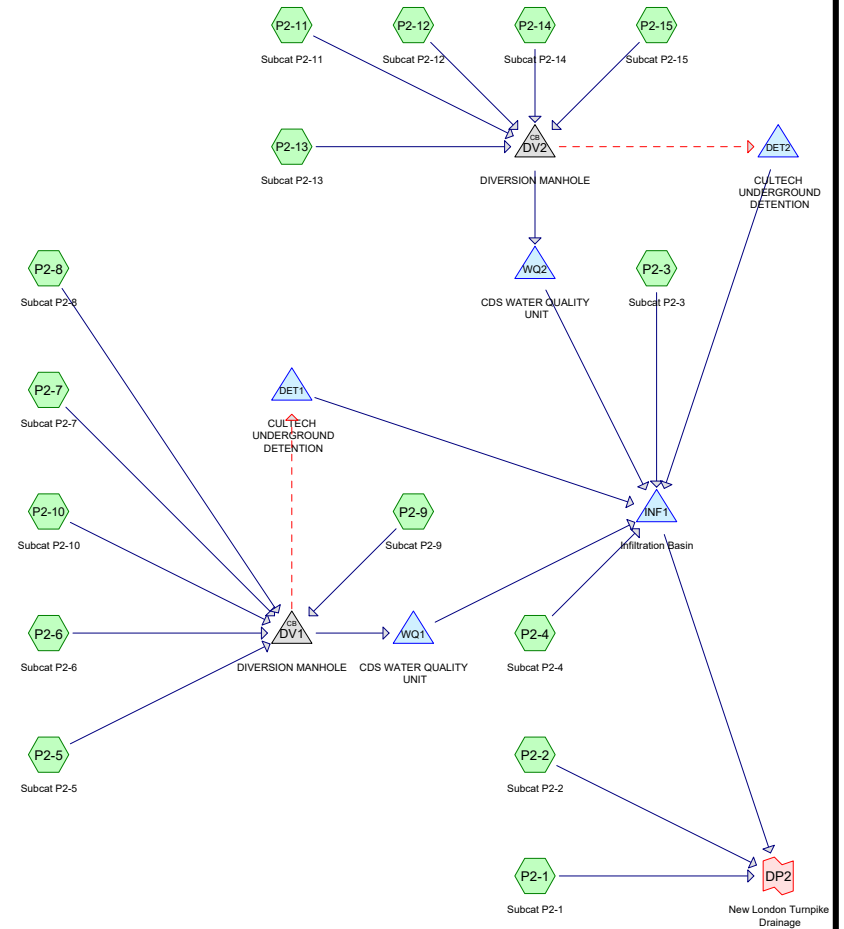
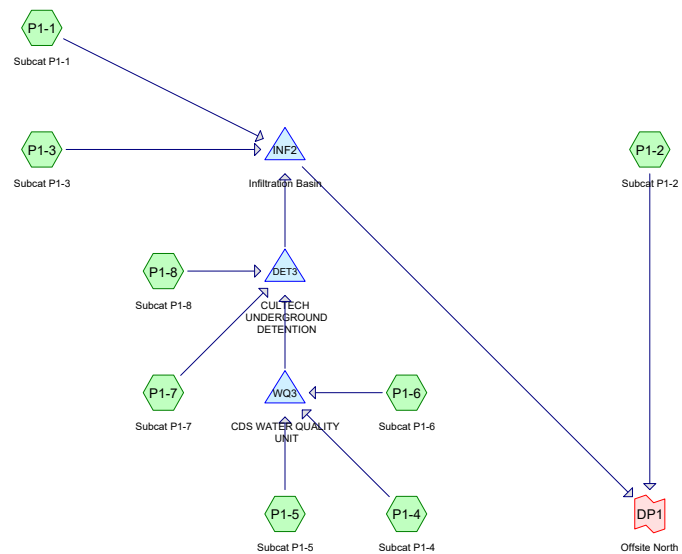
-  **DRAINAGE AREA BOUNDARY**
-  **TIME OF CONCENTRATION FLOW LINE - 6 MINUTES**
-  **NOT SHOWN**
-  **SOIL TYPE BOUNDARY**
-  **DRAINAGE**

SCS SOIL CLASSIFICATIONS

-  **HINCKLEY LOAM SAND, 8 TO 15 PERCENT SLOPES, HSG A**
-  **HINCKLEY-ENFIELD COMPLEX, 3 TO 15 PERCENT SLOPES, HSG A**



Proposed Conditions – HydroCAD Model



Routing Diagram for 205244.00 PR Drainage
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1-Year Storm Event

205244.00 PR Drainage

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Type III 24-hr 1- Year Rainfall=2.70"

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Summary for Subcatchment P1-1: Subcat P1-1

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"
Routed to Pond INF2 : Infiltration Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 1- Year Rainfall=2.70"

Area (sf)	CN	Description
12,670	30	Woods, Good, HSG A
4	98	Paved parking, HSG A
21,147	39	>75% Grass cover, Good, HSG A
33,821	36	Weighted Average
33,817	36	99.99% Pervious Area
4	98	0.01% Impervious Area

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

Summary for Subcatchment P1-2: Subcat P1-2

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"
Routed to Link DP1 : Offsite North

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 1- Year Rainfall=2.70"

Area (sf)	CN	Description
7,822	30	Woods, Good, HSG A
19,626	39	>75% Grass cover, Good, HSG A
27,448	36	Weighted Average
27,448	36	100.00% Pervious Area

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

Summary for Subcatchment P1-3: Subcat P1-3

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"
Routed to Pond INF2 : Infiltration Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 1- Year Rainfall=2.70"

205244.00 PR Drainage

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Type III 24-hr 1- Year Rainfall=2.70"

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Area (sf)	CN	Description
2,076	30	Woods, Good, HSG A
13,863	39	>75% Grass cover, Good, HSG A
15,939	38	Weighted Average
15,939	38	100.00% Pervious Area

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

Summary for Subcatchment P1-4: Subcat P1-4

Runoff = 0.44 cfs @ 12.09 hrs, Volume= 1,379 cf, Depth= 1.63"
Routed to Pond WQ3 : CDS WATER QUALITY UNIT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 1- Year Rainfall=2.70"

Area (sf)	CN	Description
1,501	39	>75% Grass cover, Good, HSG A
8,649	98	Paved parking, HSG A
10,150	89	Weighted Average
1,501	39	14.79% Pervious Area
8,649	98	85.21% Impervious Area

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

Summary for Subcatchment P1-5: Subcat P1-5

Runoff = 0.45 cfs @ 12.09 hrs, Volume= 1,389 cf, Depth= 1.41"
Routed to Pond WQ3 : CDS WATER QUALITY UNIT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 1- Year Rainfall=2.70"

Area (sf)	CN	Description
2,340	39	>75% Grass cover, Good, HSG A
9,496	98	Paved parking, HSG A
11,836	86	Weighted Average
2,340	39	19.77% Pervious Area
9,496	98	80.23% Impervious Area

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

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Type III 24-hr 1- Year Rainfall=2.70"

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Summary for Subcatchment P1-6: Subcat P1-6

Runoff = 0.75 cfs @ 12.09 hrs, Volume= 2,324 cf, Depth= 1.41"
Routed to Pond WQ3 : CDS WATER QUALITY UNIT

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 1- Year Rainfall=2.70"

Area (sf)	CN	Description
4,132	39	>75% Grass cover, Good, HSG A
15,664	98	Paved parking, HSG A
19,796	86	Weighted Average
4,132	39	20.87% Pervious Area
15,664	98	79.13% Impervious Area

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

Summary for Subcatchment P1-7: Subcat P1-7

Runoff = 0.54 cfs @ 12.08 hrs, Volume= 1,865 cf, Depth= 2.47"
Routed to Pond DET3 : CULTECH UNDERGROUND DETENTION

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 1- Year Rainfall=2.70"

Area (sf)	CN	Description
9,062	98	Roofs, HSG A
9,062	98	100.00% Impervious Area

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

Summary for Subcatchment P1-8: Subcat P1-8

Runoff = 0.57 cfs @ 12.08 hrs, Volume= 1,972 cf, Depth= 2.47"
Routed to Pond DET3 : CULTECH UNDERGROUND DETENTION

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 1- Year Rainfall=2.70"

Area (sf)	CN	Description
9,580	98	Roofs, HSG A
9,580	98	100.00% Impervious Area

205244.00 PR Drainage

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Type III 24-hr 1- Year Rainfall=2.70"

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

Summary for Subcatchment P2-1: Subcat P2-1

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"
Routed to Link DP2 : New London Turnpike Drainage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 1- Year Rainfall=2.70"

Area (sf)	CN	Description
15,953	39	>75% Grass cover, Good, HSG A
15,953	39	100.00% Pervious Area

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

Summary for Subcatchment P2-10: Subcat P2-10

Runoff = 0.42 cfs @ 12.09 hrs, Volume= 1,305 cf, Depth= 1.48"
Routed to Pond DV1 : DIVERSION MANHOLE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 1- Year Rainfall=2.70"

Area (sf)	CN	Description
2,061	39	>75% Grass cover, Good, HSG A
8,523	98	Paved parking, HSG A
10,584	87	Weighted Average
2,061	39	19.48% Pervious Area
8,523	98	80.52% Impervious Area

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

Summary for Subcatchment P2-11: Subcat P2-11

Runoff = 0.54 cfs @ 12.08 hrs, Volume= 1,865 cf, Depth= 2.47"
Routed to Pond DV2 : DIVERSION MANHOLE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 1- Year Rainfall=2.70"

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Type III 24-hr 1- Year Rainfall=2.70"

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Area (sf)	CN	Description
9,062	98	Roofs, HSG A
9,062	98	100.00% Impervious Area

