STORMWATER MANAGEMENT REPORT

BREEZELINE UNCASVILLE CT
TAX MAP 30 BLOCK 89 LOT 00A

689 Old Colchester Road
Uncasville, Connecticut

January 10, 2023
Rev: February 13, 2023

Prepared For:

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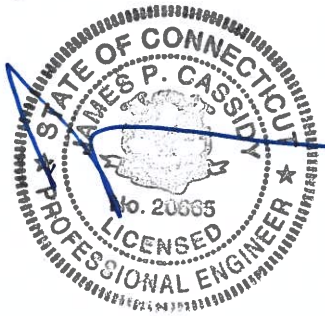

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1.0 PROJECT OVERVIEW

This report is a hydrologic water quantity quality analysis of the subject parcel located on 689 Old Colchester Road in Uncasville, CT. The 8.3-acre property is identified as Tax Map 30, Block 89, Lot 00A. The lot consists of five (5) existing utility buildings, twelve (12) concrete pads for various utilities and an access driveway. There are no wetlands associated with the site. No portion of Tax Map 30, Block 89, Lot 00A is within the flood plain. In addition to the buildings, the site consists of pavement, gravel, grass/open field, and woodland.

Redevelopment of the site proposes the construction of a 912 s.f office building and associated site improvements including parking, grading, utilities, and other appurtenances, as well as a stormwater management basin.

To effectively analyze the pre-development conditions, a 55,644 s.f. watershed was created, with two (2) sub-catchments, while off-site runoff accounts for 4,166 s.f. from an adjacent property. The sub-catchment is routed through site prior to discharge. The points of discharge are identified as Design Point A (DPA) and Design Point B (DPB). DPA is located at the property line south of the development area, DPB is located near the front gate.

To effectively analyze the post-development three (3) sub-catchments were created. The pre- and post-development watersheds are routed to the same points of analysis. Sub-catchments model the areas of the site that are directed through proposed drainage basin. Water Quality Volume was calculated to be 550.67 c.f., resulting in a WQV Elevation of 461.29, an elevation just below the outlet weir slot elevation. A sediment forebay of 137.67 c.f. is required with this WQV.

The project proposes an infiltration basin with a storage volume of 1,015 c.f. ±, including above and below ground storage, sediment forebay storage volume of 369 c.f. ±, and three (3) 8” perforated pipes with a storage volume of 44 c.f., resulting in a total available storage of 1,427 c.f. Stormwater conveyance consists of overland flow to the bioretention basin. The basin utilizes open storage, infiltration of water into the ground and controlled outflow. An outlet structure for the basin consists of a sharp crested custom weir which discharges limited runoff in all design storms into a rip-rap splash pad that leads to a concrete level spreader upgradient of the property line. The custom weir consists of a 3” x 11” slot that regulates the flow. A 24” diameter Nyloplast-type dome grate has been proposed with three (3) 8” perforated underdrains. This structure will ensure that if the water is not infiltrating through the top planting mix (bio mix), for example in certain winter conditions, then runoff in the basin pond up to the rim and then route to the underdrains below to infiltrate through the stone layer surrounding the underdrains.

The analysis shows that with the mitigation measures proposed for the development of this site, the post-development conditions will improve over existing conditions in that stormwater flow rates and runoff volumes to the adjacent properties will be reduced for all design storms.

2.0 DRAINAGE ANALYSIS

A comprehensive hydrologic study of this site has been performed utilizing nationally recognized runoff estimating techniques developed by the USDA, Soil Conservation Services (SCS). The technique and runoff models are described in various SCS publications and references as follows:

TR-55/ TR-20 Methodology using “Stormwater Modeling System” HydroCAD Ver. 10.0

“Extreme Precipitation Tables; Northeast Regional Climate Center”

2.1 DRAINAGE DESIGN PARAMETERS

A brief review of the procedures and parameters used in the drainage study follows:

2.1.1 Watersheds

The watersheds and sub-catchment areas were delineated using on-site topographic survey data provided by North by Northeast Survey and Mapping Consultants.

2.1.2 Soils

Natural Resources Conservation Services (NRCS) web soil survey shows the site as Woodbridge, with the surrounding area indicated as having a hydrologic soil grouping (HSG) of C.

From test pits performed on site, the texture class of the underlying native soil that will receive recharged water was determined to be Loamy Sand. Accordingly, a Rawls infiltration rate of 2.41 Inches/Hour was utilized for exfiltration and recharge calculations.

2.1.3 Rainfall Data

Extreme precipitation estimate values from the Northeast Regional Climate Center were utilized in this analysis. The analysis has been performed for the 2-year, 10-year, 25-year, 50-year, and 100-year storm events with 3.35”, 4.83”, 5.95”, 6.98”, and 8.18” rainfall depths respectively.

2.1.4 Runoff Curve Numbers

The SCS runoff curve numbers were used for the various land uses and are summarized within each sub-catchment drainage summary in the hydrologic calculations.

2.2 EXISTING CONDITIONS

For purposes of this analysis the subject parcel was analyzed as one point of discharge.

2.2.1 Table A – Existing Conditions (2, 10, 25, 50 and 100-year storm events)

Watershed	**Pre Development Peak Flows (cfs)**				
Design Point	**2-yr**	**10-yr**	**25-yr**	**50-yr**	**100-yr**
A	0.95	1.76	2.40	3.02	3.74
B	0.88	1.53	2.01	2.49	3.02
Watershed	**Pre Development Peak Volume (cf)**				
Design Point	**2-yr**	**10-yr**	**25-yr**	**50-yr**	**100-yr**
A	3,745	6,946	9,562	12,055	15,033
B	3,206	5,656	7,614	9,462	11,652

2.3 DEVELOPED CONDITIONS

The post development watershed was analyzed utilizing the same summing points as the pre development analysis.

2.3.1 Table B – Developed Conditions (2, 10, 25, 50 and 100-year storm events)

Watershed	**Post Development Peak Flows (cfs)**				
Design Point	**2-yr**	**10-yr**	**25-yr**	**50-yr**	**100-yr**
A1	0.88	1.61	2.18	2.73	3.36
B1	0.73	1.19	1.62	2.13	2.69
Watershed	**Post Development Peak Volume (cf)**				
Design Point	**2-yr**	**10-yr**	**25-yr**	**50-yr**	**100-yr**
A1	3,396	6,218	8,510	10,690	13,288
B1	2,636	4,841	6,742	8,556	10,680

HYDROLOGIC CALCULATIONS

3.1 STORMWATER MANAGEMENT – SUPPLEMENTAL INFORMATION

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	No
State	Connecticut
Location	
Longitude	72.155 degrees West
Latitude	41.453 degrees North
Elevation	0 feet
Date/Time	Wed, 28 Dec 2022 12:24:29 -0500

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.31	0.48	0.58	0.78	0.96	1.17	**1yr**	0.83	1.14	1.37	1.75	2.23	2.80	3.06	**1yr**	2.48	2.94	3.40	4.10	4.72	**1yr**
2yr	0.37	0.57	0.70	0.95	1.18	1.42	**2yr**	1.02	1.39	1.63	2.11	2.66	3.35	3.67	**2yr**	2.97	3.53	4.02	4.79	5.40	**2yr**
5yr	0.44	0.68	0.84	1.16	1.47	1.77	**5yr**	1.27	1.73	2.02	2.60	3.23	4.13	4.57	**5yr**	3.65	4.40	5.04	5.90	6.66	**5yr**
10yr	0.51	0.78	0.97	1.35	1.74	2.08	**10yr**	1.51	2.04	2.36	3.05	3.75	4.83	5.41	**10yr**	4.28	5.20	5.98	6.92	7.82	**10yr**
25yr	0.61	0.94	1.16	1.66	2.18	2.59	**25yr**	1.89	2.53	2.92	3.77	4.57	5.95	6.75	**25yr**	5.27	6.49	7.52	8.55	9.66	**25yr**
50yr	0.71	1.08	1.34	1.93	2.60	3.05	**50yr**	2.24	2.99	3.43	4.42	5.32	6.98	7.99	**50yr**	6.17	7.68	8.94	10.04	11.34	**50yr**
100yr	0.82	1.24	1.56	2.25	3.09	3.61	**100yr**	2.67	3.53	4.03	5.20	6.19	8.18	9.46	**100yr**	7.24	9.10	10.64	11.79	13.32	**100yr**
200yr	0.96	1.44	1.82	2.64	3.68	4.26	**200yr**	3.17	4.17	4.73	6.12	7.21	9.60	11.21	**200yr**	8.50	10.78	12.68	13.86	15.66	**200yr**
500yr	1.17	1.75	2.25	3.26	4.64	5.32	**500yr**	4.01	5.20	5.87	7.60	8.83	11.87	14.05	**500yr**	10.50	13.51	15.99	17.17	19.40	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.41	0.50	0.67	0.82	0.97	**1yr**	0.71	0.95	1.16	1.53	2.02	2.35	2.85	**1yr**	2.08	2.74	3.21	3.84	4.43	**1yr**
2yr	0.36	0.55	0.68	0.92	1.14	1.37	**2yr**	0.98	1.34	1.59	2.06	2.59	3.28	3.59	**2yr**	2.91	3.45	3.93	4.70	5.29	**2yr**
5yr	0.40	0.62	0.77	1.06	1.35	1.62	**5yr**	1.16	1.58	1.89	2.41	3.00	3.90	4.33	**5yr**	3.45	4.16	4.76	5.58	6.31	**5yr**
10yr	0.44	0.68	0.84	1.18	1.52	1.81	**10yr**	1.31	1.77	2.08	2.73	3.36	4.45	4.97	**10yr**	3.94	4.78	5.47	6.37	7.24	**10yr**
25yr	0.50	0.75	0.94	1.34	1.76	2.11	**25yr**	1.52	2.06	2.42	3.21	3.93	5.28	6.00	**25yr**	4.67	5.77	6.59	7.59	8.65	**25yr**
50yr	0.53	0.81	1.01	1.46	1.96	2.45	**50yr**	1.69	2.40	2.72	3.65	4.42	6.03	6.93	**50yr**	5.34	6.66	7.62	8.69	9.92	**50yr**
100yr	0.59	0.89	1.11	1.61	2.20	2.62	**100yr**	1.90	2.56	3.07	4.17	4.98	6.89	8.02	**100yr**	6.10	7.71	8.83	9.97	11.39	**100yr**
200yr	0.64	0.96	1.22	1.76	2.46	2.91	**200yr**	2.12	2.85	3.44	4.77	5.63	7.90	9.29	**200yr**	6.99	8.93	10.22	11.46	13.10	**200yr**
500yr	0.72	1.07	1.37	2.00	2.84	3.90	**500yr**	2.45	3.81	4.02	5.72	6.63	9.48	11.32	**500yr**	8.39	10.89	12.47	13.82	15.77	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.34	0.52	0.64	0.86	1.05	1.29	**1yr**	0.91	1.26	1.50	1.94	2.38	3.01	3.26	**1yr**	2.66	3.13	3.59	4.30	4.98	**1yr**
2yr	0.39	0.61	0.75	1.01	1.24	1.50	**2yr**	1.07	1.46	1.71	2.20	2.76	3.45	3.77	**2yr**	3.05	3.63	4.16	4.92	5.54	**2yr**
5yr	0.47	0.73	0.90	1.24	1.58	1.92	**5yr**	1.36	1.88	2.15	2.80	3.49	4.35	4.85	**5yr**	3.85	4.67	5.33	6.22	7.03	**5yr**
10yr	0.56	0.86	1.06	1.49	1.92	2.35	**10yr**	1.66	2.30	2.67	3.37	4.18	5.20	5.87	**10yr**	4.60	5.64	6.46	7.46	8.39	**10yr**
25yr	0.71	1.08	1.34	1.91	2.52	3.08	**25yr**	2.17	3.01	3.48	4.32	5.33	6.58	7.55	**25yr**	5.82	7.26	8.35	9.44	10.71	**25yr**
50yr	0.84	1.28	1.60	2.29	3.09	3.57	**50yr**	2.67	3.49	4.24	5.21	6.39	7.88	9.12	**50yr**	6.97	8.77	10.12	11.29	12.85	**50yr**
100yr	1.01	1.53	1.92	2.77	3.80	4.65	**100yr**	3.28	4.55	5.18	6.29	7.67	9.42	11.04	**100yr**	8.33	10.62	12.26	13.50	15.40	**100yr**
200yr	1.22	1.83	2.32	3.35	4.68	5.74	**200yr**	4.04	5.61	6.33	7.58	9.20	11.25	13.36	**200yr**	9.96	12.85	14.88	16.14	18.48	**200yr**
500yr	1.56	2.32	2.99	4.34	6.18	6.89	**500yr**	5.33	6.73	8.28	9.72	11.74	14.23	17.20	**500yr**	12.60	16.54	19.25	20.44	23.51	**500yr**

Powered by ACIS Northeast Regional Climate Center

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for State of Connecticut

December 28, 2022

Custom Soil Resource Report
Soil Map

Map Scale: 1:2,390 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

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

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: State of Connecticut
Survey Area Data: Version 22, Sep 12, 2022

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

Date(s) aerial images were photographed: Data not available.

