

Project File: LYF-0381B
Vallis Way
Lynnfield, Massachusetts 01940

**OPERATION AND MAINTENANCE PLAN
AND LONG-TERM POLLUTION PREVENTION PLAN**
#Vallis Way
Lynnfield, Massachusetts
Date: April 15, 2021



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**OPERATION AND MAINTENANCE PLAN
VALLIS WAY
LYNNFIELD, MASSACHUSETTS**

April 15, 2021

GENERAL

The management plan incorporates a combination of three or more of the following chain of structural Best Management Practices to improve the water quality of the stormwater runoff from the proposed roadway.

1. Deep Sump Catch Basin with hood
2. Subsurface Detention Chambers
3. Roadway Sweeping
4. Forebay and Infiltration Basin

These stormwater management facilities have unique characteristics, uses, planning considerations and maintenance requirements. The maintenance requirements, as suggested by the DEP in "Volume 2 Chapter 2: Structural BMP Specifications for the Massachusetts Stormwater Handbook", and the suggested schedules, are summarized in the following sections. It is suggested that the following guidelines be adhered to for a one-year cycle following completion of the project, then adjusted, as necessary, based on the results of the required inspections, unless otherwise stated.

Deep Sump Catch Basin

- Inlets should be cleaned a minimum of four (4) times per year and inspected monthly.
- All sediments and hydrocarbons should be properly handled and disposed, in accordance with local, state and federal guidelines and regulations.

Stormwater Management Areas (Subsurface Detention Chambers)

Chamber maintenance is not generally required. However, Subsurface systems are prone to failure due to clogging. Regulating the sediment and petroleum product input to the proposed system is the priority maintenance activity. Sediments and any oil spillage should be trapped and removed before they reach the chambers. Catch basin and proprietary particle separator pre-treatment devices which flow into the infiltration system shall be regularly cleaned according to the maintenance schedules provided herein to prevent fine sediments and debris from entering and clogging the subsurface system. Hayes Engineering, Inc. recommends the following inspection schedule to ensure that the chambers function well into the future.

- The Contractor shall verify that the required crushed stone and geotechnical fabric materials are clean and free of sediments and petroleum residue prior to, during and after the chamber system installation.
- Inspections of the chamber system shall be made by a registered profession engineer after every major storm for the first few months after construction to verify that proper function has been achieved. During these initial inspections, water levels in the chambers should be measured and recorded in a permanent log over several days to check the drainage duration and verify that sediments are not accumulating. If ponded water is present after 24 hours or an accumulation of sediment or debris is noted within

the chambers, the Homeowners Association (or designated property manager) and engineer shall determine the cause for this condition and devise an action plan to improve system functionality. Any required maintenance or major repair will be documented in the permanent log book and be completed within seven business days, with a report of such to the Town's Engineer.

- Once the chamber system has been verified to perform as designed, interior chamber conditions shall be inspected at least annually. Post construction inspections (to be conducted through inspection ports) shall consist of documenting interior chamber and bed conditions, measured water depth, and presence of sediment. If inspection indicates that the system is clogged (ponding water present after 24 hours or sediment accumulations present), replacement or major repair actions may be required as determined by a professional engineer. In this case, the Homeowners Association (or designated property manager) and engineer shall determine the cause for this condition and devise an action plan. Any required maintenance or major repair will be documented in the permanent log book and be completed within seven business days, with a report of such to the Town Engineer.
- The inspection and maintenance responsibility for the subsurface system shall belong to the homeowners (or designated property manager).

Infiltration Basin

- In accordance with Volume 2, Chapter 2 of the MassDEP Storm Water Handbook as summarized below:
- Once the basin is in use, inspect it after every major storm (>3.1"/24-hr.) for the first few months to ensure it is stabilized and functioning properly and, if necessary, take corrective action. Note how long water remains standing in the basin after a storm; standing water within the basin 48 to 72 hours after a storm indicates that the infiltration capacity may have been overestimated. If the ponding is due to clogging, immediately address the reasons for the clogging (such as upland sediment erosion, excessive compaction of soils, or low spots). Thereafter, inspect the infiltration basin at least twice per year. Important items to check during the inspection include:
 - • Signs of differential settlement,
 - • Cracking,
 - • Erosion,
 - • Leakage in the embankments
 - • Tree growth on the embankments
 - • Condition of riprap,
 - • Sediment accumulation and
 - • The health of the turf.
- At least twice a year, mow the buffer area and side slopes. Remove grass clippings and accumulated organic matter to prevent an impervious organic mat from forming. Remove trash and debris at the same time. Use deep tilling to break up clogged surfaces and stabilize immediately. Remove sediment from the basin as necessary but wait until the floor of the basin is thoroughly dry. Use light equipment to remove the top layer so as to not compact the underlying soil. Replace pea gravel as needed. Inspect and clean

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pretreatment devices associated with basins at least twice a year, and ideally every other month.

Roadway Sweeping

In order to minimize the TSS load to the deep sump catch basins and those BMPs downstream it is planned to sweep the roadway four (4) times per year or more frequently if conditions require. Based upon actual experience and documentation a revised schedule may be submitted to the Town Engineer for approval.

Removal of Siltation Controls

All siltation controls, including, but not limited to Straw Wattle, shall be removed, with the approval of the Town Engineer, as soon as practical after paving, re-vegetation and total stabilization of the site. Unvegetated areas remaining in the area of the siltation controls shall be loamed and seeded with the appropriate groundcover to ensure re-vegetation as rapidly as possible after the removal of the siltation controls. In the case of all proposed stormwater management facilities, during construction of the proposed stormwater management system the developer shall be the owner and party responsible for maintenance.

Owner and Maintenance Responsibilities

Once the development is complete, the homeowners will assume the responsibility of on-going maintenance, as well as the long-term pollution prevention plan, unless other legally-binding agreements are established with another entity.

**INSPECTION AND MAINTENANCE REPORT FORM
 VALLIS WAY
 LYNNFIELD, MASSACHUSETTS**

TO BE COMPLETED FOR REQUIRED INSPECTIONS AND MAINTENANCE
 AT THE FREQUENCY SPECIFIED IN THE OPERATION AND MAINTENANCE PLAN

Inspector: _____

Date: _____

Inspector's Title: _____

Days Since Last Rainfall: _____

Amount of Last Rainfall: _____

	BMP	BMP Installed at Grade? (circle one)		BMP Maintenance Required or performed? (circle one)		Corrective Action Needed And Notes
		Yes	No	Yes	No	
1	Catch Basin inlets And gas traps					
2	Forebay					
3	Infiltration Pond					
4	Subsurface Chambers					
5	Erosion Control Barriers					
6	Silt Sacks					
7						

Additional Comments:

**LONG TERM POLLUTION PREVENTION PLAN
VALLIS WAY
LYNNFIELD, MASSACHUSETTS**

- Good housekeeping practices: Prevent or reduce pollutant runoff from the project development through the use of street sweeping, erosion control and catch basin cleaning. It should be noted that we are not seeking credit for TSS removal with street sweeping for this project.
- Provisions for storing materials and waste products inside or under cover: All materials stored on site should be stored in a neat and orderly fashion in their appropriate containers and, if possible, under a roof or other secure enclosure. Waste products should be placed in secure receptacles until they are emptied by a licensed solid waste management company in Massachusetts.
- Vehicle washing controls: The project is comprised of single family house lots; therefore, the responsibility lies with the individual homeowners. The homeowners can prevent soap, scum and oily grit from entering the proposed drainage system by washing vehicles on the grass areas instead of the driveway or street.
- Requirements for routine inspections and maintenance of stormwater BMPs: Follow the guidelines outlined above.
- Spill prevention and response plans:

Prevention: All materials stored on site should be stored in a neat and orderly fashion in their appropriate containers and, if possible, under a roof or other secure enclosure. Products should be kept in their original containers with the original manufacturer's label. Products should not be mixed with one another unless recommended by the manufacturer. If possible, all of the product should be used up before disposing of the container. The Manufacturer's recommendations for proper use and disposal should be followed.

Response: Manufacturer's recommended methods for cleanup should be followed. Spills should be cleaned up immediately after discovery. The spill area shall be kept well ventilated and personnel shall wear appropriate protective clothing to prevent injury from contact with a hazardous substance. Spills of toxic or hazardous material shall be reported to the appropriate State and/or local authority in accordance with local and/or State regulations.

- Provisions for maintenance of lawns, gardens, and other landscaped areas: The project is comprised of single family house lots, therefore, these activities should be left up the individual homeowners to schedule and perform.
- Requirements for storage and use of fertilizers, herbicides, and pesticides (Should any questions arise about these materials the Order of Conditions for this project should be consulted if applicable):

Fertilizers: Fertilizers shall be applied in the minimum amounts recommended by the manufacturer. Once applied, fertilizers shall be worked into the soil to limit exposure to stormwater. Storage shall be stored under a roof or other secure enclosure. The contents of any partially used bags of fertilizers shall be transferred to a sealable plastic bag or bin to avoid spills.

Herbicides and Pesticides: Store herbicides and pesticides in original containers that are closed and labeled, in a secure area out of reach of children and pets. Avoid storing in damp areas where containers may become moist or rusty. Herbicides and Pesticides should not be stored near food. Follow the label instructions strictly about where and how much to apply. Do not put herbicides and pesticides in the trash or down the drain. Use rubber gloves when handling and use an appropriate cartridge mask if using products extensively.

- Pet waste management provisions: The project is comprised of single family house lots, therefore, the responsibility lies with the individual homeowners who own pets to perform the clean up and disposal of their pet waste.
- Provisions for operation and management of septic systems: The project is comprised of single family house lots; therefore, the septic systems are privately owned and the responsibility for these activities lies with the individual homeowners to schedule and perform.
- Provisions for solid waste management: Waste products should be placed in secure receptacles until they are emptied by a licensed solid waste management company in Massachusetts.
- Snow disposal and plowing plans relative to Wetland Resource Areas: Snow disposal should be in accordance with the Bureau of Resource Protection Snow Disposal Guidelines, Guideline No. BRPG01-01 effective December 21, 2015, a copy of which is attached.
- Winter Road Salt and/or Sand Use and Storage restrictions:

Road Salt: Use and storage should be in accordance with the Bureau of Resource Protection Drinking Water Program Guidelines on Deicing Chemical (Road Salt) Storage, Guideline No. DWSG97-1 effective December 19, 1997, a copy of which is attached.

Sand: Whenever possible, use of environmentally friendly alternatives, i.e. calcium chloride and sand instead of salt for melting ice should be considered.

- List of Emergency contacts for implementing Long-Term Pollution Prevention Plan: The responsibility lies with the Homeowners Association.

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Effective Date: March 8, 2001

Guideline No. BRPG01-01

Applicability: Applies to all federal, state, regional and local agencies, as well as to private businesses.

Supersedes: BRP Snow Disposal Guideline BRPG97-1 issued 12/19/97, and all previous snow disposal guidance

Approved by: Glenn Haas, Assistant Commissioner for Resource Protection

PURPOSE: To provide guidelines to all government agencies and private businesses regarding snow disposal site selection, site preparation and maintenance, and emergency snow disposal options that are acceptable to the Department of Environmental Protection, Bureau of Resource Protection.