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

Summary for Subcatchment P2-12: Subcat P2-12

Runoff = 0.66 cfs @ 12.09 hrs, Volume= 2,058 cf, Depth= 1.63"
 Routed to Pond DV2 : DIVERSION MANHOLE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Type III 24-hr 1- Year Rainfall=2.70"

Area (sf)	CN	Description
2,332	39	>75% Grass cover, Good, HSG A
12,810	98	Paved parking, HSG A
15,143	89	Weighted Average
2,332	39	15.40% Pervious Area
12,810	98	84.60% Impervious Area

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

Summary for Subcatchment P2-13: Subcat P2-13

Runoff = 0.94 cfs @ 12.09 hrs, Volume= 2,947 cf, Depth= 1.79"
 Routed to Pond DV2 : DIVERSION MANHOLE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Type III 24-hr 1- Year Rainfall=2.70"

Area (sf)	CN	Description
2,492	39	>75% Grass cover, Good, HSG A
17,224	98	Paved parking, HSG A
19,716	91	Weighted Average
2,492	39	12.64% Pervious Area
17,224	98	87.36% Impervious Area

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

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Type III 24-hr 1- Year Rainfall=2.70"

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Summary for Subcatchment P2-14: Subcat P2-14

Runoff = 0.57 cfs @ 12.08 hrs, Volume= 1,972 cf, Depth= 2.47"
Routed to Pond DV2 : DIVERSION MANHOLE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 1- Year Rainfall=2.70"

Area (sf)	CN	Description
9,580	98	Roofs, HSG A
9,580	98	100.00% Impervious Area

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

Summary for Subcatchment P2-15: Subcat P2-15

Runoff = 0.29 cfs @ 12.09 hrs, Volume= 890 cf, Depth= 1.41"
Routed to Pond DV2 : DIVERSION MANHOLE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 1- Year Rainfall=2.70"

Area (sf)	CN	Description
1,559	39	>75% Grass cover, Good, HSG A
6,025	98	Paved parking, HSG A
7,584	86	Weighted Average
1,559	39	20.56% Pervious Area
6,025	98	79.44% Impervious Area

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

Summary for Subcatchment P2-2: Subcat P2-2

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"
Routed to Link DP2 : New London Turnpike Drainage

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 1- Year Rainfall=2.70"

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Type III 24-hr 1- Year Rainfall=2.70"

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Area (sf)	CN	Description
1,386	30	Woods, Good, HSG A
29	98	Paved parking, HSG A
13,976	39	>75% Grass cover, Good, HSG A
15,391	38	Weighted Average
15,363	38	99.81% Pervious Area
29	98	0.19% Impervious Area

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

Summary for Subcatchment P2-3: Subcat P2-3

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Depth= 0.00"
 Routed to Pond INF1 : Infiltration Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Type III 24-hr 1- Year Rainfall=2.70"

Area (sf)	CN	Description
14,145	30	Woods, Good, HSG A
23,911	39	>75% Grass cover, Good, HSG A
38,056	36	Weighted Average
38,056	36	100.00% Pervious Area

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

Summary for Subcatchment P2-4: Subcat P2-4

Runoff = 0.67 cfs @ 12.08 hrs, Volume= 2,316 cf, Depth= 2.47"
 Routed to Pond INF1 : Infiltration Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Type III 24-hr 1- Year Rainfall=2.70"

Area (sf)	CN	Description
11,253	98	Roofs, HSG A
2	39	>75% Grass cover, Good, HSG A
11,255	98	Weighted Average
2	39	0.02% Pervious Area
11,253	98	99.98% Impervious Area

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Type III 24-hr 1- Year Rainfall=2.70"

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

Summary for Subcatchment P2-5: Subcat P2-5

Runoff = 0.68 cfs @ 12.08 hrs, Volume= 2,343 cf, Depth= 2.47"
Routed to Pond DV1 : DIVERSION MANHOLE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 1- Year Rainfall=2.70"

Area (sf)	CN	Description
11,382	98	Roofs, HSG A
11,382	98	100.00% Impervious Area

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

Summary for Subcatchment P2-6: Subcat P2-6

Runoff = 0.21 cfs @ 12.12 hrs, Volume= 1,028 cf, Depth= 0.38"
Routed to Pond DV1 : DIVERSION MANHOLE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 1- Year Rainfall=2.70"

Area (sf)	CN	Description
17,162	39	>75% Grass cover, Good, HSG A
1,234	30	Woods, Good, HSG A
14,431	98	Paved parking, HSG A
32,827	65	Weighted Average
18,397	38	56.04% Pervious Area
14,431	98	43.96% Impervious Area

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

Summary for Subcatchment P2-7: Subcat P2-7

Runoff = 0.47 cfs @ 12.09 hrs, Volume= 1,471 cf, Depth= 1.71"
Routed to Pond DV1 : DIVERSION MANHOLE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 1- Year Rainfall=2.70"

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Type III 24-hr 1- Year Rainfall=2.70"

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Area (ac)	CN	Description
0.033	39	>75% Grass cover, Good, HSG A
0.204	98	Paved parking, HSG A
0.237	90	Weighted Average
0.033	39	13.80% Pervious Area
0.204	98	86.20% Impervious Area

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

Summary for Subcatchment P2-8: Subcat P2-8

Runoff = 0.49 cfs @ 12.09 hrs, Volume= 1,520 cf, Depth= 1.41"
 Routed to Pond DV1 : DIVERSION MANHOLE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Type III 24-hr 1- Year Rainfall=2.70"

Area (sf)	CN	Description
10,379	98	Paved parking, HSG A
2,573	39	>75% Grass cover, Good, HSG A
12,952	86	Weighted Average
2,573	39	19.86% Pervious Area
10,379	98	80.14% Impervious Area

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

Summary for Subcatchment P2-9: Subcat P2-9

Runoff = 0.49 cfs @ 12.00 hrs, Volume= 1,261 cf, Depth= 1.21"
 Routed to Pond DV1 : DIVERSION MANHOLE

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Type III 24-hr 1- Year Rainfall=2.70"

Area (sf)	CN	Description
3,089	39	>75% Grass cover, Good, HSG A
9,426	98	Paved parking, HSG A
0	98	Roofs, HSG A
12,515	83	Weighted Average
3,089	39	24.68% Pervious Area
9,426	98	75.32% Impervious Area

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Summary for Pond DET1: CULTECH UNDERGROUND DETENTION

Inflow = 0.68 cfs @ 12.08 hrs, Volume= 278 cf
 Outflow = 0.15 cfs @ 12.17 hrs, Volume= 278 cf, Atten= 78%, Lag= 5.1 min
 Primary = 0.15 cfs @ 12.17 hrs, Volume= 278 cf
 Routed to Pond INF1 : Infiltration Basin

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 319.67' @ 12.17 hrs Surf.Area= 4,125 sf Storage= 233 cf

Plug-Flow detention time= 48.8 min calculated for 278 cf (100% of inflow)
 Center-of-Mass det. time= 48.9 min (774.1 - 725.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	319.50'	4,814 cf	52.00'W x 79.33'L x 5.75'H Field A 23,721 cf Overall - 9,134 cf Embedded = 14,586 cf x 33.0% Voids
#2A	320.25'	9,134 cf	Cultec R-902HD v2 x 140 Inside #1 Effective Size= 69.1"W x 48.0"H => 17.30 sf x 3.67'L = 63.4 cf Overall Size= 78.0"W x 48.0"H x 4.10'L with 0.44' Overlap 140 Chambers in 7 Rows Cap Storage= 18.0 cf x 2 x 7 rows = 252.3 cf
		13,948 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Device 2	319.50'	4.0" Round Culvert X 4.00 L= 79.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 319.50' / 319.20' S= 0.0038 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf
#2	Primary	319.20'	4.0" Round Culvert L= 267.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 319.20' / 310.50' S= 0.0326 '/' Cc= 0.900 n= 0.013 Cast iron, coated, Flow Area= 0.09 sf

Primary OutFlow Max=0.15 cfs @ 12.17 hrs HW=319.67' (Free Discharge)

↑ **2=Culvert** (Passes 0.15 cfs of 0.23 cfs potential flow)

↑ **1=Culvert** (Barrel Controls 0.15 cfs @ 1.20 fps)

Summary for Pond DET2: CULTECH UNDERGROUND DETENTION

Inflow = 1.46 cfs @ 12.09 hrs, Volume= 731 cf
 Outflow = 0.33 cfs @ 12.19 hrs, Volume= 731 cf, Atten= 77%, Lag= 6.4 min
 Primary = 0.33 cfs @ 12.19 hrs, Volume= 731 cf
 Routed to Pond INF1 : Infiltration Basin

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 319.50' @ 12.19 hrs Surf.Area= 3,387 sf Storage= 554 cf

Plug-Flow detention time= 33.4 min calculated for 731 cf (100% of inflow)

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Center-of-Mass det. time= 33.5 min (759.2 - 725.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	319.00'	3,961 cf	37.50'W x 90.33'L x 5.75'H Field A 19,478 cf Overall - 7,476 cf Embedded = 12,002 cf x 33.0% Voids
#2A	319.75'	7,476 cf	Cultec R-902HD v2 x 115 Inside #1 Effective Size= 69.1"W x 48.0"H => 17.30 sf x 3.67'L = 63.4 cf Overall Size= 78.0"W x 48.0"H x 4.10'L with 0.44' Overlap 115 Chambers in 5 Rows Cap Storage= 18.0 cf x 2 x 5 rows = 180.2 cf
		11,437 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Device 2	319.00'	4.0" Round Culvert X 3.00 L= 83.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 319.00' / 318.70' S= 0.0036 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf
#2	Primary	318.70'	4.0" Round Culvert L= 64.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 318.70' / 311.00' S= 0.1203 '/' Cc= 0.900 n= 0.013 Cast iron, coated, Flow Area= 0.09 sf