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	0.0	0.0%
45A	Woodbridge fine sandy loam, 0 to 3 percent slopes	5.0	43.9%
45B	Woodbridge fine sandy loam, 3 to 8 percent slopes	6.2	54.4%
46B	Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony	0.2	1.7%
Totals for Area of Interest		**11.4**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

State of Connecticut

3—Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2t2qt
Elevation: 0 to 1,480 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Ridgebury, extremely stony, and similar soils: 40 percent
Leicester, extremely stony, and similar soils: 35 percent
Whitman, extremely stony, and similar soils: 17 percent
Minor components: 8 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ridgebury, Extremely Stony

Setting

Landform: Drumlins, ground moraines, hills, drainageways, depressions
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Head slope, base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 6 inches: fine sandy loam
Bw - 6 to 10 inches: sandy loam
Bg - 10 to 19 inches: gravelly sandy loam
Cd - 19 to 66 inches: gravelly sandy loam

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 15 to 35 inches to densic material
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: D
Ecological site: F144AY009CT - Wet Till Depressions
Hydric soil rating: Yes

Description of Leicester, Extremely Stony

Setting

Landform: Ground moraines, hills, drainageways, depressions
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave
Parent material: Coarse-loamy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 7 inches: fine sandy loam
Bg - 7 to 18 inches: fine sandy loam
BC - 18 to 24 inches: fine sandy loam
C1 - 24 to 39 inches: gravelly fine sandy loam
C2 - 39 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B/D
Ecological site: F144AY009CT - Wet Till Depressions
Hydric soil rating: Yes

Description of Whitman, Extremely Stony

Setting

Landform: Drumlins, ground moraines, hills, drainageways, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oi - 0 to 1 inches: peat

A - 1 to 10 inches: fine sandy loam
Bg - 10 to 17 inches: gravelly fine sandy loam
Cdg - 17 to 61 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 7 to 38 inches to densic material
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: F144AY009CT - Wet Till Depressions
Hydric soil rating: Yes

Minor Components

Woodbridge, extremely stony

Percent of map unit: 6 percent
Landform: Hills, drumlins, ground moraines
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Swansea

Percent of map unit: 2 percent
Landform: Bogs, swamps
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

45A—Woodbridge fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2w686
Elevation: 0 to 1,420 feet

Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Woodbridge and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge

Setting

Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Bw1 - 7 to 18 inches: fine sandy loam
Bw2 - 18 to 30 inches: fine sandy loam
Cd - 30 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: F144AY037MA - Moist Dense Till Uplands
Hydric soil rating: No

Minor Components

Paxton

Percent of map unit: 7 percent
Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Ridgebury

Percent of map unit: 6 percent
Landform: Depressions, ground moraines, drainageways, drumlins, hills
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Head slope, base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Sutton

Percent of map unit: 1 percent
Landform: Ground moraines, hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Whitman, extremely stony

Percent of map unit: 1 percent
Landform: Drainageways, depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

45B—Woodbridge fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2t2ql
Elevation: 0 to 1,470 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Woodbridge, fine sandy loam, and similar soils: 82 percent
Minor components: 18 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge, Fine Sandy Loam

Setting

Landform: Ground moraines, drumlins, hills
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Bw1 - 7 to 18 inches: fine sandy loam
Bw2 - 18 to 30 inches: fine sandy loam
Cd - 30 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: F144AY037MA - Moist Dense Till Uplands
Hydric soil rating: No

Minor Components

Paxton

Percent of map unit: 10 percent
Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Ridgebury

Percent of map unit: 8 percent
Landform: Depressions, ground moraines, hills, drainageways
Landform position (two-dimensional): Toeslope, backslope, footslope
Landform position (three-dimensional): Base slope, head slope, dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

46B—Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2t2qr

Elevation: 0 to 1,440 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Woodbridge, very stony, and similar soils: 82 percent
Minor components: 18 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge, Very Stony

Setting

Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 9 inches: fine sandy loam
Bw1 - 9 to 20 inches: fine sandy loam
Bw2 - 20 to 32 inches: fine sandy loam
Cd - 32 to 67 inches: gravelly fine sandy loam

Properties and qualities

Slope: 0 to 8 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 20 to 43 inches to densic material
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 19 to 27 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C/D
Ecological site: F144AY037MA - Moist Dense Till Uplands
Hydric soil rating: No

Minor Components

Paxton, very stony

Percent of map unit: 10 percent
Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest

Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Hydric soil rating: No

Ridgebury, very stony

Percent of map unit: 8 percent
Landform: Hills, drainageways, drumlins, depressions, ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Head slope, base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Test Pit: TP-SW1

Depth (ft)	Horizon	Texture	Redox Features	Notes
0 - 6"	A	Loam	None	topsoil
6" - 22"	B	FSL	None	subsoil
22" - 36"	C1	FSL	See Note	iron striations to 40", fine roots to 32"
36" - 70"	C2	LS	None	clean, stopped excavation at 70" (not refusal)

Estimated Seasonal High Water: None
Observed Water: None
Restrictive Layer: None
Bedrock/Refusal: None

Test Pit: TP-SW2

Depth (ft)	Horizon	Texture	Redox Features	Notes
0 - 6"	A	Loam	None	topsoil
6" - 18"	B	FSL	None	subsoil
18" - 32"	C1	FSL	None	some silt pockets, fine roots to 32"
32" - 42" North	C2	LS	None	clean, rock encountered at 42" on north end
32" - 60" South	C2	LS	None	stopped excav. at 60" on south end (rock not hit)

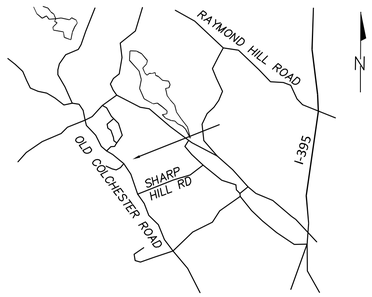
Estimated Seasonal High Water: None
Observed Water: None
Restrictive Layer: At 42" on north end of test pit
Bedrock/Refusal: At 42" on north end of test pit

% Impervious Coverage and Storm Water Quality Volume (WQV)

	A	B	C	D	E	F	G	H
1	**SUBCATCHMENT TO INFILTRATION BASIN**							
2	SUBCATCHMENT	TOTAL AREA	PAVED/ROOF AREA	% PAVED COV.	POROUS PAVER AREA	% POROUS PAVER AREA	LAWN AREA	% LANDSCAPE COV.
3	WSA2	0.254	0.113	44.488	0.000	0.000	0.142	55.906
4	**SUM TO BASIN (IB1)**	0.255	0.113	44.314	0.000	0.000	0.142	55.686
5								
6	**WATER QUALITY VOLUME (WQV)**							
7	WQV= 1" x R x A/12							
8								
9	WQV= water quailty volume (ac-ft)							
10	R= volumetric runoff coefficent = 0.05 + 0.009 (I)							
11	I= percent impervious cover	44.314						
12	A= site area in acres	0.255						
13	**WQV (REQUIRED)=**	**0.013**	**acre-feet**	**550.67**	**CF**			
14								
15	**SEDIMENT FOREBAY CALCULATION**							
16	Sediment Forebay Volume = 25% x WQV							
17								
18	Sediment Forebay Volume	137.67	CF					

3.2 EXISTING WATERSHEDS

LOCUS MAP



n/f
ROBERT C. ECCLESTON JR
#715 OLD COLCHESTER ROAD
VOLUME 610 PAGE 1013
TAX MAP 30 BLOCK 88 LOT 000

ATLANTIC BROADBAND(CT) LLC
(BREEZELINE)
#689 OLD COLCHESTER ROAD
VOLUME 608 PAGE 350
TAX MAP 30 BLOCK 89 LOT 00A

45A

n/f
PETER & MARIANNE
PIERFEDERICI
#699 OLD COLCHESTER ROAD
VOLUME 147 PAGE 140
TAX MAP 30 BLOCK 88 LOT 00A

n/f
ROBERT C. ECCLESTON JR
#695 OLD COLCHESTER ROAD
VOLUME 590 PAGE 92
TAX MAP 30 BLOCK 89 LOT 00

45B

n/f
GLENN MAZZEI
#687 OLD COLCHESTER ROAD
VOLUME 681 PAGE 1003
TAX MAP 22 BLOCK 016 LOT 000

CONNECTICUT COORDINATE SYSTEM 1983

BUILDING SETBACK LINE

EDGE OF LAWN

GENERATOR PAD

ELEC. TRANSFORMER PAD

CHAINLINK FENCE (TYP)

ANTENNA MAST

GRAVEL

MANHOLE

ELEC. SVC. ENT.

SATELLITE DISH CONCRETE FOOTING (TYP)

EXISTING PAVED DRIVE

UNDERGROUND ELECTRIC & CABLE MARKINGS

UNDERGROUND MARKING UNKNOWN

TELE. PULL BOX

STEEL PIPE FND DOWN 3"

DESIGN PT. B

STEEL REBAR FND: DOWN 3"
N: 726,225.169
E: 1,163,107.810

APPROX. TREELINE

ledge or exposed stone

TPA4 466.7

TPA1 467.5

TPA2 467.9

TPA3 465.2

461.9 SW2

SW1 461.4

GUY WIRES FOR ANTENNA

STEEL PIPE FND DOWN 3"

LIMIT OF SURVEY

BENCHMARKS:
TOP CORNER OF CONCRETE PAD
A = 470.59
B = 471.84
C = 472.83

STEEL PIPE FND DISTURBED, NO EVIDENCE OF MERESTONE

STEEL PIPE FND DOWN 3"

DESIGN PT. A

APPROX. TREELINE

APPROX. LOCATION OF EXISTING HOUSE

INVERT ELEV: 438.0

CATCH BASIN

CURB TOE ELEV: 441.5

UNDERGROUND VAULTS

UTILITY POLES WITH MULTIPLE RISERS

gate

STEEL PIPE FND.

OLD COLCHESTER ROAD

LEGEND

- EX 2' CONTOUR
- EX 10' CONTOUR
- EDGE OF PAVEMENT
- SOIL BOUNDARY
- SUBCATCHMENT BOUNDARY
- LONGEST FLOW PATH WITH DIRECTION OF FLOW
- (1) SUBCATCHMENT DESIGNATION

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

NO.	REVISION	APP'D	DATE

DATE: 1-10-23
SCALE: 1"=30'
DRAWN BY: MJM
DESIGN BY: MEB
APPROVED BY: JPC
PROJECT NO: 22102
FILE: 22102-DRN

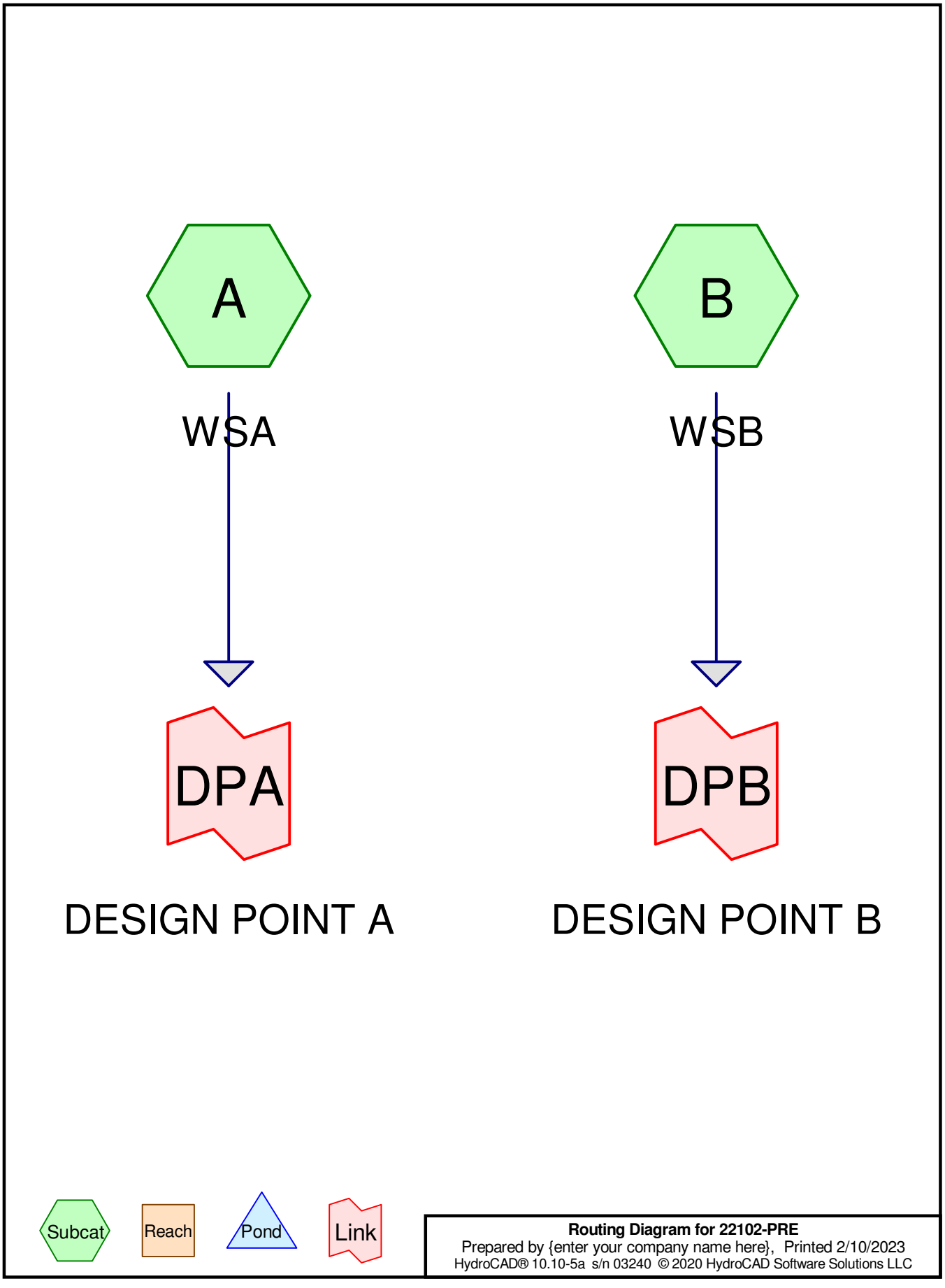
CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