APPLICABILITY: These Guidelines are issued by the Bureau of Resource Protection on behalf of all Bureau Programs (including Drinking Water Supply, Wetlands and Waterways, Wastewater Management, and Watershed Planning and Permitting). They apply to public agencies and private businesses disposing of snow in the Commonwealth of Massachusetts.

INTRODUCTION

Finding a place to dispose of collected snow poses a challenge to municipalities and businesses as they clear roads, parking lots, bridges, and sidewalks. While we are all aware of the threats to public safety caused by snow, collected snow that is contaminated with road salt, sand, litter, and automotive pollutants such as oil also threatens public health and the environment.

As snow melts, road salt, sand, litter, and other pollutants are transported into surface water or through the soil where they may eventually reach the groundwater. Road salt and other pollutants can contaminate water supplies and are toxic to aquatic life at certain levels. Sand washed into waterbodies can create sand bars or fill in wetlands and ponds, impacting aquatic life, causing flooding, and affecting our use of these resources.

There are several steps that communities can take to minimize the impacts of snow disposal on public health and the environment. These steps will help communities avoid the costs of a contaminated water supply, degraded waterbodies, and flooding. Everything we do on the land has the potential to impact our water resources. Given the authority of local government over the use of the land, municipal officials and staff have a critically important role to play in protecting our water resources.

The purpose of these guidelines is to help municipalities and businesses select, prepare, and maintain appropriate snow disposal sites before the snow begins to accumulate through the winter.

RECOMMENDED GUIDELINES

These snow disposal guidelines address: (1) site selection; (2) site preparation and maintenance; and (3) emergency snow disposal.

1. SITE SELECTION

The key to selecting effective snow disposal sites is to locate them adjacent to or on pervious surfaces in upland areas away from water resources and wells. At these locations, the snow meltwater can filter in to the soil, leaving behind sand and debris which can be removed in the springtime. The following areas should be avoided:

- Avoid dumping of snow into any waterbody, including rivers, the ocean, reservoirs, ponds, or wetlands. In addition to water quality impacts and flooding, snow disposed of in open water can cause navigational hazards when it freezes into ice blocks.
- Do not dump snow within a Zone II or Interim Wellhead Protection Area (IWPA) of a public water supply well or within 75 feet of a private well, where road salt may contaminate water supplies.
- Avoid dumping snow on MassDEP-designated high and medium-yield aquifers where it may contaminate groundwater (see the next page for information on ordering maps from MassGIS showing the locations of aquifers, Zone II's, and IWPA's in your community).
- Avoid dumping snow in sanitary landfills and gravel pits. Snow meltwater will create more contaminated leachate in landfills posing a greater risk to groundwater, and in gravel pits, there is little opportunity for pollutants to be filtered out of the meltwater because groundwater is close to the land surface.
- Avoid disposing of snow on top of storm drain catch basins or in stormwater drainage swales or ditches. Snow combined with sand and debris may block a storm drainage system, causing localized flooding. A high volume of sand, sediment, and litter released from melting snow also may be quickly transported through the system into surface water.

Site Selection Procedures

1. It is important that the municipal Department of Public Works or Highway Department, Conservation Commission, and Board of Health work together to select appropriate snow disposal sites. The following steps should be taken:
 2. Estimate how much snow disposal capacity is needed for the season so that an adequate number of disposal sites can be selected and prepared.

3. Identify sites that could potentially be used for snow disposal such as municipal open space (e.g., parking lots or parks).
4. Sites located in upland locations that are not likely to impact sensitive environmental resources should be selected first.
5. If more storage space is still needed, prioritize the sites with the least environmental impact (using the site selection criteria, and local or MassGIS maps as a guide).

MassGIS Maps of Open Space and Water Resources

If local maps do not show the information you need to select appropriate snow disposal sites, you may order maps from MassGIS (Massachusetts Geographic Information System) which show publicly owned open spaces and approximate locations of sensitive environmental resources (locations should be field-verified where possible). Different coverages or map themes depicting sensitive environmental resources are available from MassGIS on the map you order. At a minimum, you should order the Priority Resources Map. The Priority Resources Map includes aquifers, public water supplies, MassDEP-approved Zone II's, Interim Wellhead Protection Areas, Wetlands, Open Space, Areas of Critical Environmental Concern, NHESP Wetlands Habitats, MassDEP Permitted Solid Waste facilities, Surface Water Protection areas (Zone A's) and base map features. The cost of this map is \$25.00. Other coverages or map themes you may consider, depending on the location of your city or town, include Outstanding Resource Waters and MassDEP Eelgrass Resources. These are available at \$25.00 each, with each map theme being depicted on a separate map. Maps should be ordered from [MassGIS](#). Maps may also be ordered by fax at 617-626-1249 (order form available from the MassGIS web site) or mail. For further information, contact MassGIS at 617-626-1189.

2. SITE PREPARATION AND MAINTENANCE

In addition to carefully selecting disposal sites before the winter begins, it is important to prepare and maintain these sites to maximize their effectiveness. The following maintenance measures should be undertaken for all snow disposal sites:

- A silt fence or equivalent barrier should be placed securely on the downgradient side of the snow disposal site.
- To filter pollutants out of the meltwater, a 50-foot vegetative buffer strip should be maintained during the growth season between the disposal site and adjacent waterbodies.
- Debris should be cleared from the site prior to using the site for snow disposal.
- Debris should be cleared from the site and properly disposed of at the end of the snow season and no later than May 15.

3. EMERGENCY SNOW DISPOSAL

As mentioned earlier, it is important to estimate the amount of snow disposal capacity you will need so that an adequate number of upland disposal sites can be selected and prepared.

If despite your planning, upland disposal sites have been exhausted, snow may be disposed of near waterbodies. A vegetated buffer of at least 50 feet should still be maintained between the site and the waterbody in these situations. Furthermore, it is essential that the other guidelines for preparing and maintaining snow disposal sites be followed to minimize the threat to adjacent waterbodies.

Under extraordinary conditions, when all land-based snow disposal options are exhausted, disposal of snow that is not obviously contaminated with road salt, sand, and other pollutants may be allowed in certain waterbodies under certain conditions. In these dire situations, notify your Conservation Commission and the appropriate MassDEP Regional Service Center before disposing of snow in a waterbody.

Use the following guidelines in these emergency situations:

- Dispose of snow in open water with adequate flow and mixing to prevent ice dams from forming.
- Do not dispose of snow in saltmarshes, vegetated wetlands, certified vernal pools, shellfish beds, mudflats, drinking water reservoirs and their tributaries, Zone IIs or IWPA's of public water supply wells, Outstanding Resource Waters, or Areas of Critical Environmental Concern.
- Do not dispose of snow where trucks may cause shoreline damage or erosion.
- Consult with the municipal Conservation Commission to ensure that snow disposal in open water complies with local ordinances and bylaws.

FOR MORE INFORMATION

If you need more information, contact one of MassDEP's Regional Service Centers:

Northeast Regional Office, Wilmington, 978-694-3200
Southeast Regional Office, Lakeville, 508-946-2714
Central Regional Office, Worcester, 508-792-7683
Western Regional Office, Springfield, 413-755-2214

or

Call Thomas Maguire of DEP's Bureau of Resource Protection in Boston at 617-292-5602.

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Effective Date: December 19, 1997

Guideline No. DWSG97-1

Applicability: Applies to all parties storing road salt or other chemical deicing agents.

Supersedes: Fact Sheet: DEICING CHEMICAL (ROAD SALT) STORAGE (January 1996)

Approved by: Arleen O'Donnell, Asst. Commissioner for Resource Protection

PURPOSE: To summarize salt storage prohibition standards around drinking water supplies and current salt storage practices.

APPLICABILITY: These guidelines are issued on behalf of the Bureau of Resource Protection's Drinking Water Program. They apply to all parties storing road salt or other chemical deicing agents.

I. The Road Salt Problem:

Historically, there have been incidents in Massachusetts where improperly stored road salt has polluted public and private drinking water supplies. Recognizing the problem, state and local governments have taken steps in recent years to remediate impacted water supplies and to protect water supplies from future contamination. As a result of properly designing storage sheds, new incidents are uncommon. These guidelines summarize salt storage prohibition standards around drinking water supplies and current salt storage practices.

II. Salt Pile Restrictions in Water Supply Protection Areas:

Uncovered storage of salt is forbidden by Massachusetts General Law Chapter 85, section 7A in areas that would threaten water supplies. The Drinking Water Regulations, 310 CMR 22.21(2)(b), also restrict deicing chemical storage within wellhead protection areas (Zone I and Zone II) for public water supply wells, as follows: "storage of sodium chloride, chemically treated abrasives or other chemicals used for the removal of ice and snow on roads [are prohibited], unless such storage is within a structure designed to prevent the generation and escape of contaminated runoff or leachate." For drinking water reservoirs, 310 CMR 22.20C prohibits, through local bylaw, uncovered or uncontained storage of road or parking lot de-icing and sanding materials within Zone A at new reservoirs and at those reservoirs increasing their withdrawals under MGL Chapter 21G, the Water Management Act.

For people on a low-sodium diet, 20 mg/L of sodium in drinking water is consistent with the bottled water regulations' meaning of "sodium free." At 20 mg/L, sodium contributes 10% or less to the sodium level in people on a sodium-restricted diet. For more information contact: Catherine Sarafinas at 617-556-1070 or catherine.sarafinas@state.ma.us, or Suzanne Robert at 617-292-5620 or suzanne.robert@state.ma.us.

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III. Salt Storage Best Management Practices (BMP):

Components of an "environment-friendly" roadway deicing salt storage facility include:

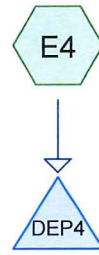
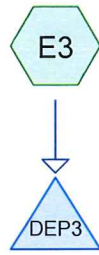
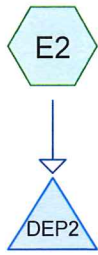
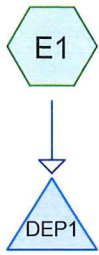
- the right site = a flat site;
- adequate space for salt piles;
- storage on a pad (impervious/paved area);
- storage under a roof; and
- runoff collection/containment.

For more information, see The Salt Storage Handbook, 6th ed. Virginia: Salt Institute, 2006 (phone 703-549-4648 or <http://www.saltinstitute.org/publication/safe-and-sustainable-snowfighting/>).

IV. Salt Storage Practices of the Massachusetts Highway Department:

The Massachusetts Highway Department (MHD) has 216 permanent salt storage sheds at 109 locations in the state. On leased land and state land under arteries and ramps, where the MHD cannot build sheds, salt piles are stored under impermeable material. This accounts for an additional 15 sites. The MHD also administers a program to assist municipalities with the construction of salt storage sheds. Of 351 communities, 201 municipalities have used state funds for salt storage facilities.

For more information about MHD's salt storage facilities, contact Paul Brown at the Massachusetts Highway Department, 10 Park Plaza, Boston, MA 02116 (phone 617-973-7792).