Primary OutFlow Max=0.33 cfs @ 12.19 hrs HW=319.50' (Free Discharge)↑ **2=Culvert** (Inlet Controls 0.33 cfs @ 3.82 fps)↑ **1=Culvert** (Passes 0.33 cfs of 0.40 cfs potential flow)**Summary for Pond DET3: CULTECH UNDERGROUND DETENTION**

Inflow Area = 60,423 sf, 86.80% Impervious, Inflow Depth = 1.77" for 1- Year event
 Inflow = 2.76 cfs @ 12.09 hrs, Volume= 8,929 cf
 Outflow = 0.47 cfs @ 12.56 hrs, Volume= 8,929 cf, Atten= 83%, Lag= 28.6 min
 Primary = 0.47 cfs @ 12.56 hrs, Volume= 8,929 cf
 Routed to Pond INF2 : Infiltration Basin

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 320.59' @ 12.56 hrs Surf.Area= 5,763 sf Storage= 3,058 cf

Plug-Flow detention time= 67.2 min calculated for 8,927 cf (100% of inflow)
 Center-of-Mass det. time= 67.3 min (865.5 - 798.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	319.50'	6,684 cf	66.50'W x 86.67'L x 5.75'H Field A 33,139 cf Overall - 12,886 cf Embedded = 20,253 cf x 33.0% Voids
#2A	320.25'	12,886 cf	Cultec R-902HD v2 x 198 Inside #1 Effective Size= 69.1"W x 48.0"H => 17.30 sf x 3.67'L = 63.4 cf Overall Size= 78.0"W x 48.0"H x 4.10'L with 0.44' Overlap 198 Chambers in 9 Rows Cap Storage= 18.0 cf x 2 x 9 rows = 324.4 cf

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19,570 cf Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Device 2	319.50'	4.0" Round Culvert X 5.00 L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 319.50' / 319.20' S= 0.0038 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.09 sf
#2	Primary	319.20'	4.0" Round Culvert L= 72.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 319.20' / 312.50' S= 0.0931 '/' Cc= 0.900 n= 0.013 Cast iron, coated, Flow Area= 0.09 sf

Primary OutFlow Max=0.47 cfs @ 12.56 hrs HW=320.59' (Free Discharge)↑**2=Culvert** (Inlet Controls 0.47 cfs @ 5.33 fps)↑**1=Culvert** (Passes 0.47 cfs of 1.02 cfs potential flow)**Summary for Pond DV1: DIVERSION MANHOLE**

Inflow Area = 90,581 sf, 69.59% Impervious, Inflow Depth = 1.18" for 1- Year event
Inflow = 2.52 cfs @ 12.08 hrs, Volume= 8,929 cf
Outflow = 2.52 cfs @ 12.08 hrs, Volume= 8,929 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.84 cfs @ 12.08 hrs, Volume= 8,651 cf
Routed to Pond WQ1 : CDS WATER QUALITY UNIT
Secondary = 0.68 cfs @ 12.08 hrs, Volume= 278 cf
Routed to Pond DET1 : CULTECH UNDERGROUND DETENTION

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Peak Elev= 322.93' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	321.40'	8.0" Round Culvert L= 254.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 321.40' / 310.50' S= 0.0429 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Secondary	322.60'	24.0" Round Culvert L= 39.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 322.60' / 321.56' S= 0.0267 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=1.84 cfs @ 12.08 hrs HW=322.93' (Free Discharge)↑**1=Culvert** (Inlet Controls 1.84 cfs @ 5.27 fps)**Secondary OutFlow** Max=0.68 cfs @ 12.08 hrs HW=322.93' (Free Discharge)↑**2=Culvert** (Inlet Controls 0.68 cfs @ 1.97 fps)

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Summary for Pond DV2: DIVERSION MANHOLE

Inflow Area = 61,084 sf, 89.55% Impervious, Inflow Depth = 1.91" for 1- Year event
 Inflow = 3.01 cfs @ 12.09 hrs, Volume= 9,731 cf
 Outflow = 3.01 cfs @ 12.09 hrs, Volume= 9,731 cf, Atten= 0%, Lag= 0.0 min
 Primary = 1.55 cfs @ 12.09 hrs, Volume= 9,001 cf
 Routed to Pond WQ2 : CDS WATER QUALITY UNIT
 Secondary = 1.46 cfs @ 12.09 hrs, Volume= 731 cf
 Routed to Pond DET2 : CULTECH UNDERGROUND DETENTION

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 323.74' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	320.80'	6.0" Round Culvert L= 93.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 320.80' / 311.00' S= 0.1054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	323.20'	18.0" Round Culvert L= 15.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 323.20' / 321.56' S= 0.1093 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=1.55 cfs @ 12.09 hrs HW=323.74' (Free Discharge)

↑**1=Culvert** (Inlet Controls 1.55 cfs @ 7.90 fps)

Secondary OutFlow Max=1.45 cfs @ 12.09 hrs HW=323.74' (Free Discharge)

↑**2=Culvert** (Inlet Controls 1.45 cfs @ 2.51 fps)

Summary for Pond INF1: Infiltration Basin

Inflow Area = 200,976 sf, 64.18% Impervious, Inflow Depth = 1.25" for 1- Year event
 Inflow = 4.40 cfs @ 12.10 hrs, Volume= 20,977 cf
 Outflow = 0.35 cfs @ 14.55 hrs, Volume= 20,977 cf, Atten= 92%, Lag= 147.1 min
 Discarded = 0.35 cfs @ 14.55 hrs, Volume= 20,977 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link DP2 : New London Turnpike Drainage

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 309.40' @ 14.55 hrs Surf.Area= 6,309 sf Storage= 10,070 cf

Plug-Flow detention time= 291.9 min calculated for 20,972 cf (100% of inflow)
 Center-of-Mass det. time= 291.9 min (1,094.4 - 802.5)

Volume	Invert	Avail.Storage	Storage Description
#1	307.50'	35,146 cf	Custom Stage Data (Irregular) Listed below (Recalc)

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Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
307.50	4,331	327.0	0	0	4,331
308.00	4,832	339.0	2,290	2,290	4,988
309.00	5,879	358.0	5,347	7,637	6,098
310.00	6,983	377.0	6,423	14,060	7,269
311.00	8,144	396.0	7,556	21,616	8,500
312.00	9,361	415.0	8,745	30,361	9,791
312.50	9,779	421.0	4,785	35,146	10,242

Device	Routing	Invert	Outlet Devices
#1	Discarded	307.50'	2.410 in/hr Exfiltration over Horizontal area
#2	Primary	311.80'	10.0' long x 3.0' 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			
Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68			
2.72 2.81 2.92 2.97 3.07 3.32			

Discarded OutFlow Max=0.35 cfs @ 14.55 hrs HW=309.40' (Free Discharge)↑**1=Exfiltration** (Exfiltration Controls 0.35 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=307.50' (Free Discharge)↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)**Summary for Pond INF2: Infiltration Basin**

Inflow Area = 110,182 sf, 47.61% Impervious, Inflow Depth = 0.97" for 1- Year event

Inflow = 0.47 cfs @ 12.56 hrs, Volume= 8,929 cf

Outflow = 0.19 cfs @ 16.16 hrs, Volume= 8,929 cf, Atten= 59%, Lag= 215.9 min

Discarded = 0.19 cfs @ 16.16 hrs, Volume= 8,929 cf

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routed to Link DP1 : Offsite North

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Peak Elev= 312.13' @ 16.16 hrs Surf.Area= 3,432 sf Storage= 3,473 cf

Plug-Flow detention time= 163.2 min calculated for 8,927 cf (100% of inflow)

Center-of-Mass det. time= 163.2 min (1,028.7 - 865.5)

Volume	Invert	Avail.Storage	Storage Description
#1	311.00'	13,649 cf	Custom Stage Data (Irregular) Listed below

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
311.00	2,688	209.0	0	0	2,688
312.00	3,343	228.0	3,010	3,010	3,384
313.00	4,055	247.0	3,693	6,703	4,140
314.00	4,823	265.0	4,433	11,136	4,917
314.50	5,229	275.0	2,512	13,649	5,368

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Type III 24-hr 1- Year Rainfall=2.70"

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Device	Routing	Invert	Outlet Devices
#1	Discarded	311.00'	2.410 in/hr Exfiltration over Surface area
#2	Primary	313.80'	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			

Discarded OutFlow Max=0.19 cfs @ 16.16 hrs HW=312.13' (Free Discharge)↑**1=Exfiltration** (Exfiltration Controls 0.19 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=311.00' (Free Discharge)↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)**Summary for Pond WQ1: CDS WATER QUALITY UNIT**

Inflow Area = 90,581 sf, 69.59% Impervious, Inflow Depth = 1.15" for 1- Year event
Inflow = 1.84 cfs @ 12.08 hrs, Volume= 8,651 cf
Primary = 1.84 cfs @ 12.08 hrs, Volume= 8,651 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond INF1 : Infiltration Basin

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Pond WQ2: CDS WATER QUALITY UNIT

Inflow Area = 61,084 sf, 89.55% Impervious, Inflow Depth = 1.77" for 1- Year event
Inflow = 1.55 cfs @ 12.09 hrs, Volume= 9,001 cf
Primary = 1.55 cfs @ 12.09 hrs, Volume= 9,001 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond INF1 : Infiltration Basin

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Pond WQ3: CDS WATER QUALITY UNIT

Inflow Area = 41,781 sf, 80.92% Impervious, Inflow Depth = 1.46" for 1- Year event
Inflow = 1.64 cfs @ 12.09 hrs, Volume= 5,093 cf
Primary = 1.64 cfs @ 12.09 hrs, Volume= 5,093 cf, Atten= 0%, Lag= 0.0 min
Routed to Pond DET3 : CULTECH UNDERGROUND DETENTION

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Summary for Link DP1: Offsite North

Inflow Area = 137,630 sf, 38.11% Impervious, Inflow Depth = 0.00" for 1- Year event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 1L