PRE-DEVELOPMENT PLAN

ATLANTIC BROADBAND (CT) LLC
689 OLD COLCHESTER ROAD
UNCASVILLE, CT

BREEZELINE UNCASVILLE CT
689 OLD COLCHESTER ROAD
UNCASVILLE, CT

WS-1



Routing Diagram for 22102-PRE
Prepared by {enter your company name here}, Printed 2/10/2023

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
37,943	74	>75% Grass cover, Good, HSG C (A, B)
5,957	96	Gravel surface, HSG C (A, B)
6,158	98	Paved parking, HSG C (A, B)
2,066	98	Roofs, HSG C (B)
565	98	Unconnected pavement, HSG C (A, B)
2,955	70	Woods, Good, HSG C (A, B)
55,644	**80**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
55,644	HSG C	A, B
0	HSG D	
0	Other	
55,644		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Subcatch Numbers
0	0	37,943	0	0	37,943	>75% Grass cover, Good	
0	0	5,957	0	0	5,957	Gravel surface	
0	0	6,158	0	0	6,158	Paved parking	
0	0	2,066	0	0	2,066	Roofs	
0	0	565	0	0	565	Unconnected pavement	
0	0	2,955	0	0	2,955	Woods, Good	
0	**0**	**55,644**	**0**	**0**	**55,644**	**TOTAL AREA**	

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 Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A: WSA Runoff Area=32,460 sf 14.77% Impervious Runoff Depth=1.38"
Flow Length=410' Tc=11.7 min CN=78 Runoff=0.95 cfs 3,745 cf

Subcatchment B: WSB Runoff Area=23,184 sf 17.23% Impervious Runoff Depth=1.66"
Flow Length=416' Tc=10.3 min CN=82 Runoff=0.88 cfs 3,206 cf

Link DPA: DESIGN POINT A Inflow=0.95 cfs 3,745 cf
Primary=0.95 cfs 3,745 cf

Link DPB: DESIGN POINT B Inflow=0.88 cfs 3,206 cf
Primary=0.88 cfs 3,206 cf

Total Runoff Area = 55,644 sf Runoff Volume = 6,951 cf Average Runoff Depth = 1.50"
84.20% Pervious = 46,855 sf 15.80% Impervious = 8,789 sf

Summary for Subcatchment A: WSA

Runoff = 0.95 cfs @ 12.12 hrs, Volume= 3,745 cf, Depth= 1.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 2-yr Rainfall=3.35"

Area (sf)	CN	Description
2,133	70	Woods, Good, HSG C
24,102	74	>75% Grass cover, Good, HSG C
1,431	96	Gravel surface, HSG C
362	98	Unconnected pavement, HSG C
4,432	98	Paved parking, HSG C
32,460	78	Weighted Average
27,666		85.23% Pervious Area
4,794		14.77% Impervious Area
362		7.55% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	50	0.0280	0.12		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.6	39	0.0231	1.06		**Shallow Concentrated Flow, 2** Short Grass Pasture Kv= 7.0 fps
0.2	58	0.0363	3.87		**Shallow Concentrated Flow, 3** Paved Kv= 20.3 fps
0.6	57	0.0456	1.49		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.1	23	0.0605	4.99		**Shallow Concentrated Flow, 5** Paved Kv= 20.3 fps
0.2	27	0.0980	2.19		**Shallow Concentrated Flow, 6** Short Grass Pasture Kv= 7.0 fps
0.3	34	0.0582	1.69		**Shallow Concentrated Flow, 7** Short Grass Pasture Kv= 7.0 fps
1.2	73	0.0219	1.04		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
0.8	31	0.0096	0.69		**Shallow Concentrated Flow, 9** Short Grass Pasture Kv= 7.0 fps
0.6	18	0.0057	0.53		**Shallow Concentrated Flow, 10** Short Grass Pasture Kv= 7.0 fps
11.7	410	Total			

Summary for Subcatchment B: WSB

Runoff = 0.88 cfs @ 12.09 hrs, Volume= 3,206 cf, Depth= 1.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 2-yr Rainfall=3.35"

Area (sf)	CN	Description
822	70	Woods, Good, HSG C
13,841	74	>75% Grass cover, Good, HSG C
203	98	Unconnected pavement, HSG C
2,066	98	Roofs, HSG C
4,526	96	Gravel surface, HSG C
1,726	98	Paved parking, HSG C
23,184	82	Weighted Average
19,189		82.77% Pervious Area
3,995		17.23% Impervious Area
203		5.08% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	50	0.0280	0.12		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.4	36	0.0444	1.47		**Shallow Concentrated Flow, 2** Short Grass Pasture Kv= 7.0 fps
0.7	115	0.0261	2.60		**Shallow Concentrated Flow, 3** Unpaved Kv= 16.1 fps
0.5	42	0.0476	1.53		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.2	29	0.1034	2.25		**Shallow Concentrated Flow, 5** Short Grass Pasture Kv= 7.0 fps
0.5	44	0.0511	1.58		**Shallow Concentrated Flow, 6** Short Grass Pasture Kv= 7.0 fps
0.4	71	0.0246	3.18		**Shallow Concentrated Flow, 7** Paved Kv= 20.3 fps
0.5	29	0.0172	0.92		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
10.3	416	Total			

Summary for Link DPA: DESIGN POINT A

Inflow Area = 32,460 sf, 14.77% Impervious, Inflow Depth = 1.38" for 2-yr event
Inflow = 0.95 cfs @ 12.12 hrs, Volume= 3,745 cf
Primary = 0.95 cfs @ 12.12 hrs, Volume= 3,745 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Link DPB: DESIGN POINT B

Inflow Area = 23,184 sf, 17.23% Impervious, Inflow Depth = 1.66" for 2-yr event
Inflow = 0.88 cfs @ 12.09 hrs, Volume= 3,206 cf
Primary = 0.88 cfs @ 12.09 hrs, Volume= 3,206 cf, Atten= 0%, Lag= 0.0 min

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

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 Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A: WSA Runoff Area=32,460 sf 14.77% Impervious Runoff Depth=2.57"
Flow Length=410' Tc=11.7 min CN=78 Runoff=1.76 cfs 6,946 cf

Subcatchment B: WSB Runoff Area=23,184 sf 17.23% Impervious Runoff Depth=2.93"
Flow Length=416' Tc=10.3 min CN=82 Runoff=1.53 cfs 5,656 cf

Link DPA: DESIGN POINT A Inflow=1.76 cfs 6,946 cf
Primary=1.76 cfs 6,946 cf

Link DPB: DESIGN POINT B Inflow=1.53 cfs 5,656 cf
Primary=1.53 cfs 5,656 cf

Total Runoff Area = 55,644 sf Runoff Volume = 12,602 cf Average Runoff Depth = 2.72"
84.20% Pervious = 46,855 sf 15.80% Impervious = 8,789 sf

Summary for Subcatchment A: WSA

Runoff = 1.76 cfs @ 12.11 hrs, Volume= 6,946 cf, Depth= 2.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 10-yr Rainfall=4.83"

Area (sf)	CN	Description
2,133	70	Woods, Good, HSG C
24,102	74	>75% Grass cover, Good, HSG C
1,431	96	Gravel surface, HSG C
362	98	Unconnected pavement, HSG C
4,432	98	Paved parking, HSG C
32,460	78	Weighted Average
27,666		85.23% Pervious Area
4,794		14.77% Impervious Area
362		7.55% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	50	0.0280	0.12		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.6	39	0.0231	1.06		**Shallow Concentrated Flow, 2** Short Grass Pasture Kv= 7.0 fps
0.2	58	0.0363	3.87		**Shallow Concentrated Flow, 3** Paved Kv= 20.3 fps
0.6	57	0.0456	1.49		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.1	23	0.0605	4.99		**Shallow Concentrated Flow, 5** Paved Kv= 20.3 fps
0.2	27	0.0980	2.19		**Shallow Concentrated Flow, 6** Short Grass Pasture Kv= 7.0 fps
0.3	34	0.0582	1.69		**Shallow Concentrated Flow, 7** Short Grass Pasture Kv= 7.0 fps
1.2	73	0.0219	1.04		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
0.8	31	0.0096	0.69		**Shallow Concentrated Flow, 9** Short Grass Pasture Kv= 7.0 fps
0.6	18	0.0057	0.53		**Shallow Concentrated Flow, 10** Short Grass Pasture Kv= 7.0 fps
11.7	410	Total			

Summary for Subcatchment B: WSB

Runoff = 1.53 cfs @ 12.09 hrs, Volume= 5,656 cf, Depth= 2.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 10-yr Rainfall=4.83"

Area (sf)	CN	Description
822	70	Woods, Good, HSG C
13,841	74	>75% Grass cover, Good, HSG C
203	98	Unconnected pavement, HSG C
2,066	98	Roofs, HSG C
4,526	96	Gravel surface, HSG C
1,726	98	Paved parking, HSG C
23,184	82	Weighted Average
19,189		82.77% Pervious Area
3,995		17.23% Impervious Area
203		5.08% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	50	0.0280	0.12		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.4	36	0.0444	1.47		**Shallow Concentrated Flow, 2** Short Grass Pasture Kv= 7.0 fps
0.7	115	0.0261	2.60		**Shallow Concentrated Flow, 3** Unpaved Kv= 16.1 fps
0.5	42	0.0476	1.53		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.2	29	0.1034	2.25		**Shallow Concentrated Flow, 5** Short Grass Pasture Kv= 7.0 fps
0.5	44	0.0511	1.58		**Shallow Concentrated Flow, 6** Short Grass Pasture Kv= 7.0 fps
0.4	71	0.0246	3.18		**Shallow Concentrated Flow, 7** Paved Kv= 20.3 fps
0.5	29	0.0172	0.92		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
10.3	416	Total			

Summary for Link DPA: DESIGN POINT A

Inflow Area = 32,460 sf, 14.77% Impervious, Inflow Depth = 2.57" for 10-yr event
Inflow = 1.76 cfs @ 12.11 hrs, Volume= 6,946 cf
Primary = 1.76 cfs @ 12.11 hrs, Volume= 6,946 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Link DPB: DESIGN POINT B

Inflow Area = 23,184 sf, 17.23% Impervious, Inflow Depth = 2.93" for 10-yr event
Inflow = 1.53 cfs @ 12.09 hrs, Volume= 5,656 cf
Primary = 1.53 cfs @ 12.09 hrs, Volume= 5,656 cf, Atten= 0%, Lag= 0.0 min

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

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 Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A: WSA Runoff Area=32,460 sf 14.77% Impervious Runoff Depth=3.53"
Flow Length=410' Tc=11.7 min CN=78 Runoff=2.40 cfs 9,562 cf

Subcatchment B: WSB Runoff Area=23,184 sf 17.23% Impervious Runoff Depth=3.94"
Flow Length=416' Tc=10.3 min CN=82 Runoff=2.01 cfs 7,614 cf

Link DPA: DESIGN POINT A Inflow=2.40 cfs 9,562 cf
Primary=2.40 cfs 9,562 cf

Link DPB: DESIGN POINT B Inflow=2.01 cfs 7,614 cf
Primary=2.01 cfs 7,614 cf

Total Runoff Area = 55,644 sf Runoff Volume = 17,176 cf Average Runoff Depth = 3.70"
84.20% Pervious = 46,855 sf 15.80% Impervious = 8,789 sf

Summary for Subcatchment A: WSA

Runoff = 2.40 cfs @ 12.11 hrs, Volume= 9,562 cf, Depth= 3.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 25-yr Rainfall=5.95"