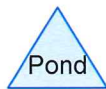


Depression Front 109

Depression Front 7

Depression Mohawk

Depression Mohawk
Cul-De-Sac



Routing Diagram for EX-Vallis

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EX-Vallis

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
120,531	39	>75% Grass cover, Good, HSG A (E1, E2, E3, E4)
11,587	98	Paved parking, HSG A (E1, E4)
8,843	98	Paved parking,(tennis ct, pool) HSG A (E2)
11,543	98	Roofs, HSG A (E1, E2)
429,676	30	Woods, Good, HSG A (E1, E2, E3, E4, E5)
582,179	36	TOTAL AREA

EX-Vallis

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Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
582,179	HSG A	E1, E2, E3, E4, E5
0	HSG B	
0	HSG C	
0	HSG D	
0	Other	
582,179		TOTAL AREA

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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
120,531	0	0	0	0	120,531	>75% Grass cover, Good
11,587	0	0	0	0	11,587	Paved parking
8,843	0	0	0	0	8,843	Paved parking,(tennis ct, pool)
11,543	0	0	0	0	11,543	Roofs
429,676	0	0	0	0	429,676	Woods, Good
582,179	0	0	0	0	582,179	TOTAL AREA

EX-Vallis

Type III 24-hr 2 Year Rainfall=3.10"

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1:	Runoff Area=1.482 ac 15.65% Impervious Runoff Depth=0.01" Flow Length=300' Tc=14.3 min CN=42 Runoff=0.00 cfs 43 cf
Subcatchment E2:	Runoff Area=4.488 ac 7.87% Impervious Runoff Depth=0.00" Flow Length=620' Tc=24.1 min CN=40 Runoff=0.00 cfs 11 cf
Subcatchment E3:	Runoff Area=2.210 ac 0.00% Impervious Runoff Depth=0.00" Flow Length=475' Tc=24.1 min CN=31 Runoff=0.00 cfs 0 cf
Subcatchment E4:	Runoff Area=2.433 ac 6.12% Impervious Runoff Depth=0.00" Flow Length=150' Tc=15.2 min CN=35 Runoff=0.00 cfs 0 cf
Subcatchment E5:	Runoff Area=2.752 ac 0.00% Impervious Runoff Depth=0.00" Flow Length=365' Tc=20.1 min CN=30 Runoff=0.00 cfs 0 cf
Pond DEP1: Depression Front 109	Peak Elev=151.00' Storage=0 cf Inflow=0.00 cfs 43 cf Outflow=0.00 cfs 43 cf
Pond DEP2: Depression Front 7	Peak Elev=148.00' Storage=0 cf Inflow=0.00 cfs 11 cf Outflow=0.00 cfs 11 cf
Pond DEP3: Depression Mohawk	Peak Elev=149.00' Storage=0 cf Inflow=0.00 cfs 0 cf Outflow=0.00 cfs 0 cf
Pond DEP4: Depression Mohawk Cul-De-Sac	Peak Elev=149.00' Storage=0 cf Inflow=0.00 cfs 0 cf Outflow=0.00 cfs 0 cf

Total Runoff Area = 582,179 sf Runoff Volume = 54 cf Average Runoff Depth = 0.00"
94.51% Pervious = 550,206 sf 5.49% Impervious = 31,973 sf

Summary for Subcatchment E1:

Runoff = 0.00 cfs @ 22.51 hrs, Volume= 43 cf, Depth= 0.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2 Year Rainfall=3.10"

Area (ac)	CN	Description
0.115	98	Roofs, HSG A
0.117	98	Paved parking, HSG A
0.230	39	>75% Grass cover, Good, HSG A
1.020	30	Woods, Good, HSG A
1.482	42	Weighted Average
1.250		84.35% Pervious Area
0.232		15.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	50	0.0400	0.09		Sheet Flow, sheet Woods: Light underbrush n= 0.400 P2= 3.10"
4.8	250	0.0300	0.87		Shallow Concentrated Flow, shallow Woodland Kv= 5.0 fps
14.3	300	Total			

Summary for Subcatchment E2:

Runoff = 0.00 cfs @ 24.05 hrs, Volume= 11 cf, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Type III 24-hr 2 Year Rainfall=3.10"

Area (ac)	CN	Description
0.150	98	Roofs, HSG A
* 0.203	98	Paved parking,(tennis ct, pool) HSG A
2.245	39	>75% Grass cover, Good, HSG A
1.890	30	Woods, Good, HSG A
4.488	40	Weighted Average
4.135		92.13% Pervious Area
0.353		7.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	50	0.0200	0.07		Sheet Flow, sheet Woods: Light underbrush n= 0.400 P2= 3.10"
5.4	200	0.0150	0.61		Shallow Concentrated Flow, shallow Woodland Kv= 5.0 fps
6.2	370	0.0200	0.99		Shallow Concentrated Flow, shallow grass Short Grass Pasture Kv= 7.0 fps
24.1	620	Total			

EX-Vallis

Type III 24-hr 2 Year Rainfall=3.10"

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Summary for Subcatchment E3:

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

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.10"

Area (ac)	CN	Description
0.197	39	>75% Grass cover, Good, HSG A
2.013	30	Woods, Good, HSG A
2.210	31	Weighted Average
2.210		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	50	0.0200	0.07		Sheet Flow, sheet Woods: Light underbrush n= 0.400 P2= 3.10"
11.6	425	0.0150	0.61		Shallow Concentrated Flow, shallow Woodland Kv= 5.0 fps
24.1	475	Total			

Summary for Subcatchment E4:

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

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.10"

Area (ac)	CN	Description
0.095	39	>75% Grass cover, Good, HSG A
2.189	30	Woods, Good, HSG A
0.149	98	Paved parking, HSG A
2.433	35	Weighted Average
2.284		93.88% Pervious Area
0.149		6.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	50	0.0200	0.07		Sheet Flow, sheet Woods: Light underbrush n= 0.400 P2= 3.10"
2.7	100	0.0150	0.61		Shallow Concentrated Flow, shallow Woodland Kv= 5.0 fps
15.2	150	Total			

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Type III 24-hr 2 Year Rainfall=3.10"

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Summary for Subcatchment E5:

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

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.10"

Area (ac)	CN	Description
2.752	30	Woods, Good, HSG A
2.752		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	50	0.0200	0.07		Sheet Flow, sheet Woods: Light underbrush n= 0.400 P2= 3.10"
6.5	240	0.0150	0.61		Shallow Concentrated Flow, shallow Woodland Kv= 5.0 fps
1.1	75	0.0500	1.12		Shallow Concentrated Flow, shallow Woodland Kv= 5.0 fps
20.1	365	Total			

Summary for Pond DEP1: Depression Front 109

Inflow Area = 64,556 sf, 15.65% Impervious, Inflow Depth = 0.01" for 2 Year event
 Inflow = 0.00 cfs @ 22.51 hrs, Volume= 43 cf
 Outflow = 0.00 cfs @ 22.53 hrs, Volume= 43 cf, Atten= 0%, Lag= 1.1 min
 Discarded = 0.00 cfs @ 22.53 hrs, Volume= 43 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 151.00' @ 22.53 hrs Surf.Area= 2,270 sf Storage= 0 cf

Plug-Flow detention time= 0.4 min calculated for 43 cf (100% of inflow)
 Center-of-Mass det. time= 0.4 min (1,256.8 - 1,256.4)

Volume	Invert	Avail.Storage	Storage Description
#1	151.00'	1,818 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
151.00	2,270	0	0
151.50	5,000	1,818	1,818

Device	Routing	Invert	Outlet Devices
#1	Discarded	151.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.43 cfs @ 22.53 hrs HW=151.00' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.43 cfs)

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Type III 24-hr 2 Year Rainfall=3.10"

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Summary for Pond DEP2: Depression Front 7

Inflow Area = 195,497 sf, 7.87% Impervious, Inflow Depth = 0.00" for 2 Year event
 Inflow = 0.00 cfs @ 24.05 hrs, Volume= 11 cf
 Outflow = 0.00 cfs @ 24.07 hrs, Volume= 11 cf, Atten= 0%, Lag= 1.0 min
 Discarded = 0.00 cfs @ 24.07 hrs, Volume= 11 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 148.00' @ 24.07 hrs Surf.Area= 8,500 sf Storage= 0 cf

Plug-Flow detention time= 0.9 min calculated for 11 cf (100% of inflow)
 Center-of-Mass det. time= 0.9 min (1,394.7 - 1,393.8)

Volume	Invert	Avail.Storage	Storage Description
#1	148.00'	10,800 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
148.00	8,500	0	0
149.00	13,100	10,800	10,800

Device	Routing	Invert	Outlet Devices
#1	Discarded	148.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=1.63 cfs @ 24.07 hrs HW=148.00' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 1.63 cfs)

Summary for Pond DEP3: Depression Mohawk

Inflow Area = 96,268 sf, 0.00% Impervious, Inflow Depth = 0.00" for 2 Year event
 Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
 Discarded = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 149.00' @ 0.00 hrs Surf.Area= 2,900 sf Storage= 0 cf

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

Volume	Invert	Avail.Storage	Storage Description
#1	149.00'	1,475 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
149.00	2,900	0	0
149.50	3,000	1,475	1,475

Device	Routing	Invert	Outlet Devices
#1	Discarded	149.00'	8.270 in/hr Exfiltration over Surface area

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Type III 24-hr 2 Year Rainfall=3.10"

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Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=149.00' (Free Discharge)

↳1=Exfiltration (Passes 0.00 cfs of 0.56 cfs potential flow)

Summary for Pond DEP4: Depression Mohawk Cul-De-Sac

Inflow Area = 105,981 sf, 6.12% Impervious, Inflow Depth = 0.00" for 2 Year event
 Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
 Discarded = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 149.00' @ 0.00 hrs Surf.Area= 7,000 sf Storage= 0 cf

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

Volume	Invert	Avail.Storage	Storage Description
#1	149.00'	4,250 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
149.00	7,000	0	0
149.50	10,000	4,250	4,250

Device	Routing	Invert	Outlet Devices
#1	Discarded	149.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=149.00' (Free Discharge)

↳1=Exfiltration (Passes 0.00 cfs of 1.34 cfs potential flow)

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Type III 24-hr 10 Year Rainfall=4.50"

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Runoff Area=1.482 ac 15.65% Impervious Runoff Depth=0.19"
Flow Length=300' Tc=14.3 min CN=42 Runoff=0.05 cfs 1,045 cf

Subcatchment E2: Runoff Area=4.488 ac 7.87% Impervious Runoff Depth=0.14"
Flow Length=620' Tc=24.1 min CN=40 Runoff=0.08 cfs 2,222 cf

Subcatchment E3: Runoff Area=2.210 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=475' Tc=24.1 min CN=31 Runoff=0.00 cfs 1 cf

Subcatchment E4: Runoff Area=2.433 ac 6.12% Impervious Runoff Depth=0.03"
Flow Length=150' Tc=15.2 min CN=35 Runoff=0.01 cfs 282 cf

Subcatchment E5: Runoff Area=2.752 ac 0.00% Impervious Runoff Depth=0.00"
Flow Length=365' Tc=20.1 min CN=30 Runoff=0.00 cfs 0 cf

Pond DEP1: Depression Front 109 Peak Elev=151.00' Storage=1 cf Inflow=0.05 cfs 1,045 cf
Outflow=0.05 cfs 1,045 cf

Pond DEP2: Depression Front 7 Peak Elev=148.00' Storage=4 cf Inflow=0.08 cfs 2,222 cf
Outflow=0.08 cfs 2,222 cf

Pond DEP3: Depression Mohawk Peak Elev=149.00' Storage=0 cf Inflow=0.00 cfs 1 cf
Outflow=0.00 cfs 1 cf