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

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Type III 24-hr 1- Year Rainfall=2.70"

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Summary for Link DP2: New London Turnpike Drainage

Inflow Area = 232,320 sf, 55.54% Impervious, Inflow Depth = 0.00" for 1- Year event

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

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

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Type III 24-hr 1- Year Rainfall=2.70"

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentP1-1: Subcat P1-1	Runoff Area=33,821 sf 0.01% Impervious Runoff Depth=0.00" Tc=6.0 min CN=36 Runoff=0.00 cfs 0 cf
SubcatchmentP1-2: Subcat P1-2	Runoff Area=27,448 sf 0.00% Impervious Runoff Depth=0.00" Tc=6.0 min CN=36 Runoff=0.00 cfs 0 cf
SubcatchmentP1-3: Subcat P1-3	Runoff Area=15,939 sf 0.00% Impervious Runoff Depth=0.00" Tc=6.0 min CN=38 Runoff=0.00 cfs 0 cf
SubcatchmentP1-4: Subcat P1-4	Runoff Area=10,150 sf 85.21% Impervious Runoff Depth=1.63" Tc=6.0 min CN=89 Runoff=0.44 cfs 1,379 cf
SubcatchmentP1-5: Subcat P1-5	Runoff Area=11,836 sf 80.23% Impervious Runoff Depth=1.41" Tc=6.0 min CN=86 Runoff=0.45 cfs 1,389 cf
SubcatchmentP1-6: Subcat P1-6	Runoff Area=19,796 sf 79.13% Impervious Runoff Depth=1.41" Tc=6.0 min CN=86 Runoff=0.75 cfs 2,324 cf
SubcatchmentP1-7: Subcat P1-7	Runoff Area=9,062 sf 100.00% Impervious Runoff Depth=2.47" Tc=6.0 min CN=98 Runoff=0.54 cfs 1,865 cf
SubcatchmentP1-8: Subcat P1-8	Runoff Area=9,580 sf 100.00% Impervious Runoff Depth=2.47" Tc=6.0 min CN=98 Runoff=0.57 cfs 1,972 cf
SubcatchmentP2-1: Subcat P2-1	Runoff Area=15,953 sf 0.00% Impervious Runoff Depth=0.00" Tc=6.0 min CN=39 Runoff=0.00 cfs 0 cf
SubcatchmentP2-10: Subcat P2-10	Runoff Area=10,584 sf 80.52% Impervious Runoff Depth=1.48" Tc=6.0 min CN=87 Runoff=0.42 cfs 1,305 cf
SubcatchmentP2-11: Subcat P2-11	Runoff Area=9,062 sf 100.00% Impervious Runoff Depth=2.47" Tc=6.0 min CN=98 Runoff=0.54 cfs 1,865 cf
SubcatchmentP2-12: Subcat P2-12	Runoff Area=15,143 sf 84.60% Impervious Runoff Depth=1.63" Tc=6.0 min CN=89 Runoff=0.66 cfs 2,058 cf
SubcatchmentP2-13: Subcat P2-13	Runoff Area=19,716 sf 87.36% Impervious Runoff Depth=1.79" Tc=6.0 min CN=91 Runoff=0.94 cfs 2,947 cf
SubcatchmentP2-14: Subcat P2-14	Runoff Area=9,580 sf 100.00% Impervious Runoff Depth=2.47" Tc=6.0 min CN=98 Runoff=0.57 cfs 1,972 cf
SubcatchmentP2-15: Subcat P2-15	Runoff Area=7,584 sf 79.44% Impervious Runoff Depth=1.41" Tc=6.0 min CN=86 Runoff=0.29 cfs 890 cf
SubcatchmentP2-2: Subcat P2-2	Runoff Area=15,391 sf 0.19% Impervious Runoff Depth=0.00" Tc=6.0 min CN=38 Runoff=0.00 cfs 0 cf

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Type III 24-hr 1- Year Rainfall=2.70"

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SubcatchmentP2-3: Subcat P2-3	Runoff Area=38,056 sf 0.00% Impervious Runoff Depth=0.00" Tc=6.0 min CN=36 Runoff=0.00 cfs 0 cf
SubcatchmentP2-4: Subcat P2-4	Runoff Area=11,255 sf 99.98% Impervious Runoff Depth=2.47" Tc=6.0 min CN=98 Runoff=0.67 cfs 2,316 cf
SubcatchmentP2-5: Subcat P2-5	Runoff Area=11,382 sf 100.00% Impervious Runoff Depth=2.47" Tc=6.0 min CN=98 Runoff=0.68 cfs 2,343 cf
SubcatchmentP2-6: Subcat P2-6	Runoff Area=32,827 sf 43.96% Impervious Runoff Depth=0.38" Tc=6.0 min CN=65 Runoff=0.21 cfs 1,028 cf
SubcatchmentP2-7: Subcat P2-7	Runoff Area=0.237 ac 86.20% Impervious Runoff Depth=1.71" Tc=6.0 min CN=90 Runoff=0.47 cfs 1,471 cf
SubcatchmentP2-8: Subcat P2-8	Runoff Area=12,952 sf 80.14% Impervious Runoff Depth=1.41" Tc=6.0 min CN=86 Runoff=0.49 cfs 1,520 cf
SubcatchmentP2-9: Subcat P2-9	Runoff Area=12,515 sf 75.32% Impervious Runoff Depth=1.21" Tc=0.0 min CN=83 Runoff=0.49 cfs 1,261 cf
Pond DET1: CULTECH UNDERGROUND	Peak Elev=319.67' Storage=233 cf Inflow=0.68 cfs 278 cf Outflow=0.15 cfs 278 cf
Pond DET2: CULTECH UNDERGROUND	Peak Elev=319.50' Storage=554 cf Inflow=1.46 cfs 731 cf Outflow=0.33 cfs 731 cf
Pond DET3: CULTECH UNDERGROUND	Peak Elev=320.59' Storage=3,058 cf Inflow=2.76 cfs 8,929 cf Outflow=0.47 cfs 8,929 cf
Pond DV1: DIVERSION MANHOLE	Peak Elev=322.93' Inflow=2.52 cfs 8,929 cf Primary=1.84 cfs 8,651 cf Secondary=0.68 cfs 278 cf Outflow=2.52 cfs 8,929 cf
Pond DV2: DIVERSION MANHOLE	Peak Elev=323.74' Inflow=3.01 cfs 9,731 cf Primary=1.55 cfs 9,001 cf Secondary=1.46 cfs 731 cf Outflow=3.01 cfs 9,731 cf
Pond INF1: Infiltration Basin	Peak Elev=309.40' Storage=10,070 cf Inflow=4.40 cfs 20,977 cf Discarded=0.35 cfs 20,977 cf Primary=0.00 cfs 0 cf Outflow=0.35 cfs 20,977 cf
Pond INF2: Infiltration Basin	Peak Elev=312.13' Storage=3,473 cf Inflow=0.47 cfs 8,929 cf Discarded=0.19 cfs 8,929 cf Primary=0.00 cfs 0 cf Outflow=0.19 cfs 8,929 cf
Pond WQ1: CDS WATER QUALITY UNIT	Inflow=1.84 cfs 8,651 cf Primary=1.84 cfs 8,651 cf
Pond WQ2: CDS WATER QUALITY UNIT	Inflow=1.55 cfs 9,001 cf Primary=1.55 cfs 9,001 cf
Pond WQ3: CDS WATER QUALITY UNIT	Inflow=1.64 cfs 5,093 cf Primary=1.64 cfs 5,093 cf

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Type III 24-hr 1- Year Rainfall=2.70"

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Link DP1: Offsite North

Inflow=0.00 cfs 0 cf

Primary=0.00 cfs 0 cf

Link DP2: New London Turnpike Drainage

Inflow=0.00 cfs 0 cf

Primary=0.00 cfs 0 cf

Total Runoff Area = 369,950 sf Runoff Volume = 29,906 cf Average Runoff Depth = 0.97"
50.95% Pervious = 188,477 sf 49.05% Impervious = 181,473 sf

2-Year Storm Event

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Type III 24-hr 2- Year Rainfall=3.30"

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentP1-1: Subcat P1-1	Runoff Area=33,821 sf 0.01% Impervious Runoff Depth=0.00" Tc=6.0 min CN=36 Runoff=0.00 cfs 0 cf
SubcatchmentP1-2: Subcat P1-2	Runoff Area=27,448 sf 0.00% Impervious Runoff Depth=0.00" Tc=6.0 min CN=36 Runoff=0.00 cfs 0 cf
SubcatchmentP1-3: Subcat P1-3	Runoff Area=15,939 sf 0.00% Impervious Runoff Depth=0.00" Tc=6.0 min CN=38 Runoff=0.00 cfs 0 cf
SubcatchmentP1-4: Subcat P1-4	Runoff Area=10,150 sf 85.21% Impervious Runoff Depth=2.17" Tc=6.0 min CN=89 Runoff=0.59 cfs 1,838 cf
SubcatchmentP1-5: Subcat P1-5	Runoff Area=11,836 sf 80.23% Impervious Runoff Depth=1.92" Tc=6.0 min CN=86 Runoff=0.61 cfs 1,896 cf
SubcatchmentP1-6: Subcat P1-6	Runoff Area=19,796 sf 79.13% Impervious Runoff Depth=1.92" Tc=6.0 min CN=86 Runoff=1.02 cfs 3,171 cf
SubcatchmentP1-7: Subcat P1-7	Runoff Area=9,062 sf 100.00% Impervious Runoff Depth=3.07" Tc=6.0 min CN=98 Runoff=0.67 cfs 2,316 cf
SubcatchmentP1-8: Subcat P1-8	Runoff Area=9,580 sf 100.00% Impervious Runoff Depth=3.07" Tc=6.0 min CN=98 Runoff=0.71 cfs 2,448 cf
SubcatchmentP2-1: Subcat P2-1	Runoff Area=15,953 sf 0.00% Impervious Runoff Depth=0.00" Tc=6.0 min CN=39 Runoff=0.00 cfs 2 cf
SubcatchmentP2-10: Subcat P2-10	Runoff Area=10,584 sf 80.52% Impervious Runoff Depth=2.00" Tc=6.0 min CN=87 Runoff=0.57 cfs 1,767 cf
SubcatchmentP2-11: Subcat P2-11	Runoff Area=9,062 sf 100.00% Impervious Runoff Depth=3.07" Tc=6.0 min CN=98 Runoff=0.67 cfs 2,316 cf
SubcatchmentP2-12: Subcat P2-12	Runoff Area=15,143 sf 84.60% Impervious Runoff Depth=2.17" Tc=6.0 min CN=89 Runoff=0.88 cfs 2,742 cf
SubcatchmentP2-13: Subcat P2-13	Runoff Area=19,716 sf 87.36% Impervious Runoff Depth=2.35" Tc=6.0 min CN=91 Runoff=1.23 cfs 3,865 cf
SubcatchmentP2-14: Subcat P2-14	Runoff Area=9,580 sf 100.00% Impervious Runoff Depth=3.07" Tc=6.0 min CN=98 Runoff=0.71 cfs 2,448 cf
SubcatchmentP2-15: Subcat P2-15	Runoff Area=7,584 sf 79.44% Impervious Runoff Depth=1.92" Tc=6.0 min CN=86 Runoff=0.39 cfs 1,215 cf
SubcatchmentP2-2: Subcat P2-2	Runoff Area=15,391 sf 0.19% Impervious Runoff Depth=0.00" Tc=6.0 min CN=38 Runoff=0.00 cfs 0 cf