Area (sf)	CN	Description
2,133	70	Woods, Good, HSG C
24,102	74	>75% Grass cover, Good, HSG C
1,431	96	Gravel surface, HSG C
362	98	Unconnected pavement, HSG C
4,432	98	Paved parking, HSG C
32,460	78	Weighted Average
27,666		85.23% Pervious Area
4,794		14.77% Impervious Area
362		7.55% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	50	0.0280	0.12		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.6	39	0.0231	1.06		**Shallow Concentrated Flow, 2** Short Grass Pasture Kv= 7.0 fps
0.2	58	0.0363	3.87		**Shallow Concentrated Flow, 3** Paved Kv= 20.3 fps
0.6	57	0.0456	1.49		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.1	23	0.0605	4.99		**Shallow Concentrated Flow, 5** Paved Kv= 20.3 fps
0.2	27	0.0980	2.19		**Shallow Concentrated Flow, 6** Short Grass Pasture Kv= 7.0 fps
0.3	34	0.0582	1.69		**Shallow Concentrated Flow, 7** Short Grass Pasture Kv= 7.0 fps
1.2	73	0.0219	1.04		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
0.8	31	0.0096	0.69		**Shallow Concentrated Flow, 9** Short Grass Pasture Kv= 7.0 fps
0.6	18	0.0057	0.53		**Shallow Concentrated Flow, 10** Short Grass Pasture Kv= 7.0 fps
11.7	410	Total			

Summary for Subcatchment B: WSB

Runoff = 2.01 cfs @ 12.09 hrs, Volume= 7,614 cf, Depth= 3.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 25-yr Rainfall=5.95"

Area (sf)	CN	Description
822	70	Woods, Good, HSG C
13,841	74	>75% Grass cover, Good, HSG C
203	98	Unconnected pavement, HSG C
2,066	98	Roofs, HSG C
4,526	96	Gravel surface, HSG C
1,726	98	Paved parking, HSG C
23,184	82	Weighted Average
19,189		82.77% Pervious Area
3,995		17.23% Impervious Area
203		5.08% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	50	0.0280	0.12		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.4	36	0.0444	1.47		**Shallow Concentrated Flow, 2** Short Grass Pasture Kv= 7.0 fps
0.7	115	0.0261	2.60		**Shallow Concentrated Flow, 3** Unpaved Kv= 16.1 fps
0.5	42	0.0476	1.53		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.2	29	0.1034	2.25		**Shallow Concentrated Flow, 5** Short Grass Pasture Kv= 7.0 fps
0.5	44	0.0511	1.58		**Shallow Concentrated Flow, 6** Short Grass Pasture Kv= 7.0 fps
0.4	71	0.0246	3.18		**Shallow Concentrated Flow, 7** Paved Kv= 20.3 fps
0.5	29	0.0172	0.92		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
10.3	416	Total			

Summary for Link DPA: DESIGN POINT A

Inflow Area = 32,460 sf, 14.77% Impervious, Inflow Depth = 3.53" for 25-yr event
Inflow = 2.40 cfs @ 12.11 hrs, Volume= 9,562 cf
Primary = 2.40 cfs @ 12.11 hrs, Volume= 9,562 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Link DPB: DESIGN POINT B

Inflow Area = 23,184 sf, 17.23% Impervious, Inflow Depth = 3.94" for 25-yr event
Inflow = 2.01 cfs @ 12.09 hrs, Volume= 7,614 cf
Primary = 2.01 cfs @ 12.09 hrs, Volume= 7,614 cf, Atten= 0%, Lag= 0.0 min

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

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 Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A: WSA Runoff Area=32,460 sf 14.77% Impervious Runoff Depth=4.46"
Flow Length=410' Tc=11.7 min CN=78 Runoff=3.02 cfs 12,055 cf

Subcatchment B: WSB Runoff Area=23,184 sf 17.23% Impervious Runoff Depth=4.90"
Flow Length=416' Tc=10.3 min CN=82 Runoff=2.49 cfs 9,462 cf

Link DPA: DESIGN POINT A Inflow=3.02 cfs 12,055 cf
Primary=3.02 cfs 12,055 cf

Link DPB: DESIGN POINT B Inflow=2.49 cfs 9,462 cf
Primary=2.49 cfs 9,462 cf

Total Runoff Area = 55,644 sf Runoff Volume = 21,517 cf Average Runoff Depth = 4.64"
84.20% Pervious = 46,855 sf 15.80% Impervious = 8,789 sf

Summary for Subcatchment A: WSA

Runoff = 3.02 cfs @ 12.11 hrs, Volume= 12,055 cf, Depth= 4.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 50-yr Rainfall=6.98"

Area (sf)	CN	Description
2,133	70	Woods, Good, HSG C
24,102	74	>75% Grass cover, Good, HSG C
1,431	96	Gravel surface, HSG C
362	98	Unconnected pavement, HSG C
4,432	98	Paved parking, HSG C
32,460	78	Weighted Average
27,666		85.23% Pervious Area
4,794		14.77% Impervious Area
362		7.55% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	50	0.0280	0.12		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.6	39	0.0231	1.06		**Shallow Concentrated Flow, 2** Short Grass Pasture Kv= 7.0 fps
0.2	58	0.0363	3.87		**Shallow Concentrated Flow, 3** Paved Kv= 20.3 fps
0.6	57	0.0456	1.49		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.1	23	0.0605	4.99		**Shallow Concentrated Flow, 5** Paved Kv= 20.3 fps
0.2	27	0.0980	2.19		**Shallow Concentrated Flow, 6** Short Grass Pasture Kv= 7.0 fps
0.3	34	0.0582	1.69		**Shallow Concentrated Flow, 7** Short Grass Pasture Kv= 7.0 fps
1.2	73	0.0219	1.04		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
0.8	31	0.0096	0.69		**Shallow Concentrated Flow, 9** Short Grass Pasture Kv= 7.0 fps
0.6	18	0.0057	0.53		**Shallow Concentrated Flow, 10** Short Grass Pasture Kv= 7.0 fps
11.7	410	Total			

Summary for Subcatchment B: WSB

Runoff = 2.49 cfs @ 12.09 hrs, Volume= 9,462 cf, Depth= 4.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 50-yr Rainfall=6.98"

Area (sf)	CN	Description
822	70	Woods, Good, HSG C
13,841	74	>75% Grass cover, Good, HSG C
203	98	Unconnected pavement, HSG C
2,066	98	Roofs, HSG C
4,526	96	Gravel surface, HSG C
1,726	98	Paved parking, HSG C
23,184	82	Weighted Average
19,189		82.77% Pervious Area
3,995		17.23% Impervious Area
203		5.08% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	50	0.0280	0.12		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.4	36	0.0444	1.47		**Shallow Concentrated Flow, 2** Short Grass Pasture Kv= 7.0 fps
0.7	115	0.0261	2.60		**Shallow Concentrated Flow, 3** Unpaved Kv= 16.1 fps
0.5	42	0.0476	1.53		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.2	29	0.1034	2.25		**Shallow Concentrated Flow, 5** Short Grass Pasture Kv= 7.0 fps
0.5	44	0.0511	1.58		**Shallow Concentrated Flow, 6** Short Grass Pasture Kv= 7.0 fps
0.4	71	0.0246	3.18		**Shallow Concentrated Flow, 7** Paved Kv= 20.3 fps
0.5	29	0.0172	0.92		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
10.3	416	Total			

Summary for Link DPA: DESIGN POINT A

Inflow Area = 32,460 sf, 14.77% Impervious, Inflow Depth = 4.46" for 50-yr event
Inflow = 3.02 cfs @ 12.11 hrs, Volume= 12,055 cf
Primary = 3.02 cfs @ 12.11 hrs, Volume= 12,055 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Link DPB: DESIGN POINT B

Inflow Area = 23,184 sf, 17.23% Impervious, Inflow Depth = 4.90" for 50-yr event
Inflow = 2.49 cfs @ 12.09 hrs, Volume= 9,462 cf
Primary = 2.49 cfs @ 12.09 hrs, Volume= 9,462 cf, Atten= 0%, Lag= 0.0 min

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

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 Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment A: WSA Runoff Area=32,460 sf 14.77% Impervious Runoff Depth=5.56"
Flow Length=410' Tc=11.7 min CN=78 Runoff=3.74 cfs 15,033 cf

Subcatchment B: WSB Runoff Area=23,184 sf 17.23% Impervious Runoff Depth=6.03"
Flow Length=416' Tc=10.3 min CN=82 Runoff=3.02 cfs 11,652 cf

Link DPA: DESIGN POINT A Inflow=3.74 cfs 15,033 cf
Primary=3.74 cfs 15,033 cf

Link DPB: DESIGN POINT B Inflow=3.02 cfs 11,652 cf
Primary=3.02 cfs 11,652 cf

Total Runoff Area = 55,644 sf Runoff Volume = 26,685 cf Average Runoff Depth = 5.75"
84.20% Pervious = 46,855 sf 15.80% Impervious = 8,789 sf

Summary for Subcatchment A: WSA

Runoff = 3.74 cfs @ 12.11 hrs, Volume= 15,033 cf, Depth= 5.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 100-yr Rainfall=8.18"

Area (sf)	CN	Description
2,133	70	Woods, Good, HSG C
24,102	74	>75% Grass cover, Good, HSG C
1,431	96	Gravel surface, HSG C
362	98	Unconnected pavement, HSG C
4,432	98	Paved parking, HSG C
32,460	78	Weighted Average
27,666		85.23% Pervious Area
4,794		14.77% Impervious Area
362		7.55% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	50	0.0280	0.12		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.6	39	0.0231	1.06		**Shallow Concentrated Flow, 2** Short Grass Pasture Kv= 7.0 fps
0.2	58	0.0363	3.87		**Shallow Concentrated Flow, 3** Paved Kv= 20.3 fps
0.6	57	0.0456	1.49		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.1	23	0.0605	4.99		**Shallow Concentrated Flow, 5** Paved Kv= 20.3 fps
0.2	27	0.0980	2.19		**Shallow Concentrated Flow, 6** Short Grass Pasture Kv= 7.0 fps
0.3	34	0.0582	1.69		**Shallow Concentrated Flow, 7** Short Grass Pasture Kv= 7.0 fps
1.2	73	0.0219	1.04		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
0.8	31	0.0096	0.69		**Shallow Concentrated Flow, 9** Short Grass Pasture Kv= 7.0 fps
0.6	18	0.0057	0.53		**Shallow Concentrated Flow, 10** Short Grass Pasture Kv= 7.0 fps
11.7	410	Total			

Summary for Subcatchment B: WSB

Runoff = 3.02 cfs @ 12.09 hrs, Volume= 11,652 cf, Depth= 6.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 100-yr Rainfall=8.18"

Area (sf)	CN	Description
822	70	Woods, Good, HSG C
13,841	74	>75% Grass cover, Good, HSG C
203	98	Unconnected pavement, HSG C
2,066	98	Roofs, HSG C
4,526	96	Gravel surface, HSG C
1,726	98	Paved parking, HSG C
23,184	82	Weighted Average
19,189		82.77% Pervious Area
3,995		17.23% Impervious Area
203		5.08% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	50	0.0280	0.12		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.4	36	0.0444	1.47		**Shallow Concentrated Flow, 2** Short Grass Pasture Kv= 7.0 fps
0.7	115	0.0261	2.60		**Shallow Concentrated Flow, 3** Unpaved Kv= 16.1 fps
0.5	42	0.0476	1.53		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.2	29	0.1034	2.25		**Shallow Concentrated Flow, 5** Short Grass Pasture Kv= 7.0 fps
0.5	44	0.0511	1.58		**Shallow Concentrated Flow, 6** Short Grass Pasture Kv= 7.0 fps
0.4	71	0.0246	3.18		**Shallow Concentrated Flow, 7** Paved Kv= 20.3 fps
0.5	29	0.0172	0.92		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
10.3	416	Total			

Summary for Link DPA: DESIGN POINT A

Inflow Area = 32,460 sf, 14.77% Impervious, Inflow Depth = 5.56" for 100-yr event
Inflow = 3.74 cfs @ 12.11 hrs, Volume= 15,033 cf
Primary = 3.74 cfs @ 12.11 hrs, Volume= 15,033 cf, Atten= 0%, Lag= 0.0 min

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

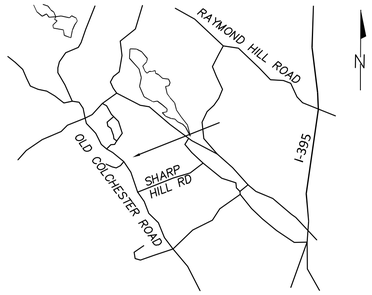
Summary for Link DPB: DESIGN POINT B

Inflow Area = 23,184 sf, 17.23% Impervious, Inflow Depth = 6.03" for 100-yr event
Inflow = 3.02 cfs @ 12.09 hrs, Volume= 11,652 cf
Primary = 3.02 cfs @ 12.09 hrs, Volume= 11,652 cf, Atten= 0%, Lag= 0.0 min

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

3.3 DEVELOPED WATERSHEDS

LOCUS MAP



CONNECTICUT COORDINATE SYSTEM 1983

n/f
ROBERT C. ECCLESTON JR
#715 OLD COLCHESTER ROAD
VOLUME 610 PAGE 1013
TAX MAP 30 BLOCK 88 LOT 000

ATLANTIC BROADBAND(CT) LLC
(BREEZELINE)
#689 OLD COLCHESTER ROAD
VOLUME 608 PAGE 350
TAX MAP 30 BLOCK 89 LOT 00A

n/f
PETER & MARIANNE
PIERFEDERICI
#699 OLD COLCHESTER ROAD
VOLUME 147 PAGE 140
TAX MAP 30 BLOCK 88 LOT 00A

n/f
ROBERT C. ECCLESTON JR
#695 OLD COLCHESTER ROAD
VOLUME 590 PAGE 92
TAX MAP 30 BLOCK 89 LOT T00

n/f
GLENN MAZZEI
#687 OLD COLCHESTER ROAD
VOLUME 681 PAGE 1003
TAX MAP 22 BLOCK 016 LOT 000

BUILDING SETBACK LINE

GENERATOR PAD
ELEC. TRANSFORMER PAD
CHAINLINK FENCE (TYP)
ANTENNA MAST
75' WELL RADIUS
PROPOSED WELL
MANHOLE
ELEC. SVC. ENT.
SATELLITE DISH CONCRETE FOOTING (TYP)
EXISTING PAVED DRIVE
EDGE OF LAWN
GRAVEL
LONGEST FLOW PATH (TYP.)
LIMIT OF SURVEY

CMU RETAINING WALL
HEIGHT VARIES
18" MAX

UNDERGROUND ELECTRIC & CABLE MARKINGS
UNDERGROUND MARKING UNKNOWN
TELE. PULL BOX

24" DIA NYLOPLAST DOME GRATE RIM=461 SURROUND W/ GABION SEDIMENT BARRIER

GRADE TO DRAIN DOWN SOUTH SIDE OF DRIVEWAY (DO NOT REDUCE COVER OVER EXISTING UTILITIES)

DESIGN PT. B1

PROPOSED BUILDING FFE=466.4

INFILTRATION BASIN
BOT. OF BASIN: 461.00

APPROX. TREELINE

SEDIMENT FOREBAY MADE FROM STONE GABIONS.
18"W X 3'L X 12"H
TOP OF WALL=462

(3) 8" PERFORATED UNDERDRAIN (TYP)

PROPOSED TREELINE

GRADE TO DRAIN (TYP.)