Pond DEP4: Depression Mohawk Cul-De-Sac Peak Elev=149.00' Storage=0 cf Inflow=0.01 cfs 282 cf
Outflow=0.01 cfs 282 cf

Total Runoff Area = 582,179 sf Runoff Volume = 3,549 cf Average Runoff Depth = 0.07"
94.51% Pervious = 550,206 sf 5.49% Impervious = 31,973 sf

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Type III 24-hr 25 Year Rainfall=5.30"

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Runoff Area=1.482 ac 15.65% Impervious Runoff Depth=0.39"
Flow Length=300' Tc=14.3 min CN=42 Runoff=0.21 cfs 2,120 cf

Subcatchment E2: Runoff Area=4.488 ac 7.87% Impervious Runoff Depth=0.31"
Flow Length=620' Tc=24.1 min CN=40 Runoff=0.33 cfs 4,982 cf

Subcatchment E3: Runoff Area=2.210 ac 0.00% Impervious Runoff Depth=0.03"
Flow Length=475' Tc=24.1 min CN=31 Runoff=0.01 cfs 250 cf

Subcatchment E4: Runoff Area=2.433 ac 6.12% Impervious Runoff Depth=0.12"
Flow Length=150' Tc=15.2 min CN=35 Runoff=0.04 cfs 1,102 cf

Subcatchment E5: Runoff Area=2.752 ac 0.00% Impervious Runoff Depth=0.02"
Flow Length=365' Tc=20.1 min CN=30 Runoff=0.01 cfs 167 cf

Pond DEP1: Depression Front 109 Peak Elev=151.00' Storage=5 cf Inflow=0.21 cfs 2,120 cf
Outflow=0.21 cfs 2,120 cf

Pond DEP2: Depression Front 7 Peak Elev=148.00' Storage=17 cf Inflow=0.33 cfs 4,982 cf
Outflow=0.33 cfs 4,982 cf

Pond DEP3: Depression Mohawk Peak Elev=149.00' Storage=0 cf Inflow=0.01 cfs 250 cf
Outflow=0.01 cfs 250 cf

Pond DEP4: Depression Mohawk Cul-De-Sac Peak Elev=149.00' Storage=1 cf Inflow=0.04 cfs 1,102 cf
Outflow=0.04 cfs 1,102 cf

Total Runoff Area = 582,179 sf Runoff Volume = 8,620 cf Average Runoff Depth = 0.18"
94.51% Pervious = 550,206 sf 5.49% Impervious = 31,973 sf

EX-Vallis

Type III 24-hr 100 Year Rainfall=6.50"

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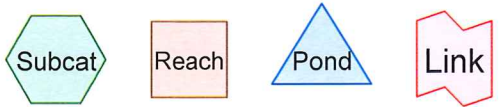
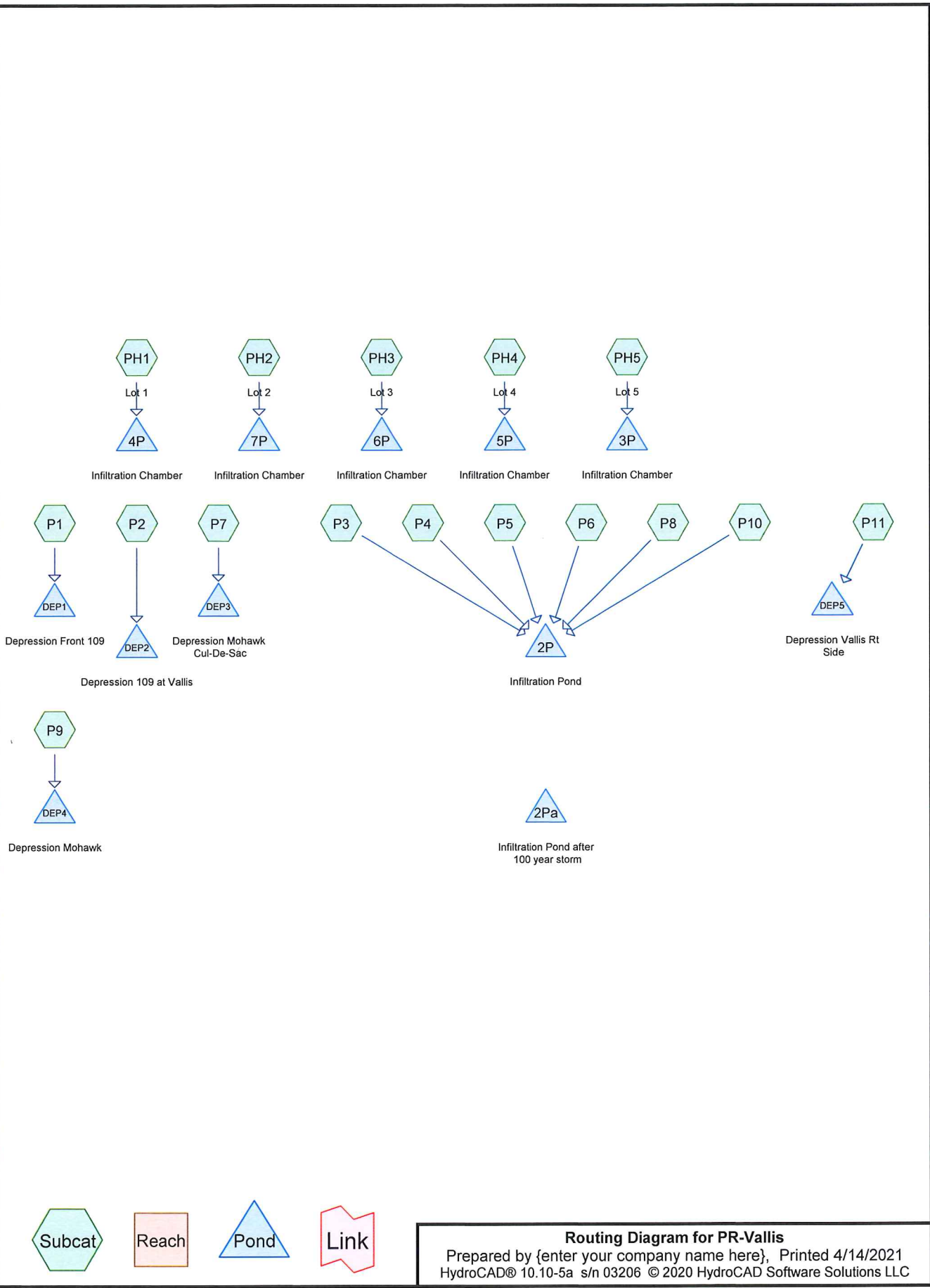
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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1:	Runoff Area=1.482 ac 15.65% Impervious Runoff Depth=0.80" Flow Length=300' Tc=14.3 min CN=42 Runoff=0.61 cfs 4,284 cf
Subcatchment E2:	Runoff Area=4.488 ac 7.87% Impervious Runoff Depth=0.66" Flow Length=620' Tc=24.1 min CN=40 Runoff=1.19 cfs 10,788 cf
Subcatchment E3:	Runoff Area=2.210 ac 0.00% Impervious Runoff Depth=0.17" Flow Length=475' Tc=24.1 min CN=31 Runoff=0.05 cfs 1,385 cf
Subcatchment E4:	Runoff Area=2.433 ac 6.12% Impervious Runoff Depth=0.36" Flow Length=150' Tc=15.2 min CN=35 Runoff=0.24 cfs 3,209 cf
Subcatchment E5:	Runoff Area=2.752 ac 0.00% Impervious Runoff Depth=0.13" Flow Length=365' Tc=20.1 min CN=30 Runoff=0.05 cfs 1,334 cf
Pond DEP1: Depression Front 109	Peak Elev=151.06' Storage=136 cf Inflow=0.61 cfs 4,284 cf Outflow=0.49 cfs 4,284 cf
Pond DEP2: Depression Front 7	Peak Elev=148.01' Storage=62 cf Inflow=1.19 cfs 10,788 cf Outflow=1.19 cfs 10,788 cf
Pond DEP3: Depression Mohawk	Peak Elev=149.00' Storage=1 cf Inflow=0.05 cfs 1,385 cf Outflow=0.05 cfs 1,385 cf
Pond DEP4: Depression Mohawk Cul-De-Sac	Peak Elev=149.00' Storage=6 cf Inflow=0.24 cfs 3,209 cf Outflow=0.24 cfs 3,209 cf

Total Runoff Area = 582,179 sf Runoff Volume = 21,000 cf Average Runoff Depth = 0.43"
94.51% Pervious = 550,206 sf 5.49% Impervious = 31,973 sf



Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
266,369	39	>75% Grass cover, Good, HSG A (P1, P10, P11, P2, P3, P4, P5, P6, P7, P8, P9)
56,192	98	Paved parking, HSG A (P1, P10, P2, P4, P6, P7, P8)
8,451	98	Paved parking,(roadway) HSG A (P3)
8,843	98	Paved parking,(tennis ct, pool) HSG A (P3)
31,991	98	Roofs, HSG A (P1, P2, P3, PH1, PH2, PH3, PH4, PH5)
210,351	30	Woods, Good, HSG A (P1, P10, P11, P2, P3, P4, P5, P7, P9)
582,198	46	TOTAL AREA

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Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
582,198	HSG A	P1, P10, P11, P2, P3, P4, P5, P6, P7, P8, P9, PH1, PH2, PH3, PH4, PH5
0	HSG B	
0	HSG C	
0	HSG D	
0	Other	
582,198		TOTAL AREA

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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
266,369	0	0	0	0	266,369	>75% Grass cover, Good
56,192	0	0	0	0	56,192	Paved parking
8,451	0	0	0	0	8,451	Paved parking,(roadway)
8,843	0	0	0	0	8,843	Paved parking,(tennis ct, pool)
31,991	0	0	0	0	31,991	Roofs
210,351	0	0	0	0	210,351	Woods, Good
582,198	0	0	0	0	582,198	TOTAL AREA

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Type III 24-hr 2 Year Rainfall=3.10"