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Type III 24-hr 2- Year Rainfall=3.30"

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SubcatchmentP2-3: Subcat P2-3	Runoff Area=38,056 sf 0.00% Impervious Runoff Depth=0.00" Tc=6.0 min CN=36 Runoff=0.00 cfs 0 cf
SubcatchmentP2-4: Subcat P2-4	Runoff Area=11,255 sf 99.98% Impervious Runoff Depth=3.07" Tc=6.0 min CN=98 Runoff=0.83 cfs 2,877 cf
SubcatchmentP2-5: Subcat P2-5	Runoff Area=11,382 sf 100.00% Impervious Runoff Depth=3.07" Tc=6.0 min CN=98 Runoff=0.84 cfs 2,909 cf
SubcatchmentP2-6: Subcat P2-6	Runoff Area=32,827 sf 43.96% Impervious Runoff Depth=0.65" Tc=6.0 min CN=65 Runoff=0.46 cfs 1,777 cf
SubcatchmentP2-7: Subcat P2-7	Runoff Area=0.237 ac 86.20% Impervious Runoff Depth=2.26" Tc=6.0 min CN=90 Runoff=0.62 cfs 1,945 cf
SubcatchmentP2-8: Subcat P2-8	Runoff Area=12,952 sf 80.14% Impervious Runoff Depth=1.92" Tc=6.0 min CN=86 Runoff=0.67 cfs 2,075 cf
SubcatchmentP2-9: Subcat P2-9	Runoff Area=12,515 sf 75.32% Impervious Runoff Depth=1.69" Tc=0.0 min CN=83 Runoff=0.70 cfs 1,764 cf
Pond DET1: CULTECH UNDERGROUND	Peak Elev=319.99' Storage=665 cf Inflow=1.54 cfs 887 cf Outflow=0.33 cfs 887 cf
Pond DET2: CULTECH UNDERGROUND	Peak Elev=319.83' Storage=1,063 cf Inflow=2.27 cfs 1,420 cf Outflow=0.41 cfs 1,420 cf
Pond DET3: CULTECH UNDERGROUND	Peak Elev=320.85' Storage=4,248 cf Inflow=3.60 cfs 11,670 cf Outflow=0.51 cfs 11,670 cf
Pond DV1: DIVERSION MANHOLE	Peak Elev=323.11' Inflow=3.51 cfs 12,237 cf Primary=1.97 cfs 11,351 cf Secondary=1.54 cfs 887 cf Outflow=3.51 cfs 12,237 cf
Pond DV2: DIVERSION MANHOLE	Peak Elev=323.89' Inflow=3.87 cfs 12,586 cf Primary=1.59 cfs 11,167 cf Secondary=2.27 cfs 1,420 cf Outflow=3.87 cfs 12,586 cf
Pond INF1: Infiltration Basin	Peak Elev=310.06' Storage=14,463 cf Inflow=5.01 cfs 27,701 cf Discarded=0.39 cfs 27,701 cf Primary=0.00 cfs 0 cf Outflow=0.39 cfs 27,701 cf
Pond INF2: Infiltration Basin	Peak Elev=312.52' Storage=4,934 cf Inflow=0.51 cfs 11,670 cf Discarded=0.21 cfs 11,670 cf Primary=0.00 cfs 0 cf Outflow=0.21 cfs 11,670 cf
Pond WQ1: CDS WATER QUALITY UNIT	Inflow=1.97 cfs 11,351 cf Primary=1.97 cfs 11,351 cf
Pond WQ2: CDS WATER QUALITY UNIT	Inflow=1.59 cfs 11,167 cf Primary=1.59 cfs 11,167 cf
Pond WQ3: CDS WATER QUALITY UNIT	Inflow=2.23 cfs 6,905 cf Primary=2.23 cfs 6,905 cf

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Type III 24-hr 2- Year Rainfall=3.30"

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Link DP1: Offsite North

Inflow=0.00 cfs 0 cf

Primary=0.00 cfs 0 cf

Link DP2: New London Turnpike Drainage

Inflow=0.00 cfs 3 cf

Primary=0.00 cfs 3 cf

Total Runoff Area = 369,950 sf Runoff Volume = 39,373 cf Average Runoff Depth = 1.28"
50.95% Pervious = 188,477 sf 49.05% Impervious = 181,473 sf

10-Year Storm Event

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Type III 24-hr 10- Year Rainfall=4.80"

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentP1-1: Subcat P1-1	Runoff Area=33,821 sf 0.01% Impervious Runoff Depth=0.08" Tc=6.0 min CN=36 Runoff=0.01 cfs 229 cf
SubcatchmentP1-2: Subcat P1-2	Runoff Area=27,448 sf 0.00% Impervious Runoff Depth=0.08" Tc=6.0 min CN=36 Runoff=0.01 cfs 186 cf
SubcatchmentP1-3: Subcat P1-3	Runoff Area=15,939 sf 0.00% Impervious Runoff Depth=0.13" Tc=6.0 min CN=38 Runoff=0.01 cfs 176 cf
SubcatchmentP1-4: Subcat P1-4	Runoff Area=10,150 sf 85.21% Impervious Runoff Depth=3.58" Tc=6.0 min CN=89 Runoff=0.95 cfs 3,029 cf
SubcatchmentP1-5: Subcat P1-5	Runoff Area=11,836 sf 80.23% Impervious Runoff Depth=3.28" Tc=6.0 min CN=86 Runoff=1.03 cfs 3,236 cf
SubcatchmentP1-6: Subcat P1-6	Runoff Area=19,796 sf 79.13% Impervious Runoff Depth=3.28" Tc=6.0 min CN=86 Runoff=1.73 cfs 5,412 cf
SubcatchmentP1-7: Subcat P1-7	Runoff Area=9,062 sf 100.00% Impervious Runoff Depth=4.56" Tc=6.0 min CN=98 Runoff=0.98 cfs 3,446 cf
SubcatchmentP1-8: Subcat P1-8	Runoff Area=9,580 sf 100.00% Impervious Runoff Depth=4.56" Tc=6.0 min CN=98 Runoff=1.03 cfs 3,643 cf
SubcatchmentP2-1: Subcat P2-1	Runoff Area=15,953 sf 0.00% Impervious Runoff Depth=0.16" Tc=6.0 min CN=39 Runoff=0.01 cfs 215 cf
SubcatchmentP2-10: Subcat P2-10	Runoff Area=10,584 sf 80.52% Impervious Runoff Depth=3.38" Tc=6.0 min CN=87 Runoff=0.95 cfs 2,981 cf
SubcatchmentP2-11: Subcat P2-11	Runoff Area=9,062 sf 100.00% Impervious Runoff Depth=4.56" Tc=6.0 min CN=98 Runoff=0.98 cfs 3,446 cf
SubcatchmentP2-12: Subcat P2-12	Runoff Area=15,143 sf 84.60% Impervious Runoff Depth=3.58" Tc=6.0 min CN=89 Runoff=1.42 cfs 4,518 cf
SubcatchmentP2-13: Subcat P2-13	Runoff Area=19,716 sf 87.36% Impervious Runoff Depth=3.79" Tc=6.0 min CN=91 Runoff=1.93 cfs 6,224 cf
SubcatchmentP2-14: Subcat P2-14	Runoff Area=9,580 sf 100.00% Impervious Runoff Depth=4.56" Tc=6.0 min CN=98 Runoff=1.03 cfs 3,643 cf
SubcatchmentP2-15: Subcat P2-15	Runoff Area=7,584 sf 79.44% Impervious Runoff Depth=3.28" Tc=6.0 min CN=86 Runoff=0.66 cfs 2,073 cf
SubcatchmentP2-2: Subcat P2-2	Runoff Area=15,391 sf 0.19% Impervious Runoff Depth=0.13" Tc=6.0 min CN=38 Runoff=0.01 cfs 170 cf

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Type III 24-hr 10- Year Rainfall=4.80"