PROPOSED SCREENING TREES

DESIGN PT. A1

APPROX. TREELINE

APPROX. LOCATION OF EXISTING HOUSE

INVERT ELEV: 438.0
CATCH BASIN
CURB TOE ELEV: 441.5

UNDERGROUND VAULTS

UTILITY POLES WITH MULTIPLE RISERS

OLD COLCHESTER ROAD

BENCHMARKS:
TOP CORNER OF CONCRETE PAD

A = 470.59
B = 471.84
C = 472.83

LEGEND

- EX 2' CONTOUR
- EX 10' CONTOUR
- PROPOSED CONTOUR
- EDGE OF PAVEMENT
- SOIL BOUNDARY
- SUBCATCHMENT BOUNDARY
- LONGEST FLOW PATH WITH DIRECTION OF FLOW
- REACH WITH DIRECTION OF FLOW
- (1) SUBCATCHMENT DESIGNATION

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

NO.	REVISION	APP'D	DATE

DATE: 1-10-23
SCALE: 1"=30'
DRAWN BY: MJM
DESIGN BY: MEB
APPROVED BY: JPC
PROJECT NO: 22102
FILE: 22102-DRN

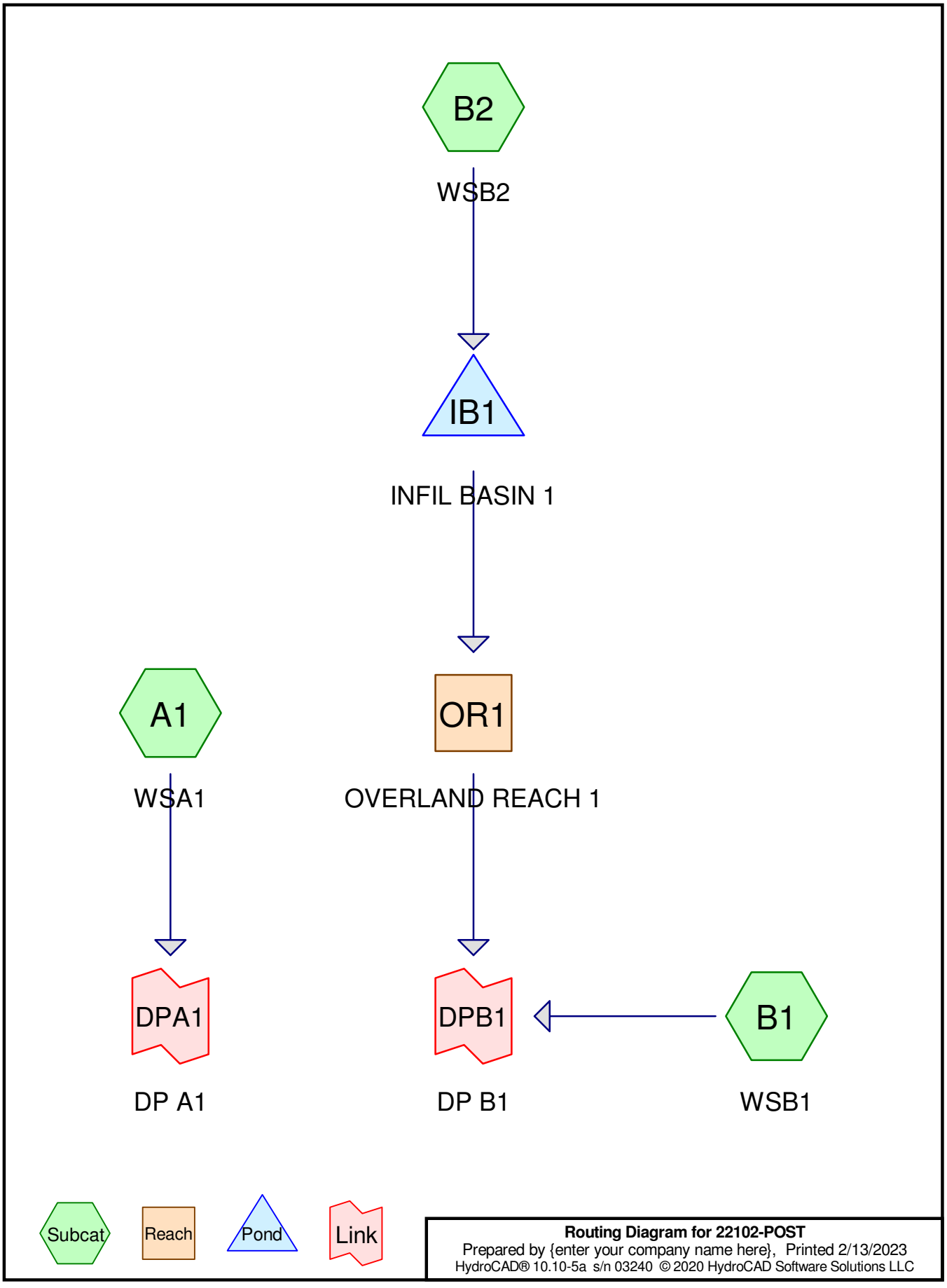
CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

POST-DEVELOPMENT PLAN

ATLANTIC BROADBAND (CT) LLC
689 OLD COLCHESTER ROAD
UNCASVILLE, CT

BREEZELINE UNCASVILLE CT
689 OLD COLCHESTER ROAD
UNCASVILLE, CT

WS-2


B2
WSB2
IB1
INFIL BASIN 1
A1
WSA1
OR1
OVERLAND REACH 1
DPA1
DP A1
DPB1
DP B1
B1
WSB1
Subcat
Reach
Pond
Link
Routing Diagram for 22102-POST
Prepared by {enter your company name here}, Printed 2/13/2023
HydroCAD® 10.10-5a s/n 03240 © 2020 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
33,317	74	>75% Grass cover, Good, HSG C (A1, B1, B2)
5,957	96	Gravel surface, HSG C (A1, B1)
9,674	98	Paved parking, HSG C (A1, B1, B2)
2,978	98	Roofs, HSG C (B1, B2)
644	98	Unconnected pavement, HSG C (A1, B1, B2)
3,074	70	Woods, Good, HSG C (A1, B1)
55,644	**82**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
55,644	HSG C	A1, B1, B2
0	HSG D	
0	Other	
55,644		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Subcatch Numbers
0	0	33,317	0	0	33,317	>75% Grass cover, Good	
0	0	5,957	0	0	5,957	Gravel surface	
0	0	9,674	0	0	9,674	Paved parking	
0	0	2,978	0	0	2,978	Roofs	
0	0	644	0	0	644	Unconnected pavement	
0	0	3,074	0	0	3,074	Woods, Good	
0	**0**	**55,644**	**0**	**0**	**55,644**	**TOTAL AREA**	

Summary for Subcatchment A1: WSA1

Runoff = 0.88 cfs @ 12.11 hrs, Volume= 3,396 cf, Depth= 1.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 2-yr Rainfall=3.35"

Area (sf)	CN	Description
2,474	70	Woods, Good, HSG C
19,642	74	>75% Grass cover, Good, HSG C
1,431	96	Gravel surface, HSG C
292	98	Unconnected pavement, HSG C
4,256	98	Paved parking, HSG C
28,095	79	Weighted Average
23,547		83.81% Pervious Area
4,548		16.19% Impervious Area
292		6.42% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	50	0.0280	0.12		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.5	34	0.0265	1.14		**Shallow Concentrated Flow, 2** Short Grass Pasture Kv= 7.0 fps
0.3	58	0.0362	3.86		**Shallow Concentrated Flow, 3** Paved Kv= 20.3 fps
0.6	57	0.0456	1.49		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.1	23	0.0609	5.01		**Shallow Concentrated Flow, 5** Paved Kv= 20.3 fps
0.1	17	0.0941	2.15		**Shallow Concentrated Flow, 6** Short Grass Pasture Kv= 7.0 fps
0.8	38	0.0132	0.80		**Shallow Concentrated Flow, 7** Short Grass Pasture Kv= 7.0 fps
0.4	25	0.0200	0.99		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
0.3	35	0.0857	2.05		**Shallow Concentrated Flow, 9** Short Grass Pasture Kv= 7.0 fps
1.1	61	0.0164	0.90		**Shallow Concentrated Flow, 10** Short Grass Pasture Kv= 7.0 fps
11.3	398	Total			

Summary for Subcatchment B1: WSB1

Runoff = 0.73 cfs @ 12.09 hrs, Volume= 2,636 cf, Depth= 1.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 2-yr Rainfall=3.35"

Area (sf)	CN	Description
600	70	Woods, Good, HSG C
7,133	74	>75% Grass cover, Good, HSG C
133	98	Unconnected pavement, HSG C
2,066	98	Roofs, HSG C
4,526	96	Gravel surface, HSG C
1,629	98	Paved parking, HSG C
16,087	86	Weighted Average
12,259		76.20% Pervious Area
3,828		23.80% Impervious Area
133		3.47% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	50	0.0280	0.12		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.4	36	0.0444	1.47		**Shallow Concentrated Flow, 2** Short Grass Pasture Kv= 7.0 fps
0.7	115	0.0261	2.60		**Shallow Concentrated Flow, 3** Unpaved Kv= 16.1 fps
0.5	42	0.0476	1.53		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.2	29	0.1034	2.25		**Shallow Concentrated Flow, 5** Short Grass Pasture Kv= 7.0 fps
0.5	44	0.0511	1.58		**Shallow Concentrated Flow, 6** Short Grass Pasture Kv= 7.0 fps
0.4	71	0.0246	3.18		**Shallow Concentrated Flow, 7** Paved Kv= 20.3 fps
0.5	29	0.0172	0.92		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
10.3	416	Total			

Summary for Subcatchment B2: WSB2

Runoff = 0.60 cfs @ 12.04 hrs, Volume= 1,728 cf, Depth= 1.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 2-yr Rainfall=3.35"

Area (sf)	CN	Description
6,542	74	>75% Grass cover, Good, HSG C
912	98	Roofs, HSG C
219	98	Unconnected pavement, HSG C
3,789	98	Paved parking, HSG C
11,462	84	Weighted Average
6,542		57.08% Pervious Area
4,920		42.92% Impervious Area
219		4.45% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	38	0.0618	0.15		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.0	13	0.0554	4.78		**Shallow Concentrated Flow, 2** Paved Kv= 20.3 fps
0.9	35	0.0080	0.63		**Shallow Concentrated Flow, 3** Short Grass Pasture Kv= 7.0 fps
0.3	27	0.0370	1.35		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.1	20	0.1015	2.23		**Shallow Concentrated Flow, 5** Short Grass Pasture Kv= 7.0 fps
0.1	20	0.0125	2.27		**Shallow Concentrated Flow, 6** Paved Kv= 20.3 fps
0.1	24	0.0217	2.99		**Shallow Concentrated Flow, 7** Paved Kv= 20.3 fps
0.0	5	0.2400	3.43		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
5.7	182	Total			

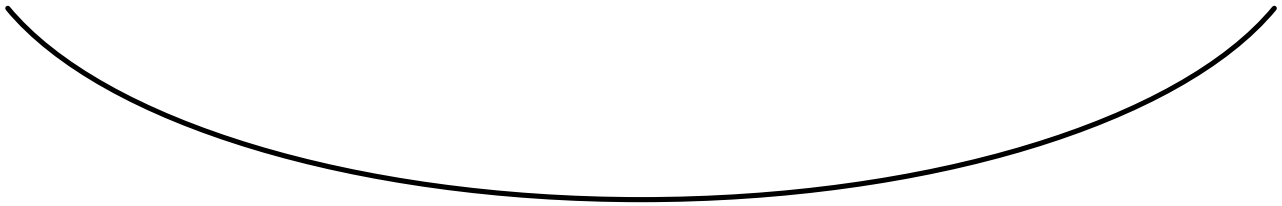
Summary for Reach OR1: OVERLAND REACH 1

Inflow Area = 11,462 sf, 42.92% Impervious, Inflow Depth = 0.00" for 2-yr 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

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 3.25 cfs

30.00' x 1.00' deep Parabolic Channel, n= 0.400 Sheet flow: Woods+light brush
Length= 30.4' Slope= 0.0033 '/'
Inlet Invert= 461.00', Outlet Invert= 460.90'



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Summary for Pond IB1: INFIL BASIN 1

Inflow Area = 11,462 sf, 42.92% Impervious, Inflow Depth = 1.81" for 2-yr event
Inflow = 0.60 cfs @ 12.04 hrs, Volume= 1,728 cf
Outflow = 0.10 cfs @ 12.56 hrs, Volume= 1,728 cf, Atten= 83%, Lag= 31.6 min
Discarded = 0.10 cfs @ 12.56 hrs, Volume= 1,728 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 461.21' @ 12.56 hrs Surf.Area= 615 sf Storage= 495 cf
Flood Elev= 462.75' Surf.Area= 2,164 sf Storage= 1,427 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 49.6 min (897.6 - 848.0)

Volume	Invert	Avail.Storage	Storage Description
#1	461.00'	369 cf	**SEDIMENT FOREBAY (Irregular)** Listed below (Recalc)
#2	458.16'	1,015 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)
#3	458.42'	44 cf	**8.0" Round Pipe Storage** x 3 L= 42.0'
		1,427 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
461.00	134	94.9	0	0	134
462.00	321	123.9	221	221	651
462.20	1,259	212.6	148	369	3,026

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
458.16	395	110.4	0.0	0	0	395
458.17	395	110.4	40.0	2	2	396
459.17	395	110.4	40.0	158	160	507
459.50	395	110.4	40.0	52	212	543
461.00	395	110.4	20.0	119	330	709
462.00	672	141.4	100.0	527	858	1,342
462.20	905	157.8	100.0	157	1,015	1,734

Device	Routing	Invert	Outlet Devices
#1	Discarded	458.16'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 456.90'
#2	Primary	461.30'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 0.90 0.90 1.45 Width (feet) 0.25 0.25 4.00 4.90

Discarded OutFlow Max=0.10 cfs @ 12.56 hrs HW=461.21' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.10 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=458.16' TW=461.00' (Dynamic Tailwater)
↑—**2=Custom Weir/Orifice** (Controls 0.00 cfs)

Summary for Link DPA1: DP A1

Inflow Area = 28,095 sf, 16.19% Impervious, Inflow Depth = 1.45" for 2-yr event
Inflow = 0.88 cfs @ 12.11 hrs, Volume= 3,396 cf
Primary = 0.88 cfs @ 12.11 hrs, Volume= 3,396 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Link DPB1: DP B1

Inflow Area = 27,549 sf, 31.75% Impervious, Inflow Depth = 1.15" for 2-yr event
Inflow = 0.73 cfs @ 12.09 hrs, Volume= 2,636 cf
Primary = 0.73 cfs @ 12.09 hrs, Volume= 2,636 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Subcatchment A1: WSA1

Runoff = 1.61 cfs @ 12.11 hrs, Volume= 6,218 cf, Depth= 2.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 10-yr Rainfall=4.83"

Area (sf)	CN	Description
2,474	70	Woods, Good, HSG C
19,642	74	>75% Grass cover, Good, HSG C
1,431	96	Gravel surface, HSG C
292	98	Unconnected pavement, HSG C
4,256	98	Paved parking, HSG C
28,095	79	Weighted Average
23,547		83.81% Pervious Area
4,548		16.19% Impervious Area
292		6.42% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	50	0.0280	0.12		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.5	34	0.0265	1.14		**Shallow Concentrated Flow, 2** Short Grass Pasture Kv= 7.0 fps
0.3	58	0.0362	3.86		**Shallow Concentrated Flow, 3** Paved Kv= 20.3 fps
0.6	57	0.0456	1.49		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.1	23	0.0609	5.01		**Shallow Concentrated Flow, 5** Paved Kv= 20.3 fps
0.1	17	0.0941	2.15		**Shallow Concentrated Flow, 6** Short Grass Pasture Kv= 7.0 fps
0.8	38	0.0132	0.80		**Shallow Concentrated Flow, 7** Short Grass Pasture Kv= 7.0 fps
0.4	25	0.0200	0.99		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
0.3	35	0.0857	2.05		**Shallow Concentrated Flow, 9** Short Grass Pasture Kv= 7.0 fps
1.1	61	0.0164	0.90		**Shallow Concentrated Flow, 10** Short Grass Pasture Kv= 7.0 fps
11.3	398	Total			

Summary for Subcatchment B1: WSB1

Runoff = 1.19 cfs @ 12.09 hrs, Volume= 4,436 cf, Depth= 3.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 10-yr Rainfall=4.83"

Area (sf)	CN	Description
600	70	Woods, Good, HSG C
7,133	74	>75% Grass cover, Good, HSG C
133	98	Unconnected pavement, HSG C
2,066	98	Roofs, HSG C
4,526	96	Gravel surface, HSG C
1,629	98	Paved parking, HSG C
16,087	86	Weighted Average
12,259		76.20% Pervious Area
3,828		23.80% Impervious Area
133		3.47% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	50	0.0280	0.12		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.4	36	0.0444	1.47		**Shallow Concentrated Flow, 2** Short Grass Pasture Kv= 7.0 fps
0.7	115	0.0261	2.60		**Shallow Concentrated Flow, 3** Unpaved Kv= 16.1 fps
0.5	42	0.0476	1.53		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.2	29	0.1034	2.25		**Shallow Concentrated Flow, 5** Short Grass Pasture Kv= 7.0 fps
0.5	44	0.0511	1.58		**Shallow Concentrated Flow, 6** Short Grass Pasture Kv= 7.0 fps
0.4	71	0.0246	3.18		**Shallow Concentrated Flow, 7** Paved Kv= 20.3 fps
0.5	29	0.0172	0.92		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
10.3	416	Total			

Summary for Subcatchment B2: WSB2

Runoff = 0.99 cfs @ 12.03 hrs, Volume= 2,976 cf, Depth= 3.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 10-yr Rainfall=4.83"

Area (sf)	CN	Description
6,542	74	>75% Grass cover, Good, HSG C
912	98	Roofs, HSG C
219	98	Unconnected pavement, HSG C
3,789	98	Paved parking, HSG C
11,462	84	Weighted Average
6,542		57.08% Pervious Area
4,920		42.92% Impervious Area
219		4.45% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	38	0.0618	0.15		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.0	13	0.0554	4.78		**Shallow Concentrated Flow, 2** Paved Kv= 20.3 fps
0.9	35	0.0080	0.63		**Shallow Concentrated Flow, 3** Short Grass Pasture Kv= 7.0 fps
0.3	27	0.0370	1.35		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.1	20	0.1015	2.23		**Shallow Concentrated Flow, 5** Short Grass Pasture Kv= 7.0 fps
0.1	20	0.0125	2.27		**Shallow Concentrated Flow, 6** Paved Kv= 20.3 fps
0.1	24	0.0217	2.99		**Shallow Concentrated Flow, 7** Paved Kv= 20.3 fps
0.0	5	0.2400	3.43		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
5.7	182	Total			

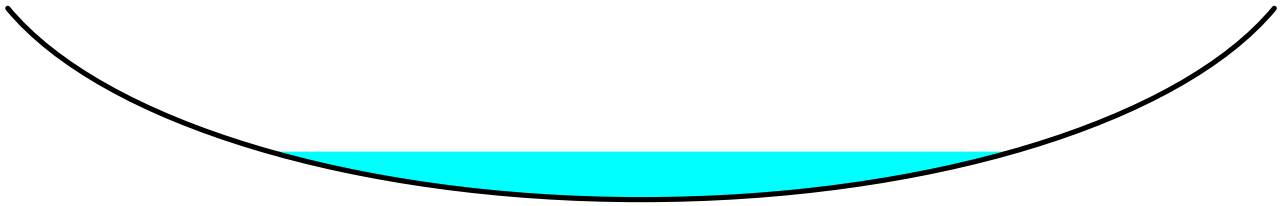
Summary for Reach OR1: OVERLAND REACH 1

Inflow Area = 11,462 sf, 42.92% Impervious, Inflow Depth = 0.42" for 10-yr event
Inflow = 0.17 cfs @ 12.28 hrs, Volume= 405 cf
Outflow = 0.16 cfs @ 12.43 hrs, Volume= 405 cf, Atten= 10%, Lag= 9.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.06 fps, Min. Travel Time= 7.9 min
Avg. Velocity = 0.02 fps, Avg. Travel Time= 33.7 min

Peak Storage= 75 cf @ 12.43 hrs
Average Depth at Peak Storage= 0.25' , Surface Width= 14.91'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 3.25 cfs

30.00' x 1.00' deep Parabolic Channel, n= 0.400 Sheet flow: Woods+light brush
Length= 30.4' Slope= 0.0033 '/'
Inlet Invert= 461.00', Outlet Invert= 460.90'



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Summary for Pond IB1: INFIL BASIN 1

Inflow Area = 11,462 sf, 42.92% Impervious, Inflow Depth = 3.12" for 10-yr event
Inflow = 0.99 cfs @ 12.03 hrs, Volume= 2,976 cf
Outflow = 0.30 cfs @ 12.28 hrs, Volume= 2,976 cf, Atten= 70%, Lag= 14.6 min
Discarded = 0.12 cfs @ 12.28 hrs, Volume= 2,570 cf
Primary = 0.17 cfs @ 12.28 hrs, Volume= 405 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 461.66' @ 12.28 hrs Surf.Area= 816 sf Storage= 812 cf
Flood Elev= 462.75' Surf.Area= 2,164 sf Storage= 1,427 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 53.2 min (880.1 - 826.9)

Volume	Invert	Avail.Storage	Storage Description
#1	461.00'	369 cf	**SEDIMENT FOREBAY (Irregular)** Listed below (Recalc)
#2	458.16'	1,015 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)
#3	458.42'	44 cf	**8.0" Round Pipe Storage** x 3 L= 42.0'
		1,427 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
461.00	134	94.9	0	0	134
462.00	321	123.9	221	221	651
462.20	1,259	212.6	148	369	3,026

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
458.16	395	110.4	0.0	0	0	395
458.17	395	110.4	40.0	2	2	396
459.17	395	110.4	40.0	158	160	507
459.50	395	110.4	40.0	52	212	543
461.00	395	110.4	20.0	119	330	709
462.00	672	141.4	100.0	527	858	1,342
462.20	905	157.8	100.0	157	1,015	1,734

Device	Routing	Invert	Outlet Devices
#1	Discarded	458.16'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 456.90'
#2	Primary	461.30'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 0.90 0.90 1.45 Width (feet) 0.25 0.25 4.00 4.90

Discarded OutFlow Max=0.12 cfs @ 12.28 hrs HW=461.66' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.12 cfs)

Primary OutFlow Max=0.17 cfs @ 12.28 hrs HW=461.66' TW=461.22' (Dynamic Tailwater)
↑—**2=Custom Weir/Orifice** (Weir Controls 0.17 cfs @ 1.96 fps)

Summary for Link DPA1: DP A1

Inflow Area = 28,095 sf, 16.19% Impervious, Inflow Depth = 2.66" for 10-yr event
Inflow = 1.61 cfs @ 12.11 hrs, Volume= 6,218 cf
Primary = 1.61 cfs @ 12.11 hrs, Volume= 6,218 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Link DPB1: DP B1

Inflow Area = 27,549 sf, 31.75% Impervious, Inflow Depth = 2.11" for 10-yr event
Inflow = 1.19 cfs @ 12.09 hrs, Volume= 4,841 cf
Primary = 1.19 cfs @ 12.09 hrs, Volume= 4,841 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Subcatchment A1: WSA1

Runoff = 2.18 cfs @ 12.11 hrs, Volume= 8,510 cf, Depth= 3.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 25-yr Rainfall=5.95"

Area (sf)	CN	Description
2,474	70	Woods, Good, HSG C
19,642	74	>75% Grass cover, Good, HSG C
1,431	96	Gravel surface, HSG C
292	98	Unconnected pavement, HSG C
4,256	98	Paved parking, HSG C
28,095	79	Weighted Average
23,547		83.81% Pervious Area
4,548		16.19% Impervious Area
292		6.42% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	50	0.0280	0.12		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.5	34	0.0265	1.14		**Shallow Concentrated Flow, 2** Short Grass Pasture Kv= 7.0 fps
0.3	58	0.0362	3.86		**Shallow Concentrated Flow, 3** Paved Kv= 20.3 fps
0.6	57	0.0456	1.49		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.1	23	0.0609	5.01		**Shallow Concentrated Flow, 5** Paved Kv= 20.3 fps
0.1	17	0.0941	2.15		**Shallow Concentrated Flow, 6** Short Grass Pasture Kv= 7.0 fps
0.8	38	0.0132	0.80		**Shallow Concentrated Flow, 7** Short Grass Pasture Kv= 7.0 fps
0.4	25	0.0200	0.99		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
0.3	35	0.0857	2.05		**Shallow Concentrated Flow, 9** Short Grass Pasture Kv= 7.0 fps
1.1	61	0.0164	0.90		**Shallow Concentrated Flow, 10** Short Grass Pasture Kv= 7.0 fps
11.3	398	Total			

Summary for Subcatchment B1: WSB1

Runoff = 1.53 cfs @ 12.09 hrs, Volume= 5,848 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 25-yr Rainfall=5.95"

Area (sf)	CN	Description
600	70	Woods, Good, HSG C
7,133	74	>75% Grass cover, Good, HSG C
133	98	Unconnected pavement, HSG C
2,066	98	Roofs, HSG C
4,526	96	Gravel surface, HSG C
1,629	98	Paved parking, HSG C
16,087	86	Weighted Average
12,259		76.20% Pervious Area
3,828		23.80% Impervious Area
133		3.47% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	50	0.0280	0.12		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.4	36	0.0444	1.47		**Shallow Concentrated Flow, 2** Short Grass Pasture Kv= 7.0 fps
0.7	115	0.0261	2.60		**Shallow Concentrated Flow, 3** Unpaved Kv= 16.1 fps
0.5	42	0.0476	1.53		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.2	29	0.1034	2.25		**Shallow Concentrated Flow, 5** Short Grass Pasture Kv= 7.0 fps
0.5	44	0.0511	1.58		**Shallow Concentrated Flow, 6** Short Grass Pasture Kv= 7.0 fps
0.4	71	0.0246	3.18		**Shallow Concentrated Flow, 7** Paved Kv= 20.3 fps
0.5	29	0.0172	0.92		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
10.3	416	Total			

Summary for Subcatchment B2: WSB2

Runoff = 1.28 cfs @ 12.03 hrs, Volume= 3,964 cf, Depth= 4.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 25-yr Rainfall=5.95"

Area (sf)	CN	Description
6,542	74	>75% Grass cover, Good, HSG C
912	98	Roofs, HSG C
219	98	Unconnected pavement, HSG C
3,789	98	Paved parking, HSG C
11,462	84	Weighted Average
6,542		57.08% Pervious Area
4,920		42.92% Impervious Area
219		4.45% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	38	0.0618	0.15		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.0	13	0.0554	4.78		**Shallow Concentrated Flow, 2** Paved Kv= 20.3 fps
0.9	35	0.0080	0.63		**Shallow Concentrated Flow, 3** Short Grass Pasture Kv= 7.0 fps
0.3	27	0.0370	1.35		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.1	20	0.1015	2.23		**Shallow Concentrated Flow, 5** Short Grass Pasture Kv= 7.0 fps
0.1	20	0.0125	2.27		**Shallow Concentrated Flow, 6** Paved Kv= 20.3 fps
0.1	24	0.0217	2.99		**Shallow Concentrated Flow, 7** Paved Kv= 20.3 fps
0.0	5	0.2400	3.43		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
5.7	182	Total			

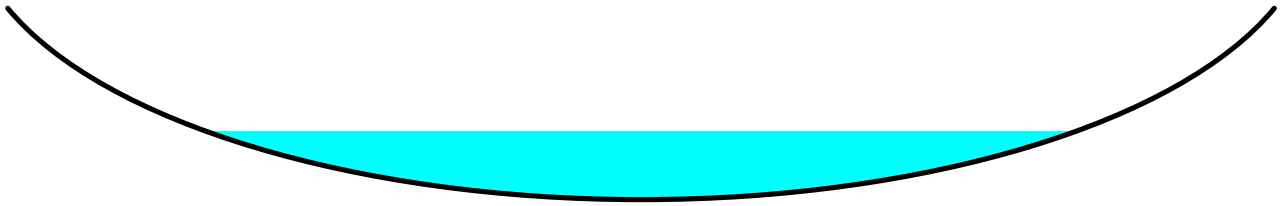
Summary for Reach OR1: OVERLAND REACH 1

Inflow Area = 11,462 sf, 42.92% Impervious, Inflow Depth = 0.94" for 25-yr event
Inflow = 0.37 cfs @ 12.20 hrs, Volume= 895 cf
Outflow = 0.34 cfs @ 12.32 hrs, Volume= 895 cf, Atten= 8%, Lag= 7.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.08 fps, Min. Travel Time= 6.2 min
Avg. Velocity = 0.02 fps, Avg. Travel Time= 28.6 min

Peak Storage= 128 cf @ 12.32 hrs
Average Depth at Peak Storage= 0.35' , Surface Width= 17.83'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 3.25 cfs

30.00' x 1.00' deep Parabolic Channel, n= 0.400 Sheet flow: Woods+light brush
Length= 30.4' Slope= 0.0033 '/'
Inlet Invert= 461.00', Outlet Invert= 460.90'



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Summary for Pond IB1: INFIL BASIN 1

Inflow Area = 11,462 sf, 42.92% Impervious, Inflow Depth = 4.15" for 25-yr event
Inflow = 1.28 cfs @ 12.03 hrs, Volume= 3,964 cf
Outflow = 0.51 cfs @ 12.20 hrs, Volume= 3,964 cf, Atten= 60%, Lag= 10.0 min
Discarded = 0.14 cfs @ 12.20 hrs, Volume= 3,069 cf
Primary = 0.37 cfs @ 12.20 hrs, Volume= 895 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 461.89' @ 12.20 hrs Surf.Area= 935 sf Storage= 1,018 cf
Flood Elev= 462.75' Surf.Area= 2,164 sf Storage= 1,427 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 52.2 min (868.1 - 815.9)

Volume	Invert	Avail.Storage	Storage Description
#1	461.00'	369 cf	**SEDIMENT FOREBAY (Irregular)** Listed below (Recalc)
#2	458.16'	1,015 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)
#3	458.42'	44 cf	**8.0" Round Pipe Storage** x 3 L= 42.0'
		1,427 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
461.00	134	94.9	0	0	134
462.00	321	123.9	221	221	651
462.20	1,259	212.6	148	369	3,026

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
458.16	395	110.4	0.0	0	0	395
458.17	395	110.4	40.0	2	2	396
459.17	395	110.4	40.0	158	160	507
459.50	395	110.4	40.0	52	212	543
461.00	395	110.4	20.0	119	330	709
462.00	672	141.4	100.0	527	858	1,342
462.20	905	157.8	100.0	157	1,015	1,734

Device	Routing	Invert	Outlet Devices
#1	Discarded	458.16'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 456.90'
#2	Primary	461.30'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 0.90 0.90 1.45 Width (feet) 0.25 0.25 4.00 4.90

Discarded OutFlow Max=0.14 cfs @ 12.20 hrs HW=461.89' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.14 cfs)

Primary OutFlow Max=0.37 cfs @ 12.20 hrs HW=461.89' TW=461.32' (Dynamic Tailwater)
↑—**2=Custom Weir/Orifice** (Weir Controls 0.37 cfs @ 2.52 fps)

Summary for Link DPA1: DP A1

Inflow Area = 28,095 sf, 16.19% Impervious, Inflow Depth = 3.64" for 25-yr event
Inflow = 2.18 cfs @ 12.11 hrs, Volume= 8,510 cf
Primary = 2.18 cfs @ 12.11 hrs, Volume= 8,510 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Link DPB1: DP B1

Inflow Area = 27,549 sf, 31.75% Impervious, Inflow Depth = 2.94" for 25-yr event
Inflow = 1.62 cfs @ 12.10 hrs, Volume= 6,742 cf
Primary = 1.62 cfs @ 12.10 hrs, Volume= 6,742 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Subcatchment A1: WSA1

Runoff = 2.73 cfs @ 12.11 hrs, Volume= 10,690 cf, Depth= 4.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 50-yr Rainfall=6.98"

Area (sf)	CN	Description
2,474	70	Woods, Good, HSG C
19,642	74	>75% Grass cover, Good, HSG C
1,431	96	Gravel surface, HSG C
292	98	Unconnected pavement, HSG C
4,256	98	Paved parking, HSG C
28,095	79	Weighted Average
23,547		83.81% Pervious Area
4,548		16.19% Impervious Area
292		6.42% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	50	0.0280	0.12		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.5	34	0.0265	1.14		**Shallow Concentrated Flow, 2** Short Grass Pasture Kv= 7.0 fps
0.3	58	0.0362	3.86		**Shallow Concentrated Flow, 3** Paved Kv= 20.3 fps
0.6	57	0.0456	1.49		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.1	23	0.0609	5.01		**Shallow Concentrated Flow, 5** Paved Kv= 20.3 fps
0.1	17	0.0941	2.15		**Shallow Concentrated Flow, 6** Short Grass Pasture Kv= 7.0 fps
0.8	38	0.0132	0.80		**Shallow Concentrated Flow, 7** Short Grass Pasture Kv= 7.0 fps
0.4	25	0.0200	0.99		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
0.3	35	0.0857	2.05		**Shallow Concentrated Flow, 9** Short Grass Pasture Kv= 7.0 fps
1.1	61	0.0164	0.90		**Shallow Concentrated Flow, 10** Short Grass Pasture Kv= 7.0 fps
11.3	398	Total			

Summary for Subcatchment B1: WSB1

Runoff = 1.86 cfs @ 12.09 hrs, Volume= 7,167 cf, Depth= 5.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 50-yr Rainfall=6.98"

Area (sf)	CN	Description
600	70	Woods, Good, HSG C
7,133	74	>75% Grass cover, Good, HSG C
133	98	Unconnected pavement, HSG C
2,066	98	Roofs, HSG C
4,526	96	Gravel surface, HSG C
1,629	98	Paved parking, HSG C
16,087	86	Weighted Average
12,259		76.20% Pervious Area
3,828		23.80% Impervious Area
133		3.47% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	50	0.0280	0.12		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.4	36	0.0444	1.47		**Shallow Concentrated Flow, 2** Short Grass Pasture Kv= 7.0 fps
0.7	115	0.0261	2.60		**Shallow Concentrated Flow, 3** Unpaved Kv= 16.1 fps
0.5	42	0.0476	1.53		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.2	29	0.1034	2.25		**Shallow Concentrated Flow, 5** Short Grass Pasture Kv= 7.0 fps
0.5	44	0.0511	1.58		**Shallow Concentrated Flow, 6** Short Grass Pasture Kv= 7.0 fps
0.4	71	0.0246	3.18		**Shallow Concentrated Flow, 7** Paved Kv= 20.3 fps
0.5	29	0.0172	0.92		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
10.3	416	Total			

Summary for Subcatchment B2: WSB2

Runoff = 1.56 cfs @ 12.03 hrs, Volume= 4,891 cf, Depth= 5.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 50-yr Rainfall=6.98"

Area (sf)	CN	Description
6,542	74	>75% Grass cover, Good, HSG C
912	98	Roofs, HSG C
219	98	Unconnected pavement, HSG C
3,789	98	Paved parking, HSG C
11,462	84	Weighted Average
6,542		57.08% Pervious Area
4,920		42.92% Impervious Area
219		4.45% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	38	0.0618	0.15		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.0	13	0.0554	4.78		**Shallow Concentrated Flow, 2** Paved Kv= 20.3 fps
0.9	35	0.0080	0.63		**Shallow Concentrated Flow, 3** Short Grass Pasture Kv= 7.0 fps
0.3	27	0.0370	1.35		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.1	20	0.1015	2.23		**Shallow Concentrated Flow, 5** Short Grass Pasture Kv= 7.0 fps
0.1	20	0.0125	2.27		**Shallow Concentrated Flow, 6** Paved Kv= 20.3 fps
0.1	24	0.0217	2.99		**Shallow Concentrated Flow, 7** Paved Kv= 20.3 fps
0.0	5	0.2400	3.43		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
5.7	182	Total			

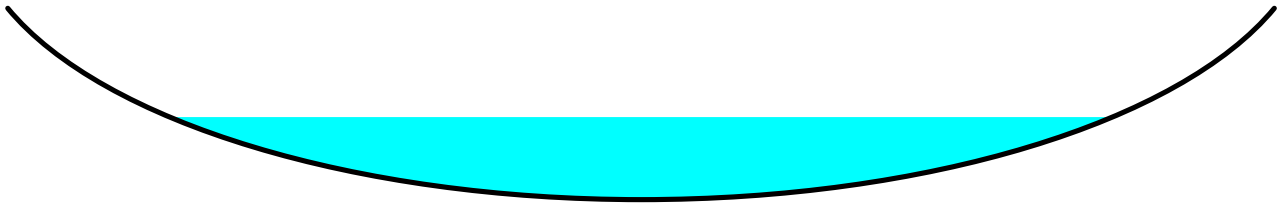
Summary for Reach OR1: OVERLAND REACH 1

Inflow Area = 11,462 sf, 42.92% Impervious, Inflow Depth = 1.45" for 50-yr event
Inflow = 0.55 cfs @ 12.17 hrs, Volume= 1,389 cf
Outflow = 0.52 cfs @ 12.28 hrs, Volume= 1,389 cf, Atten= 6%, Lag= 6.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.09 fps, Min. Travel Time= 5.5 min
Avg. Velocity = 0.02 fps, Avg. Travel Time= 25.7 min

Peak Storage= 170 cf @ 12.28 hrs
Average Depth at Peak Storage= 0.43' , Surface Width= 19.61'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 3.25 cfs

30.00' x 1.00' deep Parabolic Channel, n= 0.400 Sheet flow: Woods+light brush
Length= 30.4' Slope= 0.0033 '/'
Inlet Invert= 461.00', Outlet Invert= 460.90'



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Summary for Pond IB1: INFIL BASIN 1

Inflow Area = 11,462 sf, 42.92% Impervious, Inflow Depth = 5.12" for 50-yr event
Inflow = 1.56 cfs @ 12.03 hrs, Volume= 4,891 cf
Outflow = 0.71 cfs @ 12.17 hrs, Volume= 4,891 cf, Atten= 54%, Lag= 8.4 min
Discarded = 0.16 cfs @ 12.18 hrs, Volume= 3,503 cf
Primary = 0.55 cfs @ 12.17 hrs, Volume= 1,389 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 462.07' @ 12.18 hrs Surf.Area= 1,331 sf Storage= 1,204 cf
Flood Elev= 462.75' Surf.Area= 2,164 sf Storage= 1,427 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 51.4 min (859.3 - 807.9)

Volume	Invert	Avail.Storage	Storage Description
#1	461.00'	369 cf	**SEDIMENT FOREBAY (Irregular)** Listed below (Recalc)
#2	458.16'	1,015 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)
#3	458.42'	44 cf	**8.0" Round Pipe Storage** x 3 L= 42.0'
		1,427 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
461.00	134	94.9	0	0	134
462.00	321	123.9	221	221	651
462.20	1,259	212.6	148	369	3,026

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
458.16	395	110.4	0.0	0	0	395
458.17	395	110.4	40.0	2	2	396
459.17	395	110.4	40.0	158	160	507
459.50	395	110.4	40.0	52	212	543
461.00	395	110.4	20.0	119	330	709
462.00	672	141.4	100.0	527	858	1,342
462.20	905	157.8	100.0	157	1,015	1,734

Device	Routing	Invert	Outlet Devices
#1	Discarded	458.16'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 456.90'
#2	Primary	461.30'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 0.90 0.90 1.45 Width (feet) 0.25 0.25 4.00 4.90

Discarded OutFlow Max=0.16 cfs @ 12.18 hrs HW=462.07' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.16 cfs)

Primary OutFlow Max=0.55 cfs @ 12.17 hrs HW=462.07' TW=461.40' (Dynamic Tailwater)
↑—**2=Custom Weir/Orifice** (Weir Controls 0.55 cfs @ 2.86 fps)

Summary for Link DPA1: DP A1

Inflow Area = 28,095 sf, 16.19% Impervious, Inflow Depth = 4.57" for 50-yr event
Inflow = 2.73 cfs @ 12.11 hrs, Volume= 10,690 cf
Primary = 2.73 cfs @ 12.11 hrs, Volume= 10,690 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Link DPB1: DP B1

Inflow Area = 27,549 sf, 31.75% Impervious, Inflow Depth = 3.73" for 50-yr event
Inflow = 2.13 cfs @ 12.10 hrs, Volume= 8,556 cf
Primary = 2.13 cfs @ 12.10 hrs, Volume= 8,556 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Subcatchment A1: WSA1

Runoff = 3.36 cfs @ 12.11 hrs, Volume= 13,288 cf, Depth= 5.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 100-yr Rainfall=8.18"

Area (sf)	CN	Description
2,474	70	Woods, Good, HSG C
19,642	74	>75% Grass cover, Good, HSG C
1,431	96	Gravel surface, HSG C
292	98	Unconnected pavement, HSG C
4,256	98	Paved parking, HSG C
28,095	79	Weighted Average
23,547		83.81% Pervious Area
4,548		16.19% Impervious Area
292		6.42% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	50	0.0280	0.12		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.5	34	0.0265	1.14		**Shallow Concentrated Flow, 2** Short Grass Pasture Kv= 7.0 fps
0.3	58	0.0362	3.86		**Shallow Concentrated Flow, 3** Paved Kv= 20.3 fps
0.6	57	0.0456	1.49		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.1	23	0.0609	5.01		**Shallow Concentrated Flow, 5** Paved Kv= 20.3 fps
0.1	17	0.0941	2.15		**Shallow Concentrated Flow, 6** Short Grass Pasture Kv= 7.0 fps
0.8	38	0.0132	0.80		**Shallow Concentrated Flow, 7** Short Grass Pasture Kv= 7.0 fps
0.4	25	0.0200	0.99		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
0.3	35	0.0857	2.05		**Shallow Concentrated Flow, 9** Short Grass Pasture Kv= 7.0 fps
1.1	61	0.0164	0.90		**Shallow Concentrated Flow, 10** Short Grass Pasture Kv= 7.0 fps
11.3	398	Total			

Summary for Subcatchment B1: WSB1

Runoff = 2.23 cfs @ 12.09 hrs, Volume= 8,722 cf, Depth= 6.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 100-yr Rainfall=8.18"

Area (sf)	CN	Description
600	70	Woods, Good, HSG C
7,133	74	>75% Grass cover, Good, HSG C
133	98	Unconnected pavement, HSG C
2,066	98	Roofs, HSG C
4,526	96	Gravel surface, HSG C
1,629	98	Paved parking, HSG C
16,087	86	Weighted Average
12,259		76.20% Pervious Area
3,828		23.80% Impervious Area
133		3.47% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	50	0.0280	0.12		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.4	36	0.0444	1.47		**Shallow Concentrated Flow, 2** Short Grass Pasture Kv= 7.0 fps
0.7	115	0.0261	2.60		**Shallow Concentrated Flow, 3** Unpaved Kv= 16.1 fps
0.5	42	0.0476	1.53		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.2	29	0.1034	2.25		**Shallow Concentrated Flow, 5** Short Grass Pasture Kv= 7.0 fps
0.5	44	0.0511	1.58		**Shallow Concentrated Flow, 6** Short Grass Pasture Kv= 7.0 fps
0.4	71	0.0246	3.18		**Shallow Concentrated Flow, 7** Paved Kv= 20.3 fps
0.5	29	0.0172	0.92		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
10.3	416	Total			

Summary for Subcatchment B2: WSB2

Runoff = 1.87 cfs @ 12.03 hrs, Volume= 5,987 cf, Depth= 6.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
22102 24-hr S1 100-yr Rainfall=8.18"

Area (sf)	CN	Description
6,542	74	>75% Grass cover, Good, HSG C
912	98	Roofs, HSG C
219	98	Unconnected pavement, HSG C
3,789	98	Paved parking, HSG C
11,462	84	Weighted Average
6,542		57.08% Pervious Area
4,920		42.92% Impervious Area
219		4.45% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.2	38	0.0618	0.15		**Sheet Flow, 1** Grass: Dense n= 0.240 P2= 3.23"
0.0	13	0.0554	4.78		**Shallow Concentrated Flow, 2** Paved Kv= 20.3 fps
0.9	35	0.0080	0.63		**Shallow Concentrated Flow, 3** Short Grass Pasture Kv= 7.0 fps
0.3	27	0.0370	1.35		**Shallow Concentrated Flow, 4** Short Grass Pasture Kv= 7.0 fps
0.1	20	0.1015	2.23		**Shallow Concentrated Flow, 5** Short Grass Pasture Kv= 7.0 fps
0.1	20	0.0125	2.27		**Shallow Concentrated Flow, 6** Paved Kv= 20.3 fps
0.1	24	0.0217	2.99		**Shallow Concentrated Flow, 7** Paved Kv= 20.3 fps
0.0	5	0.2400	3.43		**Shallow Concentrated Flow, 8** Short Grass Pasture Kv= 7.0 fps
5.7	182	Total			

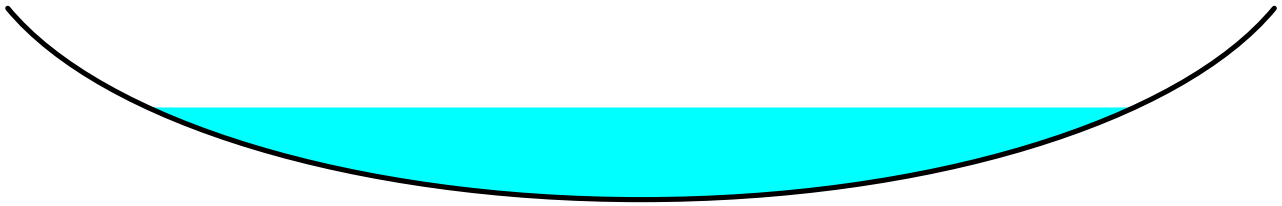
Summary for Reach OR1: OVERLAND REACH 1

Inflow Area = 11,462 sf, 42.92% Impervious, Inflow Depth = 2.05" for 100-yr event
Inflow = 0.68 cfs @ 12.17 hrs, Volume= 1,958 cf
Outflow = 0.66 cfs @ 12.26 hrs, Volume= 1,958 cf, Atten= 4%, Lag= 5.6 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.10 fps, Min. Travel Time= 5.1 min
Avg. Velocity = 0.02 fps, Avg. Travel Time= 23.3 min

Peak Storage= 201 cf @ 12.26 hrs
Average Depth at Peak Storage= 0.48' , Surface Width= 20.73'
Bank-Full Depth= 1.00' Flow Area= 20.0 sf, Capacity= 3.25 cfs

30.00' x 1.00' deep Parabolic Channel, n= 0.400 Sheet flow: Woods+light brush
Length= 30.4' Slope= 0.0033 '/'
Inlet Invert= 461.00', Outlet Invert= 460.90'



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Summary for Pond IB1: INFIL BASIN 1

Inflow Area = 11,462 sf, 42.92% Impervious, Inflow Depth = 6.27" for 100-yr event
Inflow = 1.87 cfs @ 12.03 hrs, Volume= 5,987 cf
Outflow = 0.89 cfs @ 12.17 hrs, Volume= 5,987 cf, Atten= 52%, Lag= 8.1 min
Discarded = 0.21 cfs @ 12.17 hrs, Volume= 4,030 cf
Primary = 0.68 cfs @ 12.17 hrs, Volume= 1,958 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 462.19' @ 12.17 hrs Surf.Area= 2,108 sf Storage= 1,411 cf
Flood Elev= 462.75' Surf.Area= 2,164 sf Storage= 1,427 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 50.8 min (851.3 - 800.5)

Volume	Invert	Avail.Storage	Storage Description
#1	461.00'	369 cf	**SEDIMENT FOREBAY (Irregular)** Listed below (Recalc)
#2	458.16'	1,015 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)
#3	458.42'	44 cf	**8.0" Round Pipe Storage** x 3 L= 42.0'
		1,427 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
461.00	134	94.9	0	0	134
462.00	321	123.9	221	221	651
462.20	1,259	212.6	148	369	3,026

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
458.16	395	110.4	0.0	0	0	395
458.17	395	110.4	40.0	2	2	396
459.17	395	110.4	40.0	158	160	507
459.50	395	110.4	40.0	52	212	543
461.00	395	110.4	20.0	119	330	709
462.00	672	141.4	100.0	527	858	1,342
462.20	905	157.8	100.0	157	1,015	1,734

Device	Routing	Invert	Outlet Devices
#1	Discarded	458.16'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 456.90'
#2	Primary	461.30'	**Custom Weir/Orifice, Cv= 2.62 (C= 3.28)** Head (feet) 0.00 0.90 0.90 1.45 Width (feet) 0.25 0.25 4.00 4.90

Discarded OutFlow Max=0.21 cfs @ 12.17 hrs HW=462.19' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.21 cfs)

Primary OutFlow Max=0.68 cfs @ 12.17 hrs HW=462.19' TW=461.46' (Dynamic Tailwater)
↑—**2=Custom Weir/Orifice** (Weir Controls 0.68 cfs @ 3.05 fps)

Summary for Link DPA1: DP A1

Inflow Area = 28,095 sf, 16.19% Impervious, Inflow Depth = 5.68" for 100-yr event
Inflow = 3.36 cfs @ 12.11 hrs, Volume= 13,288 cf
Primary = 3.36 cfs @ 12.11 hrs, Volume= 13,288 cf, Atten= 0%, Lag= 0.0 min

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

Summary for Link DPB1: DP B1

Inflow Area = 27,549 sf, 31.75% Impervious, Inflow Depth = 4.65" for 100-yr event
Inflow = 2.69 cfs @ 12.10 hrs, Volume= 10,680 cf
Primary = 2.69 cfs @ 12.10 hrs, Volume= 10,680 cf, Atten= 0%, Lag= 0.0 min

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