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Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1:	Runoff Area=1.482 ac 15.65% Impervious Runoff Depth=0.01" Flow Length=300' Tc=14.3 min CN=42 Runoff=0.00 cfs 43 cf
Subcatchment P10:	Runoff Area=0.454 ac 42.51% Impervious Runoff Depth=0.44" Tc=6.0 min CN=62 Runoff=0.15 cfs 723 cf
Subcatchment P11:	Runoff Area=0.809 ac 0.00% Impervious Runoff Depth=0.00" Flow Length=275' Tc=9.0 min CN=37 Runoff=0.00 cfs 0 cf
Subcatchment P2:	Runoff Area=1.279 ac 12.04% Impervious Runoff Depth=0.02" Flow Length=415' Tc=15.9 min CN=44 Runoff=0.00 cfs 107 cf
Subcatchment P3:	Runoff Area=2.240 ac 19.02% Impervious Runoff Depth=0.05" Flow Length=566' Tc=22.6 min CN=46 Runoff=0.01 cfs 368 cf
Subcatchment P4:	Runoff Area=1.081 ac 15.54% Impervious Runoff Depth=0.06" Flow Length=455' Tc=16.5 min CN=47 Runoff=0.01 cfs 231 cf
Subcatchment P5:	Runoff Area=1.048 ac 0.00% Impervious Runoff Depth=0.00" Flow Length=225' Tc=12.7 min CN=37 Runoff=0.00 cfs 0 cf
Subcatchment P6:	Runoff Area=1.134 ac 30.95% Impervious Runoff Depth=0.28" Flow Length=455' Tc=10.3 min CN=57 Runoff=0.14 cfs 1,141 cf
Subcatchment P7:	Runoff Area=1.898 ac 7.85% Impervious Runoff Depth=0.00" Flow Length=100' Tc=6.0 min CN=37 Runoff=0.00 cfs 0 cf
Subcatchment P8:	Runoff Area=0.868 ac 32.14% Impervious Runoff Depth=0.31" Flow Length=305' Tc=10.5 min CN=58 Runoff=0.12 cfs 967 cf
Subcatchment P9:	Runoff Area=0.603 ac 0.00% Impervious Runoff Depth=0.00" Flow Length=200' Tc=8.8 min CN=35 Runoff=0.00 cfs 0 cf
Subcatchment PH1: Lot 1	Runoff Area=4,321 sf 100.00% Impervious Runoff Depth=2.87" Tc=6.0 min CN=98 Runoff=0.29 cfs 1,033 cf
Subcatchment PH2: Lot 2	Runoff Area=3,732 sf 100.00% Impervious Runoff Depth=2.87" Tc=6.0 min CN=98 Runoff=0.25 cfs 892 cf
Subcatchment PH3: Lot 3	Runoff Area=4,037 sf 100.00% Impervious Runoff Depth=2.87" Tc=6.0 min CN=98 Runoff=0.27 cfs 965 cf
Subcatchment PH4: Lot 4	Runoff Area=4,037 sf 100.00% Impervious Runoff Depth=2.87" Tc=6.0 min CN=98 Runoff=0.27 cfs 965 cf
Subcatchment PH5: Lot 5	Runoff Area=4,321 sf 100.00% Impervious Runoff Depth=2.87" Tc=6.0 min CN=98 Runoff=0.29 cfs 1,033 cf

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Type III 24-hr 2 Year Rainfall=3.10"

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Pond 2P: Infiltration Pond Peak Elev=140.05' Storage=107 cf Inflow=0.36 cfs 3,430 cf
Discarded=0.34 cfs 3,430 cf Primary=0.00 cfs 0 cf Outflow=0.34 cfs 3,430 cf

Pond 2Pa: Infiltration Pond after 100 year storm Peak Elev=0.00' Storage=0 cf
Discarded=0.00 cfs 0 cf Primary=0.00 cfs 0 cf

Pond 3P: Infiltration Chamber Peak Elev=1.50' Storage=253 cf Inflow=0.29 cfs 1,033 cf
Outflow=0.06 cfs 1,033 cf

Pond 4P: Infiltration Chamber Peak Elev=1.50' Storage=253 cf Inflow=0.29 cfs 1,033 cf
Outflow=0.06 cfs 1,033 cf

Pond 5P: Infiltration Chamber Peak Elev=1.38' Storage=226 cf Inflow=0.27 cfs 965 cf
Outflow=0.06 cfs 965 cf

Pond 6P: Infiltration Chamber Peak Elev=1.38' Storage=226 cf Inflow=0.27 cfs 965 cf
Outflow=0.06 cfs 965 cf

Pond 7P: Infiltration Chamber Peak Elev=1.25' Storage=197 cf Inflow=0.25 cfs 892 cf
Outflow=0.06 cfs 892 cf

Pond DEP1: Depression Front 109 Peak Elev=151.00' Storage=0 cf Inflow=0.00 cfs 43 cf
Outflow=0.00 cfs 43 cf

Pond DEP2: Depression 109 at Vallis Peak Elev=149.00' Storage=0 cf Inflow=0.00 cfs 107 cf
Outflow=0.00 cfs 107 cf

Pond DEP3: Depression Mohawk Cul-De-Sac Peak Elev=149.00' Storage=0 cf Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Pond DEP4: Depression Mohawk Peak Elev=149.00' Storage=0 cf Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Pond DEP5: Depression Vallis Rt Side Peak Elev=148.00' Storage=0 cf Inflow=0.00 cfs 0 cf
Outflow=0.00 cfs 0 cf

Total Runoff Area = 582,198 sf Runoff Volume = 8,468 cf Average Runoff Depth = 0.17"
81.88% Pervious = 476,721 sf 18.12% Impervious = 105,477 sf

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Type III 24-hr 2 Year Rainfall=3.10"

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Summary for Subcatchment P1:

Runoff = 0.00 cfs @ 22.51 hrs, Volume= 43 cf, Depth= 0.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.10"

Area (ac)	CN	Description
0.115	98	Roofs, HSG A
0.117	98	Paved parking, HSG A
0.230	39	>75% Grass cover, Good, HSG A
1.020	30	Woods, Good, HSG A
1.482	42	Weighted Average
1.250		84.35% Pervious Area
0.232		15.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	50	0.0400	0.09		Sheet Flow, sheet
					Woods: Light underbrush n= 0.400 P2= 3.10"
4.8	250	0.0300	0.87		Shallow Concentrated Flow, shallow
					Woodland Kv= 5.0 fps
14.3	300	Total			

Summary for Subcatchment P10:

Runoff = 0.15 cfs @ 12.12 hrs, Volume= 723 cf, Depth= 0.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.10"

Area (ac)	CN	Description
0.193	98	Paved parking, HSG A
0.163	39	>75% Grass cover, Good, HSG A
0.098	30	Woods, Good, HSG A
0.454	62	Weighted Average
0.261		57.49% Pervious Area
0.193		42.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Direct (calc 4.5 min.)

Summary for Subcatchment P11:

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

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.10"

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Area (ac)	CN	Description
0.596	39	>75% Grass cover, Good, HSG A
0.213	30	Woods, Good, HSG A
0.809	37	Weighted Average
0.809		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	50	0.1800	0.16		Sheet Flow, Sheet Woods: Light underbrush n= 0.400 P2= 3.10"
0.2	25	0.1800	2.12		Shallow Concentrated Flow, Shallow Woodland Kv= 5.0 fps
1.2	100	0.0400	1.40		Shallow Concentrated Flow, Shallow grass Short Grass Pasture Kv= 7.0 fps
2.4	100	0.0100	0.70		Shallow Concentrated Flow, shallow grass Short Grass Pasture Kv= 7.0 fps
9.0	275	Total			

Summary for Subcatchment P2:

Runoff = 0.00 cfs @ 17.21 hrs, Volume= 107 cf, Depth= 0.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.10"

Area (ac)	CN	Description
0.121	98	Roofs, HSG A
0.033	98	Paved parking, HSG A
0.769	39	>75% Grass cover, Good, HSG A
0.356	30	Woods, Good, HSG A
1.279	44	Weighted Average
1.125		87.96% Pervious Area
0.154		12.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	50	0.0400	0.09		Sheet Flow, sheet Woods: Light underbrush n= 0.400 P2= 3.10"
1.7	90	0.0300	0.87		Shallow Concentrated Flow, shallow Woodland Kv= 5.0 fps
3.2	135	0.0100	0.70		Shallow Concentrated Flow, shallow grass Short Grass Pasture Kv= 7.0 fps
1.5	140	0.0500	1.57		Shallow Concentrated Flow, shallow Short Grass Pasture Kv= 7.0 fps
15.9	415	Total			

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Type III 24-hr 2 Year Rainfall=3.10"

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Summary for Subcatchment P3:

Runoff = 0.01 cfs @ 15.55 hrs, Volume= 368 cf, Depth= 0.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.10"

Area (ac)	CN	Description
0.029	98	Roofs, HSG A
* 0.194	98	Paved parking,(roadway) HSG A
* 0.203	98	Paved parking,(tennis ct, pool) HSG A
0.712	39	>75% Grass cover, Good, HSG A
1.102	30	Woods, Good, HSG A
2.240	46	Weighted Average
1.814		80.98% Pervious Area
0.426		19.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.5	50	0.0200	0.07		Sheet Flow, sheet Woods: Light underbrush n= 0.400 P2= 3.10"
5.4	200	0.0150	0.61		Shallow Concentrated Flow, shallow Woodland Kv= 5.0 fps
4.2	250	0.0200	0.99		Shallow Concentrated Flow, shallow grass Short Grass Pasture Kv= 7.0 fps
0.5	66	0.0100	2.03		Shallow Concentrated Flow, gutter Paved Kv= 20.3 fps
22.6	566	Total			

Summary for Subcatchment P4:

Runoff = 0.01 cfs @ 15.16 hrs, Volume= 231 cf, Depth= 0.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.10"

Area (ac)	CN	Description
0.168	98	Paved parking, HSG A
0.732	39	>75% Grass cover, Good, HSG A
0.181	30	Woods, Good, HSG A
1.081	47	Weighted Average
0.913		84.46% Pervious Area
0.168		15.54% Impervious Area

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Type III 24-hr 2 Year Rainfall=3.10"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	50	0.0400	0.09		Sheet Flow, sheet Woods: Light underbrush n= 0.400 P2= 3.10"
5.0	150	0.0100	0.50		Shallow Concentrated Flow, shallow Woodland Kv= 5.0 fps
0.8	75	0.0500	1.57		Shallow Concentrated Flow, shallow grass Short Grass Pasture Kv= 7.0 fps
1.2	180	0.0150	2.49		Shallow Concentrated Flow, gutter Paved Kv= 20.3 fps
16.5	455	Total			

Summary for Subcatchment P5:

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

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.10"

Area (ac)	CN	Description
0.783	39	>75% Grass cover, Good, HSG A
0.265	30	Woods, Good, HSG A
1.048	37	Weighted Average
1.048		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	50	0.0400	0.09		Sheet Flow, sheet Woods: Light underbrush n= 0.400 P2= 3.10"
1.7	50	0.0100	0.50		Shallow Concentrated Flow, shallow Woodland Kv= 5.0 fps
1.5	125	0.0400	1.40		Shallow Concentrated Flow, shallow grass Short Grass Pasture Kv= 7.0 fps
12.7	225	Total			

Summary for Subcatchment P6:

Runoff = 0.14 cfs @ 12.37 hrs, Volume= 1,141 cf, Depth= 0.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.10"

Area (ac)	CN	Description
0.351	98	Paved parking, HSG A
0.783	39	>75% Grass cover, Good, HSG A
1.134	57	Weighted Average
0.783		69.05% Pervious Area
0.351		30.95% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0800	0.25		Sheet Flow, sheet Grass: Short n= 0.150 P2= 3.10"
5.0	150	0.0100	0.50		Shallow Concentrated Flow, shallow Woodland Kv= 5.0 fps
0.8	75	0.0500	1.57		Shallow Concentrated Flow, shallow grass Short Grass Pasture Kv= 7.0 fps
1.2	180	0.0150	2.49		Shallow Concentrated Flow, gutter Paved Kv= 20.3 fps
10.3	455	Total			

Summary for Subcatchment P7:

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

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.10"

Area (ac)	CN	Description
0.149	98	Paved parking, HSG A
0.413	39	>75% Grass cover, Good, HSG A
1.336	30	Woods, Good, HSG A
1.898	37	Weighted Average
1.749		92.15% Pervious Area
0.149		7.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.4	30	0.1000	0.11		Sheet Flow, sheet Woods: Light underbrush n= 0.400 P2= 3.10"
0.4	20	0.0100	0.74		Sheet Flow, sheet Smooth surfaces n= 0.011 P2= 3.10"
1.2	50	0.0100	0.70		Shallow Concentrated Flow, shallow grass Short Grass Pasture Kv= 7.0 fps
6.0	100	Total			

Summary for Subcatchment P8:

Runoff = 0.12 cfs @ 12.35 hrs, Volume= 967 cf, Depth= 0.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.10"

Area (ac)	CN	Description
0.279	98	Paved parking, HSG A
0.589	39	>75% Grass cover, Good, HSG A
0.868	58	Weighted Average
0.589		67.86% Pervious Area
0.279		32.14% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.5	50	0.0100	0.11		Sheet Flow, sheet Grass: Short n= 0.150 P2= 3.10"
1.8	75	0.0100	0.70		Shallow Concentrated Flow, shallow grass Short Grass Pasture Kv= 7.0 fps
1.2	180	0.0150	2.49		Shallow Concentrated Flow, gutter Paved Kv= 20.3 fps
10.5	305	Total			

Summary for Subcatchment P9:

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

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.10"

Area (ac)	CN	Description
0.345	39	>75% Grass cover, Good, HSG A
0.258	30	Woods, Good, HSG A
0.603	35	Weighted Average
0.603		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.5	50	0.0100	0.11		Sheet Flow, sheet Grass: Short n= 0.150 P2= 3.10"
1.3	150	0.0800	1.98		Shallow Concentrated Flow, shallow grass Short Grass Pasture Kv= 7.0 fps
8.8	200	Total			

Summary for Subcatchment PH1: Lot 1

Runoff = 0.29 cfs @ 12.09 hrs, Volume= 1,033 cf, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.10"

Area (sf)	CN	Description
4,321	98	Roofs, HSG A
4,321		100.00% Impervious Area

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

Summary for Subcatchment PH2: Lot 2

Runoff = 0.25 cfs @ 12.09 hrs, Volume= 892 cf, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.10"

Area (sf)	CN	Description
3,732	98	Roofs, HSG A
3,732		100.00% Impervious Area

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

Summary for Subcatchment PH3: Lot 3

Runoff = 0.27 cfs @ 12.09 hrs, Volume= 965 cf, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.10"

Area (sf)	CN	Description
4,037	98	Roofs, HSG A
4,037		100.00% Impervious Area

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

Summary for Subcatchment PH4: Lot 4

Runoff = 0.27 cfs @ 12.09 hrs, Volume= 965 cf, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.10"

Area (sf)	CN	Description
4,037	98	Roofs, HSG A
4,037		100.00% Impervious Area

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

Summary for Subcatchment PH5: Lot 5

Runoff = 0.29 cfs @ 12.09 hrs, Volume= 1,033 cf, Depth= 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Rainfall=3.10"

Area (sf)	CN	Description
4,321	98	Roofs, HSG A
4,321		100.00% Impervious Area

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

Summary for Pond 2P: Infiltration Pond

Inflow Area = 297,297 sf, 20.76% Impervious, Inflow Depth = 0.14" for 2 Year event
 Inflow = 0.36 cfs @ 12.32 hrs, Volume= 3,430 cf
 Outflow = 0.34 cfs @ 12.41 hrs, Volume= 3,430 cf, Atten= 5%, Lag= 5.5 min
 Discarded = 0.34 cfs @ 12.41 hrs, Volume= 3,430 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 140.05' @ 12.41 hrs Surf.Area= 2,226 sf Storage= 107 cf

Plug-Flow detention time= 5.2 min calculated for 3,430 cf (100% of inflow)
 Center-of-Mass det. time= 5.2 min (972.3 - 967.1)

Volume	Invert	Avail.Storage	Storage Description
#1	140.00'	29,469 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
140.00	2,198	0	0
141.00	2,778	2,488	2,488
142.00	3,412	3,095	5,583
143.00	5,142	4,277	9,860
144.00	6,042	5,592	15,452
145.00	6,998	6,520	21,972
145.50	7,497	3,624	25,596
146.00	7,995	3,873	29,469

Device	Routing	Invert	Outlet Devices
#1	Discarded	140.00'	8.270 in/hr Exfiltration over Surface area
#2	Primary	145.50'	10.0' long (Profile 6) Broad-Crested Rectangular Weir Head (feet) 0.49 0.98 1.48 Coef. (English) 3.12 3.41 3.59

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Discarded OutFlow Max=0.43 cfs @ 12.41 hrs HW=140.05' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.43 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=140.00' (Free Discharge)

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

Summary for Pond 2Pa: Infiltration Pond after 100 year storm

Volume	Invert	Avail.Storage	Storage Description
#1	143.40'	17,480 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
143.40	5,502	0	0
144.00	6,042	3,463	3,463
145.00	6,998	6,520	9,983
145.50	7,497	3,624	13,607
146.00	7,995	3,873	17,480

Device	Routing	Invert	Outlet Devices
#1	Discarded	143.40'	8.270 in/hr Exfiltration over Surface area
#2	Primary	145.50'	10.0' long (Profile 6) Broad-Crested Rectangular Weir
			Head (feet) 0.49 0.98 1.48
			Coef. (English) 3.12 3.41 3.59

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

↑1=Exfiltration (Controls 0.00 cfs)

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

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

Summary for Pond 3P: Infiltration Chamber

Inflow Area = 4,321 sf, 100.00% Impervious, Inflow Depth = 2.87" for 2 Year event
 Inflow = 0.29 cfs @ 12.09 hrs, Volume= 1,033 cf
 Outflow = 0.06 cfs @ 11.70 hrs, Volume= 1,033 cf, Atten= 81%, Lag= 0.0 min
 Discarded = 0.06 cfs @ 11.70 hrs, Volume= 1,033 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 1.50' @ 12.52 hrs Surf.Area= 289 sf Storage= 253 cf

Plug-Flow detention time= 24.3 min calculated for 1,033 cf (100% of inflow)
 Center-of-Mass det. time= 24.3 min (781.4 - 757.1)

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Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	449 cf	8.42'W x 34.38'L x 5.50'H Field A 1,592 cf Overall - 470 cf Embedded = 1,122 cf x 40.0% Voids
#2A	0.75'	470 cf	ADS_StormTech MC-3500 d +Cap x 4 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap Cap Storage= +14.9 cf x 2 x 1 rows = 29.8 cf
		918 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.06 cfs @ 11.70 hrs HW=0.06' (Free Discharge)
 ↑**1=Exfiltration** (Exfiltration Controls 0.06 cfs)

Summary for Pond 4P: Infiltration Chamber

Inflow Area = 4,321 sf, 100.00% Impervious, Inflow Depth = 2.87" for 2 Year event
 Inflow = 0.29 cfs @ 12.09 hrs, Volume= 1,033 cf
 Outflow = 0.06 cfs @ 11.70 hrs, Volume= 1,033 cf, Atten= 81%, Lag= 0.0 min
 Discarded = 0.06 cfs @ 11.70 hrs, Volume= 1,033 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 1.50' @ 12.52 hrs Surf.Area= 289 sf Storage= 253 cf

Plug-Flow detention time= 24.3 min calculated for 1,033 cf (100% of inflow)
 Center-of-Mass det. time= 24.3 min (781.4 - 757.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	449 cf	8.42'W x 34.38'L x 5.50'H Field A 1,592 cf Overall - 470 cf Embedded = 1,122 cf x 40.0% Voids
#2A	0.75'	470 cf	ADS_StormTech MC-3500 d +Cap x 4 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap Cap Storage= +14.9 cf x 2 x 1 rows = 29.8 cf
		918 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.06 cfs @ 11.70 hrs HW=0.06' (Free Discharge)
 ↑**1=Exfiltration** (Exfiltration Controls 0.06 cfs)

Summary for Pond 5P: Infiltration Chamber

Inflow Area = 4,037 sf, 100.00% Impervious, Inflow Depth = 2.87" for 2 Year event
 Inflow = 0.27 cfs @ 12.09 hrs, Volume= 965 cf
 Outflow = 0.06 cfs @ 11.75 hrs, Volume= 965 cf, Atten= 80%, Lag= 0.0 min
 Discarded = 0.06 cfs @ 11.75 hrs, Volume= 965 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 1.38' @ 12.51 hrs Surf.Area= 289 sf Storage= 226 cf

Plug-Flow detention time= 21.2 min calculated for 964 cf (100% of inflow)
 Center-of-Mass det. time= 21.2 min (778.3 - 757.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	449 cf	8.42'W x 34.38'L x 5.50'H Field A 1,592 cf Overall - 470 cf Embedded = 1,122 cf x 40.0% Voids
#2A	0.75'	470 cf	ADS_StormTech MC-3500 d +Cap x 4 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap Cap Storage= +14.9 cf x 2 x 1 rows = 29.8 cf
		918 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.06 cfs @ 11.75 hrs HW=0.07' (Free Discharge)
 ↳1=Exfiltration (Exfiltration Controls 0.06 cfs)

Summary for Pond 6P: Infiltration Chamber

Inflow Area = 4,037 sf, 100.00% Impervious, Inflow Depth = 2.87" for 2 Year event
 Inflow = 0.27 cfs @ 12.09 hrs, Volume= 965 cf
 Outflow = 0.06 cfs @ 11.75 hrs, Volume= 965 cf, Atten= 80%, Lag= 0.0 min
 Discarded = 0.06 cfs @ 11.75 hrs, Volume= 965 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 1.38' @ 12.51 hrs Surf.Area= 289 sf Storage= 226 cf

Plug-Flow detention time= 21.2 min calculated for 964 cf (100% of inflow)
 Center-of-Mass det. time= 21.2 min (778.3 - 757.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	449 cf	8.42'W x 34.38'L x 5.50'H Field A 1,592 cf Overall - 470 cf Embedded = 1,122 cf x 40.0% Voids
#2A	0.75'	470 cf	ADS_StormTech MC-3500 d +Cap x 4 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap Cap Storage= +14.9 cf x 2 x 1 rows = 29.8 cf
		918 cf	Total Available Storage

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Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.06 cfs @ 11.75 hrs HW=0.07' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.06 cfs)

Summary for Pond 7P: Infiltration Chamber

Inflow Area = 3,732 sf, 100.00% Impervious, Inflow Depth = 2.87" for 2 Year event
 Inflow = 0.25 cfs @ 12.09 hrs, Volume= 892 cf
 Outflow = 0.06 cfs @ 11.75 hrs, Volume= 892 cf, Atten= 78%, Lag= 0.0 min
 Discarded = 0.06 cfs @ 11.75 hrs, Volume= 892 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 1.25' @ 12.49 hrs Surf.Area= 289 sf Storage= 197 cf

Plug-Flow detention time= 18.1 min calculated for 891 cf (100% of inflow)
 Center-of-Mass det. time= 18.1 min (775.2 - 757.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	449 cf	8.42'W x 34.38'L x 5.50'H Field A 1,592 cf Overall - 470 cf Embedded = 1,122 cf x 40.0% Voids
#2A	0.75'	470 cf	ADS_StormTech MC-3500 d +Cap x 4 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap Cap Storage= +14.9 cf x 2 x 1 rows = 29.8 cf
		918 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.06 cfs @ 11.75 hrs HW=0.06' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.06 cfs)

Summary for Pond DEP1: Depression Front 109

Inflow Area = 64,556 sf, 15.65% Impervious, Inflow Depth = 0.01" for 2 Year event
 Inflow = 0.00 cfs @ 22.51 hrs, Volume= 43 cf
 Outflow = 0.00 cfs @ 22.53 hrs, Volume= 43 cf, Atten= 0%, Lag= 1.1 min
 Discarded = 0.00 cfs @ 22.53 hrs, Volume= 43 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 151.00' @ 22.53 hrs Surf.Area= 2,270 sf Storage= 0 cf

Plug-Flow detention time= 0.4 min calculated for 43 cf (100% of inflow)
 Center-of-Mass det. time= 0.4 min (1,256.8 - 1,256.4)

PR-Vallis

Type III 24-hr 2 Year Rainfall=3.10"

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Volume	Invert	Avail.Storage	Storage Description
#1	151.00'	1,818 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
151.00	2,270	0	0
151.50	5,000	1,818	1,818

Device	Routing	Invert	Outlet Devices
#1	Discarded	151.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.43 cfs @ 22.53 hrs HW=151.00' (Free Discharge)
 ↑-1=Exfiltration (Exfiltration Controls 0.43 cfs)

Summary for Pond DEP2: Depression 109 at Vallis

Inflow Area = 55,713 sf, 12.04% Impervious, Inflow Depth = 0.02" for 2 Year event
 Inflow = 0.00 cfs @ 17.21 hrs, Volume= 107 cf
 Outflow = 0.00 cfs @ 17.23 hrs, Volume= 107 cf, Atten= 0%, Lag= 1.2 min
 Discarded = 0.00 cfs @ 17.23 hrs, Volume= 107 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 149.00' @ 17.23 hrs Surf.Area= 144 sf Storage= 0 cf

Plug-Flow detention time= 0.8 min calculated for 107 cf (100% of inflow)
 Center-of-Mass det. time= 0.8 min (1,172.0 - 1,171.2)

Volume	Invert	Avail.Storage	Storage Description
#1	149.00'	1,321 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
149.00	141	0	0
150.00	2,500	1,321	1,321

Device	Routing	Invert	Outlet Devices
#1	Discarded	149.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.03 cfs @ 17.23 hrs HW=149.00' (Free Discharge)
 ↑-1=Exfiltration (Exfiltration Controls 0.03 cfs)

Summary for Pond DEP3: Depression Mohawk Cul-De-Sac

Inflow Area = 82,677 sf, 7.85% Impervious, Inflow Depth = 0.00" for 2 Year event
 Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
 Discarded = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

PR-Vallis

Type III 24-hr 2 Year Rainfall=3.10"

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Peak Elev= 149.00' @ 0.00 hrs Surf.Area= 7,000 sf Storage= 0 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)

Center-of-Mass det. time= (not calculated: no inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	149.00'	4,250 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
149.00	7,000	0	0
149.50	10,000	4,250	4,250

Device	Routing	Invert	Outlet Devices
#1	Discarded	149.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=149.00' (Free Discharge)

↑-1=Exfiltration (Passes 0.00 cfs of 1.34 cfs potential flow)

Summary for Pond DEP4: Depression Mohawk

Inflow Area = 26,267 sf, 0.00% Impervious, Inflow Depth = 0.00" for 2 Year event
 Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
 Discarded = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs

Peak Elev= 149.00' @ 0.00 hrs Surf.Area= 2,900 sf Storage= 0 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)

Center-of-Mass det. time= (not calculated: no inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	149.00'	1,475 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
149.00	2,900	0	0
149.50	3,000	1,475	1,475

Device	Routing	Invert	Outlet Devices
#1	Discarded	149.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=149.00' (Free Discharge)

↑-1=Exfiltration (Passes 0.00 cfs of 0.56 cfs potential flow)

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Type III 24-hr 2 Year Rainfall=3.10"

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Summary for Pond DEP5: Depression Vallis Rt Side

Inflow Area = 35,240 sf, 0.00% Impervious, Inflow Depth = 0.00" for 2 Year event
 Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min
 Discarded = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 148.00' @ 0.00 hrs Surf.Area= 2,800 sf Storage= 0 cf

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

Volume	Invert	Avail.Storage	Storage Description
#1	148.00'	4,050 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
148.00	2,800	0	0
149.00	5,300	4,050	4,050

Device	Routing	Invert	Outlet Devices
#1	Discarded	148.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=148.00' (Free Discharge)
 ↑-1=Exfiltration (Passes 0.00 cfs of 0.54 cfs potential flow)

PR-Vallis

Type III 24-hr 10 Year Rainfall=4.50"

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Page 1

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

- Subcatchment P1:** Runoff Area=1.482 ac 15.65% Impervious Runoff Depth=0.19"
Flow Length=300' Tc=14.3 min CN=42 Runoff=0.05 cfs 1,045 cf
- Subcatchment P10:** Runoff Area=0.454 ac 42.51% Impervious Runoff Depth=1.14"
Tc=6.0 min CN=62 Runoff=0.53 cfs 1,879 cf
- Subcatchment P11:** Runoff Area=0.809 ac 0.00% Impervious Runoff Depth=0.07"
Flow Length=275' Tc=9.0 min CN=37 Runoff=0.01 cfs 194 cf
- Subcatchment P2:** Runoff Area=1.279 ac 12.04% Impervious Runoff Depth=0.26"
Flow Length=415' Tc=15.9 min CN=44 Runoff=0.09 cfs 1,208 cf
- Subcatchment P3:** Runoff Area=2.240 ac 19.02% Impervious Runoff Depth=0.33"
Flow Length=566' Tc=22.6 min CN=46 Runoff=0.24 cfs 2,711 cf
- Subcatchment P4:** Runoff Area=1.081 ac 15.54% Impervious Runoff Depth=0.37"
Flow Length=455' Tc=16.5 min CN=47 Runoff=0.15 cfs 1,462 cf
- Subcatchment P5:** Runoff Area=1.048 ac 0.00% Impervious Runoff Depth=0.07"
Flow Length=225' Tc=12.7 min CN=37 Runoff=0.01 cfs 252 cf
- Subcatchment P6:** Runoff Area=1.134 ac 30.95% Impervious Runoff Depth=0.85"
Flow Length=455' Tc=10.3 min CN=57 Runoff=0.74 cfs 3,496 cf
- Subcatchment P7:** Runoff Area=1.898 ac 7.85% Impervious Runoff Depth=0.07"
Flow Length=100' Tc=6.0 min CN=37 Runoff=0.02 cfs 456 cf
- Subcatchment P8:** Runoff Area=0.868 ac 32.14% Impervious Runoff Depth=0.90"
Flow Length=305' Tc=10.5 min CN=58 Runoff=0.63 cfs 2,851 cf
- Subcatchment P9:** Runoff Area=0.603 ac 0.00% Impervious Runoff Depth=0.03"
Flow Length=200' Tc=8.8 min CN=35 Runoff=0.00 cfs 70 cf
- Subcatchment PH1: Lot 1** Runoff Area=4,321 sf 100.00% Impervious Runoff Depth=4.26"
Tc=6.0 min CN=98 Runoff=0.43 cfs 1,535 cf
- Subcatchment PH2: Lot 2** Runoff Area=3,732 sf 100.00% Impervious Runoff Depth=4.26"
Tc=6.0 min CN=98 Runoff=0.37 cfs 1,326 cf
- Subcatchment PH3: Lot 3** Runoff Area=4,037 sf 100.00% Impervious Runoff Depth=4.26"
Tc=6.0 min CN=98 Runoff=0.40 cfs 1,434 cf
- Subcatchment PH4: Lot 4** Runoff Area=4,037 sf 100.00% Impervious Runoff Depth=4.26"
Tc=6.0 min CN=98 Runoff=0.40 cfs 1,434 cf
- Subcatchment PH5: Lot 5** Runoff Area=4,321 sf 100.00% Impervious Runoff Depth=4.26"
Tc=6.0 min CN=98 Runoff=0.43 cfs 1,535 cf

PR-Vallis

Type III 24-hr 10 Year Rainfall=4.50"

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Pond 2P: Infiltration Pond Peak Elev=141.00' Storage=2,488 cf Inflow=1.85 cfs 12,651 cf
Discarded=0.53 cfs 12,651 cf Primary=0.00 cfs 0 cf Outflow=0.53 cfs 12,651 cf

Pond 2Pa: Infiltration Pond after 100 year storm Peak Elev=0.00' Storage=0 cf
Discarded=0.00 cfs 0 cf Primary=0.00 cfs 0 cf

Pond 3P: Infiltration Chamber Peak Elev=2.45' Storage=454 cf Inflow=0.43 cfs 1,535 cf
Outflow=0.06 cfs 1,535 cf

Pond 4P: Infiltration Chamber Peak Elev=2.45' Storage=454 cf Inflow=0.43 cfs 1,535 cf
Outflow=0.06 cfs 1,535 cf

Pond 5P: Infiltration Chamber Peak Elev=2.25' Storage=411 cf Inflow=0.40 cfs 1,434 cf
Outflow=0.06 cfs 1,434 cf

Pond 6P: Infiltration Chamber Peak Elev=2.25' Storage=411 cf Inflow=0.40 cfs 1,434 cf
Outflow=0.06 cfs 1,434 cf

Pond 7P: Infiltration Chamber Peak Elev=2.03' Storage=366 cf Inflow=0.37 cfs 1,326 cf
Outflow=0.06 cfs 1,326 cf

Pond DEP1: Depression Front 109 Peak Elev=151.00' Storage=1 cf Inflow=0.05 cfs 1,045 cf
Outflow=0.05 cfs 1,045 cf

Pond DEP2: Depression 109 at Vallis Peak Elev=149.11' Storage=28 cf Inflow=0.09 cfs 1,208 cf
Outflow=0.08 cfs 1,208 cf

Pond DEP3: Depression Mohawk Cul-De-Sac Peak Elev=149.00' Storage=0 cf Inflow=0.02 cfs 456 cf
Outflow=0.02 cfs 456 cf

Pond DEP4: Depression Mohawk Peak Elev=149.00' Storage=0 cf Inflow=0.00 cfs 70 cf
Outflow=0.00 cfs 70 cf

Pond DEP5: Depression Vallis Rt Side Peak Elev=148.00' Storage=0 cf Inflow=0.01 cfs 194 cf
Outflow=0.01 cfs 194 cf

Total Runoff Area = 582,198 sf Runoff Volume = 22,890 cf Average Runoff Depth = 0.47"
81.88% Pervious = 476,721 sf 18.12% Impervious = 105,477 sf

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1: Runoff Area=1.482 ac 15.65% Impervious Runoff Depth=0.39"
Flow Length=300' Tc=14.3 min CN=42 Runoff=0.21 cfs 2,120 cf

Subcatchment P10: Runoff Area=0.454 ac 42.51% Impervious Runoff Depth=1.63"
Tc=6.0 min CN=62 Runoff=0.80 cfs 2,681 cf

Subcatchment P11: Runoff Area=0.809 ac 0.00% Impervious Runoff Depth=0.19"
Flow Length=275' Tc=9.0 min CN=37 Runoff=0.02 cfs 557 cf

Subcatchment P2: Runoff Area=1.279 ac 12.04% Impervious Runoff Depth=0.49"
Flow Length=415' Tc=15.9 min CN=44 Runoff=0.26 cfs 2,275 cf

Subcatchment P3: Runoff Area=2.240 ac 19.02% Impervious Runoff Depth=0.59"
Flow Length=566' Tc=22.6 min CN=46 Runoff=0.58 cfs 4,824 cf

Subcatchment P4: Runoff Area=1.081 ac 15.54% Impervious Runoff Depth=0.65"
Flow Length=455' Tc=16.5 min CN=47 Runoff=0.35 cfs 2,540 cf

Subcatchment P5: Runoff Area=1.048 ac 0.00% Impervious Runoff Depth=0.19"
Flow Length=225' Tc=12.7 min CN=37 Runoff=0.03 cfs 722 cf

Subcatchment P6: Runoff Area=1.134 ac 30.95% Impervious Runoff Depth=1.27"
Flow Length=455' Tc=10.3 min CN=57 Runoff=1.25 cfs 5,220 cf

Subcatchment P7: Runoff Area=1.898 ac 7.85% Impervious Runoff Depth=0.19"
Flow Length=100' Tc=6.0 min CN=37 Runoff=0.05 cfs 1,307 cf

Subcatchment P8: Runoff Area=0.868 ac 32.14% Impervious Runoff Depth=1.34"
Flow Length=305' Tc=10.5 min CN=58 Runoff=1.02 cfs 4,214 cf

Subcatchment P9: Runoff Area=0.603 ac 0.00% Impervious Runoff Depth=0.12"
Flow Length=200' Tc=8.8 min CN=35 Runoff=0.01 cfs 273 cf

Subcatchment PH1: Lot 1 Runoff Area=4,321 sf 100.00% Impervious Runoff Depth=5.06"
Tc=6.0 min CN=98 Runoff=0.50 cfs 1,823 cf

Subcatchment PH2: Lot 2 Runoff Area=3,732 sf 100.00% Impervious Runoff Depth=5.06"
Tc=6.0 min CN=98 Runoff=0.43 cfs 1,575 cf

Subcatchment PH3: Lot 3 Runoff Area=4,037 sf 100.00% Impervious Runoff Depth=5.06"
Tc=6.0 min CN=98 Runoff=0.47 cfs 1,703 cf

Subcatchment PH4: Lot 4 Runoff Area=4,037 sf 100.00% Impervious Runoff Depth=5.06"
Tc=6.0 min CN=98 Runoff=0.47 cfs 1,703 cf

Subcatchment PH5: Lot 5 Runoff Area=4,321 sf 100.00% Impervious Runoff Depth=5.06"
Tc=6.0 min CN=98 Runoff=0.50 cfs 1,823 cf

PR-Vallis

Type III 24-hr 25 Year Rainfall=5.30"

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Pond 2P: Infiltration Pond Peak Elev=142.04' Storage=5,735 cf Inflow=3.20 cfs 20,200 cf
Discarded=0.67 cfs 20,200 cf Primary=0.00 cfs 0 cf Outflow=0.67 cfs 20,200 cf

Pond 2Pa: Infiltration Pond after 100 year storm Peak Elev=0.00' Storage=0 cf
Discarded=0.00 cfs 0 cf Primary=0.00 cfs 0 cf

Pond 3P: Infiltration Chamber Peak Elev=3.07' Storage=577 cf Inflow=0.50 cfs 1,823 cf
Outflow=0.06 cfs 1,823 cf

Pond 4P: Infiltration Chamber Peak Elev=3.07' Storage=577 cf Inflow=0.50 cfs 1,823 cf
Outflow=0.06 cfs 1,823 cf

Pond 5P: Infiltration Chamber Peak Elev=2.80' Storage=523 cf Inflow=0.47 cfs 1,703 cf
Outflow=0.06 cfs 1,703 cf

Pond 6P: Infiltration Chamber Peak Elev=2.80' Storage=523 cf Inflow=0.47 cfs 1,703 cf
Outflow=0.06 cfs 1,703 cf

Pond 7P: Infiltration Chamber Peak Elev=2.52' Storage=467 cf Inflow=0.43 cfs 1,575 cf
Outflow=0.06 cfs 1,575 cf

Pond DEP1: Depression Front 109 Peak Elev=151.00' Storage=5 cf Inflow=0.21 cfs 2,120 cf
Outflow=0.21 cfs 2,120 cf

Pond DEP2: Depression 109 at Vallis Peak Elev=149.33' Storage=171 cf Inflow=0.26 cfs 2,275 cf
Outflow=0.17 cfs 2,275 cf

Pond DEP3: Depression Mohawk Cul-De-Sac Peak Elev=149.00' Storage=1 cf Inflow=0.05 cfs 1,307 cf
Outflow=0.05 cfs 1,307 cf

Pond DEP4: Depression Mohawk Peak Elev=149.00' Storage=0 cf Inflow=0.01 cfs 273 cf
Outflow=0.01 cfs 273 cf

Pond DEP5: Depression Vallis Rt Side Peak Elev=148.00' Storage=1 cf Inflow=0.02 cfs 557 cf
Outflow=0.02 cfs 557 cf

Total Runoff Area = 582,198 sf Runoff Volume = 35,359 cf Average Runoff Depth = 0.73"
81.88% Pervious = 476,721 sf 18.12% Impervious = 105,477 sf

Time span=0.00-48.00 hrs, dt=0.05 hrs, 961 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1: Runoff Area=1.482 ac 15.65% Impervious Runoff Depth=0.80"
Flow Length=300' Tc=14.3 min CN=42 Runoff=0.61 cfs 4,284 cf

Subcatchment P10: Runoff Area=0.454 ac 42.51% Impervious Runoff Depth=2.44"
Tc=6.0 min CN=62 Runoff=1.24 cfs 4,020 cf

Subcatchment P11: Runoff Area=0.809 ac 0.00% Impervious Runoff Depth=0.48"
Flow Length=275' Tc=9.0 min CN=37 Runoff=0.15 cfs 1,398 cf

Subcatchment P2: Runoff Area=1.279 ac 12.04% Impervious Runoff Depth=0.94"
Flow Length=415' Tc=15.9 min CN=44 Runoff=0.68 cfs 4,352 cf

Subcatchment P3: Runoff Area=2.240 ac 19.02% Impervious Runoff Depth=1.08"
Flow Length=566' Tc=22.6 min CN=46 Runoff=1.35 cfs 8,822 cf

Subcatchment P4: Runoff Area=1.081 ac 15.54% Impervious Runoff Depth=1.16"
Flow Length=455' Tc=16.5 min CN=47 Runoff=0.80 cfs 4,555 cf

Subcatchment P5: Runoff Area=1.048 ac 0.00% Impervious Runoff Depth=0.48"
Flow Length=225' Tc=12.7 min CN=37 Runoff=0.18 cfs 1,811 cf

Subcatchment P6: Runoff Area=1.134 ac 30.95% Impervious Runoff Depth=1.99"
Flow Length=455' Tc=10.3 min CN=57 Runoff=2.11 cfs 8,181 cf

Subcatchment P7: Runoff Area=1.898 ac 7.85% Impervious Runoff Depth=0.48"
Flow Length=100' Tc=6.0 min CN=37 Runoff=0.36 cfs 3,279 cf

Subcatchment P8: Runoff Area=0.868 ac 32.14% Impervious Runoff Depth=2.08"
Flow Length=305' Tc=10.5 min CN=58 Runoff=1.69 cfs 6,541 cf

Subcatchment P9: Runoff Area=0.603 ac 0.00% Impervious Runoff Depth=0.36"
Flow Length=200' Tc=8.8 min CN=35 Runoff=0.06 cfs 795 cf

Subcatchment PH1: Lot 1 Runoff Area=4,321 sf 100.00% Impervious Runoff Depth=6.26"
Tc=6.0 min CN=98 Runoff=0.62 cfs 2,255 cf

Subcatchment PH2: Lot 2 Runoff Area=3,732 sf 100.00% Impervious Runoff Depth=6.26"
Tc=6.0 min CN=98 Runoff=0.53 cfs 1,947 cf

Subcatchment PH3: Lot 3 Runoff Area=4,037 sf 100.00% Impervious Runoff Depth=6.26"
Tc=6.0 min CN=98 Runoff=0.58 cfs 2,106 cf

Subcatchment PH4: Lot 4 Runoff Area=4,037 sf 100.00% Impervious Runoff Depth=6.26"
Tc=6.0 min CN=98 Runoff=0.58 cfs 2,106 cf

Subcatchment PH5: Lot 5 Runoff Area=4,321 sf 100.00% Impervious Runoff Depth=6.26"
Tc=6.0 min CN=98 Runoff=0.62 cfs 2,255 cf

PR-Vallis

Type III 24-hr 100 Year Rainfall=6.50"

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Pond 2P: Infiltration Pond Peak Elev=143.35' Storage=11,702 cf Inflow=5.90 cfs 33,929 cf
Discarded=1.04 cfs 33,929 cf Primary=0.00 cfs 0 cf Outflow=1.04 cfs 33,929 cf

Pond 2Pa: Infiltration Pond after 100 year storm Peak Elev=0.00' Storage=0 cf
Discarded=0.00 cfs 0 cf Primary=0.00 cfs 0 cf

Pond 3P: Infiltration Chamber Peak Elev=4.28' Storage=776 cf Inflow=0.62 cfs 2,255 cf
Outflow=0.06 cfs 2,255 cf

Pond 4P: Infiltration Chamber Peak Elev=4.28' Storage=776 cf Inflow=0.62 cfs 2,255 cf
Outflow=0.06 cfs 2,255 cf

Pond 5P: Infiltration Chamber Peak Elev=3.78' Storage=704 cf Inflow=0.58 cfs 2,106 cf
Outflow=0.06 cfs 2,106 cf

Pond 6P: Infiltration Chamber Peak Elev=3.78' Storage=704 cf Inflow=0.58 cfs 2,106 cf
Outflow=0.06 cfs 2,106 cf

Pond 7P: Infiltration Chamber Peak Elev=3.35' Storage=628 cf Inflow=0.53 cfs 1,947 cf
Outflow=0.06 cfs 1,947 cf

Pond DEP1: Depression Front 109 Peak Elev=151.06' Storage=136 cf Inflow=0.61 cfs 4,284 cf
Outflow=0.49 cfs 4,284 cf

Pond DEP2: Depression 109 at Vallis Peak Elev=149.68' Storage=649 cf Inflow=0.68 cfs 4,352 cf
Outflow=0.34 cfs 4,352 cf

Pond DEP3: Depression Mohawk Cul-De-Sac Peak Elev=149.00' Storage=9 cf Inflow=0.36 cfs 3,279 cf
Outflow=0.35 cfs 3,279 cf

Pond DEP4: Depression Mohawk Peak Elev=149.00' Storage=2 cf Inflow=0.06 cfs 795 cf
Outflow=0.06 cfs 795 cf

Pond DEP5: Depression Vallis Rt Side Peak Elev=148.00' Storage=8 cf Inflow=0.15 cfs 1,398 cf
Outflow=0.15 cfs 1,398 cf

Total Runoff Area = 582,198 sf Runoff Volume = 58,707 cf Average Runoff Depth = 1.21"
81.88% Pervious = 476,721 sf 18.12% Impervious = 105,477 sf