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SubcatchmentP2-3: Subcat P2-3	Runoff Area=38,056 sf 0.00% Impervious Runoff Depth=0.08" Tc=6.0 min CN=36 Runoff=0.01 cfs 258 cf
SubcatchmentP2-4: Subcat P2-4	Runoff Area=11,255 sf 99.98% Impervious Runoff Depth=4.56" Tc=6.0 min CN=98 Runoff=1.21 cfs 4,280 cf
SubcatchmentP2-5: Subcat P2-5	Runoff Area=11,382 sf 100.00% Impervious Runoff Depth=4.56" Tc=6.0 min CN=98 Runoff=1.23 cfs 4,329 cf
SubcatchmentP2-6: Subcat P2-6	Runoff Area=32,827 sf 43.96% Impervious Runoff Depth=1.52" Tc=6.0 min CN=65 Runoff=1.27 cfs 4,163 cf
SubcatchmentP2-7: Subcat P2-7	Runoff Area=0.237 ac 86.20% Impervious Runoff Depth=3.68" Tc=6.0 min CN=90 Runoff=0.99 cfs 3,168 cf
SubcatchmentP2-8: Subcat P2-8	Runoff Area=12,952 sf 80.14% Impervious Runoff Depth=3.28" Tc=6.0 min CN=86 Runoff=1.13 cfs 3,541 cf
SubcatchmentP2-9: Subcat P2-9	Runoff Area=12,515 sf 75.32% Impervious Runoff Depth=2.99" Tc=0.0 min CN=83 Runoff=1.23 cfs 3,122 cf
Pond DET1: CULTECH UNDERGROUND	Peak Elev=320.81' Storage=2,897 cf Inflow=4.00 cfs 3,512 cf Outflow=0.36 cfs 3,512 cf
Pond DET2: CULTECH UNDERGROUND	Peak Elev=320.51' Storage=2,933 cf Inflow=4.34 cfs 3,791 cf Outflow=0.54 cfs 3,791 cf
Pond DET3: CULTECH UNDERGROUND	Peak Elev=321.56' Storage=7,554 cf Inflow=5.72 cfs 18,766 cf Outflow=0.62 cfs 18,766 cf
Pond DV1: DIVERSION MANHOLE	Peak Elev=323.45' Inflow=6.20 cfs 21,304 cf Primary=2.20 cfs 17,791 cf Secondary=4.00 cfs 3,512 cf Outflow=6.20 cfs 21,304 cf
Pond DV2: DIVERSION MANHOLE	Peak Elev=324.21' Inflow=6.02 cfs 19,905 cf Primary=1.68 cfs 16,114 cf Secondary=4.34 cfs 3,791 cf Outflow=6.02 cfs 19,905 cf
Pond INF1: Infiltration Basin	Peak Elev=311.64' Storage=27,074 cf Inflow=5.89 cfs 45,747 cf Discarded=0.50 cfs 45,747 cf Primary=0.00 cfs 0 cf Outflow=0.50 cfs 45,747 cf
Pond INF2: Infiltration Basin	Peak Elev=313.55' Storage=9,145 cf Inflow=0.62 cfs 19,171 cf Discarded=0.25 cfs 19,171 cf Primary=0.00 cfs 0 cf Outflow=0.25 cfs 19,171 cf
Pond WQ1: CDS WATER QUALITY UNIT	Inflow=2.20 cfs 17,791 cf Primary=2.20 cfs 17,791 cf
Pond WQ2: CDS WATER QUALITY UNIT	Inflow=1.68 cfs 16,114 cf Primary=1.68 cfs 16,114 cf
Pond WQ3: CDS WATER QUALITY UNIT	Inflow=3.71 cfs 11,677 cf Primary=3.71 cfs 11,677 cf

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Link DP1: Offsite North

Inflow=0.01 cfs 186 cf

Primary=0.01 cfs 186 cf

Link DP2: New London Turnpike Drainage

Inflow=0.01 cfs 384 cf

Primary=0.01 cfs 384 cf

Total Runoff Area = 369,950 sf Runoff Volume = 65,489 cf Average Runoff Depth = 2.12"
50.95% Pervious = 188,477 sf 49.05% Impervious = 181,473 sf

100-Year Storm Event

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentP1-1: Subcat P1-1	Runoff Area=33,821 sf 0.01% Impervious Runoff Depth=1.15" Tc=6.0 min CN=36 Runoff=0.63 cfs 3,254 cf
SubcatchmentP1-2: Subcat P1-2	Runoff Area=27,448 sf 0.00% Impervious Runoff Depth=1.15" Tc=6.0 min CN=36 Runoff=0.51 cfs 2,641 cf
SubcatchmentP1-3: Subcat P1-3	Runoff Area=15,939 sf 0.00% Impervious Runoff Depth=1.36" Tc=6.0 min CN=38 Runoff=0.40 cfs 1,805 cf
SubcatchmentP1-4: Subcat P1-4	Runoff Area=10,150 sf 85.21% Impervious Runoff Depth=7.37" Tc=6.0 min CN=89 Runoff=1.89 cfs 6,237 cf
SubcatchmentP1-5: Subcat P1-5	Runoff Area=11,836 sf 80.23% Impervious Runoff Depth=7.01" Tc=6.0 min CN=86 Runoff=2.13 cfs 6,916 cf
SubcatchmentP1-6: Subcat P1-6	Runoff Area=19,796 sf 79.13% Impervious Runoff Depth=7.01" Tc=6.0 min CN=86 Runoff=3.56 cfs 11,566 cf
SubcatchmentP1-7: Subcat P1-7	Runoff Area=9,062 sf 100.00% Impervious Runoff Depth=8.46" Tc=6.0 min CN=98 Runoff=1.78 cfs 6,388 cf
SubcatchmentP1-8: Subcat P1-8	Runoff Area=9,580 sf 100.00% Impervious Runoff Depth=8.46" Tc=6.0 min CN=98 Runoff=1.88 cfs 6,753 cf
SubcatchmentP2-1: Subcat P2-1	Runoff Area=15,953 sf 0.00% Impervious Runoff Depth=1.46" Tc=6.0 min CN=39 Runoff=0.46 cfs 1,946 cf
SubcatchmentP2-10: Subcat P2-10	Runoff Area=10,584 sf 80.52% Impervious Runoff Depth=7.13" Tc=6.0 min CN=87 Runoff=1.93 cfs 6,291 cf
SubcatchmentP2-11: Subcat P2-11	Runoff Area=9,062 sf 100.00% Impervious Runoff Depth=8.46" Tc=6.0 min CN=98 Runoff=1.78 cfs 6,388 cf
SubcatchmentP2-12: Subcat P2-12	Runoff Area=15,143 sf 84.60% Impervious Runoff Depth=7.37" Tc=6.0 min CN=89 Runoff=2.81 cfs 9,306 cf
SubcatchmentP2-13: Subcat P2-13	Runoff Area=19,716 sf 87.36% Impervious Runoff Depth=7.62" Tc=6.0 min CN=91 Runoff=3.73 cfs 12,514 cf
SubcatchmentP2-14: Subcat P2-14	Runoff Area=9,580 sf 100.00% Impervious Runoff Depth=8.46" Tc=6.0 min CN=98 Runoff=1.88 cfs 6,753 cf
SubcatchmentP2-15: Subcat P2-15	Runoff Area=7,584 sf 79.44% Impervious Runoff Depth=7.01" Tc=6.0 min CN=86 Runoff=1.37 cfs 4,431 cf
SubcatchmentP2-2: Subcat P2-2	Runoff Area=15,391 sf 0.19% Impervious Runoff Depth=1.36" Tc=6.0 min CN=38 Runoff=0.39 cfs 1,743 cf

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SubcatchmentP2-3: Subcat P2-3	Runoff Area=38,056 sf 0.00% Impervious Runoff Depth=1.15" Tc=6.0 min CN=36 Runoff=0.71 cfs 3,662 cf
SubcatchmentP2-4: Subcat P2-4	Runoff Area=11,255 sf 99.98% Impervious Runoff Depth=8.46" Tc=6.0 min CN=98 Runoff=2.21 cfs 7,935 cf
SubcatchmentP2-5: Subcat P2-5	Runoff Area=11,382 sf 100.00% Impervious Runoff Depth=8.46" Tc=6.0 min CN=98 Runoff=2.23 cfs 8,024 cf
SubcatchmentP2-6: Subcat P2-6	Runoff Area=32,827 sf 43.96% Impervious Runoff Depth=4.47" Tc=6.0 min CN=65 Runoff=3.95 cfs 12,221 cf
SubcatchmentP2-7: Subcat P2-7	Runoff Area=0.237 ac 86.20% Impervious Runoff Depth=7.50" Tc=6.0 min CN=90 Runoff=1.94 cfs 6,446 cf
SubcatchmentP2-8: Subcat P2-8	Runoff Area=12,952 sf 80.14% Impervious Runoff Depth=7.01" Tc=6.0 min CN=86 Runoff=2.33 cfs 7,568 cf
SubcatchmentP2-9: Subcat P2-9	Runoff Area=12,515 sf 75.32% Impervious Runoff Depth=6.65" Tc=0.0 min CN=83 Runoff=2.65 cfs 6,933 cf
Pond DET1: CULTECH UNDERGROUND	Peak Elev=324.18' Storage=12,481 cf Inflow=11.16 cfs 13,768 cf Outflow=0.42 cfs 13,768 cf
Pond DET2: CULTECH UNDERGROUND	Peak Elev=323.18' Storage=9,452 cf Inflow=9.63 cfs 11,302 cf Outflow=0.76 cfs 11,302 cf
Pond DET3: CULTECH UNDERGROUND	Peak Elev=324.54' Storage=18,222 cf Inflow=11.24 cfs 37,861 cf Outflow=0.71 cfs 37,861 cf
Pond DV1: DIVERSION MANHOLE	Peak Elev=324.16' Inflow=13.75 cfs 47,483 cf Primary=2.59 cfs 33,716 cf Secondary=11.16 cfs 13,768 cf Outflow=13.75 cfs 47,483 cf
Pond DV2: DIVERSION MANHOLE	Peak Elev=325.23' Inflow=11.56 cfs 39,392 cf Primary=1.93 cfs 28,090 cf Secondary=9.63 cfs 11,302 cf Outflow=11.56 cfs 39,392 cf
Pond INF1: Infiltration Basin	Peak Elev=312.09' Storage=31,169 cf Inflow=8.39 cfs 98,472 cf Discarded=0.53 cfs 57,735 cf Primary=3.84 cfs 40,738 cf Outflow=4.36 cfs 98,472 cf
Pond INF2: Infiltration Basin	Peak Elev=313.88' Storage=10,607 cf Inflow=1.68 cfs 42,920 cf Discarded=0.26 cfs 27,569 cf Primary=0.55 cfs 15,351 cf Outflow=0.81 cfs 42,920 cf
Pond WQ1: CDS WATER QUALITY UNIT	Inflow=2.59 cfs 33,716 cf Primary=2.59 cfs 33,716 cf
Pond WQ2: CDS WATER QUALITY UNIT	Inflow=1.93 cfs 28,090 cf Primary=1.93 cfs 28,090 cf
Pond WQ3: CDS WATER QUALITY UNIT	Inflow=7.58 cfs 24,719 cf Primary=7.58 cfs 24,719 cf

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Link DP1: Offsite North

Inflow=0.61 cfs 17,992 cf

Primary=0.61 cfs 17,992 cf

Link DP2: New London Turnpike Drainage

Inflow=4.02 cfs 44,426 cf

Primary=4.02 cfs 44,426 cf

Total Runoff Area = 369,950 sf Runoff Volume = 147,722 cf Average Runoff Depth = 4.79"
50.95% Pervious = 188,477 sf 49.05% Impervious = 181,473 sf

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Hydrograph for Pond INF1: Infiltration Basin

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	307.50	0.00	0.00	0.00
1.00	0.00	0	307.50	0.00	0.00	0.00
2.00	0.00	1	307.50	0.00	0.00	0.00
3.00	0.01	6	307.50	0.01	0.01	0.00
4.00	0.02	12	307.50	0.01	0.01	0.00
5.00	0.02	18	307.50	0.02	0.02	0.00
6.00	0.03	23	307.51	0.03	0.03	0.00
7.00	0.04	34	307.51	0.04	0.04	0.00
8.00	0.06	51	307.51	0.06	0.06	0.00
9.00	0.11	88	307.52	0.10	0.10	0.00
10.00	0.18	146	307.53	0.16	0.16	0.00
11.00	0.33	278	307.56	0.25	0.25	0.00
12.00	3.56	2,941	308.13	0.28	0.28	0.00
13.00	0.67	9,424	309.30	0.35	0.35	0.00
14.00	0.41	10,016	309.39	0.35	0.35	0.00
15.00	0.31	10,037	309.39	0.35	0.35	0.00
16.00	0.22	9,728	309.34	0.35	0.35	0.00
17.00	0.17	9,181	309.26	0.34	0.34	0.00
18.00	0.13	8,508	309.15	0.34	0.34	0.00
19.00	0.12	7,759	309.02	0.33	0.33	0.00
20.00	0.11	6,994	308.89	0.32	0.32	0.00
21.00	0.10	6,220	308.75	0.31	0.31	0.00
22.00	0.09	5,443	308.61	0.30	0.30	0.00
23.00	0.08	4,664	308.47	0.30	0.30	0.00
24.00	0.07	3,884	308.32	0.29	0.29	0.00
25.00	0.00	2,890	308.12	0.28	0.28	0.00
26.00	0.00	1,915	307.92	0.27	0.27	0.00
27.00	0.00	981	307.72	0.25	0.25	0.00
28.00	0.00	120	307.53	0.13	0.13	0.00
29.00	0.00	2	307.50	0.00	0.00	0.00
30.00	0.00	0	307.50	0.00	0.00	0.00
31.00	0.00	0	307.50	0.00	0.00	0.00
32.00	0.00	0	307.50	0.00	0.00	0.00
33.00	0.00	0	307.50	0.00	0.00	0.00
34.00	0.00	0	307.50	0.00	0.00	0.00
35.00	0.00	0	307.50	0.00	0.00	0.00
36.00	0.00	0	307.50	0.00	0.00	0.00
37.00	0.00	0	307.50	0.00	0.00	0.00
38.00	0.00	0	307.50	0.00	0.00	0.00
39.00	0.00	0	307.50	0.00	0.00	0.00
40.00	0.00	0	307.50	0.00	0.00	0.00
41.00	0.00	0	307.50	0.00	0.00	0.00
42.00	0.00	0	307.50	0.00	0.00	0.00
43.00	0.00	0	307.50	0.00	0.00	0.00
44.00	0.00	0	307.50	0.00	0.00	0.00
45.00	0.00	0	307.50	0.00	0.00	0.00
46.00	0.00	0	307.50	0.00	0.00	0.00
47.00	0.00	0	307.50	0.00	0.00	0.00
48.00	0.00	0	307.50	0.00	0.00	0.00

Drains within 29
Hour

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Hydrograph for Pond INF2: Infiltration Basin

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0	311.00	0.00	0.00	0.00
1.00	0.00	0	311.00	0.00	0.00	0.00
2.00	0.00	0	311.00	0.00	0.00	0.00
3.00	0.00	1	311.00	0.00	0.00	0.00
4.00	0.00	2	311.00	0.00	0.00	0.00
5.00	0.01	4	311.00	0.01	0.01	0.00
6.00	0.01	6	311.00	0.01	0.01	0.00
7.00	0.01	8	311.00	0.01	0.01	0.00
8.00	0.02	11	311.00	0.02	0.02	0.00
9.00	0.03	20	311.01	0.03	0.03	0.00
10.00	0.06	39	311.01	0.06	0.06	0.00
11.00	0.12	73	311.02	0.10	0.10	0.00
12.00	0.35	295	311.10	0.15	0.15	0.00
13.00	0.46	1,335	311.44	0.17	0.17	0.00
14.00	0.42	2,298	311.76	0.18	0.18	0.00
15.00	0.35	3,063	312.01	0.19	0.19	0.00
16.00	0.23	3,461	312.12	0.19	0.19	0.00
17.00	0.08	3,252	312.07	0.19	0.19	0.00
18.00	0.06	2,840	311.94	0.18	0.18	0.00
19.00	0.05	2,389	311.79	0.18	0.18	0.00
20.00	0.05	1,932	311.64	0.17	0.17	0.00
21.00	0.04	1,476	311.49	0.17	0.17	0.00
22.00	0.04	1,026	311.34	0.16	0.16	0.00
23.00	0.03	582	311.19	0.16	0.16	0.00
24.00	0.03	143	311.05	0.15	0.15	0.00
25.00	0.01	11	311.00	0.02	0.02	0.00
26.00	0.01	5	311.00	0.01	0.01	0.00
27.00	0.00	3	311.00	0.00	0.00	0.00
28.00	0.00	1	311.00	0.00	0.00	0.00
29.00	0.00	1	311.00	0.00	0.00	0.00
30.00	0.00	0	311.00	0.00	0.00	0.00
31.00	0.00	0	311.00	0.00	0.00	0.00
32.00	0.00	0	311.00	0.00	0.00	0.00
33.00	0.00	0	311.00	0.00	0.00	0.00
34.00	0.00	0	311.00	0.00	0.00	0.00
35.00	0.00	0	311.00	0.00	0.00	0.00
36.00	0.00	0	311.00	0.00	0.00	0.00
37.00	0.00	0	311.00	0.00	0.00	0.00
38.00	0.00	0	311.00	0.00	0.00	0.00
39.00	0.00	0	311.00	0.00	0.00	0.00
40.00	0.00	0	311.00	0.00	0.00	0.00
41.00	0.00	0	311.00	0.00	0.00	0.00
42.00	0.00	0	311.00	0.00	0.00	0.00
43.00	0.00	0	311.00	0.00	0.00	0.00
44.00	0.00	0	311.00	0.00	0.00	0.00
45.00	0.00	0	311.00	0.00	0.00	0.00
46.00	0.00	0	311.00	0.00	0.00	0.00
47.00	0.00	0	311.00	0.00	0.00	0.00
48.00	0.00	0	311.00	0.00	0.00	0.00

Drains within 27
hours

Appendix F – Minimum Standard 7 and 11 – Stormwater Management System Operation and Maintenance Plan and Source Control and Pollution Prevention Plan (Bound Separately)

Appendix G – Minimum Standard 10 – Soil Erosion and Sediment Control Plan (Bound Separately)

Appendix H – Soils Information

- › Test Pit Logs
- › NRCS Soils Data

Test Pit Logs

Project: 205244 New London Turnpike Housing
Location: Coventry, RI
Date: 8/18/2026

Soil Profile Descriptions

Soil Evaluators:	Adam Rosenblatt	Tim Piacentini	Total Depth: 107"
License #:			Free Water Depth: Not observed
Test Hole:	TP-100		Seasonal High Water Table: 96"
Notes: Excavation terminated due to pit collapse			

Depth (inches)	Horizon	Horizon Boundaries		Soil Colors		Redox Description			Texture	Structure	Consistence	HTM artifacts/Other Notes
		Dist	Topo	Matrix	Redox Features	Abundance	Size	Contrast				
0-2	A	abrupt	smooth	10YR 3/2	-	-	-	-	loamy sand	weak fine granular	friable	many fine roots, few medium roots
2-13	Bw1	clear	smooth	10YR 5/8	-	-	-	-	loamy sand	weak fine to medium subangular blocky	friable	common fine roots, few medium roots
13-17	Bw2	clear	smooth	2.5Y 5/6	-	-	-	-	loamy sand	weak fine to medium subangular blocky	friable	few fine and medium roots
17-23	CB	clear	smooth	2.5Y 6/4	-	-	-	-	loamy sand	Structureless massive	very friable	-
23-34	C1	clear	smooth	2.5Y 6/4	-	-	-	-	coarse sand	Single grain	loose	-
34-49	C2	clear	smooth	2.5Y 6/3	-	-	-	-	fine sandy loam	Structureless massive	friable	-
49-70	C3	clear	smooth	2.5Y 7/3	-	-	-	-	sand	Single grain	loose	-
71-96	C4	clear	smooth	2.5Y 7/1	-	-	-	-	loamy fine sand	Single grain	loose	-
96-107	C5	-	-	2.5Y 7/2	a) 10YR 6/6 b) 2.5Y 5/3	a) common b) common	a) fine b) medium	a) distinct b) faint	loamy fine sand	Structureless massive	very friable	-

Soil Evaluators:	Adam Rosenblatt	Tim Piacentini	Total Depth: 120
License #:			Free Water Depth: Not observed
Test Hole:	TP-101		Seasonal High Water Table: 91"
Notes:			

Depth (inches)	Horizon	Horizon Boundaries		Soil Colors		Redox Description			Texture	Structure	Consistence	HTM artifacts/Other Notes
		Dist	Topo	Matrix	Redox Features	Abundance	Size	Contrast				
0-2	Oe	-	-	-	-	-	-	-	-	-	-	moderately decomposed organic material
2-13	A	abrupt	smooth	10YR 2/2	-	-	-	-	loamy sand	weak fine to medium subangular blocky	friable	many fine roots, common medium roots
13-23	Bw1	clear	smooth	7.5YR 4/6	-	-	-	-	loamy sand	weak fine to medium subangular blocky	friable	common fine roots, few medium roots
23-37	BC	clear	smooth	10YR 5/6	-	-	-	-	loamy fine sand	weak fine to medium subangular blocky	very friable	common fine roots, few medium roots
37-55	C1	clear	smooth	2.5Y 7/4	-	-	-	-	loamy fine sand	structureless massive	very friable	-
55-72	C2	clear	smooth	2.5Y 7/2	-	-	-	-	fine sandy loam	structureless massive	very friable	-
72-77	C3	clear	smooth	2.5Y 6/3	-	-	-	-	loamy sand	structureless massive	very friable	-
77-91	2C4	abrupt	smooth	2.5Y 7/2	-	-	-	-	silt loam	structureless massive	friable	-
91-120	2C5	-	-	2.5Y 7/2	a) 10YR 6/6 b) 2.5Y 6/4	common	medium	a) distinct b) faint	silt loam	weak fine platy	friable	-

Project: 205244 New London Turnpike Housing
Location: Coventry, RI
Date: 8/18/2026

Soil Profile Descriptions

Soil Evaluators:	Adam Rosenblatt	Tim Piacentini	Total Depth: 137"
License #:			Free Water Depth: Not observed
Test Hole:	TP-102*		Seasonal High Water Table:
			Notes: Excavation terminated due to pit collapse. Not evaluated for drainage calculations.

Depth (inches)	Horizon	Horizon Boundaries		Soil Colors		Redox Description			Texture	Structure	Consistence	HTM artifacts/Other Notes
		Dist	Topo	Matrix	Redox Features	Abundance	Size	Contrast				
0-4	C1	clear	smooth	2.5Y 6/4	-	-	-	-	loamy fine sand	single grain	loose	common fine and medium roots
4-17	C2	abrupt	smooth	2.5Y 6/3	-	-	-	-	loamy fine sand	structureless massive	very friable	-
17-23	C3	clear	smooth	2.5Y 6/4	-	-	-	-	coarse sand	single grain	loose	-
23-36	C4	clear	smooth	2.5Y 7/2	-	-	-	-	sand	single grain	loose	-
36-47	C5	clear	smooth	2.5Y 7/3	-	-	-	-	loamy fine sand	structureless massive	very friable	-
47-57	C6	clear	smooth	2.5Y 6/2	-	-	-	-	gravelly fine sandy loam	structureless massive	very friable	-
57-79	C7	clear	smooth	2.5Y 7/1	-	-	-	-	fine sandy loam	structureless massive	very friable	-
79-101	C8	clear	smooth	2.5Y 7/2	a) 7.5YR 5/8 b) 2.5Y 5/3	common	fine	a) distinct b) fine	loamy fine sand	structureless massive	very friable	-
101-137	C9	-	-	2.5Y 7/1	-	-	-	-	coarse sand	single grain	loose	-

Soil Evaluators:	Adam Rosenblatt	Tim Piacentini	Total Depth: 126
License #:			Free Water Depth: Not observed
Test Hole:	TP-103		Seasonal High Water Table: >126"
			Notes: Excavation terminated due to side wall collapse. Not evaluated for drainage calculations.

Depth (inches)	Horizon	Horizon Boundaries		Soil Colors		Redox Description			Texture	Structure	Consistence	HTM artifacts/Other Notes
		Dist	Topo	Matrix	Redox Features	Abundance	Size	Contrast				
0-3	Oe	-	-	-	-	-	-	-	-	-	-	Moderately decomposed organic material
3-12	Ap	abrupt	wavy	10YR 3/4	-	-	-	-	loamy sand	weak medium subangular blocky	friable	common fine roots, few medium roots
12-15	Bw1	clear	smooth	10YR 5/8	-	-	-	-	loamy sand	weak fine subangular blocky	friable	-
15-19	CB	clear	smooth	10YR 5/6	-	-	-	-	loamy sand	structureless massive	very friable	common fine roots
19-26	C1	abrupt	smooth	2.5Y 6/4	-	-	-	-	coarse sand	single grain	loose	common fine roots
26-31	C2	abrupt	smooth	2.5Y 5/4	-	-	-	-	very coarse sand	single grain	loose	-
31-41	C3	clear	smooth	2.5Y 6/4	-	-	-	-	gravelly coarse sand	single grain	loose	-
41-66	C4	clear	smooth	2.5Y 7/2	-	-	-	-	gravelly fine sand	single grain	loose	-
66-95	C5	clear	smooth	2.5Y 7/2	-	-	-	-	fine sand	single grain	loose	-
95-126	C6	-	-	2.5Y 6/2	-	-	-	-	sand	single grain	loose	-

Project: 205244 New London Turnpike Housing
Location: Coventry, RI
Date: 8/18/2026

Soil Profile Descriptions

Soil Evaluators: Adam Rosenblatt Tim Piacentini				Total Depth: 86								
License #:				Free Water Depth: Not observed								
Test Hole: TP-104				Seasonal High Water Table: >86"								
				Notes: Excavation terminated due to boulder refusal								
Depth	Horizon	Horizon Boundaries		Soil Colors		Redox Description			Texture	Structure	Consistence	HTM artifacts/Other Notes
		Dist	Topo	Matrix	Redox Features	Abundance	Size	Contrast				
0-3.5	Oe	-	-	-	-	-	-	-	-	-	-	Moderately decomposed organic material
3.5-6	A	abrupt	wavy	10YR 2/2	-	-	-	-	sandy loam	weak fine granular	friable	many fine roots, common medium roots
6-26	Bw1	abrupt	smooth	10YR 5/6	-	-	-	-	loamy sand	weak fine to medium subangular blocky	friable	common fine roots
26-30	CB	abrupt	smooth	2.5Y 6/6	-	-	-	-	gravelly loamy sand	structureless massive	very friable	-
												concentrations are likely caused by textural discontinuity with lower horizons
30-46	C1	abrupt	smooth	2.5Y 6/3	10YR 5/6 mottles	few	fine	distinct	gravelly loamy sand	structureless massive	very friable	
46-62	C2	abrupt	smooth	2.5Y 6/3	-	-	-	-	stony coarse sand	single grain	loose	large boulder at 50"
62-86	C3	-	-	2.5Y 6/3	-	-	-	-	bouldery coarse sand	single grain	loose	-

Soil Evaluators: Adam Rosenblatt Tim Piacentini				Total Depth: 120								
License #:				Free Water Depth: Not observed								
Test Hole: TP-105				Seasonal High Water Table: 86"								
				Notes:								
Depth (inches)	Horizon	Horizon Boundaries		Soil Colors		Redox Description			Texture	Structure	Consistence	HTM artifacts/Other Notes
		Dist	Topo	Matrix	Redox Features	Abundance	Size	Contrast				
0-1	Oe	-	-	-	-	-	-	-	-	-	-	moderately decomposed organic material
1-3.5	A	abrupt	smooth	10YR 2/1	-	-	-	-	loamy sand	moderately medium granular	friable	common fine and medium roots
3.5-22	Bw1	clear	smooth	10YR 4/6	-	-	-	-	loamy sand	weak fine to medium subangular blocky	friable	few medium roots
22-43	Bw2	clear	smooth	10YR 6/6	-	-	-	-	loamy sand	weak fine to medium subangular blocky	friable	few fine roots
43-65	CB	abrupt	smooth	10YR 6/3	-	-	-	-	loamy sand	structureless massive	friable	-
65-86	2C1	abrupt	smooth	2.5Y 7/2	-	-	-	-	fine sandy loam	structureless massive	friable	-
86-100	2C2	abrupt	smooth	2.5Y 7/2	10YR 6/8 concentrations	few	medium to coarse	distinct	fine sandy loam	structureless massive	friable	-
100-120	2C3	-	-	2.5Y 7/2	-	-	-	-	coarse sand	single grain	loose	-

NRCS Soils Data

Hydrologic Soil Group—State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties (Emerald Coventry Centre)



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

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

Soil Rating Lines

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

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties
Survey Area Data: Version 25, Sep 3, 2025

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

Date(s) aerial images were photographed: Mar 1, 2024—Jul 1, 2024

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
HkC	Hinckley loamy sand, 8 to 15 percent slopes	A	3.3	38.6%
HnC	Hinckley-Enfield complex, 3 to 15 percent slopes	A	5.2	61.4%
Totals for Area of Interest			8.5	100.0%

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher