

June 26, 2023

Sent Via Email

Christopher Carthy, Chairman Town of North Castle Planning Board 17 Bedford Road Armonk, NY 10504



Re: Maddd Madonna Armonk LLC Subdivision/Site Plan Application 3 North Castle Drive (108.03-1-62.1)

Honorable Chairman and Members of the Planning Board:

This firm, together with Alfonzetti Engineering, P.C. and IQ Landscape Architects, represents Maddd Madonna Armonk LLC ("Maddd" or "Applicant"), owner of the property located at 3 North Castle Drive ("Property"). The purpose of this letter is to submit revised plans in connection with the referenced application in anticipation of our public hearing on July 10, 2023.

When we last appeared before your Board on June 12th, we discussed the revised plans which included an 89-lot all residential townhouse plan. At that meeting, we advised that the public hearing on our petition to re-zone the Property from the OBH and R-MF-SCH zoning districts to the R-MF-A zone was being continued and that we anticipated the Negative Declaration and proposed zoning map amendment would be adopted by the Town Board at its June 14th meeting. As anticipated, the Town Board closed the public hearing and approved the requested rezoning.

Accordingly, we are looking forward to opening the public hearing on our project and continuing our discussions with your Board. Since last appearing before your Board, the site plan has been slightly modified to increase the lot count to 91 lots. Eighty-eight lots will be improved with town houses (80 market rate units and 8 AFFH units). There are two open space lots and one private road lot. The private road and open space lots will be maintained by an HOA. In support of our application, we are pleased to submit the following plans:

- 1. Existing conditions Plan, prepared by Alfonzetti Engineering, P.C., dated May 22, 2023, last revised June 23, 2023;
- 2. Integrated Plot Plan, prepared by Alfonzetti Engineering, P.C., dated May 22, 2023, last revised June 23, 2023;
- 3. Layout Plan I, prepared by Alfonzetti Engineering, P.C., dated May 22, 2023, last revised June 23, 2023;

Phone: (914) 682-7800 81 Main Street, Suite 415 White Plains, New York 10601 Direct: (914) 220-9804 www.zarin-steinmetz.com



- 4. Grading Plan I, prepared by Alfonzetti Engineering, P.C., dated May 22, 2023, last revised June 23, 2023;
- 5. Utility Plan I, prepared by Alfonzetti Engineering, P.C., dated May 22, 2023, last revised June 23, 2023;
- 6. North Water Connection Plan, prepared by Alfonzetti Engineering, P.C., dated May 22, 2023, last revised June 23, 2023;
- 7. Road Profiles, prepared by Alfonzetti Engineering, P.C., dated May 22, 2023, last revised June 23, 2023;
- 8. Drain Profiles Pan I, prepared by Alfonzetti Engineering, P.C., dated May 22, 2023, last revised June 23, 2023;
- 9. Sewer Profiles Plan, prepared by Alfonzetti Engineering, P.C., dated May 22, 2023, last revised June 23, 2023;
- 10. Water Profiles Plan I, prepared by Alfonzetti Engineering, P.C., dated May 22, 2023, last revised June 23, 2023;
- 11. Water Profiles Plan II, prepared by Alfonzetti Engineering, P.C., dated May 22, 2023, last revised June 23, 2023;
- 12. Preliminary Erosion Control Plan, prepared by Alfonzetti Engineering, P.C., dated May 22, 2023, last revised June 23, 2023;
- 13. Site Details, prepared by Alfonzetti Engineering, P.C., dated May 22, 2023, last revised June 23, 2023;
- 14. Preliminary Stormwater Pollution Prevention Plan, prepared by Alfonzetti Engineering, P.C., dated May 22, 2023, last revised June 23, 2023;
- 15. Architectural Elevations/Building Heights, prepared by Toll Brothers;
- 16. Wilkerson Model Floor Plans, prepared by Toll Brothers;
- 17. Tree Removal Plan, prepared by IQ Landscape Architects, dated March 24, 2023, last revised June 26, 2023;
- 18. Planting Plan, prepared by IQ Landscape Architects, dated March 24, 2023, last revised June 26, 2023;
- 19. Planting Details, prepared by IQ Landscape Architects, dated March 24, 2023, last revised June 26, 2023; and
- 20. Lighting Plan, prepared by IQ Landscape Architects, dated March 24, 2023, last revised June 26, 2023.

We look forward to opening the public hearing and further discussing these revised plans with your Board at its July 10th meeting.

If you have any questions or concerns, please do not hesitate to contact me.

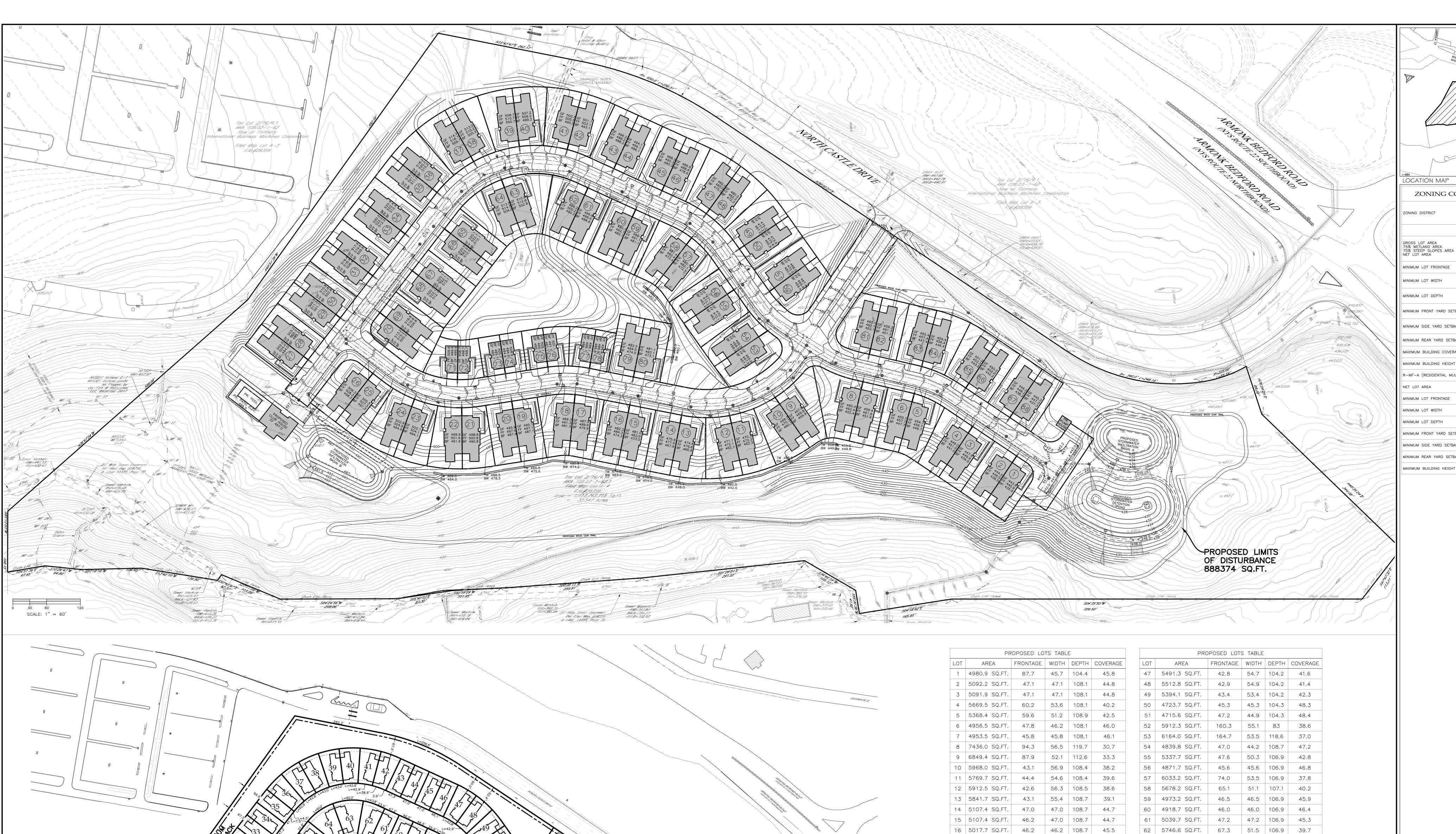
Very truly yours,

Kory Salomons Kory Salomone



Cc: Adam Kaufman, AICP Roland Baroni, Esq. John Kellard, P.E. Client Ralph Alfonzetti, P.E. John Imbiano, ASLA





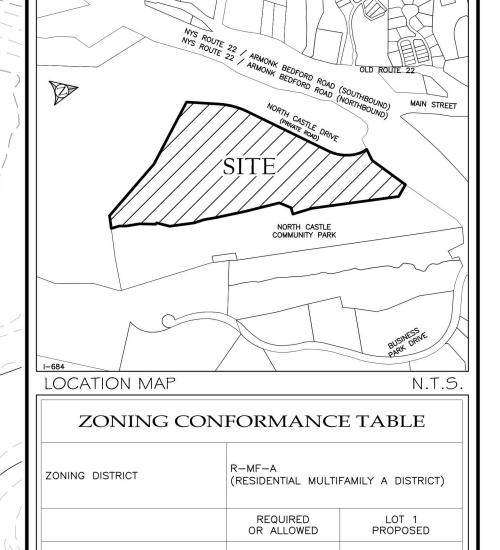
25 FT. MINIMUM

REAR YARD SETBACK

0 50 100 200

SCALE: 1" = 100'

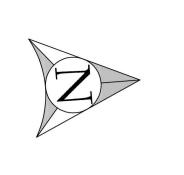
		ROPOSED LO						POSED LOTS			
LOT	AREA	FRONTAGE	WIDTH	DEPTH	COVERAGE	LOT	AREA	FRONTAGE	WIDTH	DEPTH	COVERAG
1	4980.9 SQ.FT.	87.7	45.7	104.4	45.8	47	5491.3 SQ.FT.	42.8	54.7	104.2	41.6
2	5092.2 SQ.FT.	47.1	47.1	108.1	44.8	48	5512.8 SQ.FT.	42.9	54.9	104.2	41.4
3	5091.9 SQ.FT.	47.1	47.1	108.1	44.8	49	5394.1 SQ.FT.	43.4	53.4	104.2	42.3
4	5669.5 SQ.FT.	60.2	53.6	108.1	40.2	50	4723.7 SQ.FT.	45.3	45.3	104.3	48.3
5	5368.4 SQ.FT.	59.6	51.2	108.9	42.5	51	4715.6 SQ.FT.	47.2	44.9	104.3	48.4
6	4956.5 SQ.FT.	47.8	46.2	108.1	46.0	52	5912.3 SQ.FT.	160.3	55.1	83	38.6
7	4953.5 SQ.FT.	45.8	45.8	108.1	46.1	53	6164.0 SQ.FT.	164.7	53.5	118.6	37.0
8	7436.0 SQ.FT.	94.3	56.5	119.7	30.7	54	4839.8 SQ.FT.	47.0	44.2	108.7	47.2
9	6849.4 SQ.FT.	87.9	52.1	112.6	33.3	55	5337.7 SQ.FT.	47.6	50.3	106.9	42.8
10	5968.0 SQ.FT.	43.1	56.9	108.4	38.2	56	4871.7 SQ.FT.	45.6	45.6	106.9	46.8
11	5769.7 SQ.FT.	44.4	54.6	108.4	39.6	57	6033.2 SQ.FT.	74.0	53.5	106.9	37.8
12	5912.5 SQ.FT.	42.6	56.3	108.5	38.6	58	5678.2 SQ.FT.	65.1	51.1	107.1	40.2
13	5841.7 SQ.FT.	43.1	55.4	108.7	39.1	59	4973.2 SQ.FT.	46.5	46.5	106.9	45.9
14	5107.4 SQ.FT.	47.0	47.0	108.7	44.7	60	4918.7 SQ.FT.	46.0	46.0	106.9	46.4
15	5107.4 SQ.FT.	46.2	47.0	108.7	44.7	61	5039.7 SQ.FT.	47.2	47.2	106.9	45.3
16	5017.7 SQ.FT.	46.2	46.2	108.7	45.5	62	5746.6 SQ.FT.	67.3	51.5	106.9	39.7
17	5196.9 SQ.FT.	52.9	47.1	108.8	43.9	63	6801.4 SQ.FT.	92.0	59.0	106.6	33.6
18	5839.3 SQ.FT.	67.8	51.5	108.7	39.1	64	6628.3 SQ.FT.	91.0	57.2	106.7	34.4
19	4971.0 SQ.FT.	45.7	45.7	108.7	45.9	65	4709.4 SQ.FT.	45.3	43.9	106.9	48.5
20	5079.1 SQ.FT.	46.7	46.7	108.7	44.9	66	5023.1 SQ.FT.	47.0	47.0	109.9	45.4
21	5532.9 SQ.FT.	43.0	52.2	108.8	41.2	67	5023.1 SQ.FT.	47.0	47.0	109.9	45.4
22	5779.2 SQ.FT.	42.7	54.3	108.9	39.5	68	5047.9 SQ.FT.	47.2	47.0	106.9	45.2
23	5710.1 SQ.FT.	43.2	53.9	108.9	40.0	69	5236.1 SQ.FT.	46.8	46.7	113.4	43.6
24	5874.1 SQ.FT.	42.4	74.3	108.9	38.8	70	5054.1 SQ.FT.	158.4	43.1	111.7	45.2
25	5436.6 SQ.FT.	45.0	50.8	108.1	42.0	71	3366.5 SQ.FT.	63.0	47.0	70.1	30.7
26	5951.6 SQ.FT.	154.1	54.4	104.2	38.3	72	2931.0 SQ.FT.	47.8	41.4	70.2	35.3
27	4948.2 SQ.FT.	47.5	47.5	104.2	46.1	73	2678.7 SQ.FT.	38.2	38.2	70.2	38.6
28	4898.2 SQ.FT.	47.5	47.0	104.2	46.6	74	2730.0 SQ.FT.	38.1	38.1	70.2	37.9
29	4898.3 SQ.FT.	47.0	47.0	104.2	46.6	75	2690.9 SQ.FT.	38.3	38.4	70.2	38.5
30	4916.1 SQ.FT.	47.2	47.2	104.2	46.4	76	2995.7 SQ.FT.	37.0	43.2	70.2	34.5
31	4916.2 SQ.FT.	47.2	47.2	104.2	46.4	77	2955.6 SQ.FT.	37.4	42.5	70.2	35.0
32	4875.7 SQ.FT.	46.8	46.8	104.2	46.8	78	2511.2 SQ.FT.	34.6	35.9	70.2	41.2
33	4933.1 SQ.FT.	47.3	47.3	104.2	46.3	79	4748.6 SQ.FT.	45.0	45.0	105	48.1
34	4920.2 SQ.FT.	47.2	47.2	104.2	46.4	80	5033.3 SQ.FT.	47.7	47.7	105.5	45.3
35	4893.7 SQ.FT.	45.7	47.2	104.2	46.6	81	5678.8 SQ.FT.	162.6	55.6	80.1	40.2
36	5511.6 SQ.FT.	42.9	54.8	104.3	41.4	82	5056.3 SQ.FT.	48.8	48.8	103.4	45.1
37	5516.4 SQ.FT.	42.8	54.8	104.4	41.4	83	5008.2 SQ.FT.	46.7	48.9	103.4	45.6
38	5540.4 SQ.FT.	43.0	54.9	104.5	41.2	84	5540.3 SQ.FT.	43.3	55.6	103.6	41.2
39	5545.0 SQ.FT.	43.0	54.9	104.5	41.2	85	5280.9 SQ.FT.	44.5	52.5	103.4	43.2
40	5523.4 SQ.FT.	42.9	54.9	104.5	41.3	86	4871.7 SQ.FT.	47.2	47.2	103.3	46.8
41	5520.6 SQ.FT.	42.9	54.9	104.5	41.3	87	4875.1 SQ.FT.	47.2	47.2	103.3	46.8
42	5462.9 SQ.FT.	42.5	54.4	104.3	41.8	88	4655.0 SQ.FT.	45.0	45.0	103.3	49.0
43	4845.2 SQ.FT.	47.3	46.3	104.3	47.1	89	765165.0 SQ.FT.	1605.2	N/A	N/A	
44	4898.2 SQ.FT.	47.0	47.0	104.3	46.6	90	149222.6 SQ.FT.	60.0	N/A	N/A	
45	4898.2 SQ.FT.	47.0	47.0	104.3	46.6	91	54264.9 SQ.FT.	124.4	N/A	N/A	
46	4849.8 SQ.FT.	46.1	46.6	104.3	47.1						



ZONING CONFORMANCE TABLE							
ZONING DISTRICT R-MF-A (RESIDENTIAL MULTIFAMILY A DISTRICT)							
	REQUIRED OR ALLOWED	LOT 1 PROPOSED					
GROSS LOT AREA 75% WETLAND AREA 75% STEEP SLOPES AREA NET LOT AREA	217,800 S.F.	1,417,747.32 S.F. 25,155.9 S.F. 136,560.6 S.F. 1,256,030.82 S.F.					
MINIMUM LOT FRONTAGE	25 FT.	1605.2 FT.					
MINIMUM LOT WIDTH	250 FT.	1091.5 FT.					
MINIMUM LOT DEPTH	250 FT.	629.7 FT.					
MINIMUM FRONT YARD SETBACK	10 FT.	60 FT.					
MINIMUM SIDE YARD SETBACK	10 FT.	69.9 FT.					
MINIMUM REAR YARD SETBACK	25 FT.	158.2 FT.					
MAXIMUM BUILDING COVERAGE	20%	15.4% (193,645 S.F.)					
MAXIMUM BUILDING HEIGHT	3 STORIES/ 30 FT.	<3 STORIES					
R-MF-A (RESIDENTIAL MULTIFAM	IILY A DISTRICT) - A	ATTACHED					
NET LOT AREA	2,500 S.F.	SEE TABLE					
MINIMUM LOT FRONTAGE	25 FT.	SEE TABLE					
MINIMUM LOT WIDTH	25 FT.	SEE TABLE					
MINIMUM LOT DEPTH	60 FT.	SEE TABLE					
MINIMUM FRONT YARD SETBACK	10(r) FT.	>10 FT					
MINIMUM SIDE YARD SETBACK	0	0					
MINIMUM REAR YARD SETBACK	10(r) FT.	>10 FT					
MAXIMUM BUILDING HEIGHT	3 STORIES/ 30 FT.	>3 STORIES					



IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, ARTICLE 145, SECTION 7209(2), FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER ANY ITEM ON THIS PLAN IN ANY WAY. IF ANY ITEM BEARING THE SEAL OF AN ENGINEER OR LAND SURVEYOR IS ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.





ALFONZETTI ENGINEERING, P.C 14 SMITH AVE, MT. KISCO, N.Y. 10549 914-666-9800 INFO@ALFONZETTIENG.COM

SITE DATA

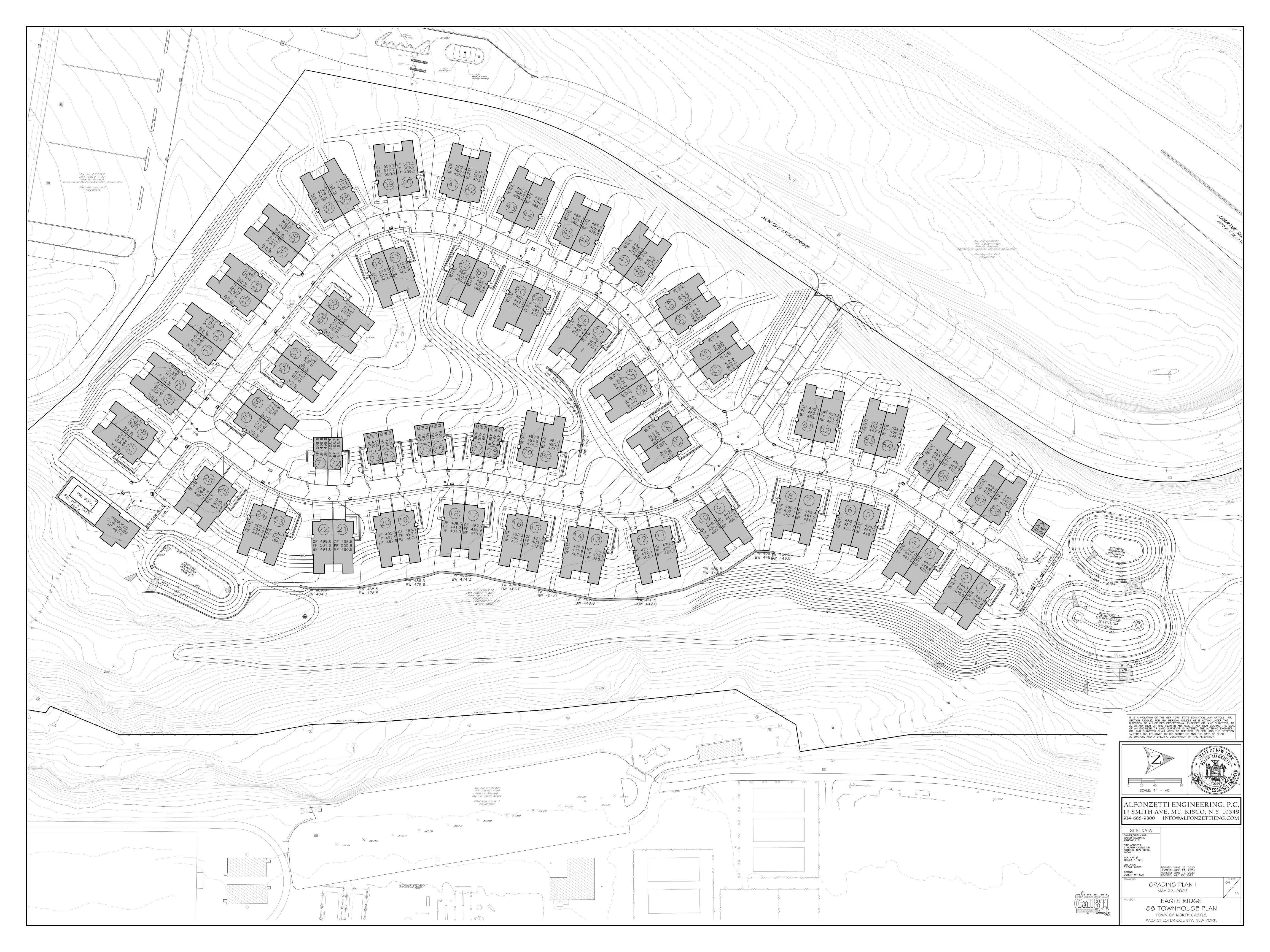
OWNER/APPLICANT:
MADDD MADONNA
ARMONK LLC SITE ADDRESS: 3 NORTH CASTLE DR, ARMONK, NEW YORK, 10504 TAX MAP #: 108.03-1-62.1 LOT AREA: 32.547 ACRES

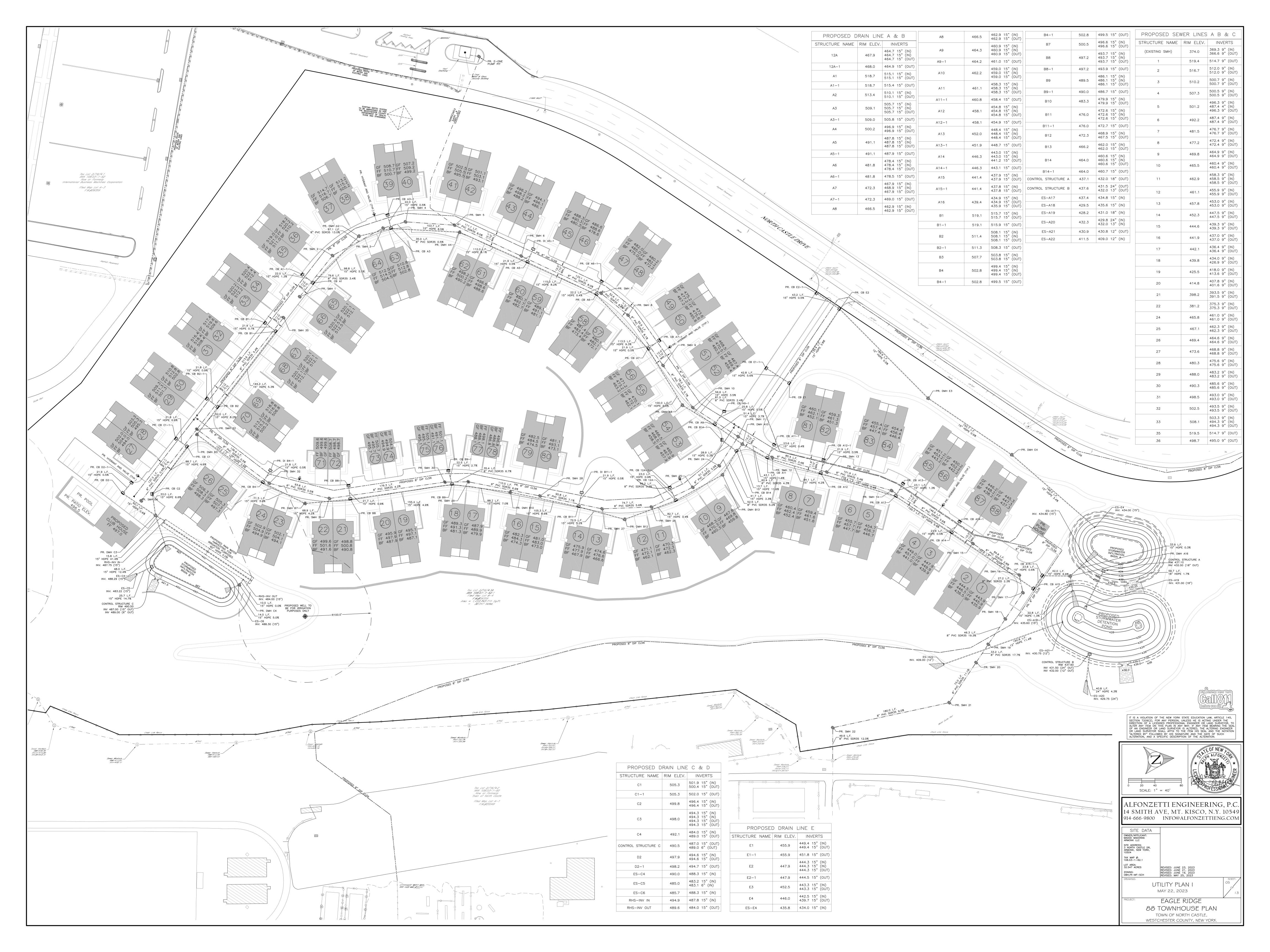
ZONING: OBH/R-MF-SCH

INTEGRATED PLOT PLAN

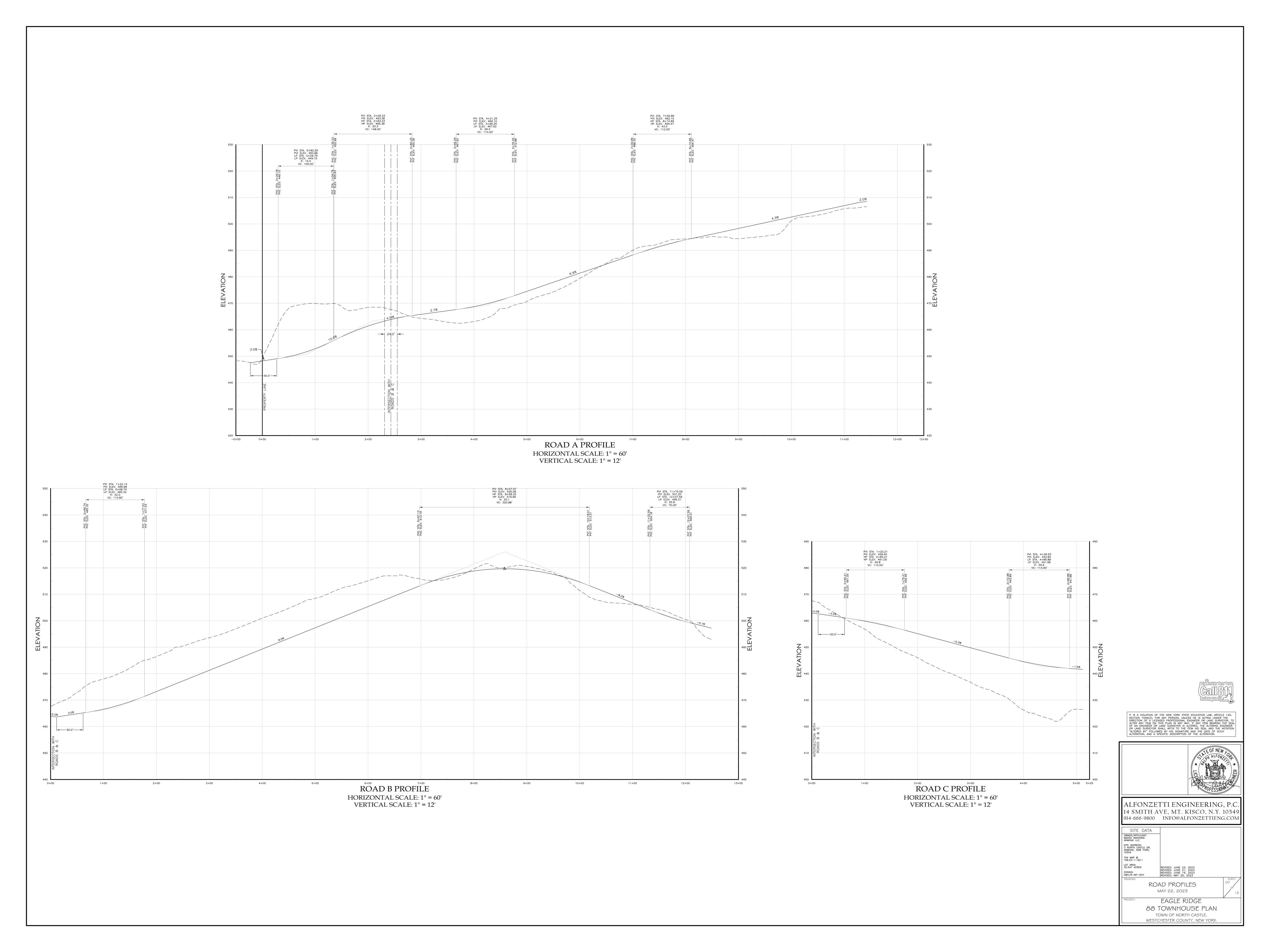
MAY 22, 2023 EAGLE RIDGE 88 TOWNHOUSE PLAN TOWN OF NORTH CASTLE, WESTCHESTER COUNTY, NEW YORK

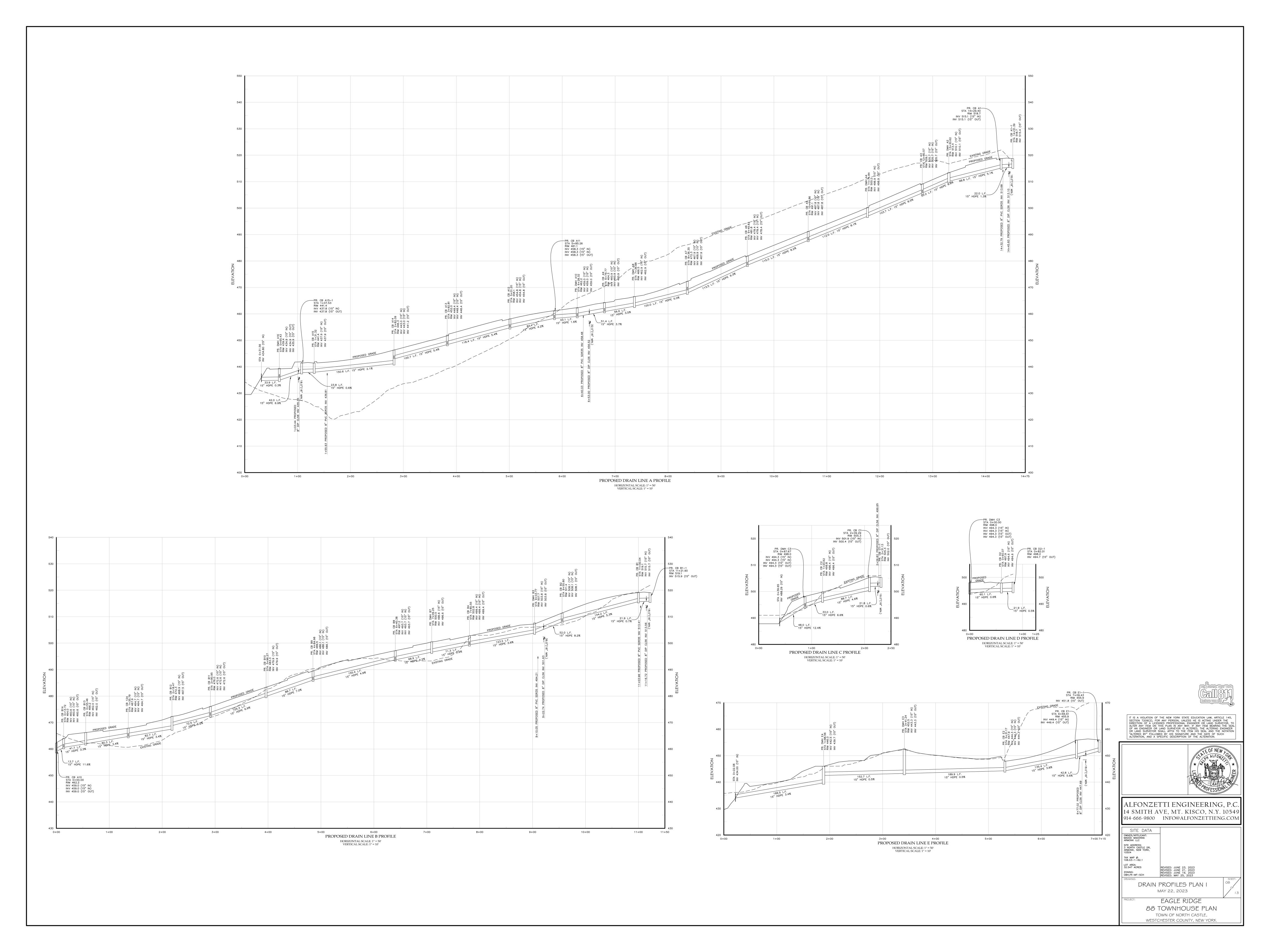


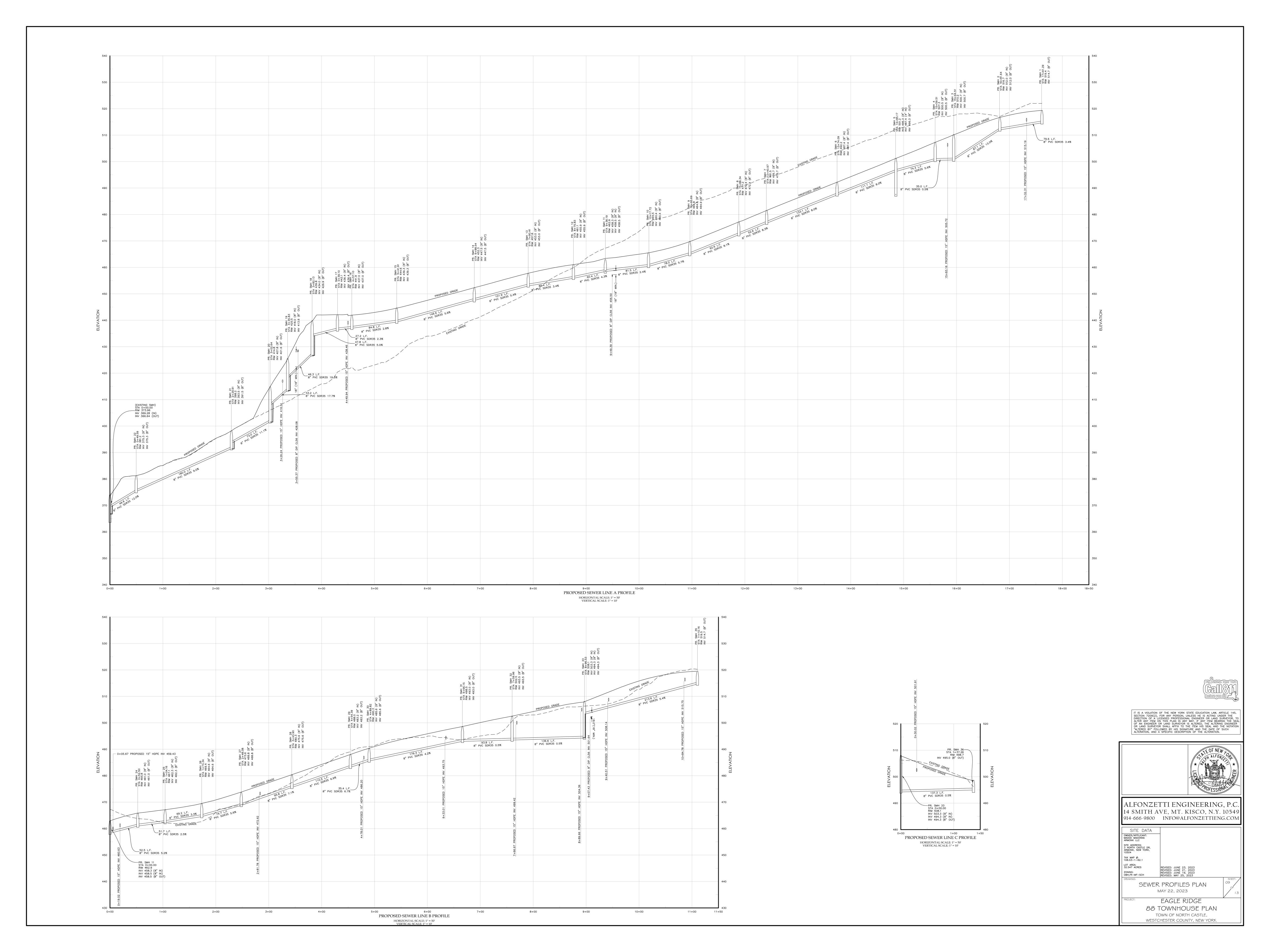


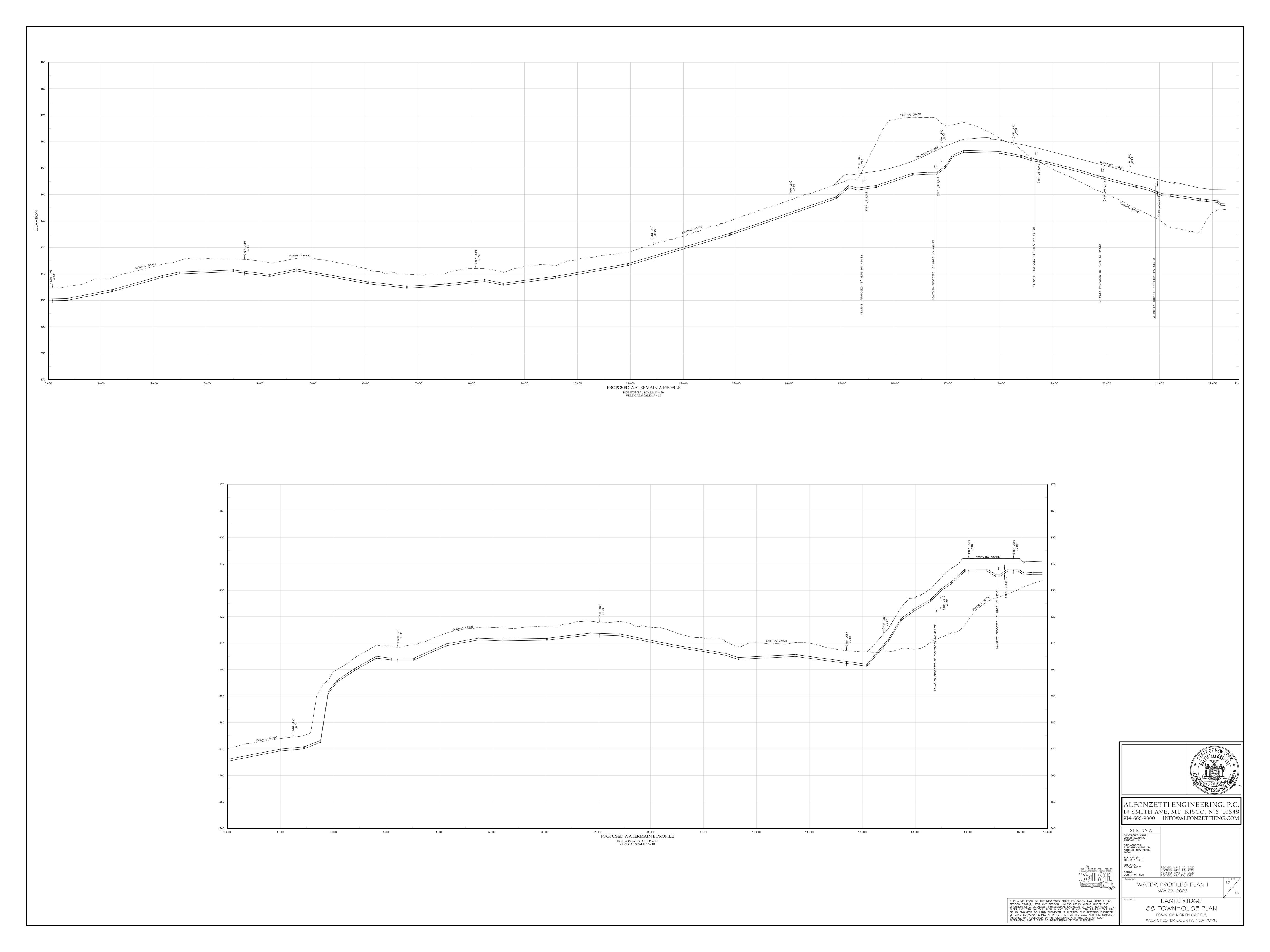


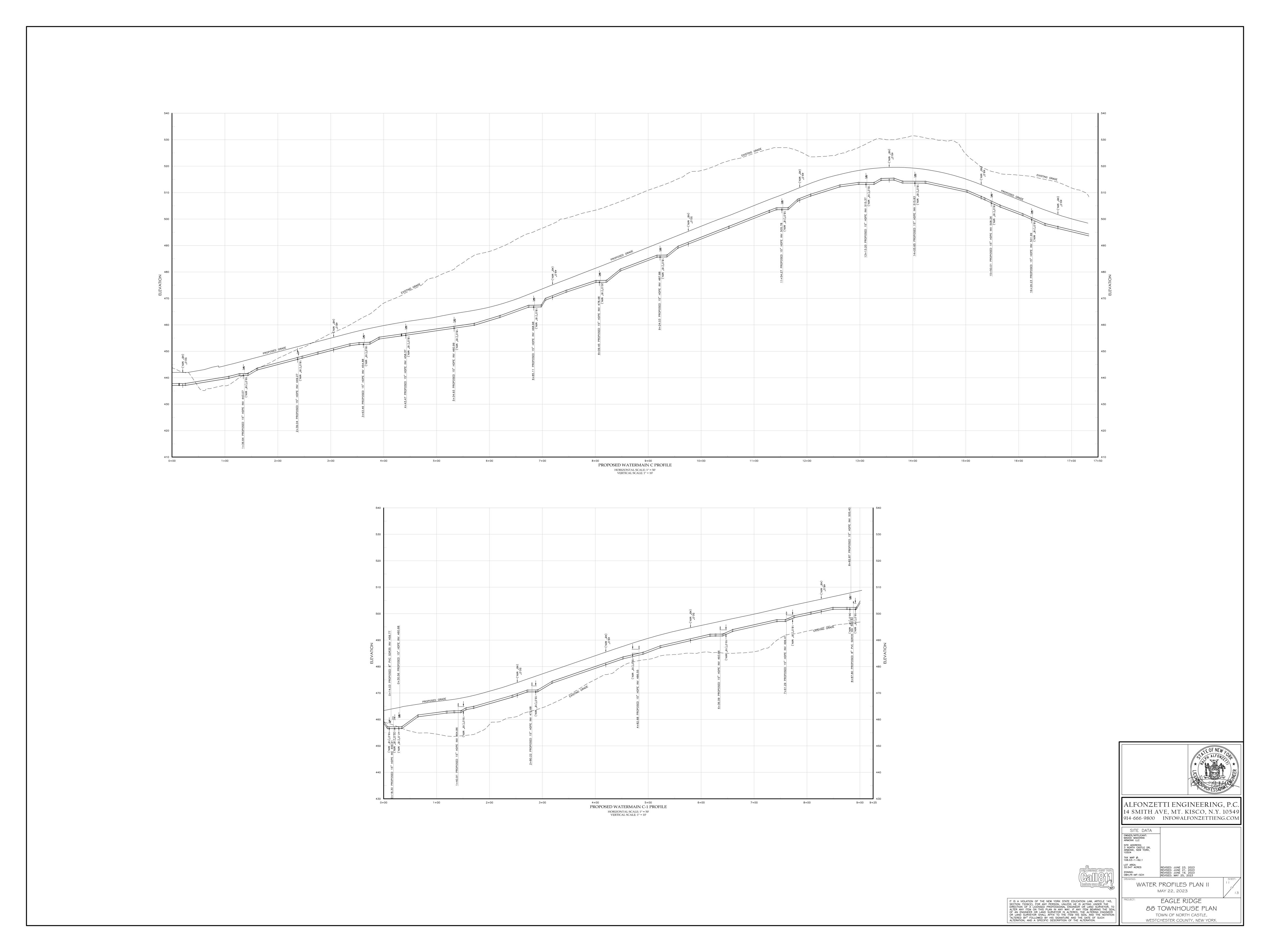




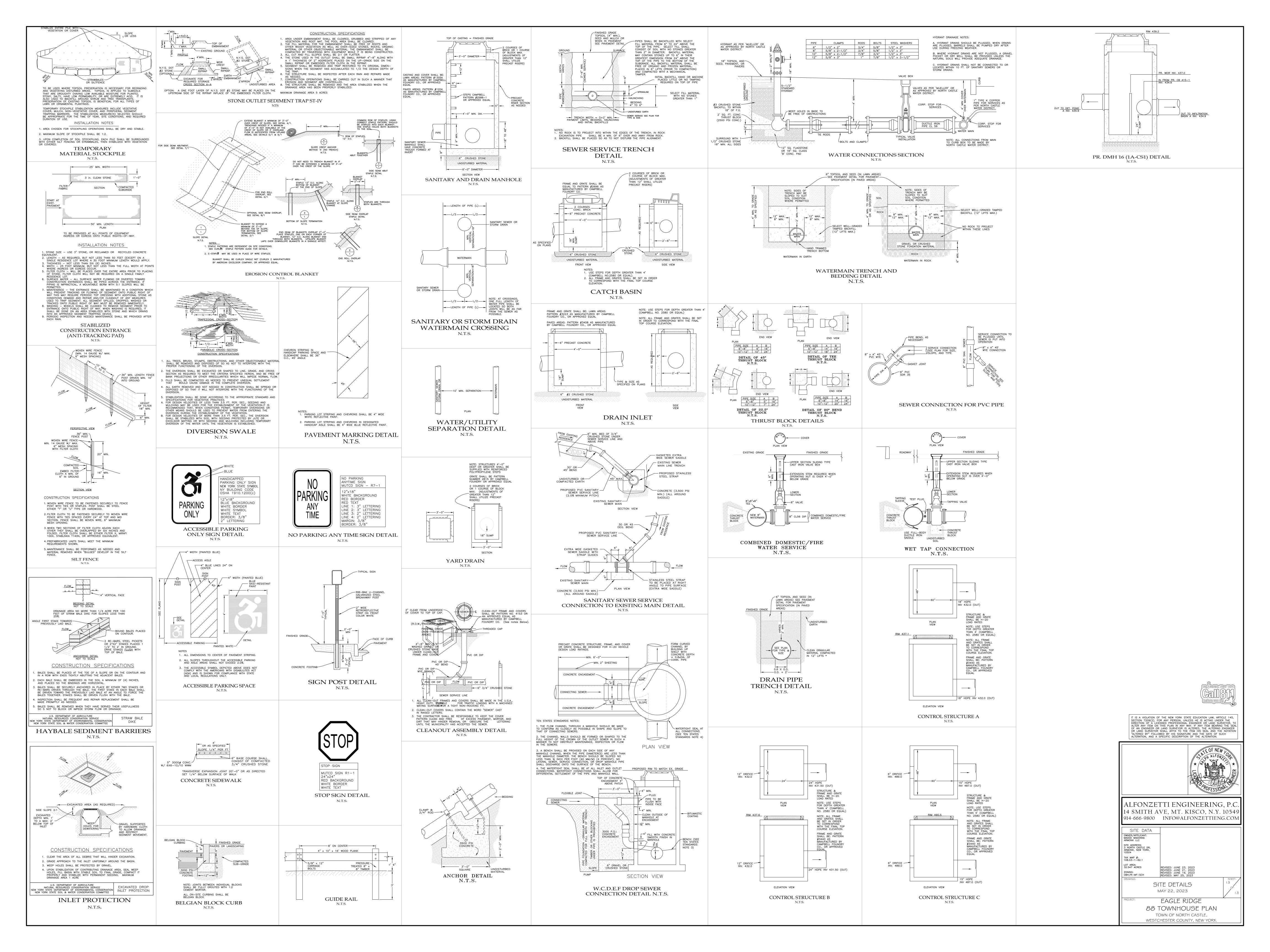












ALFONZETTI ENGINEERING, P.C.

14 Smith Avenue, Mt. Kisco, N.Y. 10549

(914) 666-9800

Info@AlfonzettiEng.com

Preliminary Stormwater Pollution Prevention Plan

for

Eagle Ridge Town of North Castle

November 28, 2023 Revised: June 23, 2023

ALFONZETTI ENGINEERING, P.C. 14 Smith Avenue, Mt. Kisco, N.Y.

(914) 666-9800

Info@AlfonzettiEng.com

PROJECT: Eagle Ridge

Town of North Castle, NY

SCOPE: Preliminary Stormwater Pollution Prevention Plan

DATE: June 23, 2023

Introduction:

The subject site is located at 1 North Castle Drive, in the Town of North Castle, New York. The proposed development of this site, with more than one (1) acre of disturbance requires a Stormwater Pollution Prevention plan as per New York State Department of Environmental Conservation. This stormwater pollution prevention plan complies with New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activity—GP-0-20-001 and New York State Stormwater Management Design Manual, dated January 2015.

Description:

The site is located on approximately 32 acres at 1 North Castle Drive in the Town of North Castle. The project site consists of one lot, with property tax map identification number; 108.03-1-62. The existing site consists of vacant land consisting of meadow areas, wooded areas, and abandoned asphalt road. On the southern end of the site there is a helicopter pad and internal roadways associated with the neighboring IBM property.

The applicant is proposing 88 townhouses with associated improvements.

The proposed disturbance for the site is approximately 20.4 acres. This project results in the creation of approximately 7.7 acres of impervious area. The site generally slopes in an easterly direction.

Eagle Ridge Revised: June 23, 2023 Page 2

Runoff from the site drains partially to an on-site wetland and to the adjacent property owned by the Town of North Castle. Eventually runoff from the site makes its way to the Wampus River, then to the Byram River, then to the Long Island Sound.

Owner/Operator/Applicant: Contractors:

MADDD/Madonna Armonk LLC **TBD**

7 Spruce Hill Court

Pleasantville, New York 10570

Individual Responsible for Individual Responsible for

Implementation of SWPPP: Periodic Inspections:

TBD Alfonzetti Engineering, PC

14 Smith Avenue

Mount Kisco, NY 10549

At the time of the preparation of this Stormwater Pollution Prevention Plan, there are no know violations on this site.

A Phase I Cultural Resources Survey has been conducted on the site. A portion of the report prepared by Historical Perspectives, Inc., dated June 2018, is included in the appendix of this report.

The approvals associated with this project are as follows:

Agency	Approval	Status
Town of North Castle	- Zoning Amendment	Approved
Town of North Castle	- Site Plan Approval	Pending
Westchester County Department of Health (WCDH),	- Watermain Extension - Sewermain Extension	Pending
New York State Department of Environmental Conservation	- Stormwater	Pending

Deep test holes and percolation tests were performed on site to determine the suitability of the soil for subsurface detention/infiltration. The results are shown in the appendix of this report. In addition, the soils according to the USDA (United States Department of Agriculture), NRCS (Natural Resources Conservation Service) are also shown in the appendix of this report.

Revised: June 23, 2023 Page 3

Discussion:

Temporary Erosion Control Measures:

The following is an inventory and description of the temporary erosion control devices proposed on this site.

Anti-Tracking Pad – Anti-Tracking Pads shall be installed at all construction entrances. The purpose of the Anti-Tracking Pad shall be to dislodge mud, dirt, and debris from construction vehicles prior to these vehicles leaving the construction site. This will ensure the existing roadways are kept clear of sediment. Location and detail of the Anti-Tracking Pad is shown on the plans.

Silt Fence – Silt Fencing consists of a fabric barrier between supporting stakes or posts usually made of wood. The fabric is proposed to capture suspended sediments from construction runoff and also decreases the velocity of the runoff to protect off-site areas. The proposed location of the silt fence is shown on the plans along with details for installing the silt fence.

Haybales – Haybales are used in a variety of erosion control devices. At the top of an excavation, haybales are used to spread out concentrated flow to prevent erosion. Haybales are used in conjunction with silt fence to add additional protection to sensitive areas such as wetlands and water bodies. Haybales are also used in conjunction with Silt Fence to protect surrounding areas from soil stockpile erosion. The proposed location of the haybales is shown on the plans along with details.

Inlet protection – Inlet protection is used to filter runoff from non-stabilized construction sites prior to this runoff entering the drainage system.

Temporary Sediment Trap – Temporary Sediment Traps are small ponding basins constructed by excavation or embankment used to intercept sediment laden runoff. The sediment trap protects waterways, properties, and right-of-ways below the sediment trap.

Construction Sequence:

The construction will be in a sequence that will minimize the potential for erosion. No phase will be more than 5 acres and no two adjacent phases will be disturbed at the same time, without prior approval. Construction is anticipated to begin in the Fall of 2023, and last approximately up to 36 months for the entire site to be built.

Revised: June 23, 2023

Page 4

The general sequence of construction is as follows:

- Pre-Construction Meeting, Stakeout, Erosion Control Measures, Clearing
 - 1. Pre-construction meeting with the Town Engineer, Applicant, Applicant's representative, and Contractors.
 - 2. Survey and stake for disturbance limits and erosion control installation.
 - 3. Establish parking and storage area via existing entrance.
 - 4. Place construction trailer and/or field office and a construction yard, if necessary.
 - 5. Mark and protect all trees to be preserved within the disturbance limits.
 - 6. Install anti-tracking pad and silt fence as shown on the erosion control plan and as per the respective erosion control details. Note: Silt fence should not be installed in areas where tree clearing operations will damage silt fence.
 - 7. Clear trees to be removed.
 - 8. Install silt fence in areas of tree clearing.
 - 9. Remove tree stumps, brush and other vegetation. Tree stump removal shall only include stumps within the immediate work area. Note: Tree stump removal shall only begin following the installation of the anti-tracking pads at all the construction entrances as shown on plans.
- Earthwork, Sewer and Water Connections, Utilities and Ponds, Townhouse's foundation, and Retaining walls
 - 1. Erosion control devices must be installed before earthwork operations can commence. A water truck will be available during dry times to reduce airborne dust.

project.

- 2. Parking and storage shall remain throughout all phases of the
- 3. Begin rough grading and stockpiling.
- 4. Install soil stockpiles within disturbance limits and sediment traps. Construct temporary sediment traps in the location indicated on plan.

Revised: June 23, 2023

Page 5

- 5. Install diversion ditches within disturbance limits. Install temporary pipes to convey runoff in areas of vehicular/machinery traffic.
- 6. Set up rock crushing area and erosion control for stockpiles shown on plans.
- 7. Begin rough grading operations for the roads and ponds. Stockpiles will be used to supply the fill needed.
- 8. Install appropriate proposed utilities to the site. Utility services include sanitary sewer service, water service, stormwater drains, electrical lines, and other utilities needed for the site.
- 9. Sanitary sewer and water service shall be connected to the public line as shown on the plan.
- 10. Backfill and compact trenches as installation progresses.
- 11. Complete rough grading.
- 12. Begin final grading, seeding, sodding, and soil stabilizing landscaping.
- 13. Complete final grading and stabilize earthwork.
- 14. Sediment traps shall remain until all phases are completed. Once all phases are completed sediment traps shall be cleaned and modified into stormwater basins as shown on the plans. Sediment traps shall be filled and graded once construction is complete.
- 15. Proposed infiltration systems shall not be operational until all phases are complete or approved to be active.
- 16. Anti-tracking pad shall remain until construction is complete.
- 17.All inlet protection shall be removed.
- 18.All infiltration systems shall be put online. Install roadway top course when heavy equipment is no longer needed and prior to the final Certificate of Occupancy.
- 19.As areas are stabilized, sediment shall be removed and erosion control devices shall be discarded in an appropriate manner. Final stabilization for vegetated areas requires at least 80% vegetative cover. All drainage structures shall be inspected and cleaned if necessary.

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Potential pollutants during construction are sediment laden stormwater runoff, liter, and construction fluids/chemical spills. During construction, the sediment laden runoff will be trapped or filtered through the silt fence and other erosion control devices prior to being discharged. The construction litter will be cleaned on a daily basis and disposed of in a lawful manner. The storage of any construction fluids or chemicals will be within water tight containers suitable for storage and will not be exposed to the elements.

During the construction phase, the trained contractor shall be responsible for erosion and sediment control device maintenance and pollution prevention measures. The trained contractor shall also be responsible for maintenance of the permanent drainage structures during construction and to ensure protection of the subsurface infiltration system area. The trained contractor shall inspect the erosion control devices daily to ensure they are in effective operating condition.

The qualified inspector shall conduct site inspections at least once every seven (7) calendar days while soil disturbance activities are on-going. If soil disturbance activities are suspended, inspections shall occur under the guidelines in the appendix of this report.

After construction, the maintenance of the stormwater mitigating devices shall be the responsibility of the managing entity for the townhouse development and the managing entity of the hotel site.

Permanent Stormwater Management Devices:

The proposed stormwater mitigation practices have been sized according to the New York State Department of Environmental Conservation Stormwater Design Manual (Stormwater Design Manual). The project is a residential multifamily development that is proposed to disturb more than 1 acre, therefore the Stormwater Pollution Prevention Plan must incorporate Water Quality treatment features as well as Water Quantity control features.

After construction, in the post development stage, potential pollutants can be an increase in runoff rates as well as suspended sediment and elevated nutrient levels within the runoff. The increase in runoff rates is mitigated by the stormwater practices located at the northwest of the site, namely the stormwater

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ponds. The increase in suspended sediment and elevated nutrients are mitigated by the sumps within the drainage structures, forebays of the basins, and the infiltration ponds, the extended detention pond and the sumps in all the drain inlets and catch basins. By meeting NYSDEC Water Quality criteria and Runoff Reduction Volume criteria the pollutants of concern will be mitigated.

There are no stormwater discharges due to industrial activities, apart from construction, associated with this site.

The Stormwater Design Manual criteria are as follows:

Water Quality Volume (WQv):

• Capture and treat runoff from the 90th percentile rain event.

Runoff Reduction Volume (RRv):

Reduction of the total WQv by application of green infrastructure techniques and standard Stormwater Management Practices to replicate pre-development hydrology.

Channel Protection Volume (Cpv):

Provide 24 hour extended detention of the 1-year storm event, remained from runoff reduction.

Overbank Flood Protection (Qp):

• Attenuate the post development 10-year, 24-hour peak discharge rate to pre-development rates.

Extreme Flood Protection (Qf):

• Attenuate the post development 100-year, 24-hour peak discharge rate to pre-development rates.

This project incorporates the six-step process involving site planning and stormwater management practice selection to provide a more holistic approach to stormwater management per Chapter 3 of the New York State Stormwater Design Manual as described below.

1. Site planning to preserve natural features and reduce impervious cover.

- Revised: June 23, 2023 Page 8
 - 2. Determine Water Quality Volume (WQv) for the site.
 - 3. Apply Runoff Reduction Techniques and Standard SMPs with RRv Capacity to Reduce Total WQv.
 - 4. Determine the minimum Runoff Reduction Volume (RRv) required.
 - 5. Apply standard SMPs, where applicable, to address remaining Water Quality Volume (WQv) not addressed by runoff reduction techniques and standard SMPs with RRv capacity.
 - 6. Apply Volume and Peak Rate Control Practices if still needed to meet requirements.

Step 1 was achieved by locating the proposed development away from the wetlands and watercourses and using the minimum required driveway width, parking space dimensions, and drive aisle widths as per the Town of North Castle design standards. In addition, the bulk of the proposed development is located outside the steep slope areas of the site. The majority of the steep areas of the site remain undisturbed. Another preservation of natural features is the preservation of the wetland buffer. The development maintains a 150-foot buffer from the wetland on-site. Steps 2-6 are addressed in subsequent sections of this report.

The Stormwater Pollution Prevention Plan analyzes 7 Design Points. In order to determine the existing and proposed runoff flows at each respective design point, the stormwater model uses data from the existing and proposed watersheds. The watersheds and descriptions are below.

The Design Points are described below.

Design Point 1 DP1 is a linear design point located along the eastern

property line. In the existing condition and proposed condition, this represents the runoff from Watershed 1.

Design Point 2. DP2 is a linear design point located along the eastern

property line. In the existing condition and proposed condition, this represents the runoff from Watershed 2.

Design Point 3 DP3 is linear design point located along the eastern

property line. In the existing condition, this represents the runoff from Watershed 3. In the proposed condition, this represents the runoff from Watersheds 3A-3D after they have been routed through their respective stormwater

mitigation devices.

Design Point 4 DP4 is another linear design point located along the

eastern property line. In the existing condition, this represents the runoff from Watershed 4. In the proposed condition, this represents the sum of the runoff from Watersheds 4A & 4B after they have been routed through

their respective stormwater mitigation devices.

Design Point 5 DP5 is a linear design point along the eastern property line

within an on-site wetland. In the existing condition this represents the runoff from Watershed 5. In the proposed condition, this represents the sum of the runoff from Watershed 5A-5C after they have been routed through its

stormwater mitigation devices.

Design Point 6 DP6 is located within an existing drainage swale along

North Castle Drive at the northern property line. In the existing condition and the proposed condition, this

represents the runoff from Watershed 6.

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Design Point 7

DP7 is located at an existing drain inlet, at the south west property corner. In the existing condition and the proposed condition, this represents the runoff from Watershed 7.

The rainfall amounts required to satisfy the stormwater design criteria for the site are:

Design Storm Summary Table

Criteria	Storm	Rainfall (Inches)
Water Quality Volume (WQv)	90%	1.5
Channel Protection Volume (Cpv)	1 year	2.8
	2 year	3.43
	5 year	4.31
Overbank Flood Protection (Qp)	10-year	5.13
	25 year	6.46
	50 year	7.69
Extreme Flood Protection (Qf)	100-year	9.17

The methods used to calculate the runoff flows for the selected storms is as follows:

- The existing and proposed watersheds are determined and curve numbers are calculated for both conditions. Travel times are also calculated for the existing conditions.
- The existing watershed areas, curve numbers, and travel times are input into 'HydroCad' stormwater modeling software to determine the existing condition peak runoff flows.
- The proposed watershed areas, curve numbers, travel times, and stormwater mitigating devices and routings are input into 'HydroCad' stormwater modeling software to determine the proposed peak runoff flows. The results of the existing and the proposed peak runoff flow calculations are shown in the summary tables included in this report. The data used to determine the existing and the proposed peak runoff flows is also shown in the summary tables.

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• The topography and land use/cover for the site was taken from a sitespecific survey. The topography for off-site is taken from GIS mapping. The curve numbers and the travel times for the off-site watersheds are estimated using available aerial photographs. The soil grouping for the site was taken from the USDA (United States Department of Agriculture), NRCS (Natural Resources Conservation Service) soil survey.

Water Quality:

The water quality volume is calculated using the following formula from the Stormwater Design Manual:

```
WQ_v = ((P)(R_v)(A))/12)
          where Rv = 0.05 + 0.009(I)
          I = Impervious Cover (percent)
          P = 90<sup>th</sup> % Rainfall Event Number (Use 1.5")
          A = Site Area in acres
```

Designing the stormwater mitigation practices in accordance with the requirements of the NYSDEC Stormwater Design Manual will maintain proposed pollutant loading at or below existing condition levels. The impervious cover was calculated for each of the watersheds tributary to a stormwater treatment practice and tabulated below.

Watershed Name Watershed Area		Impervious Area	Percent Impervious
	(Acres)	(Acres)	
PRWS3D	9.97	6.83	68.5%
PRWS4B	1.78	0.89	50.2%

Using the percent impervious and the formulas above, the resulting Water Quality Volumes are calculated in the table below for the developed watersheds.

NYSDEC PRO	NYSDEC PROPOSED WATER QUALITY VOLUME (WQv) CALCULATIONS							
Watershed	Watershed	Impervious	Percent	90%	Rv	Wqv	Required	Provided
Name	Area	Area	Impervious	Rainfall		(Ac-Ft)	Wqv	Wqv
	(Acres)	(Acres)		(Inches)			(C.F.)	(C.F.)
PRWS3D	9.97	6.83	68.5%	1.50	0.67	0.83	36,175	44,590
PRWS4B	1.78	0.89	50.2%	1.50	0.50	0.11	4,854	7,112

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The Water Quality Volume for the development is proposed to be captured and treated in infiltration ponds. The infiltration ponds will treat 100% of the Water Quality Volume.

A summary of pollutants removed by standard practice:

Infiltration	Phosphorous
Practice	Nitrogen
	Metals – Cadmium, Copper, Lead, and Zinc
	Pathogens – Coliform, Streptococci, E. Coli
Extended	Phosphorous
Detention	Nitrogen
Pond	Metals – Cadmium, Copper, Lead, and Zinc
	Pathogens – Coliform, Streptococci, E. Coli

Runoff Reduction Volume (RRv):

The runoff reduction volume criteria requires the reduction of runoff volume by green infrastructure techniques, infiltrating, ground water recharge, reuse, recycle, or evaporation/evapotranspiration of the entire Water Quality Volume.

The Water Quality Volume calculations are discussed in the section above. Since the entire Water Quality Volume for Watersheds 3D and 4B is being infiltrated, the Runoff Reduction Volume criteria has been met.

In addition, we are proposing rainwater harvesting for a portion of the site, and throughout the site we are proposing shallow sloped diversion swales and depressed areas that slow runoff and aid in groundwater recharge. No credit has been taken for the rainwater harvesting, swales, or depressions.

Channel Protection Volume (Cpv):

Since the infiltration basins and detention basin all capture a minimum of the 1year storm and the discharge from each pond or structure is zero for the 1-year storm, the Channel Protection Volume criteria has been met for these watersheds. In addition, the small watershed sizes result in using very small orifice sizes to accomplish the 24-hour detention. Since such small orifices tend to clog and the New York State Stormwater Design Manual recommends a minimum orifice size of 3", channel protection is met by maintaining or reducing the proposed peak runoff to the existing peak runoff for the 1 year storm event.

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All discharges are to a stone dissipater/trench to ensure no erosion and to promote sheet flow.

The table below summarizes the data used for the stormwater calculations:

Watershed	Area	Curve	Travel Time
Designation	(Square Feet)	Number	(Minutes)
EXWS1	80,670	55	20.0
EXWS2	17,034	55	13.5
EXWS3	255,227	61	33.2
EXWS4	718,402	60	23.7
EXWS5A	249,233	55	12.1
EXWS5B	182,046	71	10.6
EXWS6	256,054	69	6.0
EXWS7	97,844	64	4.7
PRWS1	80,670	55	20.0
PRWS2	17,034	55	13.5
PRWS3A	51,628	58	12.6
PRWS3B	12,955	59	6.0
PRWS3C	10,818	61	6.0
PRWS3D	434,308	86	6.0
PRWS4A	115,190	57	26.4
PRWS4B	43,425	80	6.0
PRWS5A	263,624	56	15.2
PRWS5B	187,388	71	15.3
PRWS5C	11,251	86	6.0
PRWS6A	263,198	67	6.0
PRWS7A	59,330	60	4.7

The tables below show a comparison of the existing and proposed peak flows:

DESIGN POINT 1						
Storm	Existing Peak	Proposed Peak	Net Change			
Event	Runoff	Runoff	(cfs)			
	(cfs)	(cfs)				
1 Year	0.1	0.1	0			
2 Year	0.2	0.2	0			
5 Year	0.7	0.7	0			
10 Year	1.2	1.2	0			
25 Year	2.4	2.4	0			
50 Year	3.6	3.6	0			
100 Year	5.2	5.1	0			

DESIGN POINT 2						
Storm	Existing Peak	Proposed Peak	Net Change			
Event	Runoff	Runoff	(cfs)			
	(cfs)	(cfs)				
1 Year	0	0	0			
2 Year	0.1	0.1	0			
5 Year	0.2	0.2	0			
10 Year	0.3	0.3	0			
25 Year	0.6	0.6	0			
50 Year	0.9	0.9	0			
100 Year	1.3	1.3	0			

DESIGN POINT 3						
Storm	Existing Peak	Proposed Peak	Net Change			
Event	Runoff	Runoff	(cfs)			
	(cfs)	(cfs)				
1 Year	0.6	0.1	-0.5			
2 Year	1.5	0.3	-1.2			
5 Year	3.1	0.7	-2.4			
10 Year	4.9	4.2	-0.7			
25 Year	8.3	7.6	-0.7			
50 Year	11.7	9.7	-2			
100 Year	16	15.5	-0.5			

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DESIGN POINT 4						
Storm	Existing Peak	Proposed Peak	Net Change			
Event	Runoff	Runoff	(cfs)			
	(cfs)	(cfs)				
1 Year	1.7	0.4	-1.3			
2 Year	4.2	2	-2.2			
5 Year	9.3	6.7	-2.6			
10 Year	15	11.3	-3.7			
25 Year	25.8	18.6	-7.2			
50 Year	36.8	24.8	-12			
100 Year	50.9	32.2	-18.7			

DESIGN POINT 5						
Storm	Existing Peak	Net Change				
Event	Runoff	Runoff	(cfs)			
	(cfs)	(cfs)				
1 Year	2.3	2.1	-0.2			
2 Year	4.4	4.3	-0.1			
5 Year	8.7	8.7	0			
10 Year	13.6	13.6	0			
25 Year	22.4	22.2	-0.2			
50 Year	31.2	30.8	-0.4			
100 Year	42.5	41.8	-0.7			

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DESIGN POINT 6					
Storm	Existing Peak Proposed Pea		Net Change		
Event	Runoff	Runoff	(cfs)		
	(cfs)	(cfs)			
1 Year	3.2	2.6	-0.6		
2 Year	5.7	5	-0.7		
5 Year	9.7	8.9	-0.8		
10 Year	13.9	13	-0.9		
25 Year	21.1	20.2	-0.9		
50 Year	28.2	27.4	-0.8		
100 Year	36.9	36.2	-0.7		

DESIGN POINT 7					
Storm	Existing Peak	Proposed Peak	Net Change		
Event	Runoff	Runoff	(cfs)		
	(cfs)	(cfs)			
1 Year	0.7	0.2	-0.5		
2 Year	1.5	0.6	-0.9		
5 Year	2.9	1.3	-1.6		
10 Year	4.4	2.1	-2.3		
25 Year	7	3.6	-3.4		
50 Year	9.7	5.1	-4.6		
100 Year	13.1	7	-6.1		

Overbank Flood Protection (Qp):

As seen on the peak flow comparison charts, the proposed peak runoff is maintained or reduced as compared to the existing peak runoff for the 10-year storm event.

Extreme Flood Protection (Qf):

As seen on the peak flow comparison charts, the proposed peak runoff is maintained or reduced as compared to the existing peak runoff for the 100-year storm event.

Conclusion:

Based on the analysis in the Stormwater Pollution Prevention Plan, the stormwater management practices proposed will adequately treat the runoff leaving the site in regard to water quality. In addition, the proposed stormwater practices will control runoff quantities to ensure no adverse affects due to stormwater as a result of the proposed development.

ALFONZETTI ENGINEERING, P.C.

Ralph Alfonzetti, P.E.



Appendix A

Maintenance

The maintenance chart below shows typical maintenance of temporary and permanent structures and erosion control devices during construction:

Device	Weekly	Monthly	Bi- annually	Annually	Prior to Significant Rainfall	After Significant Rainfall
Haybales		Inspect		Replace	Inspect	Inspect/clean
Silt fence		Inspect		Inspect	Inspect	Inspect/clean
Anti-tracking pad	Inspect		Restore			Inspect
Inlet protection		Inspect	Restore		Inspect	Inspect/clean
Catch basins/ Drain inlets	Inspect (during construction)		Clean			Inspect

Temporary Sediment Traps shall be inspected prior to significant rainfall and inspected and cleaned if needed after significant rainfall. The sediment trap shall be cleaned and sediment removed when sediment reaches ½ the design depth.

Permanent stormwater management device maintenance schedule is as follows:

- All catch basins/drain inlets/drain manholes shall be inspected and cleaned biannually. These structures should also be inspected weekly during construction and after significant rainfall.
- Stormwater Basins/Detention ponds should be inspected after major storm events and semi-annually. During the inspections, the following should be checked:
 - Clogging of outlet structures.
 - Erosion on the embankment/berm.
 - o Condition of the emergency spillway.
 - o Accumulation of sediment around the outlet structures.
 - Erosion of the basin bed and banks.
 - Sources of erosion in the contributory drainage, which should be stabilized.
 - Sediment removal in the forebay shall occur every five to six years or after 50% of total forebay capacity has been lost.

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Appendix A: Maintenance Page A-2

 If any trash has made its way to the pond, it shall be cleaned out and disposed of in a lawful manner.

- o Grass should be cut at a minimum twice a year.
- Dead/Diseased plants shall be removed and disposed of in a lawful manner. Replacement plants shall be of the same type and size as initially planted.
- No herbicides, pesticides, or fertilizers should be used in or near the ponds.

Appendix B

Archeological Information

Phase IA Cultural Resources Survey
Eagle Ridge Development
1 North Castle Drive, Armonk, Town of North Castle
Westchester County, New York

Prepared For:

Frank Madonna

Prepared By:

Historical Perspectives, Inc. P.O. Box 529 Westport, CT 06881

Authors:

Dawn L. Brown, M.A., R.P.A.

June 2018

Revised: June 23, 2023

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MANAGEMENT SUMMARY

SHPO Project Review Number (if available):

Involved State and Federal Agencies:

Phase of Survey: Phase IA Cultural Resources Survey

Location Information

Location: 1 North Castle Drive

Minor Civil Division: 11910, North Castle

County: Westchester

Survey Area

Length: Width:

Number of Acres Surveyed: 32.5

USGS 7.5 Minute Quadrangle Map: Glenville, CT

Archaeological Survey Overview

Number & Interval of Shovel Tests: Number & Size of Units: N/A Width of Plowed Strips: N/A Surface Survey Transect Interval: N/A

Results of Archaeological Survey

Number & name of precontact sites identified:

Number & name of historic sites identified:

Number & name of sites recommended for Phase II/Avoidance:

Results of Architectural Survey

Number of buildings/structures/cemeteries within project area:

Number of buildings/structures/cemeteries adjacent to project area:

Number of previously determined NRHP listed or eligible buildings/structures/cemeteries/districts:

Number of identified eligible buildings/structures/cemeteries/districts:

Report Authors(s): Dawn L. Brown, M.A., R.P.A., Historical Perspectives, Inc.

Date of Report: June 2018

Revised: June 23, 2023 Page B-3

EXECUTIVE SUMMARY

Eagle Ridge is a proposed Armonk development of a boutique hotel with residential housing, and supportive services and parking, and a separate 94-unit townhome complex. Rezoning, subdivision and construction of the 32.5-acre property at 1 North Castle Drive requires local permits and zoning approval prior to implementation. The development parcel, which contains steep slopes, is immediately west of a municipal sports park and north of an International Business Machines Corporation (IBM) corporate complex (Figure 1 and 2). Originally a part of the IBM complex, a small western portion of the project site was previously graded and developed by IBM into a helipad. The local Planning Board has requested the completion of a Phase I cultural resources evaluation of the project site acreage so that the Eagle Ridge site application can move forward.

From what is known of precontact period settlement patterns in Westchester County, most habitation and processing sites are found in sheltered, elevated locales close to wetland features, major waterways, and with nearby sources of fresh water. The project site is located near the Wampus River and contains well-drained soils uphill from the water. Research found that fourteen precontact sites have been identified within a one-mile radius of the project APE. One of these sites, an Early Archaic (LeCroy) site, was on the IMB property immediately south of the APE (Boesch 1995a, b, c). In addition, bedrock outcrops on the APE may contain possible rockshelters. These factors signify potential precontact

The 18th to 19th century Cornell-Birdsall farm, and later 20th century Wenga Farm, consisted of a large complex of buildings that existed on the northern portion of the APE; the APE was part of the larger agricultural history which consisted of orchards, livestock and farm buildings. IBM purchased this land from the Agnew family in 1955. The farm buildings were moved or demolished by the 1960s. Aerial photographs show that some of these buildings were originally located where Route 128 intersects with North Castle Drive; however, a number of buildings also existed on the northern portion of the present APE. These factors signify potential historic-period sensitivity.

Archaeological testing is recommended for only a portion of the project site (Figure 8). No field testing is recommended for the project APE with more than 12% slope. Also, no field testing is recommended for land areas with clear evidence of 20th century disturbance (e.g., road prep and installation, rock and tree removal, helipad construction, and installation of sewer line).

Some portions of the APE which fit the model for possible precontact occupation are clearly undisturbed (i.e., southeastern wooded portion) and standard Phase IB Archaeological Field Testing is recommended. However, on other portions of the APE (i.e., center field area, western, and northwestern edge) complete disturbance is unclear or intermittent; therefore, limited Phase IB field testing is recommended to confirm possible disturbance.

In addition, further archaeological investigations are recommended for the northern portion of the APE due to possible middens, privys, wells or cisterns related to the Cornell-Birdsall residence that may have remained intact. No foundation or structural remains could be seen upon visual inspection (5/26/2018); however, the area was heavily overgrown.

Testing is also recommended for several rock overhangs that are present within the bedrock outcrops.

Appendix C

Deep Test Hole and Percolation Test Information

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(designations are shown on the plan in this appendix)

DEEP TEST 1 (DT1)

0"-6"	Topsoil
6"-12"	Sandy Loam
12"	Rock

DEEP TEST 2 (DT2)

0"-6"	Topsoil
6"-30"	Sandy Loam
30"	Rock

DEEP TEST 3 (DT3)

0"-10"	Topsoil
10"-16"	Gravel
16"-60"	Sandy, Silty Loam
60"	Rock

DEEP TEST 4 (DT4)

Control of the control of	100 C 4 4 4 6 5 400 E
0"-6"	Topsoil
6"-108"	Sandy Loam
108"	Water

DEEP TEST 5 (DT5)

0"-6"	Topsoil
6"-102"	Sandy, Silty Loam
102"	Water

DEEP TEST 6A (DT6A)

0"-6"	Topsoil
6"-92"	Sandy, Silty Loam

DEEP TEST 6B (DT6B)

0"-6"	Topsoil
6"-84"	Sandy Loam with Cobbles

DEEP TEST 7 (DT7)

DEEP TEST 14 (DT14)

0"-6"	Topsoil
-------	---------

0"-6"	Topsoil
6"-132"	Sandy Loam

DEEP TEST 8 (DT8)

0"-6"	Topsoil
6"-132"	Sandy Loam

DEEP TEST 9A (DT9A)

0"-6"	Topsoil
6"-86"	Sandy Loam

DEEP TEST 9B (DT9B)

0"-6"	Topsoil
6"-100"	Sandy Loam

DEEP TEST 10 (DT10)

0"-6"	Topsoil
6"-78"	Sandy Loam with Boulders

DEEP TEST 11 (DT11)

0"-6"	Topsoil
6"-96"	Sandy, Silty Loam

DEEP TEST 12 (DT12)

0"-6"	Topsoil
6"-70"	Sandy Loam
70"-120"	Mixed Sands
120"	Rock

DEEP TEST 13 (DT13)

0"-6"	Topsoil	
6"-66"	Sandy Loam with Cobbles	
66"-97"	Mixed Sands	

6"-66"	Sandy Loam
66"-78"	Mixed Sands

DEEP TEST 15 (DT15)

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Appendix C: Deep Test Hole and Percolation Test Information

0"-12"	Topsoil
12"-58"	Sandy Loam
58"-94"	Mixed Sands

DEEP TEST 16 (DT16)

0"-6"	Topsoil
6"-108"	Sandy, Silty Loam

DEEP TEST 17 (DT17)

	(8) 5
0"-6"	Topsoil

6"-100"	Sandy Loam with Boulders
---------	--------------------------

DEEP TEST 18 (DT18)

0"-6"	Topsoil
6"-80"	Sandy, Silty Loam with Cobbles

DEEP TEST 19 (DT19)

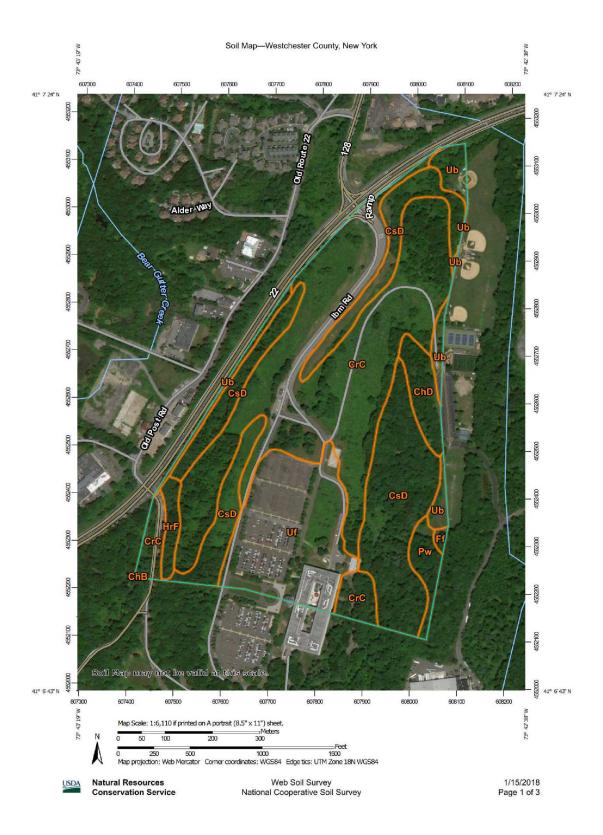
0"-6"	Topsoil
6"-122"	Sandy Loam
122"	Rock

Percolation Test Results:

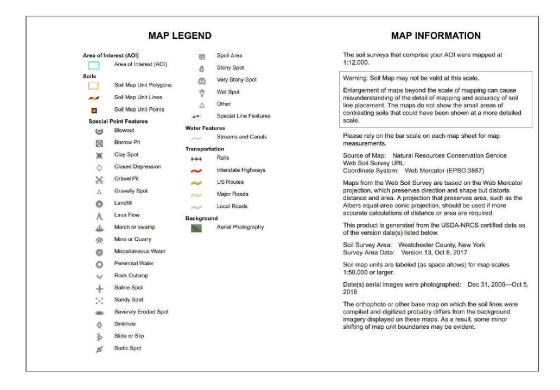
Percolation Test	Percolation Rate (min./in.)	Percolation Rate (in./hour)
P4	2	30
P5	3	20
P6	2	30
P7	12	5
P9	46	1.3
P10	20	3
P11	30	2
P12	3	20
P13	7	8.5
P14	2	30
P16	8	7.5
P18	3	20
P19	6	10

Appendix D

Soil Information as per USDA (United States Department of Agriculture), NRCS (Natural Resources Conservation Service)



Soil Map-Westchester County, New York



Soil Map-Westchester County, New York

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ChB	Charlton fine sandy loam, 3 to 8 percent slopes	0.0	0.0%
ChD	Charlton fine sandy loam, 15 to 25 percent slopes	3.1	3.0%
CrC	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	46.7	45.1%
CsD	Chatfield-Charlton complex, 15 to 35 percent slopes, very rocky	28.2	27.2%
Ff	Fluvaquents-Udifluvents complex, frequently flooded	0.3	0.3%
HrF	Hollis-Rock outcrop complex, 35 to 60 percent slopes	1.6	1.5%
Pw	Pompton silt loam, loamy substratum	2.1	2.0%
Ub	Udorthents, smoothed	4.4	4.2%
Uf	Urban land	17.1	16.5%
Totals for Area of Interest		103.5	100.0%

Appendix E

New York State Department of Environmental Conservation Notice of Intent

6/28/23, 1:24 PM

NYSIDEC eBusiness Pertal System - NOt for occasego under Stormeader General Perroll for Construction Astietty, Revision 1

NOI for coverage under Stormwater General Permit for Construction Activity

version 1,35

(Submission #: HPV-KZZQ-YD023, version 1)

Details

Originally Started By Ralph Alfonzatti

Alternate Identifier Eagle Ridge

Submission ID HPV-KZZQ-YD023

Submission Reason New

Status Draft

Form Input

Owner/Operator Information

Owner/Operator Name (Company/Private Owner/Municipality/Agency/Institution, etc.)

MADDD Madenna Armenk LLC

Owner/Operator Contact Person Last Name (NOT CONSULTANT) Madonna

Owner/Operator Contact Person First Name

Frank

Owner/Operator Mailing Address

7 Spruce Hill Court

City

Pleasantville

State

MY

6/28/23, 1:24 PM

NYSDEC eBusiness Portal System - NOI for coverage under Stormester General Fermit for Construction Activity. Revision 1

Zip 10570

Phone

914-557-4695

Email

FM@Alepro.com

Federal Tax ID

82-2551097

Project Location

Project/Site Name

Eagle Ridge

Street Address (Not P.O. Box)

3 North Castle Drive

Side of Street

Esst

City/Town/Village (THAT ISSUES BUILDING PERMIT)

North Castle

State

NY

Zip

10504

DEC Region

3

County

WESTCHESTER

Name of Nearest Cross Street

New York State Route 22

Distance to Nearest Cross Street (Feet)

870

Project in Relation to Cross Street

Essi

Tax Map Numbers Section-Block-Parcel

108.03-1-62.1

6/28/23, 1:24 PM

NYSDEC eBusiness Portal System - NOI for cosesses under Stormester General Fermit for Construction Activity. Few later 1

Tax Map Numbers NONE PROVIDED

1. Coordinates

Provide the Geographic Coordinates for the project site. The two methods are:

- Navigate to the project location on the map (below) and click to place a marker and obtain the XY coordinates.
- The "Find Me" button will provide the lat/long for the person filling out this form. Then pan the map to the correct location and click the map to place a marker and obtain the XY coordinates.

Navigate to your location and click on the map to get the X,Y coordinates 41.117956.-73.71448

Project Details

2. What is the nature of this project?

New Construction

3. Select the predominant land use for both pre and post development conditions.

Pre-Development Existing Landuse

Pasture/Open Land

Post-Development Future Land Use

Town Home Residential

3a. If Single Family Subdivision was selected in question 3, enter the number of subdivision lots.

NONE PROVIDED

4. In accordance with the larger common plan of development or sale, enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage) within the disturbed area.

**** ROUND TO THE NEAREST TENTH OF AN ACRE. ****

Total Site Area (acres)

32.547

Total Area to be Disturbed (acres)

20.342

Existing Impervious Area to be Disturbed (acres)

1.6

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Future Impervious Area Within Disturbed Area (acres)

7.7

5. Do you plan to disturb more than 5 acres of soil at any one time?

No

6. Indicate the percentage (%) of each Hydrologic Soil Group(HSG) at the site.

A (%)

a

B (%)

100

C (%)

0

D (%)

0

7. Is this a phased project?

Yes

8. Enter the planned start and end dates of the disturbance activities.

Start Date

10/01/2023

End Date

10/01/2026

Identify the nearest surface waterbody(les) to which construction site runoff will discharge.

Wampus River

9a. Typs of waterbody identified in question 9?

River Off Site

Other Weterbody Type Off Site Description

NONE PROVIDED

9b. If "wetland" was selected in 9A, how was the wetland identified?

NONE PROVIDED

18. Has the surface waterbody(ies in question 9 been identified as a 303(d) segment in Appendix E of GP-0-20-981?

No

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11. Is this project located in one of the Watersheds identified in Appendix C of GP-0-28-001?

No

12. Is the project located in one of the watershed areas associated with AA and AA-S classified waters?

No

If No. skip auestion 13.

13. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as D (provided the map unit name is inclusive of slopes greater than 25%), E or F on the USDA Soil Survey? NONE PROVIDED

If Yes, what is the acreage to be disturbed? NONE PROVIDED

14. Will the project disturb soils within a State regulated wetland or the protected 190 foot adjacent area?

No

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)?

Yes

16. What is the name of the municipality/entity that owns the separate storm sewer system?

Town of North Castle

- 17. Does any runoff from the site enter a sewer classified as a Combined Sewer?
 No
- 18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law?

No

19. Is this property owned by a state authority, state agency, federal government or local government?

No

26. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.) No

Required SWPPP Components

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- 21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)?
 Yee
- 22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)? Yes

If you answered No in question 22, skip question 23 and the Post-construction Criteria and Post-construction SMP identification sections.

23. Has the post-construction stomwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual?

Yes

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by: Professional Engineer (P.E.)

SWPPP Preparer

Alfonzetti Engineering, P.C.

Contact Name (Last, Space, First)

Alfonzetti, Ralph

Mailing Address

14 Smith Avenue

City

Mount Kisco

State

NY

Zĭp

10549

Phone

914-666-9800

Email

info@alfonzettieng.com

Download SWPPP Preparer Certification Form

Please take the following steps to prepare and upload your preparer certification form:

- 1) Click on the link below to download a blank certification form
- 2) The certified SWPPP preparer should sign this form

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- 3) Scan the signed form
- 4) Upload the scanned document

Download SWPPP Preparer Certification Form

Please upload the SWPPP Preparer Certification

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Comment

NONE PROVIDED

Erosion & Sediment Control Criteria

25. Has a construction sequence schedule for the planned management practices been prepared?

Yes

26. Select all of the erosion and sediment control practices that will be employed on the project site:

Temporary Structural

Dust Control
Sediment Traps
Silt Fence
Stabilized Construction Entrance
Storm Drain Inlet Protection
Straw/Hay Bale Dike
Temporary Swale
Water Bars

Biotechnical

None

Vegetative Measures

Mulching Protecting Vegetation Seeding Temporary Swale

Permanent Structural

Land Grading Retaining Wall Rock Outlet Protection

Other

NONE PROVIDED

Post-Construction Criteria

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* IMPORTANT: Completion of Questions 27-39 is not required if response to Question 22 is No.

27. Identify all site planning practices that were used to prepare the final site planflayout for the project.

Preservation of Undisturbed Area Preservation of Buffers Reduction of Clearing and Grading

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).

All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout). (Acre-feet) 0.942

29. Post-construction SMP Identification

Use the Post-construction SMP Identification section to identify the RR techniques (Area Reduction), RR techniques(Volume Reduction) and Standard SMPs with RRv Capacity that were used to reduce the Total WQv Required (#28).

Identify the SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use the Post-Construction SMP Identification section to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

38. Indicate the Total RRy provided by the RR techniques (Area/Volume Reduction) and Standard SWPs with RRy capacity identified in question 29. (acre-feet) 1.187

31. Is the Total RRv provided (#30) greater than or equal to the total WQv required (#28)?

Yes

If Yes, go to auestion 36. If No. go to auestion 32.

32. Provide the Minimum RRv required based on HSG. [Minimum RRv Required = (P) (0.95) (Ali) / 12, Al=(s) (Alc)] (acre-feet)
NONE PROVIDED

32a. Is the Total RRv provided (#39) greater than or equal to the Minimum RRv Required (#32)? NONE PROVIDED 6/28/23, 1:24 PM

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If Yes, go to question 33.

Note: Use the space provided in question #39 to summarize the specific site limitations and justification for not reducing 100% of WQv required (#28). A detailed evaluation of the specific site limitations and justification for not reducing 100% of the VVQv required (#28) must also be included in the SWPPP.

If No, sizing criteria has not been met, therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

33. SMPs

Use the Post-construction SMP Identification section to identify the Standard SMPs and, if applicable, the Alternative SMPs to be used to treat the remaining total WQv (=Total WQv Required in #28 - Total RRv Provided in #30).

Also, provide the total impervious area that contributes runoff to each practice selected.

NOTE: Use the Post-construction SMP Identification section to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #23 and Standard SMPs with RRv Capacity identified in question #29. (acre-feet)

NONE PROVIDED

Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - provided by the practice. (See Table 3.5 in Design Manual)

- Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a).
 NONE PROVIDED
- 35. Is the sum of the RRv provided (#30) and the WCv provided (#33a) greater than or equal to the total WCv required (#28)?

NONE PROVIDED

If Yes, go to question 36.

If No, sizing criteria has not been met; therefore, NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

36. Provide the total Channel Protection Storage Volume (CPv required and provided or select waiver (#36a), if applicable.

CPv Required (acre-feet) NONE PROVIDED

CPv Provided (acre-feet)
NONE PROVIDED

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36a. The need to provide channel protection has been waived because:

Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

 Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (#37a), if applicable.

Overbank Flood Control Criteria (Qp)

Pre-Development (CFS)

53.3

Post-Development (CFS)

45.7

Total Extreme Flood Control Criteria (Qf)

Pre-Development (CFS)

165.9

Post-Development (CFS)

139.1

37a. The need to meet the Qp and Qf criteria has been waived because: NONE PROVIDED

38. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed?

Yes

If Yes, Identify the entity responsible for the long term Operation and Maintenance MADDD Madonna Armonk LLC

39. Use this space to summarize the specific site limitations and justification for not reducing 190% of WQv required (#28). (See question #32a) This space can also be used for other pertinent project information.

NONE PROVIDED

Post-Construction SMP Identification

Runoff Reduction (RR) Techniques, Standard Stormwater Management Practices (SMPs) and Alternative SMPs

Identify the Post-construction SMPs to be used by providing the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

RR Techniques (Area Reduction)

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Round to the nearest tenth

Total Contributing Acres for Conservation of Natural Area (RR-1)

NONE PROVIDED

Total Contributing Impervious Acres for Conservation of Natural Area (RR-1)

NONE PROVIDED

Total Contributing Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)

NONE PROVIDED

Total Contributing Impervious Acres for Sheetflow to Riparian Buffers/Filter Strips (RR-2)

NONE PROVIDED

Total Contributing Acres for Tree Planting/Tree Pit (RR-3)

NONE PROVIDED

Total Contributing Impervious Acres for Tree Planting/Tree Pit (RR-3)

NONE PROVIDED

Total Contributing Acres for Disconnection of Rooftop Runoff (RR-4)

NONE PROVIDED

RR Techniques (Volume Reduction)

Total Contributing Impervious Acres for Disconnection of Rooftop Runoff (RR-4)

NONE PROVIDED

Total Contributing Impervious Acres for Vegetated Swale (RR-5)

NONE PROVIDED

Total Contributing Impervious Acres for Rain Garden (RR-6)

NONE PROVIDED

Total Contributing Impervious Acres for Stormwater Planter (RR-7)

NONE PROVIDED

Total Contributing Impervious Acres for Rain Barrel/Cistern (RR-8)

NONE PROVIDED

Total Contributing Impervious Acres for Porous Pavement (RR-8)

NONE PROVIDED

Total Contributing Impervious Acres for Green Roof (RR-10)

NONE PROVIDED

Standard SMPs with RRv Capacity

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Total Contributing Impervious Acres for Infiltration Trench (I-1)

NONE PROVIDED

Total Contributing Impervious Acres for Infiltration Basin (I-2)

7.7

Total Contributing Imparvious Acres for Dry Well (I-3)

NONE PROVIDED

Total Contributing Impervious Acres for Underground Infiltration System (I-4)

NONE PROVIDED

Total Contributing Impervious Acres for Bioretention (F-5)

NONE PROVIDED

Total Contributing Impervious Acres for Dry Swale (O-1)

NONE PROVIDED

Standard SMPs

Total Contributing Impervious Acres for Micropool Extended Detention (P-1)

NONE PROVIDED

Total Contributing Impervious Acres for Wet Pond (P-2)

NONE PROVIDED

Total Contributing Impervious Acres for Wet Extended Detention (P-3)

6.83

Total Contributing Impervious Acres for Multiple Pond System (P-4)

NONE PROVIDED

Total Contributing Impervious Acres for Pocket Pond (P-5)

NONE PROVIDED

Total Contributing Impervious Acres for Surface Sand Filter (F-1)

NONE PROVIDED

Total Contributing Impervious Acres for Underground Sand Filter (F-2)

NONE PROVIDED

Total Contributing Impervious Acres for Perimeter Sand Filter (F-3)

NONE PROVIDED

Total Contributing Impervious Acres for Organic Filter (F-4)

NONE PROVIDED

Total Contributing Impervious Acres for Shallow Wetland (W-1)

NONE PROVIDED

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Total Contributing Impervious Acres for Extended Detention Wetland (W-2)

NONE PROVIDED

Total Contributing Impervious Acres for Pond/Wetland System (W-3)

NONE PROVIDED

Total Contributing Impervious Acres for Pocket Wetland (W-4)

NONE PROVIDED

Total Contributing Impervious Acres for Wet Swale (O-2)

NONE PROVIDED

Alternative SMPs (DO NOT INCLUDE PRACTICES BEING USED FOR

PRETREATMENT ONLY)

Total Contributing Impervious Area for Hydrodynamic

NONE PROVIDED

Total Contributing Impervious Area for Wet Vault

NONE PROVIDED

Total Contributing Impervious Area for Media Filter

NONE PROVIDED

"Other" Alternative SMP?

NONE PROVIDED

Total Contributing Impervious Area for "Other"

NONE PROVIDED

Provide the name and manufaturer of the alternative SMPs (i.e. proprietary practice(s)) being used for WQv treatment.

Note: Redevelopment projects which do not use RR techniques, shall use questions 28, 29, 33 and 33a to provide SMPs used, total WQv required and total WQv

provided for the project.

Manufacturer of Alternative SNP

NONE PROVIDED

Name of Alternative SMP

NONE PROVIDED

Other Permits

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48. Identify other DEC permits, existing and new, that are required for this project/facility.

None

If SPDES Multi-Sector GP, then give permit ID

NONE PROVIDED

If Other, then identify

NONE PROVIDED

41. Does this project require a US Army Corps of Engineers Wetland Permit?

If "Yes," then indicate Size of Impact, in acres, to the nearest tenth NONE PROVIDED

42. If this NOI is being submitted for the purpose of continuing or transferring coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned.

NONE PROVIDED

MS4 SWPPP Acceptance

43. Is this project subject to the requirements of a regulated, traditional land use control MS4?

Yes - Please attach the MS4 Acceptance form below

If No, skip question 44

44. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive efficer or ranking elected official and submitted along with this NOI?

MS4 SWPPP Acceptance Form Download

Download form from the link below. Complete, sign, and upload. MS4 SWPPP Acceptance Form

MS4 Acceptance Form Upload

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Comment

NONE PROVIDED

Owner/Operator Certification

Owner/Operator Certification Form Download

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Download the certification form by clicking the link below. Complete, sign, scan, and upload the form.

Owner/Operator Certification Form (PDF, 45KB)

Upload Owner/Operator Certification Form

MADONNA EAGLE RIDGE TOWNHOUSES-OWNER CERT FORM 2023-08-23 PRINTED.pdf - 06/23/2023 01:23 PM Comment

NONE PROVIDED

Attachments

Date	Attachment Name	Context	User
6/23/2023 1:24 PM	MADONNA EAGLE RIDGE TOWNHOUSES- MS4 SWPPP ACCEPTANCE FORM 2023- 08-23 PRINTED.pdf	Attachment	Ralph Alionzetti
6/23/2023 1:23 FM	MADONNA EAGLE RIDGE TOWNHOUSES- OWNER CERT FORM 2023-06-23 PRINTED.pdf	Attachment	Ralph Alfonzetti
6/23/2023 1:22 PM	MADONNA EAGLE RIDGE TOWNHOUSES- SWPPP CERT FORM 2023-06-23.pdf	Attachment	Relph Alfonzetti

Appendix F

Construction Site Log Book

APPENDIX H

STATE POLLUTANT DISCHARGE ELIMINATION SYSTEM FOR CONSTRUCTION ACTIVITIES CONSTRUCTION SITE LOG BOOK

Table of Contents

- I. Pre-Construction Meeting Documents
 - a. Preamble to Site Assessment and Inspections
 - b. Operator's Certification
 - c. Qualified Professional's Credentials & Certification
 - d. Pre-Construction Site Assessment Checklist
- II. Construction Duration Inspections
 - a. Directions
 - b. Modification to the SWPPP
- III. Monthly Summary Reports
- IV. Monitoring, Reporting, and Three-Month Status Reports
 - a. Operator's Compliance Response Form

Properly completing forms such as those contained in Appendix H meet the inspection requirement of NYS-DEC SPDES GP for Construction Activities. Completed forms shall be kept on site at all times and made available to authorities upon request.

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I. PRE-CONSTRUCTION MEETING DOCUMENTS

Project Name	
Permit No.	Date of Authorization
Name of Operator	
Prime Contractor	

a. Preamble to Site Assessment and Inspections

The Following Information To Be Read By All Person's Involved in The Construction of Stormwater Related Activities:

The Operator agrees to have a qualified professional conduct an assessment of the site prior to the commencement of construction and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Prior to the commencement of construction, the Operator shall certify in this site logbook that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements.

When construction starts, site inspections shall be conducted by the qualified professional at least every 7 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater (Construction Duration Inspections). The Operator shall maintain a record of all inspection reports in this site logbook. The site logbook shall be maintained on site and be made available to the permitting authorities upon request. The Operator shall post at the site, in a publicly accessible location, a summary of the site inspection activities on a monthly basis (Monthly Summary Report).

The operator shall also prepare a written summary of compliance with this general permit at a minimum frequency of every three months (Operator's Compliance Response Form), while coverage exists. The summary should address the status of achieving each component of the SWPPP.

Prior to filing the Notice of Termination or the end of permit term, the Operator shall have a qualified professional perform a final site inspection. The qualified professional shall certify that the site has undergone final stabilization³ using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the Operator must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owner(s) with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

^{1 &}quot;Qualified Professional means a person knowledgeable in the principles and practice of erosion and sediment controls, such as a Certified Professional in Brosion and Sediment Control (CPESC), soil scientist, licensed engineer or someone working under the direction and supervision of a licensed engineer (person must have experience in the principles and practices of erosion and sediment control).

^{2 &}quot;Commencement of construction" means the initial removal of vegetation and disturbance of soils associated with clearing, grading or excavating activities or other construction activities.

^{3 &}quot;Final stabilization" means that all soil-disturbing activities at the site have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures

b. Operators Certification

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. Further, I hereby certify that the SWPPP meets all Federal, State, and local erosion and sediment control requirements. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law.

Name (please print): _	
	Date:
Phone:	Email:
Signature:	
c. Qualified Profession	nal's Credentials & Certification
project and that the appr the following Pre-constr	eet the criteria set forth in the General Permit to conduct site inspections for this periate erosion and sediment controls described in the SWPPP and as described in action Site Assessment Checklist have been adequately installed or implemented, are dness of this site for the commencement of construction."
Name (please print): _	
Title	Date:
Address:	
Phone:	Email:
Signature:	

d. Pre-construction Site Assessment Checklist (NOTE: Provide comments below as necessary)
1. Notice of Intent, SWPPP, and Contractors Certification: Yes No NA [] [] Has a Notice of Intent been filed with the NYS Department of Conservation? [] [] Is the SWPPP on-site? Where? [] [] Is the Plan current? What is the latest revision date? [] [] Is a copy of the NOI (with brief description) onsite? Where? [] [] Have all contractors involved with stormwater related activities signed a contractor's certification?
2. Resource Protection Yes No NA [] [] Are construction limits clearly flagged or fenced? [] [] Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, have been flagged for protection. [] [] Creek crossings installed prior to land-disturbing activity, including clearing and blasting.
3. Surface Water Protection Yes No NA [] [] [] Clean stormwater runoff has been diverted from areas to be disturbed. [] [] Bodies of water located either on site or in the vicinity of the site have been identified and protected. [] [] Appropriate practices to protect on-site or downstream surface water are installed. [] [] Are clearing and grading operations divided into areas <5 acres?
4. Stabilized Construction Entrance Yes No NA [] [] A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed. [] [] Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover. [] [] Sediment tracked onto public streets is removed or cleaned on a regular basis.
5. Perimeter Sediment Controls Yes No NA [] [] [] Silt fence material and installation comply with the standard drawing and specifications. [] [] [] Silt fences are installed at appropriate spacing intervals [] [] [] Sediment/detention basin was installed as first land disturbing activity. [] [] [] Sediment traps and barriers are installed.
6. Pollution Prevention for Waste and Hazardous Materials Yes No NA [] [] The Operator or designated representative has been assigned to implement the spill prevention avoidance and response plan. [] [] The plan is contained in the SWPPP on page [] [] Appropriate materials to control spills are onsite. Where?

II. CONSTRUCTION DURATION INSPECTIONS

a. Directions:

Inspection Forms will be filled out during the entire construction phase of the project. Required Elements:

- (1) On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;
- (2) Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization:
- (3) Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;
- (4) Inspect all sediment control practices and record the approximate degree of sediment accumulation as a percentage of sediment storage volume (for example, 10 percent, 20 percent, 50 percent);
- (5) Inspect all erosion and sediment control practices and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water; and
- (6) Immediately report to the Operator any deficiencies that are identified with the implementation of the SWPPP.

Eagle Ridge
Appendix F: Construction Log Book
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CONSTRUCTION DURATION INSPECTIONS Page 1 of _____

SITE PLAN/SKETCH

Inspector (print name)	Date of Inspection
Qualified Professional (print name) The above signed acknowledges that, to the best of forms is accurate and complete.	Qualified Professional Signature This/her knowledge, all information provided on the

CONSTRUCTION DURATION INSPECTIONS	Page 2 of
Maintaining Water Quality	
Yes No NA [] [] [] Is there an increase in turbidity causing a substantial visible of [] [] [] Is there residue from oil and floating substances, visible oil for [] [] All disturbance is within the limits of the approved plans. [] [] Have receiving lake/bay, stream, and/or wetland been impact	ilm, or globules or grease?
Housekeeping	
1. General Site Conditions Yes No NA [] [] Is construction site litter and debris appropriately managed? [] [] Are facilities and equipment necessary for implementation of working order and/or properly maintained? [] [] Is construction impacting the adjacent property? [] [] Is dust adequately controlled?	f erosion and sediment control in
2. Temporary Stream Crossing Yes No NA [] [] Maximum diameter pipes necessary to span creek without dr [] [] Installed non-woven geotextile fabric beneath approaches. [] [] [] Is fill composed of aggregate (no earth or soil)? [] [] Rock on approaches is clean enough to remove mud from venering stream during high flow.	
Runoff Control Practices	
1. Excavation Dewatering Yes No NA [] [] [] Upstream and downstream berms (sandbags, inflatable dams [] [] [] Clean water from upstream pool is being pumped to the down of the down of the down of the dewater from work area is being discharged to [] [] Constructed upstream berm with one-foot minimum freeboard.	nstream pool. a silt-trapping device.
2. Level Spreader Yes No NA [] [] Installed per plan. [] [] Constructed on undisturbed soil, not on fill, receiving only of [] [] Flow sheets out of level spreader without erosion on downstruction.	
3. Interceptor Dikes and Swales Yes No NA [] [] [] Installed per plan with minimum side slopes 2H:1V or flatter [] [] [] Stabilized by geotextile fabric, seed, or mulch with no erosio [] [] [] Sediment-laden runoff directed to sediment trapping structure	n occurring.

CONSTRUCTION DURATION INSPECTIONS Runoff Control Practices (continued)	Page 3 of
4. Stone Check Dam Yes No NA [] [] [] Is channel stable? (flow is not eroding soil underneath or around the [] [] [] Check is in good condition (rocks in place and no permanent pools [] [] Has accumulated sediment been removed?.	
5. Rock Outlet Protection Yes No NA [] [] [] Installed per plan. [] [] [] Installed concurrently with pipe installation.	
Soil Stabilization	
1. Topsoil and Spoil Stockpiles Yes No NA [] [] [] Stockpiles are stabilized with vegetation and/or mulch. [] [] [] Sediment control is installed at the toe of the slope.	
Revegetation Yes No NA [] [] Temporary seedings and mulch have been applied to idle areas. [] [] 4 inches minimum of topsoil has been applied under permanent seed.	lings
Sediment Control Practices	
1. Stabilized Construction Entrance Yes No NA [] [] Stone is clean enough to effectively remove mud from vehicles. [] [] Installed per standards and specifications? [] [] Does all traffic use the stabilized entrance to enter and leave site? [] [] Is adequate drainage provided to prevent ponding at entrance?	
2. Silt Fence Yes No NA [] [] Installed on Contour, 10 feet from toe of slope (not across conveyan [] [] Joints constructed by wrapping the two ends together for continuous [] [] Fabric buried 6 inches minimum. [] [] Posts are stable, fabric is tight and without rips or frayed areas. Sediment accumulation is % of design capacity.	

CONSTRUCTION DURATION INSPECTIONS	Page 4 of
Sediment Control Practices (continued)	
3. Storm Drain Inlet Protection (Use for Stone & Block; Filter Fabrie;	Curb; or, Excavated practices)
Yes No NA	
[] [] Installed concrete blocks lengthwise so open ends face out	ward, not upward.
[] [] Placed wire screen between No. 3 crushed stone and concr	
[] [] Drainage area is 1 acre or less.	
[] [] Excavated area is 900 cubic feet.	
[] [] Excavated side slopes should be 2:1.	
[] [] 2" x 4" frame is constructed and structurally sound.	
[] [] Posts 3-foot maximum spacing between posts.	
[] [] Fabric is embedded 1 to 1.5 feet below ground and secured	to frame/posts with staples at max 8-
inch spacing.	a man o samuel transportation in the same statement of same constant contract of
[] [] Posts are stable, fabric is tight and without rips or frayed an	reas.
Sediment accumulation % of design capacity.	
4. Temporary Sediment Trap	
Yes No NA	
[] [] Outlet structure is constructed per the approved plan or dra	wing.
[] [] Geotextile fabric has been placed beneath rock fill.	
Sediment accumulation is% of design capacity.	
S.T. C.F. A.D. '	
5. Temporary Sediment Basin	
Yes No NA	
[] [] Basin and outlet structure constructed per the approved pla	ın.
[] [] [] Basin side slopes are stabilized with seed/mulch.	1 6 1
[] [] [] Drainage structure flushed and basin surface restored upon	removal of sediment basin facility.
Sediment accumulation is% of design capacity.	
Note: Not all erosion and sediment control practices are included	in this listing. Add additional pages
to this list as required by site specific design.	s in this fishing. Two accitional pages
Construction inspection checklists for post-development s	tormwater management practices can
be found in Appendix F of the New York Stormwater Mar	

Page F-10

CONSTRUCTION DURATION INSPECTIONS

b. Modifications to the SWPPP (To be completed as described below)

The Operator shall amend the SWPPP whenever:

- 1. There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the United States and which has not otherwise been addressed in the SWPPP; or
- 2. The SWPPP proves to be ineffective in:
 - a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP and as required by this permit; or
 - b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity; and

Modification & Reason:

3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP.

M		
,		

IIL Monthly Summary of Site Inspection Activities

Name of Permitted Facility:	Today's Date:	Reporting Month:
Location:	Permit Identification #:	
Name and Telephone Number of Site Inspector:		

Date of Inspection	Regular / Rainfall based Inspection	Name of Inspector	Items of Concern

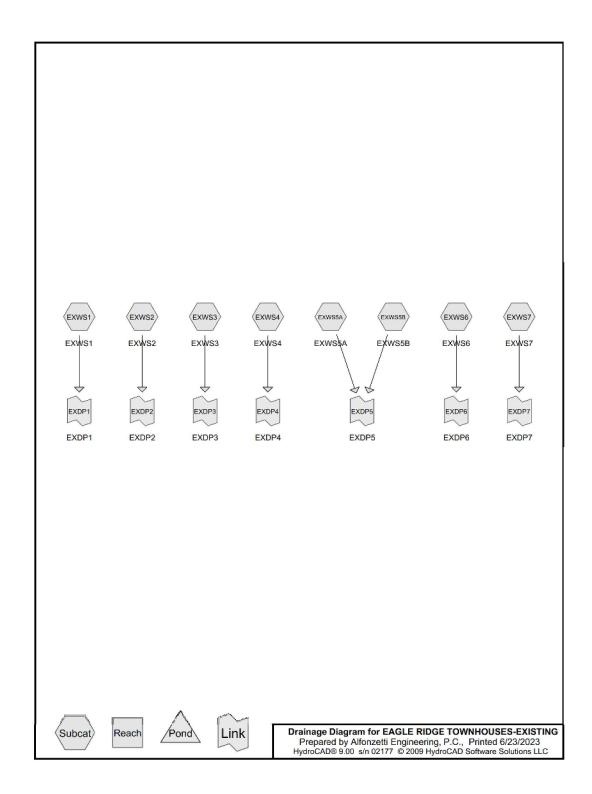
Owner/Operator Certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that false statements made herein are punishable as a class A misdemeanor pursuant to Section 210.45 of the Penal Law."

Signature of Permittee or Duly Authorized Representative	Name of Permittee or Duly Authorized Representative	Date
Duly authorized representatives <u>must</u> have written a documents.	uthorization, submitted to DEC, to sign any permit	

Appendix G

HydroCad Report



Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-EXISTING

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Printed 6/23/2023

Area Listing (all nodes)

Area	CN	Description
(sq-ft)		(subcatchment-numbers)
829,512	55	Woods, Good, HSG B (EXWS1, EXWS2, EXWS3, EXWS4, EXWS5A, EXWS7)
855,464	61	>75% Grass cover, Good, HSG B (EXWS1, EXWS3, EXWS4, EXWS5B, EXWS6, EXWS7)
171,534	98	Paved parking, HSG B (EXWS3, EXWS4, EXWS5B, EXWS6, EXWS7)
1,856,510		TOTAL AREA

Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Time span=5.00-36.00 hrs, dt=0.01 hrs, 3101 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment EXWS1: EXWS1 Runoff Area=80,670 sf 0.00% Impervious Runoff Depth=0.14" Flow Length=332' Tc=20.0 min CN=55 Runoff=0.1 cfs 974 cf Subcatchment EXWS2: EXWS2 Runoff Area=17,034 sf 0.00% Impervious Runoff Depth=0.14" Flow Length=194' Tc=13.5 min CN=55 Runoff=0.0 cfs 206 cf Subcatchment EXWS3: EXWS3 Runoff Area=255,227 sf 4.07% Impervious Runoff Depth=0.29" Flow Length=1,472' Tc=33.2 min CN=61 Runoff=0.6 cfs 6,219 cf Subcatchment EXWS4: EXWS4 Runoff Area=718,402 sf 5.52% Impervious Runoff Depth=0.26" Flow Length=759' Tc=23.7 min CN=60 Runoff=1.7 cfs 15,834 cf Subcatchment EXWS5A: EXWS5A Runoff Area=249,233 sf 0.00% Impervious Runoff Depth=0.14" Flow Length=500' Tc=12.1 min CN=55 Runoff=0.2 cfs 3,009 cf Runoff Area=182,046 sf 27.44% Impervious Runoff Depth=0.65" Subcatchment EXWS5B: EXWS5B Flow Length=641' Tc=10.6 min CN=71 Runoff=2.3 cfs 9,833 cf Subcatchment EXWS6: EXWS6 Runoff Area=256,054 sf 22.42% Impervious Runoff Depth=0.57" Flow Length=1,821' Tc=6.0 min CN=69 Runoff=3.2 cfs 12,065 cf Subcatchment EXWS7: EXWS7 Runoff Area=97,844 sf 14.41% Impervious Runoff Depth=0.38" Flow Length=706' Tc=4.7 min CN=64 Runoff=0.7 cfs 3,134 cf Inflow=0.1 cfs 974 cf Link EXDP1: EXDP1 Primary=0.1 cfs 974 cf Link EXDP2: EXDP2 Inflow=0.0 cfs 206 cf Primary=0.0 cfs 206 cf Inflow=0.6 cfs 6,219 cf Link EXDP3: EXDP3 Primary=0.6 cfs 6,219 cf Link EXDP4: EXDP4 Inflow=1.7 cfs 15,834 cf Primary=1.7 cfs 15,834 cf Inflow=2.3 cfs 12,842 cf Link EXDP5: EXDP5 Primary=2.3 cfs 12,842 cf

Type III 24-hr 1 YR Rainfall=2.80"

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Link EXDP6: EXDP6

Link EXDP7: EXDP7

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Inflow=3.2 cfs 12,065 cf

Primary=3.2 cfs 12,065 cf

Inflow=0.7 cfs 3,134 cf Primary=0.7 cfs 3,134 cf

Total Runoff Area = 1,856,510 sf Runoff Volume = 51,273 cf Average Runoff Depth = 0.33" 90.76% Pervious = 1,684,976 sf 9.24% Impervious = 171,534 sf

Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Summary for Subcatchment EXWS1: EXWS1

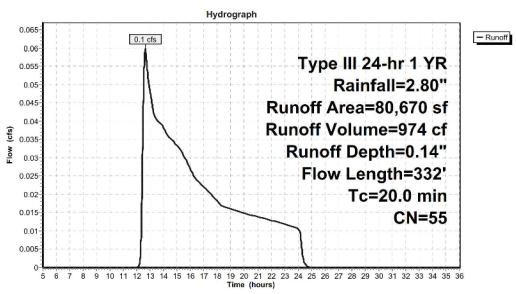
Runoff = 0.1 cfs @ 12.64 hrs, Volume= 974 cf, Depth= 0.14"

_	А	rea (sf)	CN D	escription						
*		78,687	55 W	55 Woods, Good, HSG B						
		1,983	61 >7	61 >75% Grass cover, Good, HSG B						
		80,670	55 W	eighted Av	erage					
		80,670	10	00.00% Per	vious Area					
	Tc	Length	Slope	Velocity	Capacity	Description				
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	18.1	100	0.0280	0.09		Sheet Flow,				
						Woods: Light underbrush n= 0.400 P2= 3.43"				
	0.4	50	0.1650	2.03		Shallow Concentrated Flow,				
						Woodland Kv= 5.0 fps				
	0.6	58	0.1030	1.60		Shallow Concentrated Flow,				
						Woodland Kv= 5.0 fps				
	0.9	124	0.2230	2.36		Shallow Concentrated Flow,				
_						Woodland Kv= 5.0 fps				
	20.0	332	Total							

Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Subcatchment EXWS1: EXWS1



Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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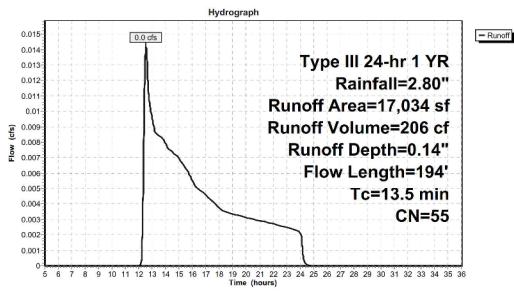
Summary for Subcatchment EXWS2: EXWS2

Runoff = 0.0 cfs @ 12.53 hrs, Volume= 206 cf, Depth= 0.14"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 1 YR Rainfall=2.80"

-	А	rea (sf)	F) CN D	escription		
		17,034	4 55 W	oods, Goo	d, HSG B	
		17,034	4 10	00.00% Per	vious Area	
	Tc	Length		Velocity	Capacity	Description
	(min)	(feet)	et) (ft/ft)	(ft/sec)	(cfs)	
	3.9	34	34 0.1470	0.14		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 3.43"
	9.3	116	16 0.1980	0.21		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 3.43"
	0.3	44	44 0.1920	2.19		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	12 E	104	M Total			

Subcatchment EXWS2: EXWS2



Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Summary for Subcatchment EXWS3: EXWS3

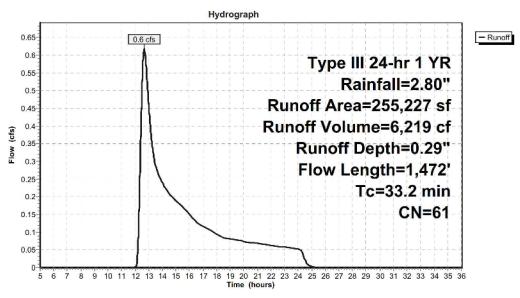
Runoff = 0.6 cfs @ 12.66 hrs, Volume= 6,219 cf, Depth= 0.29"

A	rea (sf)	CN D	N Description					
	81,245	55 V	Voods, Goo	d, HSG B				
1	62,736	61 >	1 >75% Grass cover, Good, HSG B					
	10,397	98 P	Paved parking, HSG B					
	849	61 >	75% Grass	cover, Goo	d, HSG B			
2	55,227	61 V	Veighted Av	verage				
2	44,830	9	5.93% Perv	ious Area				
	10,397	4.07% Impervious Area						
Tc	Length	Slope	Velocity	Capacity	Description			
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
21.1	150	0.0430	0.12		Sheet Flow,			
					Woods: Light underbrush n= 0.400 P2= 3.43"			
6.2	529	0.0800	1.41		Shallow Concentrated Flow,			
					Woodland Kv= 5.0 fps			
5.9	793	0.1030	2.25		Shallow Concentrated Flow,			
					Short Grass Pasture Kv= 7.0 fps			
33.2	1,472	Total						

Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Subcatchment EXWS3: EXWS3



Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Summary for Subcatchment EXWS4: EXWS4

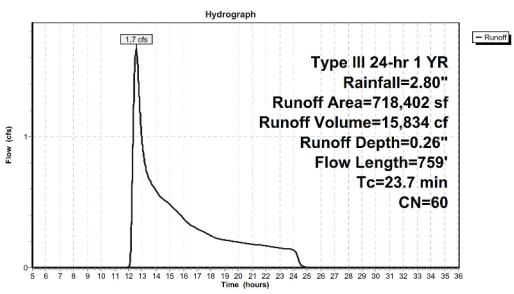
Runoff = 1.7 cfs @ 12.56 hrs, Volume= 15,834 cf, Depth= 0.26"

A	rea (sf)	CN D	escription						
	1,090	61 >	61 >75% Grass cover, Good, HSG B						
	31,029	98 P	aved parkir	ng, HSG B					
3	59,184	55 W	loods, Goo	d, HSG B					
3	14,447	61 >	75% Grass	cover, Goo	d, HSG B				
	8,523	98 P	aved parkii	ng, HSG B					
	271	61 >	75% Grass	cover, Goo	d, HSG B				
	118	98 P	aved parkii	ng, HSG B					
	3,740	61 >	75% Grass	cover, Goo	d, HSG B				
7	18,402	60 W	eighted A	verage					
6	78,732	9	4.48% Perv	ious Area					
	39,670	5	.52% Impe	rvious Area					
Tc	Length		Velocity	Capacity	Description				
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
18.2	150	0.0620	0.14		Sheet Flow,				
					Woods: Light underbrush n= 0.400 P2= 3.43"				
0.5	48	0.1200	1.73		Shallow Concentrated Flow,				
					Woodland Kv= 5.0 fps				
0.7	74	0.1350	1.84		Shallow Concentrated Flow,				
					Woodland Kv= 5.0 fps				
1.3	109	0.0730	1.35		Shallow Concentrated Flow,				
					Woodland Kv= 5.0 fps				
1.7	172	0.1160	1.70		Shallow Concentrated Flow,				
					Woodland Kv= 5.0 fps				
0.3	56	0.2850	2.67		Shallow Concentrated Flow,				
					Woodland Kv= 5.0 fps				
0.5	59	0.1530	1.96		Shallow Concentrated Flow,				
					Woodland Kv= 5.0 fps				
0.5	91	0.3840	3.10		Shallow Concentrated Flow,				
					Woodland Kv= 5.0 fps				
23.7	759	Total							

Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Subcatchment EXWS4: EXWS4



Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Summary for Subcatchment EXWS5A: EXWS5A

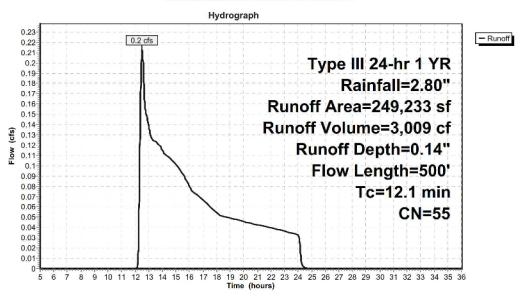
Runoff = 0.2 cfs @ 12.51 hrs, Volume= 3,009 cf, Depth= 0.14"

_	Α	rea (sf)	CN D	escription		
		87,490	55 W	loods, Goo	d, HSG B	
		50,967	55 W	loods, Goo	d, HSG B	
		22,785	55 W	loods, Goo	d, HSG B	
_		87,991	55 W	loods, Goo	d, HSG B	
	2	49,233	55 W	eighted A	verage	
	2	49,233	1	00.00% Per	vious Area	
	Tc	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	6.6	100	0.0500	0.25		Sheet Flow,
						Grass: Short n= 0.150 P2= 3.43"
	1.9	200	0.1200	1.73		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	2.4	100	0.0200	0.71		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	1.2	100	0.0800	1.41		Shallow Concentrated Flow,
-						Woodland Kv= 5.0 fps
	12.1	500	Total			

Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Subcatchment EXWS5A: EXWS5A



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Summary for Subcatchment EXWS5B: EXWS5B

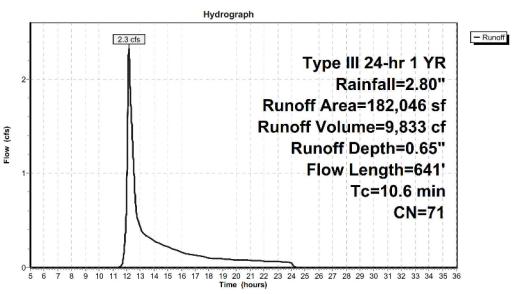
Runoff = 2.3 cfs @ 12.17 hrs, Volume= 9,833 cf, Depth= 0.65"

Area (sf) CN Description									
49,949 98 Paved parking, HSG B									
		1,904	61 >	>75% Grass cover, Good, HSG B					
		7,404	61 >	>75% Grass cover, Good, HSG B					
122,789 61 >75% Grass cover, 0						d, HSG B			
182,046 71 Weighted Average									
	1	32,097	7	72.56% Pervious Area					
		49,949	2	7.44% Imp	ervious Are	a			
	Tc	Length	Slope	Velocity	Capacity	Description			
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	8.3	100	0.0279	0.20		Sheet Flow,			
						Grass: Short n= 0.150 P2= 3.43"			
	0.8	60	0.0330	1.27		Shallow Concentrated Flow,			
						Short Grass Pasture Kv= 7.0 fps			
	0.2	31	0.2420	3.44		Shallow Concentrated Flow,			
						Short Grass Pasture Kv= 7.0 fps			
	1.2	345	0.0520	4.63		Shallow Concentrated Flow,			
						Paved Kv= 20.3 fps			
	0.1	105	0.1840	17.23	9.40	Pipe Channel,			
						10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'			
_						n= 0.013 Concrete pipe, bends & connections			
	10.6	641	Total						

Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Subcatchment EXWS5B: EXWS5B



Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Summary for Subcatchment EXWS6: EXWS6

Runoff = 3.2 cfs @ 12.11 hrs, Volume= 12,065 cf, Depth= 0.57"

30,242 61 >75% Grass cover, Good, HSG B 150,793 61 >75% Grass cover, Good, HSG B 4,924 61 >75% Grass cover, Good, HSG B 989 61 >75% Grass cover, Good, HSG B 295 61 >75% Grass cover, Good, HSG B 295 61 >75% Grass cover, Good, HSG B 295 61 >75% Grass cover, Good, HSG B 296 61 >75% Grass cover, Good, HSG B 297 61 >75% Grass cover, Good, HSG B 298 61 >75% Grass cover, Good, HSG B 299 7,567 61 >75% Grass cover, Good, HSG B 299 7,567 61 >75% Grass cover, Good, HSG B 299 8 Paved parking, HSG B 299 10	A	rea (sf)	CN E	N Description					
4,924 61 >75% Grass cover, Good, HSG B 989 61 >75% Grass cover, Good, HSG B 295 61 >75% Grass cover, Good, HSG B 2,635 61 >75% Grass cover, Good, HSG B 2,635 61 >75% Grass cover, Good, HSG B 2,635 61 >75% Grass cover, Good, HSG B 15,787 98 Paved parking, HSG B 1,191 61 >75% Grass cover, Good, HSG B 15,787 98 Paved parking, HSG B 256,054 69 Weighted Average 198,636 77.58% Pervious Area 22,42% Impervious Area TC Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs) 1.9 28 0.0890 0.25 Sheet Flow, Grass: Short n= 0.150 P2= 3.43" Sheet Flow, Smooth surfaces n= 0.011 P2= 3.43" Sheet Flow, Smooth surfaces n= 0.011 P2= 3.43" Shallow Concentrated Flow, Paved Kv= 20.3 fps Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps 0.4 474 0.0790 20.24 63.58 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections	30,242 61 >75% Grass cover, Good					d, HSG B			
989 61 >75% Grass cover, Good, HSG B 295 61 >75% Grass cover, Good, HSG B 41,631 98 Paved parking, HSG B 2,635 61 >75% Grass cover, Good, HSG B 7,567 61 >75% Grass cover, Good, HSG B 15,787 98 Paved parking, HSG B 1,191 61 >75% Grass cover, Good, HSG B 256,054 69 Weighted Average 198,636 77.58% Pervious Area 57,418 22.42% Impervious Area Tc Length (feet) (ft/ft) (ft/sec) (cfs) 1.9 28 0.0890 0.25 Sheet Flow, Grass: Short n= 0.150 P2= 3.43" Sheet Flow, Smooth surfaces n= 0.011 P2= 3.43" Shallow Concentrated Flow, Paved Kv= 20.3 fps 1.9 450 0.0710 4.00 Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps 0.4 474 0.0790 20.24 63.58 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections	150,793 61 >75% Grass cover, Good					d, HSG B			
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Tc (min) Length (feet) Slope (ft/ft) Velocity (ft/sec) Description 1.9 28 0.0890 0.25 Sheet Flow, Grass: Short n = 0.150 P2= 3.43" 0.6 72 0.0490 1.91 Sheet Flow, Smooth surfaces n = 0.011 P2= 3.43" 0.2 50 0.0490 4.49 Shallow Concentrated Flow, Paved Kv= 20.3 fps 1.9 450 0.0710 4.00 Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps 0.4 474 0.0790 20.24 63.58 Pipe Channel, 24.0" Round Area= 3.1 sf Perime 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 200 0.0600 17.64 55.41 Pipe Channel, 24.0" Round Area= 3.1 sf Perime 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 189 0.0700 19.05 59.85 Pipe Channel, 24.0" Round Area= 3.1 sf Perime 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.6 358 0.0170 9.39 29.50 Pipe Channel, 24.0" Round Area= 3.1 sf Perime 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections	1	98,636	7	7.58% Perv	ious Area				
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Paved Kv= 20.3 fps 1.9									
1.9 450 0.0710 4.00 Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps 0.4 474 0.0790 20.24 63.58 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 200 0.0600 17.64 55.41 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 189 0.0700 19.05 59.85 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.6 358 0.0170 9.39 29.50 Pipe Channel,	0.2	50	0.0490	4.49					
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0.4 474 0.0790 20.24 63.58 Pipe Channel,	1.9	450	0.0710	4.00		AND CALL MADE AND			
24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 200 0.0600 17.64 55.41 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 189 0.0700 19.05 59.85 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.6 358 0.0170 9.39 29.50 Pipe Channel,	0.4	171	0.0700	20.24	C2 E0				
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n= 0.013 Concrete pipe, bends & connections 0.2 189 0.0700 19.05 59.85 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.6 358 0.0170 9.39 29.50 Pipe Channel,	0.2	200	0.0000	17.04	33.41				
0.2 189 0.0700 19.05 59.85 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.6 358 0.0170 9.39 29.50 Pipe Channel,									
24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.6 358 0.0170 9.39 29.50 Pipe Channel,	0.2	189	0.0700	19.05	59.85				
n= 0.013 Concrete pipe, bends & connections 0.6 358 0.0170 9.39 29.50 Pipe Channel,	0.2	103	0.0700	15.05	55.05				
0.6 358 0.0170 9.39 29.50 Pipe Channel,									
	0.6	358	0.0170	9.39	29.50				
24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'		in and in the				24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'			

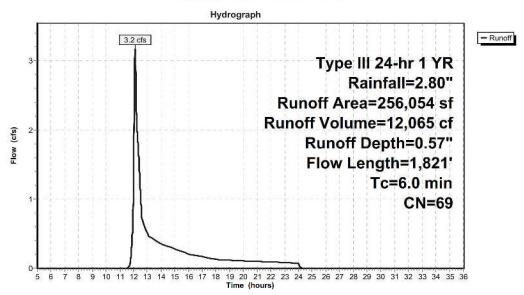
Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

Prepared by Alfonzetti Engineering, P.C. HydroCAD* 9.00 s/n 02177 © 2009 HydroCAD Software Solutions LLC

n= 0.013 Concrete pipe, bends & connections

6.0 1,821 Total

Subcatchment EXWS6: EXWS6



Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

Prepared by Alfonzetti Engineering, P.C. HydroCAD* 9.00 s/n 02177 © 2009 HydroCAD Software Solutions LLC

Summary for Subcatchment EXWS7: EXWS7

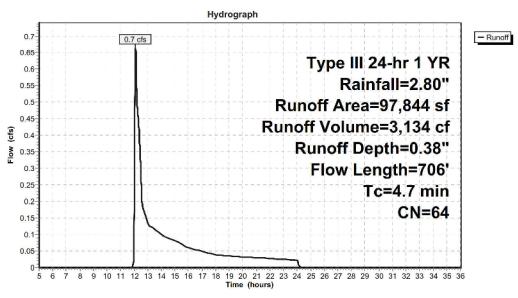
Runoff = 0.7 cfs @ 12.10 hrs, Volume= 3,134 cf, Depth= 0.38"

	Д	rea (sf)	CN	Description				
		5,433	61	>75% Grass cover, Good, HSG B				
		14,290	55	Woods, Goo	d, HSG B			
		14,905	61	>75% Grass	cover, Goo	d, HSG B		
		29,839	55	Woods, Goo	d, HSG B			
		12,976	61	>75% Grass	cover, Goo	d, HSG B		
		4,785	98	Paved parkii	ng, HSG B			
		2,157	61	>75% Grass	cover, Goo	d, HSG B		
		913	61	>75% Grass	cover, Goo	d, HSG B		
		989	61	>75% Grass	cover, Goo	d, HSG B		
		2,242	61	>75% Grass	cover, Goo	d, HSG B		
		9,315	98	Paved parkir	ng, HSG B			
97,844 64 Weighted Average								
83,744 85.59% Pervious Area								
14,100 14.41% Impervious Area						a		
				,				
	Tc	Length	Slope	e Velocity	Capacity	Description		
	(min)	(feet)	(ft/ft) (ft/sec)	(cfs)			
	2.7	40	0.0740	0.25		Sheet Flow,		
						Grass: Short n= 0.150 P2= 3.43"		
	0.5	60	0.0670	2.09		Sheet Flow,		
						Smooth surfaces n= 0.011 P2= 3.43"		
	1.1	346	0.0685	5.31		Shallow Concentrated Flow,		
						Paved Kv= 20.3 fps		
	0.4	260	0.0400	10.44	5.70	Pipe Channel,		
						10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'		
_						n= 0.010 PVC, smooth interior		
	4.7	706	Total					

Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Subcatchment EXWS7: EXWS7



Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Summary for Link EXDP1: EXDP1

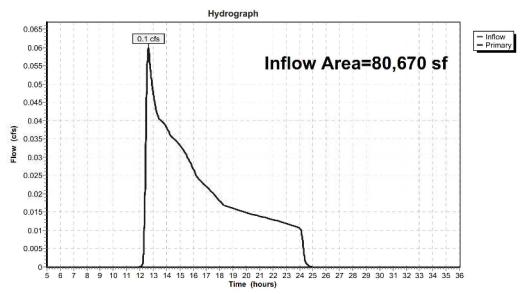
Inflow Area = 80,670 sf, 0.00% Impervious, Inflow Depth = 0.14" for 1 YR event

Inflow = 0.1 cfs @ 12.64 hrs, Volume= 974 cf

Primary = 0.1 cfs @ 12.64 hrs, Volume= 974 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP1: EXDP1



Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Summary for Link EXDP2: EXDP2

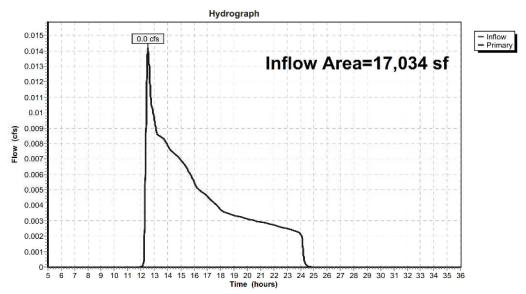
Inflow Area = 17,034 sf, 0.00% Impervious, Inflow Depth = 0.14" for 1 YR event

Inflow = 0.0 cfs @ 12.53 hrs, Volume= 206 cf

Primary = 0.0 cfs @ 12.53 hrs, Volume= 206 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP2: EXDP2



Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Summary for Link EXDP3: EXDP3

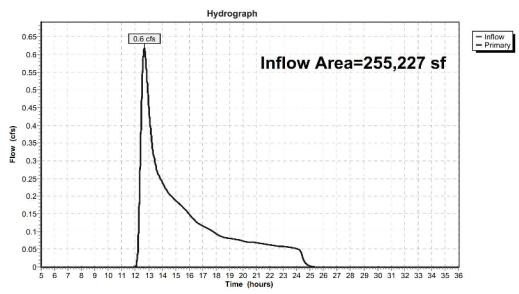
Inflow Area = 255,227 sf, 4.07% Impervious, Inflow Depth = 0.29" for 1 YR event

Inflow = 0.6 cfs @ 12.66 hrs, Volume= 6,219 cf

Primary = 0.6 cfs @ 12.66 hrs, Volume= 6,219 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP3: EXDP3



Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Summary for Link EXDP4: EXDP4

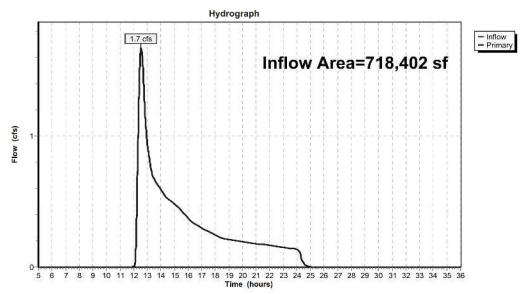
Inflow Area = 718,402 sf, 5.52% Impervious, Inflow Depth = 0.26" for 1 YR event

Inflow = 1.7 cfs @ 12.56 hrs, Volume= 15,834 cf

Primary = 1.7 cfs @ 12.56 hrs, Volume= 15,834 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP4: EXDP4



Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Summary for Link EXDP5: EXDP5

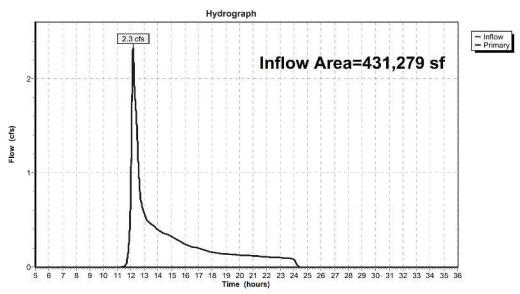
Inflow Area = 431,279 sf, 11.58% Impervious, Inflow Depth = 0.36" for 1 YR event

Inflow = 2.3 cfs @ 12.17 hrs, Volume= 12,842 cf

Primary = 2.3 cfs @ 12.17 hrs, Volume= 12,842 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP5: EXDP5



Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Summary for Link EXDP6: EXDP6

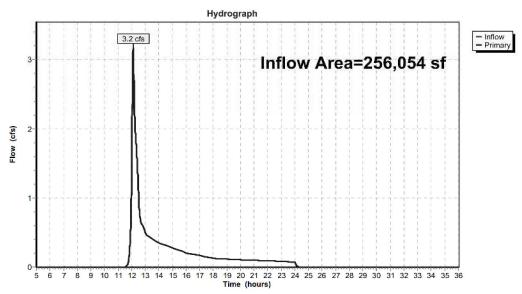
Inflow Area = 256,054 sf, 22.42% Impervious, Inflow Depth = 0.57" for 1 YR event

Inflow = 3.2 cfs @ 12.11 hrs, Volume= 12,065 cf

Primary = 3.2 cfs @ 12.11 hrs, Volume= 12,065 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP6: EXDP6



Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Summary for Link EXDP7: EXDP7

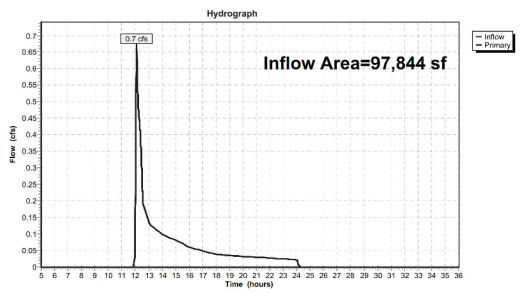
Inflow Area = 97,844 sf, 14.41% Impervious, Inflow Depth = 0.38" for 1 YR event

Inflow = 0.7 cfs @ 12.10 hrs, Volume= 3,134 cf

Primary = 0.7 cfs @ 12.10 hrs, Volume= 3,134 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP7: EXDP7



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Time span=5.00-36.00 hrs, dt=0.01 hrs, 3101 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Runoff Area=80,670 sf 0.00% Impervious Runoff Depth=0.32" Subcatchment EXWS1: EXWS1 Flow Length=332' Tc=20.0 min CN=55 Runoff=0.2 cfs 2,168 cf Subcatchment EXWS2: EXWS2 Runoff Area=17,034 sf 0.00% Impervious Runoff Depth=0.32" Flow Length=194' Tc=13.5 min CN=55 Runoff=0.1 cfs 458 cf Subcatchment EXWS3: EXWS3 Runoff Area=255,227 sf 4.07% Impervious Runoff Depth=0.54" Flow Length=1,472' Tc=33.2 min CN=61 Runoff=1.5 cfs 11,520 cf Subcatchment EXWS4: EXWS4 Runoff Area=718,402 sf 5.52% Impervious Runoff Depth=0.50" Flow Length=759' Tc=23.7 min CN=60 Runoff=4.2 cfs 30,031 cf Subcatchment EXWS5A: EXWS5A Runoff Area=249,233 sf 0.00% Impervious Runoff Depth=0.32" Flow Length=500' Tc=12.1 min CN=55 Runoff=0.8 cfs 6,698 cf Runoff Area=182,046 sf 27.44% Impervious Runoff Depth=1.02" Subcatchment EXWS5B: EXWS5B Flow Length=641' Tc=10.6 min CN=71 Runoff=4.0 cfs 15,466 cf Subcatchment EXWS6: EXWS6 Runoff Area=256,054 sf 22.42% Impervious Runoff Depth=0.91" Flow Length=1,821' Tc=6.0 min CN=69 Runoff=5.7 cfs 19,467 cf Subcatchment EXWS7: EXWS7 Runoff Area=97,844 sf 14.41% Impervious Runoff Depth=0.67" Flow Length=706' Tc=4.7 min CN=64 Runoff=1.5 cfs 5,463 cf Link EXDP1: EXDP1 Inflow=0.2 cfs 2,168 cf Primary=0.2 cfs 2,168 cf Link EXDP2: EXDP2 Inflow=0.1 cfs 458 cf Primary=0.1 cfs 458 cf Link EXDP3: EXDP3 Inflow=1.5 cfs 11,520 cf Primary=1.5 cfs 11,520 cf Link EXDP4: EXDP4 Inflow=4.2 cfs 30,031 cf Primary=4.2 cfs 30,031 cf Link EXDP5: EXDP5 Inflow=4.4 cfs 22,165 cf Primary=4.4 cfs 22,165 cf

Type III 24-hr 2 YR Rainfall=3.43"

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Link EXDP6: EXDP6

Link EXDP7: EXDP7

Printed 6/23/2023

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Inflow=5.7 cfs 19,467 cf

Inflow=1.5 cfs 5,463 cf

Primary=1.5 cfs 5,463 cf

Primary=5.7 cfs 19,467 cf

Total Runoff Area = 1,856,510 sf Runoff Volume = 91,272 cf Average Runoff Depth = 0.59"

90.76% Pervious = 1,684,976 sf 9.24% Impervious = 171,534 sf

Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Summary for Subcatchment EXWS1: EXWS1

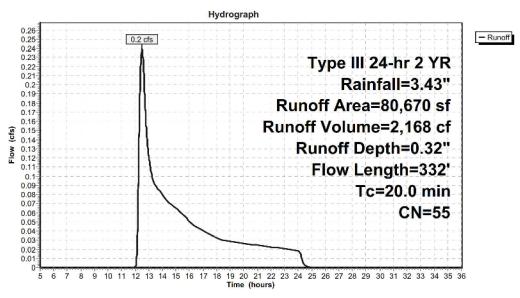
Runoff = 0.2 cfs @ 12.51 hrs, Volume= 2,168 cf, Depth= 0.32"

	Α	rea (sf)	CN D	escription						
*		78,687	55 W	oods, Goo	d, HSG B					
		1,983	61 >7	61 >75% Grass cover, Good, HSG B						
		80,670	55 W	eighted Av	/erage					
		80,670	10	00.00% Per	vious Area					
	Tc	Length	Slope	Velocity	Capacity	Description				
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	18.1	100	0.0280	0.09		Sheet Flow,				
						Woods: Light underbrush n= 0.400 P2= 3.43"				
	0.4	50	0.1650	2.03		Shallow Concentrated Flow,				
						Woodland Kv= 5.0 fps				
	0.6	58	0.1030	1.60		Shallow Concentrated Flow,				
						Woodland Kv= 5.0 fps				
	0.9	124	0.2230	2.36		Shallow Concentrated Flow,				
_						Woodland Kv= 5.0 fps				
	20.0	332	Total							

Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Subcatchment EXWS1: EXWS1



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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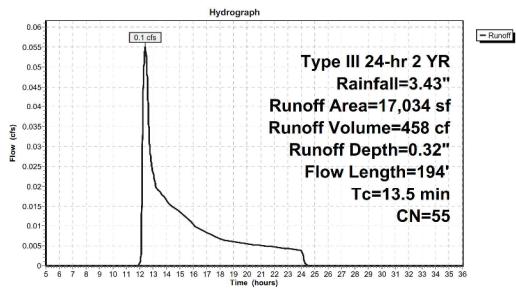
Summary for Subcatchment EXWS2: EXWS2

Runoff = 0.1 cfs @ 12.41 hrs, Volume= 458 cf, Depth= 0.32"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 2 YR Rainfall=3.43"

100	Α	rea (sf)	CN D	escription		
		17,034	55 W	loods, Goo	d, HSG B	
		17,034		. 12 2 12 2 2 2	vious Area	
	Tc	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	3.9	34	0.1470	0.14		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 3.43"
	9.3	116	0.1980	0.21		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 3.43"
	0.3	44	0.1920	2.19		Shallow Concentrated Flow,
102						Woodland Kv= 5.0 fps
	125	10/	Total			

Subcatchment EXWS2: EXWS2



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Summary for Subcatchment EXWS3: EXWS3

Runoff = 1.5 cfs @ 12.58 hrs, Volume= 11,520 cf, Depth= 0.54"

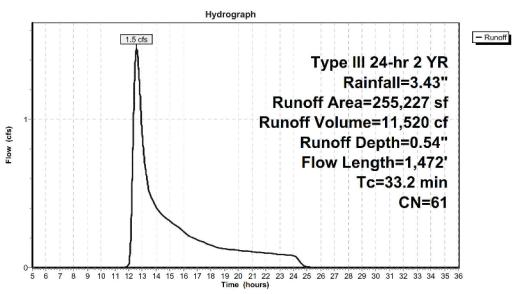
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 2 YR Rainfall=3.43"

A	rea (sf)	CN D	l Description					
	81,245	55 V	Voods, Goo	d, HSG B				
1	62,736	61 >	75% Grass	cover, Goo	d, HSG B			
	10,397	98 P	aved parkir	ng, HSG B				
	849	61 >	75% Grass	cover, Goo	d, HSG B			
2	55,227	61 V	Veighted Av	verage				
2	44,830	9	5.93% Perv	ious Area				
	10,397	4	.07% Imper	vious Area				
Tc	Length	Slope	Velocity	Capacity	Description			
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
21.1	150	0.0430	0.12		Sheet Flow,			
					Woods: Light underbrush n= 0.400 P2= 3.43"			
6.2	529	0.0800	1.41		Shallow Concentrated Flow,			
					Woodland Kv= 5.0 fps			
5.9	793	0.1030	2.25		Shallow Concentrated Flow,			
					Short Grass Pasture Kv= 7.0 fps			
33.2	1,472	Total						

Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Subcatchment EXWS3: EXWS3



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Summary for Subcatchment EXWS4: EXWS4

Runoff = 4.2 cfs @ 12.45 hrs, Volume= 30,031 cf, Depth= 0.50"

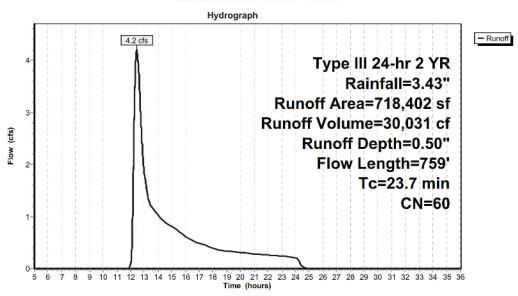
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 2 YR Rainfall=3.43"

A	rea (sf)	CN D	escription		
	1,090	61 >	75% Grass	cover, Goo	d, HSG B
	31,029	98 P	aved parkir	ng, HSG B	
3	59,184	55 W	oods, Goo	d, HSG B	
3	14,447	61 >	75% Grass	cover, Goo	d, HSG B
	8,523	98 P	aved parkir	ng, HSG B	
	271	61 >	75% Grass	cover, Goo	d, HSG B
	118	98 P	aved parkir	ng, HSG B	
	3,740	61 >	75% Grass	cover, Goo	d, HSG B
7	18,402	60 W	eighted A	/erage	
6	78,732	9	4.48% Perv	ious Area	
	39,670	5.	52% Imper	vious Area	
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
18.2	150	0.0620	0.14		Sheet Flow,
					Woods: Light underbrush n= 0.400 P2= 3.43"
0.5	48	0.1200	1.73		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
0.7	74	0.1350	1.84		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
1.3	109	0.0730	1.35		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
1.7	172	0.1160	1.70		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
0.3	56	0.2850	2.67		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
0.5	59	0.1530	1.96		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
0.5	91	0.3840	3.10		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
23.7	759	Total			

Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Subcatchment EXWS4: EXWS4



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Summary for Subcatchment EXWS5A: EXWS5A

Runoff = 0.8 cfs @ 12.38 hrs, Volume= 6,698 cf, Depth= 0.32"

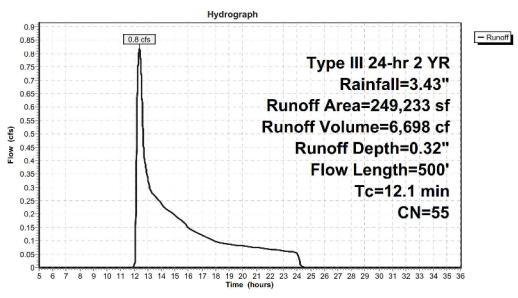
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 2 YR Rainfall=3.43"

A	rea (sf)	CN D	escription		
	87,490	55 Woods, Good, HSG B			
	50,967	55 W	loods, Goo	d, HSG B	
	22,785	55 W	oods, Goo	d, HSG B	
	87,991	55 W	oods, Goo	d, HSG B	
2	49,233	55 W	eighted A	/erage	
2	49,233	10	00.00% Per	vious Area	
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.6	100	0.0500	0.25		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.43"
1.9	200	0.1200	1.73		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
2.4	100	0.0200	0.71		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
1.2	100	0.0800	1.41		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
12.1	500	Total			

Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Subcatchment EXWS5A: EXWS5A



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Summary for Subcatchment EXWS5B: EXWS5B

Runoff = 4.0 cfs @ 12.16 hrs, Volume= 15,466 cf, Depth= 1.02"

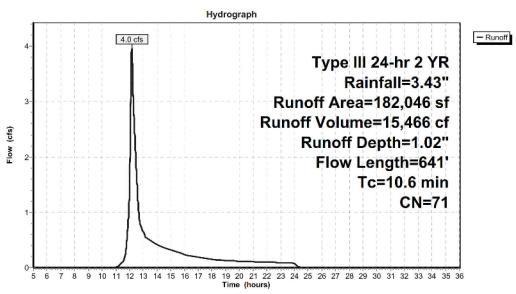
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 2 YR Rainfall=3.43"

	Α	rea (sf)	CN D	escription		
		49,949	98 P	aved parkir	ng, HSG B	
		1,904	61 >	75% Grass	cover, Goo	d, HSG B
		7,404	61 >	75% Grass	cover, Goo	d, HSG B
-	1	22,789	61 >	75% Grass	cover, Goo	d, HSG B
	1	82,046	71 V	Veighted A	verage	
	1	32,097	7	2.56% Perv	ious Area	
		49,949	2	7.44% Imp	ervious Are	a
	Tc	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	8.3	100	0.0279	0.20		Sheet Flow,
						Grass: Short n= 0.150 P2= 3.43"
	8.0	60	0.0330	1.27		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	0.2	31	0.2420	3.44		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	1.2	345	0.0520	4.63		Shallow Concentrated Flow,
						Paved Kv= 20.3 fps
	0.1	105	0.1840	17.23	9.40	Pipe Channel,
						10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'
						n= 0.013 Concrete pipe, bends & connections
	10.6	641	Total			

Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Subcatchment EXWS5B: EXWS5B



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Summary for Subcatchment EXWS6: EXWS6

Runoff = 5.7 cfs @ 12.10 hrs, Volume= 19,467 cf, Depth= 0.91"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 2 YR Rainfall=3.43"

A	rea (sf)	CN D	escription						
	30,242	61 >	75% Grass	cover, Goo	d, HSG B				
1	50,793	61 >	51 >75% Grass cover, Good, HSG B						
	4,924	61 >	75% Grass	cover, Goo	d, HSG B				
	989	61 >	75% Grass	cover, Goo	d, HSG <mark>B</mark>				
	295	61 >	75% Grass	cover, Goo	d, HSG B				
	41,631	98 P	aved parkii	ng, HSG B					
	2,635	61 >	75% Grass	cover, Goo	d, HSG B				
	7,567		75% Grass		d, HSG B				
	15,787	98 P	aved parkii	ng, HSG B					
	1,191	61 >	75% Grass	cover, Goo	d, HSG B				
2	56,054	69 V	Veighted A	verage					
1	98,636	7	7.58% Perv	ious Area					
	57,418	2	2.42% Imp	ervious Are	a				
Tc	Length	Slope		Capacity	Description				
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
1.9	28	0.0890	0.25		Sheet Flow,				
					Grass: Short n= 0.150 P2= 3.43"				
0.6	72	0.0490	1.91		Sheet Flow,				
					Smooth surfaces n= 0.011 P2= 3.43"				
0.2	50	0.0490	4.49		Shallow Concentrated Flow,				
					Paved Kv= 20.3 fps				
1.9	450	0.0710	4.00		Shallow Concentrated Flow,				
					Grassed Waterway Kv= 15.0 fps				
0.4	474	0.0790	20.24	63.58					
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'				
					n= 0.013 Concrete pipe, bends & connections				
0.2	200	0.0600	17.64	55.41	Pipe Channel,				
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'				
0.2	189	0.0700	19.05	E0.0E	n= 0.013 Concrete pipe, bends & connections				
0.2	189	0.0700	19.05	59.85	Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'				
0.6	358	0.0170	9.39	29.50	n= 0.013 Concrete pipe, bends & connections Pipe Channel,				
0.0	338	0.01/0	9.39	29.30	24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'				
					24.0 Nound Area - 3.1 St Petitin - 0.3 1 - 0.30				

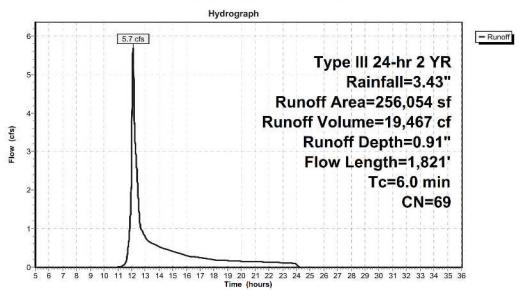
Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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n= 0.013 Concrete pipe, bends & connections

6.0 1,821 Total

Subcatchment EXWS6: EXWS6



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Summary for Subcatchment EXWS7: EXWS7

Runoff = 1.5 cfs @ 12.09 hrs, Volume= 5,463 cf, Depth= 0.67"

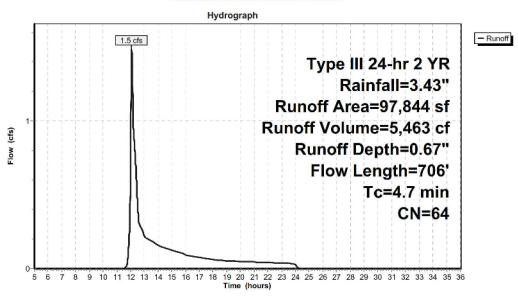
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 2 YR Rainfall=3.43"

	rea (sf)	CN	Description						
	5,433	61	>75% Grass cover, Good, HSG B						
	14,290	55	Woods, Goo	d, HSG B					
	14,905	61	>75% Grass	cover, Goo	d, HSG B				
	29,839	55	Woods, Goo	d, HSG B					
	12,976	61	>75% Grass	cover, Goo	d, HSG B				
	4,785	98	Paved parkir	ng, HSG B					
	2,157	61	>75% Grass	cover, Goo	d, HSG B				
	913	61	>75% Grass	cover, Goo	d, HSG B				
	989	61	>75% Grass	cover, Goo	d, HSG B				
	2,242	61	>75% Grass	cover, Goo	d, HSG B				
	9,315	98	Paved parkir	ng, HSG B					
	97,844	64	Weighted Average						
	83,744		85.59% Perv	ious Area					
	14,100		14.41% Impe	ervious Are	a				
Tc	Length	Slope	e Velocity	Capacity	Description				
(min)	(feet)	(ft/ft	(ft/sec)	(cfs)					
2.7	40	0.074	0.25		Sheet Flow,				
					Grass: Short n= 0.150 P2= 3.43"				
0.5	60	0.067	2.09		Sheet Flow,				
					Smooth surfaces n= 0.011 P2= 3.43"				
1.1	346	0.068	5 5.31		Shallow Concentrated Flow,				
					Paved Kv= 20.3 fps				
0.4	260	0.040	10.44	5.70	Pipe Channel,				
					10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'				
9					n= 0.010 PVC, smooth interior				
4.7	706	Total							

Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Subcatchment EXWS7: EXWS7



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Summary for Link EXDP1: EXDP1

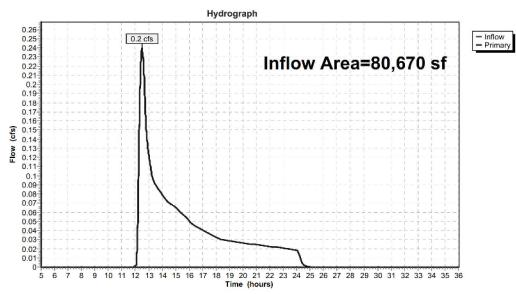
Inflow Area = 80,670 sf, 0.00% Impervious, Inflow Depth = 0.32" for 2 YR event

Inflow = 0.2 cfs @ 12.51 hrs, Volume= 2,168 cf

Primary = 0.2 cfs @ 12.51 hrs, Volume= 2,168 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP1: EXDP1



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Summary for Link EXDP2: EXDP2

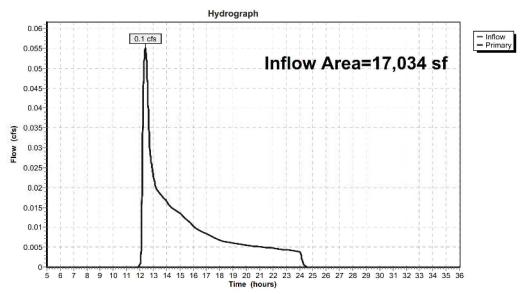
Inflow Area = 17,034 sf, 0.00% Impervious, Inflow Depth = 0.32" for 2 YR event

Inflow = 0.1 cfs @ 12.41 hrs, Volume= 458 cf

Primary = 0.1 cfs @ 12.41 hrs, Volume= 458 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP2: EXDP2



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Summary for Link EXDP3: EXDP3

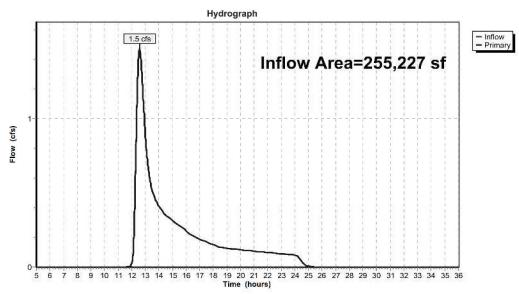
Inflow Area = 255,227 sf, 4.07% Impervious, Inflow Depth = 0.54" for 2 YR event

Inflow = 1.5 cfs @ 12.58 hrs, Volume= 11,520 cf

Primary = 1.5 cfs @ 12.58 hrs, Volume= 11,520 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP3: EXDP3



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Summary for Link EXDP4: EXDP4

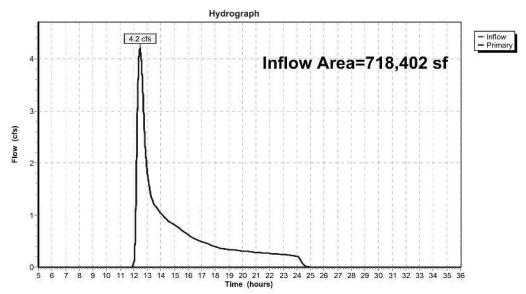
Inflow Area = 718,402 sf, 5.52% Impervious, Inflow Depth = 0.50" for 2 YR event

Inflow = 4.2 cfs @ 12.45 hrs, Volume= 30,031 cf

Primary = 4.2 cfs @ 12.45 hrs, Volume= 30,031 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP4: EXDP4



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Summary for Link EXDP5: EXDP5

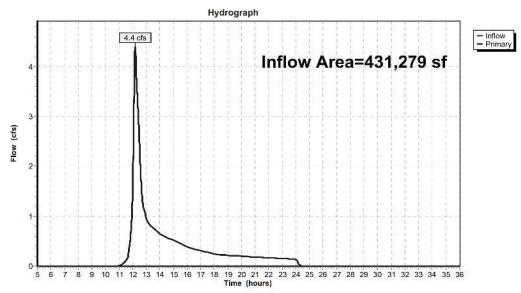
Inflow Area = 431,279 sf, 11.58% Impervious, Inflow Depth = 0.62" for 2 YR event

Inflow = 4.4 cfs @ 12.17 hrs, Volume= 22,165 cf

Primary = 4.4 cfs @ 12.17 hrs, Volume= 22,165 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP5: EXDP5



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Summary for Link EXDP6: EXDP6

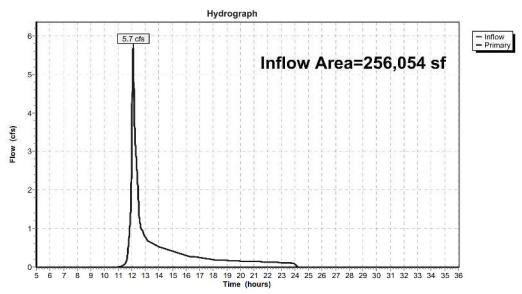
Inflow Area = 256,054 sf, 22.42% Impervious, Inflow Depth = 0.91" for 2 YR event

Inflow = 5.7 cfs @ 12.10 hrs, Volume= 19,467 cf

Primary = 5.7 cfs @ 12.10 hrs, Volume= 19,467 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP6: EXDP6



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Summary for Link EXDP7: EXDP7

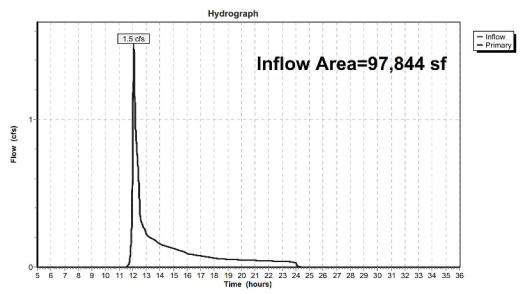
Inflow Area = 97,844 sf, 14.41% Impervious, Inflow Depth = 0.67" for 2 YR event

Inflow = 1.5 cfs @ 12.09 hrs, Volume= 5,463 cf

Primary = 1.5 cfs @ 12.09 hrs, Volume= 5,463 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP7: EXDP7



Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

Primary=8.7 cfs 38,105 cf

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Time span=5.00-36.00 hrs, dt=0.01 hrs, 3101 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Runoff Area=80,670 sf 0.00% Impervious Runoff Depth=0.66" Subcatchment EXWS1: EXWS1 Flow Length=332' Tc=20.0 min CN=55 Runoff=0.7 cfs 4,427 cf Subcatchment EXWS2: EXWS2 Runoff Area=17,034 sf 0.00% Impervious Runoff Depth=0.66" Flow Length=194' Tc=13.5 min CN=55 Runoff=0.2 cfs 935 cf Subcatchment EXWS3: EXWS3 Runoff Area=255,227 sf 4.07% Impervious Runoff Depth=0.97" Flow Length=1,472' Tc=33.2 min CN=61 Runoff=3.1 cfs 20,737 cf Runoff Area=718,402 sf 5.52% Impervious Runoff Depth=0.92" Subcatchment EXWS4: EXWS4 Flow Length=759' Tc=23.7 min CN=60 Runoff=9.3 cfs 55,007 cf Subcatchment EXWS5A: EXWS5A Runoff Area=249,233 sf 0.00% Impervious Runoff Depth=0.66" Flow Length=500' Tc=12.1 min CN=55 Runoff=2.4 cfs 13,677 cf Runoff Area=182,046 sf 27.44% Impervious Runoff Depth=1.61" Subcatchment EXWS5B: EXWS5B Flow Length=641' Tc=10.6 min CN=71 Runoff=6.5 cfs 24,428 cf Subcatchment EXWS6: EXWS6 Runoff Area=256,054 sf 22.42% Impervious Runoff Depth=1.47" Flow Length=1,821' Tc=6.0 min CN=69 Runoff=9.7 cfs 31,417 cf Subcatchment EXWS7: EXWS7 Runoff Area=97,844 sf 14.41% Impervious Runoff Depth=1.15" Flow Length=706' Tc=4.7 min CN=64 Runoff=2.9 cfs 9,388 cf Link EXDP1: EXDP1 Inflow=0.7 cfs 4,427 cf Primary=0.7 cfs 4,427 cf Link EXDP2: EXDP2 Inflow=0.2 cfs 935 cf Primary=0.2 cfs 935 cf Link EXDP3: EXDP3 Inflow=3.1 cfs 20,737 cf Primary=3.1 cfs 20,737 cf Link EXDP4: EXDP4 Inflow=9.3 cfs 55,007 cf Primary=9.3 cfs 55,007 cf Inflow=8.7 cfs 38,105 cf Link EXDP5: EXDP5

Type III 24-hr 5 YR Rainfall=4.31"

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Link EXDP6: EXDP6

Link EXDP7: EXDP7

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Inflow=9.7 cfs 31,417 cf

Primary=9.7 cfs 31,417 cf

Inflow=2.9 cfs 9,388 cf Primary=2.9 cfs 9,388 cf

Total Runoff Area = 1,856,510 sf Runoff Volume = 160,016 cf Average Runoff Depth = 1.03" 90.76% Pervious = 1,684,976 sf 9.24% Impervious = 171,534 sf

Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Summary for Subcatchment EXWS1: EXWS1

Runoff = 0.7 cfs @ 12.38 hrs, Volume= 4,427 cf, Depth= 0.66"

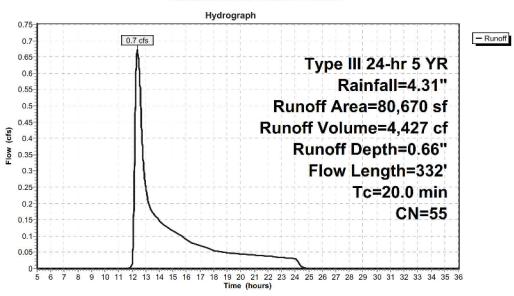
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 5 YR Rainfall=4.31"

_	А	rea (sf)	CN D	escription						
*		78,687	55 W	55 Woods, Good, HSG B						
		1,983	61 >	75% Grass	cover, Good	d, HSG B				
_		80,670	55 W	eighted Av	erage					
		80,670	10	00.00% Per	vious Area					
	Tc	Length	Slope	Velocity	Capacity	Description				
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	18.1	100	0.0280	0.09		Sheet Flow,				
						Woods: Light underbrush n= 0.400 P2= 3.43"				
	0.4	50	0.1650	2.03		Shallow Concentrated Flow,				
						Woodland Kv= 5.0 fps				
	0.6	58	0.1030	1.60		Shallow Concentrated Flow,				
						Woodland Kv= 5.0 fps				
	0.9	124	0.2230	2.36		Shallow Concentrated Flow,				
_						Woodland Kv= 5.0 fps				
	20.0	332	Total							

Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Subcatchment EXWS1: EXWS1



Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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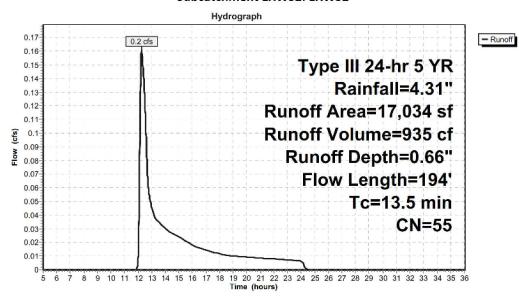
Summary for Subcatchment EXWS2: EXWS2

Runoff = 0.2 cfs @ 12.25 hrs, Volume= 935 cf, Depth= 0.66"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 5 YR Rainfall=4.31"

-	А	rea (sf)	F) CN D	escription		
		17,034	4 55 W	oods, Goo	d, HSG B	
		17,034	4 10	00.00% Per	vious Area	
	Tc	Length		Velocity	Capacity	Description
	(min)	(feet)	et) (ft/ft)	(ft/sec)	(cfs)	
	3.9	34	34 0.1470	0.14		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 3.43"
	9.3	116	16 0.1980	0.21		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 3.43"
	0.3	44	44 0.1920	2.19		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	12 E	104	M Total			

Subcatchment EXWS2: EXWS2



Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Summary for Subcatchment EXWS3: EXWS3

Runoff = 3.1 cfs @ 12.54 hrs, Volume= 20,737 cf, Depth= 0.97"

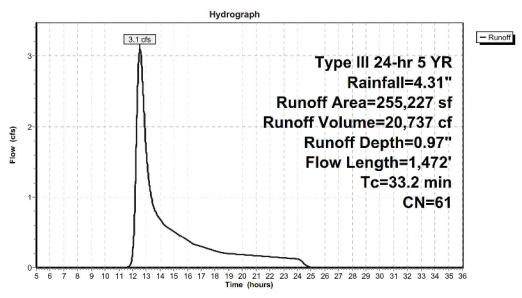
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 5 YR Rainfall=4.31"

<u> </u>	Area (sf)	CN D	CN Description					
	81,245	55 W	oods, Goo	d, HSG B				
	162,736	61 >7	75% Grass	cover, Good	d, HSG B			
	10,397	98 Pa	aved parkir	ng, HSG B				
	849	61 >7	75% Grass	cover, Good	d, HSG B			
	255,227	61 W	eighted A	/erage				
	244,830	95	5.93% Perv	ious Area				
	10,397	4.	07% Imper	vious Area				
To	Length	Slope	Velocity	Capacity	Description			
(min	(feet)	(ft/ft)	(ft/sec)	(cfs)				
21.1	. 150	0.0430	0.12		Sheet Flow,			
					Woods: Light underbrush n= 0.400 P2= 3.43"			
6.2	529	0.0800	1.41		Shallow Concentrated Flow,			
					Woodland Ky E Ofns			
					Woodland Kv= 5.0 fps			
5.9	793	0.1030	2.25		Shallow Concentrated Flow,			
5.9	793	0.1030	2.25		19-00-0-0 0-0-00-0-0-0-0-0-0-0-0-0-0-0-0-			

Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Subcatchment EXWS3: EXWS3



Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Summary for Subcatchment EXWS4: EXWS4

Runoff = 9.3 cfs @ 12.40 hrs, Volume= 55,007 cf, Depth= 0.92"

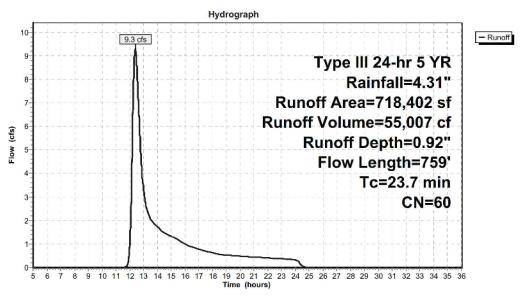
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 5 YR Rainfall=4.31"

A	rea (sf)	CN D	escription		
	1,090	61 >	75% Grass	cover, Goo	d, HSG B
	31,029	98 P	aved parkir	ng, HSG B	
3	59,184	55 W	loods, Goo	d, HSG B	
3	14,447	61 >	75% Grass	cover, Goo	d, HSG B
	8,523	98 P	aved parkii	ng, HSG B	
	271	61 >	75% Grass	cover, Goo	d, HSG B
	118	98 P	aved parkii	ng, HSG B	
	3,740	61 >	75% Grass	cover, Goo	d, HSG B
7	18,402	60 W	/eighted A	/erage	
6	78,732	9	4.48% Perv	ious Area	
	39,670	5.	.52% Imper	vious Area	
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
18.2	150	0.0620	0.14		Sheet Flow,
					Woods: Light underbrush n= 0.400 P2= 3.43"
0.5	48	0.1200	1.73		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
0.7	74	0.1350	1.84		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
1.3	109	0.0730	1.35		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
1.7	172	0.1160	1.70		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
0.3	56	0.2850	2.67		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
0.5	59	0.1530	1.96		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
0.5	91	0.3840	3.10		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
23.7	759	Total			

Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Subcatchment EXWS4: EXWS4



Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Summary for Subcatchment EXWS5A: EXWS5A

Runoff = 2.4 cfs @ 12.22 hrs, Volume= 13,677 cf, Depth= 0.66"

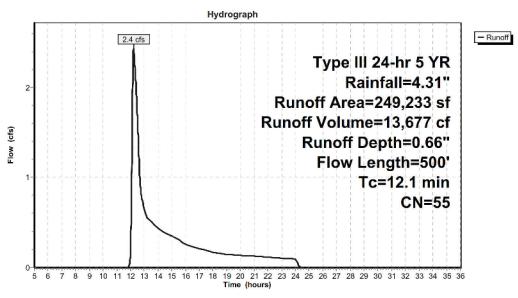
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 5 YR Rainfall=4.31"

	Α	rea (sf)	CN I	Description		
		87,490	55	Woods, Goo	d, HSG B	
		50,967	55	Woods, Goo	d, HSG B	
		22,785	55	Woods, Goo	d, HSG B	
		87,991	55	Woods, God	d, HSG B	
	2	49,233	55	Weighted A	verage	
	2	49,233		100.00% Per	vious Area	
	Tc	Length	Slope	e Velocity	Capacity	Description
(min)	(feet)	(ft/ft	(ft/sec)	(cfs)	
	6.6	100	0.0500	0.25		Sheet Flow,
						Grass: Short n= 0.150 P2= 3.43"
	1.9	200	0.1200	1.73		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	2.4	100	0.0200	0.71		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	1.2	100	0.0800	1.41		Shallow Concentrated Flow,
_						Woodland Kv= 5.0 fps
	12.1	500	Total			

Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Subcatchment EXWS5A: EXWS5A



Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Summary for Subcatchment EXWS5B: EXWS5B

Runoff = 6.5 cfs @ 12.15 hrs, Volume= 24,428 cf, Depth= 1.61"

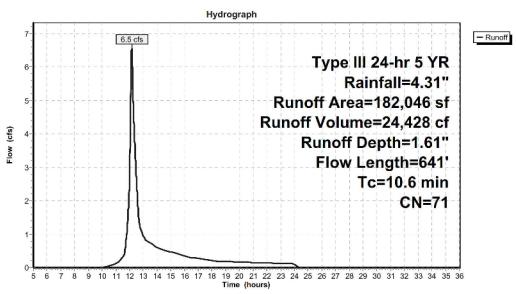
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 5 YR Rainfall=4.31"

A	rea (sf)	CN [escription		
	49,949	98 F	aved parkir	ng, HSG B	
	1,904	61 >	75% Grass	cover, Goo	d, HSG B
	7,404	61 >	75% Grass	cover, Goo	d, HSG B
1	22,789	61 >	75% Grass	cover, Goo	d, HSG B
1	82,046	71 V	Veighted Av	/erage	
1	32,097	7	2.56% Perv	ious Area	
	49,949	2	7.44% Imp	ervious Are	a
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
8.3	100	0.0279	0.20		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.43"
0.8	60	0.0330	1.27		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
0.2	31	0.2420	3.44		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
1.2	345	0.0520	4.63		Shallow Concentrated Flow,
					Paved Kv= 20.3 fps
0.1	105	0.1840	17.23	9.40	Pipe Channel,
					10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'
					n= 0.013 Concrete pipe, bends & connections
10.6	641	Total			

Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Subcatchment EXWS5B: EXWS5B



Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Summary for Subcatchment EXWS6: EXWS6

Runoff = 9.7 cfs @ 12.09 hrs, Volume= 31,417 cf, Depth= 1.47"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 5 YR Rainfall=4.31"

A	rea (sf)	CN D	escription						
	30,242	61 >	75% Grass	cover, Goo	d, HSG B				
1	50,793	61 >75% Grass cover, Good			d, HSG B				
	4,924 61		>75% Grass cover, Good, HSG B						
	989		>75% Grass cover, Good, HSG B						
	295		>75% Grass cover, Good, HSG B						
	41,631		Paved parking, HSG B						
	2,635		>75% Grass cover, Good, HSG B						
7,567									
	15,787		Paved parking, HSG B						
1	1,191 61		>75% Grass cover, Good, HSG B						
2	56,054	6,054 69 Weighted		verage					
1	98,636	7	77.58% Pervious Area						
	57,418	22.42% Impervious Area							
Tc	Length	Slope		Capacity	Description				
(min)	(feet)	(ft/ft)		(cfs)					
1.9	28	0.0890	0.25		Sheet Flow,				
					Grass: Short n= 0.150 P2= 3.43"				
0.6	72	0.0490	1.91		Sheet Flow,				
					Smooth surfaces n= 0.011 P2= 3.43"				
0.2	50	0.0490	4.49		Shallow Concentrated Flow,				
					Paved Kv= 20.3 fps				
1.9	450	0.0710	4.00		Shallow Concentrated Flow,				
					Grassed Waterway Kv= 15.0 fps				
0.4	4/4	0.0790	20.24	63.58					
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'				
0.2	200	0.000	17.64	FF 41	n= 0.013 Concrete pipe, bends & connections				
0.2	200	0.0600	17.64	55.41	Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'				
0.2	189	0.0700	19.05	59.85	n= 0.013 Concrete pipe, bends & connections Pipe Channel,				
0.2	103	0.0700	15.05	33.63	24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'				
					n= 0.013 Concrete pipe, bends & connections				
0.6	358	0.0170	9.39	29.50	Pipe Channel,				
0.0	330	0.01/0	5.35	29.30	24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'				
					24.0 Nouliu Aled - 3.1 31 Fellill - 0.3 1 - 0.30				

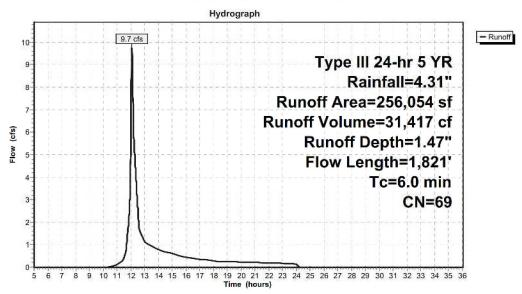
Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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n= 0.013 Concrete pipe, bends & connections

6.0 1,821 Total

Subcatchment EXWS6: EXWS6



Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Summary for Subcatchment EXWS7: EXWS7

Runoff = 2.9 cfs @ 12.08 hrs, Volume= 9,388 cf, Depth= 1.15"

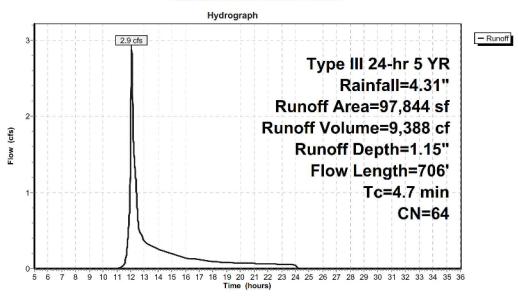
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 5 YR Rainfall=4.31"

	rea (sf)	CN	Description						
5,433 61 >75% Grass cover, Good					d, HSG B				
	14,290	55	Woods, Good, HSG B						
	14,905	61	>75% Grass	cover, Goo	d, HSG B				
	29,839	55	Woods, Good, HSG B						
	12,976	61	>75% Grass	cover, Goo	d, HSG B				
	4,785	98	Paved parking, HSG B						
	2,157	61	>75% Grass	cover, Goo	d, HSG B				
	913	61	>75% Grass	cover, Goo	d, HSG B				
	989	61	51 >75% Grass cover, Good, HSG B						
	2,242	61	L >75% Grass cover, Good, HSG B						
	9,315	98	Paved parking, HSG B						
	97,844	64 Weighted Average							
	83,744 85.59		35.59% Pervious Area						
14,100			14.41% Impervious Area						
Tc	Length	Slope	e Velocity	Capacity	Description				
(min)	(feet)	(ft/ft) (ft/sec)	(cfs)					
2.7	40	0.0740	0.25		Sheet Flow,				
					Grass: Short n= 0.150 P2= 3.43"				
0.5	0.5 60 0.06		2.09		Sheet Flow,				
					Smooth surfaces n= 0.011 P2= 3.43"				
1.1	346	0.068	5.31		Shallow Concentrated Flow,				
					Paved Kv= 20.3 fps				
0.4	260	0.0400	10.44	5.70	Pipe Channel,				
					10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'				
					n= 0.010 PVC, smooth interior				
4.7	706	Total							

Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Subcatchment EXWS7: EXWS7



Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Summary for Link EXDP1: EXDP1

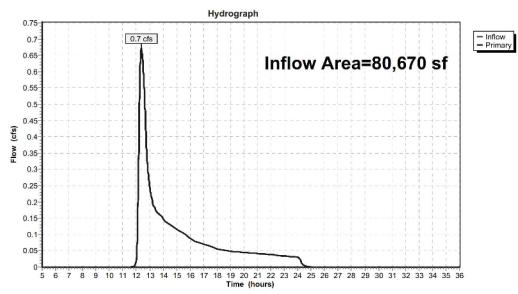
Inflow Area = 80,670 sf, 0.00% Impervious, Inflow Depth = 0.66" for 5 YR event

Inflow = 0.7 cfs @ 12.38 hrs, Volume= 4,427 cf

Primary = 0.7 cfs @ 12.38 hrs, Volume= 4,427 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP1: EXDP1



Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Summary for Link EXDP2: EXDP2

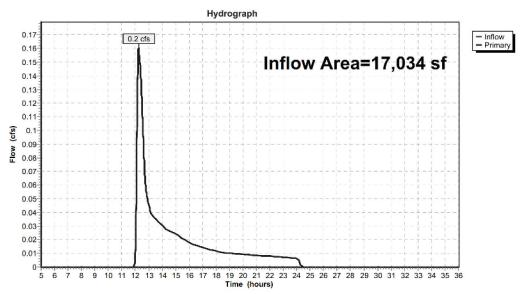
Inflow Area = 17,034 sf, 0.00% Impervious, Inflow Depth = 0.66" for 5 YR event

Inflow = 0.2 cfs @ 12.25 hrs, Volume= 935 cf

Primary = 0.2 cfs @ 12.25 hrs, Volume= 935 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP2: EXDP2



Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Summary for Link EXDP3: EXDP3

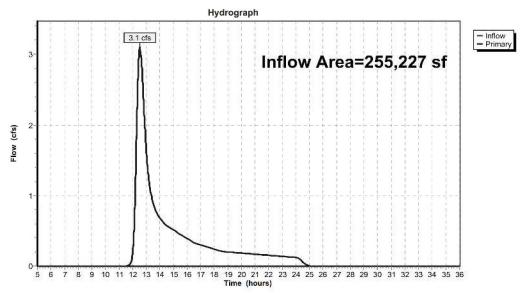
Inflow Area = 255,227 sf, 4.07% Impervious, Inflow Depth = 0.97" for 5 YR event

Inflow = 3.1 cfs @ 12.54 hrs, Volume= 20,737 cf

Primary = 3.1 cfs @ 12.54 hrs, Volume= 20,737 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP3: EXDP3



Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Summary for Link EXDP4: EXDP4

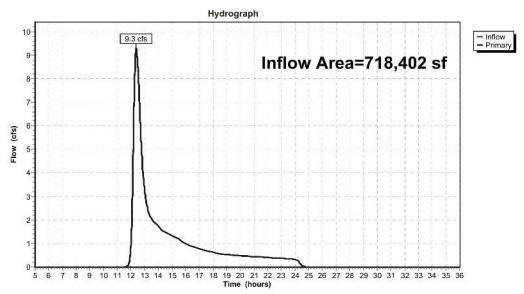
Inflow Area = 718,402 sf, 5.52% Impervious, Inflow Depth = 0.92" for 5 YR event

Inflow = 9.3 cfs @ 12.40 hrs, Volume= 55,007 cf

Primary = 9.3 cfs @ 12.40 hrs, Volume= 55,007 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP4: EXDP4



Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Summary for Link EXDP5: EXDP5

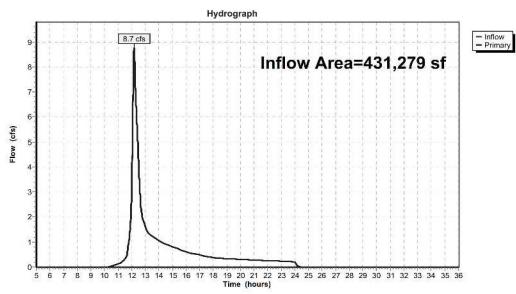
Inflow Area = 431,279 sf, 11.58% Impervious, Inflow Depth = 1.06" for 5 YR event

Inflow = 8.7 cfs @ 12.17 hrs, Volume= 38,105 cf

Primary = 8.7 cfs @ 12.17 hrs, Volume= 38,105 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP5: EXDP5



Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Summary for Link EXDP6: EXDP6

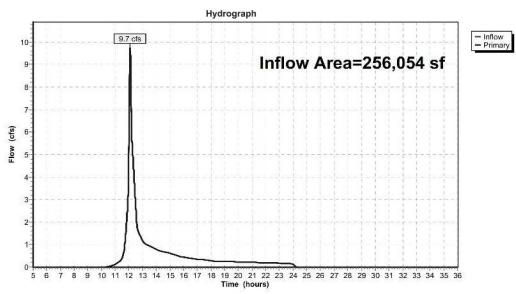
Inflow Area = 256,054 sf, 22.42% Impervious, Inflow Depth = 1.47" for 5 YR event

Inflow = 9.7 cfs @ 12.09 hrs, Volume= 31,417 cf

Primary = 9.7 cfs @ 12.09 hrs, Volume= 31,417 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP6: EXDP6



Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Summary for Link EXDP7: EXDP7

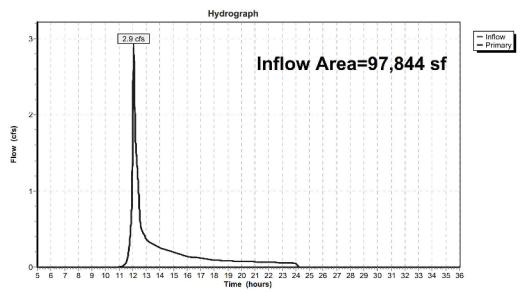
Inflow Area = 97,844 sf, 14.41% Impervious, Inflow Depth = 1.15" for 5 YR event

Inflow = 2.9 cfs @ 12.08 hrs, Volume= 9,388 cf

Primary = 2.9 cfs @ 12.08 hrs, Volume= 9,388 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP7: EXDP7



Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Time span=5.00-36.00 hrs, dt=0.01 hrs, 3101 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Runoff Area=80,670 sf 0.00% Impervious Runoff Depth=1.05" Subcatchment EXWS1: EXWS1 Flow Length=332' Tc=20.0 min CN=55 Runoff=1.2 cfs 7,028 cf Subcatchment EXWS2: EXWS2 Runoff Area=17,034 sf 0.00% Impervious Runoff Depth=1.05" Flow Length=194' Tc=13.5 min CN=55 Runoff=0.3 cfs 1,484 cf Subcatchment EXWS3: EXWS3 Runoff Area=255,227 sf 4.07% Impervious Runoff Depth=1.45" Flow Length=1,472' Tc=33.2 min CN=61 Runoff=4.9 cfs 30,794 cf Subcatchment EXWS4: EXWS4 Runoff Area=718,402 sf 5.52% Impervious Runoff Depth=1.38" Flow Length=759' Tc=23.7 min CN=60 Runoff=15.0 cfs 82,475 cf Subcatchment EXWS5A: EXWS5A Runoff Area=249,233 sf 0.00% Impervious Runoff Depth=1.05" Flow Length=500' Tc=12.1 min CN=55 Runoff=4.6 cfs 21,712 cf Runoff Area=182,046 sf 27.44% Impervious Runoff Depth=2.22" Subcatchment EXWS5B: EXWS5B Flow Length=641' Tc=10.6 min CN=71 Runoff=9.2 cfs 33,606 cf Subcatchment EXWS6: EXWS6 Runoff Area=256,054 sf 22.42% Impervious Runoff Depth=2.05" Flow Length=1,821' Tc=6.0 min CN=69 Runoff=13.9 cfs 43,793 cf Subcatchment EXWS7: EXWS7 Runoff Area=97,844 sf 14.41% Impervious Runoff Depth=1.67" Flow Length=706' Tc=4.7 min CN=64 Runoff=4.4 cfs 13,581 cf Link EXDP1: EXDP1 Inflow=1.2 cfs 7,028 cf Primary=1.2 cfs 7,028 cf Link EXDP2: EXDP2 Inflow=0.3 cfs 1,484 cf Primary=0.3 cfs 1,484 cf Link EXDP3: EXDP3 Inflow=4.9 cfs 30,794 cf Primary=4.9 cfs 30,794 cf Link EXDP4: EXDP4 Inflow=15.0 cfs 82,475 cf Primary=15.0 cfs 82,475 cf Inflow=13.6 cfs 55,319 cf Link EXDP5: EXDP5 Primary=13.6 cfs 55,319 cf

Type III 24-hr 10 YR Rainfall=5.13"

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Inflow=13.9 cfs 43,793 cf

Primary=13.9 cfs 43,793 cf

Link EXDP7: EXDP7

Link EXDP6: EXDP6

Inflow=4.4 cfs 13,581 cf Primary=4.4 cfs 13,581 cf

Total Runoff Area = 1,856,510 sf Runoff Volume = 234,473 cf Average Runoff Depth = 1.52" 90.76% Pervious = 1,684,976 sf 9.24% Impervious = 171,534 sf

Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Summary for Subcatchment EXWS1: EXWS1

Runoff = 1.2 cfs @ 12.33 hrs, Volume= 7,028 cf, Depth= 1.05"

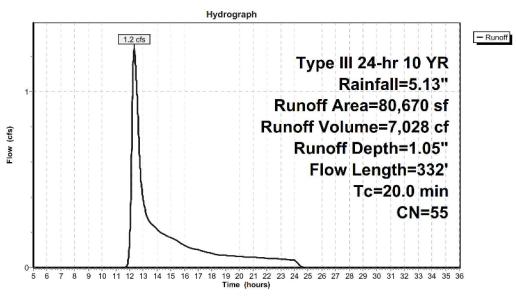
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 10 YR Rainfall=5.13"

_	А	rea (sf)	CN D	escription		
*		78,687	55 W	oods, Goo		
		1,983	61 >	75% Grass	cover, Good	d, HSG B
_		80,670	55 W	eighted Av	erage	
		80,670	10	00.00% Per	vious Area	
	Tc	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	18.1	100	0.0280	0.09		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 3.43"
	0.4	50	0.1650	2.03		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	0.6	58	0.1030	1.60		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	0.9	124	0.2230	2.36		Shallow Concentrated Flow,
_						Woodland Kv= 5.0 fps
	20.0	332	Total			

Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Subcatchment EXWS1: EXWS1



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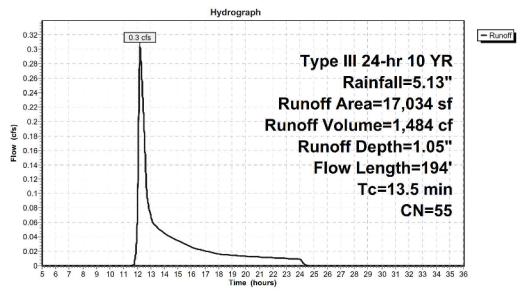
Summary for Subcatchment EXWS2: EXWS2

Runoff = 0.3 cfs @ 12.22 hrs, Volume= 1,484 cf, Depth= 1.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 10 YR Rainfall=5.13"

А	rea (sf)	CN D	escription		
	17,034	55 V	Voods, Goo	d, HSG B	
17,034 100.00% Pervious Area				vious Area	
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
3.9	34	0.1470	0.14		Sheet Flow,
					Woods: Light underbrush n= 0.400 P2= 3.43"
9.3	116	0.1980	0.21		Sheet Flow,
					Woods: Light underbrush n= 0.400 P2= 3.43"
0.3	44	0.1920	2.19		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
13.5	194	Total	•	•	

Subcatchment EXWS2: EXWS2



Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Summary for Subcatchment EXWS3: EXWS3

Runoff = 4.9 cfs @ 12.51 hrs, Volume= 30,794 cf, Depth= 1.45"

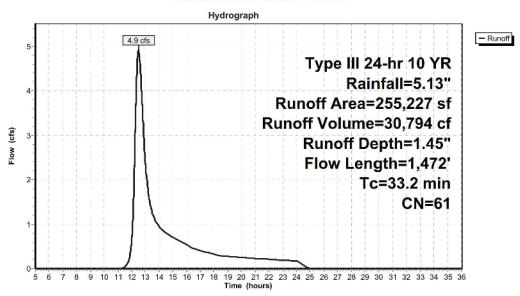
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 10 YR Rainfall=5.13"

<u> </u>	Area (sf)	CN Description					
	81,245	55 W	oods, Goo	d, HSG B			
	162,736	61 >7	75% Grass	cover, Goo	d, HSG B		
	10,397	98 Pa	aved parkir	ng, HSG B			
	849	61 >7	75% Grass	cover, Goo	d, HSG B		
	255,227	61 W	eighted A	/erage			
	244,830	95	5.93% Perv	ious Area			
	10,397	4.	.07% Imper	vious Area			
To	Length	Slope	Velocity	Capacity	Description		
(min	(feet)	(ft/ft)	(ft/sec)	(cfs)			
21.1	. 150	0.0430	0.12		Sheet Flow,		
					Woods: Light underbrush n= 0.400 P2= 3.43"		
6.2	529	0.0800	1.41		Shallow Concentrated Flow,		
					W II I K FOL		
					Woodland Kv= 5.0 fps		
5.9	793	0.1030	2.25		Shallow Concentrated Flow,		
5.9	793	0.1030	2.25		19-00-0-0 0-0-00-0-0-0-0-0-0-0-0-0-0-0-0-		

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Subcatchment EXWS3: EXWS3



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Summary for Subcatchment EXWS4: EXWS4

Runoff = 15.0 cfs @ 12.37 hrs, Volume= 82,475 cf, Depth= 1.38"

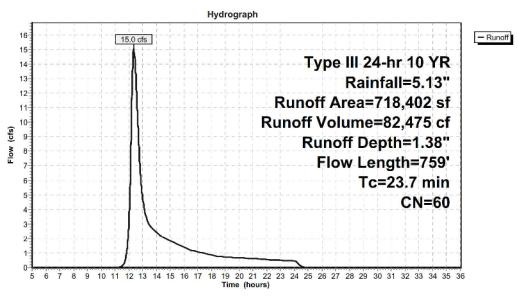
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 10 YR Rainfall=5.13"

A	rea (sf)	CN D	escription		
	1,090	61 >	75% Grass	cover, Goo	d, HSG B
	31,029	98 P	aved parkir	ng, HSG B	
3	59,184	55 W	oods, Goo	d, HSG B	
3	14,447	61 >	75% Grass	cover, Goo	d, HSG B
	8,523	98 P	aved parkir	ng, HSG B	
	271	61 >	75% Grass	cover, Goo	d, HSG B
	118	98 P	aved parkir	ng, HSG B	
	3,740	61 >	75% Grass	cover, Goo	d, HSG B
7	18,402	60 W	/eighted Av	/erage	
6	78,732	9	4.48% Perv	ious Area	
	39,670	5.	52% Imper	vious Area	
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
18.2	150	0.0620	0.14		Sheet Flow,
					Woods: Light underbrush n= 0.400 P2= 3.43"
0.5	48	0.1200	1.73		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
0.7	74	0.1350	1.84		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
1.3	109	0.0730	1.35		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
1.7	172	0.1160	1.70		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
0.3	56	0.2850	2.67		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
0.5	59	0.1530	1.96		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
0.5	91	0.3840	3.10		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
23.7	759	Total			

Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Subcatchment EXWS4: EXWS4



Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Summary for Subcatchment EXWS5A: EXWS5A

Runoff = 4.6 cfs @ 12.20 hrs, Volume= 21,712 cf, Depth= 1.05"

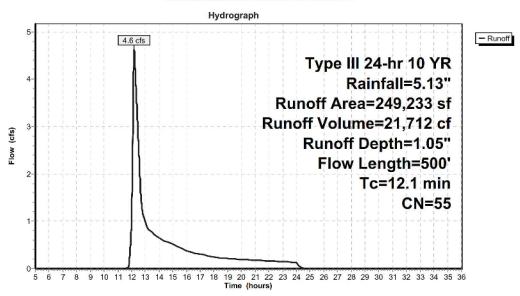
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 10 YR Rainfall=5.13"

A	rea (sf)	CN D	escription		
	87,490	55 W	loods, Goo	d, HSG B	
	50,967	55 W	loods, Goo	d, HSG B	
	22,785	55 W	loods, Goo	d, HSG B	
	87,991	55 W	loods, Goo	d, HSG B	
2	49,233	55 W	eighted A	/erage	
2	49,233	10	00.00% Per	vious Area	
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.6	100	0.0500	0.25		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.43"
1.9	200	0.1200	1.73		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
2.4	100	0.0200	0.71		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
1.2	100	0.0800	1.41		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
12.1	500	Total			

Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Subcatchment EXWS5A: EXWS5A



Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Summary for Subcatchment EXWS5B: EXWS5B

Runoff = 9.2 cfs @ 12.15 hrs, Volume= 33,606 cf, Depth= 2.22"

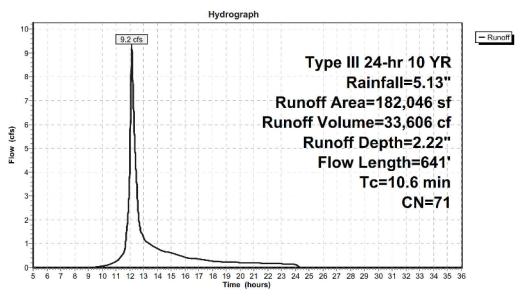
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 10 YR Rainfall=5.13"

A	rea (sf)	CN E	escription		
	49,949	98 P	aved parkir	ng, HSG B	
	1,904	61 >	75% Grass	cover, Goo	d, HSG B
	7,404	61 >	75% Grass	cover, Goo	d, HSG B
1	22,789	61 >	75% Grass	cover, Goo	d, HSG B
1	82,046	71 V	Veighted Av	verage	
1	32,097	7	2.56% Perv	ious Area	
	49,949	2	7.44% Imp	ervious Are	a
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
8.3	100	0.0279	0.20		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.43"
8.0	60	0.0330	1.27		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
0.2	31	0.2420	3.44		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
1.2	345	0.0520	4.63		Shallow Concentrated Flow,
					Paved Kv= 20.3 fps
0.1	105	0.1840	17.23	9.40	Pipe Channel,
					10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'
1					n= 0.013 Concrete pipe, bends & connections
10.6	641	Total			

Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Subcatchment EXWS5B: EXWS5B



Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Summary for Subcatchment EXWS6: EXWS6

Runoff = 13.9 cfs @ 12.09 hrs, Volume= 43,793 cf, Depth= 2.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 10 YR Rainfall=5.13"

A	rea (sf)	CN D	escription		
	30,242	61 >	75% Grass	cover, Goo	d, HSG B
1	50,793	61 >	75% Grass	cover, Goo	d, HSG B
	4,924	61 >	75% Grass	cover, Goo	d, HSG B
	989	61 >	75% Grass	cover, Goo	d, HSG <mark>B</mark>
	295	61 >	75% Grass	cover, Goo	d, HSG B
	41,631	98 P	aved parkii	ng, HSG B	
	2,635		75% Grass		
	7,567		75% Grass		d, HSG B
	15,787		aved parkir		
	1,191	61 >	75% Grass	cover, Goo	d, HSG B
2	56,054	69 V	Veighted A	verage	
1	98,636	7	7.58% Perv	ious Area	
	57,418	2	2.42% Imp	ervious Are	a
Tc	Length	Slope		Capacity	Description
(min)	(feet)	(ft/ft)		(cfs)	
1.9	28	0.0890	0.25		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.43"
0.6	72	0.0490	1.91		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 3.43"
0.2	50	0.0490	4.49		Shallow Concentrated Flow,
1.0	450	0.0710	4.00		Paved Kv= 20.3 fps
1.9	450	0.0710	4.00		Shallow Concentrated Flow,
0.4	474	0.0700	20.24	C2 F0	Grassed Waterway Kv= 15.0 fps
0.4	474	0.0790	20.24	63.58	Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.013 Concrete pipe, bends & connections
0.2	200	0.0600	17.64	55.41	Pipe Channel,
0.2	200	0.0000	17.04	33.41	24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.013 Concrete pipe, bends & connections
0.2	189	0.0700	19.05	59.85	Pipe Channel,
0.2	103	0.0700	15.05	33.03	24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.013 Concrete pipe, bends & connections
0.6	358	0.0170	9.39	29.50	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'

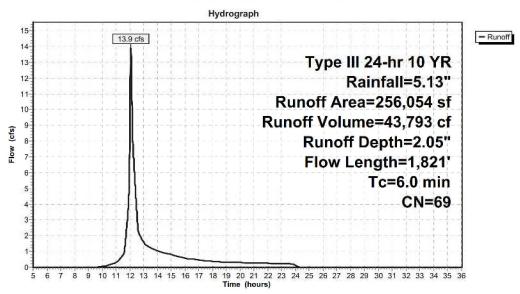
Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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n= 0.013 Concrete pipe, bends & connections

6.0 1,821 Total

Subcatchment EXWS6: EXWS6



Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Summary for Subcatchment EXWS7: EXWS7

Runoff = 4.4 cfs @ 12.08 hrs, Volume= 13,581 cf, Depth= 1.67"

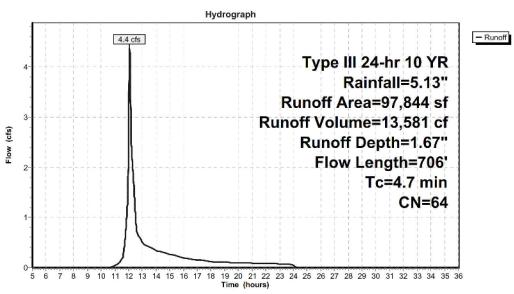
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 10 YR Rainfall=5.13"

	rea (sf)	CN	Description		
	5,433	61	>75% Grass	d, HSG B	
	14,290	55	Woods, Goo	d, HSG B	
	14,905	61	>75% Grass	cover, Goo	d, HSG B
	29,839	55	Woods, Goo	d, HSG B	
	12,976	61	>75% Grass	cover, Goo	d, HSG B
	4,785	98	Paved parkir	ng, HSG B	
	2,157	61	>75% Grass	cover, Goo	d, HSG B
	913	61	>75% Grass	cover, Goo	d, HSG B
	989	61	>75% Grass	cover, Goo	d, HSG B
	2,242	61	>75% Grass	cover, Goo	d, HSG B
	9,315	98	Paved parkii	ng, HSG B	
	97,844	64	Weighted A	verage	
	83,744		85.59% Perv	ious Area	
	14,100		14.41% Imp	ervious Are	a
Tc	Length	Slope	e Velocity	Capacity	Description
(min)	(feet)	(ft/ft	(ft/sec)	(cfs)	
2.7	40	0.0740	0 0.25		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.43"
0.5	60	0.0670	0 2.09		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 3.43"
1.1	346	0.068	5 5.31		Shallow Concentrated Flow,
					Paved Kv= 20.3 fps
0.4	260	0.0400	0 10.44	5.70	Pipe Channel,
					10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'
					n= 0.010 PVC, smooth interior
4.7	706	Total			

Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Subcatchment EXWS7: EXWS7



Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Summary for Link EXDP1: EXDP1

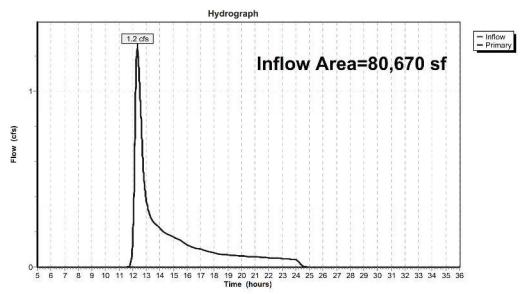
Inflow Area = 80,670 sf, 0.00% Impervious, Inflow Depth = 1.05" for 10 YR event

Inflow = 1.2 cfs @ 12.33 hrs, Volume= 7,028 cf

Primary = 1.2 cfs @ 12.33 hrs, Volume= 7,028 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP1: EXDP1



Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Summary for Link EXDP2: EXDP2

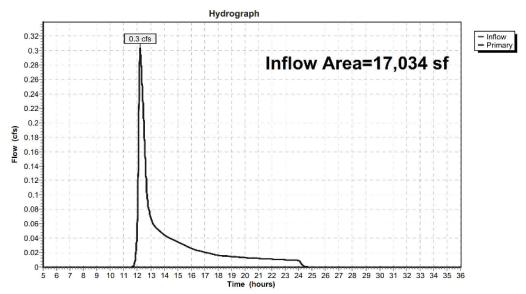
Inflow Area = 17,034 sf, 0.00% Impervious, Inflow Depth = 1.05" for 10 YR event

Inflow = 0.3 cfs @ 12.22 hrs, Volume= 1,484 cf

Primary = 0.3 cfs @ 12.22 hrs, Volume= 1,484 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP2: EXDP2



Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Summary for Link EXDP3: EXDP3

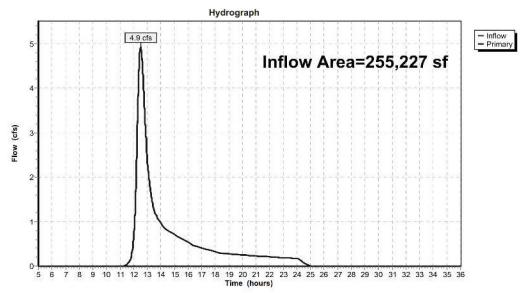
Inflow Area = 255,227 sf, 4.07% Impervious, Inflow Depth = 1.45" for 10 YR event

Inflow = 4.9 cfs @ 12.51 hrs, Volume= 30,794 cf

Primary = 4.9 cfs @ 12.51 hrs, Volume= 30,794 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP3: EXDP3



Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Summary for Link EXDP4: EXDP4

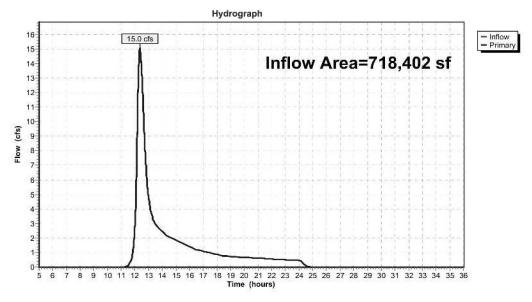
Inflow Area = 718,402 sf, 5.52% Impervious, Inflow Depth = 1.38" for 10 YR event

Inflow = 15.0 cfs @ 12.37 hrs, Volume= 82,475 cf

Primary = 15.0 cfs @ 12.37 hrs, Volume= 82,475 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP4: EXDP4



Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Summary for Link EXDP5: EXDP5

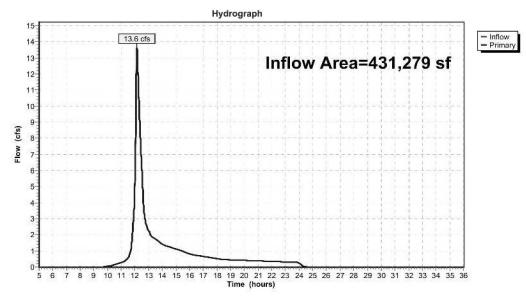
Inflow Area = 431,279 sf, 11.58% Impervious, Inflow Depth = 1.54" for 10 YR event

Inflow = 13.6 cfs @ 12.17 hrs, Volume= 55,319 cf

Primary = 13.6 cfs @ 12.17 hrs, Volume= 55,319 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP5: EXDP5



Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Summary for Link EXDP6: EXDP6

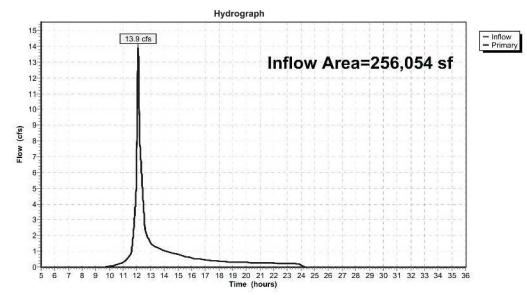
Inflow Area = 256,054 sf, 22.42% Impervious, Inflow Depth = 2.05" for 10 YR event

Inflow = 13.9 cfs @ 12.09 hrs, Volume= 43,793 cf

Primary = 13.9 cfs @ 12.09 hrs, Volume= 43,793 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP6: EXDP6



Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Summary for Link EXDP7: EXDP7

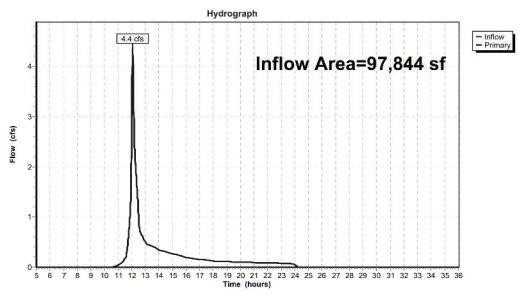
Inflow Area = 97,844 sf, 14.41% Impervious, Inflow Depth = 1.67" for 10 YR event

Inflow = 4.4 cfs @ 12.08 hrs, Volume= 13,581 cf

Primary = 4.4 cfs @ 12.08 hrs, Volume= 13,581 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP7: EXDP7



Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Time span=5.00-36.00 hrs, dt=0.01 hrs, 3101 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Runoff Area=80,670 sf 0.00% Impervious Runoff Depth=1.79" Subcatchment EXWS1: EXWS1 Flow Length=332' Tc=20.0 min CN=55 Runoff=2.4 cfs 12,027 cf Subcatchment EXWS2: EXWS2 Runoff Area=17,034 sf 0.00% Impervious Runoff Depth=1.79" Flow Length=194' Tc=13.5 min CN=55 Runoff=0.6 cfs 2,540 cf Subcatchment EXWS3: EXWS3 Runoff Area=255,227 sf 4.07% Impervious Runoff Depth=2.32" Flow Length=1,472' Tc=33.2 min CN=61 Runoff=8.3 cfs 49,330 cf Subcatchment EXWS4: EXWS4 Runoff Area=718,402 sf 5.52% Impervious Runoff Depth=2.23" Flow Length=759' Tc=23.7 min CN=60 Runoff=25.8 cfs 133,420 cf Subcatchment EXWS5A: EXWS5A Runoff Area=249,233 sf 0.00% Impervious Runoff Depth=1.79" Flow Length=500' Tc=12.1 min CN=55 Runoff=8.9 cfs 37,158 cf Runoff Area=182,046 sf 27.44% Impervious Runoff Depth=3.27" Subcatchment EXWS5B: EXWS5B Flow Length=641' Tc=10.6 min CN=71 Runoff=13.7 cfs 49,663 cf Subcatchment EXWS6: EXWS6 Runoff Area=256,054 sf 22.42% Impervious Runoff Depth=3.08" Flow Length=1,821' Tc=6.0 min CN=69 Runoff=21.1 cfs 65,642 cf Subcatchment EXWS7: EXWS7 Runoff Area=97,844 sf 14.41% Impervious Runoff Depth=2.60" Flow Length=706' Tc=4.7 min CN=64 Runoff=7.0 cfs 21,174 cf Link EXDP1: EXDP1 Inflow=2.4 cfs 12,027 cf Primary=2.4 cfs 12,027 cf Link EXDP2: EXDP2 Inflow=0.6 cfs 2,540 cf Primary=0.6 cfs 2,540 cf Link EXDP3: EXDP3 Inflow=8.3 cfs 49,330 cf Primary=8.3 cfs 49,330 cf Link EXDP4: EXDP4 Inflow=25.8 cfs 133,420 cf Primary=25.8 cfs 133,420 cf Inflow=22.4 cfs 86,820 cf Link EXDP5: EXDP5 Primary=22.4 cfs 86,820 cf

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Link EXDP6: EXDP6 Inflow=21.1 cfs 65,642 cf

Primary=21.1 cfs 65,642 cf

Link EXDP7: EXDP7 Inflow=7.0 cfs 21,174 cf
Primary=7.0 cfs 21,174 cf

Total Runoff Area = 1,856,510 sf Runoff Volume = 370,952 cf Average Runoff Depth = 2.40" 90.76% Pervious = 1,684,976 sf 9.24% Impervious = 171,534 sf

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Summary for Subcatchment EXWS1: EXWS1

Runoff = 2.4 cfs @ 12.31 hrs, Volume= 12,027 cf, Depth= 1.79"

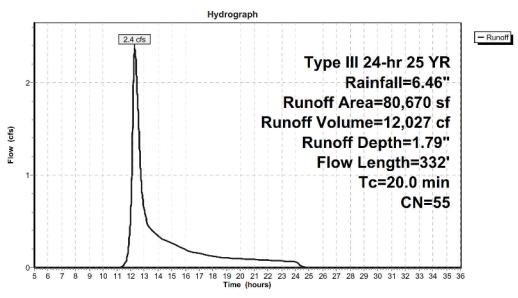
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25 YR Rainfall=6.46"

	A	rea (sf)	CN D	escription						
*		78,687	55 W	oods, Goo	d, HSG B					
		1,983	61 >7	61 >75% Grass cover, Good, HSG B						
		80,670	55 W	eighted Av	/erage					
		80,670	10	00.00% Per	vious Area					
	Tc	Length	Slope	Velocity	Capacity	Description				
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	18.1	100	0.0280	0.09		Sheet Flow,				
						Woods: Light underbrush n= 0.400 P2= 3.43"				
	0.4	50	0.1650	2.03		Shallow Concentrated Flow,				
						Woodland Kv= 5.0 fps				
	0.6	58	0.1030	1.60		Shallow Concentrated Flow,				
						Woodland Kv= 5.0 fps				
	0.9	124	0.2230	2.36		Shallow Concentrated Flow,				
_						Woodland Kv= 5.0 fps				
	20.0	332	Total							

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Subcatchment EXWS1: EXWS1



Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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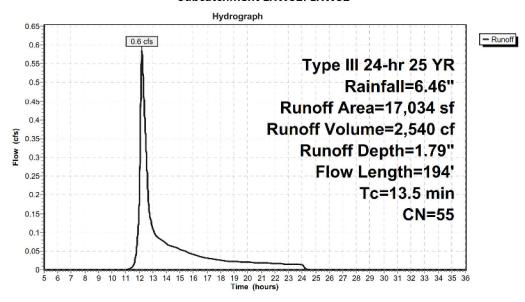
Summary for Subcatchment EXWS2: EXWS2

Runoff = 0.6 cfs @ 12.20 hrs, Volume= 2,540 cf, Depth= 1.79"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25 YR Rainfall=6.46"

_	А	rea (sf)	CN De	escription		
		17,034	55 W	oods, Goo	d, HSG B	
	17,034 100.00% Pervious Area				vious Area	
	Tc	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	3.9	34	0.1470	0.14		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 3.43"
	9.3	116	0.1980	0.21		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 3.43"
	0.3	44	0.1920	2.19		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
_	13.5	194	Total			

Subcatchment EXWS2: EXWS2



Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Summary for Subcatchment EXWS3: EXWS3

Runoff = 8.3 cfs @ 12.50 hrs, Volume= 49,330 cf, Depth= 2.32"

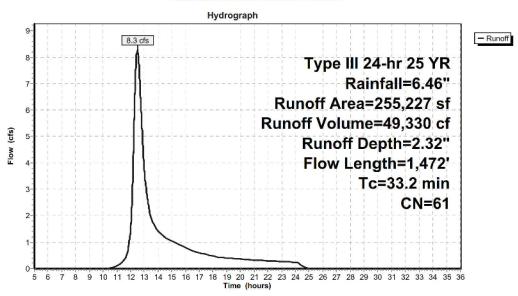
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25 YR Rainfall=6.46"

	Α	rea (sf)	CN [Description		
		81,245	55 \	Voods, Goo	d, HSG B	
	1	62,736	61 >	75% Grass	cover, Goo	d, HSG B
		10,397	98 F	aved parkii	ng, HSG B	
_		849	61 >	75% Grass	cover, Goo	d, HSG B
	2	55,227	61 \	Veighted A	verage	
	2	44,830	9	5.93% Perv	ious Area	
		10,397	4	1.07% Impe	vious Area	
	Tc	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	21.1	150	0.0430	0.12		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 3.43"
	6.2	529	0.0800	1.41		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	5.9	793	0.1030	2.25		Shallow Concentrated Flow,
_						Short Grass Pasture Kv= 7.0 fps
	33.2	1.472	Total			

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Subcatchment EXWS3: EXWS3



Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Summary for Subcatchment EXWS4: EXWS4

Runoff = 25.8 cfs @ 12.35 hrs, Volume= 133,420 cf, Depth= 2.23"

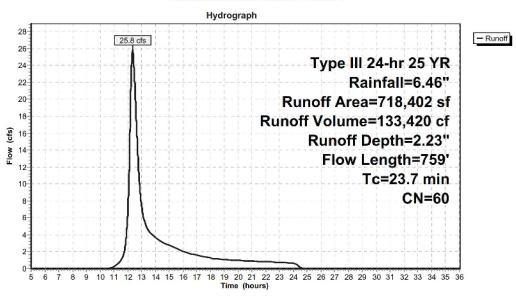
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25 YR Rainfall=6.46"

A	rea (sf)	CN D	escription							
	1,090	61 >	61 >75% Grass cover, Good, HSG B							
	31,029	98 P	aved parkir	ng, HSG B						
3	59,184	55 W	loods, Goo	d, HSG B						
3	14,447		The second secon	cover, Goo	d, HSG B					
	8,523		aved parkii							
	271			cover, Goo	d, HSG B					
	118	98 P	aved parkii	ng, HSG B						
	3,740			cover, Goo	d, HSG B					
7	18,402	60 W	/eighted A	/erage	-					
6	78,732	9	4.48% Perv	ious Area						
	39,670	5	.52% Impe	vious Area						
Tc	Length	Slope	Velocity	Capacity	Description					
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	*					
18.2	150	0.0620	0.14		Sheet Flow,					
					Woods: Light underbrush n= 0.400 P2= 3.43"					
0.5	48	0.1200	1.73		Shallow Concentrated Flow,					
					Woodland Kv= 5.0 fps					
0.7	74	0.1350	1.84		Shallow Concentrated Flow,					
					Woodland Kv= 5.0 fps					
1.3	109	0.0730	1.35		Shallow Concentrated Flow,					
					Woodland Kv= 5.0 fps					
1.7	172	0.1160	1.70		Shallow Concentrated Flow,					
					Woodland Kv= 5.0 fps					
0.3	56	0.2850	2.67		Shallow Concentrated Flow,					
					Woodland Kv= 5.0 fps					
0.5	59	0.1530	1.96		Shallow Concentrated Flow,					
					Woodland Kv= 5.0 fps					
0.5	91	0.3840	3.10		Shallow Concentrated Flow,					
					Woodland Kv= 5.0 fps					
23.7	759	Total								

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Subcatchment EXWS4: EXWS4



Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Summary for Subcatchment EXWS5A: EXWS5A

Runoff = 8.9 cfs @ 12.18 hrs, Volume= 37,158 cf, Depth= 1.79"

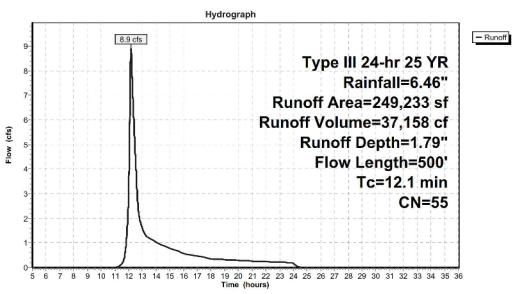
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25 YR Rainfall=6.46"

A	rea (sf)	CN D	escription		
	87,490	55 W	loods, Goo	d, HSG B	
	50,967	55 W	loods, Goo	d, HSG B	
	22,785	55 W	loods, Goo	d, HSG B	
	87,991	55 W	loods, Goo	d, HSG B	
2	49,233	55 W	eighted A	/erage	
2	49,233	10	00.00% Per	vious Area	
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.6	100	0.0500	0.25		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.43"
1.9	200	0.1200	1.73		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
2.4	100	0.0200	0.71		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
1.2	100	0.0800	1.41		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
12.1	500	Total			

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Subcatchment EXWS5A: EXWS5A



Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Summary for Subcatchment EXWS5B: EXWS5B

Runoff = 13.7 cfs @ 12.15 hrs, Volume= 49,663 cf, Depth= 3.27"

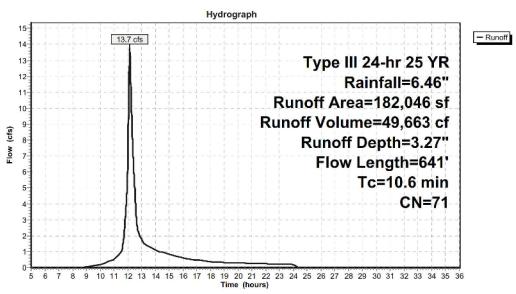
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25 YR Rainfall=6.46"

A	rea (sf)	CN D	escription		
	49,949	98 Pa	aved parkir	ng, HSG B	
	1,904	61 >	75% Grass	cover, Goo	d, HSG B
	7,404	61 >	75% Grass	cover, Goo	d, HSG B
1	22,789	61 >7	75% Grass	cover, Goo	d, HSG B
1	82,046	71 W	eighted Av	verage	
1	32,097	7:	2.56% Perv	ious Area	
	49,949	27	7.44% Impe	ervious Are	a
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
8.3	100	0.0279	0.20		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.43"
0.8	60	0.0330	1.27		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
0.2	31	0.2420	3.44		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
1.2	345	0.0520	4.63		Shallow Concentrated Flow,
					Paved Kv= 20.3 fps
0.1	105	0.1840	17.23	9.40	Pipe Channel,
					10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'
1					n= 0.013 Concrete pipe, bends & connections
10.6	641	Total			

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Subcatchment EXWS5B: EXWS5B



Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Summary for Subcatchment EXWS6: EXWS6

Runoff = 21.1 cfs @ 12.09 hrs, Volume= 65,642 cf, Depth= 3.08"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25 YR Rainfall=6.46"

A	rea (sf)	CN D	escription		
	30,242	61 >	75% Grass	cover, Goo	d, HSG B
1	50,793	61 >	75% Grass	cover, Goo	d, HSG B
	4,924	61 >	75% Grass	cover, Goo	d, HSG B
	989	61 >	75% Grass	cover, Goo	d, HSG <mark>B</mark>
	295	61 >	75% Grass	cover, Goo	d, HSG B
	41,631	98 P	aved parkii	ng, HSG B	
	2,635		75% Grass		
	7,567		75% Grass		d, HSG B
	15,787		aved parkir		
	1,191	61 >	75% Grass	cover, Goo	d, HSG B
2	56,054	69 V	Veighted A	verage	
1	98,636	7	7.58% Perv	ious Area	
	57,418	2	2.42% Imp	ervious Are	a
Tc	Length	Slope		Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
1.9	28	0.0890	0.25		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.43"
0.6	72	0.0490	1.91		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 3.43"
0.2	50	0.0490	4.49		Shallow Concentrated Flow,
	S900, 800	A	50 May 1		Paved Kv= 20.3 fps
1.9	450	0.0710	4.00		Shallow Concentrated Flow,
					Grassed Waterway Kv= 15.0 fps
0.4	474	0.0790	20.24	63.58	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.013 Concrete pipe, bends & connections
0.2	200	0.0600	17.64	55.41	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
0.0	400	0.0700	40.05	FO 0F	n= 0.013 Concrete pipe, bends & connections
0.2	189	0.0700	19.05	59.85	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
0.0	250	0.0170	0.20	20.50	n= 0.013 Concrete pipe, bends & connections
0.6	358	0.0170	9.39	29.50	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'

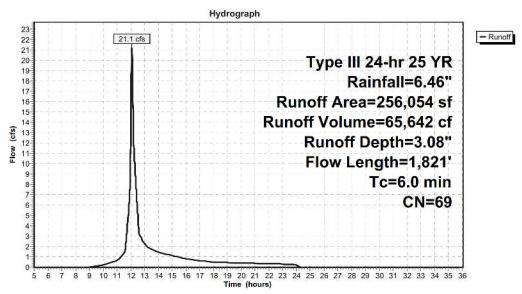
Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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n= 0.013 Concrete pipe, bends & connections

6.0 1,821 Total

Subcatchment EXWS6: EXWS6



Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Summary for Subcatchment EXWS7: EXWS7

Runoff = 7.0 cfs @ 12.07 hrs, Volume= 21,174 cf, Depth= 2.60"

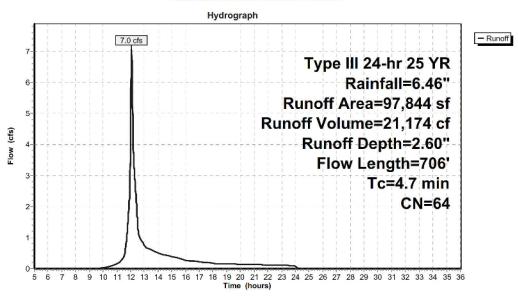
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 25 YR Rainfall=6.46"

100_	Д	rea (sf)	CN	Description	1					
		5,433	61	>75% Grass cover, Good, HSG B						
		14,290	55	Woods, Go	od, HSG B					
		14,905	61	>75% Grass	cover, Goo	d, HSG B				
		29,839	55	Woods, Go	od, HSG B					
		12,976	61	>75% Grass	cover, Goo	d, HSG B				
		4,785	98	Paved park	ing, HSG B					
		2,157	61	>75% Grass	cover, Goo	d, HSG B				
		913	61	>75% Grass	cover, Goo	d, HSG B				
		989	61	>75% Grass	cover, Goo	d, HSG B				
		2,242	61	>75% Grass	cover, Goo	d, HSG B				
		9,315	98	Paved park	ing, HSG B					
		97,844	64	Weighted A	verage					
		83,744		85.59% Per	vious Area					
		14,100		14.41% Impervious Area						
	Tc	Length	Slop	e Velocity	Capacity	Description				
	(min)	(feet)	(ft/f	t) (ft/sec)	(cfs)					
	2.7	40	0.074	0 0.25		Sheet Flow,				
						Grass: Short n= 0.150 P2= 3.43"				
	0.5	60	0.067	0 2.09		Sheet Flow,				
						Smooth surfaces n= 0.011 P2= 3.43"				
	1.1	346	0.068	5.31		Shallow Concentrated Flow,				
						Paved Kv= 20.3 fps				
	0.4	260	0.040	0 10.44	5.70	Pipe Channel,				
						10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'				
_						n= 0.010 PVC, smooth interior				
	4.7	706	Total							

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Subcatchment EXWS7: EXWS7



Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Summary for Link EXDP1: EXDP1

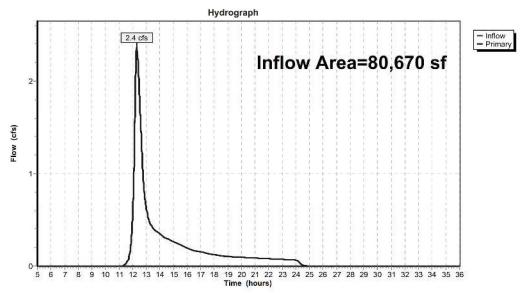
Inflow Area = 80,670 sf, 0.00% Impervious, Inflow Depth = 1.79" for 25 YR event

Inflow = 2.4 cfs @ 12.31 hrs, Volume= 12,027 cf

Primary = 2.4 cfs @ 12.31 hrs, Volume= 12,027 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP1: EXDP1



Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Summary for Link EXDP2: EXDP2

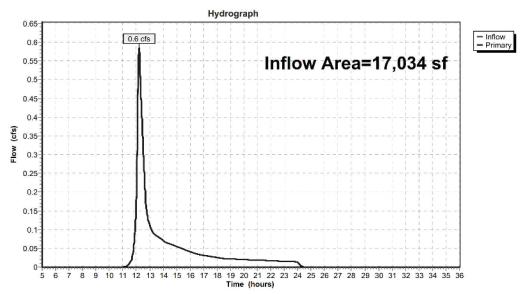
Inflow Area = 17,034 sf, 0.00% Impervious, Inflow Depth = 1.79" for 25 YR event

Inflow = 0.6 cfs @ 12.20 hrs, Volume= 2,540 cf

Primary = 0.6 cfs @ 12.20 hrs, Volume= 2,540 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP2: EXDP2



Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Summary for Link EXDP3: EXDP3

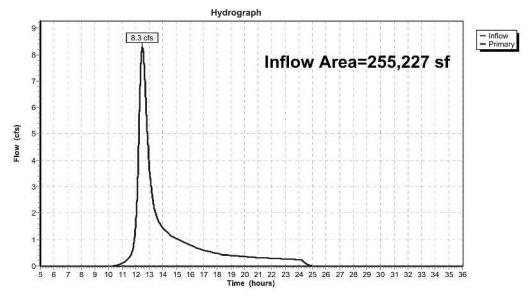
Inflow Area = 255,227 sf, 4.07% Impervious, Inflow Depth = 2.32" for 25 YR event

Inflow = 8.3 cfs @ 12.50 hrs, Volume= 49,330 cf

Primary = 8.3 cfs @ 12.50 hrs, Volume= 49,330 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP3: EXDP3



Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Summary for Link EXDP4: EXDP4

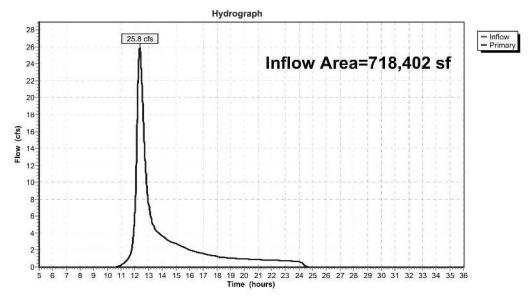
Inflow Area = 718,402 sf, 5.52% Impervious, Inflow Depth = 2.23" for 25 YR event

Inflow = 25.8 cfs @ 12.35 hrs, Volume= 133,420 cf

Primary = 25.8 cfs @ 12.35 hrs, Volume= 133,420 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP4: EXDP4



Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Summary for Link EXDP5: EXDP5

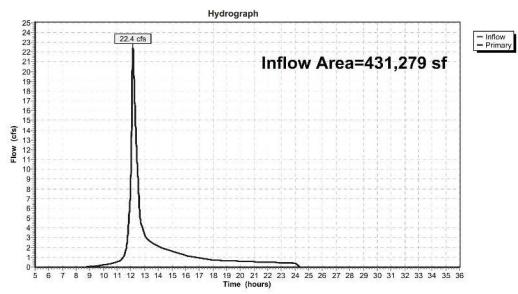
Inflow Area = 431,279 sf, 11.58% Impervious, Inflow Depth = 2.42" for 25 YR event

Inflow = 22.4 cfs @ 12.16 hrs, Volume= 86,820 cf

Primary = 22.4 cfs @ 12.16 hrs, Volume= 86,820 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP5: EXDP5



Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Summary for Link EXDP6: EXDP6

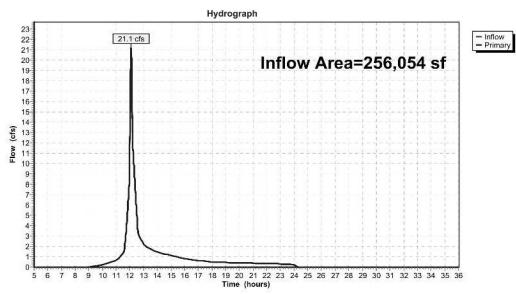
Inflow Area = 256,054 sf, 22.42% Impervious, Inflow Depth = 3.08" for 25 YR event

Inflow = 21.1 cfs @ 12.09 hrs, Volume= 65,642 cf

Primary = 21.1 cfs @ 12.09 hrs, Volume= 65,642 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP6: EXDP6



Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Summary for Link EXDP7: EXDP7

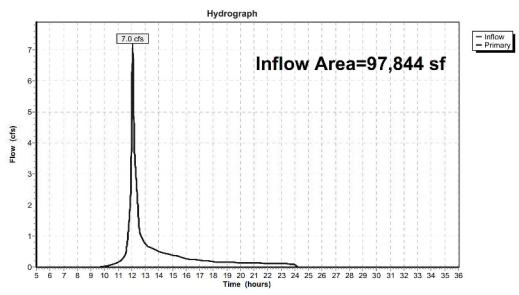
Inflow Area = 97,844 sf, 14.41% Impervious, Inflow Depth = 2.60" for 25 YR event

Inflow = 7.0 cfs @ 12.07 hrs, Volume= 21,174 cf

Primary = 7.0 cfs @ 12.07 hrs, Volume= 21,174 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP7: EXDP7



Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Time span=5.00-36.00 hrs, dt=0.01 hrs, 3101 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Runoff Area=80,670 sf 0.00% Impervious Runoff Depth=2.57" Subcatchment EXWS1: EXWS1 Flow Length=332' Tc=20.0 min CN=55 Runoff=3.6 cfs 17,306 cf Subcatchment EXWS2: EXWS2 Runoff Area=17,034 sf 0.00% Impervious Runoff Depth=2.57" Flow Length=194' Tc=13.5 min CN=55 Runoff=0.9 cfs 3,654 cf Subcatchment EXWS3: EXWS3 Runoff Area=255,227 sf 4.07% Impervious Runoff Depth=3.21" Flow Length=1,472' Tc=33.2 min CN=61 Runoff=11.7 cfs 68,276 cf Subcatchment EXWS4: EXWS4 Runoff Area=718,402 sf 5.52% Impervious Runoff Depth=3.10" Flow Length=759' Tc=23.7 min CN=60 Runoff=36.8 cfs 185,748 cf Subcatchment EXWS5A: EXWS5A Runoff Area=249,233 sf 0.00% Impervious Runoff Depth=2.57" Flow Length=500' Tc=12.1 min CN=55 Runoff=13.4 cfs 53,467 cf Runoff Area=182,046 sf 27.44% Impervious Runoff Depth=4.31" Subcatchment EXWS5B: EXWS5B Flow Length=641' Tc=10.6 min CN=71 Runoff=18.1 cfs 65,402 cf Subcatchment EXWS6: EXWS6 Runoff Area=256,054 sf 22.42% Impervious Runoff Depth=4.09" Flow Length=1,821' Tc=6.0 min CN=69 Runoff=28.2 cfs 87,218 cf Subcatchment EXWS7: EXWS7 Runoff Area=97,844 sf 14.41% Impervious Runoff Depth=3.54" Flow Length=706' Tc=4.7 min CN=64 Runoff=9.7 cfs 28,828 cf Link EXDP1: EXDP1 Inflow=3.6 cfs 17,306 cf Primary=3.6 cfs 17,306 cf Link EXDP2: EXDP2 Inflow=0.9 cfs 3,654 cf Primary=0.9 cfs 3,654 cf Link EXDP3: EXDP3 Inflow=11.7 cfs 68,276 cf Primary=11.7 cfs 68,276 cf Link EXDP4: EXDP4 Inflow=36.8 cfs 185,748 cf Primary=36.8 cfs 185,748 cf Link EXDP5: EXDP5 Inflow=31.2 cfs 118,869 cf Primary=31.2 cfs 118,869 cf

Type III 24-hr 50 YR Rainfall=7.69"

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Inflow=28.2 cfs 87,218 cf

Primary=28.2 cfs 87,218 cf

Link EXDP7: EXDP7

Link EXDP6: EXDP6

Inflow=9.7 cfs 28,828 cf Primary=9.7 cfs 28,828 cf

Total Runoff Area = 1,856,510 sf Runoff Volume = 509,898 cf Average Runoff Depth = 3.30" 90.76% Pervious = 1,684,976 sf 9.24% Impervious = 171,534 sf

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Summary for Subcatchment EXWS1: EXWS1

Runoff = 3.6 cfs @ 12.29 hrs, Volume= 17,306 cf, Depth= 2.57"

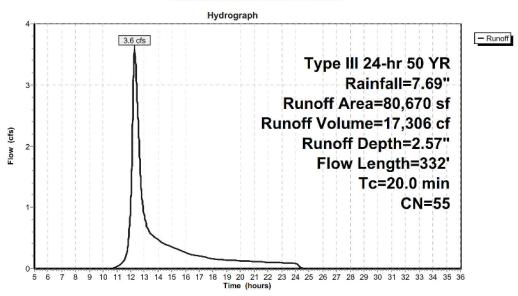
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 50 YR Rainfall=7.69"

_	Д	rea (sf)	CN D	escription						
*		78,687	55 W	55 Woods, Good, HSG B						
		1,983	61 >7	51 >75% Grass cover, Good, HSG B						
		80,670	55 Weighted Average							
		80,670	10	00.00% Per	vious Area					
	Tc	Length	Slope	Velocity	Capacity	Description				
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	18.1	100	0.0280	0.09		Sheet Flow,				
						Woods: Light underbrush n= 0.400 P2= 3.43"				
	0.4	50	0.1650	2.03		Shallow Concentrated Flow,				
						Woodland Kv= 5.0 fps				
	0.6	58	0.1030	1.60		Shallow Concentrated Flow,				
						Woodland Kv= 5.0 fps				
	0.9	124	0.2230	2.36		Shallow Concentrated Flow,				
_						Woodland Kv= 5.0 fps				
	20.0	332	Total							

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Subcatchment EXWS1: EXWS1



Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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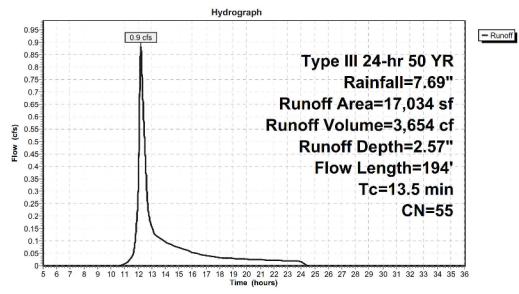
Summary for Subcatchment EXWS2: EXWS2

Runoff = 0.9 cfs @ 12.20 hrs, Volume= 3,654 cf, Depth= 2.57"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 50 YR Rainfall=7.69"

	Α	rea (sf)	CN D	escription			
Ξ	17,034 55 Woods, Good, HSG B						
		17,034	10	00.00% Per	vious Area		
	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
	3.9	34	0.1470	0.14		Sheet Flow,	
	9.3	116	0.1980	0.21		Woods: Light underbrush n= 0.400 P2= 3.43" Sheet Flow,	
						Woods: Light underbrush n= 0.400 P2= 3.43"	
	0.3	44	0.1920	2.19		Shallow Concentrated Flow,	
-						Woodland Kv= 5.0 fps	
	13.5	194	Total				

Subcatchment EXWS2: EXWS2



Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Summary for Subcatchment EXWS3: EXWS3

Runoff = 11.7 cfs @ 12.50 hrs, Volume= 68,276 cf, Depth= 3.21"

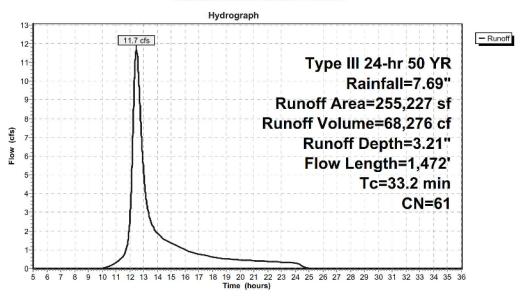
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 50 YR Rainfall=7.69"

	Α	rea (sf)	CN [Description		
		81,245	55 \	Voods, Goo	d, HSG B	
	1	62,736	61 >	75% Grass	cover, Goo	d, HSG B
		10,397	98 F	aved parkii	ng, HSG B	
_		849	61 >	75% Grass	cover, Goo	d, HSG B
	2	55,227	61 \	Veighted A	verage	
	2	44,830	9	5.93% Perv	ious Area	
		10,397	4	1.07% Impe	vious Area	
	Tc	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	21.1	150	0.0430	0.12		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 3.43"
	6.2	529	0.0800	1.41		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	5.9	793	0.1030	2.25		Shallow Concentrated Flow,
_						Short Grass Pasture Kv= 7.0 fps
	33.2	1.472	Total			

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Subcatchment EXWS3: EXWS3



Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Summary for Subcatchment EXWS4: EXWS4

Runoff = 36.8 cfs @ 12.35 hrs, Volume= 185,748 cf, Depth= 3.10"

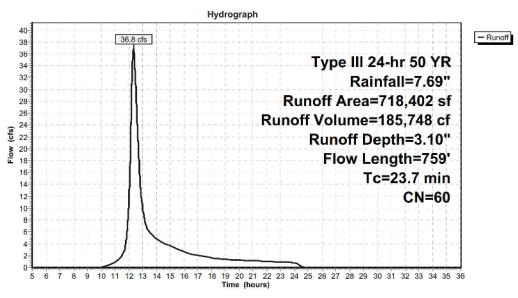
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 50 YR Rainfall=7.69"

A	rea (sf)	CN D	escription		
	1,090	61 >	75% Grass	cover, Goo	d, HSG B
	31,029	98 P	aved parkir	ng, HSG B	
3	59,184	55 W	oods, Goo	d, HSG B	
3	14,447	61 >	75% Grass	cover, Goo	d, HSG B
	8,523	98 P	aved parkir	ng, HSG B	
	271	61 >	75% Grass	cover, Goo	d, HSG B
	118	98 P	aved parkir	ng, HSG B	
	3,740	61 >	75% Grass	cover, Goo	d, HSG B
7	18,402	60 W	eighted A	/erage	
6	78,732	9	4.48% Perv	ious Area	
	39,670	5.	52% Imper	vious Area	
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
18.2	150	0.0620	0.14		Sheet Flow,
					Woods: Light underbrush n= 0.400 P2= 3.43"
0.5	48	0.1200	1.73		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
0.7	74	0.1350	1.84		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
1.3	109	0.0730	1.35		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
1.7	172	0.1160	1.70		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
0.3	56	0.2850	2.67		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
0.5	59	0.1530	1.96		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
0.5	91	0.3840	3.10		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
23.7	759	Total			

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Subcatchment EXWS4: EXWS4



Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Summary for Subcatchment EXWS5A: EXWS5A

Runoff = 13.4 cfs @ 12.18 hrs, Volume= 53,467 cf, Depth= 2.57"

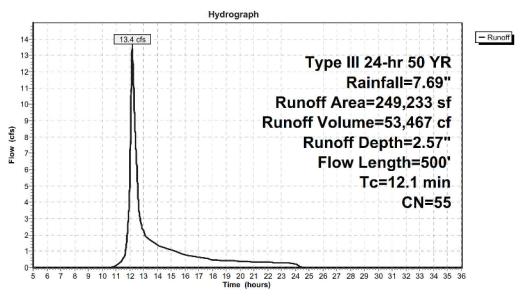
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 50 YR Rainfall=7.69"

A	rea (sf)	CN D	escription		
	87,490 55 Woods, Good, HSG B				
	50,967	55 W	loods, Goo	d, HSG B	
	22,785	55 W	oods, Goo	d, HSG B	
	87,991	55 W	oods, Goo	d, HSG B	
2	49,233	55 W	eighted A	/erage	
2	49,233	10	00.00% Per	vious Area	
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.6	100	0.0500	0.25		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.43"
1.9	200	0.1200	1.73		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
2.4	100	0.0200	0.71		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
1.2	100	0.0800	1.41		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
12.1	500	Total			

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Subcatchment EXWS5A: EXWS5A



Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Summary for Subcatchment EXWS5B: EXWS5B

Runoff = 18.1 cfs @ 12.15 hrs, Volume= 65,402 cf, Depth= 4.31"

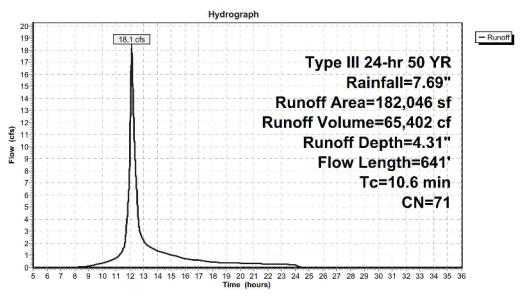
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 50 YR Rainfall=7.69"

A	rea (sf)	CN E	escription		
	49,949	98 P	aved parkir	ng, HSG B	
	1,904	61 >	75% Grass	cover, Goo	d, HSG B
	7,404	61 >	75% Grass	cover, Goo	d, HSG B
1	22,789	61 >	75% Grass	cover, Goo	d, HSG B
1	82,046	71 V	Veighted Av	verage	
1	32,097	7	2.56% Perv	ious Area	
	49,949	2	7.44% Imp	ervious Are	a
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
8.3	100	0.0279	0.20		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.43"
8.0	60	0.0330	1.27		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
0.2	31	0.2420	3.44		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
1.2	345	0.0520	4.63		Shallow Concentrated Flow,
					Paved Kv= 20.3 fps
0.1	105	0.1840	17.23	9.40	Pipe Channel,
					10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'
1					n= 0.013 Concrete pipe, bends & connections
10.6	641	Total			

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Subcatchment EXWS5B: EXWS5B



Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Summary for Subcatchment EXWS6: EXWS6

Runoff = 28.2 cfs @ 12.09 hrs, Volume= 87,218 cf, Depth= 4.09"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 50 YR Rainfall=7.69"

30,242 61 >75% Grass cover, Good, HSG B 150,793 61 >75% Grass cover, Good, HSG B 4,924 61 >75% Grass cover, Good, HSG B 989 61 >75% Grass cover, Good, HSG B 989 61 >75% Grass cover, Good, HSG B 295 61 >75% Grass cover, Good, HSG B 295 61 >75% Grass cover, Good, HSG B 296 61 >75% Grass cover, Good, HSG B 297 61 >75% Grass cover, Good, HSG B 298 61 >75% Grass cover, Good, HSG B 299 7,567 61 >75% Grass cover, Good, HSG B 299 7,567 61 >75% Grass cover, Good, HSG B 299 8 Paved parking, HSG B 299 10	A	rea (sf)	CN E	Description						
4,924 61 >75% Grass cover, Good, HSG B 989 61 >75% Grass cover, Good, HSG B 295 61 >75% Grass cover, Good, HSG B 2,635 61 >75% Grass cover, Good, HSG B 2,635 61 >75% Grass cover, Good, HSG B 2,635 61 >75% Grass cover, Good, HSG B 15,787 98 Paved parking, HSG B 1,191 61 >75% Grass cover, Good, HSG B 15,787 98 Paved parking, HSG B 256,054 69 Weighted Average 198,636 77.58% Pervious Area 22,42% Impervious Area TC Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs) 1.9 28 0.0890 0.25 Sheet Flow, Grass: Short n= 0.150 P2= 3.43" Sheet Flow, Smooth surfaces n= 0.011 P2= 3.43" Sheet Flow, Smooth surfaces n= 0.011 P2= 3.43" Shallow Concentrated Flow, Paved Kv= 20.3 fps Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps 0.4 474 0.0790 20.24 63.58 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections		30,242	61 >	75% Grass	cover, Goo	d, HSG B				
989 61 >75% Grass cover, Good, HSG B 295 61 >75% Grass cover, Good, HSG B 41,631 98 Paved parking, HSG B 2,635 61 >75% Grass cover, Good, HSG B 7,567 61 >75% Grass cover, Good, HSG B 15,787 98 Paved parking, HSG B 1,191 61 >75% Grass cover, Good, HSG B 256,054 69 Weighted Average 198,636 77.58% Pervious Area 57,418 22.42% Impervious Area Tc Length (feet) (ft/ft) (ft/sec) (cfs) 1.9 28 0.0890 0.25 Sheet Flow, Grass: Short n= 0.150 P2= 3.43" Sheet Flow, Smooth surfaces n= 0.011 P2= 3.43" Shallow Concentrated Flow, Paved Kv= 20.3 fps 1.9 450 0.0710 4.00 Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps 0.4 474 0.0790 20.24 63.58 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections	1	50,793	61 >	75% Grass	cover, Goo	d, HSG B				
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7,567 61 >75% Grass cover, Good, HSG B 15,787 98 Paved parking, HSG B 1,191 61 >75% Grass cover, Good, HSG B 256,054 69 Weighted Average 198,636 77.58% Pervious Area 57,418 22.42% Impervious Area Tc Length (min) (feet) (ft/ft) (ft/sec) (cfs) 1.9 28 0.0890 0.25 Sheet Flow,		41,631	98 F	Paved parking, HSG B						
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1,191 61 >75% Grass cover, Good, HSG B	7,567 61 >75% Grass cover, Goo					d, HSG B				
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198,636 77.58% Pervious Area 57,418 22.42% Impervious Area Tc Length Slope Velocity (capacity (min) (feet) (ft/ft) (ft/sec) (cfs) 1.9 28 0.0890 0.25 Sheet Flow, Grass: Short n = 0.150 P2= 3.43" 0.6 72 0.0490 1.91 Sheet Flow, Smooth surfaces n = 0.011 P2= 3.43" 0.2 50 0.0490 4.49 Shallow Concentrated Flow, Paved Kv= 20.3 fps 1.9 450 0.0710 4.00 Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps 0.4 474 0.0790 20.24 63.58 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 200 0.0600 17.64 55.41 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 189 0.0700 19.05 59.85 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections	1,191 61 >75% Grass cover, Good, HSG B									
Tc Length (fit/ft) (ft/sec) Capacity (cfs) 1.9 28 0.0890 0.25 Sheet Flow, Grass: Short n= 0.150 P2= 3.43" 0.6 72 0.0490 1.91 Sheet Flow, Smooth surfaces n= 0.011 P2= 3.43" 0.2 50 0.0490 4.49 Shallow Concentrated Flow, Paved Kv= 20.3 fps 1.9 450 0.0710 4.00 Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps 0.4 474 0.0790 20.24 63.58 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 189 0.0700 19.05 59.85 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 189 0.0700 19.05 59.85 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 189 0.0700 19.05 59.85 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.6 358 0.0170 9.39 29.50 Pipe Channel,	2	256,054 69 Weighted Average								
Tc (min) Length (feet) Slope (ft/ft) Velocity (ft/sec) Description 1.9 28 0.0890 0.25 Sheet Flow, Grass: Short n = 0.150 P2= 3.43" 0.6 72 0.0490 1.91 Sheet Flow, Smooth surfaces n = 0.011 P2= 3.43" 0.2 50 0.0490 4.49 Shallow Concentrated Flow, Paved Kv= 20.3 fps 1.9 450 0.0710 4.00 Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps 0.4 474 0.0790 20.24 63.58 Pipe Channel, 24.0" Round Area= 3.1 sf Perime 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 200 0.0600 17.64 55.41 Pipe Channel, 24.0" Round Area= 3.1 sf Perime 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 189 0.0700 19.05 59.85 Pipe Channel, 24.0" Round Area= 3.1 sf Perime 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.6 358 0.0170 9.39 29.50 Pipe Channel, 24.0" Round Area= 3.1 sf Perime 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections	198,636 77.58% Pervious Area									
(min) (feet) (ft/ft) (ft/sec) (cfs) 1.9 28 0.0890 0.25 Sheet Flow, Grass: Short n=0.150 P2= 3.43" 0.6 72 0.0490 1.91 Sheet Flow, Smooth surfaces n=0.011 P2= 3.43" 0.2 50 0.0490 4.49 Shallow Concentrated Flow, Paved Kv= 20.3 fps 1.9 450 0.0710 4.00 Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps 0.4 474 0.0790 20.24 63.58 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 200 0.0600 17.64 55.41 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 189 0.0700 19.05 59.85 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.6 358 0.0170 9.39 29.50 Pipe Channel, pper Chan		57,418	2	2.42% Impe	ervious Are	a				
(min) (feet) (ft/ft) (ft/sec) (cfs) 1.9 28 0.0890 0.25 Sheet Flow, Grass: Short n=0.150 P2= 3.43" 0.6 72 0.0490 1.91 Sheet Flow, Smooth surfaces n=0.011 P2= 3.43" 0.2 50 0.0490 4.49 Shallow Concentrated Flow, Paved Kv= 20.3 fps 1.9 450 0.0710 4.00 Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps 0.4 474 0.0790 20.24 63.58 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 200 0.0600 17.64 55.41 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 189 0.0700 19.05 59.85 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.6 358 0.0170 9.39 29.50 Pipe Channel, pper Chan										
1.9 28 0.0890 0.25 Sheet Flow, Grass: Short n=0.150 P2=3.43" 0.6 72 0.0490 1.91 Sheet Flow, Smooth surfaces n=0.011 P2=3.43" 0.2 50 0.0490 4.49 Shallow Concentrated Flow, Paved Kv= 20.3 fps 1.9 450 0.0710 4.00 Shallow Concentrated Flow, Grassed Waterway Kv=15.0 fps 0.4 474 0.0790 20.24 63.58 Pipe Channel, 24.0" Round Area=3.1 sf Perim=6.3' r=0.50' n=0.013 Concrete pipe, bends & connections 0.2 200 0.0600 17.64 55.41 Pipe Channel, 24.0" Round Area=3.1 sf Perim=6.3' r=0.50' n=0.013 Concrete pipe, bends & connections 0.2 189 0.0700 19.05 59.85 Pipe Channel, 24.0" Round Area=3.1 sf Perim=6.3' r=0.50' n=0.013 Concrete pipe, bends & connections 0.6 358 0.0170 9.39 29.50 Pipe Channel,		_				Description				
Grass: Short n= 0.150 P2= 3.43" 0.6 72 0.0490 1.91 Sheet Flow,					(cfs)					
0.6 72 0.0490 1.91 Sheet Flow, Smooth surfaces n= 0.011 P2= 3.43" 0.2 50 0.0490 4.49 Shallow Concentrated Flow, Paved Kv= 20.3 fps 1.9 450 0.0710 4.00 Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps 0.4 474 0.0790 20.24 63.58 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 200 0.0600 17.64 55.41 Pipe Channel, Pipe Ch	1.9	28	0.0890	0.25		School State Control of the Sc				
Smooth surfaces n = 0.011 P2= 3.43" 0.2 50 0.0490 4.49 Shallow Concentrated Flow, Paved Kv= 20.3 fps 1.9 450 0.0710 4.00 Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps 0.4 474 0.0790 20.24 63.58 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 200 0.0600 17.64 55.41 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 189 0.0700 19.05 59.85 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.6 358 0.0170 9.39 29.50 Pipe Channel,										
0.2 50 0.0490 4.49 Shallow Concentrated Flow, Paved Kv= 20.3 fps 1.9 450 0.0710 4.00 Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps 0.4 474 0.0790 20.24 63.58 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 200 0.0600 17.64 55.41 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 189 0.0700 19.05 59.85 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.6 358 0.0170 9.39 29.50 Pipe Channel,	0.6	72	0.0490	1.91						
Paved Kv= 20.3 fps 1.9										
1.9 450 0.0710 4.00 Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps 0.4 474 0.0790 20.24 63.58 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 200 0.0600 17.64 55.41 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 189 0.0700 19.05 59.85 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.6 358 0.0170 9.39 29.50 Pipe Channel,	0.2	50	0.0490	4.49						
Grassed Waterway Kv= 15.0 fps 0.4 474 0.0790 20.24 63.58 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 200 0.0600 17.64 55.41 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 189 0.0700 19.05 59.85 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.6 358 0.0170 9.39 29.50 Pipe Channel,	1.0	450	0.0710	4.00						
0.4 474 0.0790 20.24 63.58 Pipe Channel,	1.9	450	0.0710	4.00		AND CALL MADE AND				
24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 200 0.0600 17.64 55.41 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 189 0.0700 19.05 59.85 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.6 358 0.0170 9.39 29.50 Pipe Channel,	0.4	171	0.0700	20.24	C2 E0					
n= 0.013 Concrete pipe, bends & connections 0.2 200 0.0600 17.64 55.41 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 189 0.0700 19.05 59.85 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.6 358 0.0170 9.39 29.50 Pipe Channel,	0.4	4/4	0.0790	20.24	03.38					
0.2 200 0.0600 17.64 55.41 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 189 0.0700 19.05 59.85 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.6 358 0.0170 9.39 29.50 Pipe Channel,										
24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.2 189 0.0700 19.05 59.85 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.6 358 0.0170 9.39 29.50 Pipe Channel,	0.2	200	0.0600	17.64	55 /11					
n= 0.013 Concrete pipe, bends & connections 0.2 189 0.0700 19.05 59.85 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.6 358 0.0170 9.39 29.50 Pipe Channel,	0.2	200	0.0000	17.04	33.41					
0.2 189 0.0700 19.05 59.85 Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.6 358 0.0170 9.39 29.50 Pipe Channel,										
24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, bends & connections 0.6 358 0.0170 9.39 29.50 Pipe Channel,	0.2	189	0.0700	19.05	59.85					
n= 0.013 Concrete pipe, bends & connections 0.6 358 0.0170 9.39 29.50 Pipe Channel,	0.2	103	0.0700	15.05	55.05					
0.6 358 0.0170 9.39 29.50 Pipe Channel,										
	0.6	358	0.0170	9.39	29.50					
24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'		in and in the				24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'				

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

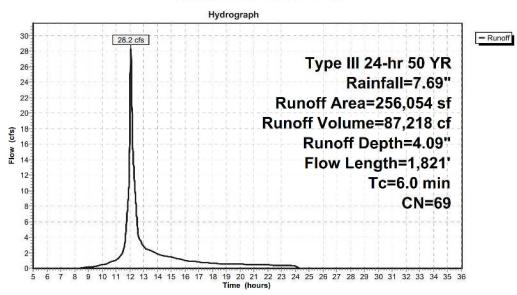
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n= 0.013 Concrete pipe, bends & connections

6.0 1,821 Total

Subcatchment EXWS6: EXWS6



Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Summary for Subcatchment EXWS7: EXWS7

Runoff = 9.7 cfs @ 12.07 hrs, Volume= 28,828 cf, Depth= 3.54"

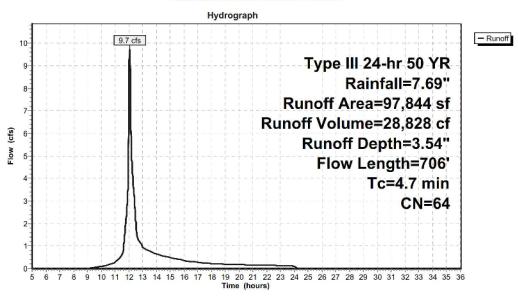
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 50 YR Rainfall=7.69"

	А	rea (sf)	CN	Description	1					
		5,433	61	61 >75% Grass cover, Good, HSG B						
14,290 55 Woods, Good, HSG B										
14,905 61 >75% Grass cover, Good						d, HSG B				
29,839 55 Woods, Good, HSG B										
12,976 61 >75% Grass cover, Good					cover, Goo	d, HSG B				
4,785 98 Paved parking, HSG B					ing, HSG B					
2,157 61 >75% Grass cover, Good, HSG B						d, HSG B				
		d, HSG B								
989 61 >75% Grass cover, Good, HSG B										
2,242 61 >75% Grass cover, Good, HSG B						d, HSG B				
	9,315 98 Paved parking, HSG B									
	97,844 64 Weighted Average									
83,744 85.59% Pervious Area										
14,100 14.41% Impervious Area					ervious Are	a				
	Tc	Length	Slop	e Velocity	Capacity	Description				
	(min)	(feet)	(ft/f	t) (ft/sec)	(cfs)					
	2.7	40	0.074	0 0.25	1	Sheet Flow,				
						Grass: Short n= 0.150 P2= 3.43"				
	0.5	60	0.067	0 2.09		Sheet Flow,				
						Smooth surfaces n= 0.011 P2= 3.43"				
	1.1	346	0.068	5.31		Shallow Concentrated Flow,				
						Paved Kv= 20.3 fps				
	0.4	260	0.040	0 10.44	5.70	Pipe Channel,				
						10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'				
						n= 0.010 PVC, smooth interior				
	4.7	706	Total							

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Subcatchment EXWS7: EXWS7



Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Summary for Link EXDP1: EXDP1

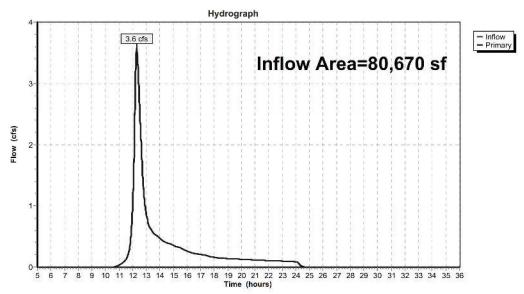
Inflow Area = 80,670 sf, 0.00% Impervious, Inflow Depth = 2.57" for 50 YR event

Inflow = 3.6 cfs @ 12.29 hrs, Volume= 17,306 cf

Primary = 3.6 cfs @ 12.29 hrs, Volume= 17,306 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP1: EXDP1



Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Summary for Link EXDP2: EXDP2

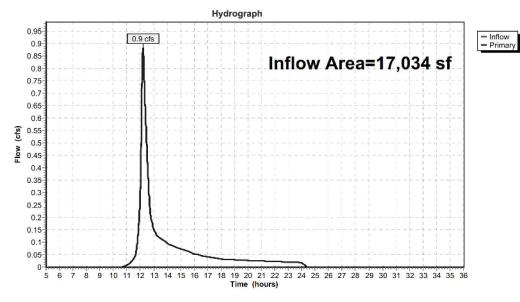
Inflow Area = 17,034 sf, 0.00% Impervious, Inflow Depth = 2.57" for 50 YR event

Inflow = 0.9 cfs @ 12.20 hrs, Volume= 3,654 cf

Primary = 0.9 cfs @ 12.20 hrs, Volume= 3,654 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP2: EXDP2



Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Summary for Link EXDP3: EXDP3

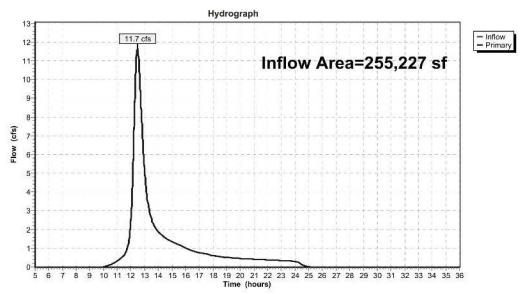
Inflow Area = 255,227 sf, 4.07% Impervious, Inflow Depth = 3.21" for 50 YR event

Inflow = 11.7 cfs @ 12.50 hrs, Volume= 68,276 cf

Primary = 11.7 cfs @ 12.50 hrs, Volume= 68,276 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP3: EXDP3



Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Summary for Link EXDP4: EXDP4

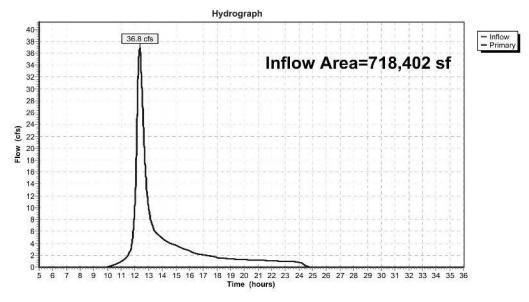
Inflow Area = 718,402 sf, 5.52% Impervious, Inflow Depth = 3.10" for 50 YR event

Inflow = 36.8 cfs @ 12.35 hrs, Volume= 185,748 cf

Primary = 36.8 cfs @ 12.35 hrs, Volume= 185,748 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP4: EXDP4



Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Summary for Link EXDP5: EXDP5

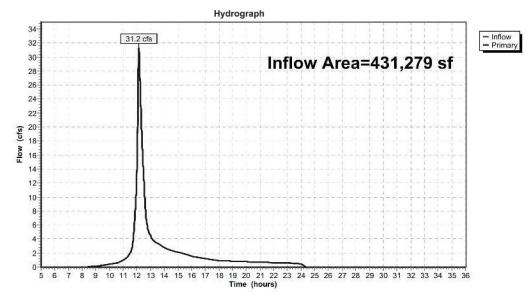
Inflow Area = 431,279 sf, 11.58% Impervious, Inflow Depth = 3.31" for 50 YR event

Inflow = 31.2 cfs @ 12.16 hrs, Volume= 118,869 cf

Primary = 31.2 cfs @ 12.16 hrs, Volume= 118,869 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP5: EXDP5



Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Summary for Link EXDP6: EXDP6

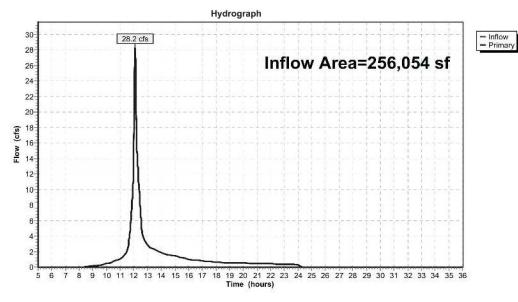
Inflow Area = 256,054 sf, 22.42% Impervious, Inflow Depth = 4.09" for 50 YR event

Inflow = 28.2 cfs @ 12.09 hrs, Volume= 87,218 cf

Primary = 28.2 cfs @ 12.09 hrs, Volume= 87,218 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP6: EXDP6



Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Summary for Link EXDP7: EXDP7

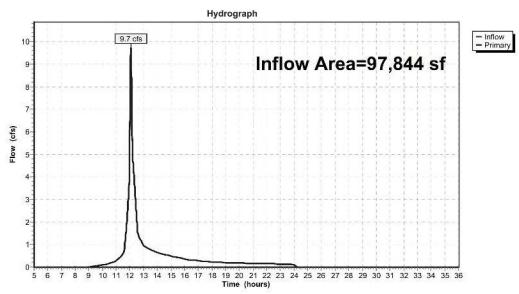
Inflow Area = 97,844 sf, 14.41% Impervious, Inflow Depth = 3.54" for 50 YR event

Inflow = 9.7 cfs @ 12.07 hrs, Volume= 28,828 cf

Primary = 9.7 cfs @ 12.07 hrs, Volume= 28,828 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP7: EXDP7



Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Time span=5.00-36.00 hrs, dt=0.01 hrs, 3101 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Runoff Area=80,670 sf 0.00% Impervious Runoff Depth=3.61" Subcatchment EXWS1: EXWS1 Flow Length=332' Tc=20.0 min CN=55 Runoff=5.2 cfs 24,278 cf Subcatchment EXWS2: EXWS2 Runoff Area=17,034 sf 0.00% Impervious Runoff Depth=3.61" Flow Length=194' Tc=13.5 min CN=55 Runoff=1.3 cfs 5,126 cf Subcatchment EXWS3: EXWS3 Runoff Area=255,227 sf 4.07% Impervious Runoff Depth=4.36" Flow Length=1,472' Tc=33.2 min CN=61 Runoff=16.0 cfs 92,719 cf Subcatchment EXWS4: EXWS4 Runoff Area=718,402 sf 5.52% Impervious Runoff Depth=4.23" Flow Length=759' Tc=23.7 min CN=60 Runoff=50.9 cfs 253,502 cf Subcatchment EXWS5A: EXWS5A Runoff Area=249,233 sf 0.00% Impervious Runoff Depth=3.61" Flow Length=500' Tc=12.1 min CN=55 Runoff=19.3 cfs 75,008 cf Runoff Area=182,046 sf 27.44% Impervious Runoff Depth=5.61" Subcatchment EXWS5B: EXWS5B Flow Length=641' Tc=10.6 min CN=71 Runoff=23.5 cfs 85,106 cf Subcatchment EXWS6: EXWS6 Runoff Area=256,054 sf 22.42% Impervious Runoff Depth=5.36" Flow Length=1,821' Tc=6.0 min CN=69 Runoff=36.9 cfs 114,372 cf Subcatchment EXWS7: EXWS7 Runoff Area=97,844 sf 14.41% Impervious Runoff Depth=4.73" Flow Length=706' Tc=4.7 min CN=64 Runoff=13.1 cfs 38,604 cf Link EXDP1: EXDP1 Inflow=5.2 cfs 24,278 cf Primary=5.2 cfs 24,278 cf Link EXDP2: EXDP2 Inflow=1.3 cfs 5,126 cf Primary=1.3 cfs 5,126 cf Link EXDP3: EXDP3 Inflow=16.0 cfs 92,719 cf Primary=16.0 cfs 92,719 cf Link EXDP4: EXDP4 Inflow=50.9 cfs 253,502 cf Primary=50.9 cfs 253,502 cf Link EXDP5: EXDP5 Inflow=42.5 cfs 160,113 cf Primary=42.5 cfs 160,113 cf

Type III 24-hr 100 YR Rainfall=9.17"

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Inflow=36.9 cfs 114,372 cf Primary=36.9 cfs 114,372 cf

Link EXDP7: EXDP7

Link EXDP6: EXDP6

Inflow=13.1 cfs 38,604 cf Primary=13.1 cfs 38,604 cf

Total Runoff Area = 1,856,510 sf Runoff Volume = 688,716 cf Average Runoff Depth = 4.45" 90.76% Pervious = 1,684,976 sf 9.24% Impervious = 171,534 sf

Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Summary for Subcatchment EXWS1: EXWS1

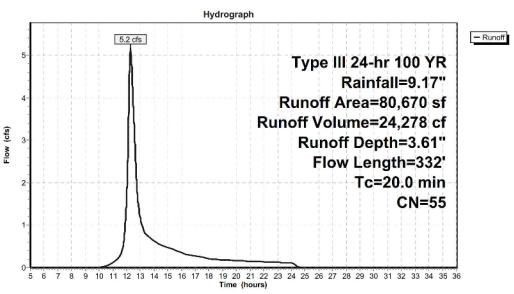
Runoff = 5.2 cfs @ 12.29 hrs, Volume= 24,278 cf, Depth= 3.61"

_	А	rea (sf)	CN D	escription		
*		78,687	55 W	oods, Goo	d, HSG B	
		1,983	61 >7	75% Grass	cover, Goo	d, HSG B
		80,670	55 W	eighted Av	erage	
		80,670	10	00.00% Per	vious Area	
	Tc	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	18.1	100	0.0280	0.09		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 3.43"
	0.4	50	0.1650	2.03		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	0.6	58	0.1030	1.60		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	0.9	124	0.2230	2.36		Shallow Concentrated Flow,
_						Woodland Kv= 5.0 fps
	20.0	332	Total			

Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Subcatchment EXWS1: EXWS1



Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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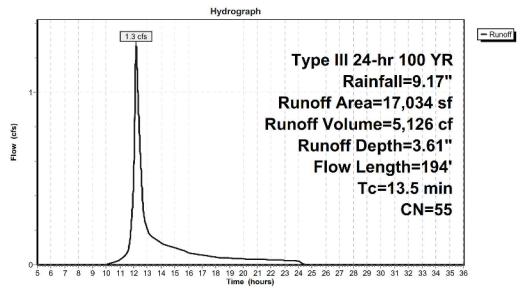
Summary for Subcatchment EXWS2: EXWS2

Runoff = 1.3 cfs @ 12.19 hrs, Volume= 5,126 cf, Depth= 3.61"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs Type III 24-hr 100 YR Rainfall=9.17"

- 1	А	rea (sf)	f) CN D	escription		
		17,034	4 55 V	Voods, Goo	d, HSG B	
		17,034	4 1	00.00% Per	vious Area	
	Tc (min)	Length (feet)		,	Capacity (cfs)	Description
	3.9	34	34 0.1470	0.14		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 3.43"
	9.3	116	16 0.1980	0.21		Sheet Flow,
8	0.3	44	44 0.1920	2.19		Woods: Light underbrush n= 0.400 P2= 3.43" Shallow Concentrated Flow, Woodland Kv= 5.0 fps
	13.5	194	94 Total			

Subcatchment EXWS2: EXWS2



Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Summary for Subcatchment EXWS3: EXWS3

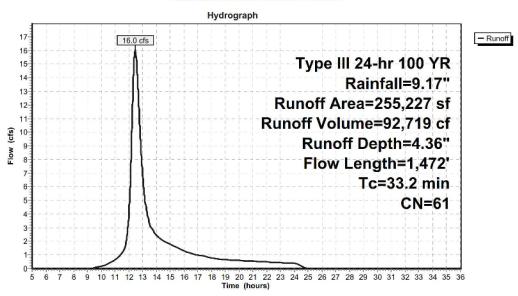
Runoff = 16.0 cfs @ 12.47 hrs, Volume= 92,719 cf, Depth= 4.36"

<u> </u>	Area (sf)	CN D	CN Description					
	81,245	55 W	oods, Goo	d, HSG B				
	162,736	61 >7	75% Grass	cover, Goo	d, HSG B			
	10,397	98 Pa	aved parkir	ng, HSG B				
	849	61 >7	75% Grass	cover, Goo	d, HSG B			
	255,227	61 W	eighted A	/erage				
	244,830	95	5.93% Perv	ious Area				
	10,397	4.	.07% Imper	vious Area				
To	Length	Slope	Velocity	Capacity	Description			
(min	(feet)	(ft/ft)	(ft/sec)	(cfs)				
21.1	. 150	0.0430	0.12		Sheet Flow,			
					Woods: Light underbrush n= 0.400 P2= 3.43"			
6.2	529	0.0800	1.41		Shallow Concentrated Flow,			
Woodland Kv= 5.0 fps					W II I K FOL			
					woodiand Kv= 5.0 tps			
5.9	793	0.1030	2.25		Shallow Concentrated Flow,			
5.9	793	0.1030	2.25		19-00-0-0 0-0-00-0-0-0-0-0-0-0-0-0-0-0-0-			

Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Subcatchment EXWS3: EXWS3



Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Summary for Subcatchment EXWS4: EXWS4

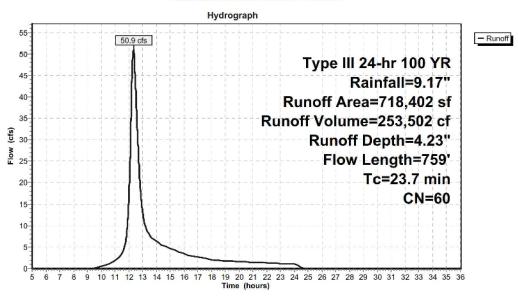
Runoff = 50.9 cfs @ 12.35 hrs, Volume= 253,502 cf, Depth= 4.23"

A	Area (sf) CN Description						
	1,090	61 >	75% Grass	cover, Goo	d, HSG B		
	31,029	98 P	aved parkir	ng, HSG B			
3	59,184	55 W	oods, Goo	d, HSG B			
3	14,447	61 >	75% Grass	cover, Goo	d, HSG B		
	8,523	98 P	aved parkir	ng, HSG B			
	271	61 >	75% Grass	cover, Goo	d, HSG B		
	118	98 P	aved parkir	ng, HSG B			
	3,740	61 >	75% Grass	cover, Goo	d, HSG B		
7	18,402	60 W	eighted A	/erage			
6	78,732	9	4.48% Perv	ious Area			
	39,670	5.	52% Imper	vious Area			
Tc	Length	Slope	Velocity	Capacity	Description		
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
18.2	150	0.0620	0.14		Sheet Flow,		
					Woods: Light underbrush n= 0.400 P2= 3.43"		
0.5	48	0.1200	1.73		Shallow Concentrated Flow,		
					Woodland Kv= 5.0 fps		
0.7	74	0.1350	1.84		Shallow Concentrated Flow,		
					Woodland Kv= 5.0 fps		
1.3	109	0.0730	1.35		Shallow Concentrated Flow,		
					Woodland Kv= 5.0 fps		
1.7	172	0.1160	1.70		Shallow Concentrated Flow,		
					Woodland Kv= 5.0 fps		
0.3	56	0.2850	2.67		Shallow Concentrated Flow,		
					Woodland Kv= 5.0 fps		
0.5	59	0.1530	1.96		Shallow Concentrated Flow,		
					Woodland Kv= 5.0 fps		
0.5	91	0.3840	3.10		Shallow Concentrated Flow,		
					Woodland Kv= 5.0 fps		
23.7	759	Total					

Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Subcatchment EXWS4: EXWS4



Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Summary for Subcatchment EXWS5A: EXWS5A

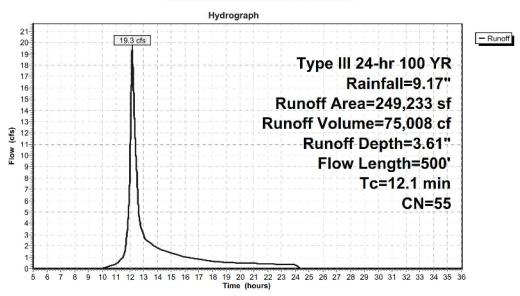
Runoff = 19.3 cfs @ 12.17 hrs, Volume= 75,008 cf, Depth= 3.61"

A	rea (sf)	CN D	escription		
	87,490 55 Woods, Good, HSG B				
	50,967	55 W	oods, Goo	d, HSG B	
	22,785	55 W	oods, Goo	d, HSG B	
	87,991	55 Woods, Good, HSG B			
2	49,233	55 W	eighted A	/erage	
2	49,233	10	00.00% Per	vious Area	
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
6.6	100	0.0500	0.25		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.43"
1.9	200	0.1200	1.73		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
2.4	100	0.0200	0.71		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
1.2	100	0.0800	1.41		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
12.1	500	Total			

Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Subcatchment EXWS5A: EXWS5A



Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Summary for Subcatchment EXWS5B: EXWS5B

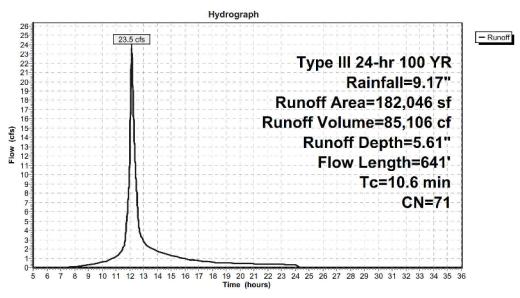
Runoff = 23.5 cfs @ 12.15 hrs, Volume= 85,106 cf, Depth= 5.61"

Area (sf) CN Description										
7		49,949	98 P	Paved parking, HSG B						
		1,904	61 >	>75% Grass cover, Good, HSG B						
		7,404	61 >	>75% Grass cover, Good, HSG B						
	1	22,789	61 >	>75% Grass cover, Good, HSG B						
	1	82,046	71 V	Weighted Average						
	1	32,097	7	2.56% Perv	ious Area					
		49,949	2	7.44% Impe	ervious Are	a				
	Tc	Length	Slope	Velocity	Capacity	Description				
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	8.3	100	0.0279	0.20		Sheet Flow,				
						Grass: Short n= 0.150 P2= 3.43"				
	8.0	60	0.0330	1.27		Shallow Concentrated Flow,				
						Short Grass Pasture Kv= 7.0 fps				
	0.2	31	0.2420	3.44		Shallow Concentrated Flow,				
						Short Grass Pasture Kv= 7.0 fps				
	1.2	345	0.0520	4.63		Shallow Concentrated Flow,				
						Paved Kv= 20.3 fps				
	0.1	105	0.1840	17.23	9.40	Pipe Channel,				
						10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'				
-						n= 0.013 Concrete pipe, bends & connections				
	10.6	641	Total							

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Subcatchment EXWS5B: EXWS5B



Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Summary for Subcatchment EXWS6: EXWS6

Runoff = 36.9 cfs @ 12.09 hrs, Volume= 114,372 cf, Depth= 5.36"

A	rea (sf)	CN D	CN Description				
	30,242	61 >	75% Grass	cover, Goo	d, HSG B		
1	50,793	61 >	75% Grass	cover, Goo	d, HSG B		
	4,924	61 >	75% Grass	cover, Goo	d, HSG B		
	989	61 >	75% Grass	cover, Goo	d, HSG <mark>B</mark>		
	295	61 >	75% Grass	cover, Goo	d, HSG B		
	41,631	98 P	aved parkii	ng, HSG B			
	2,635		75% Grass				
	7,567		75% Grass		d, HSG B		
	15,787		aved parkir				
	1,191	61 >	75% Grass	cover, Goo	d, HSG B		
2	56,054	69 V	Veighted A	verage			
1	98,636	7	7.58% Perv	ious Area			
	57,418	2	2.42% Imp	ervious Are	a		
Tc	Length	Slope		Capacity	Description		
(min)	(feet)	(ft/ft)		(cfs)			
1.9	28	0.0890	0.25		Sheet Flow,		
					Grass: Short n= 0.150 P2= 3.43"		
0.6	72	0.0490	1.91		Sheet Flow,		
					Smooth surfaces n= 0.011 P2= 3.43"		
0.2	50	0.0490	4.49		Shallow Concentrated Flow,		
1.0	450	0.0710	4.00		Paved Kv= 20.3 fps		
1.9	450	0.0710	4.00		Shallow Concentrated Flow,		
0.4	474	0.0700	20.24	C2 F0	Grassed Waterway Kv= 15.0 fps		
0.4	474	0.0790	20.24	63.58	Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'		
					n= 0.013 Concrete pipe, bends & connections		
0.2	200	0.0600	17.64	55.41	Pipe Channel,		
0.2	200	0.0000	17.04	33.41	24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'		
					n= 0.013 Concrete pipe, bends & connections		
0.2	189	0.0700	19.05	59.85	Pipe Channel,		
0.2	103	0.0700	15.05	33.03	24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'		
					n= 0.013 Concrete pipe, bends & connections		
0.6	358	0.0170	9.39	29.50	Pipe Channel,		
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'		

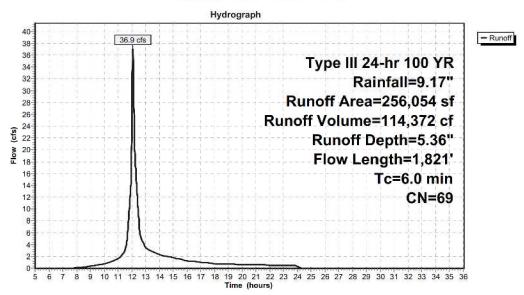
Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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n= 0.013 Concrete pipe, bends & connections

6.0 1,821 Total

Subcatchment EXWS6: EXWS6



Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Summary for Subcatchment EXWS7: EXWS7

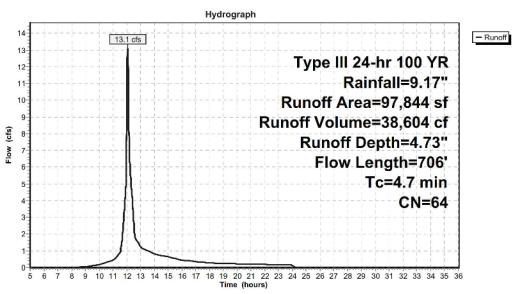
Runoff = 13.1 cfs @ 12.07 hrs, Volume= 38,604 cf, Depth= 4.73"

A	rea (sf)	CN	CN Description				
	5,433	61	>75% Grass	cover, Goo	d, HSG B		
	14,290	55	Woods, Goo	d, HSG B			
	14,905	61	>75% Grass	cover, Goo	d, HSG B		
	29,839	55	Woods, Goo	d, HSG B			
	12,976	61	>75% Grass	cover, Goo	d, HSG B		
	4,785	98	Paved parkir	ng, HSG B			
	2,157	61	>75% Grass	cover, Goo	d, HSG B		
	913	61	>75% Grass	cover, Goo	d, HSG B		
	989	61	>75% Grass	cover, Goo	d, HSG B		
	2,242	61	>75% Grass	cover, Goo	d, HSG B		
	9,315	98	Paved parkir	ng, HSG B			
	97,844	64	Weighted Av	/erage			
	83,744		85.59% Perv	ious Area			
	14,100		14.41% Impe	ervious Are	a		
Tc	Length	Slop	e Velocity	Capacity	Description		
(min)	(feet)	(ft/f	t) (ft/sec)	(cfs)			
2.7	40	0.074	0 0.25		Sheet Flow,		
					Grass: Short n= 0.150 P2= 3.43"		
0.5	60	0.067	0 2.09		Sheet Flow,		
					Smooth surfaces n= 0.011 P2= 3.43"		
1.1	346	0.068	5.31		Shallow Concentrated Flow,		
					Paved Kv= 20.3 fps		
0.4	260	0.040	0 10.44	5.70	Pipe Channel,		
					10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'		
9					n= 0.010 PVC, smooth interior		
4.7	706	Total					

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Subcatchment EXWS7: EXWS7



Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Summary for Link EXDP1: EXDP1

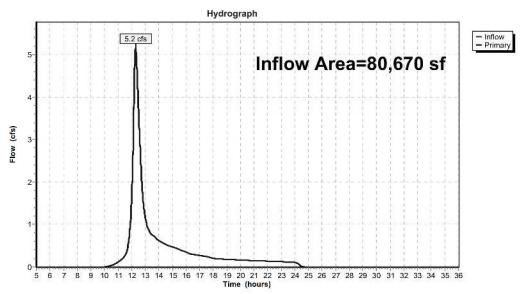
Inflow Area = 80,670 sf, 0.00% Impervious, Inflow Depth = 3.61" for 100 YR event

Inflow = 5.2 cfs @ 12.29 hrs, Volume= 24,278 cf

Primary = 5.2 cfs @ 12.29 hrs, Volume= 24,278 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP1: EXDP1



Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Summary for Link EXDP2: EXDP2

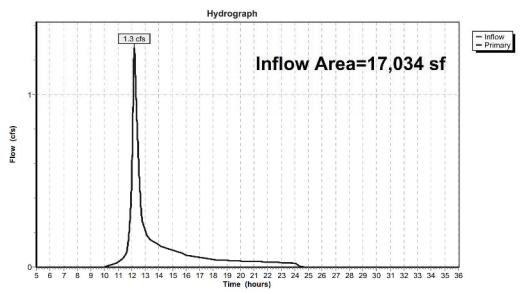
Inflow Area = 17,034 sf, 0.00% Impervious, Inflow Depth = 3.61" for 100 YR event

Inflow = 1.3 cfs @ 12.19 hrs, Volume= 5,126 cf

Primary = 1.3 cfs @ 12.19 hrs, Volume= 5,126 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP2: EXDP2



Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Summary for Link EXDP3: EXDP3

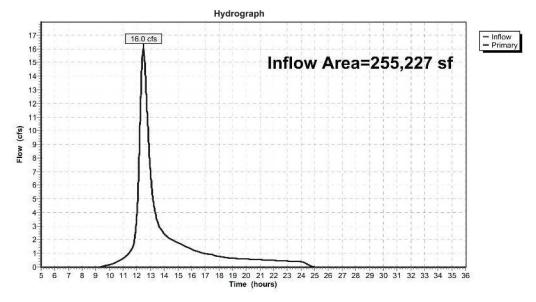
Inflow Area = 255,227 sf, 4.07% Impervious, Inflow Depth = 4.36" for 100 YR event

Inflow = 16.0 cfs @ 12.47 hrs, Volume= 92,719 cf

Primary = 16.0 cfs @ 12.47 hrs, Volume= 92,719 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP3: EXDP3



Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Summary for Link EXDP4: EXDP4

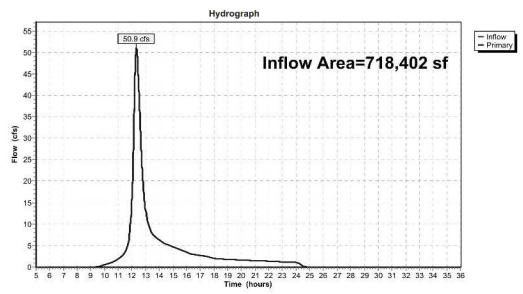
Inflow Area = 718,402 sf, 5.52% Impervious, Inflow Depth = 4.23" for 100 YR event

Inflow = 50.9 cfs @ 12.35 hrs, Volume= 253,502 cf

Primary = 50.9 cfs @ 12.35 hrs, Volume= 253,502 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP4: EXDP4



Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Summary for Link EXDP5: EXDP5

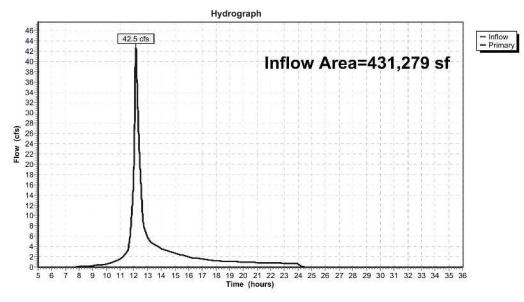
Inflow Area = 431,279 sf, 11.58% Impervious, Inflow Depth = 4.46" for 100 YR event

Inflow = 42.5 cfs @ 12.16 hrs, Volume= 160,113 cf

Primary = 42.5 cfs @ 12.16 hrs, Volume= 160,113 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP5: EXDP5



Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Summary for Link EXDP6: EXDP6

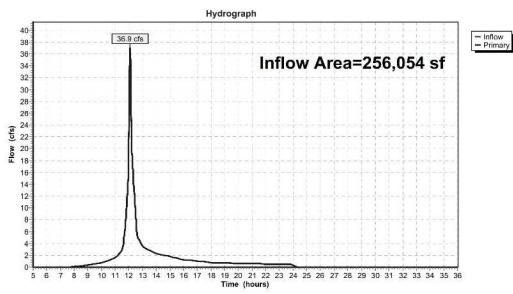
Inflow Area = 256,054 sf, 22.42% Impervious, Inflow Depth = 5.36" for 100 YR event

Inflow = 36.9 cfs @ 12.09 hrs, Volume= 114,372 cf

Primary = 36.9 cfs @ 12.09 hrs, Volume= 114,372 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP6: EXDP6



Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Summary for Link EXDP7: EXDP7

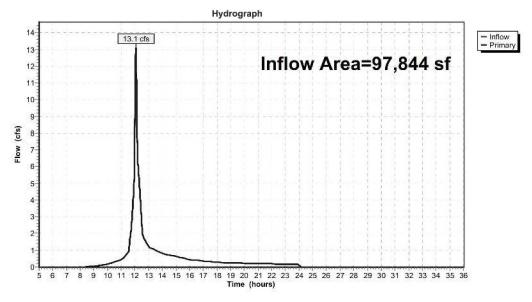
Inflow Area = 97,844 sf, 14.41% Impervious, Inflow Depth = 4.73" for 100 YR event

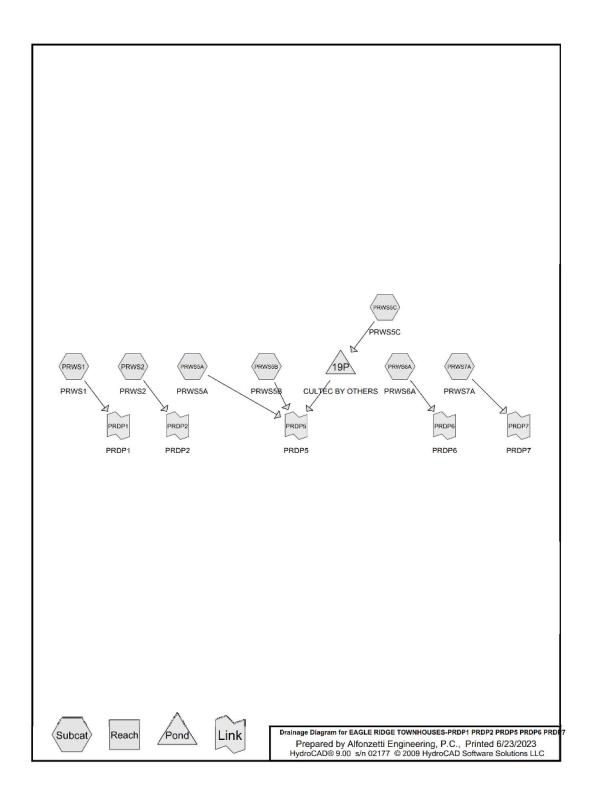
Inflow = 13.1 cfs @ 12.07 hrs, Volume= 38,604 cf

Primary = 13.1 cfs @ 12.07 hrs, Volume= 38,604 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-36.00 hrs, dt= 0.01 hrs

Link EXDP7: EXDP7





EAGLE RIDGE TOWNHOUSES-PRDP1 PRDP2 PRDP5 PRDP6 PRDP7

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Area Listing (all nodes)

Area	CN	Description
(sq-ft)		(subcatchment-numbers)
219	39	>75% Grass cover, Good, HSG A(PRWS6A)
344,846	55	Woods, Good, HSG B (PRWS1, PRWS2, PRWS5A, PRWS6A, PRWS7A)
431,055	61	>75% Grass cover, Good, HSG B (PRWS1, PRWS5A, PRWS5B, PRWS5C, PRWS6A,
		PRWS7A)
105,975	98	Paved parking, HSG B (PRWS5A, PRWS5B, PRWS5C, PRWS6A, PRWS7A)
400	98	Roofs, HSG B (PRWS6A)
882,495		TOTAL AREA

EAGLE RIDGE TOWNHOUSES-PRDP1 PRDP2 PRDP5 PRDP6 PRType III 24-hr 1 YR Rainfall=2.80" Prepared by Alfonzetti Engineering, P.C. HydroCAD® 9.00 s/n 02177 © 2009 HydroCAD Software Solutions LLC

Time span=0.00-36.00 hrs, dt=0.010 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Reach routing by Stor	-ind+Trans method - Pond routing by Stor-Ind method
Subcatchment PRWS1: PRWS1	Runoff Area=80,670 sf 0.00% Impervious Runoff Depth=0.14" Flow Length=332' Tc=20.0 min CN=55 Runoff=0.1 cfs 974 cf
Subcatchment PRWS2: PRWS2	Runoff Area=17,034 sf 0.00% Impervious Runoff Depth=0.14" Flow Length=194' Tc=13.5 min CN=55 Runoff=0.0 cfs 206 cf
Subcatchment PRWS5A: PRWS5A	Runoff Area=263,624 sf 0.21% Impervious Runoff Depth=0.17" Flow Length=500' Tc=15.2 min CN=56 Runoff=0.3 cfs 3,650 cf
Subcatchment PRWS5B: PRWS5B	Runoff Area=187,388 sf 27.56% Impervious Runoff Depth=0.65" Flow Length=641' Tc=15.3 min CN=71 Runoff=2.1 cfs 10,121 cf
Subcatchment PRWS5C: PRWS5C	Runoff Area=11,251 sf 67.37% Impervious Runoff Depth=1.49" Tc=6.0 min CN=86 Runoff=0.5 cfs 1,399 cf
Subcatchment PRWS6A: PRWS6A	Runoff Area=263,198 sf 17.50% Impervious Runoff Depth=0.49" Flow Length=1,821' Tc=6.0 min CN=67 Runoff=2.6 cfs 10,719 cf
Subcatchment PRWS7A: PRWS7A	Runoff Area=59,330 sf 0.94% Impervious Runoff Depth=0.26" Flow Length=706' Tc=4.7 min CN=60 Runoff=0.2 cfs 1,308 cf
Pond 19P: CULTEC BY OTHERS	Peak Elev=514.29' Storage=287 cf Inflow=0.5 cfs 1,399 cf Discarded=0.1 cfs 1,399 cf Primary=0.0 cfs 0 cf Outflow=0.1 cfs 1,399 cf
Link PRDP1: PRDP1	Inflow=0.1 cfs 974 cf Primary=0.1 cfs 974 cf
Link PRDP2: PRDP2	Inflow=0.0 cfs 206 cf Primary=0.0 cfs 206 cf
Link PRDP5: PRDP5	Inflow=2.1 cfs 13,771 cf Primary=2.1 cfs 13,771 cf
Link PRDP6: PRDP6	Inflow=2.6 cfs 10,719 cf Primary=2.6 cfs 10,719 cf
Link PRDP7: PRDP7	Inflow=0.2 cfs 1,308 cf Primary=0.2 cfs 1,308 cf

Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-PRDP1 PRDP2 PRDP5 PRDP6 PRType III 24-hr 1 YR Rainfall=2.80"

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Total Runoff Area = 882,495 sf Runoff Volume = 28,376 cf Average Runoff Depth = 0.39" 87.95% Pervious = 776,120 sf 12.05% Impervious = 106,375 sf **EAGLE RIDGE TOWNHOUSES-PRDP1 PRDP2 PRDP5 PRDP6 PR**Type III 24-hr 1 YR Rainfall=2.80"

Prepared by Alfonzetti Engineering, P.C.

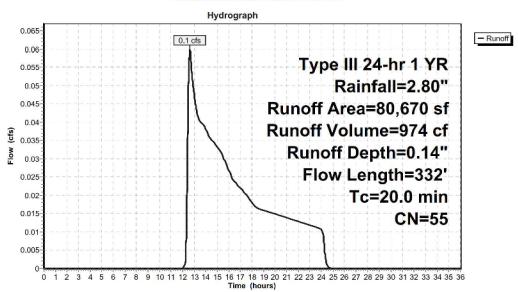
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Summary for Subcatchment PRWS1: PRWS1

Runoff = 0.1 cfs @ 12.64 hrs, Volume= 974 cf, Depth= 0.14"

A	rea (sf)	CN De	escription				
	78,687	55 W	oods, Good	d, HSG B			
1,983 61 >75% Grass cover, Good, HSG B							
	80,670	55 W	eighted Av	erage			
	80,670	10	00.00% Per	vious Area			
Tc	Length	Slope	Velocity	Capacity	Description		
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
18.1	100	0.0280	0.09		Sheet Flow,		
					Woods: Light underbrush n= 0.400 P2= 3.43"		
0.4	50	0.1650	2.03		Shallow Concentrated Flow,		
					Woodland Kv= 5.0 fps		
0.6	58	0.1030	1.60		Shallow Concentrated Flow,		
					Woodland Kv= 5.0 fps		
0.9	124	0.2230	2.36		Shallow Concentrated Flow,		
					Woodland Kv= 5.0 fps		
20.0	332	Total					

Subcatchment PRWS1: PRWS1



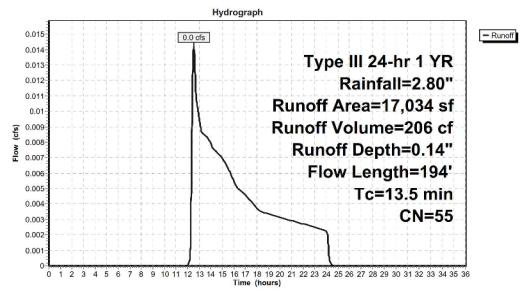
Summary for Subcatchment PRWS2: PRWS2

Runoff = 0.0 cfs @ 12.53 hrs, Volume= 206 cf, Depth= 0.14"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 1 YR Rainfall=2.80"

-	А	rea (sf)	CN D	escription		
		17,034	55 W	loods, Goo	d, HSG B	
		17,034	1	00.00% Per	vious Area	
	Tc (min)	Length (feet)	Slope (ft/ft)	,	Capacity (cfs)	Description
- 23	3.9	34	0.1470	0.14	,	Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 3.43"
	9.3	116	0.1980	0.21		Sheet Flow, SF2
	0.3	44	0.1920	2.19		Woods: Light underbrush n= 0.400 P2= 3.43" Shallow Concentrated Flow, SC1 Woodland Kv= 5.0 fps
	13.5	194	Total			

Subcatchment PRWS2: PRWS2



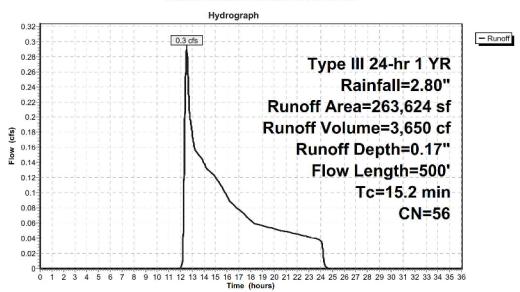
Summary for Subcatchment PRWS5A: PRWS5A

Runoff = 0.3 cfs @ 12.53 hrs, Volume= 3,650 cf, Depth= 0.17"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 1 YR Rainfall=2.80"

Ar	rea (sf)	CN D	escription		
	21,636	55 V	Voods, Good	d, HSG B	
	185	98 P	aved parkin	g, HSG B	
	185	98 P	aved parkin	g, HSG B	
	87,595	55 V	Voods, Good	d, HSG B	
•	33,646	61 >	75% Grass o	over, Good	, HSG B
	40,482	55 V	Voods, Good	d, HSG B	
1	79,491	55 V	Voods, Good	d, HSG B	
	219	61 >	75% Grass o	over, Good	, HSG B
	185	98 P	aved parkin	g, HSG B	
2	63,624	56 V	Veighted Av	erage	
2	63,069	9	9.79% Pervi	ous Area	
	555	0	.21% Imper	vious Area	
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
9.7	100	0.0480	0.17		Sheet Flow,
					Grass: Dense n= 0.240 P2= 3.43"
1.9	200	0.1200	1.73		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
2.4	100	0.0200	0.71		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
1.2	100	0.0800	1.41		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
15.2	500	Total			

Subcatchment PRWS5A: PRWS5A



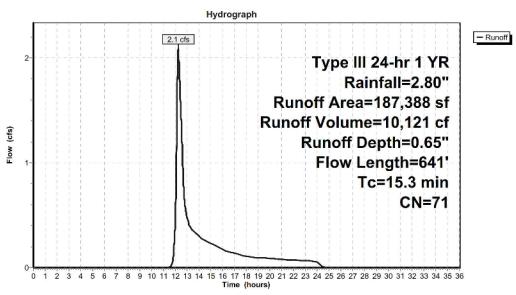
Summary for Subcatchment PRWS5B: PRWS5B

Runoff = 2.1 cfs @ 12.24 hrs, Volume= 10,121 cf, Depth= 0.65"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 1 YR Rainfall=2.80"

Ar	rea (sf)	CN Description					
	292	61 >7	75% Grass o	over, Good	, HSG B		
!	51,564	98 Pa	aved parkin	g, HSG B			
	2,075	61 >7	75% Grass o	cover, Good	, HSG B		
	7,566	61 >7	75% Grass o	over, Good	, HSG <mark>B</mark>		
12	25,011	61 >7	75% Grass o	over, Good	, HSG B		
	22	98 Pa	aved parkin	g, HSG B			
	52	98 Pa	aved parkin	g, HSG B			
	678	61 >7	75% Grass o	over, Good	, HSG B		
	128	61 >7	75% Grass o	over, Good	, HSG B		
18	87,388	71 W	eighted Av	erage			
13	35,750	72	2.44% Pervi	ous Area			
i i	51,638	27	7.56% Impe	rvious Area			
Tc	Length	Slope	Velocity	Capacity	Description		
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
13.0	100	0.0230	0.13		Sheet Flow,		
					Grass: Dense n= 0.240 P2= 3.43"		
0.8	60	0.0330	1.27		Shallow Concentrated Flow,		
					Short Grass Pasture Kv= 7.0 fps		
0.2	31	0.2420	3.44		Shallow Concentrated Flow,		
					Short Grass Pasture Kv= 7.0 fps		
1.2	345	0.0520	4.63		Shallow Concentrated Flow,		
					Paved Kv= 20.3 fps		
0.1	105	0.1840	17.23	9.398	Pipe Channel,		
					10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'		
1					n= 0.013 Concrete pipe, bends & connections		
15.3	641	Total					

Subcatchment PRWS5B: PRWS5B



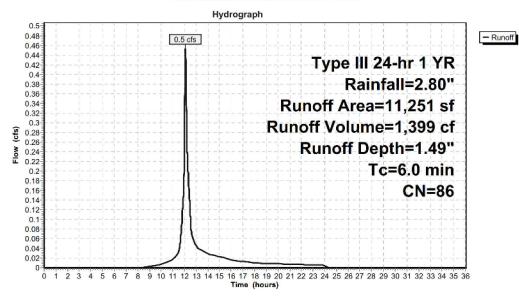
Summary for Subcatchment PRWS5C: PRWS5C

Runoff = 0.5 cfs @ 12.09 hrs, Volume= 1,399 cf, Depth= 1.49"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 1 YR Rainfall=2.80"

A	rea (sf)	CN	Description				
	1,190	61	>7!	5% Grass c	over, Good	d, HSG B	
	211	61	>7!	5% Grass c	over, Good	d, HSG B	
	7,580	98	Pay	ved parkin	g, HSG B		
	2,242	61	>7!	5% Grass c	over, Good	d, HSG B	
	28	61	>7!	5% Grass c	over, Good	d, HSG B	
	11,251	86 Weighted Average					
	3,671		32.	.63% Pervi	ous Area		
	7,580		67.	.37% Impe	rvious Area	a	
Tc	Length	Slo	oe	Velocity	Capacity	Description	
(min)	(feet)	(ft/	ft)	(ft/sec)	(cfs)		
6.0						Direct Entry,	

Subcatchment PRWS5C: PRWS5C



Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-PRDP1 PRDP2 PRDP5 PRDP6 PRType III 24-hr 1 YR Rainfall=2.80"

Prepared by Alfonzetti Engineering, P.C.

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Summary for Subcatchment PRWS6A: PRWS6A

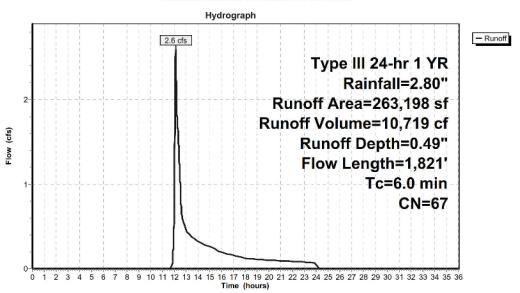
Runoff = 2.6 cfs @ 12.11 hrs, Volume= 10,719 cf, Depth= 0.49"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 1 YR Rainfall=2.80"

		·
Area (sf)	CN	Description
121,477	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
41,393	98	Paved parking, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
400	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
217	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
184	98	Paved parking, HSG B
219	39	>75% Grass cover, Good, HSG A
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185		Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B

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	185		aved parkin	0.	
	185	98 Pa	aved parkin	g, HSG B	
	219	61 >7	75% Grass c	over, Good	, HSG B
	219	61 >7	75% Grass c	over, Good	, HSG B
	185	98 Pa	aved parkin	g, HSG B	
	86,051	61 >7	75% Grass c	over, Good	, HSG B
	4,500	55 W	oods, Good	d, HSG B	
	307	61 >7	75% Grass c	over, Good	, HSG B
2	63,198	67 W	eighted Av	erage	
2	17,151	82	2.50% Pervi	ous Area	
	46,047	17	7.50% Impe	rvious Area	
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
1.9	28	0.0890	0.25		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.43"
0.6	72	0.0490	1.91		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 3.43"
0.2	50	0.0490	4.49		Shallow Concentrated Flow,
					Paved Kv= 20.3 fps
1.9	450	0.0710	4.00		Shallow Concentrated Flow,
					Grassed Waterway Kv= 15.0 fps
0.4	474	0.0790	20.24	63.585	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.013 Concrete pipe, bends & connections
0.2	200	0.0600	17.64	55.413	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.013 Concrete pipe, bends & connections
0.2	189	0.0700	19.05	59.853	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.013 Concrete pipe, bends & connections
0.6	358	0.0170	9.39	29.496	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.013 Concrete pipe, bends & connections
6.0	1,821	Total			
0.0	_,				

Subcatchment PRWS6A: PRWS6A



Summary for Subcatchment PRWS7A: PRWS7A

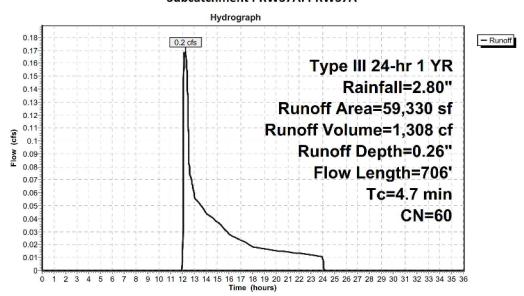
Runoff = 0.2 cfs @ 12.27 hrs, Volume= 1,308 cf, Depth= 0.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 1 YR Rainfall=2.80"

	Area (sf)	CN D	Description				
	15,421	55 W	loods, Goo	d, HSG B			
	185	98 P	aved parkir	ig, HSG B			
	42,697	61 >	75% Grass	cover, Good	, HSG B		
	219	61 >	75% Grass	cover, Good	, HSG <mark>B</mark>		
	219	61 >	75% Grass	cover, Good	, HSG B		
	185	98 P	aved parkir	g, HSG B			
	185	98 P	aved parkir	ig, HSG B			
	219	61 >	75% Grass	cover, Good	, HSG B		
	59,330	60 W	/eighted Av	erage			
	58,775	9	9.06% Perv	ious Area			
	555	0	.94% Imper	vious Area			
Tc	Length	Slope	are a	Capacity	Description		
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
2.7	40	0.0740	0.25		Sheet Flow,		
					Grass: Short n= 0.150 P2= 3.43"		
0.5	60	0.0670	2.09		Sheet Flow,		
					Smooth surfaces n= 0.011 P2= 3.43"		
1.1	346	0.0685	5.31		Shallow Concentrated Flow,		
					Paved Kv= 20.3 fps		
0.4	260	0.0400	10.44	5.697	Pipe Channel,		
					10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'		
	1				n= 0.010 PVC, smooth interior		
17	706	Total					

4.7 706 Total

Subcatchment PRWS7A: PRWS7A



Summary for Pond 19P: CULTEC BY OTHERS

Inflow Area =	11,251 sf, 67.37% Impervious,	Inflow Depth = 1.49" for 1 YR event
Inflow =	0.5 cfs @ 12.09 hrs, Volume=	1,399 cf
Outflow =	0.1 cfs @ 11.84 hrs, Volume=	1,399 cf, Atten= 74%, Lag= 0.0 min
Discarded =	0.1 cfs @ 11.84 hrs, Volume=	1,399 cf
Primary =	0.0 cfs @ 0.00 hrs. Volume=	0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 514.29' @ 12.48 hrs Surf.Area= 335 sf Storage= 287 cf

Plug-Flow detention time= 13.0 min calculated for 1,399 cf (100% of inflow) Center-of-Mass det. time= 13.0 min (841.4 - 828.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	512.95'	308 cf	11.17'W x 30.00'L x 3.54'H Field A
			1,186 cf Overall - 417 cf Embedded = 769 cf x 40.0% Voids
#2A	513.45'	417 cf	Cultec R-330XL x 8 Inside #1
			Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf
			Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap

725 cf Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	515.50'	12.0" Round Culvert
			L= 25.0′ CMP, projecting, no headwall, Ke= 0.900
			Outlet Invert= 514.35' S= 0.0460 '/' Cc= 0.900 n= 0.013
#2	Discarded	512.95'	15.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.1 cfs @ 11.84 hrs HW=512.99' (Free Discharge) **1.2=Exfiltration** (Exfiltration Controls 0.1 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=512.95' (Free Discharge) 1=Culvert (Controls 0.0 cfs)

Pond 19P: CULTEC BY OTHERS - Chamber Wizard Field A

Chamber Model = Cultec R-330XL

Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap

52.0" Wide + 6.0" Spacing = 58.0" C-C

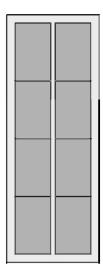
4 Chambers/Row x 7.00' Long = 28.00' + 12.0'' End Stone x 2 = 30.00' Base Length 2 Rows x 52.0" Wide + 6.0" Spacing x 1 + 12.0'' Side Stone x 2 = 11.17' Base Width 6.0" Base + 30.5'' Chamber Height + 6.0'' Cover = 3.54' Field Height

8 Chambers x 52.2 cf = 417.3 cf Chamber Storage

1,186.5 cf Field - 417.3 cf Chambers = 769.2 cf Stone x 40.0% Voids = 307.7 cf Stone Storage

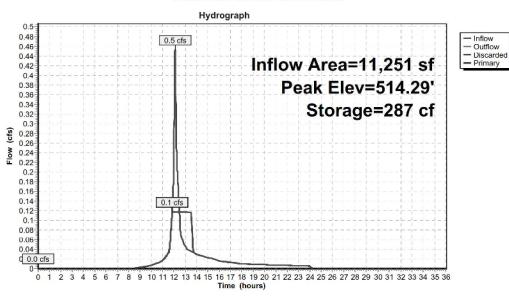
Stone + Chamber Storage = 724.9 cf = 0.017 af

8 Chambers 43.9 cy Field 28.5 cy Stone





Pond 19P: CULTEC BY OTHERS



Summary for Link PRDP1: PRDP1

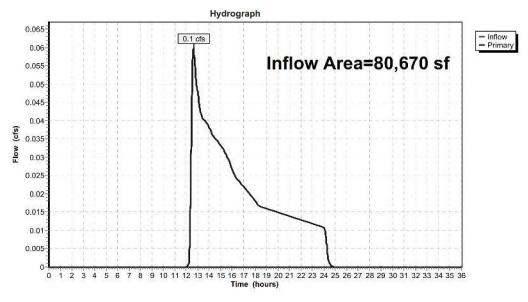
Inflow Area = 80,670 sf, 0.00% Impervious, Inflow Depth = 0.14" for 1 YR event

Inflow = 0.1 cfs @ 12.64 hrs, Volume= 974 cf

Primary = 0.1 cfs @ 12.64 hrs, Volume= 974 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP1: PRDP1



Summary for Link PRDP2: PRDP2

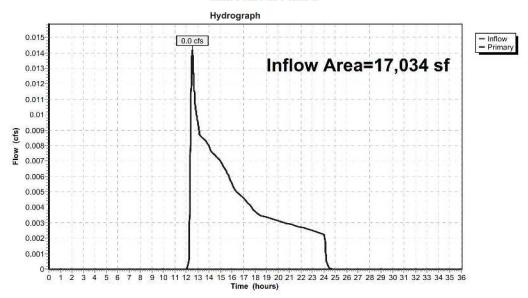
Inflow Area = 17,034 sf, 0.00% Impervious, Inflow Depth = 0.14" for 1 YR event

Inflow = 0.0 cfs @ 12.53 hrs, Volume= 206 cf

Primary = 0.0 cfs @ 12.53 hrs, Volume= 206 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP2: PRDP2



Summary for Link PRDP5: PRDP5

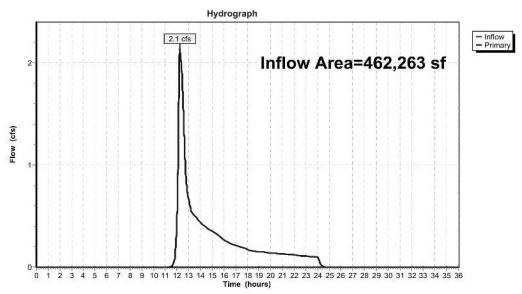
Inflow Area = 462,263 sf, 12.93% Impervious, Inflow Depth = 0.36" for 1 YR event

Inflow = 2.1 cfs @ 12.26 hrs, Volume= 13,771 cf

Primary = 2.1 cfs @ 12.26 hrs, Volume= 13,771 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP5: PRDP5



Summary for Link PRDP6: PRDP6

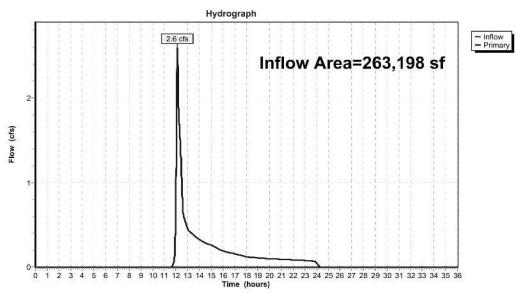
Inflow Area = 263,198 sf, 17.50% Impervious, Inflow Depth = 0.49" for 1 YR event

Inflow = 2.6 cfs @ 12.11 hrs, Volume= 10,719 cf

Primary = 2.6 cfs @ 12.11 hrs, Volume= 10,719 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP6: PRDP6



Summary for Link PRDP7: PRDP7

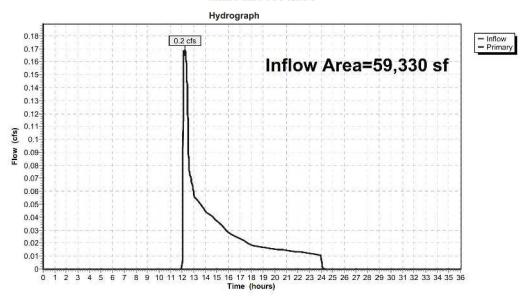
Inflow Area = 59,330 sf, 0.94% Impervious, Inflow Depth = 0.26" for 1 YR event

Inflow = 0.2 cfs @ 12.27 hrs, Volume= 1,308 cf

Primary = 0.2 cfs @ 12.27 hrs, Volume= 1,308 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP7: PRDP7



Time span=0.00-36.00 hrs, dt=0.010 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method					
Subcatchment PRWS1: PRWS1	Runoff Area=80,670 sf 0.00% Impervious Runoff Depth=0.32" Flow Length=332' Tc=20.0 min CN=55 Runoff=0.2 cfs 2,168 cf				
Subcatchment PRWS2: PRWS2	Runoff Area=17,034 sf 0.00% Impervious Runoff Depth=0.32" Flow Length=194' Tc=13.5 min CN=55 Runoff=0.1 cfs 458 cf				
Subcatchment PRWS5A: PRWS5A	Runoff Area=263,624 sf 0.21% Impervious Runoff Depth=0.36" Flow Length=500' Tc=15.2 min CN=56 Runoff=1.0 cfs 7,811 cf				
Subcatchment PRWS5B: PRWS5B	Runoff Area=187,388 sf 27.56% Impervious Runoff Depth=1.02" Flow Length=641' Tc=15.3 min CN=71 Runoff=3.6 cfs 15,920 cf				
Subcatchment PRWS5C: PRWS5C	Runoff Area=11,251 sf 67.37% Impervious Runoff Depth=2.04" Tc=6.0 min CN=86 Runoff=0.6 cfs 1,909 cf				
Subcatchment PRWS6A: PRWS6A	Runoff Area=263,198 sf 17.50% Impervious Runoff Depth=0.81" Flow Length=1,821' Tc=6.0 min CN=67 Runoff=5.0 cfs 17,789 cf				
Subcatchment PRWS7A: PRWS7A	Runoff Area=59,330 sf 0.94% Impervious Runoff Depth=0.50" Flow Length=706' Tc=4.7 min CN=60 Runoff=0.6 cfs 2,480 cf				
Pond 19P: CULTEC BY OTHERS	Peak Elev=515.15' Storage=500 cf Inflow=0.6 cfs 1,909 cf Discarded=0.1 cfs 1,909 cf Primary=0.0 cfs 0 cf Outflow=0.1 cfs 1,909 cf				
Link PRDP1: PRDP1	Inflow=0.2 cfs 2,168 cf Primary=0.2 cfs 2,168 cf				
Link PRDP2: PRDP2	Inflow=0.1 cfs 458 cf Primary=0.1 cfs 458 cf				
Link PRDP5: PRDP5	Inflow=4.3 cfs 23,731 cf Primary=4.3 cfs 23,731 cf				
Link PRDP6: PRDP6	Inflow=5.0 cfs 17,789 cf Primary=5.0 cfs 17,789 cf				
Link PRDP7: PRDP7	Inflow=0.6 cfs 2,480 cf Primary=0.6 cfs 2,480 cf				

Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-PRDP1 PRDP2 PRDP5 PRDP6 PRType III 24-hr 2 YR Rainfall=3.43"

Prepared by Alfonzetti Engineering, P.C.

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Total Runoff Area = 882,495 sf Runoff Volume = 48,535 cf Average Runoff Depth = 0.66" 87.95% Pervious = 776,120 sf 12.05% Impervious = 106,375 sf

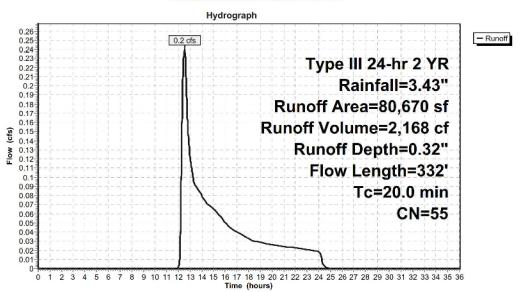
Summary for Subcatchment PRWS1: PRWS1

Runoff = 0.2 cfs @ 12.51 hrs, Volume= 2,168 cf, Depth= 0.32"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 2 YR Rainfall=3.43"

A	rea (sf)	CN D	escription				
	78,687	55 W	oods, Good	d, HSG B			
	1,983 61 >75% Grass cover, Good, HSG B						
	80,670	55 W	eighted Av	erage			
	80,670	10	00.00% Per	vious Area			
Tc	Length	Slope	Velocity	Capacity	Description		
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
18.1	100	0.0280	0.09		Sheet Flow,		
					Woods: Light underbrush n= 0.400 P2= 3.43"		
0.4	50	0.1650	2.03		Shallow Concentrated Flow,		
					Woodland Kv= 5.0 fps		
0.6	58	0.1030	1.60		Shallow Concentrated Flow,		
					Woodland Kv= 5.0 fps		
0.9	124	0.2230	2.36		Shallow Concentrated Flow,		
					Woodland Kv= 5.0 fps		
20.0	332	Total					

Subcatchment PRWS1: PRWS1



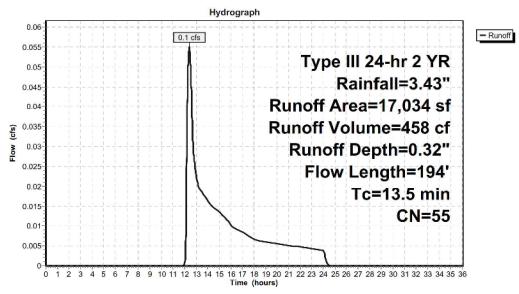
Summary for Subcatchment PRWS2: PRWS2

Runoff = 0.1 cfs @ 12.41 hrs, Volume= 458 cf, Depth= 0.32"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 2 YR Rainfall=3.43"

	Area (:	sf)	CN	Description		
	17,034		55 Woods, Good, HSG B			
	17,034		100.00% Pervious Area			
	c Len	gth	Slope	e Velocity	Capacity	Description
(mi	n) (fe	et)	(ft/ft	(ft/sec)	(cfs)	
3	.9	34	0.147	0.14		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 3.43"
9	.3 1	116	0.1980	0.21		Sheet Flow, SF2
						Woods: Light underbrush n= 0.400 P2= 3.43"
0	.3	44	0.192	2.19		Shallow Concentrated Flow, SC1
						Woodland Kv= 5.0 fps
13	.5 1	L94	Total			

Subcatchment PRWS2: PRWS2



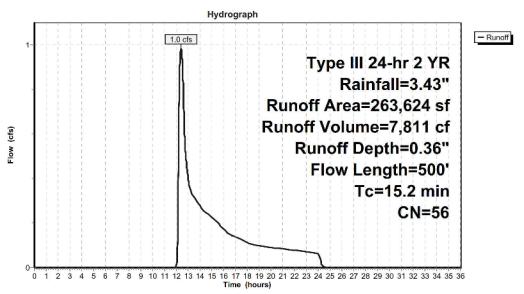
Summary for Subcatchment PRWS5A: PRWS5A

Runoff = 1.0 cfs @ 12.41 hrs, Volume= 7,811 cf, Depth= 0.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 2 YR Rainfall=3.43"

Д	rea (sf)	CN [escription				
	21,636	55 V	Voods, Goo	d, HSG B			
	185		Paved parking, HSG B				
	185	98 F	Paved parking, HSG B				
	87,595		Woods, Good, HSG B				
	33,646	61 >	75% Grass o	over, Good	, HSG B		
	40,482	55 V	Voods, Goo	d, HSG B			
	79,491	55 V	Voods, Goo	d, HSG B			
	219		75% Grass o		, HSG B		
	185	98 F	aved parkin	g, HSG B			
2	263,624	56 V	Veighted Av	erage			
2	63,069	9	9.79% Perv	ous Area			
	555		.21% Imper	vious Area			
Tc	Length	Slope		Capacity	Description		
(min)	(feet)	(ft/ft)		(cfs)			
9.7	100	0.0480	0.17		Sheet Flow,		
					Grass: Dense n= 0.240 P2= 3.43"		
1.9	200	0.1200	1.73		Shallow Concentrated Flow,		
					Woodland Kv= 5.0 fps		
2.4	100	0.0200	0.71		Shallow Concentrated Flow,		
4.0	400	0.0000			Woodland Kv= 5.0 fps		
1.2	100	0.0800	1.41		Shallow Concentrated Flow,		
					Woodland Kv= 5.0 fps		
15.2	500	Total					

Subcatchment PRWS5A: PRWS5A



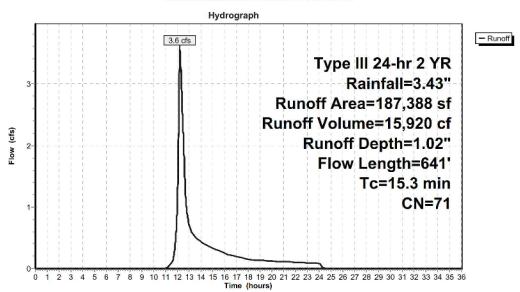
Summary for Subcatchment PRWS5B: PRWS5B

Runoff = 3.6 cfs @ 12.23 hrs, Volume= 15,920 cf, Depth= 1.02"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 2 YR Rainfall=3.43"

Area (sf)		CN De	escription							
	292		61 >75% Grass cover, Good, HSG B							
	51,564		98 Paved parking, HSG B							
	2,075	61 >7	51 >75% Grass cover, Good, HSG B							
	7,566	61 >7	51 >75% Grass cover, Good, HSG B							
1	.25,011	61 >7	61 >75% Grass cover, Good, HSG B							
	22	98 Paved parking, HSG B								
	52	98 Pa	98 Paved parking, HSG B							
	678	61 >7	75% Grass o	cover, Good	, HSG B					
_	128	61 >7	75% Grass o	cover, Good	, HSG B					
1	.87,388	71 W	eighted Av	erage						
1	35,750	72	2.44% Pervi	ious Area						
	51,638	27.56% Impervious Area								
Tc	Length	Slope	Velocity	Capacity	Description					
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)						
13.0	100	0.0230	0.13		Sheet Flow,					
					Grass: Dense n= 0.240 P2= 3.43"					
0.8	60	0.0330	1.27		Shallow Concentrated Flow,					
					Short Grass Pasture Kv= 7.0 fps					
0.2	31	0.2420	3.44		Shallow Concentrated Flow,					
					Short Grass Pasture Kv= 7.0 fps					
1.2	345	0.0520	4.63		Shallow Concentrated Flow,					
					Paved Kv= 20.3 fps					
0.1	105	0.1840	17.23	9.398	Pipe Channel,					
					10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'					
					n= 0.013 Concrete pipe, bends & connections					
15.3	641	Total								

Subcatchment PRWS5B: PRWS5B



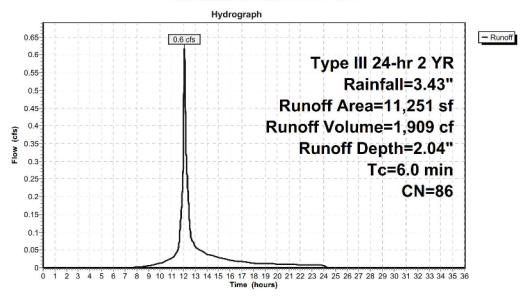
Summary for Subcatchment PRWS5C: PRWS5C

Runoff = 0.6 cfs @ 12.09 hrs, Volume= 1,909 cf, Depth= 2.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 2 YR Rainfall=3.43"

A	rea (sf)	CN	Description				
	1,190	61	>75	5% Grass c	over, Good	, HSG B	
	211	61	>7	5% Grass c	over, Good	, HSG B	
	7,580	98	Pav	ed parkin	g, HSG B		
	2,242	61	>7!	5% Grass c	over, Good	, HSG B	
	28	61	>7	5% Grass c	over, Good	, HSG B	
	11,251	251 86 Weighted Average					
	3,671 32.63% Pervious Area						
	7,580 67.37% Impervious Area						
Tc	Length	Slop	эe	Velocity	Capacity	Description	
(min)	(feet)	(ft/	ft)	(ft/sec)	(cfs)		
6.0						Direct Entry,	

Subcatchment PRWS5C: PRWS5C



Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-PRDP1 PRDP2 PRDP5 PRDP6 PRType III 24-hr 2 YR Rainfall=3.43"

Prepared by Alfonzetti Engineering, P.C.

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Summary for Subcatchment PRWS6A: PRWS6A

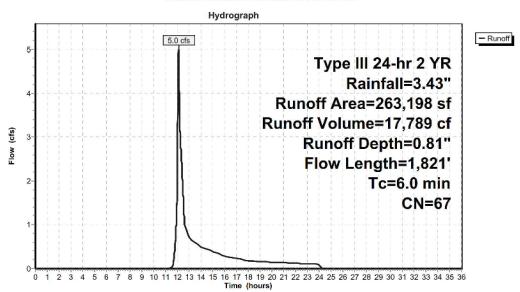
Runoff = 5.0 cfs @ 12.10 hrs, Volume= 17,789 cf, Depth= 0.81"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 2 YR Rainfall=3.43"

	500000	
Area (sf)	CN	Description
121,477	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
41,393	98	Paved parking, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
400	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
217	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
184	98	Paved parking, HSG B
219	39	>75% Grass cover, Good, HSG A
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B

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	185		98 Paved parking, HSG B						
	185		Paved parking, HSG B						
	219								
	219								
	185								
	86,051								
	4,500								
	307	61 >	75% Grass c	over, Good,	, HSG B				
2	63,198	67 W	eighted Av	erage					
2	17,151	83	2.50% Pervi	ous Area					
	46,047	1	7.50% Impe	rvious Area					
	Length		Velocity	Capacity	Description				
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
1.9	28	0.0890	0.25		Sheet Flow,				
					Grass: Short n= 0.150 P2= 3.43"				
0.6	72	0.0490	1.91		Sheet Flow,				
					Smooth surfaces n= 0.011 P2= 3.43"				
0.2	50	0.0490	4.49		Shallow Concentrated Flow,				
					Paved Kv= 20.3 fps				
1.9	450	0.0710	4.00		Shallow Concentrated Flow,				
					Grassed Waterway Kv= 15.0 fps				
0.4	474	0.0790	20.24	63.585	Pipe Channel,				
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'				
					n= 0.013 Concrete pipe, bends & connections				
0.2	200	0.0600	17.64	55.413	Pipe Channel,				
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'				
					n= 0.013 Concrete pipe, bends & connections				
0.2	189	0.0700	19.05	59.853	Pipe Channel,				
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'				
					n= 0.013 Concrete pipe, bends & connections				
0.6	358	0.0170	9.39	29.496	Pipe Channel,				
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'				
					n= 0.013 Concrete pipe, bends & connections				
6.0	1,821	Total							

Subcatchment PRWS6A: PRWS6A



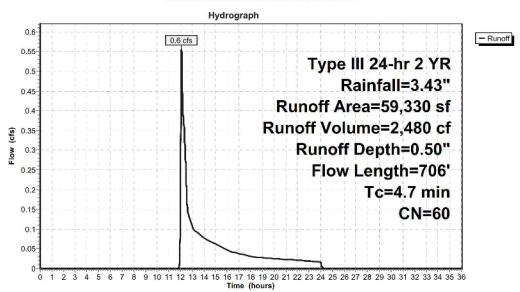
Summary for Subcatchment PRWS7A: PRWS7A

Runoff = 0.6 cfs @ 12.10 hrs, Volume= 2,480 cf, Depth= 0.50"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 2 YR Rainfall=3.43"

A	Area (sf)		escription					
	15,421		Woods, Good, HSG B					
	185		Paved parking, HSG B					
	42,697	61 >	>75% Grass cover, Good, HSG B					
	219	61 >	>75% Grass cover, Good, HSG B					
	219	61 >	>75% Grass cover, Good, HSG B					
	185	98 P	Paved parking, HSG B					
	185	98 P	aved parkir	ig, HSG B				
_	219	61 >	75% Grass	cover, Good	, HSG B			
	59,330	60 V	Veig <mark>hted Av</mark>	rerage				
	58,775	9	99.06% Pervious Area					
	555	0.94% Impervious Area						
Tc	Length	Slope	or early	Capacity	Description			
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
2.7	40	0.0740	0.25		Sheet Flow,			
					Grass: Short n= 0.150 P2= 3.43"			
0.5	60	0.0670	2.09		Sheet Flow,			
		0.0685			Smooth surfaces n= 0.011 P2= 3.43"			
1.1	1.1 346		5.31		Shallow Concentrated Flow,			
					Paved Kv= 20.3 fps			
0.4	260	0.0400	10.44	5.697	Pipe Channel,			
					10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'			
					n= 0.010 PVC, smooth interior			
4.7	706	Total						

Subcatchment PRWS7A: PRWS7A



Summary for Pond 19P: CULTEC BY OTHERS

Inflow Area =	11,251 sf, 67.37% Impervious,	Inflow Depth = 2.04" for 2 YR event
Inflow =	0.6 cfs @ 12.09 hrs, Volume=	1,909 cf
Outflow =	0.1 cfs @ 11.74 hrs, Volume=	1,909 cf, Atten= 81%, Lag= 0.0 min
Discarded =	0.1 cfs @ 11.74 hrs, Volume=	1,909 cf
Primary =	0.0 cfs @ 0.00 hrs. Volume=	0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 515.15' @ 12.54 hrs Surf.Area= 335 sf Storage= 500 cf

Plug-Flow detention time= 25.5 min calculated for 1,909 cf (100% of inflow) Center-of-Mass det. time= 25.5 min (845.1 - 819.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	512.95'	308 cf	11.17'W x 30.00'L x 3.54'H Field A
			1,186 cf Overall - 417 cf Embedded = 769 cf x 40.0% Voids
#2A	513.45'	417 cf	Cultec R-330XL x 8 Inside #1
			Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf
			Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap

725 cf Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	515.50'	12.0" Round Culvert
			L= 25.0′ CMP, projecting, no headwall, Ke= 0.900
			Outlet Invert= 514.35' S= 0.0460 '/' Cc= 0.900 n= 0.013
#2	Discarded	512.95'	15.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.1 cfs @ 11.74 hrs HW=512.99' (Free Discharge) **1.2=Exfiltration** (Exfiltration Controls 0.1 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=512.95' (Free Discharge) 1=Culvert (Controls 0.0 cfs)

Pond 19P: CULTEC BY OTHERS - Chamber Wizard Field A

Chamber Model = Cultec R-330XL

Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap

52.0" Wide + 6.0" Spacing = 58.0" C-C

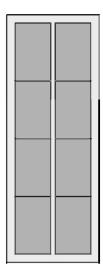
4 Chambers/Row x 7.00' Long = 28.00' + 12.0'' End Stone x 2 = 30.00' Base Length 2 Rows x 52.0" Wide + 6.0" Spacing x 1 + 12.0'' Side Stone x 2 = 11.17' Base Width 6.0" Base + 30.5'' Chamber Height + 6.0'' Cover = 3.54' Field Height

8 Chambers x 52.2 cf = 417.3 cf Chamber Storage

1,186.5 cf Field - 417.3 cf Chambers = 769.2 cf Stone x 40.0% Voids = 307.7 cf Stone Storage

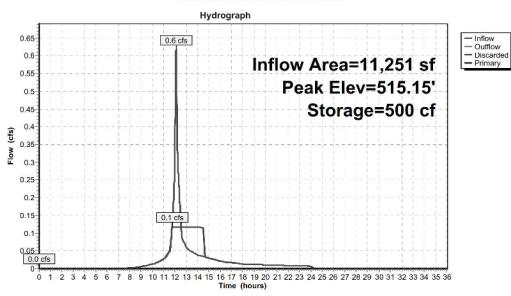
Stone + Chamber Storage = 724.9 cf = 0.017 af

8 Chambers 43.9 cy Field 28.5 cy Stone





Pond 19P: CULTEC BY OTHERS



Summary for Link PRDP1: PRDP1

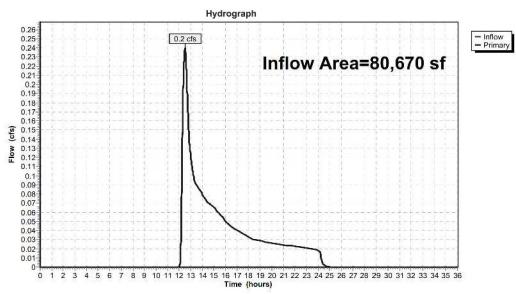
Inflow Area = 80,670 sf, 0.00% Impervious, Inflow Depth = 0.32" for 2 YR event

Inflow = 0.2 cfs @ 12.51 hrs, Volume= 2,168 cf

Primary = 0.2 cfs @ 12.51 hrs, Volume= 2,168 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP1: PRDP1



Summary for Link PRDP2: PRDP2

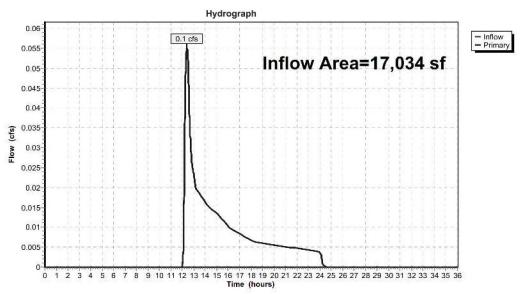
Inflow Area = 17,034 sf, 0.00% Impervious, Inflow Depth = 0.32" for 2 YR event

Inflow = 0.1 cfs @ 12.41 hrs, Volume= 458 cf

Primary = 0.1 cfs @ 12.41 hrs, Volume= 458 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP2: PRDP2



Summary for Link PRDP5: PRDP5

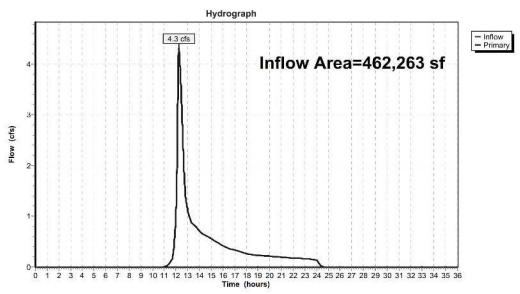
Inflow Area = 462,263 sf, 12.93% Impervious, Inflow Depth = 0.62" for 2 YR event

Inflow = 4.3 cfs @ 12.25 hrs, Volume= 23,731 cf

Primary = 4.3 cfs @ 12.25 hrs, Volume= 23,731 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP5: PRDP5



Summary for Link PRDP6: PRDP6

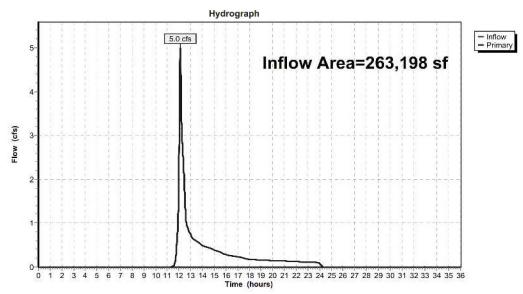
Inflow Area = 263,198 sf, 17.50% Impervious, Inflow Depth = 0.81" for 2 YR event

Inflow = 5.0 cfs @ 12.10 hrs, Volume= 17,789 cf

Primary = 5.0 cfs @ 12.10 hrs, Volume= 17,789 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP6: PRDP6



Summary for Link PRDP7: PRDP7

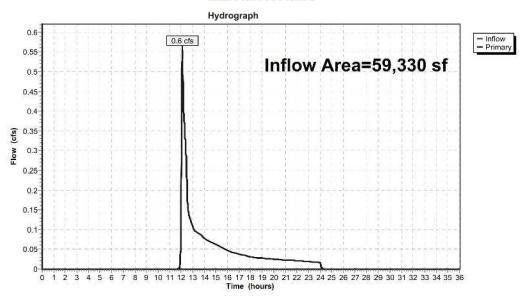
Inflow Area = 59,330 sf, 0.94% Impervious, Inflow Depth = 0.50" for 2 YR event

Inflow = 0.6 cfs @ 12.10 hrs, Volume= 2,480 cf

Primary = 0.6 cfs @ 12.10 hrs, Volume= 2,480 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP7: PRDP7



Primary=1.3 cfs 4,543 cf

EAGLE RIDGE TOWNHOUSES-PRDP1 PRDP2 PRDP5 PRDP6 PRType III 24-hr 5 YR Rainfall=4.31"

Prepared by Alfonzetti Engineering, P.C.

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Time span=0.00-36.00 hrs, dt=0.010 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Reach routing by St	or-ind+rrans method - Pond routing by Stor-ind method
Subcatchment PRWS1: PRWS1	Runoff Area=80,670 sf 0.00% Impervious Runoff Depth=0.66" Flow Length=332' Tc=20.0 min CN=55 Runoff=0.7 cfs 4,427 cf
Subcatchment PRWS2: PRWS2	Runoff Area=17,034 sf 0.00% Impervious Runoff Depth=0.66" Flow Length=194' Tc=13.5 min CN=55 Runoff=0.2 cfs 935 cf
Subcatchment PRWS5A: PRWS5A	Runoff Area=263,624 sf 0.21% Impervious Runoff Depth=0.71" Flow Length=500' Tc=15.2 min CN=56 Runoff=2.7 cfs 15,550 cf
Subcatchment PRWS5B: PRWS5B	Runoff Area=187,388 sf 27.56% Impervious Runoff Depth=1.61" Flow Length=641' Tc=15.3 min CN=71 Runoff=5.9 cfs 25,145 cf
Subcatchment PRWS5C: PRWS5C	Runoff Area=11,251 sf 67.37% Impervious Runoff Depth=2.83" Tc=6.0 min CN=86 Runoff=0.9 cfs 2,652 cf
Subcatchment PRWS6A: PRWS6A	Runoff Area=263,198 sf 17.50% Impervious Runoff Depth=1.34" Flow Length=1,821' Tc=6.0 min CN=67 Runoff=8.9 cfs 29,390 cf
Subcatchment PRWS7A: PRWS7A	Runoff Area=59,330 sf 0.94% Impervious Runoff Depth=0.92" Flow Length=706' Tc=4.7 min CN=60 Runoff=1.3 cfs 4,543 cf
Pond 19P: CULTEC BY OTHERS	Peak Elev=515.79' Storage=628 cf Inflow=0.9 cfs 2,652 cf Discarded=0.1 cfs 2,406 cf Primary=0.3 cfs 246 cf Outflow=0.4 cfs 2,652 cf
Link PRDP1: PRDP1	Inflow=0.7 cfs 4,427 cf Primary=0.7 cfs 4,427 cf
Link PRDP2: PRDP2	Inflow=0.2 cfs 935 cf Primary=0.2 cfs 935 cf
Link PRDP5: PRDP5	Inflow=8.7 cfs 40,941 cf Primary=8.7 cfs 40,941 cf
Link PRDP6: PRDP6	Inflow=8.9 cfs 29,390 cf Primary=8.9 cfs 29,390 cf
Link PRDP7: PRDP7	Inflow=1.3 cfs 4,543 cf

Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-PRDP1 PRDP2 PRDP5 PRDP6 PRType III 24-hr 5 YR Rainfall=4.31"

Prepared by Alfonzetti Engineering, P.C.

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Total Runoff Area = 882,495 sf Runoff Volume = 82,641 cf Average Runoff Depth = 1.12" 87.95% Pervious = 776,120 sf 12.05% Impervious = 106,375 sf

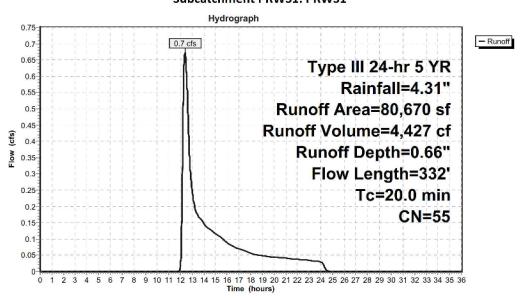
Summary for Subcatchment PRWS1: PRWS1

Runoff = 0.7 cfs @ 12.38 hrs, Volume= 4,427 cf, Depth= 0.66"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 5 YR Rainfall=4.31"

	rea (sf)	CN D	N Description							
	78,687	55 W	oods, Good	d, HSG B						
	1,983	61 >7	61 >75% Grass cover, Good, HSG B							
	80,670	55 W	eighted Av	erage						
	80,670	10	00.00% Per	vious Area						
Tc	Length	Slope	Velocity	Capacity	Description					
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)						
18.1	100	0.0280	0.09		Sheet Flow,					
					Woods: Light underbrush n= 0.400 P2= 3.43"					
0.4	50	0.1650	2.03		Shallow Concentrated Flow,					
					Woodland Kv= 5.0 fps					
0.6	58	0.1030	1.60		Shallow Concentrated Flow,					
					Woodland Kv= 5.0 fps					
0.9	124	0.2230	2.36		Shallow Concentrated Flow,					
					Woodland Kv= 5.0 fps					
20.0	332	Total								

Subcatchment PRWS1: PRWS1



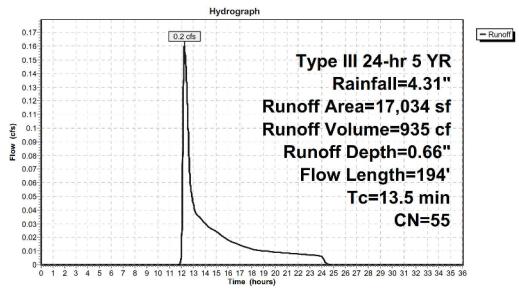
Summary for Subcatchment PRWS2: PRWS2

Runoff = 0.2 cfs @ 12.25 hrs, Volume= 935 cf, Depth= 0.66"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 5 YR Rainfall=4.31"

	Area (:	sf)	CN	Description		
	17,0	34	55	Woods, Goo	d, HSG B	
	17,0	34		100.00% Per	vious Area	
	c Len	gth	Slope	e Velocity	Capacity	Description
(mi	n) (fe	et)	(ft/ft	(ft/sec)	(cfs)	
3	9	34	0.147	0.14		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 3.43"
9	3 1	116	0.1980	0.21		Sheet Flow, SF2
						Woods: Light underbrush n= 0.400 P2= 3.43"
0	3	44	0.192	2.19		Shallow Concentrated Flow, SC1
						Woodland Kv= 5.0 fps
13	5 1	L94	Total			

Subcatchment PRWS2: PRWS2



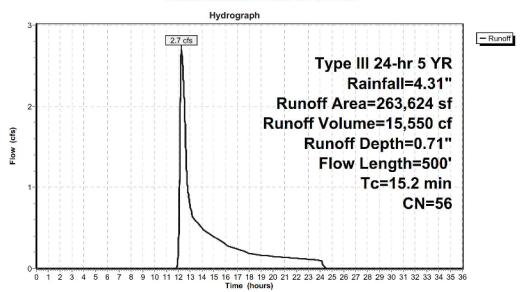
Summary for Subcatchment PRWS5A: PRWS5A

Runoff = 2.7 cfs @ 12.27 hrs, Volume= 15,550 cf, Depth= 0.71"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 5 YR Rainfall=4.31"

	rea (sf)	CN E	Description					
	21,636	55 V	55 Woods, Good, HSG B					
	185	98 F	aved parkin	g, HSG B				
	185	98 F	aved parkin	g, HSG B				
	87,595	55 V	Woods, Good	d, HSG B				
	33,646	61 >	75% Grass o	cover, Good	, HSG B			
	40,482	55 V	Voods, Goo	d, HSG B				
	79,491	55 \	Noods, Goo	d, HSG B				
	219		75% Grass o		, HSG B			
	185	98 F	aved parkin	g, HSG B				
2	263,624	56 V	Veighted Av	erage				
2	263,069	9	9.79% Pervi	ous Area				
	555	C).21% Imper	vious Area				
		-01			B. Controller			
Tc	Length	Slope		Capacity	Description			
<u>(min)</u>	(feet)	(ft/ft)		(cfs)				
9.7	100	0.0480	0.17		Sheet Flow,			
					Grass: Dense n= 0.240 P2= 3.43"			
1.9	200	0.1200	1.73		Shallow Concentrated Flow,			
					Woodland Kv= 5.0 fps			
2.4	100	0.0200	0.71		Shallow Concentrated Flow,			
4.0	400	0.0000			Woodland Kv= 5.0 fps			
1.2	100	0.0800	1.41		Shallow Concentrated Flow,			
					Woodland Kv= 5.0 fps			
15.2	500	Total						

Subcatchment PRWS5A: PRWS5A



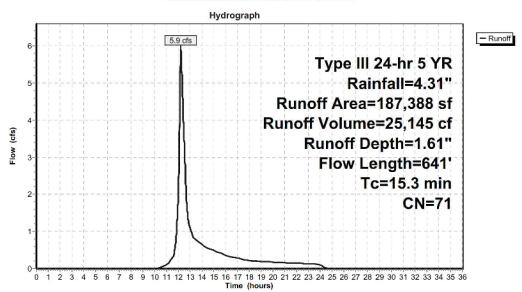
Summary for Subcatchment PRWS5B: PRWS5B

Runoff = 5.9 cfs @ 12.22 hrs, Volume= 25,145 cf, Depth= 1.61"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 5 YR Rainfall=4.31"

	А	rea (sf)	CN D	escription					
		292	61 >	51 >75% Grass cover, Good, HSG B					
		51,564	98 Pa	aved parkin	g, HSG B				
		2,075	61 >	75% Grass o	cover, Good,	HSG B			
		7,566	61 >	75% Grass o	over, Good,	HSG B			
	1	25,011	61 >	75% Grass o	over, Good,	HSG B			
		22	98 Pa	aved parkin	g, HSG B				
		52	98 Pa	aved parkin	g, HSG B				
		678	61 >	75% Grass o	over, Good,	HSG B			
		128	61 >	75% Grass o	over, Good,	HSG B			
	1	87,388	71 W	eighted Av	erage				
	1	35,750	7:	2.44% Pervi	ous Area				
		51,638	2	7.56% Impe	rvious Area				
	Tc	Length	Slope	Velocity	Capacity	Description			
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	13.0	100	0.0230	0.13		Sheet Flow,			
						Grass: Dense n= 0.240 P2= 3.43"			
	0.8	60	0.0330	1.27		Shallow Concentrated Flow,			
						Short Grass Pasture Kv= 7.0 fps			
	0.2	31	0.2420	3.44		Shallow Concentrated Flow,			
						Short Grass Pasture Kv= 7.0 fps			
	1.2	345	0.0520	4.63		Shallow Concentrated Flow,			
						Paved Kv= 20.3 fps			
	0.1	105	0.1840	17.23	9.398	Pipe Channel,			
						10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'			
_						n= 0.013 Concrete pipe, bends & connections			
	15.3	641	Total						

Subcatchment PRWS5B: PRWS5B



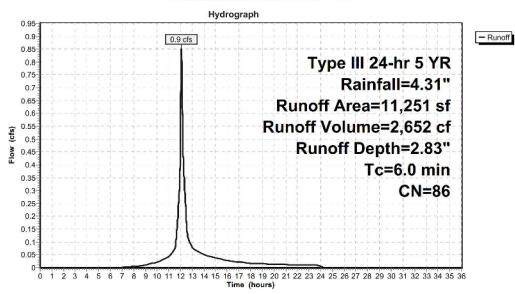
Summary for Subcatchment PRWS5C: PRWS5C

Runoff = 0.9 cfs @ 12.09 hrs, Volume= 2,652 cf, Depth= 2.83"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 5 YR Rainfall=4.31"

A	rea (sf)	CN	Description					
	1,190	61	>7!	5% Grass c	over, Good	d, HSG B		
	211	61	>7!	5% Grass c	over, Good	d, HSG B		
	7,580	98	Pay	ved parkin	g, HSG B			
	2,242	61	>7!	5% Grass c	over, Good	d, HSG B		
	28	61	>7!	5% Grass c	over, Good	d, HSG B		
	11,251	86	We	eighted Av	erage			
	3,671		32.	.63% Pervi	ous Area			
	7,580	67.37% Impervious Area						
Tc	Length	Slo	oe	Velocity	Capacity	Description		
(min)	(feet)	(ft/	ft)	(ft/sec)	(cfs)			
6.0						Direct Entry,		

Subcatchment PRWS5C: PRWS5C



Summary for Subcatchment PRWS6A: PRWS6A

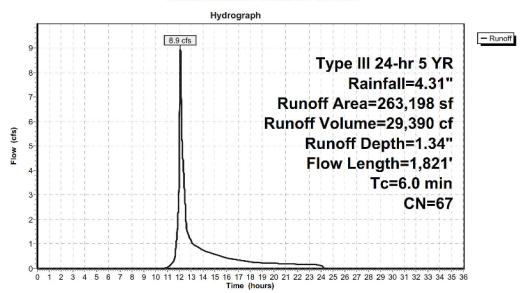
8.9 cfs @ 12.10 hrs, Volume= 29,390 cf, Depth= 1.34" Runoff

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 5 YR Rainfall=4.31"

		·
Area (sf)	CN	Description
121,477	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
41,393	98	Paved parking, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
400	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
217	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
184	98	Paved parking, HSG B
219	39	>75% Grass cover, Good, HSG A
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B

HydroCA	HydroCAD® 9.00 s/n 02177 © 2009 HydroCAD Software Solutions LLC					
	185	98 Pa	eved parkin	g, HSG B		
	185		aved parkin			
	219	61 >7	75% Grass c	over, Good	, HSG B	
	219	61 >7	75% Grass o	over, Good	, HSG B	
	185	98 Pa	aved parkin	g, HSG B		
	86,051	61 >7	75% Grass o	over, Good	, HSG B	
	4,500	55 W	oods, Good	d, HSG B		
	307	61 >7	75% Grass c	over, Good	, HSG B	
2	63,198	67 W	eighted Av	erage		
2	17,151	82	2.50% Pervi	ous Area		
	46,047	17	7.50% Impe	rvious Area		
Tc	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
1.9	28	0.0890	0.25		Sheet Flow,	
					Grass: Short n= 0.150 P2= 3.43"	
0.6	72	0.0490	1.91		Sheet Flow,	
					Smooth surfaces n= 0.011 P2= 3.43"	
0.2	50	0.0490	4.49		Shallow Concentrated Flow,	
					Paved Kv= 20.3 fps	
1.9	450	0.0710	4.00		Shallow Concentrated Flow,	
					Grassed Waterway Kv= 15.0 fps	
0.4	474	0.0790	20.24	63.585	Pipe Channel,	
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'	
					n= 0.013 Concrete pipe, bends & connections	
0.2	200	0.0600	17.64	55.413	Pipe Channel,	
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'	
					n= 0.013 Concrete pipe, bends & connections	
0.2	189	0.0700	19.05	59.853	Pipe Channel,	
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'	
					n= 0.013 Concrete pipe, bends & connections	
0.6	358	0.0170	9.39	29.496	Pipe Channel,	
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'	
2					n= 0.013 Concrete pipe, bends & connections	
6.0	1,821	Total				

Subcatchment PRWS6A: PRWS6A



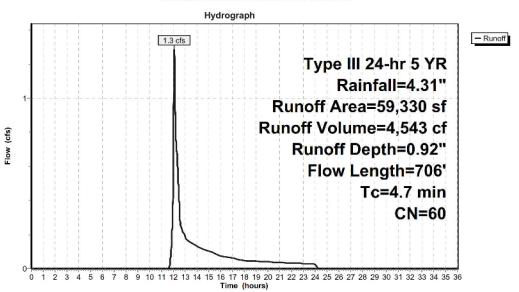
Summary for Subcatchment PRWS7A: PRWS7A

Runoff = 1.3 cfs @ 12.09 hrs, Volume= 4,543 cf, Depth= 0.92"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 5 YR Rainfall=4.31"

A	rea (sf)	CN D	escription					
	15,421	55 V	55 Woods, Good, HSG B					
	185	98 P	aved parkin	g, HSG B				
	42,697	61 >	75% Grass o	cover, Good,	, HSG B			
	219	61 >	75% Grass o	cover, Good,	, HSG B			
	219	61 >	75% Grass o	cover, Good,	, HSG B			
	185	98 P	aved parkin	ig, HSG B				
	185	98 P	aved parkin	ig, HSG B				
	219	61 >	75% Grass o	cover, Good,	, HSG B			
	59,330	60 V	Veighted Av	erage				
	58,775	9	9.06% Perv	ious Area				
	555	0	.94% Imper	vious Area				
Tc	Length	Slope	Velocity	Capacity	Description			
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
2.7	40	0.0740	0.25		Sheet Flow,			
					Grass: Short n= 0.150 P2= 3.43"			
0.5	60	0.0670	2.09		Sheet Flow,			
					Smooth surfaces n= 0.011 P2= 3.43"			
1.1	346	0.0685	5.31		Shallow Concentrated Flow,			
					Paved Kv= 20.3 fps			
0.4	260	0.0400	10.44	5.697	Pipe Channel,			
					10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'			
					n= 0.010 PVC, smooth interior			
4.7	706	Total						

Subcatchment PRWS7A: PRWS7A



Summary for Pond 19P: CULTEC BY OTHERS

Inflow Area =	11,251 sf, 67.37% Impervious,	Inflow Depth = 2.83" for 5 YR event
Inflow =	0.9 cfs @ 12.09 hrs, Volume=	2,652 cf
Outflow =	0.4 cfs @ 12.27 hrs, Volume=	2,652 cf, Atten= 55%, Lag= 11.2 min
Discarded =	0.1 cfs @ 11.66 hrs, Volume=	2,406 cf
Primary =	0.3 cfs @ 12.27 hrs, Volume=	246 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 515.79' @ 12.27 hrs Surf.Area= 335 sf Storage= 628 cf

Plug-Flow detention time= 29.8 min calculated for 2,651 cf (100% of inflow) Center-of-Mass det. time= 29.8 min (840.0 - 810.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	512.95'	308 cf	11.17'W x 30.00'L x 3.54'H Field A
			1,186 cf Overall - 417 cf Embedded = 769 cf x 40.0% Voids
#2A	513.45'	417 cf	Cultec R-330XL x 8 Inside #1
			Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf
			Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap

725 cf Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices	
#1	Primary	515.50'	12.0" Round Culvert	
			L= 25.0′ CMP, projecting, no headwall, Ke= 0.900	
			Outlet Invert= 514.35' S= 0.0460 '/' Cc= 0.900 n= 0.013	
#2	Discarded	512.95'	15.000 in/hr Exfiltration over Surface area	

Discarded OutFlow Max=0.1 cfs @ 11.66 hrs HW=512.99' (Free Discharge) **1.2=Exfiltration** (Exfiltration Controls 0.1 cfs)

Primary OutFlow Max=0.3 cfs @ 12.27 hrs HW=515.79' (Free Discharge) 1=Culvert (Inlet Controls 0.3 cfs @ 1.44 fps)

Pond 19P: CULTEC BY OTHERS - Chamber Wizard Field A

Chamber Model = Cultec R-330XL

Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap

52.0" Wide + 6.0" Spacing = 58.0" C-C

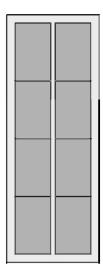
4 Chambers/Row x 7.00' Long = 28.00' + 12.0'' End Stone x 2 = 30.00' Base Length 2 Rows x 52.0" Wide + 6.0" Spacing x 1 + 12.0'' Side Stone x 2 = 11.17' Base Width 6.0" Base + 30.5'' Chamber Height + 6.0'' Cover = 3.54' Field Height

8 Chambers x 52.2 cf = 417.3 cf Chamber Storage

1,186.5 cf Field - 417.3 cf Chambers = 769.2 cf Stone x 40.0% Voids = 307.7 cf Stone Storage

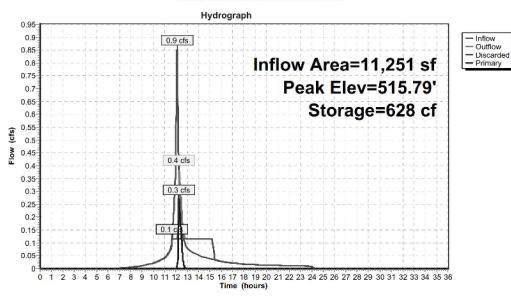
Stone + Chamber Storage = 724.9 cf = 0.017 af

8 Chambers 43.9 cy Field 28.5 cy Stone





Pond 19P: CULTEC BY OTHERS



Summary for Link PRDP1: PRDP1

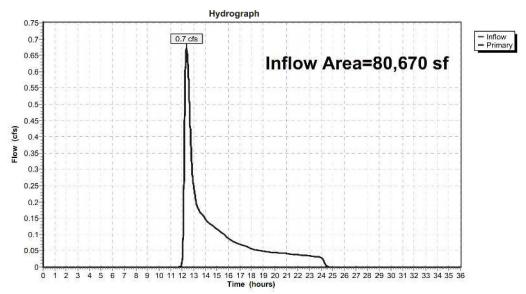
Inflow Area = 80,670 sf, 0.00% Impervious, Inflow Depth = 0.66" for 5 YR event

Inflow = 0.7 cfs @ 12.38 hrs, Volume= 4,427 cf

Primary = 0.7 cfs @ 12.38 hrs, Volume= 4,427 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP1: PRDP1



Summary for Link PRDP2: PRDP2

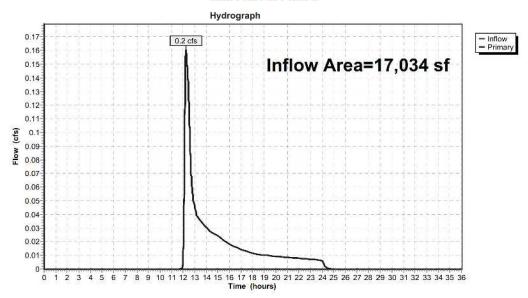
Inflow Area = 17,034 sf, 0.00% Impervious, Inflow Depth = 0.66" for 5 YR event

Inflow = 0.2 cfs @ 12.25 hrs, Volume= 935 cf

Primary = 0.2 cfs @ 12.25 hrs, Volume= 935 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP2: PRDP2



Summary for Link PRDP5: PRDP5

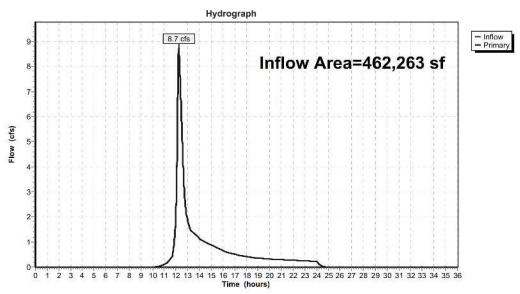
Inflow Area = 462,263 sf, 12.93% Impervious, Inflow Depth = 1.06" for 5 YR event

Inflow = 8.7 cfs @ 12.24 hrs, Volume= 40,941 cf

Primary = 8.7 cfs @ 12.24 hrs, Volume= 40,941 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP5: PRDP5



Summary for Link PRDP6: PRDP6

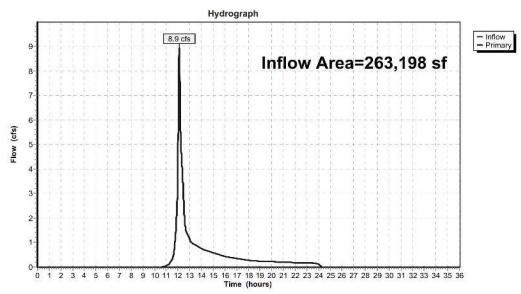
Inflow Area = 263,198 sf, 17.50% Impervious, Inflow Depth = 1.34" for 5 YR event

Inflow = 8.9 cfs @ 12.10 hrs, Volume= 29,390 cf

Primary = 8.9 cfs @ 12.10 hrs, Volume= 29,390 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP6: PRDP6



Summary for Link PRDP7: PRDP7

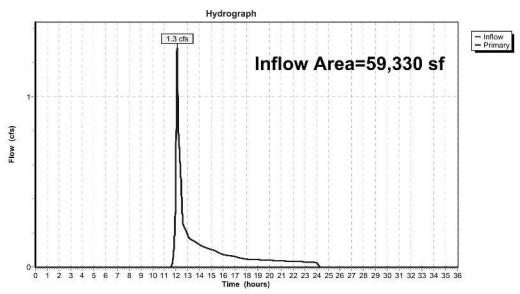
Inflow Area = 59,330 sf, 0.94% Impervious, Inflow Depth = 0.92" for 5 YR event

Inflow = 1.3 cfs @ 12.09 hrs, Volume= 4,543 cf

Primary = 1.3 cfs @ 12.09 hrs, Volume= 4,543 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP7: PRDP7



Time span=0.00-36.00 hrs, dt=0.010 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method		
Subcatchment PRWS1: PRWS1	Runoff Area=80,670 sf 0.00% Impervious Runoff Depth=1.05" Flow Length=332' Tc=20.0 min CN=55 Runoff=1.2 cfs 7,028 cf	
Subcatchment PRWS2: PRWS2	Runoff Area=17,034 sf 0.00% Impervious Runoff Depth=1.05" Flow Length=194' Tc=13.5 min CN=55 Runoff=0.3 cfs 1,484 cf	
Subcatchment PRWS5A: PRWS5A	Runoff Area=263,624 sf 0.21% Impervious Runoff Depth=1.11" Flow Length=500' Tc=15.2 min CN=56 Runoff=4.9 cfs 24,370 cf	
Subcatchment PRWS5B: PRWS5B	Runoff Area=187,388 sf 27.56% Impervious Runoff Depth=2.22" Flow Length=641' Tc=15.3 min CN=71 Runoff=8.3 cfs 34,593 cf	
Subcatchment PRWS5C: PRWS5C	Runoff Area=11,251 sf 67.37% Impervious Runoff Depth=3.59" Tc=6.0 min CN=86 Runoff=1.1 cfs 3,365 cf	
Subcatchment PRWS6A: PRWS6A	Runoff Area=263,198 sf 17.50% Impervious Runoff Depth=1.89" Flow Length=1,821' Tc=6.0 min CN=67 Runoff=13.0 cfs 41,544 cf	
Subcatchment PRWS7A: PRWS7A	Runoff Area=59,330 sf 0.94% Impervious Runoff Depth=1.38" Flow Length=706' Tc=4.7 min CN=60 Runoff=2.1 cfs 6,811 cf	
Pond 19P: CULTEC BY OTHERS	Peak Elev=515.98' Storage=656 cf Inflow=1.1 cfs 3,365 cf Discarded=0.1 cfs 2,781 cf Primary=0.7 cfs 584 cf Outflow=0.8 cfs 3,365 cf	
Link PRDP1: PRDP1	Inflow=1.2 cfs 7,028 cf Primary=1.2 cfs 7,028 cf	
Link PRDP2: PRDP2	Inflow=0.3 cfs 1,484 cf Primary=0.3 cfs 1,484 cf	
Link PRDP5: PRDP5	Inflow=13.6 cfs 59,546 cf Primary=13.6 cfs 59,546 cf	
Link PRDP6: PRDP6	Inflow=13.0 cfs 41,544 cf Primary=13.0 cfs 41,544 cf	
Link PRDP7: PRDP7	Inflow=2.1 cfs 6,811 cf Primary=2.1 cfs 6,811 cf	

Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-PRDP1 PRDP2 PRDP5 PRDP6 PR *Type III 24-hr 10 YR Rainfall=5.13"* Prepared by Alfonzetti Engineering, P.C. Printed 6/23/2023 HydroCAD® 9.00 s/n 02177 © 2009 HydroCAD Software Solutions LLC

Total Runoff Area = 882,495 sf Runoff Volume = 119,194 cf Average Runoff Depth = 1.62" 87.95% Pervious = 776,120 sf 12.05% Impervious = 106,375 sf

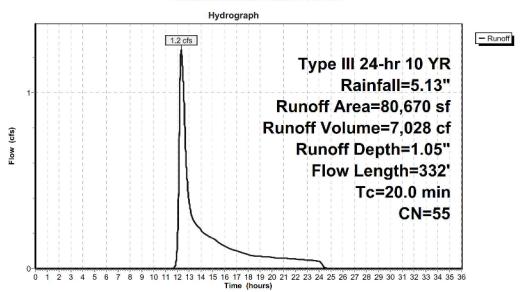
Summary for Subcatchment PRWS1: PRWS1

Runoff = 1.2 cfs @ 12.33 hrs, Volume= 7,028 cf, Depth= 1.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 10 YR Rainfall=5.13"

A	rea (sf)	CN De	escription		
	78,687	55 Woods, Good, HSG B			
	1,983	61 >75% Grass cover, Good, HSG B			
	80,670	55 Weighted Average			
	80,670	100.00% Pervious Area		vious Area	
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
18.1	100	0.0280	0.09		Sheet Flow,
					Woods: Light underbrush n= 0.400 P2= 3.43"
0.4	50	0.1650	2.03		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
0.6	58	0.1030	1.60		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
0.9	124	0.2230	2.36		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
20.0	332	Total			

Subcatchment PRWS1: PRWS1



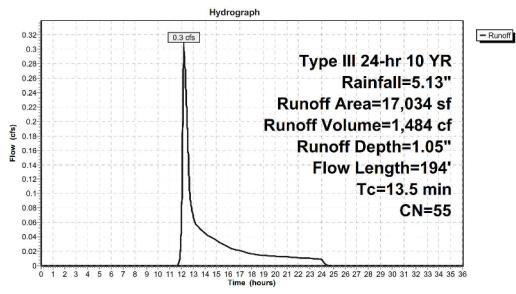
Summary for Subcatchment PRWS2: PRWS2

Runoff = 0.3 cfs @ 12.22 hrs, Volume= 1,484 cf, Depth= 1.05"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 10 YR Rainfall=5.13"

8	А	rea (sf)	CN I	Description		
		17,034	55	Woods, Good	d, HSG B	
		17,034	9	100.00% Per	vious Area	
	Tc (min)	Length (feet)	Slope (ft/ft	,	Capacity (cfs)	Description
9	3.9	34	0.1470		(0.0)	Sheet Flow,
	0.5		0.1	0.11		Woods: Light underbrush n= 0.400 P2= 3.43"
	9.3	116	0.1980	0.21		Sheet Flow, SF2
	0.3	44	0.1920	2.19		Woods: Light underbrush n= 0.400 P2= 3.43" Shallow Concentrated Flow, SC1
	0.5	7.7	0.1520	2.13		Woodland Kv= 5.0 fps
- 0.0	13.5	194	Total			

Subcatchment PRWS2: PRWS2



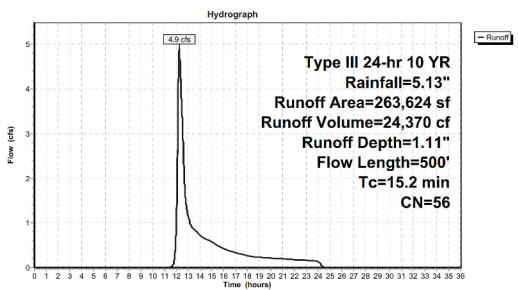
Summary for Subcatchment PRWS5A: PRWS5A

Runoff = 4.9 cfs @ 12.24 hrs, Volume= 24,370 cf, Depth= 1.11"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 10 YR Rainfall=5.13"

	rea (sf)	CN E	Description		
	21,636	55 V	Voods, Goo	d, HSG B	
	185	98 F	aved parkin	g, HSG B	
	185	98 F	aved parkin	g, HSG B	
	87,595	55 V	Woods, Good	d, HSG B	
	33,646	61 >	75% Grass o	cover, Good	, HSG B
	40,482	55 V	Voods, Goo	d, HSG B	
	79,491	55 \	Noods, Goo	d, HSG B	
	219		75% Grass o		, HSG B
	185	98 F	aved parkin	g, HSG B	
2	263,624	56 V	Veighted Av	erage	
2	263,069	9	9.79% Pervi	ous Area	
	555	C).21% Imper	vious Area	
		-01			B. Controller
Tc	Length	Slope		Capacity	Description
<u>(min)</u>	(feet)	(ft/ft)		(cfs)	
9.7	100	0.0480	0.17		Sheet Flow,
					Grass: Dense n= 0.240 P2= 3.43"
1.9	200	0.1200	1.73		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
2.4	100	0.0200	0.71		Shallow Concentrated Flow,
4.0	400	0.0000			Woodland Kv= 5.0 fps
1.2	100	0.0800	1.41		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
15.2	500	Total			

Subcatchment PRWS5A: PRWS5A



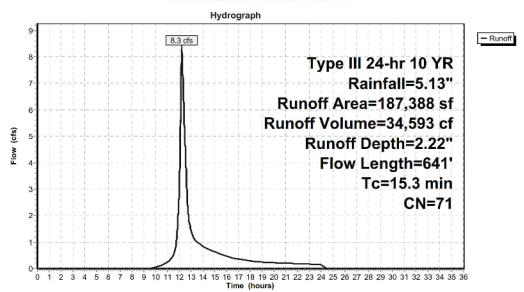
Summary for Subcatchment PRWS5B: PRWS5B

Runoff = 8.3 cfs @ 12.22 hrs, Volume= 34,593 cf, Depth= 2.22"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 10 YR Rainfall=5.13"

	Α	rea (sf)	CN D	escription		
		292	61 >	75% Grass o	over, Good,	HSG B
		51,564	98 P	aved parkin	g, HSG B	
		2,075	61 >	75% Grass o	cover, Good,	HSG B
		7,566	61 >	75% Grass o	cover, Good,	HSG B
	1	25,011	61 >	75% Grass o	cover, Good,	HSG B
		22	98 P	aved parkin	g, HSG B	
		52	98 P	aved parkin	g, HSG B	
		678	61 >	75% Grass o	cover, Good,	HSG B
_		128	61 >	75% Grass o	cover, Good,	HSG B
	1	87,388	71 W	Veighted Av	erage	
	1	35,750	7.	2.44% Perv	ious Area	
		51,638	2	7.56% Impe	rvious Area	
	Tc	Length	Slope	Velocity	Capacity	Description
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	13.0	100	0.0230	0.13		Sheet Flow,
						Grass: Dense n= 0.240 P2= 3.43"
	0.8	60	0.0330	1.27		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	0.2	31	0.2420	3.44		Shallow Concentrated Flow,
						Short Grass Pasture Kv= 7.0 fps
	1.2	345	0.0520	4.63		Shallow Concentrated Flow,
						Paved Kv= 20.3 fps
	0.1	105	0.1840	17.23	9.398	Pipe Channel,
						10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'
						n= 0.013 Concrete pipe, bends & connections
	15.3	641	Total			

Subcatchment PRWS5B: PRWS5B



Summary for Subcatchment PRWS5C: PRWS5C

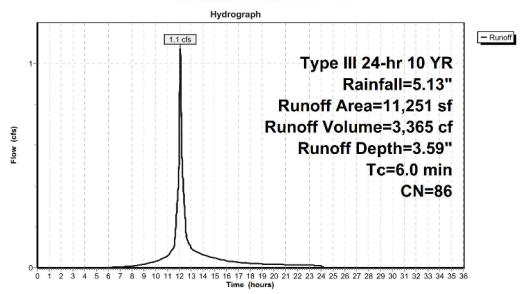
Runoff = 1.1 cfs @ 12.09 hrs, Volume= 3,365 cf, Depth= 3.59"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 10 YR Rainfall=5.13"

A	rea (sf)	CN	De	Description			
	1,190	61	>7	5% Grass o	over, Good	d, HSG B	
	211	61	>7	5% Grass o	over, Good	d, HSG B	
	7,580	98	Pa	ved parkin	g, HSG B		
	2,242	61	>7	5% Grass o	over, Good	d, HSG B	
	28	61	>7	5% Grass o	over, Good	d, HSG B	
	11,251	86 Weighted Average					
	3,671		32.63% Pervious Area				
	7,580		67.37% Impervious Area				
Tc	Length	Slo	pe	Velocity	Capacity	Description	
(min)	(feet)	(ft/	ft)	(ft/sec)	(cfs)		
6.0						Direct Entry,	

Direct Entry,

Subcatchment PRWS5C: PRWS5C



Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-PRDP1 PRDP2 PRDP5 PRDP6 PR *Type III 24-hr 10 YR Rainfall=5.13"* Prepared by Alfonzetti Engineering, P.C. Printed 6/23/2023 HydroCAD® 9.00 s/n 02177 © 2009 HydroCAD Software Solutions LLC

Summary for Subcatchment PRWS6A: PRWS6A

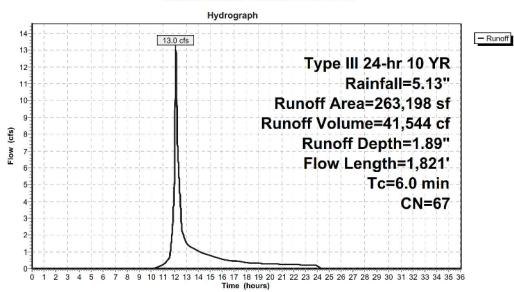
Runoff = 13.0 cfs @ 12.09 hrs, Volume= 41,544 cf, Depth= 1.89"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 10 YR Rainfall=5.13"

		·
Area (sf)	CN	Description
121,477	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
41,393	98	Paved parking, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
400	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
217	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
184	98	Paved parking, HSG B
219	39	>75% Grass cover, Good, HSG A
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	
219	61	
219	61	>75% Grass cover, Good, HSG B
219	61	
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B

Hydrock	0 0.00 3,	/11021//	@ 2005 Hyd	TOCAD SOILW	rate solutions lee
	185		aved parkin	0.	
185 98 Paved parking, HSG B					
	219			over, Good	
	219			cover, Good	, HSG B
	185		aved parkin		
	86,051			cover, Good	, HSG B
	4,500		oods, Good		
	307	61 >7	75% Grass o	over, Good	, HSG B
2	63,198	67 W	eighted Av	erage	
2	17,151	82	2.50% Pervi	ous Area	
	46,047	17	7.50% Impo	rvious Area	
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
1.9	28	0.0890	0.25		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.43"
0.6	72	0.0490	1.91		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 3.43"
0.2	50	0.0490	4.49		Shallow Concentrated Flow,
					Paved Kv= 20.3 fps
1.9	450	0.0710	4.00		Shallow Concentrated Flow,
					Grassed Waterway Kv= 15.0 fps
0.4	474	0.0790	20.24	63.585	Birnin Managara
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.013 Concrete pipe, bends & connections
0.2	200	0.0600	17.64	55.413	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.013 Concrete pipe, bends & connections
0.2	189	0.0700	19.05	59.853	
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.013 Concrete pipe, bends & connections
0.6	358	0.0170	9.39	29.496	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.013 Concrete pipe, bends & connections
6.0	1,821	Total			

Subcatchment PRWS6A: PRWS6A



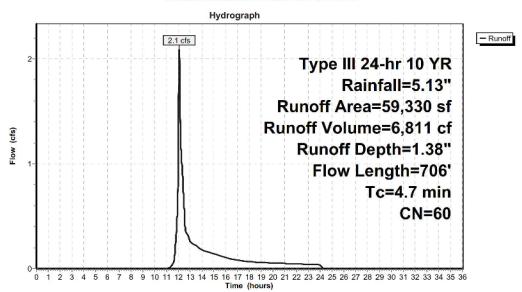
Summary for Subcatchment PRWS7A: PRWS7A

Runoff = 2.1 cfs @ 12.08 hrs, Volume= 6,811 cf, Depth= 1.38"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 10 YR Rainfall=5.13"

A	rea (sf)	CN D	escription		
	15,421	55 V	Voods, Goo	d, HSG B	
	185	98 P	aved parkin	g, HSG B	
	42,697	61 >	75% Grass o	cover, Good,	, HSG B
	219	61 >	75% Grass o	cover, Good,	, HSG B
	219	61 >	75% Grass o	cover, Good,	, HSG B
	185	98 P	aved parkin	ig, HSG B	
	185	98 P	aved parkin	ig, HSG B	
	219	61 >	75% Grass o	cover, Good,	, HSG B
	59,330	60 V	Veighted Av	erage	
	58,775	9	9.06% Perv	ious Area	
	555	0	.94% Imper	vious Area	
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
2.7	40	0.0740	0.25		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.43"
0.5	60	0.0670	2.09		Sheet Flow,
					Smooth surfaces n= 0.011 P2= 3.43"
1.1	346	0.0685	5.31		Shallow Concentrated Flow,
					Paved Kv= 20.3 fps
0.4	260	0.0400	10.44	5.697	Pipe Channel,
					10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'
					n= 0.010 PVC, smooth interior
4.7	706	Total			

Subcatchment PRWS7A: PRWS7A



Summary for Pond 19P: CULTEC BY OTHERS

Inflow Area =	11,251 sf, 67.37% Impervious,	Inflow Depth = 3.59" for 10 YR event
Inflow =	1.1 cfs @ 12.09 hrs, Volume=	3,365 cf
Outflow =	0.8 cfs @ 12.16 hrs, Volume=	3,365 cf, Atten= 25%, Lag= 4.2 min
Discarded =	0.1 cfs @ 11.60 hrs, Volume=	2,781 cf
Primary =	0.7 cfs @ 12.16 hrs. Volume=	584 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 515.98' @ 12.16 hrs Surf.Area= 335 sf Storage= 656 cf

Plug-Flow detention time= 28.0 min calculated for 3,364 cf (100% of inflow) Center-of-Mass det. time= 28.0 min (831.4 - 803.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	512.95'	308 cf	11.17'W x 30.00'L x 3.54'H Field A
			1,186 cf Overall - 417 cf Embedded = 769 cf x 40.0% Voids
#2A	513.45'	417 cf	Cultec R-330XL x 8 Inside #1
			Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf
			Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap

725 cf Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	515.50'	12.0" Round Culvert
			L= 25.0′ CMP, projecting, no headwall, Ke= 0.900
			Outlet Invert= 514.35' S= 0.0460 '/' Cc= 0.900 n= 0.013
#2	Discarded	512.95'	15.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.1 cfs @ 11.60 hrs HW=512.99' (Free Discharge) **1.2=Exfiltration** (Exfiltration Controls 0.1 cfs)

Primary OutFlow Max=0.7 cfs @ 12.16 hrs HW=515.98' (Free Discharge) 1=Culvert (Inlet Controls 0.7 cfs @ 1.85 fps)

Pond 19P: CULTEC BY OTHERS - Chamber Wizard Field A

Chamber Model = Cultec R-330XL

Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap

52.0" Wide + 6.0" Spacing = 58.0" C-C

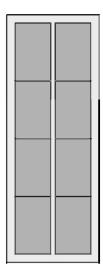
4 Chambers/Row x 7.00' Long = 28.00' + 12.0'' End Stone x 2 = 30.00' Base Length 2 Rows x 52.0" Wide + 6.0" Spacing x 1 + 12.0'' Side Stone x 2 = 11.17' Base Width 6.0" Base + 30.5'' Chamber Height + 6.0'' Cover = 3.54' Field Height

8 Chambers x 52.2 cf = 417.3 cf Chamber Storage

1,186.5 cf Field - 417.3 cf Chambers = 769.2 cf Stone x 40.0% Voids = 307.7 cf Stone Storage

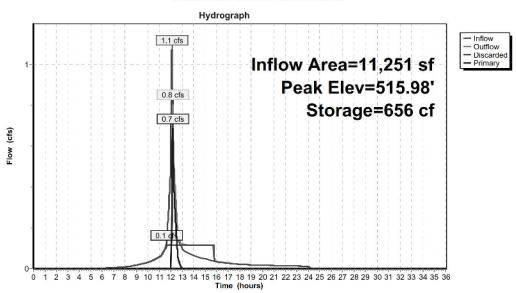
Stone + Chamber Storage = 724.9 cf = 0.017 af

8 Chambers 43.9 cy Field 28.5 cy Stone





Pond 19P: CULTEC BY OTHERS



Summary for Link PRDP1: PRDP1

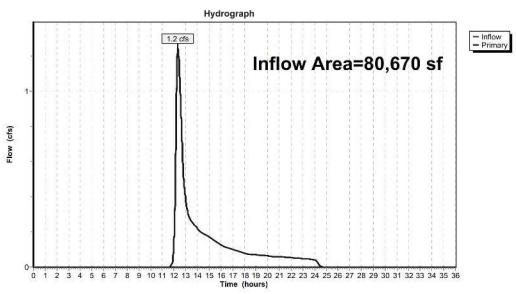
Inflow Area = 80,670 sf, 0.00% Impervious, Inflow Depth = 1.05" for 10 YR event

Inflow = 1.2 cfs @ 12.33 hrs, Volume= 7,028 cf

Primary = 1.2 cfs @ 12.33 hrs, Volume= 7,028 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP1: PRDP1



Summary for Link PRDP2: PRDP2

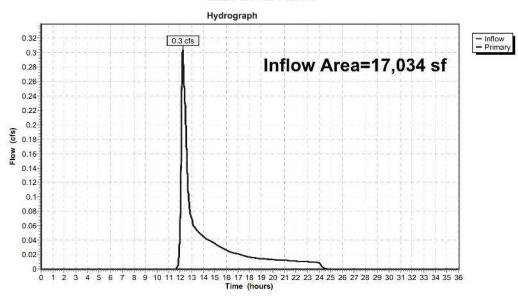
Inflow Area = 17,034 sf, 0.00% Impervious, Inflow Depth = 1.05" for 10 YR event

Inflow = 0.3 cfs @ 12.22 hrs, Volume= 1,484 cf

Primary = 0.3 cfs @ 12.22 hrs, Volume= 1,484 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP2: PRDP2



Summary for Link PRDP5: PRDP5

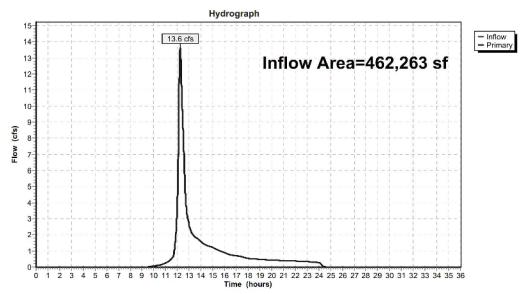
Inflow Area = 462,263 sf, 12.93% Impervious, Inflow Depth = 1.55" for 10 YR event

Inflow = 13.6 cfs @ 12.22 hrs, Volume= 59,546 cf

Primary = 13.6 cfs @ 12.22 hrs, Volume= 59,546 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP5: PRDP5



Summary for Link PRDP6: PRDP6

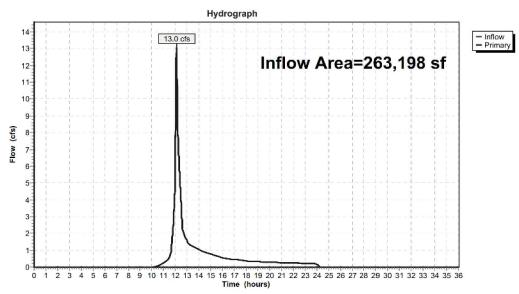
Inflow Area = 263,198 sf, 17.50% Impervious, Inflow Depth = 1.89" for 10 YR event

Inflow = 13.0 cfs @ 12.09 hrs, Volume= 41,544 cf

Primary = 13.0 cfs @ 12.09 hrs, Volume= 41,544 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP6: PRDP6



Summary for Link PRDP7: PRDP7

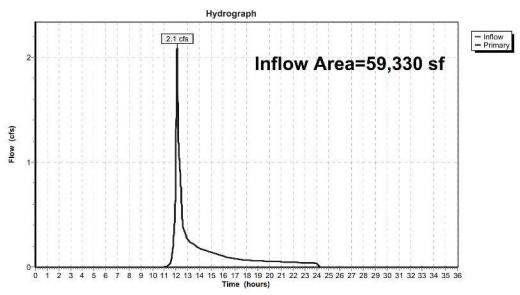
Inflow Area = 59,330 sf, 0.94% Impervious, Inflow Depth = 1.38" for 10 YR event

Inflow = 2.1 cfs @ 12.08 hrs, Volume= 6,811 cf

Primary = 2.1 cfs @ 12.08 hrs, Volume= 6,811 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP7: PRDP7



Time span=0.00-36.00 hrs, dt=0.010 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Reach Fouring by 5	tor-marrians method - Tond routing by Stor-ma method
Subcatchment PRWS1: PRWS1	Runoff Area=80,670 sf 0.00% Impervious Runoff Depth=1.79" Flow Length=332' Tc=20.0 min CN=55 Runoff=2.4 cfs 12,027 cf
Subcatchment PRWS2: PRWS2	Runoff Area=17,034 sf 0.00% Impervious Runoff Depth=1.79" Flow Length=194' Tc=13.5 min CN=55 Runoff=0.6 cfs 2,540 cf
Subcatchment PRWS5A: PRWS5A	Runoff Area=263,624 sf 0.21% Impervious Runoff Depth=1.87" Flow Length=500' Tc=15.2 min CN=56 Runoff=9.2 cfs 41,191 cf
Subcatchment PRWS5B: PRWS5B	Runoff Area=187,388 sf 27.56% Impervious Runoff Depth=3.27" Flow Length=641 ¹ Tc=15.3 min CN=71 Runoff=12.4 cfs 51,120 cf
Subcatchment PRWS5C: PRWS5C	Runoff Area=11,251 sf 67.37% Impervious Runoff Depth=4.85" Tc=6.0 min CN=86 Runoff=1.4 cfs 4,545 cf
Subcatchment PRWS6A: PRWS6A	Runoff Area=263,198 sf 17.50% Impervious Runoff Depth=2.88" Flow Length=1,821' Tc=6.0 min CN=67 Runoff=20.2 cfs 63,214 cf
Subcatchment PRWS7A: PRWS7A	Runoff Area=59,330 sf 0.94% Impervious Runoff Depth=2.23" Flow Length=706' Tc=4.7 min CN=60 Runoff=3.6 cfs 11,019 cf
Pond 19P: CULTEC BY OTHERS	Peak Elev=516.19' Storage=684 cf Inflow=1.4 cfs 4,545 cf Discarded=0.1 cfs 3,366 cf Primary=1.3 cfs 1,179 cf Outflow=1.4 cfs 4,545 cf
Link PRDP1: PRDP1	Inflow=2.4 cfs 12,027 cf Primary=2.4 cfs 12,027 cf
Link PRDP2: PRDP2	Inflow=0.6 cfs 2,540 cf Primary=0.6 cfs 2,540 cf
Link PRDP5: PRDP5	Inflow=22.2 cfs 93,490 cf Primary=22.2 cfs 93,490 cf
Link PRDP6: PRDP6	Inflow=20.2 cfs 63,214 cf Primary=20.2 cfs 63,214 cf
Link PRDP7: PRDP7	Inflow=3.6 cfs 11,019 cf Primary=3.6 cfs 11,019 cf

Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-PRDP1 PRDP2 PRDP5 PRDP6 PR *Type III 24-hr 25 YR Rainfall=6.46"*Prepared by Alfonzetti Engineering, P.C.
HydroCAD** 9.00 s/n 02177 © 2009 HydroCAD Software Solutions LLC

Total Runoff Area = 882,495 sf Runoff Volume = 185,655 cf Average Runoff Depth = 2.52" 87.95% Pervious = 776,120 sf 12.05% Impervious = 106,375 sf

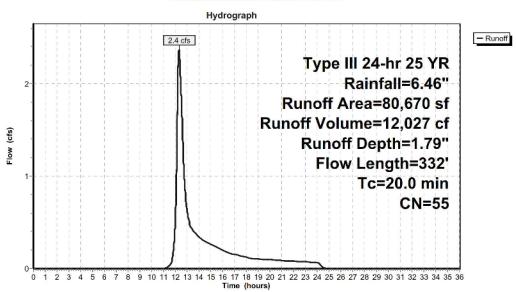
Summary for Subcatchment PRWS1: PRWS1

Runoff = 2.4 cfs @ 12.31 hrs, Volume= 12,027 cf, Depth= 1.79"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 25 YR Rainfall=6.46"

A	rea (sf)	CN D	escription				
	78,687	55 W	oods, Good	l, HSG B			
	1,983	1,983 61 >75% Grass cover, Good, HSG B					
	80,670	55 W	eighted Av	erage			
	80,670	10	00.00% Per	ious Area			
Tc	Length	Slope	Velocity	Capacity	Description		
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
18.1	100	0.0280	0.09		Sheet Flow,		
					Woods: Light underbrush n= 0.400 P2= 3.43"		
0.4	50	0.1650	2.03		Shallow Concentrated Flow,		
					Woodland Kv= 5.0 fps		
0.6	58	0.1030	1.60		Shallow Concentrated Flow,		
					Woodland Kv= 5.0 fps		
0.9	124	0.2230	2.36		Shallow Concentrated Flow,		
					Woodland Kv= 5.0 fps		
20.0	332	Total					

Subcatchment PRWS1: PRWS1



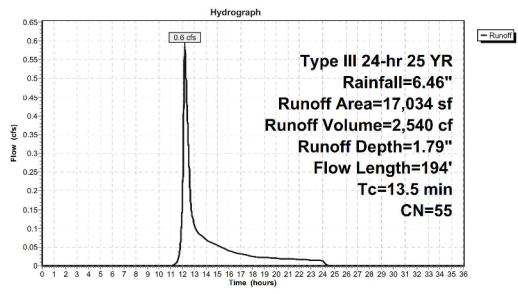
Summary for Subcatchment PRWS2: PRWS2

Runoff = 0.6 cfs @ 12.20 hrs, Volume= 2,540 cf, Depth= 1.79"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 25 YR Rainfall=6.46"

8	А	rea (sf)	CN [Description		
	17,034 55 Woods, Good, HSG B					
	17,034 100.00% Pervious Area				vious Area	
	Tc (min)	Length (feet)	Slope (ft/ft)	,	Capacity (cfs)	Description
9	3.9	34	0.1470		(0.0)	Sheet Flow,
	0.5		0.1	0111		Woods: Light underbrush n= 0.400 P2= 3.43"
	9.3	116	0.1980	0.21		Sheet Flow, SF2
						Woods: Light underbrush n= 0.400 P2= 3.43"
	0.3	44	0.1920	2.19		Shallow Concentrated Flow, SC1
- 5						Woodland Kv= 5.0 fps
	13.5	194	Total			

Subcatchment PRWS2: PRWS2



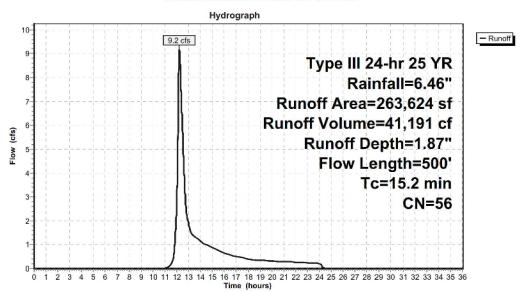
Summary for Subcatchment PRWS5A: PRWS5A

Runoff = 9.2 cfs @ 12.23 hrs, Volume= 41,191 cf, Depth= 1.87"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 25 YR Rainfall=6.46"

	rea (sf)	CN E	escription				
	21,636	55 V	Voods, Goo	d, HSG B			
	185	98 F	aved parkin	g, HSG B			
	185	98 F	aved parkin	g, HSG B			
	87,595	55 V	Voods, Good	d, HSG B			
	33,646	61 >	75% Grass o	over, Good	, HSG B		
	40,482	55 V	Voods, Goo	d, HSG B			
	79,491	55 \	Voods, Good	d, HSG B			
	219		75% Grass o		, HSG B		
	185	98 F	aved parkin	g, HSG B			
2	263,624	56 V	Veighted Av	erage			
2	263,069 99			99.79% Pervious Area			
	555 0.21% Impervious Area			vious Area			
Tc	Length	Slope		Capacity	Description		
(min)	(feet)	(ft/ft)		(cfs)			
9.7	100	0.0480	0.17		Sheet Flow,		
					Grass: Dense n= 0.240 P2= 3.43"		
1.9	200	0.1200	1.73		Shallow Concentrated Flow,		
100					Woodland Kv= 5.0 fps		
2.4	100	0.0200	0.71		Shallow Concentrated Flow,		
15.2					Woodland Kv= 5.0 fps		
1.2	100	0.0800	1.41		Shallow Concentrated Flow,		
					Woodland Kv= 5.0 fps		
15.2	500	Total					

Subcatchment PRWS5A: PRWS5A



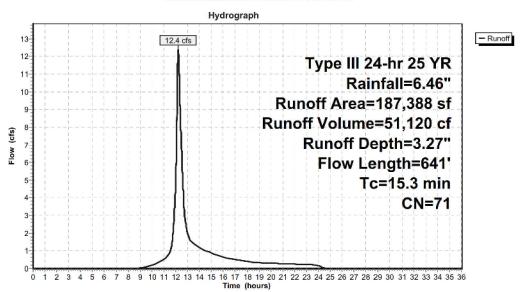
Summary for Subcatchment PRWS5B: PRWS5B

Runoff = 12.4 cfs @ 12.22 hrs, Volume= 51,120 cf, Depth= 3.27"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 25 YR Rainfall=6.46"

A	rea (sf)	CN	Description				
292 61 >75% Grass cover, Good, I					HSG B		
51,564 98 Paved parking, HSG B							
	2,075	61	>75% Grass	cover, Good,	HSG B		
	7,566	61	>75% Grass	cover, Good,	HSG B		
1	25,011	61	>75% Grass cover, Good, HSG B				
	22	98	Paved parking, HSG B				
	52	98	Paved parking, HSG B				
	678	61	>75% Grass	cover, Good,	HSG B		
	128	61	>75% Grass	cover, Good,	HSG B		
1	87,388	71	Weighted A	verage			
1	35,750		72.44% Perv	ious Area			
	51,638		27.56% Imp	ervious Area			
Tc	Length	Slope	e Velocity	Capacity	Description		
(min)	(feet)	(ft/ft) (ft/sec)	(cfs)			
13.0	100	0.0230	0.13		Sheet Flow,		
					Grass: Dense n= 0.240 P2= 3.43"		
0.8	60	0.0330	1.27		Shallow Concentrated Flow,		
					Short Grass Pasture Kv= 7.0 fps		
0.2	31	0.2420	3.44		Shallow Concentrated Flow,		
					Short Grass Pasture Kv= 7.0 fps		
1.2	345	0.0520	4.63		Shallow Concentrated Flow,		
					Paved Kv= 20.3 fps		
0.1	105	0.1840	17.23	9.398	Pipe Channel,		
					10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'		
					n= 0.013 Concrete pipe, bends & connections		
15.3	641	Total					

Subcatchment PRWS5B: PRWS5B



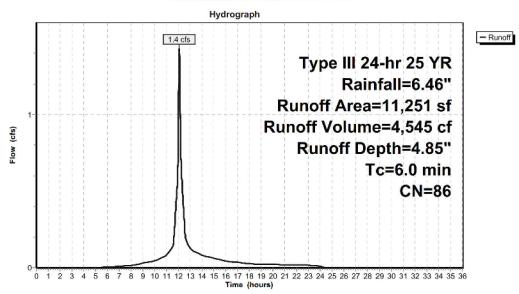
Summary for Subcatchment PRWS5C: PRWS5C

Runoff = 1.4 cfs @ 12.09 hrs, Volume= 4,545 cf, Depth= 4.85"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 25 YR Rainfall=6.46"

A	rea (sf)	CN	Description					
	1,190	61	>7	'5% Grass o	over, Good	, HSG B		
	211	61	>7	5% Grass o	over, Good	, HSG B		
	7,580	98	Pa	ved parkin	g, HSG B			
	2,242	61	>7	5% Grass o	over, Good	, HSG B		
	28	61	>7	75% Grass o	over, Good	, HSG B		
	11,251	86	86 Weighted Average					
	3,671		32.63% Pervious Area					
	7,580	67.37% Impervious Area						
Tc	Length	Slo	pe	Velocity	Capacity	Description		
(min)	(feet)	(ft/	ft)	(ft/sec)	(cfs)	~		
6.0						Direct Entry,		

Subcatchment PRWS5C: PRWS5C



Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-PRDP1 PRDP2 PRDP5 PRDP6 PR *Type III 24-hr 25 YR Rainfall=6.46"* Prepared by Alfonzetti Engineering, P.C. Printed 6/23/2023 HydroCAD® 9.00 s/n 02177 © 2009 HydroCAD Software Solutions LLC

Summary for Subcatchment PRWS6A: PRWS6A

Runoff = 20.2 cfs @ 12.09 hrs, Volume= 63,214 cf, Depth= 2.88"

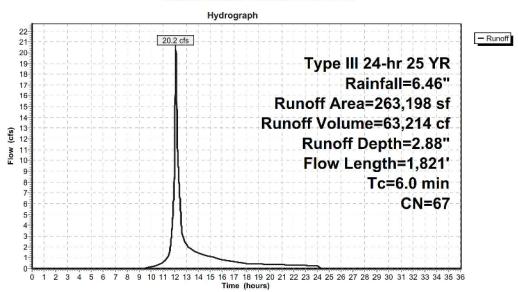
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 25 YR Rainfall=6.46"

	500000	
Area (sf)	CN	Description
121,477	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
41,393	98	Paved parking, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
400	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
217	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
184	98	Paved parking, HSG B
219	39	>75% Grass cover, Good, HSG A
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B

EAGLE RIDGE TOWNHOUSES-PRDP1 PRDP2 PRDP5 PRDP6 PR *Type III 24-hr 25 YR Rainfall=6.46"*Prepared by Alfonzetti Engineering, P.C. Printed 6/23/2023

HydroCA	HydroCAD® 9.00 s/n 02177 © 2009 HydroCAD Software Solutions LLC						
	185		ved parkin				
	185		ved parkin				
	219			over, Good,			
	219	61 >7	'5% Grass c	over, Good,	HSG B		
	185		ved parkin				
	86,051	61 >7	75% Grass c	over, Good,	HSG B		
	4,500	55 W	oods, Good	l, HSG B			
	307	61 >7	5% Grass c	over, Good,	HSG B		
2	63,198	67 W	eighted Av	erage			
2	17,151	82	2.50% Pervi	ous Area			
	46,047	17	7.50% Impe	rvious Area			
Tc	Length	Slope	Velocity	Capacity	Description		
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
1.9	28	0.0890	0.25		Sheet Flow,		
					Grass: Short n= 0.150 P2= 3.43"		
0.6	72	0.0490	1.91		Sheet Flow,		
					Smooth surfaces n= 0.011 P2= 3.43"		
0.2	50	0.0490 4.49			Shallow Concentrated Flow,		
					Paved Kv= 20.3 fps		
1.9	1.9 450 0.0710 4.00			Shallow Concentrated Flow,			
					Grassed Waterway Kv= 15.0 fps		
0.4	474	0.0790	20.24	63.585	Pipe Channel,		
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'		
					n= 0.013 Concrete pipe, bends & connections		
0.2	200	0.0600	17.64	55.413	Pipe Channel,		
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'		
					n= 0.013 Concrete pipe, bends & connections		
0.2	189	0.0700	19.05	59.853	Pipe Channel,		
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'		
					n= 0.013 Concrete pipe, bends & connections		
0.6	358	0.0170	9.39	29.496	Pipe Channel,		
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'		
					n= 0.013 Concrete pipe, bends & connections		
6.0	1,821	Total					

Subcatchment PRWS6A: PRWS6A



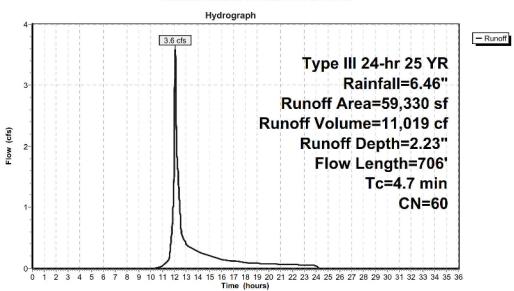
Summary for Subcatchment PRWS7A: PRWS7A

Runoff = 3.6 cfs @ 12.08 hrs, Volume= 11,019 cf, Depth= 2.23"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 25 YR Rainfall=6.46"

A	rea (sf)	CN D	escription			
	15,421	55 W	oods, Goo	d, HSG B		
	185	98 Pa	aved parkir	g, HSG B		
	42,697	61 >	75% Grass (cover, Good	, HSG B	
	219	61 >	75% Grass o	cover, Good	, HSG <mark>B</mark>	
	219	61 >7	75% Grass o	cover, Good	, HSG B	
	185	98 Pa	aved parkir	g, HSG B		
	185		aved parkir	0.		
	219	61 >	75% Grass	cover, Good	, HSG B	
	59,330	60 W	eighted Av	erage		
	58,775	99	9.06% Perv	ious Area		
	555 0.94% Impervious Area					
Tc	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
2.7	40	0.0740	0.25		Sheet Flow,	
					Grass: Short n= 0.150 P2= 3.43"	
0.5	60	0.0670	2.09		Sheet Flow,	
Smooth surfaces n= 0.011 P2= 3.43"				Smooth surfaces n= 0.011 P2= 3.43"		
1.1	346	0.0685	5.31		Shallow Concentrated Flow,	
					Paved Kv= 20.3 fps	
0.4	260	0.0400	10.44	5.697		
					10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'	
_					n= 0.010 PVC, smooth interior	
4.7	706	Total				

Subcatchment PRWS7A: PRWS7A



Summary for Pond 19P: CULTEC BY OTHERS

Inflow Area =	11,251 sf, 67.37% Impervious,	Inflow Depth = 4.85" for 25 YR event
Inflow =	1.4 cfs @ 12.09 hrs, Volume=	4,545 cf
Outflow =	1.4 cfs @ 12.10 hrs, Volume=	4,545 cf, Atten= 2%, Lag= 1.1 min
Discarded =	0.1 cfs @ 11.36 hrs, Volume=	3,366 cf
Primary =	1.3 cfs @ 12.10 hrs. Volume=	1.179 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 516.19' @ 12.10 hrs Surf.Area= 335 sf Storage= 684 cf

Plug-Flow detention time= 26.3 min calculated for 4,544 cf (100% of inflow) Center-of-Mass det. time= 26.3 min (821.3 - 795.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	512.95'	308 cf	11.17'W x 30.00'L x 3.54'H Field A
			1,186 cf Overall - 417 cf Embedded = 769 cf x 40.0% Voids
#2A	513.45'	417 cf	Cultec R-330XL x 8 Inside #1
			Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf
			Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap

725 cf Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	515.50'	12.0" Round Culvert
			L= 25.0′ CMP, projecting, no headwall, Ke= 0.900
			Outlet Invert= 514.35' S= 0.0460 '/' Cc= 0.900 n= 0.013
#2	Discarded	512.95'	15.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.1 cfs @ 11.36 hrs HW=512.99' (Free Discharge) **1.2=Exfiltration** (Exfiltration Controls 0.1 cfs)

Primary OutFlow Max=1.3 cfs @ 12.10 hrs HW=516.18' (Free Discharge) 1=Culvert (Inlet Controls 1.3 cfs @ 2.22 fps)

Pond 19P: CULTEC BY OTHERS - Chamber Wizard Field A

Chamber Model = Cultec R-330XL

Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap

52.0" Wide + 6.0" Spacing = 58.0" C-C

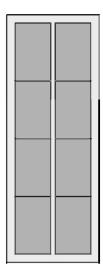
4 Chambers/Row x 7.00' Long = 28.00' + 12.0'' End Stone x 2 = 30.00' Base Length 2 Rows x 52.0" Wide + 6.0" Spacing x 1 + 12.0'' Side Stone x 2 = 11.17' Base Width 6.0" Base + 30.5'' Chamber Height + 6.0'' Cover = 3.54' Field Height

8 Chambers x 52.2 cf = 417.3 cf Chamber Storage

1,186.5 cf Field - 417.3 cf Chambers = 769.2 cf Stone x 40.0% Voids = 307.7 cf Stone Storage

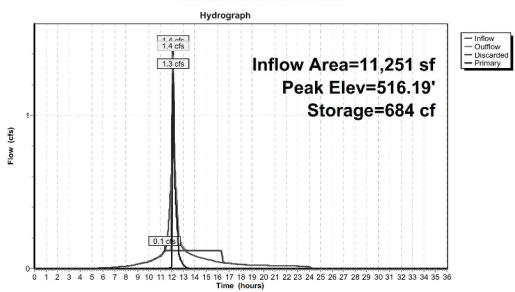
Stone + Chamber Storage = 724.9 cf = 0.017 af

8 Chambers 43.9 cy Field 28.5 cy Stone





Pond 19P: CULTEC BY OTHERS



Summary for Link PRDP1: PRDP1

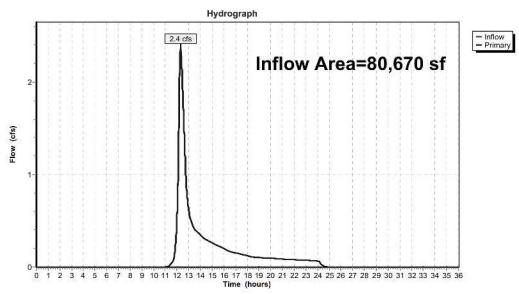
Inflow Area = 80,670 sf, 0.00% Impervious, Inflow Depth = 1.79" for 25 YR event

Inflow = 2.4 cfs @ 12.31 hrs, Volume= 12,027 cf

Primary = 2.4 cfs @ 12.31 hrs, Volume= 12,027 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP1: PRDP1



Summary for Link PRDP2: PRDP2

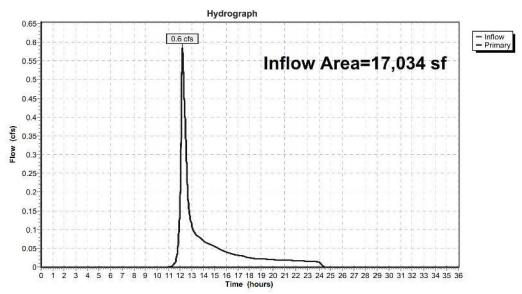
Inflow Area = 17,034 sf, 0.00% Impervious, Inflow Depth = 1.79" for 25 YR event

Inflow = 0.6 cfs @ 12.20 hrs, Volume= 2,540 cf

Primary = 0.6 cfs @ 12.20 hrs, Volume= 2,540 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP2: PRDP2



Summary for Link PRDP5: PRDP5

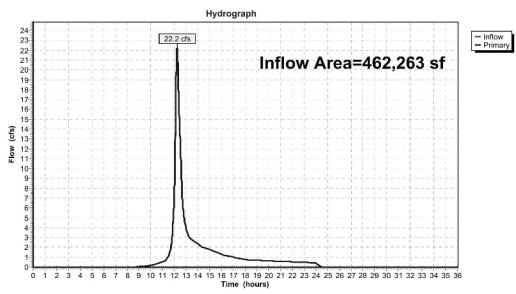
Inflow Area = 462,263 sf, 12.93% Impervious, Inflow Depth = 2.43" for 25 YR event

Inflow = 22.2 cfs @ 12.22 hrs, Volume= 93,490 cf

Primary = 22.2 cfs @ 12.22 hrs, Volume= 93,490 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP5: PRDP5



Summary for Link PRDP6: PRDP6

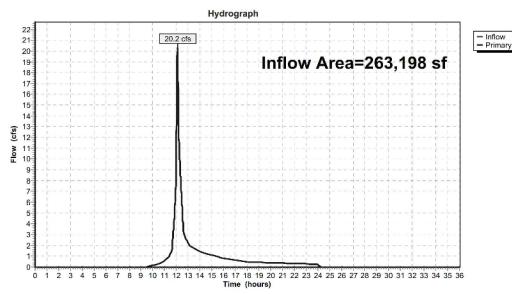
Inflow Area = 263,198 sf, 17.50% Impervious, Inflow Depth = 2.88" for 25 YR event

Inflow = 20.2 cfs @ 12.09 hrs, Volume= 63,214 cf

Primary = 20.2 cfs @ 12.09 hrs, Volume= 63,214 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP6: PRDP6



Summary for Link PRDP7: PRDP7

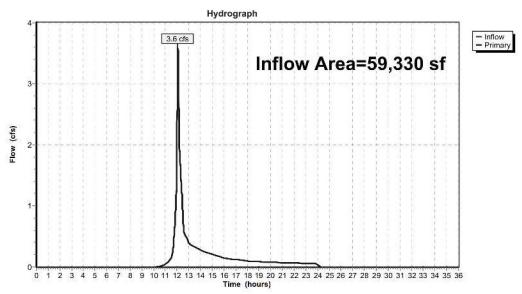
Inflow Area = 59,330 sf, 0.94% Impervious, Inflow Depth = 2.23" for 25 YR event

Inflow = 3.6 cfs @ 12.08 hrs, Volume= 11,019 cf

Primary = 3.6 cfs @ 12.08 hrs, Volume= 11,019 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP7: PRDP7



Primary=5.1 cfs 15,340 cf

EAGLE RIDGE TOWNHOUSES-PRDP1 PRDP2 PRDP5 PRDP6 PR *Type III 24-hr 50 YR Rainfall=7.69"* Prepared by Alfonzetti Engineering, P.C. Printed 6/23/2023 HydroCAD® 9.00 s/n 02177 © 2009 HydroCAD Software Solutions LLC

Time span=0.00-36.00 hrs, dt=0.010 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Reach routing by Stor-In	d+Trans method - Pond routing by Stor-Ind method
Subcatchment PRWS1: PRWS1	Runoff Area=80,670 sf 0.00% Impervious Runoff Depth=2.57" Flow Length=332' Tc=20.0 min CN=55 Runoff=3.6 cfs 17,306 cf
Subcatchment PRWS2: PRWS2	Runoff Area=17,034 sf 0.00% Impervious Runoff Depth=2.57" Flow Length=194' Tc=13.5 min CN=55 Runoff=0.9 cfs 3,654 cf
Subcatchment PRWS5A: PRWS5A	Runoff Area=263,624 sf 0.21% Impervious Runoff Depth=2.68" Flow Length=500' Tc=15.2 min CN=56 Runoff=13.6 cfs 58,848 cf
Subcatchment PRWS5B: PRWS5B	Runoff Area=187,388 sf 27.56% Impervious Runoff Depth=4.31" Flow Length=641' Tc=15.3 min CN=71 Runoff=16.3 cfs 67,321 cf
Subcatchment PRWS5C: PRWS5C	Runoff Area=11,251 sf 67.37% Impervious Runoff Depth=6.03" Tc=6.0 min CN=86 Runoff=1.8 cfs 5,655 cf
Subcatchment PRWS6A: PRWS6A	Runoff Area=263,198 sf 17.50% Impervious Runoff Depth=3.87" Flow Length=1,821' Tc=6.0 min CN=67 Runoff=27.4 cfs 84,781 cf
Subcatchment PRWS7A: PRWS7A	Runoff Area=59,330 sf 0.94% Impervious Runoff Depth=3.10" Flow Length=706' Tc=4.7 min CN=60 Runoff=5.1 cfs 15,340 cf
Pond 19P: CULTEC BY OTHERS Disca	Peak Elev=516.30' Storage=699 cf Inflow=1.8 cfs 5,655 cf rded=0.1 cfs 3,863 cf Primary=1.6 cfs 1,792 cf Outflow=1.7 cfs 5,655 cf
Link PRDP1: PRDP1	Inflow=3.6 cfs 17,306 cf Primary=3.6 cfs 17,306 cf
Link PRDP2: PRDP2	Inflow=0.9 cfs 3,654 cf Primary=0.9 cfs 3,654 cf
Link PRDP5: PRDP5	Inflow=30.8 cfs 127,960 cf Primary=30.8 cfs 127,960 cf
Link PRDP6: PRDP6	Inflow=27.4 cfs 84,781 cf Primary=27.4 cfs 84,781 cf
Link PRDP7: PRDP7	Inflow=5.1 cfs 15,340 cf

Total Runoff Area = 882,495 sf Runoff Volume = 252,905 cf Average Runoff Depth = 3.44" 87.95% Pervious = 776,120 sf 12.05% Impervious = 106,375 sf

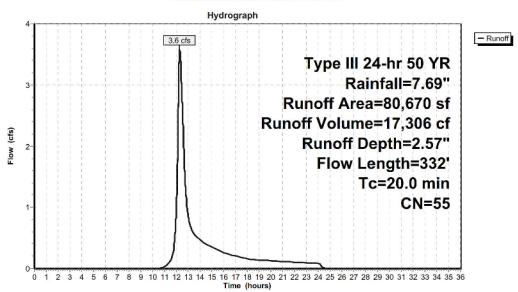
Summary for Subcatchment PRWS1: PRWS1

Runoff = 3.6 cfs @ 12.29 hrs, Volume= 17,306 cf, Depth= 2.57"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 50 YR Rainfall=7.69"

	rea (sf)	CN D	N Description						
	78,687	55 W	oods, Good	d, HSG B					
	1,983	61 >7	1 >75% Grass cover, Good, HSG B						
	80,670	55 W	eighted Av	erage					
	80,670	10	00.00% Per	vious Area					
Tc	Length	Slope	Velocity	Capacity	Description				
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
18.1	100	0.0280	0.09		Sheet Flow,				
					Woods: Light underbrush n= 0.400 P2= 3.43"				
0.4	50	0.1650	2.03		Shallow Concentrated Flow,				
					Woodland Kv= 5.0 fps				
0.6	58	0.1030	1.60		Shallow Concentrated Flow,				
					Woodland Kv= 5.0 fps				
0.9	124	0.2230	2.36		Shallow Concentrated Flow,				
					Woodland Kv= 5.0 fps				
20.0	332	Total							

Subcatchment PRWS1: PRWS1



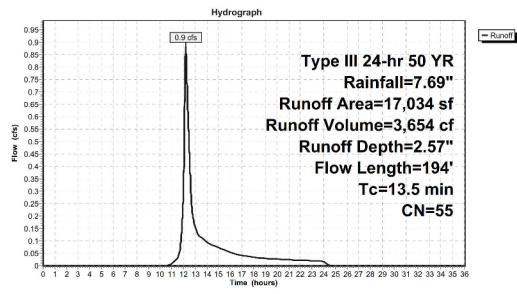
Summary for Subcatchment PRWS2: PRWS2

Runoff = 0.9 cfs @ 12.20 hrs, Volume= 3,654 cf, Depth= 2.57"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 50 YR Rainfall=7.69"

A	rea (sf)	CN D	escription					
	17,034	55 W	55 Woods, Good, HSG B					
	17,034	100.00% Pervious Area						
Tc	Length	Slope	Velocity	Capacity	Description			
<u>(min)</u>	(feet)	(ft/ft)	(ft/sec)	(cfs)				
3.9	34	0.1470	0.14		Sheet Flow,			
					Woods: Light underbrush n= 0.400 P2= 3.43"			
9.3	116	0.1980	0.21		Sheet Flow, SF2			
					Woods: Light underbrush n= 0.400 P2= 3.43"			
0.3	44	0.1920	2.19		Shallow Concentrated Flow, SC1			
*					Woodland Kv= 5.0 fps			
13.5	194	Total						

Subcatchment PRWS2: PRWS2



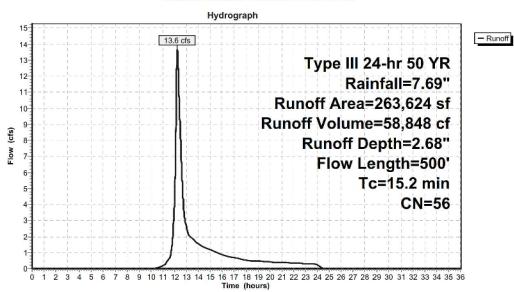
Summary for Subcatchment PRWS5A: PRWS5A

Runoff = 13.6 cfs @ 12.22 hrs, Volume= 58,848 cf, Depth= 2.68"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 50 YR Rainfall=7.69"

Д	rea (sf)	CN [escription					
	21,636	55 V	55 Woods, Good, HSG B					
	185	98 F	aved parkin	g, HSG B				
	185	98 F	aved parkin	g, HSG B				
	87,595	55 V	Voods, Goo	d, HSG B				
	33,646	61 >	75% Grass o	over, Good	, HSG B			
	40,482	55 V	Voods, Goo	d, HSG B				
	79,491	55 V	Voods, Goo	d, HSG B				
	219		75% Grass o		, HSG B			
	185	98 F	aved parkin	g, HSG B				
2	263,624	56 V	Veighted Av	erage				
2	263,069	9	9.79% Perv	ous Area				
	555	C	.21% Imper	vious Area				
Tc	Length	Slope		Capacity	Description			
(min)	(feet)	(ft/ft)		(cfs)				
9.7	100	0.0480	0.17		Sheet Flow,			
					Grass: Dense n= 0.240 P2= 3.43"			
1.9	200	0.1200	1.73		Shallow Concentrated Flow,			
					Woodland Kv= 5.0 fps			
2.4	100	0.0200	0.71		Shallow Concentrated Flow,			
4.0	400	0.0000			Woodland Kv= 5.0 fps			
1.2	100	0.0800	1.41		Shallow Concentrated Flow,			
					Woodland Kv= 5.0 fps			
15.2	500	Total						

Subcatchment PRWS5A: PRWS5A



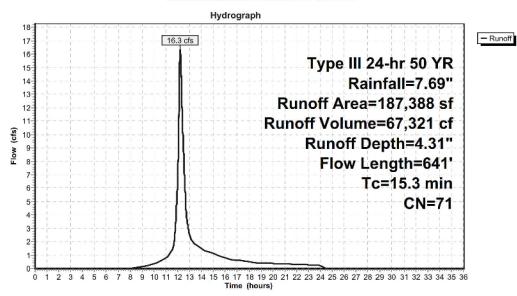
Summary for Subcatchment PRWS5B: PRWS5B

Runoff = 16.3 cfs @ 12.21 hrs, Volume= 67,321 cf, Depth= 4.31"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 50 YR Rainfall=7.69"

	Α	rea (sf)	CN D	Description						
-		292	61 >7	61 >75% Grass cover, Good, HSG B						
		51,564	98 Pa							
		2,075	61 >7	75% Grass o	over, Good	, HSG B				
		7,566	61 >7	75% Grass o	over, Good	, HSG B				
	1	25,011	61 >7	75% Grass o	over, Good	, HSG B				
		22	98 Pa	aved parkin	g, HSG B					
		52	98 Pa	aved parkin	g, HSG B					
		678	61 >7	75% Grass o	cover, Good	, HSG B				
		128	61 >7	75% Grass o	over, Good	, HSG B				
	1	87,388	71 W	eighted Av	erage					
	1	35,750	72	2.44% Pervi	ous Area					
		51,638	27	7.56% Impe	rvious Area					
	Tc	Length	Slope	Velocity	Capacity	Description				
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	*				
	13.0	100	0.0230	0.13		Sheet Flow,				
						Grass: Dense n= 0.240 P2= 3.43"				
	0.8	60	0.0330	1.27		Shallow Concentrated Flow,				
						Short Grass Pasture Kv= 7.0 fps				
	0.2	31	0.2420	3.44		Shallow Concentrated Flow,				
						Short Grass Pasture Kv= 7.0 fps				
	1.2	345	0.0520	4.63		Shallow Concentrated Flow,				
						Paved Kv= 20.3 fps				
	0.1	105	0.1840	17.23	9.398	Pipe Channel,				
						10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'				
						n= 0.013 Concrete pipe, bends & connections				
	15.3	641	Total							

Subcatchment PRWS5B: PRWS5B



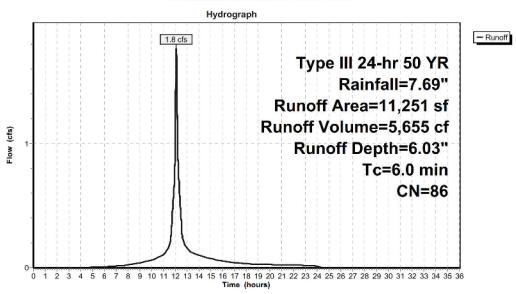
Summary for Subcatchment PRWS5C: PRWS5C

Runoff = 1.8 cfs @ 12.08 hrs, Volume= 5,655 cf, Depth= 6.03"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 50 YR Rainfall=7.69"

A	rea (sf)	CN	De	Description				
	1,190	61	>7	'5% Grass o	over, Good	, HSG B		
	211	61	>7	5% Grass o	over, Good	, HSG B		
	7,580	98	Pa	ved parkin	g, HSG B			
	2,242	61	>7	5% Grass o	over, Good	, HSG B		
	28	61	>7	'5% Grass o	over, Good	, HSG B		
	11,251	86	86 Weighted Average					
	3,671		32.63% Pervious Area					
	7,580		67.37% Impervious Area					
Tc	Length	Slo	pe	Velocity	Capacity	Description		
(min)	(feet)	(ft/	ft)	(ft/sec)	(cfs)	~		
6.0						Direct Entry,		

Subcatchment PRWS5C: PRWS5C



Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-PRDP1 PRDP2 PRDP5 PRDP6 PR *Type III 24-hr 50 YR Rainfall=7.69"* Prepared by Alfonzetti Engineering, P.C. Printed 6/23/2023 HydroCAD® 9.00 s/n 02177 © 2009 HydroCAD Software Solutions LLC

Summary for Subcatchment PRWS6A: PRWS6A

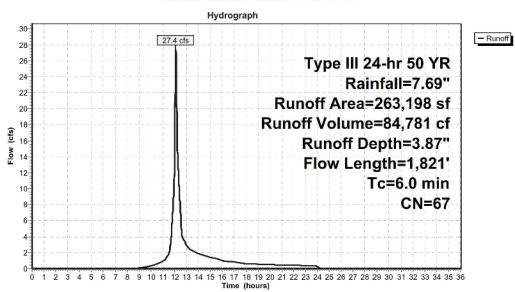
Runoff = 27.4 cfs @ 12.09 hrs, Volume= 84,781 cf, Depth= 3.87"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 50 YR Rainfall=7.69"

		·
Area (sf)	CN	Description
121,477	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
41,393	98	Paved parking, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
400	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
217	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
184	98	Paved parking, HSG B
219	39	>75% Grass cover, Good, HSG A
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	
219	61	
219	61	>75% Grass cover, Good, HSG B
219	61	
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B

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	185		aved parkin	0.	
	185	98 Pa	aved parkin	g, HSG B	
	219	61 >7	75% Grass c	over, Good	, HSG B
	219	61 >7	75% Grass o	over, Good	, HSG B
	185	98 Pa	aved par <mark>k</mark> in	g, HSG B	
	86,051	61 >7	75% Grass o	over, Good	, HSG B
	4,500	55 W	oods, Good	d, HSG B	
	307	61 >7	75% Grass c	over, Good	, HSG B
2	63,198	67 W	eighted Av	erage	
	17,151	82	2.50% Pervi	ous Area	
	46,047	17	7.50% Impe	rvious Area	
Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
1.9	28		0.25		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.43"
0.6	72	0.0490	1.91		Sheet Flow.
					Smooth surfaces n= 0.011 P2= 3.43"
0.2	50	0.0490	4.49		Shallow Concentrated Flow,
					Paved Kv= 20.3 fps
1.9	450	0.0710	4.00		Shallow Concentrated Flow,
					Grassed Waterway Kv= 15.0 fps
0.4	474	0.0790	20.24	63.585	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.013 Concrete pipe, bends & connections
0.2	200	0.0600	17.64	55.413	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.013 Concrete pipe, bends & connections
0.2	189	0.0700	19.05	59.853	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.013 Concrete pipe, bends & connections
0.6	358	0.0170	9.39	29.496	Pipe Channel,
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'
					n= 0.013 Concrete pipe, bends & connections
6.0	1,821	Total			• • •
0.0	_,				

Subcatchment PRWS6A: PRWS6A



Summary for Subcatchment PRWS7A: PRWS7A

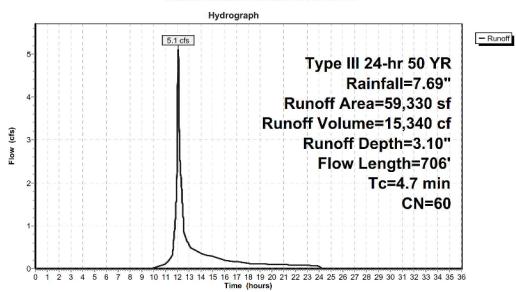
Runoff = 5.1 cfs @ 12.07 hrs, Volume= 15,340 cf, Depth= 3.10"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 50 YR Rainfall=7.69"

	Area (sf)	CN D	escription						
	15,421	55 W	Woods, Good, HSG B						
	185	98 P	aved parkir	ig, HSG B					
	42,697	61 >	75% Grass	cover, Good	, HSG B				
	219	61 >	75% Grass	cover, Good	, HSG <mark>B</mark>				
	219	61 >	75% Grass	cover, Good	, HSG B				
	185	98 P	aved parkir	g, HSG B					
	185	98 P	aved parkir	ig, HSG B					
	219	61 >	75% Grass	cover, Good	, HSG B				
	59,330	60 W	/eighted Av	erage					
	58,775	9	9.06% Perv	ious Area					
	555	0	.94% Imper	vious Area					
Tc	Length	Slope	are a	Capacity	Description				
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
2.7	40	0.0740	0.25		Sheet Flow,				
					Grass: Short n= 0.150 P2= 3.43"				
0.5	60	0.0670	2.09		Sheet Flow,				
					Smooth surfaces n= 0.011 P2= 3.43"				
1.1	346	0.0685 5.31			Shallow Concentrated Flow,				
					Paved Kv= 20.3 fps				
0.4	260	0.0400	10.44	5.697	Pipe Channel,				
					10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'				
	1				n= 0.010 PVC, smooth interior				
17	706	Total							

4.7 706 Total

Subcatchment PRWS7A: PRWS7A



Summary for Pond 19P: CULTEC BY OTHERS

Inflow Are	a =	11,251 sf	, 67.37% Impervious,	Inflow Depth = 6.03	3" for 50 YR event
Inflow	=	1.8 cfs @	12.08 hrs, Volume=	5,655 cf	
Outflow	=	1.7 cfs @	12.10 hrs, Volume=	5,655 cf, At	ten= 1%, Lag= 0.8 min
Discarded	=	0.1 cfs @	11.15 hrs, Volume=	3,863 cf	
Primary	=	1.6 cfs @	12.10 hrs. Volume=	1.792 cf	

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 516.30' @ 12.10 hrs Surf.Area= 335 sf Storage= 699 cf

Plug-Flow detention time= 25.3 min calculated for 5,655 cf (100% of inflow) Center-of-Mass det. time= 25.2 min (814.3 - 789.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	512.95'	308 cf	11.17'W x 30.00'L x 3.54'H Field A
			1,186 cf Overall - 417 cf Embedded = 769 cf x 40.0% Voids
#2A	513.45'	417 cf	Cultec R-330XL x 8 Inside #1
			Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf
			Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap

725 cf Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices	
#1	Primary	515.50'	12.0" Round Culvert	
			L= 25.0′ CMP, projecting, no headwall, Ke= 0.900	
			Outlet Invert= 514.35' S= 0.0460 '/' Cc= 0.900 n= 0.013	
#2	Discarded	512.95'	15.000 in/hr Exfiltration over Surface area	

Primary OutFlow Max=1.6 cfs @ 12.10 hrs HW=516.30' (Free Discharge) 1=Culvert (Inlet Controls 1.6 cfs @ 2.40 fps)

Pond 19P: CULTEC BY OTHERS - Chamber Wizard Field A

Chamber Model = Cultec R-330XL

Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap

52.0" Wide + 6.0" Spacing = 58.0" C-C

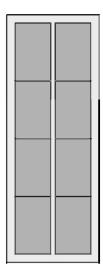
4 Chambers/Row x 7.00' Long = 28.00' + 12.0'' End Stone x 2 = 30.00' Base Length 2 Rows x 52.0" Wide + 6.0" Spacing x 1 + 12.0'' Side Stone x 2 = 11.17' Base Width 6.0" Base + 30.5'' Chamber Height + 6.0'' Cover = 3.54' Field Height

8 Chambers x 52.2 cf = 417.3 cf Chamber Storage

1,186.5 cf Field - 417.3 cf Chambers = 769.2 cf Stone x 40.0% Voids = 307.7 cf Stone Storage

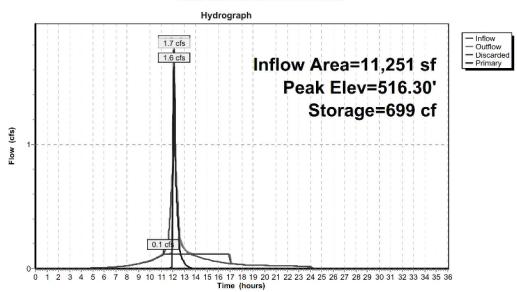
Stone + Chamber Storage = 724.9 cf = 0.017 af

8 Chambers 43.9 cy Field 28.5 cy Stone





Pond 19P: CULTEC BY OTHERS



Summary for Link PRDP1: PRDP1

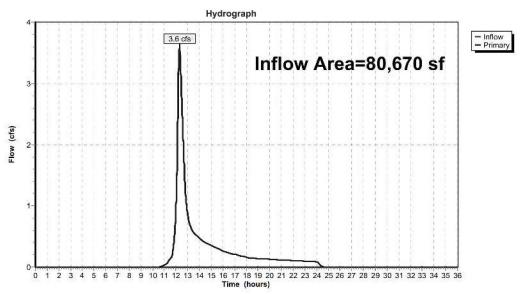
Inflow Area = 80,670 sf, 0.00% Impervious, Inflow Depth = 2.57" for 50 YR event

Inflow = 3.6 cfs @ 12.29 hrs, Volume= 17,306 cf

Primary = 3.6 cfs @ 12.29 hrs, Volume= 17,306 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP1: PRDP1



Summary for Link PRDP2: PRDP2

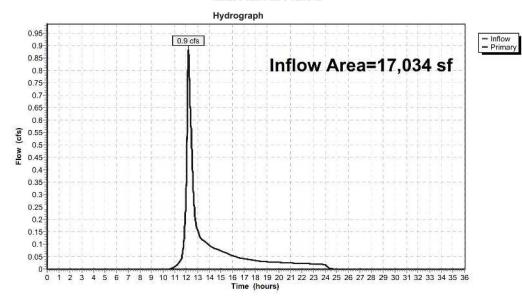
Inflow Area = 17,034 sf, 0.00% Impervious, Inflow Depth = 2.57" for 50 YR event

Inflow = 0.9 cfs @ 12.20 hrs, Volume= 3,654 cf

Primary = 0.9 cfs @ 12.20 hrs, Volume= 3,654 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP2: PRDP2



Summary for Link PRDP5: PRDP5

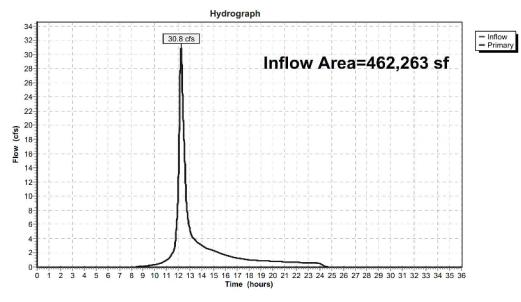
Inflow Area = 462,263 sf, 12.93% Impervious, Inflow Depth = 3.32" for 50 YR event

Inflow = 30.8 cfs @ 12.21 hrs, Volume= 127,960 cf

Primary = 30.8 cfs @ 12.21 hrs, Volume= 127,960 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP5: PRDP5



Summary for Link PRDP6: PRDP6

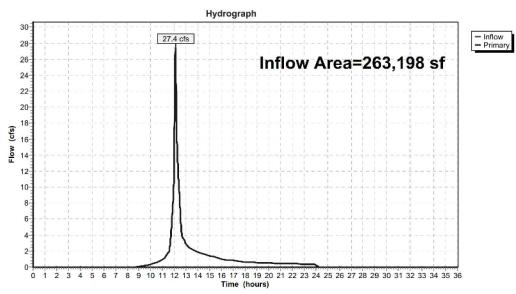
Inflow Area = 263,198 sf, 17.50% Impervious, Inflow Depth = 3.87" for 50 YR event

Inflow = 27.4 cfs @ 12.09 hrs, Volume= 84,781 cf

Primary = 27.4 cfs @ 12.09 hrs, Volume= 84,781 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP6: PRDP6



Summary for Link PRDP7: PRDP7

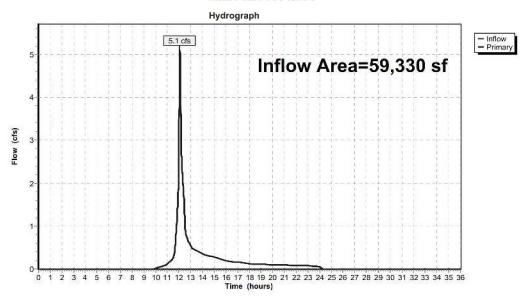
Inflow Area = 59,330 sf, 0.94% Impervious, Inflow Depth = 3.10" for 50 YR event

Inflow = 5.1 cfs @ 12.07 hrs, Volume= 15,340 cf

Primary = 5.1 cfs @ 12.07 hrs, Volume= 15,340 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP7: PRDP7



Primary=7.0 cfs 20,936 cf

EAGLE RIDGE TOWNHOUSES-PRDP1 PRDP2 PRDP5 PRDP6 P *Type III 24-hr 100 YR Rainfall=9.17"* Prepared by Alfonzetti Engineering, P.C. Printed 6/23/2023 HydroCAD® 9.00 s/n 02177 © 2009 HydroCAD Software Solutions LLC

Time span=0.00-36.00 hrs, dt=0.010 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Reach routing by Stor-Ind-	Firans method - Pond routing by Stor-Ind method
Subcatchment PRWS1: PRWS1	Runoff Area=80,670 sf 0.00% Impervious Runoff Depth=3.61" Flow Length=332' Tc=20.0 min CN=55 Runoff=5.2 cfs 24,278 cf
Subcatchment PRWS2: PRWS2	Runoff Area=17,034 sf 0.00% Impervious Runoff Depth=3.61" Flow Length=194' Tc=13.5 min CN=55 Runoff=1.3 cfs 5,126 cf
Subcatchment PRWS5A: PRWS5A	Runoff Area=263,624 sf 0.21% Impervious Runoff Depth=3.74" Flow Length=500' Tc=15.2 min CN=56 Runoff=19.5 cfs 82,069 cf
Subcatchment PRWS5B: PRWS5B	Runoff Area=187,388 sf 27.56% Impervious Runoff Depth=5.61" Flow Length=641' Tc=15.3 min CN=71 Runoff=21.2 cfs 87,603 cf
Subcatchment PRWS5C: PRWS5C	Runoff Area=11,251 sf 67.37% Impervious Runoff Depth=7.47" Tc=6.0 min CN=86 Runoff=2.1 cfs 7,003 cf
Subcatchment PRWS6A: PRWS6A	Runoff Area=263,198 sf 17.50% Impervious Runoff Depth=5.11" Flow Length=1,821' Tc=6.0 min CN=67 Runoff=36.2 cfs 112,077 cf
Subcatchment PRWS7A: PRWS7A	Runoff Area=59,330 sf 0.94% Impervious Runoff Depth=4.23" Flow Length=706' Tc=4.7 min CN=60 Runoff=7.0 cfs 20,936 cf
Pond 19P: CULTEC BY OTHERS Discard	Peak Elev=516.44' Storage=718 cf Inflow=2.1 cfs 7,003 cf ed=0.1 cfs 4,404 cf Primary=2.0 cfs 2,599 cf Outflow=2.1 cfs 7,003 cf
Link PRDP1: PRDP1	Inflow=5.2 cfs 24,278 cf Primary=5.2 cfs 24,278 cf
Link PRDP2: PRDP2	Inflow=1.3 cfs 5,126 cf Primary=1.3 cfs 5,126 cf
Link PRDP5: PRDP5	Inflow=41.8 cfs 172,271 cf Primary=41.8 cfs 172,271 cf
Link PRDP6: PRDP6	Inflow=36.2 cfs 112,077 cf Primary=36.2 cfs 112,077 cf
Link PRDP7: PRDP7	Inflow=7.0 cfs 20,936 cf

Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-PRDP1 PRDP2 PRDP5 PRDP6 P *Type III 24-hr 100 YR Rainfall=9.17"* Prepared by Alfonzetti Engineering, P.C. Printed 6/23/2023 HydroCAD* 9.00 s/n 02177 © 2009 HydroCAD Software Solutions LLC

Total Runoff Area = 882,495 sf Runoff Volume = 339,093 cf Average Runoff Depth = 4.61" 87.95% Pervious = 776,120 sf 12.05% Impervious = 106,375 sf

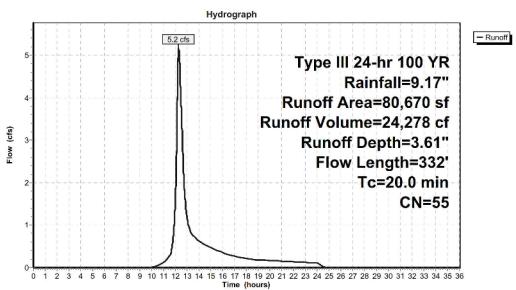
Summary for Subcatchment PRWS1: PRWS1

Runoff = 5.2 cfs @ 12.29 hrs, Volume= 24,278 cf, Depth= 3.61"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 100 YR Rainfall=9.17"

A	rea (sf)	CN D	escription			
	78,687	55 Woods, Good, HSG B				
	1,983	61 >7	61 >75% Grass cover, Good, HSG B			
	80,670	55 Weighted Average				
	80,670	100.00% Pervious Area				
Tc	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
18.1	100	0.0280	0.09		Sheet Flow,	
					Woods: Light underbrush n= 0.400 P2= 3.43"	
0.4	50	0.1650	2.03		Shallow Concentrated Flow,	
					Woodland Kv= 5.0 fps	
0.6	58	0.1030	1.60		Shallow Concentrated Flow,	
					Woodland Kv= 5.0 fps	
0.9	124	0.2230	2.36		Shallow Concentrated Flow,	
					Woodland Kv= 5.0 fps	
20.0	332	Total				

Subcatchment PRWS1: PRWS1



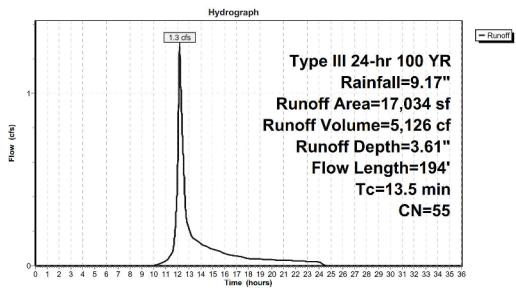
Summary for Subcatchment PRWS2: PRWS2

Runoff = 1.3 cfs @ 12.19 hrs, Volume= 5,126 cf, Depth= 3.61"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 100 YR Rainfall=9.17"

A	rea (sf)	CN E	escription		
	17,034	55 V	Voods, Goo	d, HSG B	
	17,034	1	00.00% Per	vious Area	
Tc	Length	Slope		Capacity	Description
<u>(min)</u>	(feet)	(ft/ft)	(ft/sec)	(cfs)	
3.9	34	0.1470	0.14		Sheet Flow,
					Woods: Light underbrush n= 0.400 P2= 3.43"
9.3	116	0.1980	0.21		Sheet Flow, SF2
					Woods: Light underbrush n= 0.400 P2= 3.43"
0.3	44	0.1920	2.19		Shallow Concentrated Flow, SC1
					Woodland Kv= 5.0 fps
13.5	194	Total	-	-	

Subcatchment PRWS2: PRWS2



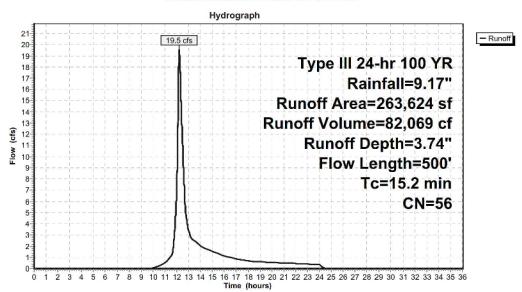
Summary for Subcatchment PRWS5A: PRWS5A

Runoff = 19.5 cfs @ 12.21 hrs, Volume= 82,069 cf, Depth= 3.74"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 100 YR Rainfall=9.17"

	rea (sf)	CN E	Description		
	21,636	55 V	Voods, Goo	d, HSG B	
	185	98 F	aved parkin	g, HSG B	
	185	98 F	aved parkin	g, HSG B	
	87,595	55 V	Woods, Good	d, HSG B	
	33,646	61 >	75% Grass o	cover, Good	, HSG B
	40,482	55 V	Voods, Goo	d, HSG B	
	79,491	55 \	Noods, Goo	d, HSG B	
	219		75% Grass o		, HSG B
	185	98 F	aved parkin	g, HSG B	
2	263,624	56 V	Veighted Av	erage	
2	263,069	9	9.79% Pervi	ous Area	
	555	C).21% Imper	vious Area	
		-01			B. Controller
Tc	Length	Slope		Capacity	Description
<u>(min)</u>	(feet)	(ft/ft)		(cfs)	
9.7	100	0.0480	0.17		Sheet Flow,
					Grass: Dense n= 0.240 P2= 3.43"
1.9	200	0.1200	1.73		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
2.4	100	0.0200	0.71		Shallow Concentrated Flow,
4.0	400	0.0000			Woodland Kv= 5.0 fps
1.2	100	0.0800	1.41		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
15.2	500	Total			

Subcatchment PRWS5A: PRWS5A



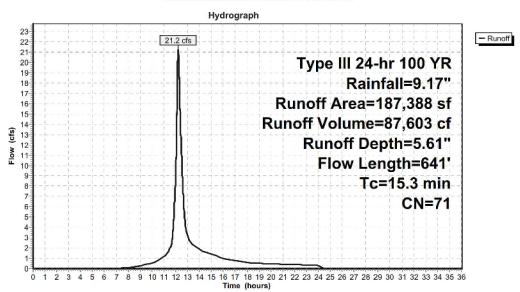
Summary for Subcatchment PRWS5B: PRWS5B

Runoff = 21.2 cfs @ 12.21 hrs, Volume= 87,603 cf, Depth= 5.61"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 100 YR Rainfall=9.17"

A	rea (sf)	CN De	CN Description					
	292	61 >7	75% Grass o	cover, Good	, HSG B			
	51,564	98 Pa	eved parkin	g, HSG B				
	2,075	61 >7	75% Grass o	cover, Good	, HSG B			
	7,566	61 >7	75% Grass o	cover, Good	, HSG B			
1	.25,011	61 >7	75% Grass o	cover, Good	, HSG B			
	22	98 Pa	ved parkin	g, HSG B				
	52	98 Pa	aved parkin	g, HSG B				
	678	61 >7	75% Grass o	cover, Good	, HSG B			
_	128	61 >7	75% Grass o	cover, Good	, HSG B			
1	.87,388	71 W	eighted Av	erage				
1	35,750	72	2.44% Pervi	ious Area				
	51,638	27	7.56% Impe	rvious Area				
Tc	Length	Slope	Velocity	Capacity	Description			
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
13.0	100	0.0230	0.13		Sheet Flow,			
					Grass: Dense n= 0.240 P2= 3.43"			
0.8	60	0.0330	1.27		Shallow Concentrated Flow,			
					Short Grass Pasture Kv= 7.0 fps			
0.2	31	0.2420	3.44		Shallow Concentrated Flow,			
					Short Grass Pasture Kv= 7.0 fps			
1.2	345	0.0520	4.63		Shallow Concentrated Flow,			
					Paved Kv= 20.3 fps			
0.1	105	0.1840	17.23	9.398	Pipe Channel,			
					10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'			
					n= 0.013 Concrete pipe, bends & connections			
15.3	641	Total						

Subcatchment PRWS5B: PRWS5B



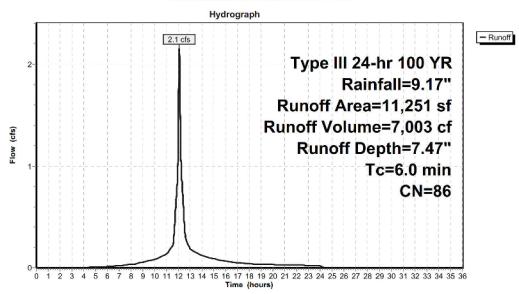
Summary for Subcatchment PRWS5C: PRWS5C

Runoff = 2.1 cfs @ 12.08 hrs, Volume= 7,003 cf, Depth= 7.47"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 100 YR Rainfall=9.17"

A	rea (sf)	CN	De	Description				
	1,190	61	>7	'5% Grass o	over, Good	, HSG B		
	211	61	>7	5% Grass o	over, Good	, HSG B		
	7,580	98	Pa	ved parkin	g, HSG B			
	2,242	61	>7	5% Grass o	over, Good	, HSG B		
	28	61	>7	'5% Grass o	over, Good	, HSG B		
	11,251	86	86 Weighted Average					
	3,671		32	63% Pervi	ous Area			
	7,580		67	.37% Impe	rvious Area			
Tc	Length	Slo	pe	Velocity	Capacity	Description		
(min)	(feet)	(ft/	ft)	(ft/sec)	(cfs)	~		
6.0						Direct Entry,		

Subcatchment PRWS5C: PRWS5C



Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-PRDP1 PRDP2 PRDP5 PRDP6 P *Type III 24-hr 100 YR Rainfall=9.17"* Prepared by Alfonzetti Engineering, P.C. Printed 6/23/2023 HydroCAD® 9.00 s/n 02177 © 2009 HydroCAD Software Solutions LLC

Summary for Subcatchment PRWS6A: PRWS6A

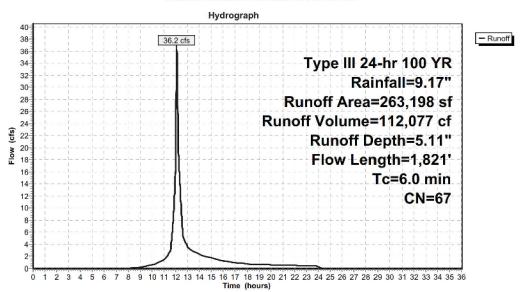
Runoff = 36.2 cfs @ 12.09 hrs, Volume= 112,077 cf, Depth= 5.11"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 100 YR Rainfall=9.17"

		·
Area (sf)	CN	Description
121,477	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
41,393	98	Paved parking, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
400	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
217	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
184	98	Paved parking, HSG B
219	39	>75% Grass cover, Good, HSG A
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B

HydroCA	D™ 9.00 s _i	/n 021//	© 2009 Hyd	roCAD Softw	are Solutions LLC			
	185		98 Paved parking, HSG B					
	185		98 Paved parking, HSG B					
	219			cover, Good	A CONTRACTOR OF			
	219			cover, Good	, HSG B			
	185	98 Pa	aved parkin	g, HSG B				
	86,051	61 >7	75% Grass o	over, Good	, HSG B			
	4,500	55 W	oods, Good	d, HSG B				
0	307	61 >7	75% Grass o	over, Good	, HSG B			
2	63,198	67 W	eighted Av	erage				
2	17,151	82	2.50% Pervi	ous Area				
	46,047	17	7.50% Impe	rvious Area				
Tc	Length	Slope	Velocity	Capacity	Description			
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
1.9	28	0.0890	0.25		Sheet Flow,			
					Grass: Short n= 0.150 P2= 3.43"			
0.6	72	0.0490	1.91		Sheet Flow,			
					Smooth surfaces n= 0.011 P2= 3.43"			
0.2	50	0.0490	4.49		Shallow Concentrated Flow,			
					Paved Kv= 20.3 fps			
1.9	450	0.0710	4.00		Shallow Concentrated Flow,			
					Grassed Waterway Kv= 15.0 fps			
0.4	474	0.0790	20.24	63.585	Pipe Channel,			
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'			
					n= 0.013 Concrete pipe, bends & connections			
0.2	200	0.0600	17.64	55.413	Pipe Channel,			
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'			
					n= 0.013 Concrete pipe, bends & connections			
0.2	189	0.0700	19.05	59.853	Pipe Channel,			
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'			
					n= 0.013 Concrete pipe, bends & connections			
0.6	358	0.0170	9.39	29.496	Pipe Channel,			
					24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50'			
					n= 0.013 Concrete pipe, bends & connections			
6.0	1,821	Total						

Subcatchment PRWS6A: PRWS6A



Summary for Subcatchment PRWS7A: PRWS7A

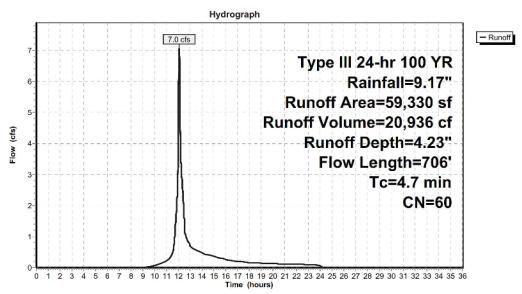
Runoff = 7.0 cfs @ 12.07 hrs, Volume= 20,936 cf, Depth= 4.23"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 100 YR Rainfall=9.17"

	Area (sf)	CN D	escription						
	15,421	55 W	55 Woods, Good, HSG B						
	185	98 P	aved parkir	ig, HSG B					
	42,697	61 >	75% Grass	cover, Good	, HSG B				
	219	61 >	75% Grass	cover, Good	, HSG <mark>B</mark>				
	219	61 >	75% Grass	cover, Good	, HSG B				
	185	98 P	aved parkir	g, HSG B					
	185	98 P	aved parkir	ig, HSG B					
	219	61 >	75% Grass	cover, Good	, HSG B				
	59,330	60 W	/eighted Av	erage					
	58,775	9	9.06% Perv	ious Area					
	555	0	.94% Imper	vious Area					
Tc	Length	Slope	are a	Capacity	Description				
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
2.7	40	0.0740	0.25		Sheet Flow,				
					Grass: Short n= 0.150 P2= 3.43"				
0.5	60	0.0670	2.09		Sheet Flow,				
					Smooth surfaces n= 0.011 P2= 3.43"				
1.1	346	0.0685	5.31		Shallow Concentrated Flow,				
					Paved Kv= 20.3 fps				
0.4	260	0.0400	10.44	5.697	Pipe Channel,				
					10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21'				
	1				n= 0.010 PVC, smooth interior				
17	706	Total							

4.7 706 Total

Subcatchment PRWS7A: PRWS7A



Summary for Pond 19P: CULTEC BY OTHERS

Inflow Are	a =	11,251 sf	, 67.37% Impervious,	Inflow Depth =	7.47"	for 100 YR event
Inflow	=	2.1 cfs @	12.08 hrs, Volume=	7,003 cf		
Outflow	=	2.1 cfs @	12.10 hrs, Volume=	7,003 cf,	Atten=	2%, Lag= 0.9 min
Discarded	=	0.1 cfs @	10.72 hrs, Volume=	4,404 cf		
Primary	=	2.0 cfs @	12.10 hrs. Volume=	2.599 cf		

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 516.44' @ 12.10 hrs Surf.Area= 335 sf Storage= 718 cf

Plug-Flow detention time= 24.2 min calculated for 7,001 cf (100% of inflow) Center-of-Mass det. time= 24.2 min (807.6 - 783.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	#1A 512.95' 308 cf 11.17'W x 30.		11.17'W x 30.00'L x 3.54'H Field A
			1,186 cf Overall - 417 cf Embedded = 769 cf x 40.0% Voids
#2A	513.45'	417 cf	Cultec R-330XL x 8 Inside #1
			Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf
<u></u>			Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap
		725 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	515.50'	12.0" Round Culvert
			L= 25.0′ CMP, projecting, no headwall, Ke= 0.900
			Outlet Invert= 514.35' S= 0.0460 '/' Cc= 0.900 n= 0.013
#2	Discarded	512.95'	15.000 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.1 cfs @ 10.72 hrs HW=512.99' (Free Discharge) **12=Exfiltration** (Exfiltration Controls 0.1 cfs)

Primary OutFlow Max=2.0 cfs @ 12.10 hrs HW=516.44' (Free Discharge) 1=Culvert (Inlet Controls 2.0 cfs @ 2.61 fps)

Pond 19P: CULTEC BY OTHERS - Chamber Wizard Field A

Chamber Model = Cultec R-330XL

Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap

52.0" Wide + 6.0" Spacing = 58.0" C-C

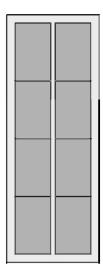
4 Chambers/Row x 7.00' Long = 28.00' + 12.0'' End Stone x 2 = 30.00' Base Length 2 Rows x 52.0" Wide + 6.0" Spacing x 1 + 12.0'' Side Stone x 2 = 11.17' Base Width 6.0" Base + 30.5'' Chamber Height + 6.0'' Cover = 3.54' Field Height

8 Chambers x 52.2 cf = 417.3 cf Chamber Storage

1,186.5 cf Field - 417.3 cf Chambers = 769.2 cf Stone x 40.0% Voids = 307.7 cf Stone Storage

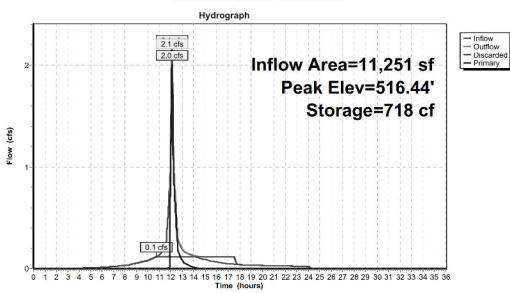
Stone + Chamber Storage = 724.9 cf = 0.017 af

8 Chambers 43.9 cy Field 28.5 cy Stone





Pond 19P: CULTEC BY OTHERS



Summary for Link PRDP1: PRDP1

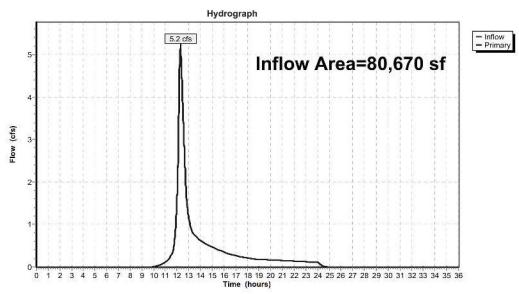
Inflow Area = 80,670 sf, 0.00% Impervious, Inflow Depth = 3.61" for 100 YR event

Inflow = 5.2 cfs @ 12.29 hrs, Volume= 24,278 cf

Primary = 5.2 cfs @ 12.29 hrs, Volume= 24,278 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP1: PRDP1



Summary for Link PRDP2: PRDP2

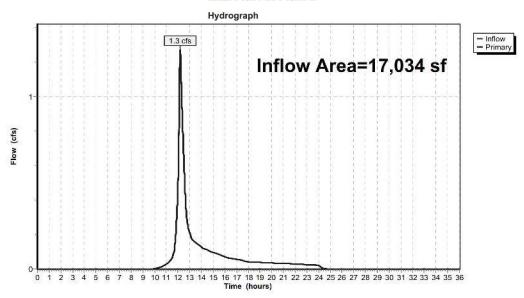
Inflow Area = 17,034 sf, 0.00% Impervious, Inflow Depth = 3.61" for 100 YR event

Inflow = 1.3 cfs @ 12.19 hrs, Volume= 5,126 cf

Primary = 1.3 cfs @ 12.19 hrs, Volume= 5,126 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP2: PRDP2



Summary for Link PRDP5: PRDP5

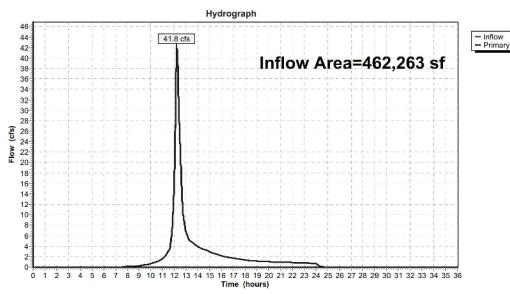
Inflow Area = 462,263 sf, 12.93% Impervious, Inflow Depth = 4.47" for 100 YR event

Inflow = 41.8 cfs @ 12.21 hrs, Volume= 172,271 cf

Primary = 41.8 cfs @ 12.21 hrs, Volume= 172,271 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP5: PRDP5



Summary for Link PRDP6: PRDP6

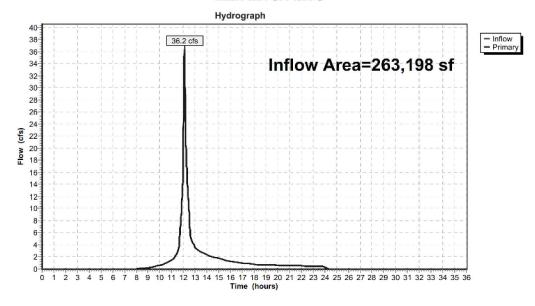
Inflow Area = 263,198 sf, 17.50% Impervious, Inflow Depth = 5.11" for 100 YR event

Inflow = 36.2 cfs @ 12.09 hrs, Volume= 112,077 cf

Primary = 36.2 cfs @ 12.09 hrs, Volume= 112,077 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP6: PRDP6



Summary for Link PRDP7: PRDP7

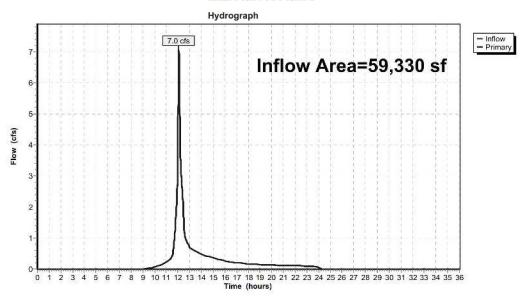
Inflow Area = 59,330 sf, 0.94% Impervious, Inflow Depth = 4.23" for 100 YR event

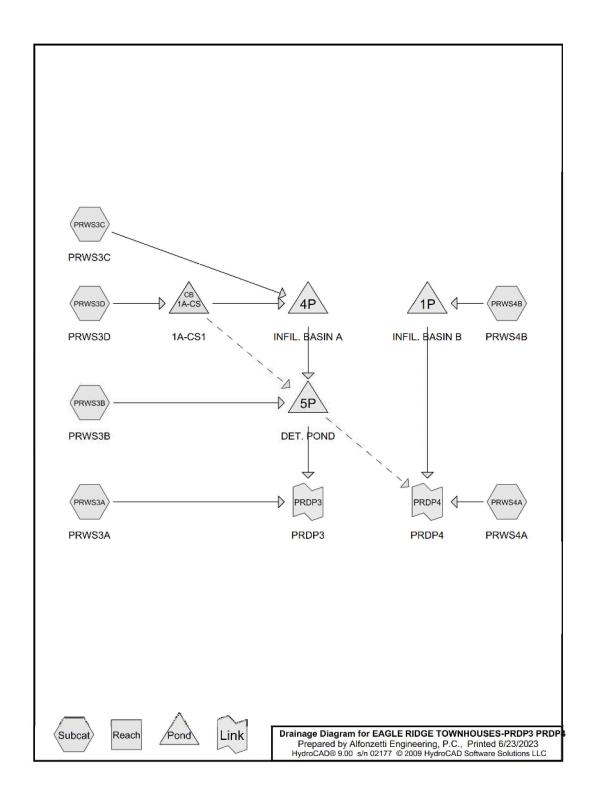
Inflow = 7.0 cfs @ 12.07 hrs, Volume= 20,936 cf

Primary = 7.0 cfs @ 12.07 hrs, Volume= 20,936 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP7: PRDP7





Prepared by Alfonzetti Engineering, P.C.

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Area Listing (all nodes)

Area	CN	Description
(sq-ft)		(subcatchment-numbers)
287,162	55	Woods, Good, HSG B (PRWS3A, PRWS3B, PRWS4A)
344,823	61	>75% Grass cover, Good, HSG B (PRWS3A, PRWS3B, PRWS3C, PRWS3D, PRWS4A,
		PRWS4B)
138,301	98	Paved parking, HSG B (PRWS3D, PRWS4A, PRWS4B)
198,152	98	Roofs, HSG B (PRWS3D, PRWS4B)
1,665	98	Water Surface, HSG B (PRWS3D, PRWS4B)
970,103		TOTAL AREA

Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Time span=0.00-36.00 hrs, dt=0.010 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PRWS3A: PRWS3A Runoff Area=51,628 sf 0.00% Impervious Runoff Depth=0.21"

Flow Length=301' Tc=12.6 min CN=58 Runoff=0.1 cfs 915 cf

Subcatchment PRWS3B: PRWS3B Runoff Area=37,829 sf 0.00% Impervious Runoff Depth=0.24"

Tc=6.0 min CN=59 Runoff=0.1 cfs 750 cf

Subcatchment PRWS3C: PRWS3C Runoff Area=10,818 sf 0.00% Impervious Runoff Depth=0.29"

Tc=6.0 min CN=61 Runoff=0.0 cfs 264 cf

Subcatchment PRWS3D: PRWS3D Runoff Area=434,308 sf 68.48% Impervious Runoff Depth=1.49"

Flow Length=1,574' Tc=6.0 min CN=86 Runoff=17.5 cfs 54,017 cf

Subcatchment PRWS4A: PRWS4A Runoff Area=358,086 sf 0.52% Impervious Runoff Depth=0.19"

Flow Length=631' Tc=26.4 min CN=57 Runoff=0.4 cfs 5,631 cf

Subcatchment PRWS4B: PRWS4B Runoff Area=77,434 sf 50.16% Impervious Runoff Depth=1.10"

Flow Length=150' Tc=6.0 min CN=80 Runoff=2.2 cfs 7,112 cf

Pond 1A-CS: 1A-CS1 Peak Elev=439.54' Inflow=17.5 cfs 54,017 cf

Primary=9.4 cfs 47,722 cf Secondary=8.1 cfs 6,296 cf Outflow=17.5 cfs 54,017 cf

Pond 1P: INFIL. BASIN B Peak Elev=488.13' Storage=963 cf Inflow=2.2 cfs 7,112 cf

Discarded=1.0 cfs 7,112 cf Primary=0.0 cfs 0 cf Secondary=0.0 cfs 0 cf Outflow=1.0 cfs 7,112 cf

Pond 4P: INFIL. BASIN A Peak Elev=437.11' Storage=38,303 cf Inflow=9.4 cfs 47,985 cf

Discarded=0.2 cfs 16,513 cf Primary=0.1 cfs 1,055 cf Secondary=0.0 cfs 0 cf Outflow=0.3 cfs 17,568 cf

Pond 5P: DET. POND Peak Elev=430.57' Storage=8,099 cf Inflow=8.1 cfs 8,101 cf

Primary=0.0 cfs 0 cf Secondary=0.0 cfs 0 cf Tertiary=0.0 cfs 0 cf Outflow=0.0 cfs 0 cf

Link PRDP3: PRDP3 Inflow=0.1 cfs 915 cf

Primary=0.1 cfs 915 cf

Link PRDP4: PRDP4 Inflow=0.4 cfs 5,631 cf

Primary=0.4 cfs 5,631 cf

Total Runoff Area = 970,103 sf Runoff Volume = 68,688 cf Average Runoff Depth = 0.85" 65.15% Pervious = 631,985 sf 34.85% Impervious = 338,118 sf

Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Summary for Subcatchment PRWS3A: PRWS3A

Runoff = 0.1 cfs @ 12.44 hrs, Volume= 915 cf, Depth= 0.21"

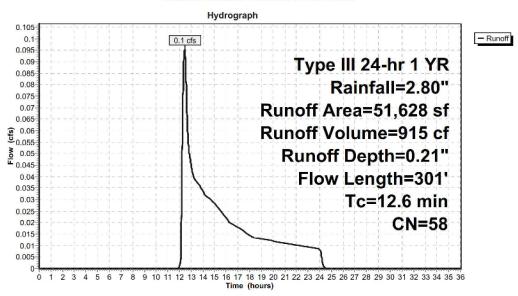
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 1 YR Rainfall=2.80"

	А	rea (sf)	CN D	escription						
*		23,286	61 >	61 >75% Grass cover, Good, HSG B						
		28,342	55 V	loods, Good	d, HSG B					
		51,628	58 W	eighted Av	erage					
		51,628	1	00.00% Pen	vious Area					
	Tc	Length	Slope	Velocity	Capacity	Description				
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	9.8	100	0.1300	0.17		Sheet Flow,				
						Woods: Light underbrush n= 0.400 P2= 3.43"				
	2.0	88	0.0220	0.74		Shallow Concentrated Flow,				
						Woodland Kv= 5.0 fps				
	0.8	113	0.2500	2.50		Shallow Concentrated Flow,				
						Woodland Kv= 5.0 fps				
	12.6	301	Total							

Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Subcatchment PRWS3A: PRWS3A



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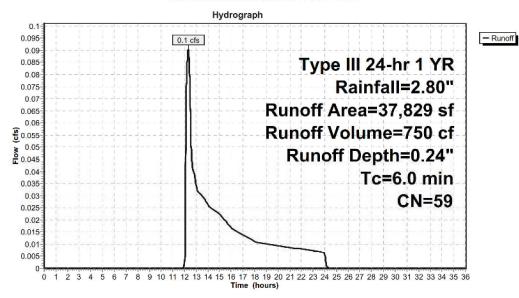
Summary for Subcatchment PRWS3B: PRWS3B

Runoff = 0.1 cfs @ 12.31 hrs, Volume= 750 cf, Depth= 0.24"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 1 YR Rainfall=2.80"

A	rea (sf)	CN	Des	Description			
	24,721	61	>75	5% Grass c	over, Good	, HSG B	
	13,108	55	Wo	ods, Good	, HSG B		
	37,829	59 Weighted Average					
	37,829 100.00% Pervious Area						
Tc	Length	Slop	oe '	Velocity	Capacity	Description	
(min)	(feet)	(ft/	ft)	(ft/sec)	(cfs)		
6.0						Direct Entry,	

Subcatchment PRWS3B: PRWS3B



Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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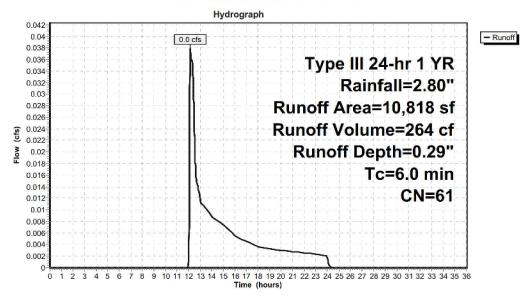
Summary for Subcatchment PRWS3C: PRWS3C

Runoff = 0.0 cfs @ 12.15 hrs, Volume= 264 cf, Depth= 0.29"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 1 YR Rainfall=2.80"

A	rea (sf)	CN Description				
	10,818	61 >75% Grass cover, Good, HSG B				
	10,818	100.00% Pervious Area				
	Length		Velocity	Capacity	Description	
<u>(min)</u>	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.0					Direct Entry,	

Subcatchment PRWS3C: PRWS3C



Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-PRDP3 PRDP4

Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Summary for Subcatchment PRWS3D: PRWS3D

Runoff = 17.5 cfs @ 12.09 hrs, Volume= 54,017 cf, Depth= 1.49"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 1 YR Rainfall=2.80"

Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Area (sf)	CN	Description
127,331	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
868	98	Water Surface, HSG B
4,563	98	Roofs, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
5,466	98	Roofs, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,550	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
1,020	98	Paved parking, HSG B
185	98	Paved parking, HSG B
79	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
69	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
112	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
125	61	>75% Grass cover, Good, HSG B
4,560	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
133	61	>75% Grass cover, Good, HSG B

Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
120	61	>75% Grass cover, Good, HSG B
5,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
114	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
869	98	Paved parking, HSG B
194	98	Paved parking, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
5,584	98	Roofs, HSG B
4,563	98	Roofs, HSG B
4,563	98	Roofs, HSG B
150	61	>75% Grass cover, Good, HSG B
150	61	>75% Grass cover, Good, HSG B
2,867	98	Paved parking, HSG B
155	98	Paved parking, HSG B
155	98	Paved parking, HSG B
150	61	>75% Grass cover, Good, HSG B
2,859	98	Roofs, HSG B

Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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150	98	Paved parking, HSG B
155	98	Paved parking, HSG B
153	61	>75% Grass cover, Good, HSG B
150	98	Paved parking, HSG B
150	98	Paved parking, HSG B
2,861	98	Roofs, HSG B
155	98	Paved parking, HSG B
155	98	Paved parking, HSG B
150	61	>75% Grass cover, Good, HSG B
150	61	>75% Grass cover, Good, HSG B
2,861	98	Roofs, HSG B
155	98	Paved parking, HSG B
155	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
5,432	98	Roofs, HSG B
185	98	Paved parking, HSG B
220	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B

Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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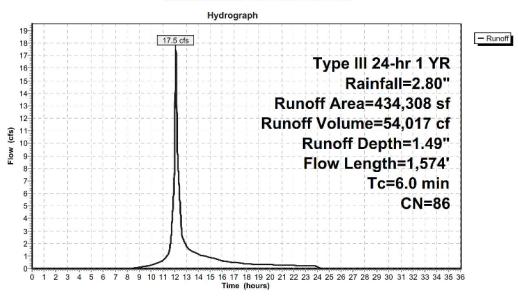
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6.0	1,574		4.37		Direct Entry,			
<u>(min)</u>	(feet)	(ft/f		(cfs)				
	Length	Slop		Capacity	Description			
_			22.00	_				
2	97,426		68.48% Impe	rvious Area	ı			
1	36,882		31.52% Pervi	ous Area				
4	34,308	86	Weighted Av	erage				
	1,021	98	Paved parkin	g, HSG B				
	1,021	98	Paved parkin					
	1,021	98	Paved parkin	g, HSG B				
	185	98	Paved parkin					
	88	98	Paved parkin	-				
	78,645	98	Paved parkin	g, HSG B				
	1,021	61	>75% Grass o	the same of the sa	, HSG B			
	219	61	>75% Grass o	over, Good,	, HSG B			
	869	98	Paved parkin					
	4,563	98	Roofs, HSG B					
	185	98	Paved parkin	Paved parking, HSG B				
	88	98	Paved parking, HSG B					
	1,021	98	Paved parking, HSG B					
	4,563	98	Roofs, HSG B					
	219	61	>75% Grass o	over, Good,	, HSG B			
	869	98	Roofs, HSG B					
	4,563	98	Roofs, HSG B					
	185	98	Paved parkin					
	85	98	Paved parkin	g, HSG B				
	4,563	98	Roofs, HSG B					
	1,021	98	Paved parkin	g, HSG B				
	219	61	>75% Grass c	over, Good,	, HSG B			
	869	98	Paved parkin					
	4,563	98	Roofs, HSG B	-				
	185	98	Paved parkin		Open control of the c			
	85	61	>75% Grass o		, HSG B			
	4,563	98	Roofs, HSG B					
	219	61	>75% Grass o	136	The second secon			
	219	61	>75% Grass c		. HSG B			
	4,563	98	Roofs, HSG B					
	185	98	Paved parkin	-				
	869	98	Paved parkin					
	4,563	98	Roofs, HSG B					
	1,021	98	Paved parkin		, 1130 0			
	219	61	>75% Grass c	over Good	HSG B			

Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Subcatchment PRWS3D: PRWS3D



Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Summary for Subcatchment PRWS4A: PRWS4A

Runoff = 0.4 cfs @ 12.67 hrs, Volume= 5,631 cf, Depth= 0.19"

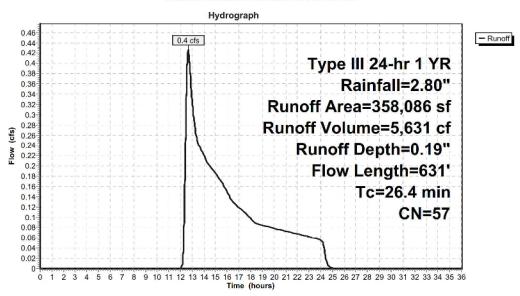
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 1 YR Rainfall=2.80"

A	rea (sf)	CN	Description				
2	45,712	55	Woods, Good	I, HSG B			
1	08,774	61	>75% Grass c	over, Good,	HSG B		
	219	61	>75% Grass c	over, Good,	HSG B		
	185	98	Paved parkin	g, HSG B			
	185	98	Paved parkin	g, HSG B			
	219	61	>75% Grass cover, Good, HSG B				
	219	61	>75% Grass c	over, Good,	HSG B		
	185	98	Paved parkin	g, HSG B			
	185	98	Paved parkin	g, HSG B			
	219	61	>75% Grass o	over, Good,	HSG B		
	185	98	Paved parkin	g, HSG B			
	219	61	>75% Grass c	over, Good,	HSG B		
	185	98	Paved parkin	g, HSG B			
	219	61	>75% Grass c	over, Good,	HSG B		
	185	98	Paved parkin	g, HSG B			
	219	61					
	185	98	98 Paved parking, HSG B				
	218	61	>75% Grass c	over, Good,	HSG B		
	184	98	Paved parkin	g, HSG B			
	185	98	Paved parkin	g, HSG B			
3	58,086	57	Weighted Av	erage			
3	56,237		99.48% Pervi	ous Area			
	1,849		0.52% Imper	vious Area			
Tc	Length	Slop	e Velocity	Capacity	Description		
(min)	(feet)	(ft/f	t) (ft/sec)	(cfs)			
10.6	100	0.015	0.16		Sheet Flow,		
					Grass: Short n= 0.150 P2= 3.43"		
4.8	200	0.010	0.70		Shallow Concentrated Flow,		
					Short Grass Pasture Kv= 7.0 fps		
11.0	331	0.010	0.50		Shallow Concentrated Flow,		
					Woodland Kv= 5.0 fps		
26.4	631	Total					

Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Subcatchment PRWS4A: PRWS4A



Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-PRDP3 PRDP4

Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Summary for Subcatchment PRWS4B: PRWS4B

Runoff = 2.2 cfs @ 12.09 hrs, Volume= 7,112 cf, Depth= 1.10"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 1 YR Rainfall=2.80"

Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

Area (sf)	CN	Description
1,971	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
869	98	Paved parking, HSG B
113	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
11,620	98	Paved parking, HSG B
185	98	Paved parking, HSG B
27,716	61	>75% Grass cover, Good, HSG B
3,214	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
868	98	Paved parking, HSG B
3,178	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
797	98	Water Surface, HSG B
2,405	98	Roofs, HSG B
428	61	>75% Grass cover, Good, HSG B
479	98	Paved parking, HSG B
1,888	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
77,434	80	Weighted Average
38,591		49.84% Pervious Area
38,843		50.16% Impervious Area

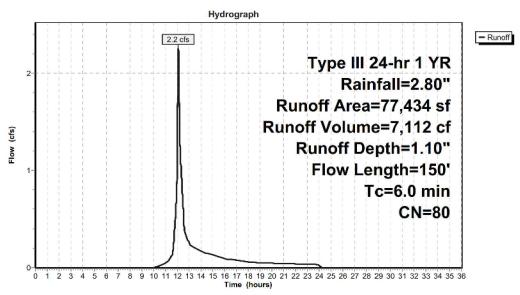
Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Tc	Length	Slope	Velocity	Capacity	Description		
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
6.0	150		0.42		Direct Entry,		

Subcatchment PRWS4B: PRWS4B



Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Summary for Pond 1A-CS: 1A-CS1

Inflow Are	a =	434,308 sf	, 68.48% Impervious,	Inflow Depth = 1.49" for 1 YR event
Inflow	=	17.5 cfs @	12.09 hrs, Volume=	54,017 cf
Outflow	=	17.5 cfs @	12.09 hrs, Volume=	54,017 cf, Atten= 0%, Lag= 0.0 min
Primary	=	9.4 cfs @	12.09 hrs, Volume=	47,722 cf
Secondary	/=	8.1 cfs @	12.09 hrs, Volume=	6,296 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 439.54' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	434.90'	15.0" Round 15"Ø Culvert to Infil. Basin A
			L= 27.8' CPP, projecting, no headwall, Ke= 0.900
			Outlet Invert= 434.80' S= 0.0036 '/' Cc= 0.900 n= 0.013
#2	Secondary	435.90'	15.0" Round 15"Ø Culvert to Det. Basin
			L= 22.8' CPP, projecting, no headwall, Ke= 0.900
			Outlet Invert= 435.60' S= 0.0132 '/' Cc= 0.900 n= 0.013
#3	Device 2	437.00'	5.0' long x 0.5' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00
			Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=9.3 cfs @ 12.09 hrs HW=439.54' (Free Discharge) 1=15" Culvert to Infil. Basin A (Inlet Controls 9.3 cfs @ 7.62 fps)

Secondary OutFlow Max=8.1 cfs @ 12.09 hrs HW=439.54' (Free Discharge)

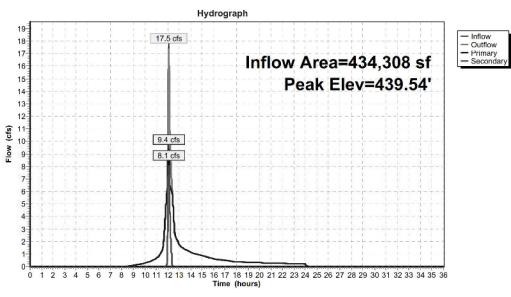
2=15"Ø Culvert to Det. Basin (Inlet Controls 8.1 cfs @ 6.60 fps)

3=Broad-Crested Rectangular Weir (Passes 8.1 cfs of 67.2 cfs potential flow)

Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Pond 1A-CS: 1A-CS1



Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Summary for Pond 1P: INFIL. BASIN B

Inflow Area =	77,434 sf, 50.16% Impervious,	Inflow Depth = 1.10" for 1 YR event
Inflow =	2.2 cfs @ 12.09 hrs, Volume=	7,112 cf
Outflow =	1.0 cfs @ 12.33 hrs, Volume=	7,112 cf, Atten= 56%, Lag= 14.5 min
Discarded =	1.0 cfs @ 12.33 hrs, Volume=	7,112 cf
Primary =	0.0 cfs @ 0.00 hrs, Volume=	0 cf
Secondary =	0.0 cfs @ 0.00 hrs, Volume=	0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 488.13' @ 12.33 hrs Surf.Area= 4,264 sf Storage= 963 cf

Plug-Flow detention time= 6.0 min calculated for 7,112 cf (100% of inflow)

Center-of-Mass det. time= 5.9 min (855.8 - 849.9)

Volume	Invert	Avail.Sto	orage Storag	e Description			
#1	487.80'	24,7	56 cf Custor	m Stage Data (Pri	ismatic) Listed below (Recalc)		
Elevation	on Su	ırf.Area	Inc.Store	Cum.Store			
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)			
487.8	30	0	0	0			
488.0	00	4,141	414	414			
490.0	00	6,029	10,170	10,584			
492.0	00	8,143	14,172	24,756			
Device	Routing	Invert	Outlet Device	es			
#1	Discarded	487.80'	10.000 in/hr	Exfiltration over	Surface area		
#2	Primary	487.00'	15.0" Round	d 15" Culvert			
			L= 25.7' CPI	P, square edge he	eadwall, Ke= 0.500		
			Outlet Invert	t= 483.20' S= 0.1	479 '/' Cc= 0.900 n= 0.013		
#3	Device 2	489.00'	6.0" Vert. Orifice C= 0.600				
#4	Device 2	490.50'	36.0" x 42.0'	" Horiz. Grate C	C= 0.600 Limited to weir flow at low heads		
#5	Secondary	491.50'	5.0' long x 0	.5' breadth Broad	d-Crested Rectangular Weir		
			Head (feet)	0.20 0.40 0.60 0	0.80 1.00		
			Coef. (Englis	h) 2.80 2.92 3.0	8 3.30 3.32		

Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Discarded OutFlow Max=1.0 cfs @ 12.33 hrs HW=488.13' (Free Discharge) 1=Exfiltration (Exfiltration Controls 1.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=487.80' (Free Discharge)

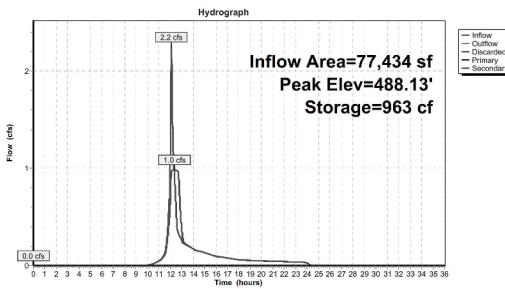
2=15" Culvert (Passes 0.0 cfs of 2.5 cfs potential flow)

3=Orifice (Controls 0.0 cfs)

4=Grate (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=487.80' (Free Discharge) **5=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond 1P: INFIL. BASIN B



Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Summary for Pond 4P: INFIL. BASIN A

Inflow Area =	445,126 sf, 66.82% Impervious,	Inflow Depth = 1.29" for 1 YR event
Inflow =	9.4 cfs @ 12.09 hrs, Volume=	47,985 cf
Outflow =	0.3 cfs @ 20.13 hrs, Volume=	17,568 cf, Atten= 97%, Lag= 482.3 min
Discarded =	0.2 cfs @ 20.13 hrs, Volume=	16,513 cf
Primary =	0.1 cfs @ 20.13 hrs, Volume=	1,055 cf
Secondary =	0.0 cfs @ 0.00 hrs, Volume=	0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 437.11' @ 20.13 hrs Surf.Area= 8,401 sf Storage= 38,303 cf

Plug-Flow detention time= 701.7 min calculated for 17,568 cf (37% of inflow) Center-of-Mass det. time= 560.5 min (1,402.8 - 842.3)

Volume	Inver	t Avail.S	torage	Storage	Description	
#1	429.50	61,	,378 cf	Custom	Stage Data (Pri	smatic) Listed below (Recalc)
-1			•			
Elevation	on S	urf.Area	inc.	Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-	-feet)	(cubic-feet)	
429.5	50	0		0	0	
430.0	00	2,658		665	665	
432.0	00	3,978	(5,636	7,301	
434.0	00	5,524	9	9,502	16,803	
436.0	00	7,296	12	2,820	29,623	
438.0	00	9,294	16	5,590	46,213	
439.0	00	10,378	9	9,836	56,049	
439.5	50	10,941		5,330	61,378	
Device	Routing	Invert	t Outle	t Device	S	
#1	Discarded	429.50	1.000	in/hr Ex	filtration over S	Surface area
#2	Primary	432.00	18.0"	Round	18" Culvert	
			L= 59.	.7' CMF	, square edge h	eadwall, Ke= 0.500
			Outle	t Invert=	431.00' S= 0.0	168 '/' Cc= 0.900

L= 59.7' CMP, square edge headwall, Ke= 0.500
Outlet Invert= 431.00' S= 0.0168 '/' Cc= 0.900
n= 0.020 Corrugated PE, corrugated interior

#3 Device 2 437.10' 60.0" x 48.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#4 Secondary 439.25' 5.0' long x 0.5' breadth Broad-Crested Rectangular Weir
Head (feet) 0.20 0.40 0.60 0.80 1.00
Coef. (English) 2.80 2.92 3.08 3.30 3.32

Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Discarded OutFlow Max=0.2 cfs @ 20.13 hrs HW=437.11' (Free Discharge) 1=Exfiltration (Exfiltration Controls 0.2 cfs)

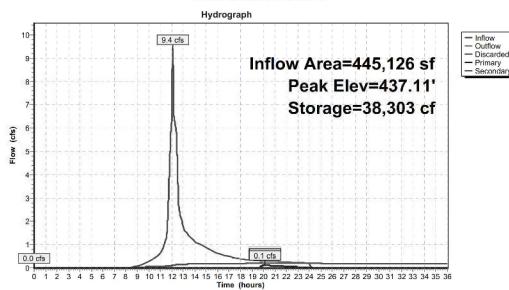
Primary OutFlow Max=0.0 cfs @ 20.13 hrs HW=437.11' (Free Discharge)

2=18" Culvert (Passes 0.0 cfs of 15.1 cfs potential flow)

3=Grate (Weir Controls 0.0 cfs @ 0.25 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=429.50' (Free Discharge) 4=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond 4P: INFIL. BASIN A



Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Summary for Pond 5P: DET. POND

Inflow Area =	482,955 sf, 61.58% Impervious,	Inflow Depth = 0.20" for 1 YR event
Inflow =	8.1 cfs @ 12.09 hrs, Volume=	8,101 cf
Outflow =	0.0 cfs @ 0.00 hrs, Volume=	0 cf, Atten= 100%, Lag= 0.0 min
Primary =	0.0 cfs @ 0.00 hrs, Volume=	0 cf
Secondary =	0.0 cfs @ 0.00 hrs, Volume=	0 cf
Tertiary =	0.0 cfs @ 0.00 hrs, Volume=	0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 430.57' @ 24.34 hrs Surf.Area= 4,854 sf Storage= 8,099 cf

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

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

Volume	Inver	t Avail.St	orage Stora	age Description			
#1	423.00	93,9	923 cf Custo	om Stage Data (Prismatic) Listed below (Recalc)			
Elevation	100	Surf.Area	Inc.Store				
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)			
423.0	00	0	0	0			
424.0	00	25	13	13			
426.0	00	76	101	114			
427.0	00	92	84	198			
428.0	00	780	436	634			
430.0	00	4,121	4,901	No. of the Control of			
432.0	00	6,685	10,806	16,341			
434.0	00	9,650	16,335	32,676			
436.0		13,018	22,668	,			
438.0		16,788	29,806				
438.5	50	18,305	8,773	93,923			
	<u>.</u>						
Device	Routing	Invert	Outlet Devi				
#1	Primary	431.50'		nd 24"Ø Culvert			
				MP, square edge headwall, Ke= 0.500			
				rt= 429.75' S= 0.0429 '/' Cc= 0.900			
				Corrugated PE, corrugated interior			
#2	Device 1	432.00'		12"Ø Orifice C= 0.600			
#3	Secondary	430.75'		12.0" Round 12"Ø Culvert			
				CMP, square edge headwall, Ke= 0.500			
				rt= 422.00' S= 0.0470 '/' Cc= 0.900			
				orrugated PE, smooth interior			
#4	Device 1	437.60'	24.0" x 36.0	0" Horiz. Grate C= 0.600 Limited to weir flow at low heads			

Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

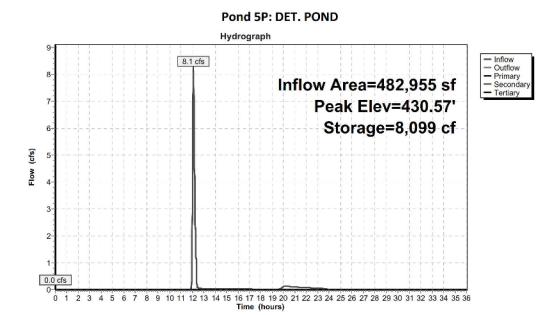
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#5 Tertiary 438.00' 5.0' long x 0.5' breadth Broad-Crested Rectangular Weir EMOF

Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=423.00' (Free Discharge)
1=24"Ø Culvert (Controls 0.0 cfs)
2=12"Ø Orifice (Controls 0.0 cfs)
4=Grate (Controls 0.0 cfs)

Tertiary OutFlow Max=0.0 cfs @ 0.00 hrs HW=423.00' (Free Discharge)
5=Broad-Crested Rectangular Weir EMOF (Controls 0.0 cfs)



Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Summary for Link PRDP3: PRDP3

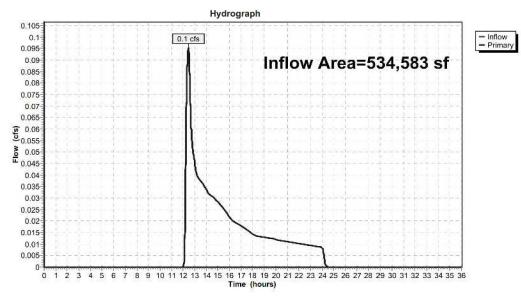
Inflow Area = 534,583 sf, 55.64% Impervious, Inflow Depth = 0.02" for 1 YR event

Inflow = 0.1 cfs @ 12.44 hrs, Volume= 915 cf

Primary = 0.1 cfs @ 12.44 hrs, Volume= 915 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP3: PRDP3



Type III 24-hr 1 YR Rainfall=2.80" Printed 6/23/2023

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Summary for Link PRDP4: PRDP4

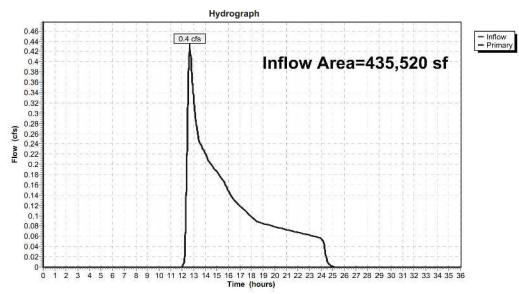
Inflow Area = 435,520 sf, 9.34% Impervious, Inflow Depth = 0.16" for 1 YR event

Inflow = 0.4 cfs @ 12.67 hrs, Volume= 5,631 cf

Primary = 0.4 cfs @ 12.67 hrs, Volume= 5,631 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP4: PRDP4



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Time span=0.00-36.00 hrs, dt=0.010 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PRWS3A: PRWS3A Runoff Area=51,628 sf 0.00% Impervious Runoff Depth=0.43"

Flow Length=301' Tc=12.6 min CN=58 Runoff=0.3 cfs 1,832 cf

Subcatchment PRWS3B: PRWS3B Runoff Area=37,829 sf 0.00% Impervious Runoff Depth=0.46"

Tc=6.0 min CN=59 Runoff=0.3 cfs 1,460 cf

Subcatchment PRWS3C: PRWS3C Runoff Area=10,818 sf 0.00% Impervious Runoff Depth=0.54"

Tc=6.0 min CN=61 Runoff=0.1 cfs 488 cf

Subcatchment PRWS3D: PRWS3D Runoff Area=434,308 sf 68.48% Impervious Runoff Depth=2.04"

Flow Length=1,574' Tc=6.0 min CN=86 Runoff=23.8 cfs 73,706 cf

Subcatchment PRWS4A: PRWS4A Runoff Area=358,086 sf 0.52% Impervious Runoff Depth=0.39"

Flow Length=631' Tc=26.4 min CN=57 Runoff=1.3 cfs 11,637 cf

Subcatchment PRWS4B: PRWS4B Runoff Area=77,434 sf 50.16% Impervious Runoff Depth=1.58"

Flow Length=150' Tc=6.0 min CN=80 Runoff=3.3 cfs 10,202 cf

Pond 1A-CS: 1A-CS1 Peak Elev=442.54' Inflow=23.8 cfs 73,706 cf

Primary=12.4 cfs 62,327 cf Secondary=11.4 cfs 11,379 cf Outflow=23.8 cfs 73,706 cf

Pond 1P: INFIL. BASIN B Peak Elev=488.36' Storage=1,980 cf Inflow=3.3 cfs 10,202 cf

Discarded=1.0 cfs 10,202 cf Primary=0.0 cfs 0 cf Secondary=0.0 cfs 0 cf Outflow=1.0 cfs 10,202 cf

Pond 4P: INFIL. BASIN A Peak Elev=437.17' Storage=38,816 cf Inflow=12.5 cfs 62,815 cf

Discarded=0.2 cfs 17,116 cf Primary=1.2 cfs 15,260 cf Secondary=0.0 cfs 0 cf Outflow=1.4 cfs 32,376 cf

Pond 5P: DET. POND Peak Elev=431.27' Storage=11,825 cf Inflow=11.7 cfs 28,099 cf

Primary=0.0 cfs 0 cf Secondary=1.0 cfs 19,110 cf Tertiary=0.0 cfs 0 cf Outflow=1.0 cfs 19,110 cf

Link PRDP3: PRDP3 Inflow=0.3 cfs 1,832 cf

Primary=0.3 cfs 1,832 cf

Link PRDP4: PRDP4 Inflow=2.0 cfs 30,747 cf

Primary=2.0 cfs 30,747 cf

Total Runoff Area = 970,103 sf Runoff Volume = 99,325 cf Average Runoff Depth = 1.23" 65.15% Pervious = 631,985 sf 34.85% Impervious = 338,118 sf

Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Summary for Subcatchment PRWS3A: PRWS3A

Runoff = 0.3 cfs @ 12.28 hrs, Volume= 1,832 cf, Depth= 0.43"

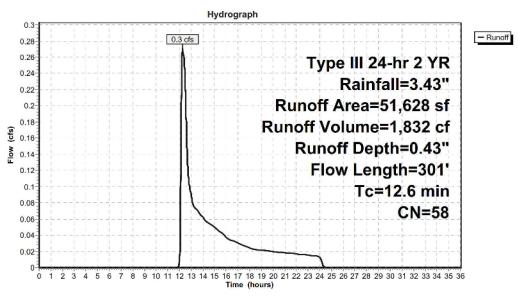
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 2 YR Rainfall=3.43"

	A	rea (sf)	CN D	escription					
*		23,286	61 >	51 >75% Grass cover, Good, HSG B					
		28,342	55 W	loods, Good	d, HSG B				
		51,628	58 W	eighted Av	erage				
		51,628	10	00.00% Per	vious Area				
	Tc	Length	Slope	Velocity	Capacity	Description			
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
	9.8	100	0.1300	0.17		Sheet Flow,			
						Woods: Light underbrush n= 0.400 P2= 3.43"			
	2.0	88	0.0220	0.74		Shallow Concentrated Flow,			
						Woodland Kv= 5.0 fps			
	8.0	113	0.2500	2.50		Shallow Concentrated Flow,			
						Woodland Kv= 5.0 fps			
	12.6	301	Total						

Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Subcatchment PRWS3A: PRWS3A



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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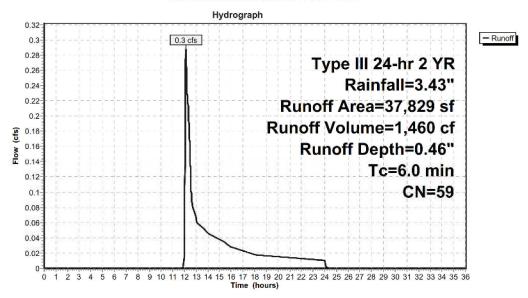
Summary for Subcatchment PRWS3B: PRWS3B

Runoff = 0.3 cfs @ 12.12 hrs, Volume= 1,460 cf, Depth= 0.46"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 2 YR Rainfall=3.43"

А	rea (sf)	CN	De	Description				
	24,721	61	>7	>75% Grass cover, Good, HSG B				
	13,108	55	W	Woods, Good, HSG B				
	37,829	59	We	Weighted Average				
	37,829		100.00% Pervious Area					
Tc	Length	Slop	e	Velocity	Capacity	Description		
(min)	(feet)	(ft/f	t)	(ft/sec)	(cfs)			
6.0						Direct Entry.		

Subcatchment PRWS3B: PRWS3B



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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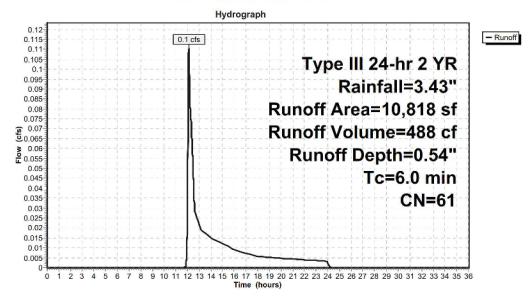
Summary for Subcatchment PRWS3C: PRWS3C

Runoff = 0.1 cfs @ 12.11 hrs, Volume= 488 cf, Depth= 0.54"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 2 YR Rainfall=3.43"

A	rea (sf)	CN D	escription			
	10,818	61 >75% Grass cover, Good, HSG B				
	10,818	318 100.00% Pervious Area				
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.0	,		, , ,	, ,	Direct Entry,	

Subcatchment PRWS3C: PRWS3C



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

June 23, 2023

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Summary for Subcatchment PRWS3D: PRWS3D

23.8 cfs @ 12.09 hrs, Volume= 73,706 cf, Depth= 2.04" Runoff

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 2 YR Rainfall=3.43"

Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

Aros (cf)	CN	Description
Area (sf)	CN 61	Description
127,331	61 98	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B Water Surface, HSG B
868 4,563	98	Roofs, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
5,466	98	Roofs, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,550	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
1,020	98	Paved parking, HSG B
185	98	Paved parking, HSG B
79	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
69	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
112	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
125	61	>75% Grass cover, Good, HSG B
4,560	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
133	61	>75% Grass cover, Good, HSG B

Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1.021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
120	61	>75% Grass cover, Good, HSG B
5,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
114	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
869	98	Paved parking, HSG B
194	98	Paved parking, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
5,584	98	Roofs, HSG B
4,563	98	Roofs, HSG B
4,563	98	Roofs, HSG B
150	61	>75% Grass cover, Good, HSG B
150	61	>75% Grass cover, Good, HSG B
2,867	98	Paved parking, HSG B
155	98	Paved parking, HSG B
155	98	Paved parking, HSG B
150	61	>75% Grass cover, Good, HSG B
2,859	98	Roofs, HSG B

Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

150 98 Paved parking, HSG B 150 98 Paved parking, HSG B 2,861 98 Roofs, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B 150 61 >75% Grass cover, Good, HSG B 150 61 >75% Grass cover, Good, HSG B 150 98 Roofs, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B			
153 61 >75% Grass cover, Good, HSG B 150 98 Paved parking, HSG B 150 98 Paved parking, HSG B 2,861 98 Roofs, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B 150 61 >75% Grass cover, Good, HSG B 150 61 >75% Grass cover, Good, HSG B 150 61 >75% Grass cover, Good, HSG B 150 98 Paved parking, HSG B 155 98 Paved parking, HSG B 159 98 Paved parking, HSG B 161 >75% Grass cover, Good, HSG B 17021 98 Paved parking, HSG B 1703 98 Paved parking, HSG B 1704 >75% Grass cover, Good, HSG B 1705 98 Paved parking, HSG B 1706 98 Paved parking, HSG B 1707 98 Paved parking, HSG B 1708 98 Paved parking, HSG B 1709 98 Paved parking, HSG B 1700 98 Paved parking, HSG B	150	98	Paved parking, HSG B
150 98 Paved parking, HSG B 150 98 Paved parking, HSG B 2,861 98 Roofs, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B 150 61 >75% Grass cover, Good, HSG B 150 61 >75% Grass cover, Good, HSG B 150 61 >75% Grass cover, Good, HSG B 150 98 Paved parking, HSG B 155 98 Paved parking, HSG B 159 61 >75% Grass cover, Good, HSG B 180 98 Paved parking, HSG B 190 10 >75% Grass cover, Good, HSG B 190 11 >75% Grass cover, Good, HSG B 191 10 10 >75% Grass cover, Good, HSG B 192 10 11 >75% Grass cover, Good, HSG B 193 185 185 185 185 185 185 185 185 185 185	155	98	
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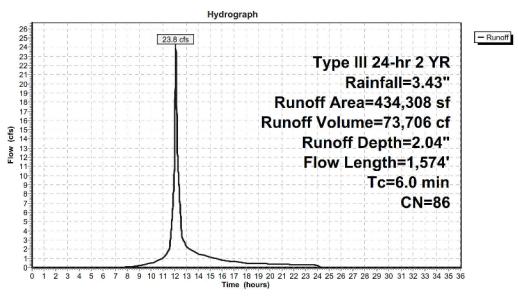
Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

	219	61	>75% Grass c	over, Good	, HSG B
	1,021	98	Paved parking	g, HSG B	
	4,563	98	Roofs, HSG B		
	869	98	Paved parking	g, HSG B	
	185	98	Paved parking	g, HSG B	
	4,563	98	Roofs, HSG B		
	219	61	>75% Grass c	over, Good	, HSG B
	219	61	>75% Grass c	over, Good	, HSG B
	4,563	98	Roofs, HSG B		
	85	61	>75% Grass c	over, Good	, HSG B
	185	98	Paved parking	g, HSG B	
	4,563	98	Roofs, HSG B		
	869	98	Paved parking		
	219	61	>75% Grass c		, HSG B
	1,021	98	Paved parking	g, HSG B	
	4,563	98	Roofs, HSG B		
	85	98	Paved parking	g, HSG B	
	185	98	Paved parking	g, HSG B	
	4,563	98	Roofs, HSG B		
	869	98	Roofs, HSG B		
	219	61	>75% Grass c	over, Good	, HSG B
	4,563	98	Roofs, HSG B		
	1,021	98	Paved parking	-	
	88	98	Paved parking		
	185	98	Paved parking	g, HSG B	
	4,563	98	Roofs, HSG B		
	869	98	Paved parking		
	219	61	>75% Grass c		
	1,021	61	>75% Grass c		, HSG B
	78,645	98	Paved parking		
	88	98	Paved parking	.	
	185	98	Paved parking	500	
	1,021	98	Paved parking		
	1,021	98	Paved parking	- 4	
1	1,021	98	Paved parking	g, HSG B	
	34,308	86	Weighted Ave	_	
	36,882		31.52% Pervi		
2	97,426		68.48% Impe	rvious Area	
-		CI.		0	Paradallar
Tc	Length	Slo		Capacity	Description
(min)	(feet)	(ft/	707 200 200	(cfs)	Discret Fortune
6.0	1,574		4.37		Direct Entry,

Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Subcatchment PRWS3D: PRWS3D



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Summary for Subcatchment PRWS4A: PRWS4A

Runoff = 1.3 cfs @ 12.55 hrs, Volume= 11,637 cf, Depth= 0.39"

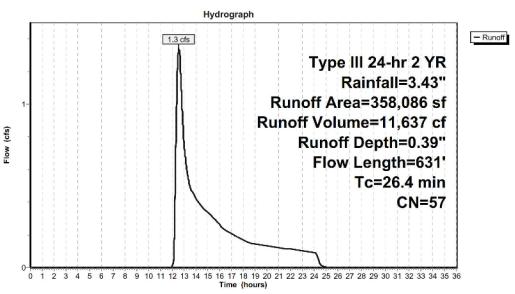
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 2 YR Rainfall=3.43"

A	rea (sf)	CN	Description		
2	45,712	55	Woods, Good	I, HSG B	
1	08,774	61	>75% Grass c	over, Good,	HSG B
	219	61	>75% Grass c	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass c	over, Good,	HSG B
	219	61	>75% Grass c	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass o	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass c	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass c	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass c	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	218	61	>75% Grass c	over, Good,	HSG B
	184	98	Paved parkin	g, HSG B	
	185	98	Paved parkin	g, HSG B	
3	58,086	57	Weighted Av	erage	
3	56,237		99.48% Pervi	ous Area	
	1,849		0.52% Imper	vious Area	
Tc	Length	Slop	e Velocity	Capacity	Description
(min)	(feet)	(ft/f	t) (ft/sec)	(cfs)	
10.6	100	0.015	0.16		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.43"
4.8	200	0.010	0.70		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
11.0	331	0.010	0.50		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
26.4	631	Total			

Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Subcatchment PRWS4A: PRWS4A



Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-PRDP3 PRDP4

Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Summary for Subcatchment PRWS4B: PRWS4B

Runoff = 3.3 cfs @ 12.09 hrs, Volume= 10,202 cf, Depth= 1.58"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 2 YR Rainfall=3.43"

Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

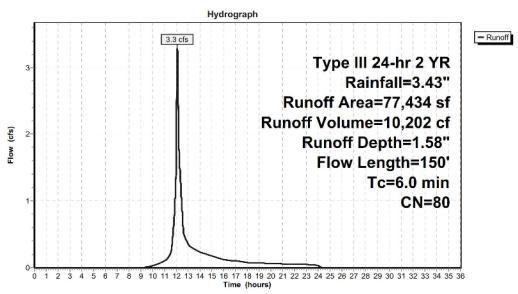
Area (sf)	CN	Description
1,971	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
869	98	Paved parking, HSG B
113	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
11,620	98	Paved parking, HSG B
185	98	Paved parking, HSG B
27,716	61	>75% Grass cover, Good, HSG B
3,214	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
868	98	Paved parking, HSG B
3,178	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
797	98	Water Surface, HSG B
2,405	98	Roofs, HSG B
428	61	>75% Grass cover, Good, HSG B
479	98	Paved parking, HSG B
1,888	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
77,434	80	Weighted Average
38,591		49.84% Pervious Area
38,843		50.16% Impervious Area

Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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	-		Velocity (ft/sec)	Capacity (cfs)	Description	
(mining	(icct)	(10)10)	(14)366)	(013)		
6.0	150		0.42		Direct Entry,	

Subcatchment PRWS4B: PRWS4B



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Summary for Pond 1A-CS: 1A-CS1

Inflow Area =	434,308 sf, 68.48% Impervious	, Inflow Depth = 2.04" for 2 YR event
Inflow =	23.8 cfs @ 12.09 hrs, Volume=	73,706 cf
Outflow =	23.8 cfs @ 12.09 hrs, Volume=	73,706 cf, Atten= 0%, Lag= 0.0 min
Primary =	12.4 cfs @ 12.09 hrs, Volume=	62,327 cf
Secondary =	11.4 cfs @ 12.09 hrs, Volume=	11,379 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 442.54' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices	
#1	Primary	434.90'	15.0" Round 15"Ø Culvert to Infil. Basin A	
			L= 27.8' CPP, projecting, no headwall, Ke= 0.900	
			Outlet Invert= 434.80' S= 0.0036 '/' Cc= 0.900 n= 0.013	
#2	Secondary	435.90'	15.0" Round 15"Ø Culvert to Det. Basin	
			L= 22.8' CPP, projecting, no headwall, Ke= 0.900	
			Outlet Invert= 435.60' S= 0.0132 '/' Cc= 0.900 n= 0.013	
#3	Device 2	437.00'	5.0' long x 0.5' breadth Broad-Crested Rectangular Weir	
			Head (feet) 0.20 0.40 0.60 0.80 1.00	
			Coef. (English) 2.80 2.92 3.08 3.30 3.32	

Primary OutFlow Max=12.3 cfs @ 12.09 hrs HW=442.52' (Free Discharge) 1=15" Culvert to Infil. Basin A (Inlet Controls 12.3 cfs @ 10.05 fps)

Secondary OutFlow Max=11.4 cfs @ 12.09 hrs HW=442.52' (Free Discharge)

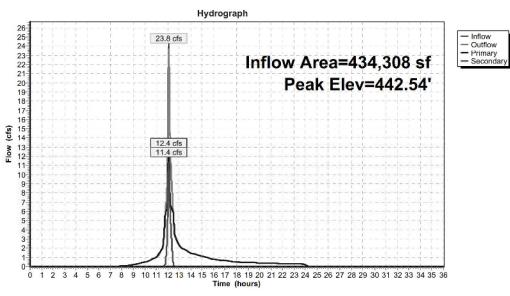
2=15"Ø Culvert to Det. Basin (Inlet Controls 11.4 cfs @ 9.31 fps)

3=Broad-Crested Rectangular Weir (Passes 11.4 cfs of 215.4 cfs potential flow)

Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Pond 1A-CS: 1A-CS1



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Summary for Pond 1P: INFIL. BASIN B

Inflow Area =	77,434 sf, 50.16% Impervious,	Inflow Depth = 1.58" for 2 YR event
Inflow =	3.3 cfs @ 12.09 hrs, Volume=	10,202 cf
Outflow =	1.0 cfs @ 12.44 hrs, Volume=	10,202 cf, Atten= 68%, Lag= 20.8 min
Discarded =	1.0 cfs @ 12.44 hrs, Volume=	10,202 cf
Primary =	0.0 cfs @ 0.00 hrs, Volume=	0 cf
Secondary =	0.0 cfs @ 0.00 hrs, Volume=	0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 488.36' @ 12.44 hrs Surf.Area= 4,484 sf Storage= 1,980 cf

Plug-Flow detention time= 11.3 min calculated for 10,199 cf (100% of inflow)

Center-of-Mass det. time= 11.3 min (850.6 - 839.2)

Volume	Invert	Avail.Sto	orage Storag	e Description	
#1	487.80'	24,7	56 cf Custor	m Stage Data (Pri	ismatic) Listed below (Recalc)
Elevation	on Su	ırf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
487.8	30	0	0	0	
488.0	00	4,141	414	414	
490.0	00	6,029	10,170	10,584	
492.0	00	8,143	14,172	24,756	
Device	Routing	Invert	Outlet Device	es	
#1	Discarded	487.80'	10.000 in/hr	Exfiltration over	Surface area
#2	Primary	487.00'	15.0" Round	d 15" Culvert	
			L= 25.7' CPI	P, square edge he	eadwall, Ke= 0.500
			Outlet Invert	t= 483.20' S= 0.1	479 '/' Cc= 0.900 n= 0.013
#3	Device 2	489.00'	6.0" Vert. O	rifice C= 0.600	
#4	Device 2	490.50'	36.0" x 42.0'	" Horiz. Grate C	C= 0.600 Limited to weir flow at low heads
#5	Secondary	491.50'	5.0' long x 0	.5' breadth Broad	d-Crested Rectangular Weir
			Head (feet)	0.20 0.40 0.60 0	0.80 1.00
			Coef. (Englis	h) 2.80 2.92 3.0	8 3.30 3.32

Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Discarded OutFlow Max=1.0 cfs @ 12.44 hrs HW=488.36' (Free Discharge) 1=Exfiltration (Exfiltration Controls 1.0 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=487.80' (Free Discharge)

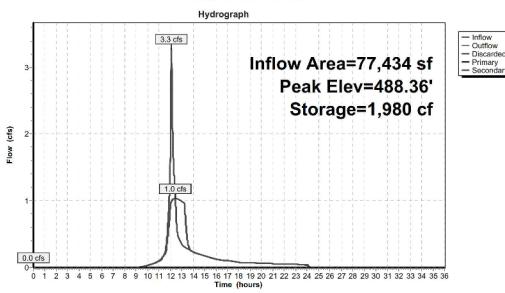
2=15" Culvert (Passes 0.0 cfs of 2.5 cfs potential flow)

3=Orifice (Controls 0.0 cfs)

4=Grate (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=487.80' (Free Discharge) **5=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond 1P: INFIL. BASIN B



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Summary for Pond 4P: INFIL. BASIN A

Inflow Area =	445,126 sf, 66.82% Impervious,	Inflow Depth = 1.69" for 2 YR event
Inflow =	12.5 cfs @ 12.09 hrs, Volume=	62,815 cf
Outflow =	1.4 cfs @ 14.10 hrs, Volume=	32,376 cf, Atten= 88%, Lag= 120.6 min
Discarded =	0.2 cfs @ 14.10 hrs, Volume=	17,116 cf
Primary =	1.2 cfs @ 14.10 hrs, Volume=	15,260 cf
Secondary =	0.0 cfs @ 0.00 hrs, Volume=	0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 437.17' @ 14.10 hrs Surf.Area= 8,462 sf Storage= 38,816 cf

Plug-Flow detention time= 498.7 min calculated for 32,367 cf (52% of inflow)

Center-of-Mass det. time= 368.7 min (1,205.6 - 836.9)

Volume	Invert	Avail.Sto	orage Sto	rage Desc	ription	
#1	429.50	61,3	78 cf Cu	tom Stag	e Data (Pri	ismatic) Listed below (Recalc)
Elevation		ırf.Area	Inc.Sto		Cum.Store	
(fee	et)	(sq-ft)	(cubic-fee	t) (c	ubic-feet)	
429.	50	0		0	0	
430.0	00	2,658	66	55	665	
432.0	00	3,978	6,63	6	7,301	
434.0	00	5,524	9,50	12	16,803	
436.0	00	7,296	12,82	.0	29,623	
438.0	00	9,294	16,59	0	46,213	
439.0	00	10,378	9,83	6	56,049	
439.5	50	10,941	5,33	0	61,378	
Device	Routing	Invert	Outlet De	vices		
#1	Discarded	429.50'	1.000 in/hr Exfiltration over Surface area			
#2	Primary	432.00'	18.0" Round 18" Culvert			
			L= 59.7'	CMP, squ	are edge h	eadwall, Ke= 0.500
			Outlet In	vert= 431.	00' S= 0.0	0168 '/' Cc= 0.900
			n = 0.020	Corrugate	ed PE, corr	ugated interior
#3	Device 2	437.10'	60.0" x 48.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads			
#4	Secondary	439.25'	5.0' long x 0.5' breadth Broad-Crested Rectangular Weir			
			Head (feet) 0.20 0.40 0.60 0.80 1.00			
	Coef. (English) 2.80 2.92 3.08 3.30 3.32					

Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

InflowOutflowDiscarded

- Primary

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Discarded OutFlow Max=0.2 cfs @ 14.10 hrs HW=437.17' (Free Discharge) 1=Exfiltration (Exfiltration Controls 0.2 cfs)

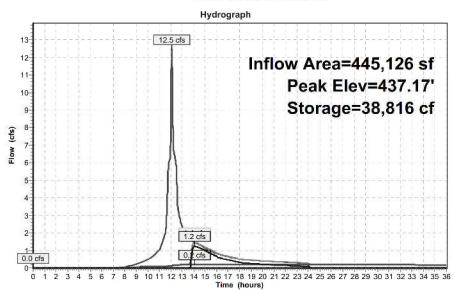
Primary OutFlow Max=1.0 cfs @ 14.10 hrs HW=437.17' (Free Discharge)

2=18" Culvert (Passes 1.0 cfs of 15.2 cfs potential flow)

3=Grate (Weir Controls 1.0 cfs @ 0.85 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=429.50' (Free Discharge) 4=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond 4P: INFIL. BASIN A



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Summary for Pond 5P: DET. POND

Inflow Area =	482,955 sf, 61.58% Impervious,	Inflow Depth = 0.70" for 2 YR event
Inflow =	11.7 cfs @ 12.09 hrs, Volume=	28,099 cf
Outflow =	1.0 cfs @ 14.97 hrs, Volume=	19,110 cf, Atten= 91%, Lag= 173.1 min
Primary =	0.0 cfs @ 0.00 hrs, Volume=	0 cf
Secondary =	1.0 cfs @ 14.97 hrs, Volume=	19,110 cf
Tertiary =	0.0 cfs @ 0.00 hrs, Volume=	0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 431.27' @ 14.97 hrs Surf.Area= 5,754 sf Storage= 11,825 cf

Plug-Flow detention time= 244.0 min calculated for 19,104 cf (68% of inflow)

Center-of-Mass det. time= 141.6 min (1,028.1 - 886.5)

Volume	Inver	t Avail.Ste	rage Storage Description		
#1	423.00	93,9	23 cf Custo	om Stage Data (Prismatic) Listed below (Recalc)	
Elevation	100	urf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
423.0		0	0	0	
424.0	00	25	13	13	
426.0	00	76	101	114	
427.0	00	92	84	198	
428.0	00	780	436	634	
430.0	00	4,121	4,901	5,535	
432.0	00	6,685	10,806	16,341	
434.0	00	9,650	16,335	32,676	
436.0	00	13,018	22,668	55,344	
438.0	00	16,788	29,806	85,150	
438.5	50	18,305	8,773	93,923	
Device	Routing	Invert	Outlet Device	ces	
#1	Primary	431.50'	24.0" Round 24"Ø Culvert		
			L= 40.8' CN	MP, square edge headwall, Ke= 0.500	
			Outlet Inver	rt= 429.75' S= 0.0429 '/' Cc= 0.900	
			n= 0.020 Cd	orrugated PE, corrugated interior	
#2	Device 1	432.00'	12.0" Vert. 12"Ø Orifice C= 0.600		
#3	Secondary	430.75'	12.0" Round 12"Ø Culvert		
			L= 186.0' C	CMP, square edge headwall, Ke= 0.500	
			Outlet Inver	rt= 422.00' S= 0.0470 '/' Cc= 0.900	
			n= 0.013 Co	orrugated PE, smooth interior	
#4	Device 1	437.60'	24.0" x 36.0	"Horiz. Grate C= 0.600 Limited to weir flow at low heads	

Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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#5 Tertiary 438.00' 5.0' long x 0.5' breadth Broad-Crested Rectangular Weir EMOF

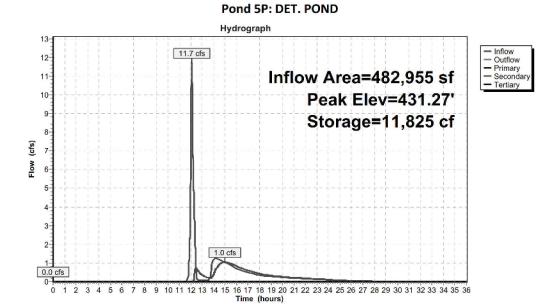
Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=423.00' (Free Discharge) 1=24"Ø Culvert (Controls 0.0 cfs)

2=12"Ø Orifice (Controls 0.0 cfs) 4=Grate (Controls 0.0 cfs)

Secondary OutFlow Max=1.0 cfs @ 14.97 hrs HW=431.27' (Free Discharge)
-3=12"Ø Culvert (Inlet Controls 1.0 cfs @ 2.46 fps)

Tertiary OutFlow Max=0.0 cfs @ 0.00 hrs HW=423.00' (Free Discharge) 5=Broad-Crested Rectangular Weir EMOF (Controls 0.0 cfs)



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Summary for Link PRDP3: PRDP3

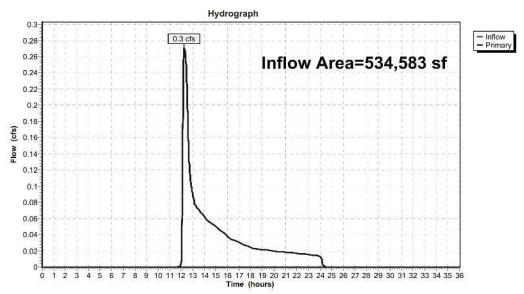
Inflow Area = 534,583 sf, 55.64% Impervious, Inflow Depth = 0.04" for 2 YR event

Inflow = 0.3 cfs @ 12.28 hrs, Volume= 1,832 cf

Primary = 0.3 cfs @ 12.28 hrs, Volume= 1,832 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP3: PRDP3



Type III 24-hr 2 YR Rainfall=3.43" Printed 6/23/2023

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Summary for Link PRDP4: PRDP4

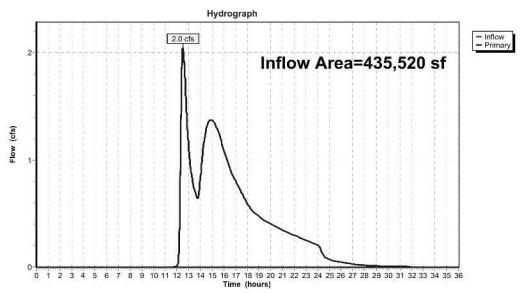
Inflow Area = 435,520 sf, 9.34% Impervious, Inflow Depth > 0.85" for 2 YR event

Inflow = 2.0 cfs @ 12.50 hrs, Volume= 30,747 cf

Primary = 2.0 cfs @ 12.50 hrs, Volume= 30,747 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP4: PRDP4



Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Time span=0.00-36.00 hrs, dt=0.010 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PRWS3A: PRWS3A Runoff Area=51,628 sf 0.00% Impervious Runoff Depth=0.81"

Flow Length=301' Tc=12.6 min CN=58 Runoff=0.7 cfs 3,487 cf

Subcatchment PRWS3B: PRWS3B Runoff Area=37,829 sf 0.00% Impervious Runoff Depth=0.86"

Tc=6.0 min CN=59 Runoff=0.7 cfs 2,724 cf

Subcatchment PRWS3C: PRWS3C Runoff Area=10,818 sf 0.00% Impervious Runoff Depth=0.97"

Tc=6.0 min CN=61 Runoff=0.2 cfs 879 cf

Subcatchment PRWS3D: PRWS3D Runoff Area=434,308 sf 68.48% Impervious Runoff Depth=2.83"

Flow Length=1,574' Tc=6.0 min CN=86 Runoff=32.8 cfs 102,377 cf

Subcatchment PRWS4A: PRWS4A Runoff Area=358,086 sf 0.52% Impervious Runoff Depth=0.76"

Flow Length=631' Tc=26.4 min CN=57 Runoff=3.4 cfs 22,634 cf

Subcatchment PRWS4B: PRWS4B Runoff Area=77,434 sf 50.16% Impervious Runoff Depth=2.30"

Flow Length=150' Tc=6.0 min CN=80 Runoff=4.8 cfs 14,845 cf

Pond 1A-CS: 1A-CS1 Peak Elev=448.41' Inflow=32.8 cfs 102,377 cf

Primary=16.7 cfs 83,285 cf Secondary=16.1 cfs 19,093 cf Outflow=32.8 cfs 102,377 cf

Pond 1P: INFIL. BASIN B Peak Elev=488.74' Storage=3,740 cf Inflow=4.8 cfs 14,845 cf

Discarded=1.1 cfs 14,845 cf Primary=0.0 cfs 0 cf Secondary=0.0 cfs 0 cf Outflow=1.1 cfs 14,845 cf

Pond 4P: INFIL. BASIN A Peak Elev=437.27' Storage=39,677 cf Inflow=17.0 cfs 84,164 cf

Discarded=0.2 cfs 17,592 cf Primary=4.2 cfs 36,110 cf Secondary=0.0 cfs 0 cf Outflow=4.4 cfs 53,702 cf

Pond 5P: DET. POND Peak Elev=432.09' Storage=16,946 cf Inflow=16.8 cfs 57,926 cf

Primary=0.1 cfs 88 cf Secondary=3.5 cfs 48,848 cf Tertiary=0.0 cfs 0 cf Outflow=3.5 cfs 48,936 cf

Link PRDP3: PRDP3 Inflow=0.7 cfs 3,575 cf

Primary=0.7 cfs 3,575 cf

Link PRDP4: PRDP4 Inflow=6.7 cfs 71,483 cf

Primary=6.7 cfs 71,483 cf

Total Runoff Area = 970,103 sf Runoff Volume = 146,947 cf Average Runoff Depth = 1.82" 65.15% Pervious = 631,985 sf 34.85% Impervious = 338,118 sf

Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Summary for Subcatchment PRWS3A: PRWS3A

Runoff = 0.7 cfs @ 12.21 hrs, Volume= 3,487 cf, Depth= 0.81"

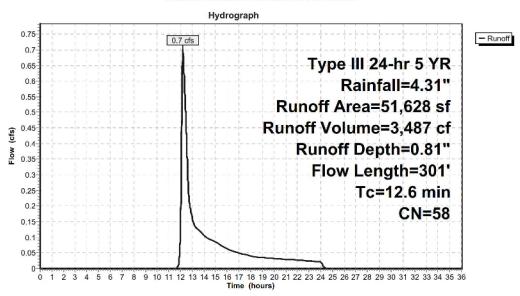
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 5 YR Rainfall=4.31"

	А	rea (sf)	CN D	escription		
*		23,286	61 >	75% Grass o	over, Good	, HSG B
		28,342	55 V	loods, Good	d, HSG B	
		51,628	58 W	eighted Av	erage	
		51,628	1	00.00% Pen	vious Area	
	Tc	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	9.8	100	0.1300	0.17		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 3.43"
	2.0	88	0.0220	0.74		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	0.8	113	0.2500	2.50		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	12.6	301	Total			

Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Subcatchment PRWS3A: PRWS3A



Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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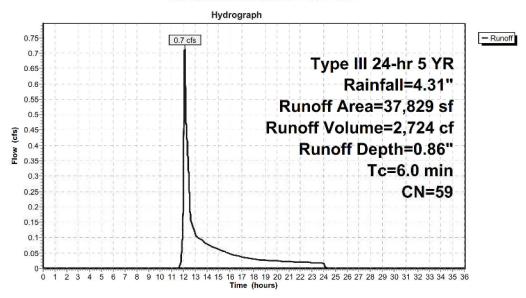
Summary for Subcatchment PRWS3B: PRWS3B

Runoff = 0.7 cfs @ 12.11 hrs, Volume= 2,724 cf, Depth= 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 5 YR Rainfall=4.31"

Α	rea (sf)	CN	De	escription		
	24,721	61	>7	'5% Grass c	over, Good	I, HSG B
	13,108	55	W	oods, Good	l, HSG B	
	37,829	59	W	eighted Av	erage	
	37,829		10	0.00% Perv	vious Area	
Tc	Length	Slo	pe	Velocity	Capacity	Description
(min)	(feet)	(ft/	ft)	(ft/sec)	(cfs)	
6.0						Direct Entry.

Subcatchment PRWS3B: PRWS3B



Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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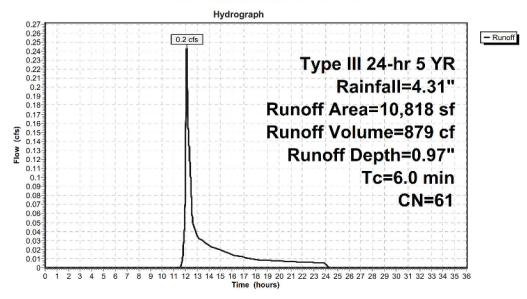
Summary for Subcatchment PRWS3C: PRWS3C

Runoff = 0.2 cfs @ 12.10 hrs, Volume= 879 cf, Depth= 0.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 5 YR Rainfall=4.31"

·	Area (sf)	CN D	CN Description					
	10,818	61 >	61 >75% Grass cover, Good, HSG B					
	10,818	1	00.00% Per	vious Area				
	Length		Velocity	Capacity				
<u>(min</u>) (feet)	(ft/ft)	(ft/sec)	(cfs)				
6.0)				Direct Entry,			

Subcatchment PRWS3C: PRWS3C



Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-PRDP3 PRDP4

Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Summary for Subcatchment PRWS3D: PRWS3D

Runoff = 32.8 cfs @ 12.09 hrs, Volume= 102,377 cf, Depth= 2.83"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 5 YR Rainfall=4.31"

Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Area (sf)	CN	Description
127,331	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
868	98	Water Surface, HSG B
4,563	98	Roofs, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
5,466	98	Roofs, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,550	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
1,020	98	Paved parking, HSG B
185	98	Paved parking, HSG B
79	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
69	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
112	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
125	61	>75% Grass cover, Good, HSG B
4,560	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
133	61	>75% Grass cover, Good, HSG B

Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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240 64	75% 6
219 61	>75% Grass cover, Good, HSG B
4,563 98	Roofs, HSG B
1,021 98	Paved parking, HSG B
185 98	Paved parking, HSG B
120 61	>75% Grass cover, Good, HSG B
5,563 98	Roofs, HSG B
219 61	>75% Grass cover, Good, HSG B
185 98	Paved parking, HSG B
219 61	>75% Grass cover, Good, HSG B
4,563 98	Roofs, HSG B
1,021 98	Paved parking, HSG B
114 61	>75% Grass cover, Good, HSG B
219 61	>75% Grass cover, Good, HSG B
185 98	Paved parking, HSG B
869 98	Paved parking, HSG B
194 98	Paved parking, HSG B
185 98	Paved parking, HSG B
185 98	Paved parking, HSG B
219 61	>75% Grass cover, Good, HSG B
4,563 98	Roofs, HSG B
1,021 98	Paved parking, HSG B
1,021 98	Paved parking, HSG B
4,563 98	Roofs, HSG B
219 61	>75% Grass cover, Good, HSG B
185 98	Paved parking, HSG B
1,021 98	Paved parking, HSG B
4,563 98	Roofs, HSG B
185 98	Paved parking, HSG B
219 61	>75% Grass cover, Good, HSG B
219 61	>75% Grass cover, Good, HSG B
185 98	Paved parking, HSG B
1,021 98	Paved parking, HSG B
185 98	Paved parking, HSG B
219 61	>75% Grass cover, Good, HSG B
5,584 98	Roofs, HSG B
4,563 98	Roofs, HSG B
4,563 98	Roofs, HSG B
150 61	>75% Grass cover, Good, HSG B
150 61	>75% Grass cover, Good, HSG B
2,867 98	Paved parking, HSG B
155 98	Paved parking, HSG B
155 98	Paved parking, HSG B
150 61	

2,859 98 Roofs, HSG B

Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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150	98	Paved parking, HSG B
155	98	Paved parking, HSG B
153	61	>75% Grass cover, Good, HSG B
150	98	Paved parking, HSG B
150	98	Paved parking, HSG B
2,861	98	Roofs, HSG B
155	98	Paved parking, HSG B
155	98	Paved parking, HSG B
150	61	>75% Grass cover, Good, HSG B
150	61	>75% Grass cover, Good, HSG B
2,861	98	Roofs, HSG B
155	98	Paved parking, HSG B
155	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
5,432	98	Roofs, HSG B
185	98	Paved parking, HSG B
220	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B

Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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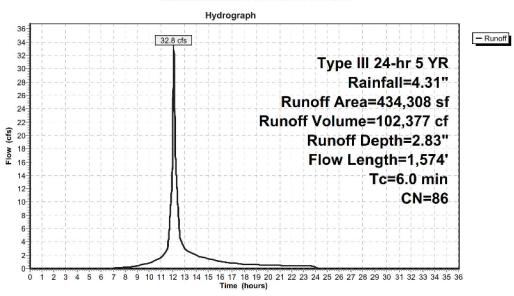
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219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
85	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
85	98	Paved parking, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
88	98	Paved parking, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	61	>75% Grass cover, Good, HSG B
78,645	98	Paved parking, HSG B
88	98	Paved parking, HSG B
185	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
434,308	86	Weighted Average
136,882		31.52% Pervious Area
297,426		68.48% Impervious Area
Tc Length	Slo	ppe Velocity Capacity Description
(min) (feet)		/ft) (ft/sec) (cfs)
6.0 1,574		4.37 Direct Entry,

Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Subcatchment PRWS3D: PRWS3D



Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Summary for Subcatchment PRWS4A: PRWS4A

Runoff = 3.4 cfs @ 12.47 hrs, Volume= 22,634 cf, Depth= 0.76"

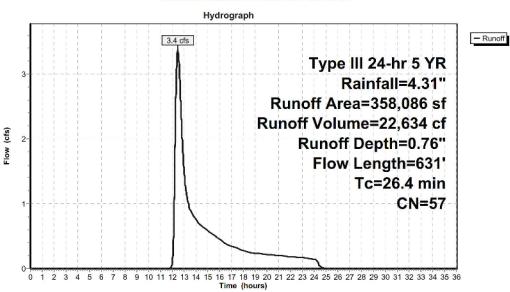
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 5 YR Rainfall=4.31"

245,712 55 Woods, Good, HSG B 108,774 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 218 98 Paved parking, HSG B 218 61 >75% Grass cover, Good, HSG B 218 61 >75% Grass cover, Good, HSG B 218 61 >75% Grass cover, Good, HSG B 218 62 358,086 57 Weighted Average 356,237 99.48% Pervious Area 0.52% Impervious Area TC Length (ft/ft) (ft/sec) (cfs) TC Length (feet) Slope Velocity Capacity (ft/sec) (cfs) 10.6 100 0.0150 0.16 Sheet Flow, Grass: Short n = 0.150 P2= 3.43" Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps Shallow Concentrated Flow,	A	rea (sf)	CN	Description		
219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 218 61 >75% Grass cover, Good, HSG B 358,086 57 Weighted Average 356,237 99.48% Pervious Area 1,849 0.52% Impervious Area 1,849 0.510 0.16 Sheet Flow, Grass: Short n = 0.150 P2 = 3.43" Shallow Concentrated Flow, Short Grass Pasture Kv = 7.0 fps	2	45,712	55	Woods, Good	d, HSG B	
185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 218 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 218 61 >75% Grass cover, Good, HSG B 358,086 57 Weighted Average 356,237 99.48% Pervious Area TC Length Slope Velocity Capacity Obscription (min) (feet) (ft/ft) (ft/sec) (cfs) To Length Grass Short n=0.150 P2=3.43" Shallow Concentrated Flow, Short Grass Pasture Kv=7.0 fps	1	08,774	61	>75% Grass of	over, Good,	HSG B
185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 218 61 >75% Grass cover, Good, HSG B 184 98 Paved parking, HSG B 185 98 Paved parking, HSG B 184 98 Paved parking, HSG B 185 98 Paved parking, HSG B 186 98 Paved parking, HSG B 187 99.48% Pervious Area 1,849 0.52% Impervious Area Tc Length (ft/ft) (ft/sec) (cfs) Tc Length (ft/ft) (ft/sec) (cfs) 10.6 100 0.0150 0.16 Sheet Flow, Grass: Short n= 0.150 P2= 3.43" Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps		219	61	>75% Grass of	over, Good,	HSG B
219 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 218 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 210 61 >75% Grass cover, Good, HSG B 2110 61 >75% Grass cover, Good, HS		185	98	Paved parkin	g, HSG B	
219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 218 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass Cover, Good, HSG B 2		185	98	Paved parkin	g, HSG B	
185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 218 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass Cover, Good		219	61	>75% Grass of	over, Good,	HSG B
185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 218 61 >75% Grass cover, Good, HSG B 218 61 >75% Grass cover, Good, HSG B 218 61 >75% Grass cover, Good, HSG B 358,086 57 Weighted Average 356,237 99.48% Pervious Area 1,849 0.52% Impervious Area TC Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs) 10.6 100 0.0150 0.16 Sheet Flow, Grass: Short n=0.150 P2=3.43" Shallow Concentrated Flow, Short Grass Pasture Kv=7.0 fps		219	61	>75% Grass of	over, Good,	HSG B
219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 218 61 >75% Grass cover, Good, HSG B 218 61 >75% Grass cover, Good, HSG B 184 98 Paved parking, HSG B 185 98 Paved parking, HSG B 358,086 57 Weighted Average 356,237 99.48% Pervious Area 1,849 0.52% Impervious Area Tc Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs) 10.6 100 0.0150 0.16 Sheet Flow, Grass: Short n=0.150 P2=3.43" 4.8 200 0.0100 0.70 Shallow Concentrated Flow, Short Grass Pasture Kv=7.0 fps		185	98	Paved parkin	g, HSG B	
185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 218 61 >75% Grass cover, Good, HSG B 184 98 Paved parking, HSG B 185 98 Paved parking, HSG B 358,086 57 Weighted Average 356,237 99.48% Pervious Area 1,849 0.52% Impervious Area Tc Length (min) (feet) (ft/ft) (ft/sec) (cfs) Description 10.6 100 0.0150 0.16 Sheet Flow, Grass: Short n= 0.150 P2= 3.43" 4.8 200 0.0100 0.70 Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps		185	98	Paved parkin	g, HSG B	
219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 218 61 >75% Grass cover, Good, HSG B 184 98 Paved parking, HSG B 185 98 Paved parking, HSG B 358,086 57 Weighted Average 356,237 99.48% Pervious Area Tc Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs) 10.6 100 0.0150 0.16 Sheet Flow, Grass: Short n=0.150 P2= 3.43" 4.8 200 0.0100 0.70 Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps		219	61	>75% Grass of	over, Good,	HSG B
185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 218 61 >75% Grass cover, Good, HSG B 184 98 Paved parking, HSG B 185 98 Paved parking, HSG B 358,086 57 Weighted Average 356,237 99.48% Pervious Area Tc Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs) 10.6 100 0.0150 0.16 Sheet Flow, Grass: Short n= 0.150 P2= 3.43" 4.8 200 0.0100 0.70 Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps		185	98	Paved parkin	g, HSG B	
219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 218 61 >75% Grass cover, Good, HSG B 184 98 Paved parking, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 358,086 57 Weighted Average 356,237 99.48% Pervious Area 1,849 0.52% Impervious Area Tc Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs) 10.6 100 0.0150 0.16 Sheet Flow, Grass: Short n= 0.150 P2= 3.43" 4.8 200 0.0100 0.70 Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps		219	61	>75% Grass o	over, Good,	HSG B
185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 218 61 >75% Grass cover, Good, HSG B 218 61 >75% Grass cover, Good, HSG B 184 98 Paved parking, HSG B 185 98 Paved parking, HSG B 358,086 57 Weighted Average 356,237 99.48% Pervious Area 1,849 0.52% Impervious Area Tc Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs) 10.6 100 0.0150 0.16 Sheet Flow, Grass: Short n= 0.150 P2= 3.43" 4.8 200 0.0100 0.70 Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps		185	98	Paved parkin	g, HSG B	
219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 218 61 >75% Grass cover, Good, HSG B 184 98 Paved parking, HSG B 185 98 Paved parking, HSG B 358,086 57 Weighted Average 356,237 99.48% Pervious Area 1,849 0.52% Impervious Area Tc Length Slope Velocity Capacity (cfs) 10.6 100 0.0150 0.16 Sheet Flow, Grass: Short n= 0.150 P2= 3.43" 4.8 200 0.0100 0.70 Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps		219	61	>75% Grass of	over, Good,	HSG B
185 98 Paved parking, HSG B 218 61 >75% Grass cover, Good, HSG B 184 98 Paved parking, HSG B 185 98 Paved parking, HSG B 358,086 57 Weighted Average 356,237 99.48% Pervious Area 1,849 0.52% Impervious Area Tc Length Slope Velocity Capacity (cfs) To Length (ft/ft) (ft/sec) (cfs) 10.6 100 0.0150 0.16 Sheet Flow, Grass: Short n= 0.150 P2= 3.43" 4.8 200 0.0100 0.70 Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps		185	98	Paved parkin	g, HSG B	
218 61 >75% Grass cover, Good, HSG B 184 98 Paved parking, HSG B 185 98 Paved parking, HSG B 358,086 57 Weighted Average 356,237 99.48% Pervious Area 1,849 0.52% Impervious Area Tc Length Slope Velocity Capacity (cfs) To length (ft/ft) (ft/sec) (cfs) 10.6 100 0.0150 0.16 Sheet Flow, Grass: Short n= 0.150 P2= 3.43" 4.8 200 0.0100 0.70 Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps		219	61	>75% Grass of	over, Good,	HSG B
184 98 Paved parking, HSG B 185 98 Paved parking, HSG B 358,086 57 Weighted Average 356,237 99.48% Pervious Area 1,849 0.52% Impervious Area Tc Length Slope Velocity Capacity (min) (feet) (ft/ft) (ft/sec) (cfs) 10.6 100 0.0150 0.16 Sheet Flow, Grass: Short n= 0.150 P2= 3.43" 4.8 200 0.0100 0.70 Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps		185	98	Paved parkin	g, HSG B	
185 98 Paved parking, HSG B 358,086 57 Weighted Average 356,237 99.48% Pervious Area 1,849 0.52% Impervious Area Tc Length Slope Velocity Capacity (min) (feet) (ft/ft) (ft/sec) (cfs) 10.6 100 0.0150 0.16 Sheet Flow, Grass: Short n= 0.150 P2= 3.43" 4.8 200 0.0100 0.70 Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps		218	61	>75% Grass of	over, Good,	HSG B
358,086 57 Weighted Average 356,237 99.48% Pervious Area 1,849 0.52% Impervious Area Tc Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs) 10.6 100 0.0150 0.16 Sheet Flow, Grass: Short n= 0.150 P2= 3.43" 4.8 200 0.0100 0.70 Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps		184	98	Paved parkin	g, HSG B	
356,237 99.48% Pervious Area 1,849 0.52% Impervious Area Tc Length Slope Velocity Capacity Description (min) (feet) (ft/ft) (ft/sec) (cfs) 10.6 100 0.0150 0.16 Sheet Flow, Grass: Short n = 0.150 P2 = 3.43" 4.8 200 0.0100 0.70 Shallow Concentrated Flow, Short Grass Pasture Kv = 7.0 fps		185	98	Paved parkin	g, HSG B	
1,849 0.52% Impervious Area Tc (min) Length (feet) Slope (ft/ft) Capacity (ft/sec) Description 10.6 100 0.0150 0.16 Sheet Flow, Grass: Short n= 0.150 P2= 3.43" 4.8 200 0.0100 0.70 Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps	3	58,086	57	Weighted Av	erage	
Tc (min) Length (feet) Slope (ft/ft) Velocity (ft/sec) Description (cfs) 10.6 100 0.0150 0.16 Sheet Flow, Grass: Short n= 0.150 P2= 3.43" 4.8 200 0.0100 0.70 Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps	3	56,237		99.48% Pervi	ous Area	
(min) (feet) (ft/ft) (ft/sec) (cfs) 10.6 100 0.0150 0.16 Sheet Flow,		1,849		0.52% Imper	vious Area	
(min) (feet) (ft/ft) (ft/sec) (cfs) 10.6 100 0.0150 0.16 Sheet Flow,						
10.6 100 0.0150 0.16 Sheet Flow, Grass: Short n= 0.150 P2= 3.43" 4.8 200 0.0100 0.70 Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps	Tc	Length	Slop	e Velocity	Capacity	Description
Grass: Short n= 0.150 P2= 3.43" 4.8 200 0.0100 0.70 Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps	(min)	(feet)	(ft/f	t) (ft/sec)	(cfs)	
4.8 200 0.0100 0.70 Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps	10.6	100	0.015	0.16		Sheet Flow,
Short Grass Pasture Kv= 7.0 fps						Grass: Short n= 0.150 P2= 3.43"
CONTRACTOR OF CONTRACTOR AND CONTRACTOR OF A CONTRACTOR OF THE CON	4.8	200	0.010	0.70		Shallow Concentrated Flow,
11.0 331 0.0100 0.50 Shallow Concentrated Flow,						Short Grass Pasture Kv= 7.0 fps
	11.0	331	0.010	0.50		
Woodland Kv= 5.0 fps						Woodland Kv= 5.0 fps
26.4 631 Total	26.4	631	Total			

Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Subcatchment PRWS4A: PRWS4A



Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-PRDP3 PRDP4

Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Summary for Subcatchment PRWS4B: PRWS4B

Runoff = 4.8 cfs @ 12.09 hrs, Volume= 14,845 cf, Depth= 2.30"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 5 YR Rainfall=4.31"

Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

Prepared by Alfonzetti Engineering, P.C.

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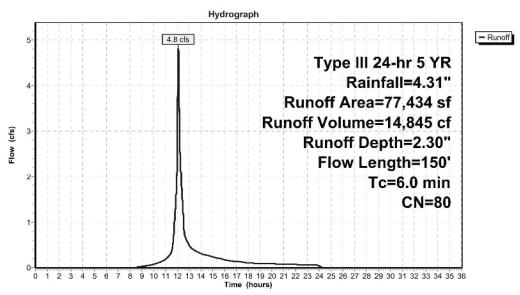
Area (sf)	CN	Description
1,971	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
869	98	Paved parking, HSG B
113	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
11,620	98	Paved parking, HSG B
185	98	Paved parking, HSG B
27,716	61	>75% Grass cover, Good, HSG B
3,214	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
868	98	Paved parking, HSG B
3,178	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
797	98	Water Surface, HSG B
2,405	98	Roofs, HSG B
428	61	>75% Grass cover, Good, HSG B
479	98	Paved parking, HSG B
1,888	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
77,434	80	Weighted Average
38,591		49.84% Pervious Area
38,843		50.16% Impervious Area

Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Tc	_			Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.0	150		0.42		Direct Entry,	

Subcatchment PRWS4B: PRWS4B



Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Summary for Pond 1A-CS: 1A-CS1

Inflow Area =	434,308 sf, 68.48% Impervious,	Inflow Depth = 2.83" for 5 YR event
Inflow =	32.8 cfs @ 12.09 hrs, Volume=	102,377 cf
Outflow =	32.8 cfs @ 12.09 hrs, Volume=	102,377 cf, Atten= 0%, Lag= 0.0 min
Primary =	16.7 cfs @ 12.09 hrs, Volume=	83,285 cf
Secondary =	16.1 cfs @ 12.09 hrs, Volume=	19,093 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 448.41' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	434.90'	15.0" Round 15"Ø Culvert to Infil. Basin A
			L= 27.8' CPP, projecting, no headwall, Ke= 0.900
			Outlet Invert= 434.80' S= 0.0036 '/' Cc= 0.900 n= 0.013
#2	Secondary	435.90'	15.0" Round 15"Ø Culvert to Det. Basin
			L= 22.8' CPP, projecting, no headwall, Ke= 0.900
			Outlet Invert= 435.60' S= 0.0132 '/' Cc= 0.900 n= 0.013
#3	Device 2	437.00'	5.0' long x 0.5' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00
			Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=16.7 cfs @ 12.09 hrs HW=448.37' (Free Discharge) 1=15" Culvert to Infil. Basin A (Inlet Controls 16.7 cfs @ 13.62 fps)

Secondary OutFlow Max=16.1 cfs @ 12.09 hrs HW=448.37' (Free Discharge)

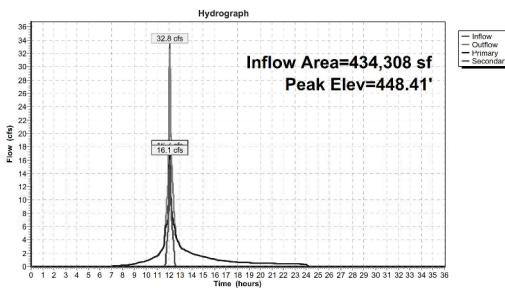
2=15"Ø Culvert to Det. Basin (Inlet Controls 16.1 cfs @ 13.08 fps)

3=Broad-Crested Rectangular Weir (Passes 16.1 cfs of 636.4 cfs potential flow)

Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Pond 1A-CS: 1A-CS1



Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Summary for Pond 1P: INFIL. BASIN B

Inflow Area =	77,434 sf, 50.16% Impervious,	Inflow Depth = 2.30" for 5 YR event
Inflow =	4.8 cfs @ 12.09 hrs, Volume=	14,845 cf
Outflow =	1.1 cfs @ 12.51 hrs, Volume=	14,845 cf, Atten= 77%, Lag= 25.1 min
Discarded =	1.1 cfs @ 12.51 hrs, Volume=	14,845 cf
Primary =	0.0 cfs @ 0.00 hrs, Volume=	0 cf
Secondary =	0.0 cfs @ 0.00 hrs, Volume=	0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 488.74' @ 12.51 hrs Surf.Area= 4,840 sf Storage= 3,740 cf

Plug-Flow detention time= 21.3 min calculated for 14,845 cf (100% of inflow) Center-of-Mass det. time= 21.3 min (849.6 - 828.4)

Volume Invert Avail.Storage Storage Description #1 487.80 24,756 cf Custom Stage Data (Prismatic) Listed below (Recalc) Elevation Surf.Area Inc.Store Cum.Store (feet) (sq-ft) (cubic-feet) (cubic-feet) 487.80 0 0 0 488.00 4,141 414 414 6,029 10,170 10,584 490.00 492.00 8,143 14,172 24,756

Device	Routing	Invert	Outlet Devices
#1	Discarded	487.80'	10.000 in/hr Exfiltration over Surface area
#2	Primary	487.00'	15.0" Round 15" Culvert
			L= 25.7' CPP, square edge headwall, Ke= 0.500
			Outlet Invert= 483.20' S= 0.1479 '/' Cc= 0.900 n= 0.013
#3	Device 2	489.00'	6.0" Vert. Orifice C= 0.600
#4	Device 2	490.50'	36.0" x 42.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#5	Secondary	491.50'	5.0' long x 0.5' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00
			Coef. (English) 2.80 2.92 3.08 3.30 3.32

Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

OutflowDiscarded

PrimarySecondar

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Discarded OutFlow Max=1.1 cfs @ 12.51 hrs HW=488.74' (Free Discharge) 1=Exfiltration (Exfiltration Controls 1.1 cfs)

Primary OutFlow Max=0.0 cfs @ 0.00 hrs HW=487.80' (Free Discharge)

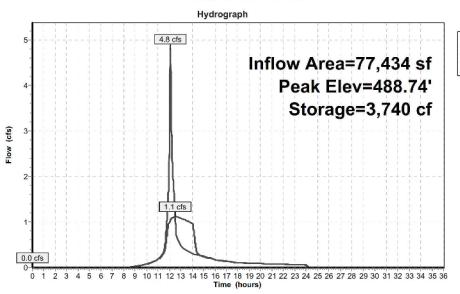
2=15" Culvert (Passes 0.0 cfs of 2.5 cfs potential flow)

3=Orifice (Controls 0.0 cfs)

4=Grate (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=487.80' (Free Discharge) **5=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond 1P: INFIL. BASIN B



Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Summary for Pond 4P: INFIL. BASIN A

Inflow Area =	445,126 sf, 66.82% Impervious,	Inflow Depth = 2.27" for 5 YR event
Inflow =	17.0 cfs @ 12.09 hrs, Volume=	84,164 cf
Outflow =	4.4 cfs @ 12.66 hrs, Volume=	53,702 cf, Atten= 74%, Lag= 34.1 min
Discarded =	0.2 cfs @ 12.66 hrs, Volume=	17,592 cf
Primary =	4.2 cfs @ 12.66 hrs, Volume=	36,110 cf
Secondary =	0.0 cfs @ 0.00 hrs, Volume=	0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs
Peak Elev= 437.27' @ 12.66 hrs Surf.Area= 8,563 sf Storage= 39,677 cf

Plug-Flow detention time= 357.7 min calculated for 53,702 cf (64% of inflow)

Center-of-Mass det. time= 241.8 min (1,071.5 - 829.8)

Volume	Invert	Avail.Sto	rage Storag	e Description	
#1	429.50	61,3	78 cf Custor	n Stage Data (Pri	ismatic) Listed below (Recalc)
Elevation		ırf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
429.	50	0	0	0	
430.0	00	2,658	665	665	
432.0	00	3,978	6,636	7,301	
434.0	00	5,524	9,502	16,803	
436.0	00	7,296	12,820	29,623	
438.0	00	9,294	16,590	46,213	
439.	00	10,378	9,836	56,049	
439.	50	10,941	5,330	61,378	
Device	Routing	Invert	Outlet Device	es	
#1	Discarded	429.50'	1.000 in/hr E	xfiltration over	Surface area
#2	Primary	432.00'	18.0" Round	18" Culvert	
			L= 59.7' CM	P, square edge h	eadwall, Ke= 0.500
			Outlet Invert	= 431.00' S= 0.0	0168 '/' Cc= 0.900
			n= 0.020 Co	rrugated PE, corr	ugated interior
#3	Device 2	437.10'	60.0" x 48.0'	' Horiz. Grate	C= 0.600 Limited to weir flow at low heads
#4	Secondary	439.25'	5.0' long x 0	.5' breadth Broa	d-Crested Rectangular Weir
			Head (feet)	0.20 0.40 0.60	0.80 1.00
			Coef. (English	h) 2.80 2.92 3.0	8 3.30 3.32

Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

InflowOutflowDiscarded

- Primary

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Discarded OutFlow Max=0.2 cfs @ 12.66 hrs HW=437.27' (Free Discharge) 1=Exfiltration (Exfiltration Controls 0.2 cfs)

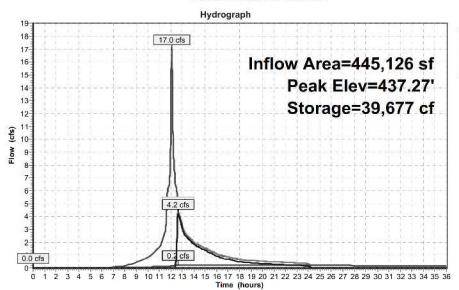
Primary OutFlow Max=4.1 cfs @ 12.66 hrs HW=437.27' (Free Discharge)

2=18" Culvert (Passes 4.1 cfs of 15.3 cfs potential flow)

3=Grate (Weir Controls 4.1 cfs @ 1.34 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=429.50' (Free Discharge) 4=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond 4P: INFIL. BASIN A



Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Summary for Pond 5P: DET. POND

Inflow Area =	482,955 sf, 61.58% Impervious,	Inflow Depth = 1.44" for 5 YR event
Inflow =	16.8 cfs @ 12.09 hrs, Volume=	57,926 cf
Outflow =	3.5 cfs @ 12.93 hrs, Volume=	48,936 cf, Atten= 79%, Lag= 50.3 min
Primary =	0.1 cfs @ 12.93 hrs, Volume=	88 cf
Secondary =	3.5 cfs @ 12.93 hrs, Volume=	48,848 cf
Tertiary =	0.0 cfs @ 0.00 hrs, Volume=	0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Peak Elev= 432.09' @ 12.93 hrs Surf.Area= 6,818 sf Storage= 16,946 cf

Plug-Flow detention time= 132.7 min calculated for 48,923 cf (84% of inflow)

Center-of-Mass det. time= 72.0 min (932.1 - 860.2)

Volume	Inver	t Avail.Sto	orage Storag	ge Description	
#1	423.00	93,9	23 cf Custo	m Stage Data (P	rismatic) Listed below (Recalc)
Elevation		urf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet	<u>)</u>
423.0	00	0	0	()
424.0	00	25	13	13	3
426.0	00	76	101	114	1
427.0	00	92	84	198	3
428.0	00	780	436	634	1
430.0	00	4,121	4,901	5,535	;
432.0	00	6,685	10,806	16,341	L
434.0	00	9,650	16,335	32,676	;
436.0	00	13,018	22,668	55,344	Į.
438.0	00	16,788	29,806	85,150)
438.5	50	18,305	8,773	93,923	}
	2				
Device	Routing	Invert	Outlet Device		
#1	Primary	431.50'		d 24"Ø Culvert	a No Wa was provided the
					headwall, Ke= 0.500
					.0429 '/' Cc= 0.900
					rrugated interior
#2	Device 1	432.00'		12"Ø Orifice C	= 0.600
#3	Secondary	430.75'	12.0" Roun	d 12"Ø Culvert	
				, ,	e headwall, Ke= 0.500
			Outlet Inver	t= 422.00' S= 0	.0470 '/' Cc= 0.900
			n= 0.013 Cc	orrugated PE, sm	ooth interior
#4	Device 1	437.60'	24.0" x 36.0	" Horiz. Grate	C= 0.600 Limited to weir flow at low heads

Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

Inflow
Outflow
Primary
Seconds
Tertiary

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#5 Tertiary 438.00' 5.0' long x 0.5' breadth Broad-Crested Rectangular Weir EMOF

Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

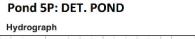
Primary OutFlow Max=0.0 cfs @ 12.93 hrs HW=432.09' (Free Discharge)

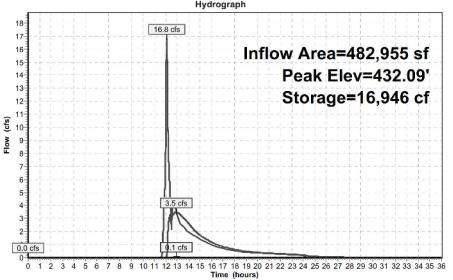
1=24"Ø Culvert (Passes 0.0 cfs of 2.0 cfs potential flow)

2=12"Ø Orifice (Orifice Controls 0.0 cfs @ 1.02 fps)

-4=Grate (Controls 0.0 cfs)

Tertiary OutFlow Max=0.0 cfs @ 0.00 hrs HW=423.00' (Free Discharge) 5=Broad-Crested Rectangular Weir EMOF (Controls 0.0 cfs)





Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Summary for Link PRDP3: PRDP3

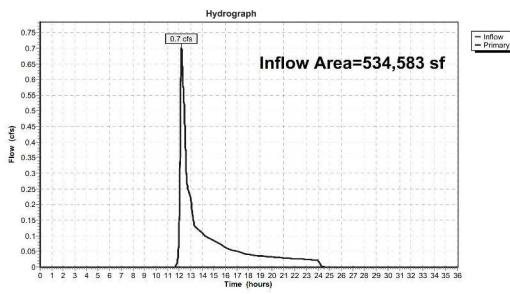
Inflow Area = 534,583 sf, 55.64% Impervious, Inflow Depth = 0.08" for 5 YR event

Inflow = 0.7 cfs @ 12.21 hrs, Volume= 3,575 cf

Primary = 0.7 cfs @ 12.21 hrs, Volume= 3,575 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP3: PRDP3



Type III 24-hr 5 YR Rainfall=4.31" Printed 6/23/2023

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Summary for Link PRDP4: PRDP4

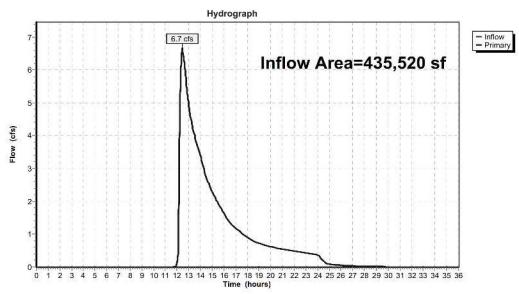
Inflow Area = 435,520 sf, 9.34% Impervious, Inflow Depth = 1.97" for 5 YR event

Inflow = 6.7 cfs @ 12.46 hrs, Volume= 71,483 cf

Primary = 6.7 cfs @ 12.46 hrs, Volume= 71,483 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP4: PRDP4



Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Time span=0.00-36.00 hrs, dt=0.010 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PRWS3A: PRWS3A Runoff Area=51,628 sf 0.00% Impervious Runoff Depth=1.24"

Flow Length=301' Tc=12.6 min CN=58 Runoff=1.2 cfs 5,339 cf

Subcatchment PRWS3B: PRWS3B Runoff Area=37,829 sf 0.00% Impervious Runoff Depth=1.31"

Tc=6.0 min CN=59 Runoff=1.2 cfs 4,125 cf

Subcatchment PRWS3C: PRWS3C Runoff Area=10,818 sf 0.00% Impervious Runoff Depth=1.45"

Tc=6.0 min CN=61 Runoff=0.4 cfs 1,305 cf

Subcatchment PRWS3D: PRWS3D Runoff Area=434,308 sf 68.48% Impervious Runoff Depth=3.59"

Flow Length=1,574' Tc=6.0 min CN=86 Runoff=41.3 cfs 129,876 cf

Subcatchment PRWS4A: PRWS4A Runoff Area=358,086 sf 0.52% Impervious Runoff Depth=1.17"

Flow Length=631' Tc=26.4 min CN=57 Runoff=5.8 cfs 35,047 cf

Subcatchment PRWS4B: PRWS4B Runoff Area=77,434 sf 50.16% Impervious Runoff Depth=3.01"

Flow Length=150' Tc=6.0 min CN=80 Runoff=6.3 cfs 19,401 cf

Pond 1A-CS: 1A-CS1 Peak Elev=455.64 Inflow=41.3 cfs 129,876 cf

Primary=20.9 cfs 103,560 cf Secondary=20.4 cfs 26,317 cf Outflow=41.3 cfs 129,876 cf

Pond 1P: INFIL. BASIN B Peak Elev=489.11' Storage=5,586 cf Inflow=6.3 cfs 19,401 cf

Discarded=1.2 cfs 19,362 cf Primary=0.0 cfs 39 cf Secondary=0.0 cfs 0 cf Outflow=1.2 cfs 19,401 cf

Pond 4P: INFIL. BASIN A Peak Elev=437.39' Storage=40,738 cf Inflow=21.3 cfs 104,865 cf

Discarded=0.2 cfs 17,961 cf Primary=9.3 cfs 56,427 cf Secondary=0.0 cfs 0 cf Outflow=9.5 cfs 74,388 cf

Pond 5P: DET. POND Peak Elev=433.39' Storage=27,096 cf Inflow=21.6 cfs 86,869 cf

Primary=3.6 cfs 10,660 cf Secondary=5.5 cfs 67,219 cf Tertiary=0.0 cfs 0 cf Outflow=9.1 cfs 77,879 cf

Link PRDP3: PRDP3 Inflow=4.2 cfs 15,999 cf

Primary=4.2 cfs 15,999 cf

Link PRDP4: PRDP4 Inflow=11.3 cfs 102,305 cf

Primary=11.3 cfs 102,305 cf

Total Runoff Area = 970,103 sf Runoff Volume = 195,094 cf Average Runoff Depth = 2.41" 65.15% Pervious = 631,985 sf 34.85% Impervious = 338,118 sf

Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Summary for Subcatchment PRWS3A: PRWS3A

Runoff = 1.2 cfs @ 12.20 hrs, Volume= 5,339 cf, Depth= 1.24"

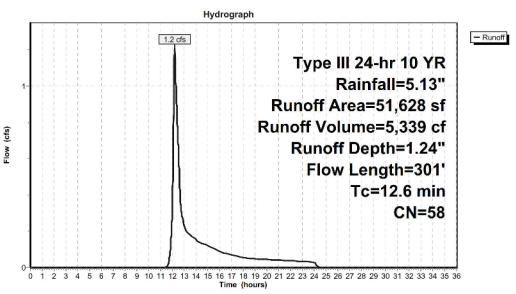
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 10 YR Rainfall=5.13"

	А	rea (sf)	CN D	escription							
*		23,286	61 >	61 >75% Grass cover, Good, HSG B							
		28,342	55 V	55 Woods, Good, HSG B							
		51,628	58 W	58 Weighted Average							
		51,628	1	00.00% Pen	vious Area						
	Tc	Length	Slope	Velocity	Capacity	Description					
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)						
	9.8	100	0.1300	0.17		Sheet Flow,					
						Woods: Light underbrush n= 0.400 P2= 3.43"					
	2.0	88	0.0220	0.74		Shallow Concentrated Flow,					
						Woodland Kv= 5.0 fps					
	0.8	113	0.2500	2.50		Shallow Concentrated Flow,					
						Woodland Kv= 5.0 fps					
	12.6	301	Total								

Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Subcatchment PRWS3A: PRWS3A



Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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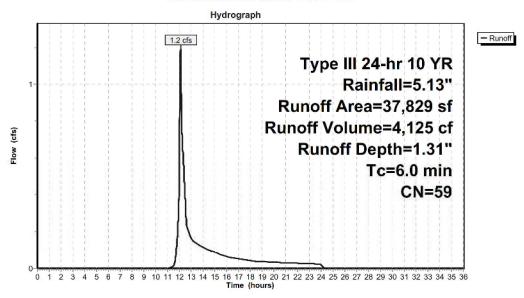
Summary for Subcatchment PRWS3B: PRWS3B

Runoff = 1.2 cfs @ 12.10 hrs, Volume= 4,125 cf, Depth= 1.31"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 10 YR Rainfall=5.13"

A	rea (sf)	CN	Des	cription				
	24,721	61	>75% Grass cover, Good, HSG B					
	13,108	55	Woo	ods, Good	, HSG B			
	37,829	59	Wei	ighted Ave	erage			
	37,829	29 100.00% Pervious Area						
Tc	Length	Slop	oe \	Velocity	Capacity	Description		
(min)	(feet)	(ft/	ft)	(ft/sec)	(cfs)			
6.0						Direct Entry,		

Subcatchment PRWS3B: PRWS3B



Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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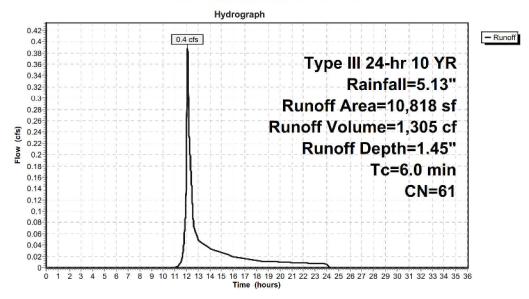
Summary for Subcatchment PRWS3C: PRWS3C

Runoff = 0.4 cfs @ 12.10 hrs, Volume= 1,305 cf, Depth= 1.45"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 10 YR Rainfall=5.13"

A	rea (sf)	CN D	CN Description					
	10,818	61 >	61 >75% Grass cover, Good, HSG B					
	10,818	1	00.00% Per	vious Area				
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description			
6.0					Direct Entry,			

Subcatchment PRWS3C: PRWS3C



Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-PRDP3 PRDP4

Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Summary for Subcatchment PRWS3D: PRWS3D

Runoff = 41.3 cfs @ 12.09 hrs, Volume= 129,876 cf, Depth= 3.59"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 10 YR Rainfall=5.13"

Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Auga /-f)	CN	Description
Area (sf)	CN	Description Cond. USG D
127,331	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
868	98	Water Surface, HSG B
4,563	98	Roofs, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
5,466	98	Roofs, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,550	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
1,020	98	Paved parking, HSG B
185	98	Paved parking, HSG B
79	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
69	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
112	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
125	61	>75% Grass cover, Good, HSG B
4,560	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
133	61	>75% Grass cover, Good, HSG B

Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

4,563 98 Roofs, HSG B 1,021 98 Paved parking, HSG B 185 98 Paved parking, HSG B 120 61 >75% Grass cover, Good, HSG B 5,563 98 Roofs, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Roofs, HSG B 219 61 >75% Grass cover, Good, HSG B 4,563 98 Roofs, HSG B 1,021 98 Paved parking, HSG B 114 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 22867 98 Paved parking, HSG B 23867 98 Paved parking, HSG B 24867 98 Paved parking, HSG B 25867 98 Paved parking, HSG B 26879 98 Paved parking, HSG B 27890 98 Roofs, HSG B	219	61	>75% Grass cover, Good, HSG B
185 98 Paved parking, HSG B 120 61 >75% Grass cover, Good, HSG B 5,563 98 Roofs, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Roofs, HSG B 219 61 >75% Grass cover, Good, HSG B 4,563 98 Roofs, HSG B 1,021 98 Paved parking, HSG B 114 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 869 98 Paved parking, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 2,19 61 >75% Grass cover, Good, HSG B 1,021 98 Paved parking, HSG B 1,	4,563	98	Roofs, HSG B
120 61 >75% Grass cover, Good, HSG B 5,563 98 Roofs, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 4,563 98 Roofs, HSG B 1,021 98 Paved parking, HSG B 114 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 190 198 Paved parking, HSG B 1,021 98 Paved parking, HSG B 185 98	1,021	98	Paved parking, HSG B
5,563 98 Roofs, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 4,563 98 Roofs, HSG B 1,021 98 Paved parking, HSG B 114 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 4,563 98 Roofs, HSG B 1,021 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185	185	98	Paved parking, HSG B
219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 4,563 98 Roofs, HSG B 1,021 98 Paved parking, HSG B 114 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 194 98 Paved parking, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 1961 >75% Grass cover, Good, HSG B 1,021 98 Paved parking, HSG B 1,563 98 Paved parking, HSG B 1,964 >75% Grass cover, Good,	120	61	>75% Grass cover, Good, HSG B
185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 4,563 98 Roofs, HSG B 1,021 98 Paved parking, HSG B 114 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 194 98 Paved parking, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 1901 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 <td< td=""><td>5,563</td><td>98</td><td>Roofs, HSG B</td></td<>	5,563	98	Roofs, HSG B
219 61 >75% Grass cover, Good, HSG B 4,563 98 Roofs, HSG B 1,021 98 Paved parking, HSG B 114 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 194 98 Paved parking, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 1961 >75% Grass cover, Good, HSG B 1,021 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved	219	61	>75% Grass cover, Good, HSG B
4,563 98 Roofs, HSG B 1,021 98 Paved parking, HSG B 114 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 869 98 Paved parking, HSG B 194 98 Paved parking, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 4,563 98 Roofs, HSG B 1,021 98 Paved parking, HSG B 4,563 98 Roofs, HSG B 1,021 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 219 61 >75%	185	98	Paved parking, HSG B
1,021 98 Paved parking, HSG B 114 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 869 98 Paved parking, HSG B 194 98 Paved parking, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 4,563 98 Roofs, HSG B 1,021 98 Paved parking, HSG B 4,563 98 Roofs, HSG B 1,021 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 2,584 98	219	61	>75% Grass cover, Good, HSG B
114 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 869 98 Paved parking, HSG B 194 98 Paved parking, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 4,563 98 Roofs, HSG B 219 61 >75% Grass cover, Good, HSG B 4,563 98 Roofs, HSG B 1,021 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 2,96 1 >75% Grass cover, Good, HSG B 2,584 9	4,563	98	Roofs, HSG B
219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 869 98 Paved parking, HSG B 194 98 Paved parking, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 4,563 98 Roofs, HSG B 1,021 98 Paved parking, HSG B 4,563 98 Roofs, HSG B 219 61 >75% Grass cover, Good, HSG B 1,021 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 2,584 98	1,021	98	Paved parking, HSG B
185 98 Paved parking, HSG B 869 98 Paved parking, HSG B 194 98 Paved parking, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 4,563 98 Roofs, HSG B 1,021 98 Paved parking, HSG B 4,563 98 Roofs, HSG B 219 61 >75% Grass cover, Good, HSG B 1,021 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 1,553 98 Roofs, HSG B 2,563 98 Roofs, HSG	114	61	>75% Grass cover, Good, HSG B
869 98 Paved parking, HSG B 194 98 Paved parking, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 4,563 98 Roofs, HSG B 1,021 98 Paved parking, HSG B 4,563 98 Roofs, HSG B 219 61 >75% Grass cover, Good, HSG B 1,021 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 4,563 98 Roofs, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 1,553 98 Roofs, HSG B 2,554 98 Roofs, HSG B	219	61	>75% Grass cover, Good, HSG B
194 98 Paved parking, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 4,563 98 Roofs, HSG B 1,021 98 Paved parking, HSG B 4,563 98 Roofs, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 4,563 98 Roofs, HSG B 219 61 >75% Grass cover, Good, HSG B 25,584 98 Roofs, HSG B 4,563 98 Roofs, HSG B 4,563 98 Roofs, HSG B 2,564 98 Paved parking, HSG B 2,867 98 Paved parking, HSG B	185	98	Paved parking, HSG B
185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 4,563 98 Roofs, HSG B 1,021 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 4,563 98 Roofs, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 4,563 98 Roofs, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 1,563 98 Roofs, HSG B 1,554 98 Roofs, HSG B 4,563 98 Roofs, HSG B 4,563 98 Roofs, HSG	869	98	Paved parking, HSG B
185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 4,563 98 Roofs, HSG B 1,021 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 4,563 98 Roofs, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 4,563 98 Roofs, HSG B 219 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 1,563 98 Roofs, HSG B 4,563 98 Roofs, HSG B 4,563 98 Roofs, HSG B 4,563 98 Roofs, HSG B 5,584 98 Roofs, HSG B </td <td>194</td> <td>98</td> <td>Paved parking, HSG B</td>	194	98	Paved parking, HSG B
219 61 >75% Grass cover, Good, HSG B 4,563 98 Roofs, HSG B 1,021 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 4,563 98 Roofs, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 4,563 98 Roofs, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Roofs, HSG B 1,021 98 Roofs, HSG B 1,021 98 Roofs, HSG B 1,553 98 Roofs, HSG B <tr< td=""><td>185</td><td>98</td><td></td></tr<>	185	98	
4,563 98 Roofs, HSG B 1,021 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 4,563 98 Roofs, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 4,563 98 Roofs, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 2,19 61 >75% Grass cover, Good, HSG B 1,021 98 Paved parking, HSG B 2,563 98 Roofs, HSG B 4,563 98 Roofs, HSG B 4,563 98 Roofs, HSG B 150 61 >75% Grass cover, Good, HSG B 2,867 98 Paved parking, HSG B	185	98	Paved parking, HSG B
1,021 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 4,563 98 Roofs, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 4,563 98 Roofs, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 2,19 61 >75% Grass cover, Good, HSG B 2,584 98 Roofs, HSG B 4,563 98 Roofs, HSG B 4,563 98 Roofs, HSG B 4,563 98 Roofs, HSG B 2,564 98 Roofs, HSG B 150 61 >75% Grass cover, Good, HSG B 2,867 98 Paved parking, HSG B	219	61	>75% Grass cover, Good, HSG B
1,021 98 Paved parking, HSG B 4,563 98 Roofs, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 4,563 98 Roofs, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 25,584 98 Roofs, HSG B 4,563 98 Roofs, HSG B 4,563 98 Roofs, HSG B 2,564 975% Grass cover, Good, HSG B 2,667 98 Paved parking, HSG B 150 61 >75% Grass cover, Good, HSG B 2,867 98 Paved parking, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B	4,563	98	Roofs, HSG B
4,563 98 Roofs, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 4,563 98 Roofs, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 2,584 98 Roofs, HSG B 4,563 98 Roofs, HSG B 4,563 98 Roofs, HSG B 2,661 >75% Grass cover, Good, HSG B 2,867 98 Paved parking, HSG B 155 98 Paved parking, HSG B	1,021	98	Paved parking, HSG B
219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 4,563 98 Roofs, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 5,584 98 Roofs, HSG B 4,563 98 Roofs, HSG B 4,563 98 Roofs, HSG B 150 61 >75% Grass cover, Good, HSG B 150 61 >75% Grass cover, Good, HSG B 2,867 98 Paved parking, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B 150 61 >75% Grass cover, Good, HSG B		98	Paved parking, HSG B
185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 4,563 98 Roofs, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 5,584 98 Roofs, HSG B 4,563 98 Roofs, HSG B 4,563 98 Roofs, HSG B 150 61 >75% Grass cover, Good, HSG B 150 61 >75% Grass cover, Good, HSG B 2,867 98 Paved parking, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B 150 61 >75% Grass cover, Good, HSG B	4,563	98	Roofs, HSG B
1,021 98 Paved parking, HSG B 4,563 98 Roofs, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 5,584 98 Roofs, HSG B 4,563 98 Roofs, HSG B 4,563 98 Roofs, HSG B 150 61 >75% Grass cover, Good, HSG B 150 61 >75% Grass cover, Good, HSG B 2,867 98 Paved parking, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B 150 61 >75% Grass cover, Good, HSG B	219	61	>75% Grass cover, Good, HSG B
4,563 98 Roofs, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 5,584 98 Roofs, HSG B 4,563 98 Roofs, HSG B 4,563 98 Roofs, HSG B 150 61 >75% Grass cover, Good, HSG B 2,867 98 Paved parking, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B 150 61 >75% Grass cover, Good, HSG B	185	98	Paved parking, HSG B
185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 5,584 98 Roofs, HSG B 4,563 98 Roofs, HSG B 4,563 98 Roofs, HSG B 150 61 >75% Grass cover, Good, HSG B 2,867 98 Paved parking, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B 150 61 >75% Grass cover, Good, HSG B	1,021	98	Paved parking, HSG B
219 61 >75% Grass cover, Good, HSG B 219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 5,584 98 Roofs, HSG B 4,563 98 Roofs, HSG B 4,563 98 Roofs, HSG B 150 61 >75% Grass cover, Good, HSG B 150 61 >75% Grass cover, Good, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B 150 61 >75% Grass cover, Good, HSG B	4,563	98	
219 61 >75% Grass cover, Good, HSG B 185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 5,584 98 Roofs, HSG B 4,563 98 Roofs, HSG B 150 61 >75% Grass cover, Good, HSG B 150 61 >75% Grass cover, Good, HSG B 2,867 98 Paved parking, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B 150 61 >75% Grass cover, Good, HSG B	185	98	
185 98 Paved parking, HSG B 1,021 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 5,584 98 Roofs, HSG B 4,563 98 Roofs, HSG B 150 61 >75% Grass cover, Good, HSG B 150 61 >75% Grass cover, Good, HSG B 2,867 98 Paved parking, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B 150 61 >75% Grass cover, Good, HSG B	219	61	>75% Grass cover, Good, HSG B
1,021 98 Paved parking, HSG B 185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 5,584 98 Roofs, HSG B 4,563 98 Roofs, HSG B 150 61 >75% Grass cover, Good, HSG B 150 61 >75% Grass cover, Good, HSG B 2,867 98 Paved parking, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B 150 61 >75% Grass cover, Good, HSG B	219	61	
185 98 Paved parking, HSG B 219 61 >75% Grass cover, Good, HSG B 5,584 98 Roofs, HSG B 4,563 98 Roofs, HSG B 4,563 98 Roofs, HSG B 150 61 >75% Grass cover, Good, HSG B 150 61 >75% Grass cover, Good, HSG B 2,867 98 Paved parking, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B 150 61 >75% Grass cover, Good, HSG B	185	98	
219 61 >75% Grass cover, Good, HSG B 5,584 98 Roofs, HSG B 4,563 98 Roofs, HSG B 4,563 98 Roofs, HSG B 150 61 >75% Grass cover, Good, HSG B 150 61 >75% Grass cover, Good, HSG B 2,867 98 Paved parking, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B 150 61 >75% Grass cover, Good, HSG B	1,021	98	
5,584 98 Roofs, HSG B 4,563 98 Roofs, HSG B 4,563 98 Roofs, HSG B 150 61 >75% Grass cover, Good, HSG B 150 61 >75% Grass cover, Good, HSG B 2,867 98 Paved parking, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B 150 61 >75% Grass cover, Good, HSG B	185	98	
 4,563 98 Roofs, HSG B 4,563 98 Roofs, HSG B 150 61 >75% Grass cover, Good, HSG B 150 61 >75% Grass cover, Good, HSG B 2,867 98 Paved parking, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B 150 61 >75% Grass cover, Good, HSG B 		61	
4,563 98 Roofs, HSG B 150 61 >75% Grass cover, Good, HSG B 150 61 >75% Grass cover, Good, HSG B 2,867 98 Paved parking, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B 150 61 >75% Grass cover, Good, HSG B	5,584	98	
 150 61 >75% Grass cover, Good, HSG B 150 61 >75% Grass cover, Good, HSG B 2,867 98 Paved parking, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B 150 61 >75% Grass cover, Good, HSG B 		98	
 150 61 >75% Grass cover, Good, HSG B 2,867 98 Paved parking, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B 150 61 >75% Grass cover, Good, HSG B 		98	
2,867 98 Paved parking, HSG B 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B 150 61 >75% Grass cover, Good, HSG B	150	61	
 155 98 Paved parking, HSG B 155 98 Paved parking, HSG B 150 61 >75% Grass cover, Good, HSG B 	150	61	
155 98 Paved parking, HSG B150 61 >75% Grass cover, Good, HSG B			
150 61 >75% Grass cover, Good, HSG B			
2,859 98 Roofs, HSG B			
	2,859	98	Roofs, HSG B

Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

150	98	Paved parking, HSG B
155	98	Paved parking, HSG B
153	61	>75% Grass cover, Good, HSG B
150	98	Paved parking, HSG B
150	98	Paved parking, HSG B
2,861	98	Roofs, HSG B
155	98	Paved parking, HSG B
155	98	Paved parking, HSG B
150	61	>75% Grass cover, Good, HSG B
150	61	>75% Grass cover, Good, HSG B
2,861	98	Roofs, HSG B
155	98	Paved parking, HSG B
155	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
5,432	98	Roofs, HSG B
185	98	Paved parking, HSG B
220	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B

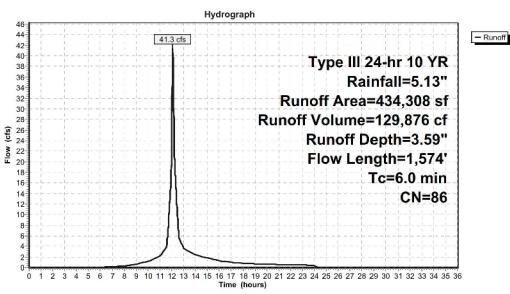
Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
85	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
85	98	Paved parking, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
88	98	Paved parking, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	61	>75% Grass cover, Good, HSG B
78,645	98	Paved parking, HSG B
88	98	Paved parking, HSG B
185	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
434,308	86	Weighted Average
136,882		31.52% Pervious Area
297,426		68.48% Impervious Area
To low-th	CI-	no Valority Constity Description
Tc Length		ppe Velocity Capacity Description
(min) (feet)	(ft/	
6.0 1,574		4.37 Direct Entry,

Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Subcatchment PRWS3D: PRWS3D



Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Summary for Subcatchment PRWS4A: PRWS4A

Runoff = 5.8 cfs @ 12.43 hrs, Volume= 35,047 cf, Depth= 1.17"

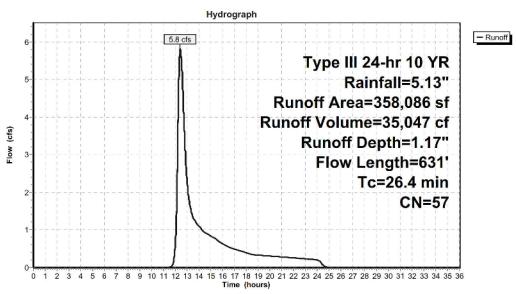
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 10 YR Rainfall=5.13"

A	rea (sf)	CN	Description		
2	45,712	55	Woods, Good	I, HSG B	
1	08,774	61	>75% Grass c	over, Good,	HSG B
	219	61	>75% Grass c	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass c	over, Good,	HSG B
	219	61	>75% Grass c	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass o	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass c	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass c	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass c	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	218	61	>75% Grass c	over, Good,	HSG B
	184	98	Paved parkin	g, HSG B	
	185	98	Paved parkin	g, HSG B	
3	58,086	57	Weighted Av	erage	
3	56,237		99.48% Pervi	ous Area	
	1,849		0.52% Imper	vious Area	
Tc	Length	Slop	e Velocity	Capacity	Description
(min)	(feet)	(ft/f	t) (ft/sec)	(cfs)	
10.6	100	0.015	0.16		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.43"
4.8	200	0.010	0.70		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
11.0	331	0.010	0.50		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
26.4	631	Total			

Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Subcatchment PRWS4A: PRWS4A



Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-PRDP3 PRDP4

Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Summary for Subcatchment PRWS4B: PRWS4B

Runoff = 6.3 cfs @ 12.09 hrs, Volume= 19,401 cf, Depth= 3.01"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 10 YR Rainfall=5.13"

Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

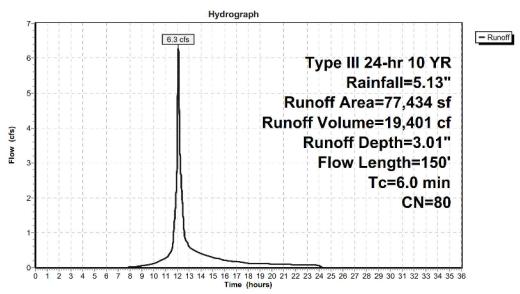
Area (sf)	CN	Description
1,971	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
869	98	Paved parking, HSG B
113	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
11,620	98	Paved parking, HSG B
185	98	Paved parking, HSG B
27,716	61	>75% Grass cover, Good, HSG B
3,214	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
868	98	Paved parking, HSG B
3,178	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
797	98	Water Surface, HSG B
2,405	98	Roofs, HSG B
428	61	>75% Grass cover, Good, HSG B
479	98	Paved parking, HSG B
1,888	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
77,434	80	Weighted Average
38,591		49.84% Pervious Area
38,843		50.16% Impervious Area

Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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	Length				Description	
(min)	(reet)	(ft/ft)	(ft/sec)	(cfs)		
6.0	150		0.42		Direct Entry,	

Subcatchment PRWS4B: PRWS4B



Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Summary for Pond 1A-CS: 1A-CS1

Inflow Are	a =	434,308 sf	, 68.48% Impervious,	Inflow Depth =	3.59" for 10 YR event
Inflow	=	41.3 cfs @	12.09 hrs, Volume=	129,876 cf	
Outflow	=	41.3 cfs @	12.09 hrs, Volume=	129,876 cf,	Atten= 0%, Lag= 0.0 min
Primary	=	20.9 cfs @	12.09 hrs, Volume=	103,560 cf	
Secondary	<i>i</i> =	20.4 cfs @	12.09 hrs. Volume=	26.317 cf	

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 455.64' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	434.90'	15.0" Round 15"Ø Culvert to Infil. Basin A
			L= 27.8' CPP, projecting, no headwall, Ke= 0.900
			Outlet Invert= 434.80' S= 0.0036 '/' Cc= 0.900 n= 0.013
#2	Secondary	435.90'	15.0" Round 15"Ø Culvert to Det. Basin
			L= 22.8' CPP, projecting, no headwall, Ke= 0.900
			Outlet Invert= 435.60' S= 0.0132 '/' Cc= 0.900 n= 0.013
#3	Device 2	437.00'	5.0' long x 0.5' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00
			Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=20.9 cfs @ 12.09 hrs HW=455.57' (Free Discharge) 1=15" Culvert to Infil. Basin A (Inlet Controls 20.9 cfs @ 17.02 fps)

Secondary OutFlow Max=20.4 cfs @ 12.09 hrs HW=455.57' (Free Discharge)

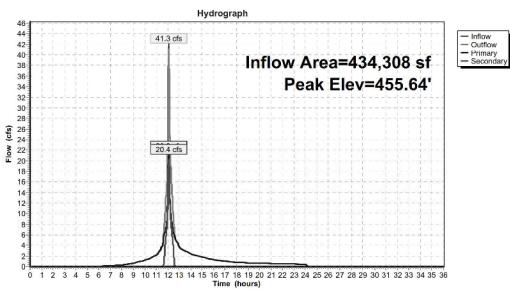
2=15"Ø Culvert to Det. Basin (Inlet Controls 20.4 cfs @ 16.59 fps)

3=Broad-Crested Rectangular Weir (Passes 20.4 cfs of 1,328.6 cfs potential flow)

Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Pond 1A-CS: 1A-CS1



Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Summary for Pond 1P: INFIL. BASIN B

Inflow Area =	77,434 sf, 50.16% Impervious,	Inflow Depth = 3.01" for 10 YR event
Inflow =	6.3 cfs @ 12.09 hrs, Volume=	19,401 cf
Outflow =	1.2 cfs @ 12.54 hrs, Volume=	19,401 cf, Atten= 80%, Lag= 26.9 min
Discarded =	1.2 cfs @ 12.54 hrs, Volume=	19,362 cf
Primary =	0.0 cfs @ 12.54 hrs, Volume=	39 cf
Secondary =	0.0 cfs @ 0.00 hrs, Volume=	0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 489.11' @ 12.54 hrs Surf.Area= 5,188 sf Storage= 5,586 cf

Plug-Flow detention time= 31.9 min calculated for 19,396 cf (100% of inflow)

Center-of-Mass det. time= 31.9 min (852.6 - 820.7)

Volume	Invert	Avail.Sto	orage Stora	ge Description	
#1	487.80'	24,7	56 cf Custo	om Stage Data (Pri	smatic) Listed below (Recalc)
Elevati	on Su	ırf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
487.	80	0	0	0	
488.	00	4,141	414	414	
490.	00	6,029	10,170	10,584	
492.	00	8,143	14,172	24,756	
Device	Routing	Invert	Outlet Devi	ces	
#1	Discarded	487.80'	10.000 in/h	r Exfiltration over	Surface area
#2	Primary	487.00'	15.0" Rour	nd 15" Culvert	
			L= 25.7' C	PP, square edge he	eadwall, Ke= 0.500
			Outlet Inve	rt= 483.20' S= 0.1	.479 '/' Cc= 0.900 n= 0.013
#3	Device 2	Device 2 489.00'		Orifice C= 0.600	
#4	Device 2	490.50'	36.0" x 42.	0" Horiz. Grate C	= 0.600 Limited to weir flow at low heads
#5	Secondary	491.50'	5.0' long x	0.5' breadth Broa	d-Crested Rectangular Weir
			Head (feet)	0.20 0.40 0.60 (0.80 1.00
				sh) 2.80 2.92 3.0	

Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

> - Outflow - Discarded

PrimarySecondar

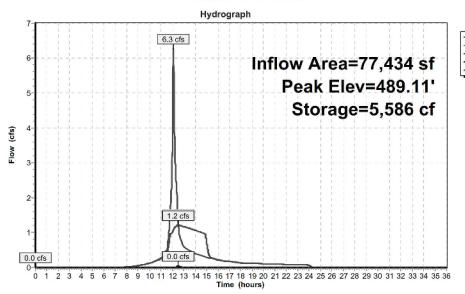
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Discarded OutFlow Max=1.2 cfs @ 12.54 hrs HW=489.11' (Free Discharge) 1=Exfiltration (Exfiltration Controls 1.2 cfs)

Primary OutFlow Max=0.0 cfs @ 12.54 hrs HW=489.11' (Free Discharge)
2=15" Culvert (Passes 0.0 cfs of 7.2 cfs potential flow)
3=Orifice (Orifice Controls 0.0 cfs @ 1.12 fps)
4=Grate (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=487.80' (Free Discharge) **5=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond 1P: INFIL. BASIN B



Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Summary for Pond 4P: INFIL. BASIN A

Inflow Area =	445,126 sf, 66.82% Impervious,	Inflow Depth = 2.83" for 10 YR event
Inflow =	21.3 cfs @ 12.09 hrs, Volume=	104,865 cf
Outflow =	9.5 cfs @ 12.30 hrs, Volume=	74,388 cf, Atten= 56%, Lag= 12.7 min
Discarded =	0.2 cfs @ 12.30 hrs, Volume=	17,961 cf
Primary =	9.3 cfs @ 12.30 hrs, Volume=	56,427 cf
Secondary =	0.0 cfs @ 0.00 hrs, Volume=	0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 437.39' @ 12.30 hrs Surf.Area= 8,686 sf Storage= 40,738 cf

Plug-Flow detention time= 288.0 min calculated for 74,388 cf (71% of inflow)

Center-of-Mass det. time= 184.2 min (1,007.7 - 823.5)

Inver	t Avail.St	orage Storage	Description	
429.50	61,3	378 cf Custom	Stage Data (Pri	smatic) Listed below (Recalc)
on S	iurf.Area	Inc.Store	Cum.Store	
et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
50	0	0	0	
00	2,658	665	665	
00	3,978	6,636	7,301	
00	5,524	9,502	16,803	
00	7,296	12,820	29,623	
00	9,294	16,590	46,213	
00	10,378	9,836	56,049	
50	10,941	5,330	61,378	
Routing	Invert	Outlet Devices	s	
Discarded	429.50'	1.000 in/hr Ex	filtration over S	Surface area
Primary	432.00'	18.0" Round	18" Culvert	
		L= 59.7' CMP	, square edge h	eadwall, Ke= 0.500
		Outlet Invert=	431.00' S= 0.0	0168 '/' Cc= 0.900
		n= 0.020 Corr	rugated PE, corr	ugated interior
Device 2	437.10'	60.0" x 48.0"	Horiz. Grate C	= 0.600 Limited to weir flow at low heads
Secondary	439.25'	5.0' long x 0.5	5' breadth Broad	d-Crested Rectangular Weir
		Head (feet) 0.	.20 0.40 0.60 (0.80 1.00
	429.50 on S et) 50 00 00 00 00 00 00 Routing Discarded Primary	429.50' 61,3 on Surf.Area et) (sq-ft) 50 0 00 2,658 00 3,978 00 5,524 00 7,296 00 9,294 00 10,378 50 10,941 Routing Invert Discarded 429.50' Primary 432.00'	429.50' 61,378 cf Custom on Surf.Area Inc.Store (cubic-feet) 50 0 0 0 50 2,658 665 50 3,978 6,636 50 5,524 9,502 7,296 12,820 7,296 12,820 7,296 12,820 10,378 9,836 50 10,941 5,330 Routing Invert Outlet Device Discarded 429.50' 1.000 in/hr Expenses Primary 432.00' 18.0" Round L= 59.7' CMF Outlet Invert= n= 0.020 Corr Device 2 437.10' 60.0" x 48.0" Secondary 439.25' 5.0' long x 0.5	429.50' 61,378 cf Custom Stage Data (Prion Surf.Area Inc.Store Cum.Store (cubic-feet) (cubic-fee

Coef. (English) 2.80 2.92 3.08 3.30 3.32

Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

InflowOutflow

- Primary

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Discarded OutFlow Max=0.2 cfs @ 12.30 hrs HW=437.39' (Free Discharge) 1=Exfiltration (Exfiltration Controls 0.2 cfs)

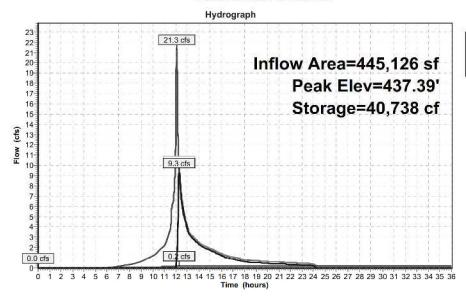
Primary OutFlow Max=9.2 cfs @ 12.30 hrs HW=437.39' (Free Discharge)

2=18" Culvert (Passes 9.2 cfs of 15.5 cfs potential flow)

3=Grate (Weir Controls 9.2 cfs @ 1.76 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=429.50' (Free Discharge) 4=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond 4P: INFIL. BASIN A



Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Summary for Pond 5P: DET. POND

Inflow Area =		482,955 sf, 61.58	% Impervious, In	flow Depth = 2.16"	for 10 YR event
Inflow	=	21.6 cfs @ 12.09	nrs, Volume=	86,869 cf	
Outflow	=	9.1 cfs @ 12.52	nrs, Volume=	77,879 cf, Atten	= 58%, Lag= 26.0 min
Primary	=	3.6 cfs @ 12.52	nrs, Volume=	10,660 cf	
Secondary	/ =	5.5 cfs @ 12.52	nrs, Volume=	67,219 cf	
Tertiary	=	0.0 cfs @ 0.00	nrs, Volume=	0 cf	

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs
Peak Elev= 433.39' @ 12.52 hrs Surf.Area= 8,751 sf Storage= 27,096 cf

Plug-Flow detention time= 102.1 min calculated for 77,879 cf (90% of inflow)

Center-of-Mass det. time= 56.0 min (901.7 - 845.7)

Volume	Inver	t Avail.Sto	orage Storage	e Description		
#1	423.00	93,9	23 cf Custon	23 cf Custom Stage Data (Prismatic) Listed below (Recalc)		
Elevation		urf.Area	Inc.Store	Cum.Store		
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)		
423.0	00	0	0	0		
424.0	00	25	13	13		
426.0	00	76	101	114		
427.0	00	92	84	198		
428.0	00	780	436	634		
430.0	00	4,121	4,901	5,535		
432.0	00	6,685	10,806	16,341		
434.0	00	9,650	16,335	32,676		
436.0	00	13,018	22,668	55,344		
438.0	00	16,788	29,806	85,150		
438.	50	18,305	8,773	93,923		
Device	Routing	Invert	Outlet Device	25		
			a. meta-saturati de dia esta de de la constante de la constant	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
#1	Primary	431.50'		24"Ø Culvert	I - II - K 0 500	
					neadwall, Ke= 0.500	
					0429 '/' Cc= 0.900	
				rugated PE, corr		
	#2 Device 1 432.00'		12.0" Vert. 12"Ø Orifice C= 0.600			
#3	Secondary	430.75'		12"Ø Culvert		
				, , ,	headwall, Ke= 0.500	
					0470 '/' Cc= 0.900	
			n= 0.013 Cor	rugated PE, smo	ooth interior	
#4	Device 1	437.60'	24.0" x 36.0"	Horiz. Grate	C= 0.600 Limited to weir flow at low heads	

Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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#5 Tertiary 438.00' 5.0' long x 0.5' breadth Broad-Crested Rectangular Weir EMOF

Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=3.6 cfs @ 12.52 hrs HW=433.39' (Free Discharge)

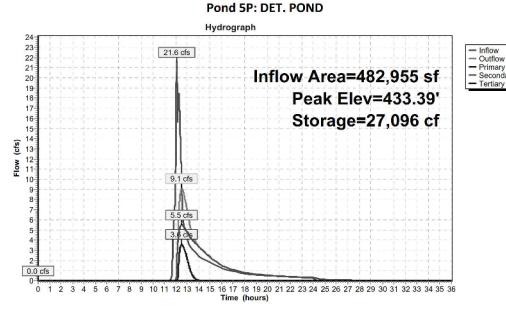
T_1=24"Ø Culvert (Passes 3.6 cfs of 14.4 cfs potential flow)

-2=12"Ø Orifice (Orifice Controls 3.6 cfs @ 4.55 fps)

-4=Grate (Controls 0.0 cfs)

Secondary OutFlow Max=5.5 cfs @ 12.52 hrs HW=433.39' (Free Discharge)
3=12"Ø Culvert (Inlet Controls 5.5 cfs @ 7.05 fps)

Tertiary OutFlow Max=0.0 cfs @ 0.00 hrs HW=423.00' (Free Discharge)
5=Broad-Crested Rectangular Weir EMOF (Controls 0.0 cfs)



Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Summary for Link PRDP3: PRDP3

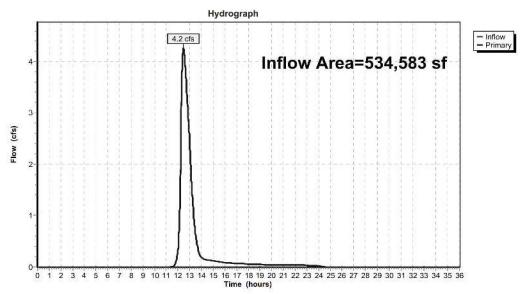
Inflow Area = 534,583 sf, 55.64% Impervious, Inflow Depth = 0.36" for 10 YR event

Inflow = 4.2 cfs @ 12.48 hrs, Volume= 15,999 cf

Primary = 4.2 cfs @ 12.48 hrs, Volume= 15,999 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP3: PRDP3



Type III 24-hr 10 YR Rainfall=5.13" Printed 6/23/2023

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Summary for Link PRDP4: PRDP4

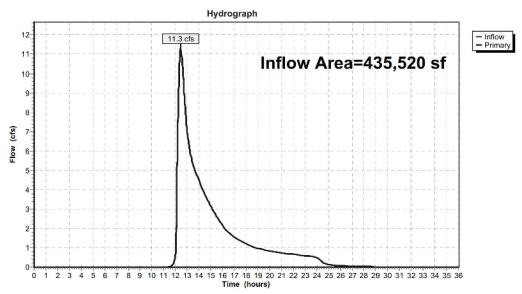
Inflow Area = 435,520 sf, 9.34% Impervious, Inflow Depth = 2.82" for 10 YR event

Inflow = 11.3 cfs @ 12.46 hrs, Volume= 102,305 cf

Primary = 11.3 cfs @ 12.46 hrs, Volume= 102,305 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP4: PRDP4



Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Time span=0.00-36.00 hrs, dt=0.010 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PRWS3A: PRWS3A Runoff Area=51,628 sf 0.00% Impervious Runoff Depth=2.05"

Flow Length=301' Tc=12.6 min CN=58 Runoff=2.2 cfs 8,819 cf

Subcatchment PRWS3B: PRWS3B Runoff Area=37,829 sf 0.00% Impervious Runoff Depth=2.14"

Tc=6.0 min CN=59 Runoff=2.1 cfs 6,742 cf

Subcatchment PRWS3C: PRWS3C Runoff Area=10,818 sf 0.00% Impervious Runoff Depth=2.32"

Tc=6.0 min CN=61 Runoff=0.7 cfs 2,091 cf

Subcatchment PRWS3D: PRWS3D Runoff Area=434,308 sf 68.48% Impervious Runoff Depth=4.85"

Flow Length=1,574' Tc=6.0 min CN=86 Runoff=55.1 cfs 175,457 cf

Subcatchment PRWS4A: PRWS4A Runoff Area=358,086 sf 0.52% Impervious Runoff Depth=1.96"

Flow Length=631' Tc=26.4 min CN=57 Runoff=10.5 cfs 58,545 cf

Subcatchment PRWS4B: PRWS4B Runoff Area=77,434 sf 50.16% Impervious Runoff Depth=4.20"

Flow Length=150' Tc=6.0 min CN=80 Runoff=8.7 cfs 27,094 cf

Pond 1A-CS: 1A-CS1 Peak Elev=470.91' Inflow=55.1 cfs 175,457 cf

Primary=27.7 cfs 137,075 cf Secondary=27.4 cfs 38,383 cf Outflow=55.1 cfs 175,457 cf

Pond 1P: INFIL. BASIN B Peak Elev=489.60' Storage=8,264 cf Inflow=8.7 cfs 27,094 cf

Discarded=1.3 cfs 25,320 cf Primary=0.6 cfs 1,774 cf Secondary=0.0 cfs 0 cf Outflow=1.9 cfs 27,094 cf

Pond 4P: INFIL. BASIN A Peak Elev=437.97' Storage=45,958 cf Inflow=28.4 cfs 139,166 cf

Discarded=0.2 cfs 18,516 cf Primary=16.4 cfs 90,152 cf Secondary=0.0 cfs 0 cf Outflow=16.6 cfs 108,668 cf

Pond 5P: DET. POND Peak Elev=435.41' Storage=47,964 cf Inflow=45.4 cfs 135,277 cf

Primary=6.5 cfs 31,905 cf Secondary=7.7 cfs 94,381 cf Tertiary=0.0 cfs 0 cf Outflow=14.2 cfs 126,286 cf

Link PRDP3: PRDP3 Inflow=7.6 cfs 40,724 cf

Primary=7.6 cfs 40,724 cf

Link PRDP4: PRDP4 Inflow=18.6 cfs 154,701 cf

Primary=18.6 cfs 154,701 cf

Total Runoff Area = 970,103 sf Runoff Volume = 278,749 cf Average Runoff Depth = 3.45" 65.15% Pervious = 631,985 sf 34.85% Impervious = 338,118 sf

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Summary for Subcatchment PRWS3A: PRWS3A

Runoff = 2.2 cfs @ 12.19 hrs, Volume= 8,819 cf, Depth= 2.05"

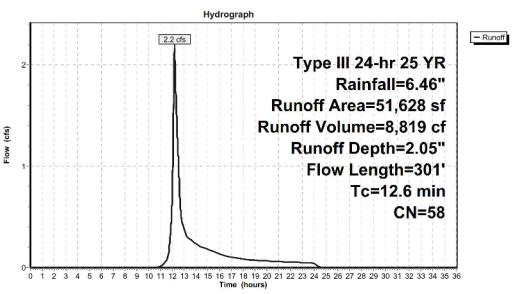
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 25 YR Rainfall=6.46"

	A	rea (sf)	CN D	escription						
*		23,286	61 >	61 >75% Grass cover, Good, HSG B						
		28,342	55 W	loods, Good	d, HSG B					
		51,628	58 W	eighted Av	erage					
		51,628	10	00.00% Per	vious Area					
	Tc	Length	Slope	Velocity	Capacity	Description				
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	9.8	100	0.1300	0.17		Sheet Flow,				
						Woods: Light underbrush n= 0.400 P2= 3.43"				
	2.0	88	0.0220	0.74		Shallow Concentrated Flow,				
						Woodland Kv= 5.0 fps				
	8.0	113	0.2500	2.50		Shallow Concentrated Flow,				
						Woodland Kv= 5.0 fps				
	12.6	301	Total							

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Subcatchment PRWS3A: PRWS3A



Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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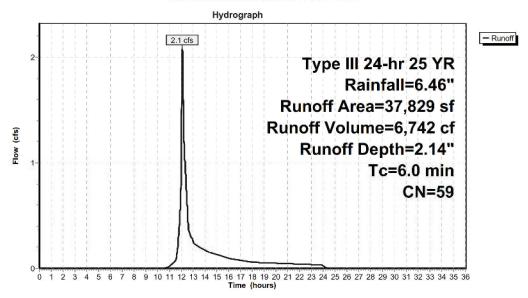
Summary for Subcatchment PRWS3B: PRWS3B

Runoff = 2.1 cfs @ 12.10 hrs, Volume= 6,742 cf, Depth= 2.14"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 25 YR Rainfall=6.46"

A	rea (sf)	CN	De	escription		
	24,721	61	>7	5% Grass o	over, Good	, HSG B
	13,108	55	W	oods, Good	l, HSG B	
	37,829 59 Weighted Average					
	37,829 100.00% Pervious Area					
Tc	Length	Slop	эe	Velocity	Capacity	Description
(min)	(feet)	(ft/	ft)	(ft/sec)	(cfs)	
6.0						Direct Entry,

Subcatchment PRWS3B: PRWS3B



Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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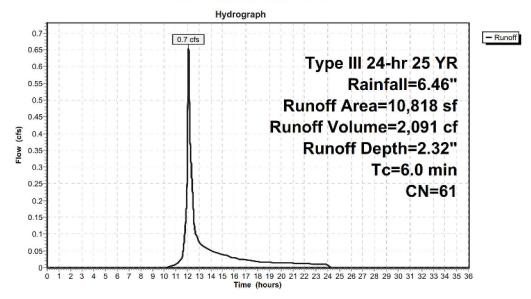
Summary for Subcatchment PRWS3C: PRWS3C

Runoff = 0.7 cfs @ 12.09 hrs, Volume= 2,091 cf, Depth= 2.32"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 25 YR Rainfall=6.46"

	Д	rea (sf)	CN D	escription						
		10,818	,818 61 >75% Grass cover, Good, HSG B							
	10,818 100.00% Pervious Area									
	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description				
-	6.0					Direct Entry,				

Subcatchment PRWS3C: PRWS3C



Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-PRDP3 PRDP4

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Summary for Subcatchment PRWS3D: PRWS3D

Runoff = 55.1 cfs @ 12.09 hrs, Volume= 175,457 cf, Depth= 4.85"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 25 YR Rainfall=6.46"

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

Auga /-f)	CN	Description
Area (sf)	CN	Description Cond. USG D
127,331	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
868	98	Water Surface, HSG B
4,563	98	Roofs, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
5,466	98	Roofs, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,550	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
1,020	98	Paved parking, HSG B
185	98	Paved parking, HSG B
79	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
69	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
112	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
125	61	>75% Grass cover, Good, HSG B
4,560	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
133	61	>75% Grass cover, Good, HSG B

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
120	61	>75% Grass cover, Good, HSG B
5,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
114	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
869	98	Paved parking, HSG B
194	98	Paved parking, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
5,584	98	Roofs, HSG B
4,563	98	Roofs, HSG B
4,563	98	Roofs, HSG B
150	61	>75% Grass cover, Good, HSG B
150	61	>75% Grass cover, Good, HSG B
2,867	98	Paved parking, HSG B
155	98	Paved parking, HSG B
155	98	Paved parking, HSG B
150	61	>75% Grass cover, Good, HSG B
2,859	98	Roofs, HSG B

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

150	98	Paved parking, HSG B
155	98	Paved parking, HSG B
153	61	>75% Grass cover, Good, HSG B
150	98	Paved parking, HSG B
150	98	Paved parking, HSG B
2,861	98	Roofs, HSG B
155	98	Paved parking, HSG B
155	98	Paved parking, HSG B
150	61	>75% Grass cover, Good, HSG B
150	61	>75% Grass cover, Good, HSG B
2,861	98	Roofs, HSG B
155	98	Paved parking, HSG B
155	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
5,432	98	Roofs, HSG B
185	98	Paved parking, HSG B
220	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B

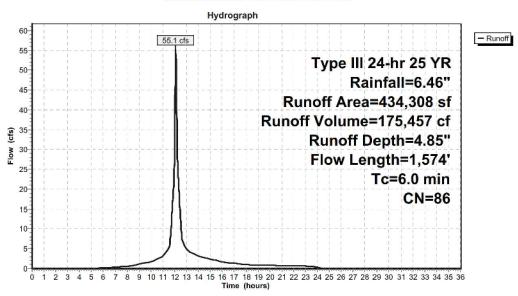
Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
85	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
85	98	Paved parking, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
88	98	Paved parking, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	61	>75% Grass cover, Good, HSG B
78,645	98	Paved parking, HSG B
88	98	Paved parking, HSG B
185	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
434,308	86	Weighted Average
136,882		31.52% Pervious Area
297,426		68.48% Impervious Area
Tc Length	Slo	ppe Velocity Capacity Description
(min) (feet)		/ft) (ft/sec) (cfs)
6.0 1,574		4.37 Direct Entry,

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Subcatchment PRWS3D: PRWS3D



Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Summary for Subcatchment PRWS4A: PRWS4A

Runoff = 10.5 cfs @ 12.41 hrs, Volume= 58,545 cf, Depth= 1.96"

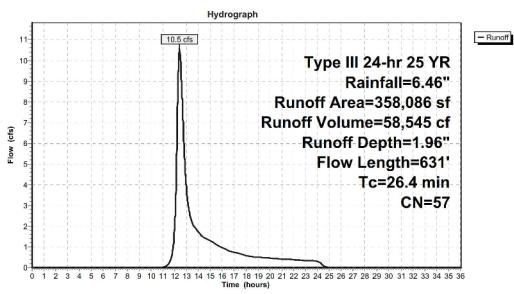
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 25 YR Rainfall=6.46"

A	rea (sf)	CN	Description		
2	45,712	55	Woods, Good	d, HSG B	
1	08,774	61	>75% Grass o	over, Good,	HSG B
	219	61	>75% Grass o	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass of	over, Good,	HSG B
	219	61	>75% Grass of	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass o	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass c	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass o	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass o	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	218	61	>75% Grass c	over, Good,	HSG B
	184	98	Paved parkin	g, HSG B	
	185	98	Paved parkin	g, HSG B	
3	58,086	57	Weighted Av	erage	
3	56,237		99.48% Pervi	ous Area	
	1,849		0.52% Imper	vious Area	
Tc	Length		e Velocity	Capacity	Description
(min)	(feet)	(ft/f	t) (ft/sec)	(cfs)	
10.6	100	0.015	0 0.16		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.43"
4.8	200	0.010	0 0.70		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
11.0	331	0.010	0 0.50		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
26.4	631	Total			

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Subcatchment PRWS4A: PRWS4A



Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-PRDP3 PRDP4

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Summary for Subcatchment PRWS4B: PRWS4B

Runoff = 8.7 cfs @ 12.09 hrs, Volume= 27,094 cf, Depth= 4.20"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 25 YR Rainfall=6.46"

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

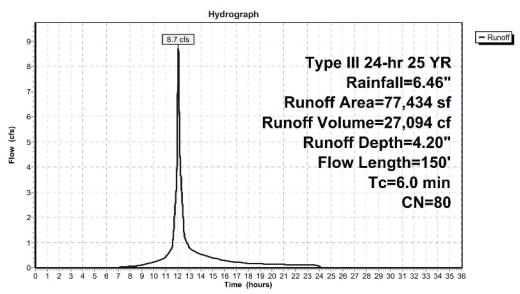
Area (sf)	CN	Description
1,971	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
869	98	Paved parking, HSG B
113	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
11,620	98	Paved parking, HSG B
185	98	Paved parking, HSG B
27,716	61	>75% Grass cover, Good, HSG B
3,214	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
868	98	Paved parking, HSG B
3,178	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
797	98	Water Surface, HSG B
2,405	98	Roofs, HSG B
428	61	>75% Grass cover, Good, HSG B
479	98	Paved parking, HSG B
1,888	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
77,434	80	Weighted Average
38,591		49.84% Pervious Area
38,843		50.16% Impervious Area

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Tc	_			Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.0	150		0.42		Direct Entry,	

Subcatchment PRWS4B: PRWS4B



Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Summary for Pond 1A-CS: 1A-CS1

Inflow Area =	434,308 sf, 68.48% Impervious,	Inflow Depth = 4.85" for 25 YR event
Inflow =	55.1 cfs @ 12.09 hrs, Volume=	175,457 cf
Outflow =	55.1 cfs @ 12.09 hrs, Volume=	175,457 cf, Atten= 0%, Lag= 0.0 min
Primary =	27.7 cfs @ 12.09 hrs, Volume=	137,075 cf
Secondary =	27.4 cfs @ 12.09 hrs, Volume=	38,383 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 470.91' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	434.90'	15.0" Round 15"Ø Culvert to Infil. Basin A
			L= 27.8' CPP, projecting, no headwall, Ke= 0.900
			Outlet Invert= 434.80' S= 0.0036 '/' Cc= 0.900 n= 0.013
#2	Secondary	435.90'	15.0" Round 15"Ø Culvert to Det. Basin
			L= 22.8' CPP, projecting, no headwall, Ke= 0.900
			Outlet Invert= 435.60' S= 0.0132 '/' Cc= 0.900 n= 0.013
#3	Device 2	437.00'	5.0' long x 0.5' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00
			Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=27.7 cfs @ 12.09 hrs HW=470.78' (Free Discharge) 1=15" Culvert to Infil. Basin A (Inlet Controls 27.7 cfs @ 22.57 fps)

Secondary OutFlow Max=27.3 cfs @ 12.09 hrs HW=470.78' (Free Discharge)

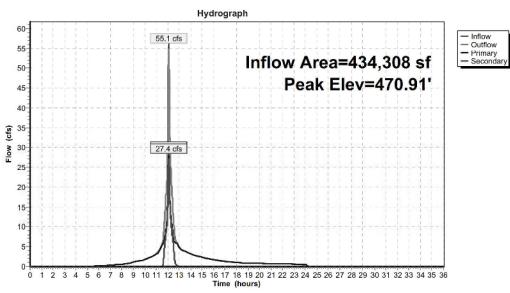
2=15"Ø Culvert to Det. Basin (Inlet Controls 27.3 cfs @ 22.25 fps)

3=Broad-Crested Rectangular Weir (Passes 27.3 cfs of 3,258.6 cfs potential flow)

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Pond 1A-CS: 1A-CS1



#5 Secondary

EAGLE RIDGE TOWNHOUSES-PRDP3 PRDP4

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Summary for Pond 1P: INFIL. BASIN B

Inflow Area =	77,434 sf, 50.16% Impervious,	Inflow Depth = 4.20" for 25 YR event
Inflow =	8.7 cfs @ 12.09 hrs, Volume=	27,094 cf
Outflow =	1.9 cfs @ 12.51 hrs, Volume=	27,094 cf, Atten= 78%, Lag= 25.5 min
Discarded =	1.3 cfs @ 12.51 hrs, Volume=	25,320 cf
Primary =	0.6 cfs @ 12.51 hrs, Volume=	1,774 cf
Secondary =	0.0 cfs @ 0.00 hrs, Volume=	0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 489.60' @ 12.51 hrs Surf.Area= 5,654 sf Storage= 8,264 cf

Plug-Flow detention time= 40.3 min calculated for 27,086 cf (100% of inflow) Center-of-Mass det. time= 40.3 min (851.5 - 811.2)

Volume	Invert	: Avail.Sto	orage Storag	e Description	
#1	487.80	24,7	56 cf Custor	n Stage Data (Prismatic) Listed below (Red	calc)
Elevation	on Si	urf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
487.8	30	0	0	0	
488.0	00	4,141	414	414	
490.0	00	6,029	10,170	10,584	
492.0	00	8,143	14,172	24,756	
Device	Routing	Invert	Outlet Devic	25	
#1	Discarded	487.80'	10.000 in/hr	Exfiltration over Surface area	
#2	Primary	487.00'	15.0" Round	15" Culvert	
			L= 25.7' CPI	, square edge headwall, Ke= 0.500	
			Outlet Invert	= 483.20' S= 0.1479 '/' Cc= 0.900 n= 0.	013
#3	Device 2	489.00'	6.0" Vert. O	ifice C= 0.600	
#4	Device 2	490.50'	36.0" x 42.0	Horiz. Grate C= 0.600 Limited to weir	flow at low heads

Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

491.50' 5.0' long x 0.5' breadth Broad-Crested Rectangular Weir

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

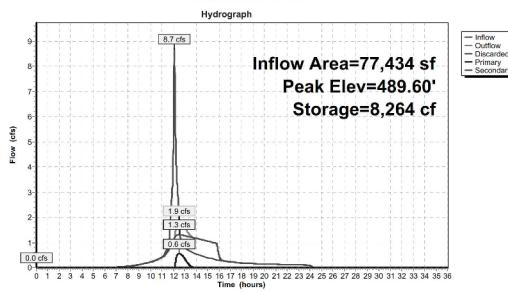
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Discarded OutFlow Max=1.3 cfs @ 12.51 hrs HW=489.60' (Free Discharge) 1=Exfiltration (Exfiltration Controls 1.3 cfs)

Primary OutFlow Max=0.6 cfs @ 12.51 hrs HW=489.60' (Free Discharge)
2=15" Culvert (Passes 0.6 cfs of 8.3 cfs potential flow)
3=Orifice (Orifice Controls 0.6 cfs @ 2.86 fps)
4=Grate (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=487.80' (Free Discharge) **5=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond 1P: INFIL. BASIN B



#3 Device 2

#4 Secondary

EAGLE RIDGE TOWNHOUSES-PRDP3 PRDP4

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Summary for Pond 4P: INFIL. BASIN A

Inflow Area =	445,126 sf, 66.82% Impe	rvious, Inflow Depth = 3.75"	for 25 YR event
Inflow =	28.4 cfs @ 12.09 hrs, Vol	ume= 139,166 cf	
Outflow =	16.6 cfs @ 12.20 hrs, Vol	ume= 108,668 cf, Atte	n= 41%, Lag= 6.7 min
Discarded =	0.2 cfs @ 12.20 hrs, Vol	ume= 18,516 cf	
Primary =	16.4 cfs @ 12.20 hrs, Vol	ume= 90,152 cf	
Secondary =	0.0 cfs @ 0.00 hrs, Vol	ume= 0 cf	

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Peak Elev= 437.97' @ 12.20 hrs Surf.Area= 9,267 sf Storage= 45,958 cf

Plug-Flow detention time= 226.2 min calculated for 108,638 cf (78% of inflow) Center-of-Mass det. time= 137.9 min (952.7 - 814.7)

Volume	Inver	t Avail.Sto	orage S	Storage	Description	
#1	429.50	61,3	78 cf (Custom	Stage Data (Pri	smatic) Listed below (Recalc)
Elevation	on S	urf.Area	Inc.S	tore	Cum.Store	
(fee	et)	(sq-ft)	(cubic-f	eet)	(cubic-feet)	
429.5	50	0		0	0	
430.0	00	2,658		665	665	
432.0	00	3,978	6	,636	7,301	
434.0	00	5,524	9	,502	16,803	
436.0	00	7,296	12	,820	29,623	
438.0	00	9,294	16	,590	46,213	
439.0	00	10,378	9	,836	56,049	
439.5	50	10,941	5	,330	61,378	
Device	Routing	Invert	Outlet	Devices	s	
#1	Discarded	429.50'	1.000 i	n/hr Ex	diltration over	Surface area
#2	Primary	432.00'	18.0"	Round	18" Culvert	
			L= 59.7	7' CMP	, square edge h	eadwall, Ke= 0.500
			Outlet	Invert=	431.00' S= 0.0	0168 '/' Cc= 0.900
			n = 0.02	20 Corr	rugated PE, corr	ugated interior
						CONTRACTOR CONTRACTOR

437.10' **60.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads

439.25' 5.0' long x 0.5' breadth Broad-Crested Rectangular Weir

Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

InflowOutflowDiscarded

- Primary

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Discarded OutFlow Max=0.2 cfs @ 12.20 hrs HW=437.97' (Free Discharge) 1=Exfiltration (Exfiltration Controls 0.2 cfs)

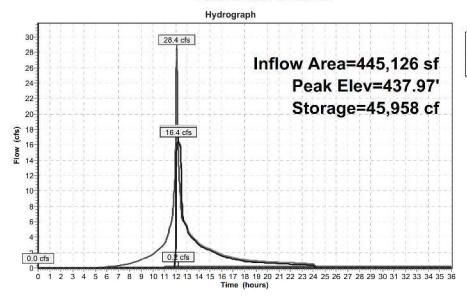
Primary OutFlow Max=16.4 cfs @ 12.20 hrs HW=437.97' (Free Discharge)

2=18" Culvert (Barrel Controls 16.4 cfs @ 9.29 fps)

3=Grate (Passes 16.4 cfs of 48.0 cfs potential flow)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=429.50' (Free Discharge) 4=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond 4P: INFIL. BASIN A



Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Summary for Pond 5P: DET. POND

Inflow Area =	482,955 sf, 61.58% Impervious,	Inflow Depth = 3.36" for 25 YR event
Inflow =	45.4 cfs @ 12.09 hrs, Volume=	135,277 cf
Outflow =	14.2 cfs @ 12.52 hrs, Volume=	126,286 cf, Atten= 69%, Lag= 25.7 min
Primary =	6.5 cfs @ 12.52 hrs, Volume=	31,905 cf
Secondary =	7.7 cfs @ 12.52 hrs, Volume=	94,381 cf
Tertiary =	0.0 cfs @ 0.00 hrs, Volume=	0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 435.41' @ 12.52 hrs Surf.Area= 12,026 sf Storage= 47,964 cf

Plug-Flow detention time= 83.0 min calculated for 126,286 cf (93% of inflow) Center-of-Mass det. time= 49.9 min (883.0 - 833.0)

Volume Invert Avail.Storage Storage Description

Volume	IIIVEII	Avail.Ste	rage Storage	Description	
#1	423.00	93,9	23 cf Custom	n Stage Data (Prismatic) Listed below (Recalc)	
Elevation		urf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
423.0	00	0	0	0	
424.0	00	25	13	13	
426.0	00	76	101	114	
427.0	00	92	84	198	
428.0	00	780	436	634	
430.0	00	4,121	4,901	5,535	
432.0	00	6,685	10,806	16,341	
434.0	00	9,650	16,335	32,676	
436.0	00	13,018	22,668	55,344	
438.0	00	16,788	29,806	85,150	
438.5	50	18,305	8,773	93,923	
Device	Routing	Invert	Outlet Device	rs .	
#1	Primary	431.50'	24.0" Round	24"Ø Culvert	
			L= 40.8' CMF	P, square edge headwall, Ke= 0.500	
			Outlet Invert=	= 429.75' S= 0.0429 '/' Cc= 0.900	
			n= 0.020 Corr	rugated PE, corrugated interior	
#2	Device 1	432.00'	12.0" Vert. 12	2"Ø Orifice C= 0.600	
#3	Secondary	430.75'	12.0" Round	12"Ø Culvert	
			L= 186.0' CM	1P, square edge headwall, Ke= 0.500	
			Outlet Invert=	= 422.00' S= 0.0470 '/' Cc= 0.900	
			n= 0.013 Cor	rugated PE, smooth interior	
#4	Device 1	437.60'	24.0" x 36.0"	Horiz. Grate C= 0.600 Limited to weir flow at low he	ads

Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

Inflow
Outflow
Primary
Seconds
Tertiary

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#5 Tertiary 438.00' 5.0' long x 0.5' breadth Broad-Crested Rectangular Weir EMOF

Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=6.5 cfs @ 12.52 hrs HW=435.41' (Free Discharge)

1=24" Culvert (Passes 6.5 cfs of 25.8 cfs potential flow)

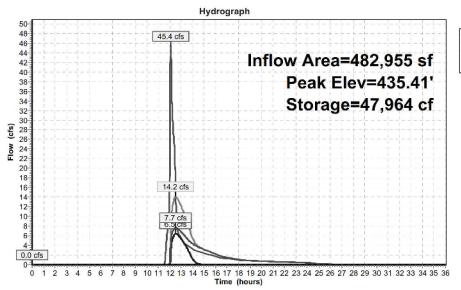
2=12"Ø Orifice (Orifice Controls 6.5 cfs @ 8.21 fps)

-4=Grate (Controls 0.0 cfs)

Secondary OutFlow Max=7.7 cfs @ 12.52 hrs HW=435.41' (Free Discharge)
3=12"Ø Culvert (Inlet Controls 7.7 cfs @ 9.82 fps)

Tertiary OutFlow Max=0.0 cfs @ 0.00 hrs HW=423.00' (Free Discharge) 5=Broad-Crested Rectangular Weir EMOF (Controls 0.0 cfs)





Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Summary for Link PRDP3: PRDP3

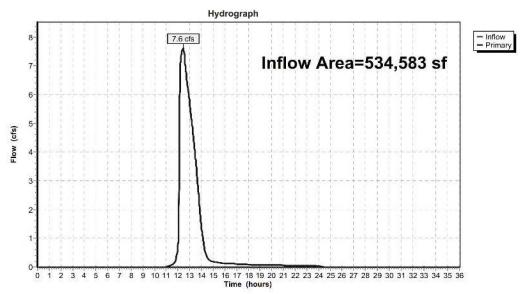
Inflow Area = 534,583 sf, 55.64% Impervious, Inflow Depth = 0.91" for 25 YR event

Inflow = 7.6 cfs @ 12.44 hrs, Volume= 40,724 cf

Primary = 7.6 cfs @ 12.44 hrs, Volume= 40,724 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP3: PRDP3



Type III 24-hr 25 YR Rainfall=6.46" Printed 6/23/2023

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Summary for Link PRDP4: PRDP4

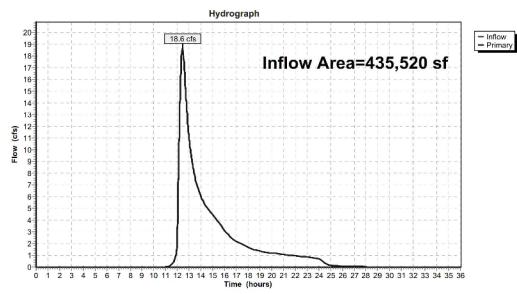
Inflow Area = 435,520 sf, 9.34% Impervious, Inflow Depth = 4.26" for 25 YR event

Inflow = 18.6 cfs @ 12.42 hrs, Volume= 154,701 cf

Primary = 18.6 cfs @ 12.42 hrs, Volume= 154,701 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP4: PRDP4



Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Time span=0.00-36.00 hrs, dt=0.010 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PRWS3A: PRWS3A Runoff Area=51,628 sf 0.00% Impervious Runoff Depth=2.89"

Flow Length=301' Tc=12.6 min CN=58 Runoff=3.1 cfs 12,431 cf

Subcatchment PRWS3B: PRWS3B Runoff Area=37,829 sf 0.00% Impervious Runoff Depth=3.00"

Tc=6.0 min CN=59 Runoff=3.0 cfs 9,444 cf

Subcatchment PRWS3C: PRWS3C Runoff Area=10,818 sf 0.00% Impervious Runoff Depth=3.21"

Tc=6.0 min CN=61 Runoff=0.9 cfs 2,894 cf

Subcatchment PRWS3D: PRWS3D Runoff Area=434,308 sf 68.48% Impervious Runoff Depth=6.03"

Flow Length=1,574' Tc=6.0 min CN=86 Runoff=67.8 cfs 218,284 cf

Subcatchment PRWS4A: PRWS4A Runoff Area=358,086 sf 0.52% Impervious Runoff Depth=2.78"

Flow Length=631' Tc=26.4 min CN=57 Runoff=15.5 cfs 83,069 cf

Subcatchment PRWS4B: PRWS4B Runoff Area=77,434 sf 50.16% Impervious Runoff Depth=5.33"

Flow Length=150' Tc=6.0 min CN=80 Runoff=11.0 cfs 34,426 cf

Pond 1A-CS: 1A-CS1 Peak Elev=488.83' Inflow=67.8 cfs 218,284 cf

Primary=34.1 cfs 167,680 cf Secondary=33.7 cfs 50,604 cf Outflow=67.8 cfs 218,284 cf

Pond 1P: INFIL. BASIN B Peak Elev=490.05' Storage=10,910 cf Inflow=11.0 cfs 34,426 cf

Discarded=1.4 cfs 30,335 cf Primary=0.8 cfs 4,091 cf Secondary=0.0 cfs 0 cf Outflow=2.3 cfs 34,426 cf

Pond 4P: INFIL. BASIN A Peak Elev=438.49' Storage=50,874 cf Inflow=35.0 cfs 170,574 cf

 $Discarded = 0.2\ cfs\ 19,003\ cf\ Primary = 17.2\ cfs\ 121,059\ cf\ Secondary = 0.0\ cfs\ 0\ cf\ Outflow = 17.4\ cfs\ 140,062\ cf$

Pond 5P: DET. POND Peak Elev=436.81' Storage=66,456 cf Inflow=53.2 cfs 181,107 cf

Primary=7.8 cfs 52,456 cf Secondary=8.6 cfs 119,659 cf Tertiary=0.0 cfs 0 cf Outflow=16.5 cfs 172,115 cf

Link PRDP3: PRDP3 Inflow=9.7 cfs 64,888 cf

Primary=9.7 cfs 64,888 cf

Link PRDP4: PRDP4 Inflow=24.8 cfs 206,819 cf

Primary=24.8 cfs 206,819 cf

Total Runoff Area = 970,103 sf Runoff Volume = 360,548 cf Average Runoff Depth = 4.46" 65.15% Pervious = 631,985 sf 34.85% Impervious = 338,118 sf

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Summary for Subcatchment PRWS3A: PRWS3A

Runoff = 3.1 cfs @ 12.18 hrs, Volume= 12,431 cf, Depth= 2.89"

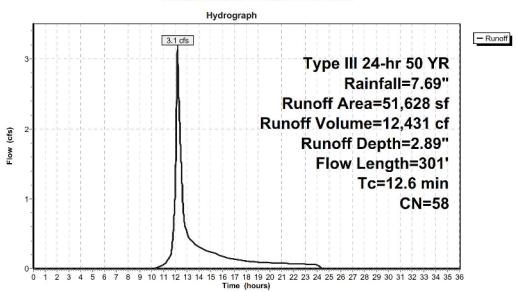
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 50 YR Rainfall=7.69"

	A	rea (sf)	CN D	escription		
*		23,286	61 >	75% Grass o	over, Good	, HSG B
		28,342	55 W	loods, Good	d, HSG B	
		51,628	58 W	eighted Av	erage	
		51,628	10	00.00% Per	vious Area	
	Tc	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	9.8	100	0.1300	0.17		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 3.43"
	2.0	88	0.0220	0.74		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	8.0	113	0.2500	2.50		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	12.6	301	Total			

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Subcatchment PRWS3A: PRWS3A



Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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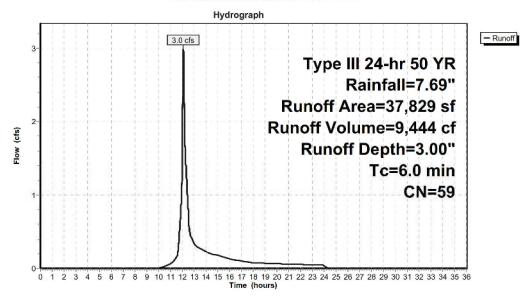
Summary for Subcatchment PRWS3B: PRWS3B

Runoff = 3.0 cfs @ 12.09 hrs, Volume= 9,444 cf, Depth= 3.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 50 YR Rainfall=7.69"

·	Area (sf)	CN	Description			
	24,721	61	>75% Grass	cover, Good	d, HSG B	
	13,108	55	Woods, Good, HSG B			
	37,829	59	Weighted A	verage		
	37,829		100.00% Per	vious Area		
	Tc Length	n Slo	oe Velocity	Capacity	Description	
(mi	n) (feet)) (ft/	ft) (ft/sec)	(cfs)		
E	i.0				Direct Entry,	

Subcatchment PRWS3B: PRWS3B



Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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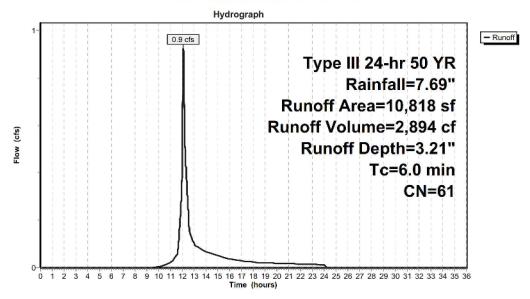
Summary for Subcatchment PRWS3C: PRWS3C

Runoff = 0.9 cfs @ 12.09 hrs, Volume= 2,894 cf, Depth= 3.21"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 50 YR Rainfall=7.69"

A	rea (sf)	CN D	escription			
	10,818	61 >	61 >75% Grass cover, Good, HSG B			
	10,818	1	00.00% Per	vious Area		
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
6.0					Direct Entry,	

Subcatchment PRWS3C: PRWS3C



Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-PRDP3 PRDP4

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Summary for Subcatchment PRWS3D: PRWS3D

Runoff = 67.8 cfs @ 12.08 hrs, Volume= 218,284 cf, Depth= 6.03"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 50 YR Rainfall=7.69"

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Area (sf)	CN	Description
9	61	Description
127,331 4,563	98	>75% Grass cover, Good, HSG B Roofs, HSG B
868	98	Water Surface, HSG B
4,563	98	Roofs, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
5,466	98	Roofs, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,550	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
1,020	98	Paved parking, HSG B
185	98	Paved parking, HSG B
79	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
69	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
112	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
125	61	>75% Grass cover, Good, HSG B
4,560	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
133	61	>75% Grass cover, Good, HSG B

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
120	61	>75% Grass cover, Good, HSG B
5,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
114	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
869	98	Paved parking, HSG B
194	98	Paved parking, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
5,584	98	Roofs, HSG B
4,563	98	Roofs, HSG B
4,563	98	Roofs, HSG B
150	61	>75% Grass cover, Good, HSG B
150	61	>75% Grass cover, Good, HSG B
2,867	98	Paved parking, HSG B
155	98	Paved parking, HSG B
155	98	Paved parking, HSG B
150	61	>75% Grass cover, Good, HSG B
2,859	98	Roofs, HSG B
4.5		

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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150	98	Paved parking, HSG B
155	98	Paved parking, HSG B
153	61	>75% Grass cover, Good, HSG B
150	98	Paved parking, HSG B
150	98	Paved parking, HSG B
2,861	98	Roofs, HSG B
155	98	Paved parking, HSG B
155	98	Paved parking, HSG B
150	61	>75% Grass cover, Good, HSG B
150	61	>75% Grass cover, Good, HSG B
2,861	98	Roofs, HSG B
155	98	Paved parking, HSG B
155	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
5,432	98	Roofs, HSG B
185	98	Paved parking, HSG B
220	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
100	0.0	Dayod parking USC D

185 98 Paved parking, HSG B

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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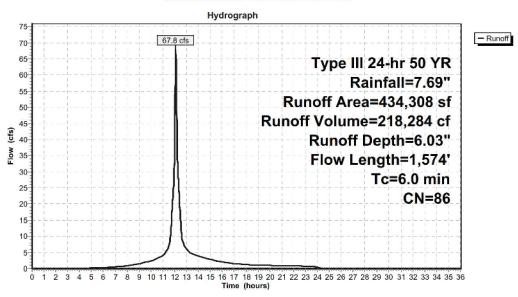
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	219	61	>75% Grass c	over, Good	. HSG B
	1,021	98	Paved parking		
	4,563	98	Roofs, HSG B		
	869	98	Paved parking	g, HSG B	
	185	98	Paved parking	, HSG B	
le le	4,563	98	Roofs, HSG B		
	219	61	>75% Grass c	over, Good,	, HSG B
	219	61	>75% Grass c	over, Good,	, HSG B
8	4,563	98	Roofs, HSG B		
	85	61	>75% Grass c	over, Good,	, HSG B
	185	98	Paved parking	g, HSG B	
	4,563	98	Roofs, HSG B		
	869	98	Paved parking	g, HSG B	
	219	61	>75% Grass c	over, Good,	, HSG B
	1,021	98	Paved parking	g, HSG B	
	4,563	98	Roofs, HSG B		
	85	98	Paved parking	g, HSG B	
	185	98	Paved parking	g, HSG B	
1	4,563	98	Roofs, HSG B		
	869	98	Roofs, HSG B		
	219	61	>75% Grass c	over, Good,	, HSG B
	4,563	98	Roofs, HSG B		
	1,021	98	Paved parking	g, HSG B	
	88	98	Paved parking	g, HSG B	
	185	98	Paved parking	g, HSG B	
	4,563	98	Roofs, HSG B		
	869	98	Paved parking	g, HSG B	
	219	61	>75% Grass c	over, Good,	, HSG B
	1,021	61	>75% Grass c	over, Good,	, HSG B
7	8,645	98	Paved parking	g, HSG B	
	88	98	Paved parking	g, HSG B	
	185	98	Paved parking	g, HSG B	
	1,021	98	Paved parking		
	1,021	98	Paved parking		
	1,021	98	Paved parking	g, HSG B	
43	4,308	86	Weighted Ave	erage	
13	6,882		31.52% Pervi	ous Area	
29	7,426		68.48% Impe	rvious Area	
Tc	Length	Slop	e Velocity	Capacity	Description
(min)	(feet)	(ft/f	t) (ft/sec)	(cfs)	
6.0	1,574		4.37		Direct Entry,

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Subcatchment PRWS3D: PRWS3D



Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Summary for Subcatchment PRWS4A: PRWS4A

Runoff = 15.5 cfs @ 12.40 hrs, Volume= 83,069 cf, Depth= 2.78"

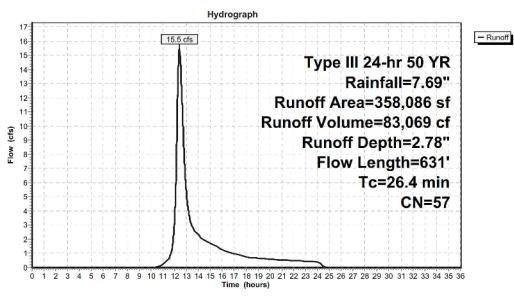
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 50 YR Rainfall=7.69"

A	rea (sf)	CN	Description		
2	45,712	55	Woods, Good	I, HSG B	
1	08,774	61	>75% Grass c	over, Good,	HSG B
	219	61	>75% Grass c	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass c	over, Good,	HSG B
	219	61	>75% Grass c	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass o	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass c	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass c	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass c	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	218	61	>75% Grass c	over, Good,	HSG B
	184	98	Paved parkin	g, HSG B	
	185	98	Paved parkin	g, HSG B	
3	58,086	57	Weighted Av	erage	
3	56,237		99.48% Pervi	ous Area	
	1,849		0.52% Imper	vious Area	
Tc	Length	Slop	e Velocity	Capacity	Description
(min)	(feet)	(ft/f	t) (ft/sec)	(cfs)	
10.6	100	0.015	0.16		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.43"
4.8	200	0.010	0.70		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
11.0	331	0.010	0.50		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
26.4	631	Total			

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Subcatchment PRWS4A: PRWS4A



Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-PRDP3 PRDP4

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Summary for Subcatchment PRWS4B: PRWS4B

Runoff = 11.0 cfs @ 12.09 hrs, Volume= 34,426 cf, Depth= 5.33"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 50 YR Rainfall=7.69"

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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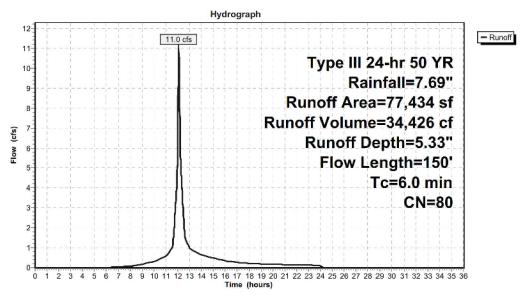
Area (sf)	CN	Description
1,971	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
869	98	Paved parking, HSG B
113	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
11,620	98	Paved parking, HSG B
185	98	Paved parking, HSG B
27,716	61	>75% Grass cover, Good, HSG B
3,214	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
868	98	Paved parking, HSG B
3,178	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
797	98	Water Surface, HSG B
2,405	98	Roofs, HSG B
428	61	>75% Grass cover, Good, HSG B
479	98	Paved parking, HSG B
1,888	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
77,434	80	Weighted Average
38,591		49.84% Pervious Area
38,843		50.16% Impervious Area

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Tc	_			Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.0	150		0.42		Direct Entry,	

Subcatchment PRWS4B: PRWS4B



Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Summary for Pond 1A-CS: 1A-CS1

Inflow Area =	434,308 sf, 68.48% Impervious,	Inflow Depth = 6.03" for 50 YR event
Inflow =	67.8 cfs @ 12.08 hrs, Volume=	218,284 cf
Outflow =	67.8 cfs @ 12.08 hrs, Volume=	218,284 cf, Atten= 0%, Lag= 0.0 min
Primary =	34.1 cfs @ 12.08 hrs, Volume=	167,680 cf
Secondary =	33.7 cfs @ 12.08 hrs, Volume=	50,604 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 488.83' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	434.90'	15.0" Round 15"Ø Culvert to Infil. Basin A
			L= 27.8' CPP, projecting, no headwall, Ke= 0.900
			Outlet Invert= 434.80' S= 0.0036 '/' Cc= 0.900 n= 0.013
#2	Secondary	435.90'	15.0" Round 15"Ø Culvert to Det. Basin
			L= 22.8' CPP, projecting, no headwall, Ke= 0.900
			Outlet Invert= 435.60' S= 0.0132 '/' Cc= 0.900 n= 0.013
#3	Device 2	437.00'	5.0' long x 0.5' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00
			Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=34.0 cfs @ 12.08 hrs HW=488.63' (Free Discharge) 1=15" Culvert to Infil. Basin A (Inlet Controls 34.0 cfs @ 27.70 fps)

Secondary OutFlow Max=33.7 cfs @ 12.08 hrs HW=488.63' (Free Discharge)

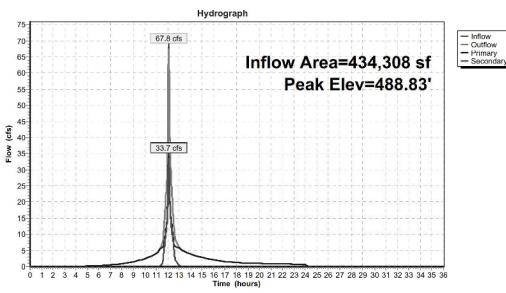
2=15"Ø Culvert to Det. Basin (Inlet Controls 33.7 cfs @ 27.44 fps)

3=Broad-Crested Rectangular Weir (Passes 33.7 cfs of 6,159.0 cfs potential flow)

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Pond 1A-CS: 1A-CS1



#5 Secondary

EAGLE RIDGE TOWNHOUSES-PRDP3 PRDP4

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Summary for Pond 1P: INFIL. BASIN B

Inflow Area =	77,434 sf, 50.16% Impervious,	Inflow Depth = 5.33" for 50 YR event
Inflow =	11.0 cfs @ 12.09 hrs, Volume=	34,426 cf
Outflow =	2.3 cfs @ 12.52 hrs, Volume=	34,426 cf, Atten= 79%, Lag= 25.9 min
Discarded =	1.4 cfs @ 12.52 hrs, Volume=	30,335 cf
Primary =	0.8 cfs @ 12.52 hrs, Volume=	4,091 cf
Secondary =	0.0 cfs @ 0.00 hrs, Volume=	0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 490.05' @ 12.52 hrs Surf.Area= 6,086 sf Storage= 10,910 cf

Plug-Flow detention time= 45.6 min calculated for 34,416 cf (100% of inflow) Center-of-Mass det. time= 45.6 min (850.0 - 804.4)

Volume	Invert	Avail.Sto	orage Storag	e Description	
#1	487.80	24,7	56 cf Custor	n Stage Data (Pris	matic) Listed below (Recalc)
=1					
Elevation	= 10	ırf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
487.	80	0	0	0	
488.0	00	4,141	414	414	
490.0	00	6,029	10,170	10,584	
492.0	00	8,143	14,172	24,756	
Device	Routing	Invert	Outlet Device	es	_
#1	Discarded	487.80'	10.000 in/hr	Exfiltration over	Surface area
#2	Primary	487.00'	15.0" Round	15" Culvert	
			L= 25.7' CPF	, square edge hea	dwall, Ke= 0.500
			Outlet Invert	= 483.20' S= 0.14	179 '/' Cc= 0.900 n= 0.013
#3	Device 2	489.00'	6.0" Vert. Or	rifice C= 0.600	
#4	Device 2	490.50'	36.0" x 42.0'	' Horiz. Grate C=	0.600 Limited to weir flow at low heads

Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

491.50' 5.0' long x 0.5' breadth Broad-Crested Rectangular Weir

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

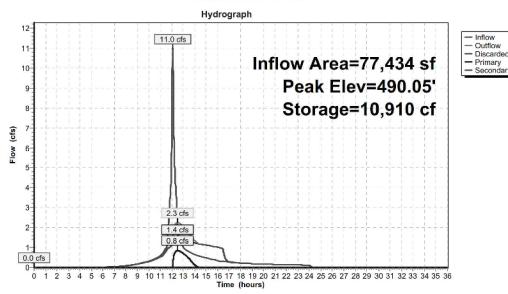
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Discarded OutFlow Max=1.4 cfs @ 12.52 hrs HW=490.05' (Free Discharge) 1=Exfiltration (Exfiltration Controls 1.4 cfs)

Primary OutFlow Max=0.8 cfs @ 12.52 hrs HW=490.05' (Free Discharge)
2=15" Culvert (Passes 0.8 cfs of 9.2 cfs potential flow)
3=Orifice (Orifice Controls 0.8 cfs @ 4.32 fps)
4=Grate (Controls 0.0 cfs)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=487.80' (Free Discharge) **5=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond 1P: INFIL. BASIN B



Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Summary for Pond 4P: INFIL. BASIN A

Inflow Area =	445,126 sf, 66.82% Impervio	ous, Inflow Depth = 4.60" for 50 YR event
Inflow =	35.0 cfs @ 12.09 hrs, Volum	e= 170,574 cf
Outflow =	17.4 cfs @ 12.24 hrs, Volum	e= 140,062 cf, Atten= 50%, Lag= 9.1 min
Discarded =	0.2 cfs @ 12.24 hrs, Volum	e= 19,003 cf
Primary =	17.2 cfs @ 12.24 hrs, Volum	e= 121,059 cf
Secondary =	0.0 cfs @ 0.00 hrs, Volum	e= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs
Peak Elev= 438.49' @ 12.24 hrs Surf.Area= 9,823 sf Storage= 50,874 cf

Plug-Flow detention time= 195.1 min calculated for 140,023 cf (82% of inflow)

Center-of-Mass det. time= 116.9 min (925.3 - 808.4)

Volume	Invert	Avail.Sto	orage Storag	e Description	
#1	429.50'	61,3	78 cf Custor	n Stage Data (Pri	ismatic) Listed below (Recalc)
Elevation		ırf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
429.	50	0	0	0	
430.0	00	2,658	665	665	
432.0	00	3,978	6,636	7,301	
434.0	00	5,524	9,502	16,803	
436.0	00	7,296	12,820	29,623	
438.0	00	9,294	16,590	46,213	
439.	00	10,378	9,836	56,049	
439	50	10,941	5,330	61,378	
Device	Routing	Invert	Outlet Device	es	
#1	Discarded	429.50'	1.000 in/hr E	xfiltration over	Surface area
#2	Primary	432.00'	18.0" Round	18" Culvert	
			L= 59.7' CM	P, square edge h	eadwall, Ke= 0.500
			Outlet Invert	= 431.00' S= 0.0	0168 '/' Cc= 0.900
			n= 0.020 Co	rrugated PE, corr	ugated interior
#3	Device 2	437.10'	60.0" x 48.0'	Horiz. Grate	C= 0.600 Limited to weir flow at low heads
#4	Secondary	439.25'	5.0' long x 0	.5' breadth Broa	d-Crested Rectangular Weir
			Head (feet)	0.20 0.40 0.60	0.80 1.00
			Coef. (English	1) 2.80 2.92 3.0	8 3.30 3.32

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

InflowOutflow

- Primary

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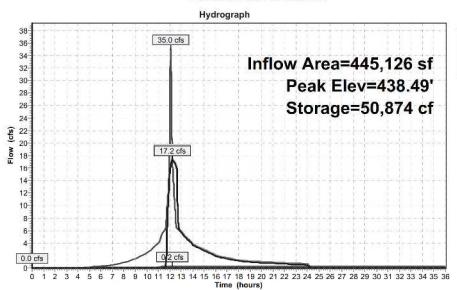
Primary OutFlow Max=17.2 cfs @ 12.24 hrs HW=438.49' (Free Discharge)

2=18" Culvert (Barrel Controls 17.2 cfs @ 9.72 fps)

3=Grate (Passes 17.2 cfs of 96.2 cfs potential flow)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=429.50' (Free Discharge) 4=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond 4P: INFIL. BASIN A



Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Summary for Pond 5P: DET. POND

Inflow Area =	482,955 sf, 61.58% Impervious,	Inflow Depth = 4.50" for 50 YR event
Inflow =	53.2 cfs @ 12.09 hrs, Volume=	181,107 cf
Outflow =	16.5 cfs @ 12.65 hrs, Volume=	172,115 cf, Atten= 69%, Lag= 33.6 min
Primary =	7.8 cfs @ 12.65 hrs, Volume=	52,456 cf
Secondary =	8.6 cfs @ 12.65 hrs, Volume=	119,659 cf
Tertiary =	0.0 cfs @ 0.00 hrs, Volume=	0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 436.81' @ 12.65 hrs Surf.Area= 14,538 sf Storage= 66,456 cf

Plug-Flow detention time= 77.5 min calculated for 172,115 cf (95% of inflow) Center-of-Mass det. time= 51.4 min (877.6 - 826.2)

Volume Invert Avail.Storage Storage Description

Volume	IIIVEII	Avail.Ste	rage Storage	Description	
#1	423.00	93,9	23 cf Custom	n Stage Data (Prismatic) Listed below (Recalc)	
Elevation		urf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
423.0	00	0	0	0	
424.0	00	25	13	13	
426.0	00	76	101	114	
427.0	00	92	84	198	
428.0	00	780	436	634	
430.0	00	4,121	4,901	5,535	
432.0	00	6,685	10,806	16,341	
434.0	00	9,650	16,335	32,676	
436.0	00	13,018	22,668	55,344	
438.0	00	16,788	29,806	85,150	
438.5	50	18,305	8,773	93,923	
Device	Routing	Invert	Outlet Device	rs .	
#1	Primary	431.50'	24.0" Round	24"Ø Culvert	
			L= 40.8' CMF	P, square edge headwall, Ke= 0.500	
			Outlet Invert=	= 429.75' S= 0.0429 '/' Cc= 0.900	
			n= 0.020 Corr	rugated PE, corrugated interior	
#2	Device 1	432.00'	12.0" Vert. 12	2"Ø Orifice C= 0.600	
#3	Secondary	430.75'	12.0" Round	12"Ø Culvert	
			L= 186.0' CM	1P, square edge headwall, Ke= 0.500	
			Outlet Invert=	= 422.00' S= 0.0470 '/' Cc= 0.900	
			n= 0.013 Cor	rugated PE, smooth interior	
#4	Device 1	437.60'	24.0" x 36.0"	Horiz. Grate C= 0.600 Limited to weir flow at low he	ads

Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Tertiary 438.00' 5.0' long x 0.5' breadth Broad-Crested Rectangular Weir EMOF

Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=7.8 cfs @ 12.65 hrs HW=436.81' (Free Discharge) T_1=24"Ø Culvert (Passes 7.8 cfs of 31.4 cfs potential flow)

-2=12"Ø Orifice (Orifice Controls 7.8 cfs @ 9.99 fps)

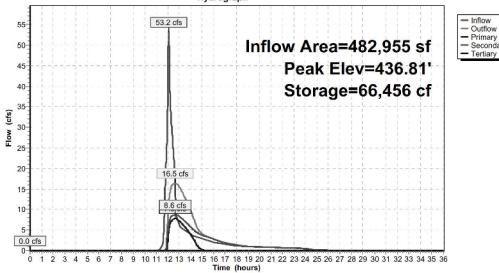
-4=Grate (Controls 0.0 cfs)

Secondary OutFlow Max=8.6 cfs @ 12.65 hrs HW=436.81' (Free Discharge)
3=12"Ø Culvert (Barrel Controls 8.6 cfs @ 11.01 fps)

Tertiary OutFlow Max=0.0 cfs @ 0.00 hrs HW=423.00' (Free Discharge) **T**-5=Broad-Crested Rectangular Weir EMOF (Controls 0.0 cfs)



Pond 5P: DET. POND



Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Summary for Link PRDP3: PRDP3

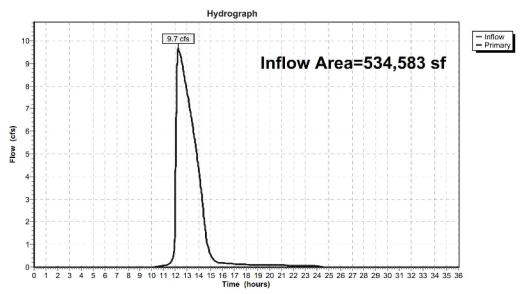
Inflow Area = 534,583 sf, 55.64% Impervious, Inflow Depth = 1.46" for 50 YR event

Inflow = 9.7 cfs @ 12.23 hrs, Volume= 64,888 cf

Primary = 9.7 cfs @ 12.23 hrs, Volume= 64,888 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP3: PRDP3



Type III 24-hr 50 YR Rainfall=7.69" Printed 6/23/2023

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Summary for Link PRDP4: PRDP4

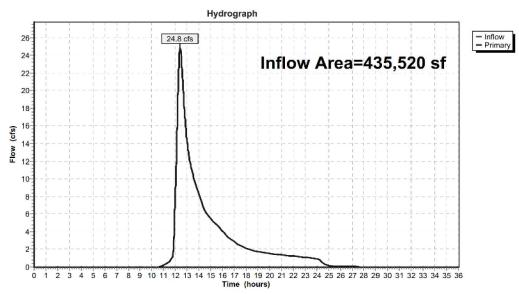
Inflow Area = 435,520 sf, 9.34% Impervious, Inflow Depth = 5.70" for 50 YR event

Inflow = 24.8 cfs @ 12.40 hrs, Volume= 206,819 cf

Primary = 24.8 cfs @ 12.40 hrs, Volume= 206,819 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP4: PRDP4



Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Time span=0.00-36.00 hrs, dt=0.010 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PRWS3A: PRWS3A Runoff Area=51,628 sf 0.00% Impervious Runoff Depth=3.98"

Flow Length=301' Tc=12.6 min CN=58 Runoff=4.4 cfs 17,144 cf

Subcatchment PRWS3B: PRWS3B Runoff Area=37,829 sf 0.00% Impervious Runoff Depth=4.11"

Tc=6.0 min CN=59 Runoff=4.2 cfs 12,955 cf

Subcatchment PRWS3C: PRWS3C Runoff Area=10,818 sf 0.00% Impervious Runoff Depth=4.36"

Tc=6.0 min CN=61 Runoff=1.3 cfs 3,930 cf

Subcatchment PRWS3D: PRWS3D Runoff Area=434,308 sf 68.48% Impervious Runoff Depth=7.47"

Flow Length=1,574' Tc=6.0 min CN=86 Runoff=83.0 cfs 270,341 cf

Subcatchment PRWS4A: PRWS4A Runoff Area=358,086 sf 0.52% Impervious Runoff Depth=3.86"

Flow Length=631' Tc=26.4 min CN=57 Runoff=21.9 cfs 115,190 cf

Subcatchment PRWS4B: PRWS4B Runoff Area=77,434 sf 50.16% Impervious Runoff Depth=6.73"

Flow Length=150' Tc=6.0 min CN=80 Runoff=13.7 cfs 43,425 cf

Pond 1A-CS: 1A-CS1 Peak Elev=515.14 Inflow=83.0 cfs 270,341 cf

Primary=41.6 cfs 203,949 cf Secondary=41.4 cfs 66,392 cf Outflow=83.0 cfs 270,341 cf

Pond 1P: INFIL. BASIN B Peak Elev=490.56' Storage=14,139 cf Inflow=13.7 cfs 43,425 cf

Discarded=1.5 cfs 36,045 cf Primary=1.8 cfs 7,379 cf Secondary=0.0 cfs 0 cf Outflow=3.3 cfs 43,425 cf

Pond 4P: INFIL. BASIN A Peak Elev=439.09' Storage=56,969 cf Inflow=42.9 cfs 207,879 cf

Discarded=0.2 cfs 19,534 cf Primary=18.0 cfs 157,818 cf Secondary=0.0 cfs 0 cf Outflow=18.3 cfs 177,353 cf

Pond 5P: DET. POND Peak Elev=437.89' Storage=83,300 cf Inflow=62.4 cfs 237,166 cf

Primary=13.9 cfs 82,012 cf Secondary=9.0 cfs 146,162 cf Tertiary=0.0 cfs 0 cf Outflow=22.9 cfs 228,174 cf

Link PRDP3: PRDP3 Inflow=15.5 cfs 99,156 cf

Primary=15.5 cfs 99,156 cf

Link PRDP4: PRDP4 Inflow=32.2 cfs 268,731 cf

Primary=32.2 cfs 268,731 cf

Total Runoff Area = 970,103 sf Runoff Volume = 462,984 cf Average Runoff Depth = 5.73" 65.15% Pervious = 631,985 sf 34.85% Impervious = 338,118 sf

Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Summary for Subcatchment PRWS3A: PRWS3A

Runoff = 4.4 cfs @ 12.18 hrs, Volume= 17,144 cf, Depth= 3.98"

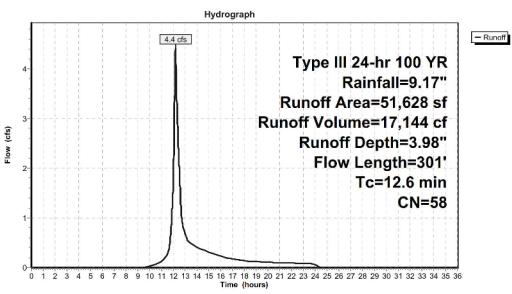
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 100 YR Rainfall=9.17"

	А	rea (sf)	CN D	escription		
*		23,286	61 >	75% Grass o	over, Good	, HSG B
		28,342	55 V	loods, Good	d, HSG B	
		51,628	58 W	eighted Av	erage	
		51,628	1	00.00% Pen	vious Area	
	Tc	Length	Slope	Velocity	Capacity	Description
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
	9.8	100	0.1300	0.17		Sheet Flow,
						Woods: Light underbrush n= 0.400 P2= 3.43"
	2.0	88	0.0220	0.74		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	0.8	113	0.2500	2.50		Shallow Concentrated Flow,
						Woodland Kv= 5.0 fps
	12.6	301	Total			

Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Subcatchment PRWS3A: PRWS3A



Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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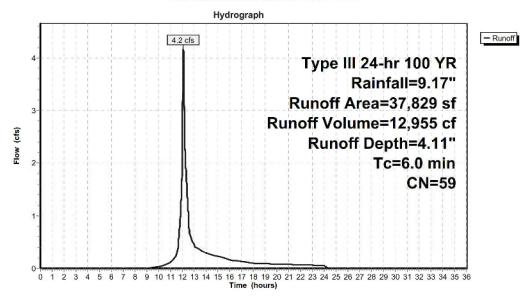
Summary for Subcatchment PRWS3B: PRWS3B

Runoff = 4.2 cfs @ 12.09 hrs, Volume= 12,955 cf, Depth= 4.11"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 100 YR Rainfall=9.17"

-	Α	rea (sf)	CN	N Description				
		24,721	61	>7	5% Grass c	over, Good	I, HSG B	
	1	13,108	55	55 Woods, Good, HSG B				
		37,829	59	W	eighted Av	erage		
		37,829		10	0.00% Perv	ious Area		
	Tc	Length	Slo	pe	Velocity	Capacity	Description	
	(min)	(feet)	(ft/	ft)	(ft/sec)	(cfs)		
	6.0						Direct Entry.	

Subcatchment PRWS3B: PRWS3B



Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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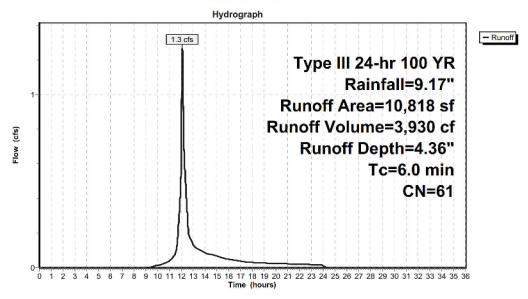
Summary for Subcatchment PRWS3C: PRWS3C

Runoff = 1.3 cfs @ 12.09 hrs, Volume= 3,930 cf, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 100 YR Rainfall=9.17"

·	Area (sf)	CN D	CN Description					
	10,818	61 >	61 >75% Grass cover, Good, HSG B					
	10,818	,818 100.00% Pervious Area						
	Length		Velocity	Capacity				
<u>(min</u>) (feet)	(ft/ft)	(ft/sec)	(cfs)				
6.0)				Direct Entry,			

Subcatchment PRWS3C: PRWS3C



Appendix G: HydroCad Report

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EAGLE RIDGE TOWNHOUSES-PRDP3 PRDP4

Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Summary for Subcatchment PRWS3D: PRWS3D

83.0 cfs @ 12.08 hrs, Volume= 270,341 cf, Depth= 7.47" Runoff

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 100 YR Rainfall=9.17"

Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Area (sf)	CN	Description
127,331	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
868	98	Water Surface, HSG B
4,563	98	Roofs, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
5,466	98	Roofs, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
4,550	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
1,020	98	Paved parking, HSG B
185	98	Paved parking, HSG B
79	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
69	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
112	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
125	61	>75% Grass cover, Good, HSG B
4,560	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
133	61	>75% Grass cover, Good, HSG B

Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
120	61	>75% Grass cover, Good, HSG B
5,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
114	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
869	98	Paved parking, HSG B
194	98	Paved parking, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
5,584	98	Roofs, HSG B
4,563	98	Roofs, HSG B
4,563	98	Roofs, HSG B
150	61	>75% Grass cover, Good, HSG B
150	61	>75% Grass cover, Good, HSG B
2,867	98	Paved parking, HSG B
155	98	Paved parking, HSG B
155	98	Paved parking, HSG B
150	61	>75% Grass cover, Good, HSG B
2,859	98	Roofs, HSG B

Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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150	98	Paved parking, HSG B
155	98	Paved parking, HSG B
153	61	>75% Grass cover, Good, HSG B
150	98	Paved parking, HSG B
150	98	Paved parking, HSG B
2,861	98	Roofs, HSG B
155	98	Paved parking, HSG B
155	98	Paved parking, HSG B
150	61	>75% Grass cover, Good, HSG B
150	61	>75% Grass cover, Good, HSG B
2,861	98	Roofs, HSG B
155	98	Paved parking, HSG B
155	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
5,432	98	Roofs, HSG B
185	98	Paved parking, HSG B
220	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B

Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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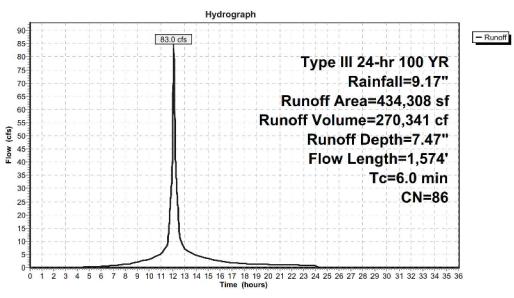
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219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
85	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
85	98	Paved parking, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
1,021	98	Paved parking, HSG B
88	98	Paved parking, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
869	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
1,021	61	>75% Grass cover, Good, HSG B
78,645	98	Paved parking, HSG B
88	98	Paved parking, HSG B
185	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
1,021	98	Paved parking, HSG B
434,308	86	Weighted Average
136,882		31.52% Pervious Area
297,426		68.48% Impervious Area
Tc Length		pe Velocity Capacity Description
(min) (feet)	(ft/	/ft) (ft/sec) (cfs)
6.0 1,574		4.37 Direct Entry,

Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Subcatchment PRWS3D: PRWS3D



Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Summary for Subcatchment PRWS4A: PRWS4A

Runoff = 21.9 cfs @ 12.38 hrs, Volume= 115,190 cf, Depth= 3.86"

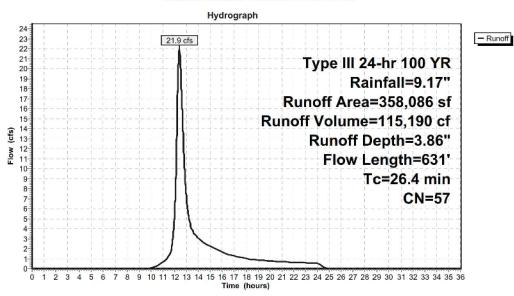
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 100 YR Rainfall=9.17"

Α	rea (sf)	CN	Description		
2	45,712	55	Woods, Good	d, HSG B	
1	08,774	61	>75% Grass c	over, Good,	HSG B
	219	61	>75% Grass o	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass o	over, Good,	HSG B
	219	61	>75% Grass o	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass c	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass c	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass o	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	219	61	>75% Grass o	over, Good,	HSG B
	185	98	Paved parkin	g, HSG B	
	218	61	>75% Grass o	over, Good,	HSG B
	184	98	Paved parkin	g, HSG B	
	185	98	Paved parkin	g, HSG B	
3	58,086	57	Weighted Av	erage	
3	56,237		99.48% Pervi	ous Area	
	1,849		0.52% Imper	vious Area	
Tc	Length	Slop	e Velocity	Capacity	Description
<u>(min)</u>	(feet)	(ft/f	t) (ft/sec)	(cfs)	
10.6	100	0.015	0.16		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.43"
4.8	200	0.010	0.70		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
11.0	331	0.010	0.50		Shallow Concentrated Flow,
					Woodland Kv= 5.0 fps
26.4	631	Total			

Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Subcatchment PRWS4A: PRWS4A



Appendix G: HydroCad Report

EAGLE RIDGE TOWNHOUSES-PRDP3 PRDP4

Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Summary for Subcatchment PRWS4B: PRWS4B

Runoff = 13.7 cfs @ 12.09 hrs, Volume= 43,425 cf, Depth= 6.73"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Type III 24-hr 100 YR Rainfall=9.17"

Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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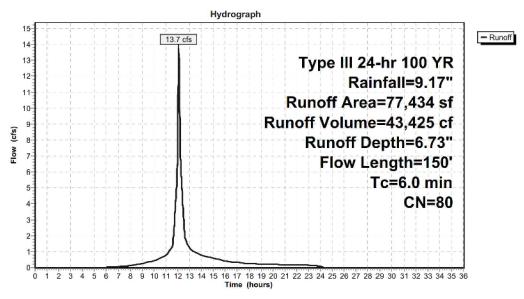
Area (sf)	CN	Description
1,971	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
869	98	Paved parking, HSG B
113	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
11,620	98	Paved parking, HSG B
185	98	Paved parking, HSG B
27,716	61	>75% Grass cover, Good, HSG B
3,214	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
868	98	Paved parking, HSG B
3,178	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
797	98	Water Surface, HSG B
2,405	98	Roofs, HSG B
428	61	>75% Grass cover, Good, HSG B
479	98	Paved parking, HSG B
1,888	98	Paved parking, HSG B
4,563	98	Roofs, HSG B
219	61	>75% Grass cover, Good, HSG B
185	98	Paved parking, HSG B
185	98	Paved parking, HSG B
77,434	80	Weighted Average
38,591		49.84% Pervious Area
38,843		50.16% Impervious Area

Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Tc	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.0	150		0.42		Direct Entry,	

Subcatchment PRWS4B: PRWS4B



Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Summary for Pond 1A-CS: 1A-CS1

Inflow Area =		434,308 sf	, 68.48% Impervious,	Inflow Depth = 3	7.47" for 100 YR event
Inflow	=	83.0 cfs @	12.08 hrs, Volume=	270,341 cf	
Outflow	=	83.0 cfs @	12.08 hrs, Volume=	270,341 cf,	Atten= 0%, Lag= 0.0 min
Primary	=	41.6 cfs @	12.08 hrs, Volume=	203,949 cf	
Secondary	<i>i</i> =	41.4 cfs @	12.08 hrs. Volume=	66.392 cf	

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 515.14' @ 12.08 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	434.90'	15.0" Round 15"Ø Culvert to Infil. Basin A
			L= 27.8' CPP, projecting, no headwall, Ke= 0.900
			Outlet Invert= 434.80' S= 0.0036 '/' Cc= 0.900 n= 0.013
#2	Secondary	435.90'	15.0" Round 15"Ø Culvert to Det. Basin
			L= 22.8' CPP, projecting, no headwall, Ke= 0.900
			Outlet Invert= 435.60' S= 0.0132 '/' Cc= 0.900 n= 0.013
#3	Device 2	437.00'	5.0' long x 0.5' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00
			Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=41.5 cfs @ 12.08 hrs HW=514.85' (Free Discharge) 1=15" Culvert to Infil. Basin A (Inlet Controls 41.5 cfs @ 33.86 fps)

Secondary OutFlow Max=41.3 cfs @ 12.08 hrs HW=514.85' (Free Discharge)

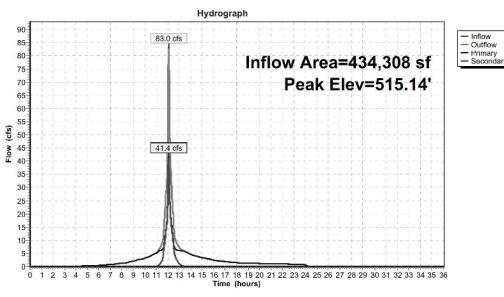
2=15"Ø Culvert to Det. Basin (Inlet Controls 41.3 cfs @ 33.64 fps)

3=Broad-Crested Rectangular Weir (Passes 41.3 cfs of 11,402.9 cfs potential flow)

Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Pond 1A-CS: 1A-CS1



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Summary for Pond 1P: INFIL. BASIN B

Inflow Area =	77,434 sf, 50.16% Impervious,	Inflow Depth = 6.73" for 100 YR event
Inflow =	13.7 cfs @ 12.09 hrs, Volume=	43,425 cf
Outflow =	3.3 cfs @ 12.48 hrs, Volume=	43,425 cf, Atten= 76%, Lag= 23.5 min
Discarded =	1.5 cfs @ 12.48 hrs, Volume=	36,045 cf
Primary =	1.8 cfs @ 12.48 hrs, Volume=	7,379 cf
Secondary =	0.0 cfs @ 0.00 hrs, Volume=	0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs
Peak Elev= 490.56' @ 12.48 hrs Surf.Area= 6,623 sf Storage= 14,139 cf

Plug-Flow detention time= 50.7 min calculated for 43,413 cf (100% of inflow) Center-of-Mass det. time= 50.7 min (848.6 - 797.9)

Volume	Invert	Avail.Sto	orage Storag	e Description	
#1	487.80'	24,7	56 cf Custor	m Stage Data (Pri	ismatic) Listed below (Recalc)
Elevation	on Su	ırf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
487.8	30	0	0	0	
488.0	00	4,141	414	414	
490.0	00	6,029	10,170	10,584	
492.0	00	8,143	14,172	24,756	
Device	Routing	Invert	Outlet Device	es	
#1	Discarded	487.80'	10.000 in/hr	Exfiltration over	Surface area
#2	Primary	487.00'	15.0" Round	d 15" Culvert	
			L= 25.7' CPI	P, square edge he	eadwall, Ke= 0.500
			Outlet Invert	t= 483.20' S= 0.1	479 '/' Cc= 0.900 n= 0.013
#3	Device 2	489.00'	6.0" Vert. O	rifice C= 0.600	
#4	Device 2	490.50'	36.0" x 42.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads		
#5	Secondary	491.50'	5.0' long x 0.5' breadth Broad-Crested Rectangular Weir		
			Head (feet)	0.20 0.40 0.60 0	0.80 1.00
			Coef. (Englis	h) 2.80 2.92 3.0	8 3.30 3.32

Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Discarded OutFlow Max=1.5 cfs @ 12.48 hrs HW=490.56' (Free Discharge) 1=Exfiltration (Exfiltration Controls 1.5 cfs)

Primary OutFlow Max=1.7 cfs @ 12.48 hrs HW=490.56' (Free Discharge)

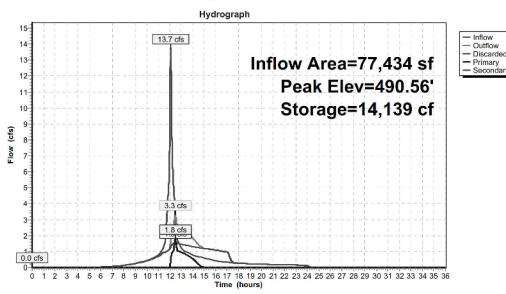
2=15" Culvert (Passes 1.7 cfs of 10.1 cfs potential flow)

3=Orifice (Orifice Controls 1.1 cfs @ 5.51 fps)

4=Grate (Weir Controls 0.7 cfs @ 0.81 fps)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=487.80' (Free Discharge) **5=Broad-Crested Rectangular Weir** (Controls 0.0 cfs)

Pond 1P: INFIL. BASIN B



Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Summary for Pond 4P: INFIL. BASIN A

Inflow Area =	445,126 sf, 66.82% Impervious	, Inflow Depth = 5.60" for 100 YR event
Inflow =	42.9 cfs @ 12.08 hrs, Volume=	207,879 cf
Outflow =	18.3 cfs @ 12.29 hrs, Volume=	177,353 cf, Atten= 57%, Lag= 12.1 min
Discarded =	0.2 cfs @ 12.29 hrs, Volume=	19,534 cf
Primary =	18.0 cfs @ 12.29 hrs, Volume=	157,818 cf
Secondary =	0.0 cfs @ 0.00 hrs, Volume=	0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 439.09' @ 12.29 hrs Surf.Area= 10,477 sf Storage= 56,969 cf

Plug-Flow detention time= 170.9 min calculated for 177,303 cf (85% of inflow)

Center-of-Mass det. time= 102.1 min (904.2 - 802.2)

Volume	Invert	Avail.Sto	orage Storage Description		
#1	429.50	61,3	78 cf Custom	n Stage Data (Pri	ismatic) Listed below (Recalc)
				2	
Elevation		urf.Area	Inc.Store	Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	
429.5	50	0	0	0	
430.0	00	2,658	665	665	
432.0	00	3,978	6,636	7,301	
434.0	00	5,524	9,502	16,803	
436.0	00	7,296	12,820	29,623	
438.0	00	9,294	16,590	46,213	
439.0	00	10,378	9,836	56,049	
439.5	50	10,941	5,330	61,378	
Device	Routing	Invert	Outlet Device	es .	
#1	Discarded	429.50'	1.000 in/hr Exfiltration over Surface area		
#2	Primary	432.00'	18.0" Round 18" Culvert		
			L= 59.7' CM	P, square edge h	eadwall, Ke= 0.500
			Outlet Invert	= 431.00' S= 0.0	0168 '/' Cc= 0.900
			n= 0.020 Cor	rugated PE, corr	ugated interior
#3	Device 2	437.10'	60.0" x 48.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads		
#4	Secondary	439.25'	5.0' long x 0.5' breadth Broad-Crested Rectangular Weir		
			Head (feet) C	0.20 0.40 0.60 (0.80 1.00
			Coef. (English) 2.80 2.92 3.0	8 3.30 3.32

Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

InflowOutflow

- Primary

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Discarded OutFlow Max=0.2 cfs @ 12.29 hrs HW=439.09' (Free Discharge) 1=Exfiltration (Exfiltration Controls 0.2 cfs)

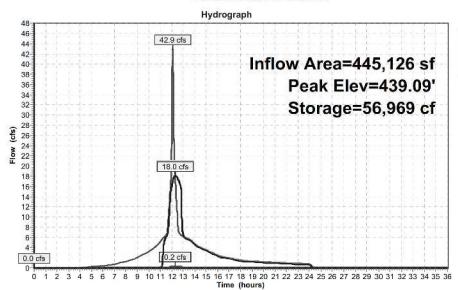
Primary OutFlow Max=18.0 cfs @ 12.29 hrs HW=439.09' (Free Discharge)

2=18" Culvert (Barrel Controls 18.0 cfs @ 10.19 fps)

3=Grate (Passes 18.0 cfs of 135.8 cfs potential flow)

Secondary OutFlow Max=0.0 cfs @ 0.00 hrs HW=429.50' (Free Discharge) 4=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

Pond 4P: INFIL. BASIN A



Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Summary for Pond 5P: DET. POND

Inflow Area =	482,955 sf, 61.58% Impervious,	Inflow Depth = 5.89" for 100 YR event
Inflow =	62.4 cfs @ 12.09 hrs, Volume=	237,166 cf
Outflow =	22.9 cfs @ 12.59 hrs, Volume=	228,174 cf, Atten= 63%, Lag= 29.9 min
Primary =	13.9 cfs @ 12.59 hrs, Volume=	82,012 cf
Secondary =	9.0 cfs @ 12.59 hrs, Volume=	146,162 cf
Tertiary =	0.0 cfs @ 0.00 hrs, Volume=	0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs Peak Elev= 437.89' @ 12.59 hrs Surf.Area= 16,579 sf Storage= 83,300 cf

Plug-Flow detention time= 74.7 min calculated for 228,174 cf (96% of inflow) Center-of-Mass det. time= 53.8 min (873.8 - 820.1)

Volume Invert Avail.Storage Storage Description

#1	423.00	93,9	23 cf Cust	tom Stage Data (Prismatic) Listed below (Recalc)	
Elevation	on S	urf.Area	Inc.Store	e Cum.Store	
(fee	et)	(sq-ft)	(cubic-feet)) (cubic-feet)	
423.0	00	0	C	0	
424.0	00	25	13	3 13	
426.0	00	76	101	114	
427.0	00	92	84	198	
428.0	00	780	436	634	
430.0	00	4,121	4,901	L 5,535	
432.0	00	6,685	10,806	5 16,341	
434.0	00	9,650	16,335	32,676	
436.0		13,018	22,668		
438.0		16,788	29,806		
438.5	50	18,305	8,773	3 93,923	
Device	Routing	Invert	Outlet Dev	rices	
#1	Primary	431.50'	24.0" Rou	ind 24"Ø Culvert	
	Not became a		L= 40.8' C	CMP, square edge headwall, Ke= 0.500	
				ert= 429.75' S= 0.0429 '/' Cc= 0.900	
			n= 0.020 (Corrugated PE, corrugated interior	
#2	Device 1	432.00'	12.0" Vert. 12"Ø Orifice C= 0.600		
#3	Secondary	430.75'	12.0" Round 12"Ø Culvert		
			L= 186.0'	CMP, square edge headwall, Ke= 0.500	
			Outlet Inve	ert= 422.00' S= 0.0470 '/' Cc= 0.900	
			n= 0.013 (Corrugated PE, smooth interior	
#4	Device 1	437.60'	24.0" x 36	.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads	

Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Tertiary 438.00' 5.0' long x 0.5' breadth Broad-Crested Rectangular Weir EMOF

Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=13.9 cfs @ 12.59 hrs HW=437.89' (Free Discharge)

T_1=24"Ø Culvert (Passes 13.9 cfs of 35.1 cfs potential flow)

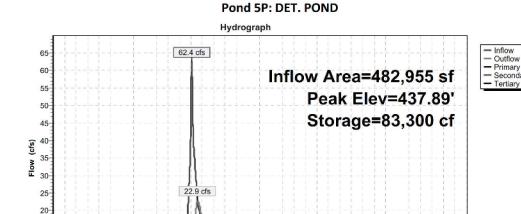
-2=12"Ø Orifice (Orifice Controls 8.8 cfs @ 11.18 fps)

-4=Grate (Weir Controls 5.1 cfs @ 1.76 fps)

15-10

Secondary OutFlow Max=9.0 cfs @ 12.59 hrs HW=437.89' (Free Discharge)
3=12"Ø Culvert (Barrel Controls 9.0 cfs @ 11.43 fps)

Tertiary OutFlow Max=0.0 cfs @ 0.00 hrs HW=423.00' (Free Discharge) **T**-5=Broad-Crested Rectangular Weir EMOF (Controls 0.0 cfs)



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 Time (hours)

Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Summary for Link PRDP3: PRDP3

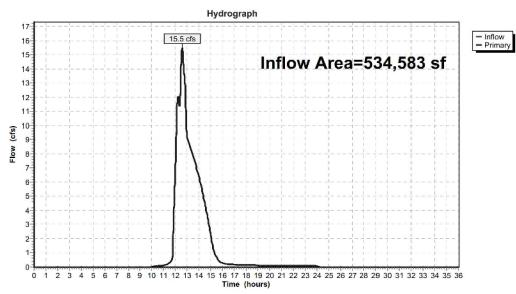
Inflow Area = 534,583 sf, 55.64% Impervious, Inflow Depth = 2.23" for 100 YR event

Inflow = 15.5 cfs @ 12.56 hrs, Volume= 99,156 cf

Primary = 15.5 cfs @ 12.56 hrs, Volume= 99,156 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP3: PRDP3



Type III 24-hr 100 YR Rainfall=9.17" Printed 6/23/2023

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Summary for Link PRDP4: PRDP4

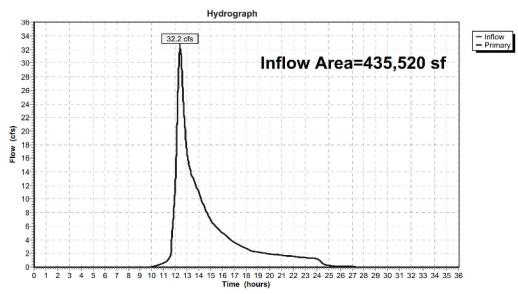
Inflow Area = 435,520 sf, 9.34% Impervious, Inflow Depth = 7.40" for 100 YR event

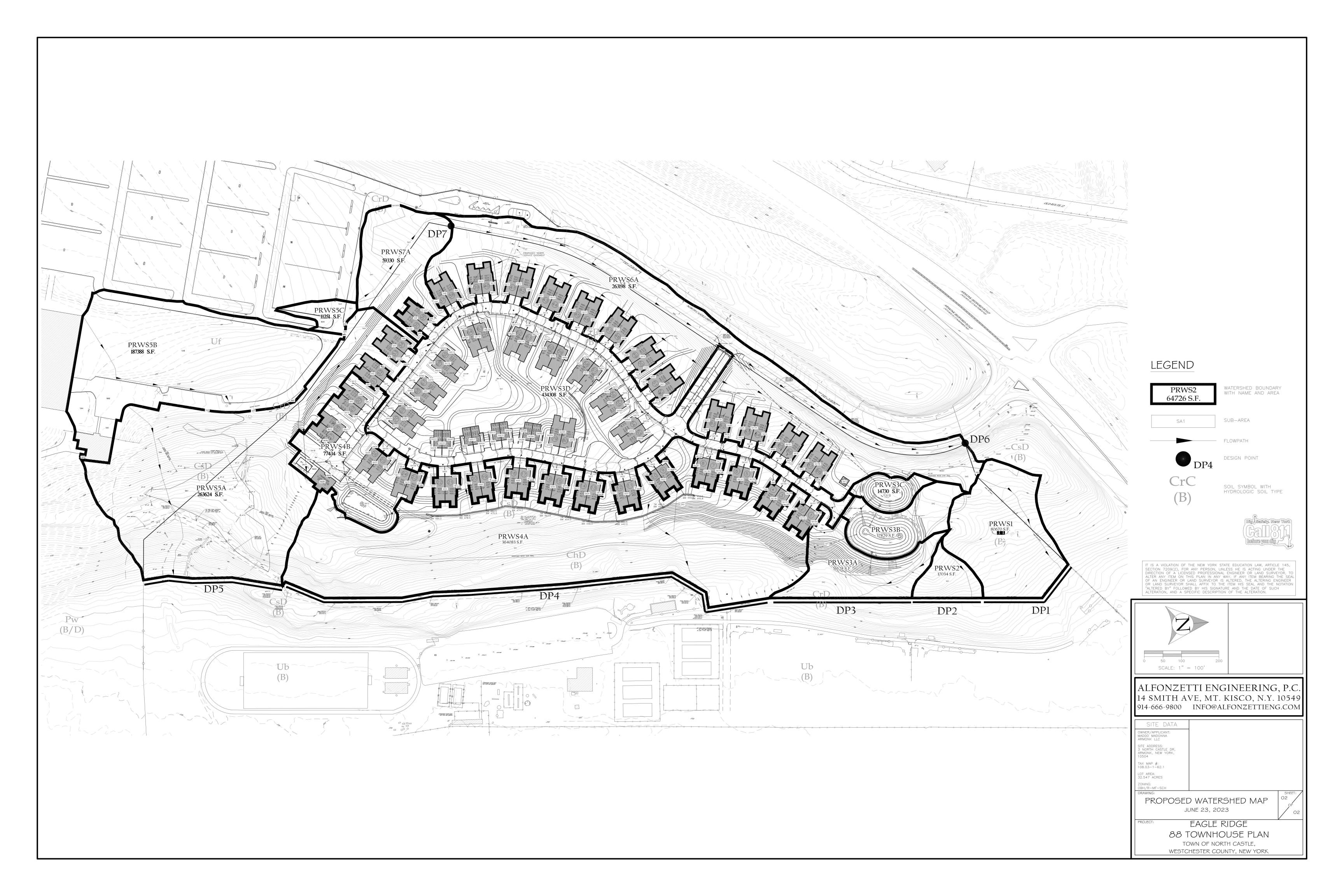
Inflow = 32.2 cfs @ 12.41 hrs, Volume= 268,731 cf

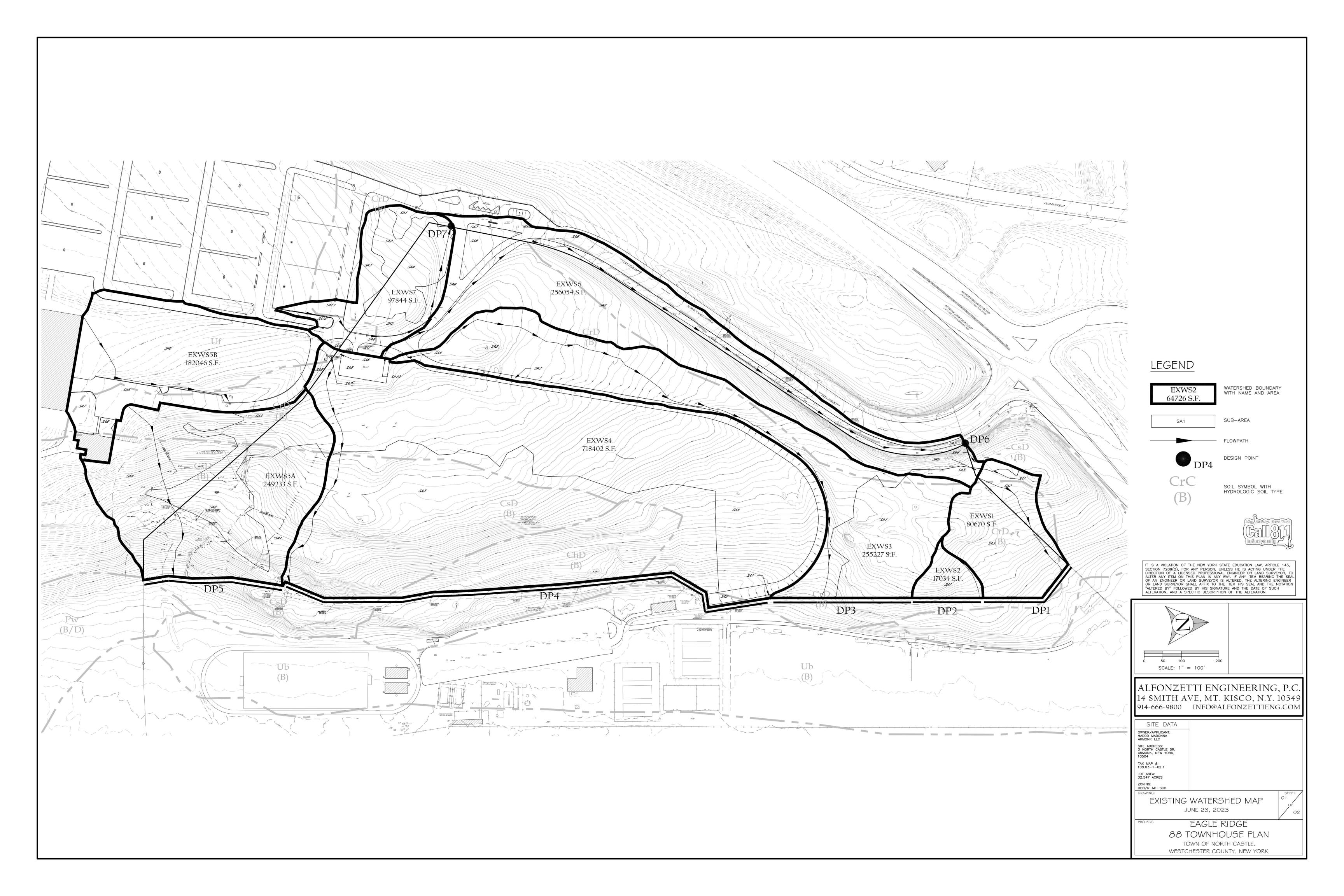
Primary = 32.2 cfs @ 12.41 hrs, Volume= 268,731 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.010 hrs

Link PRDP4: PRDP4













PLAN #2 +/- 25'-0" TO MIDPOINT OF ROOF

**Massing and approximate building heights to show compliance only.



Imbiano ·Quigley Landscape Architects

31 Mamaroneck Ave White Plains, New York 10601 admin@iqlandarch.com (914) 232-0200

EAGLE RIDGE TOWN OF NORTH CASTLE WESTCHESTER COUNTY **NEW YORK**

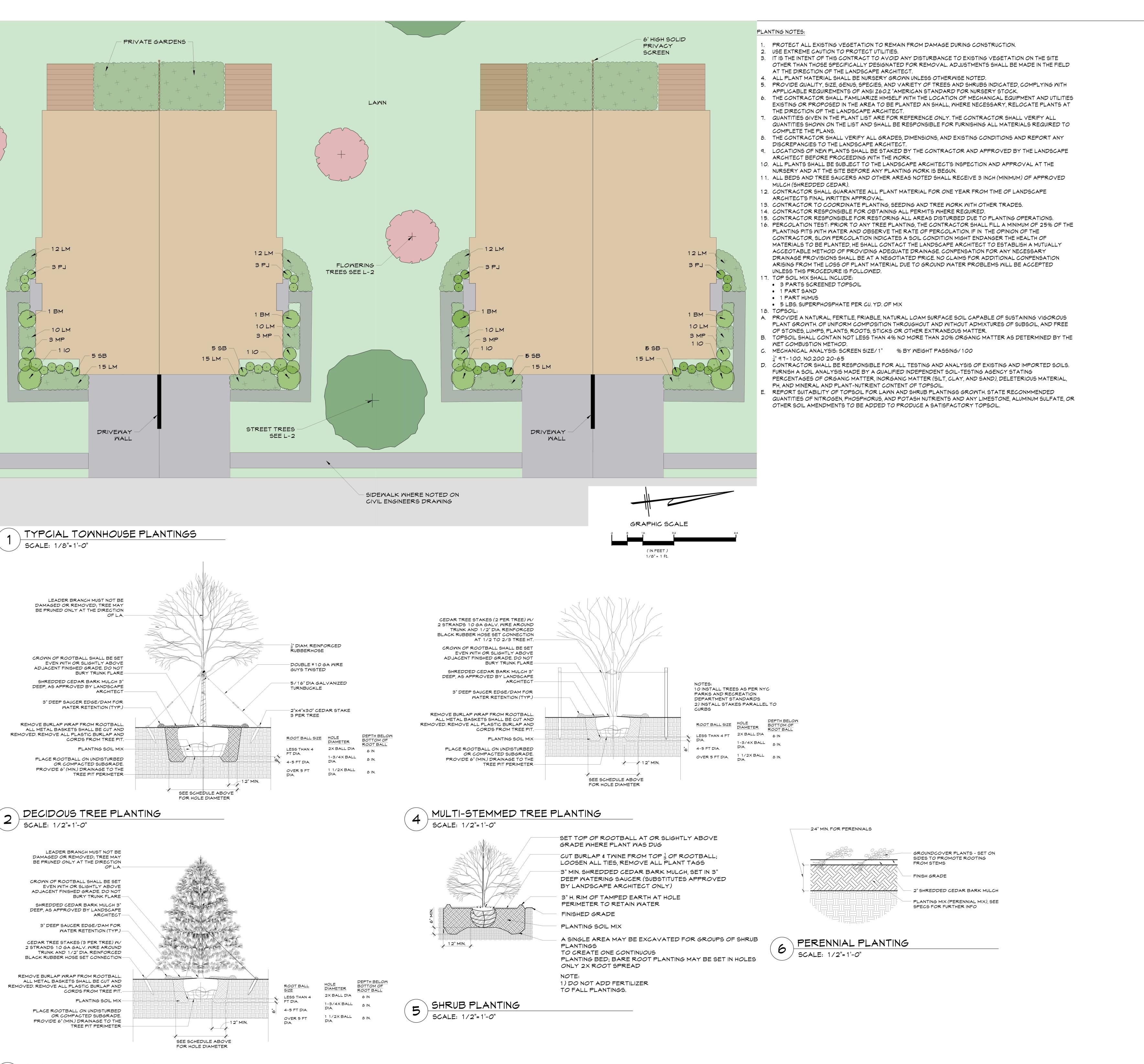
Drawing Title

TREE REMOVAL PLAN

March 24th, 2023 _ Drawn By Checked By

JAI





General Notes

For Planning Board For Planning Board Revision/Issue

> Imbiano ·Quigley Landscape Architects 31 Mamaroneck Ave White Plains, New York 10601 admin@iqlandarch.com (914) 232-0200

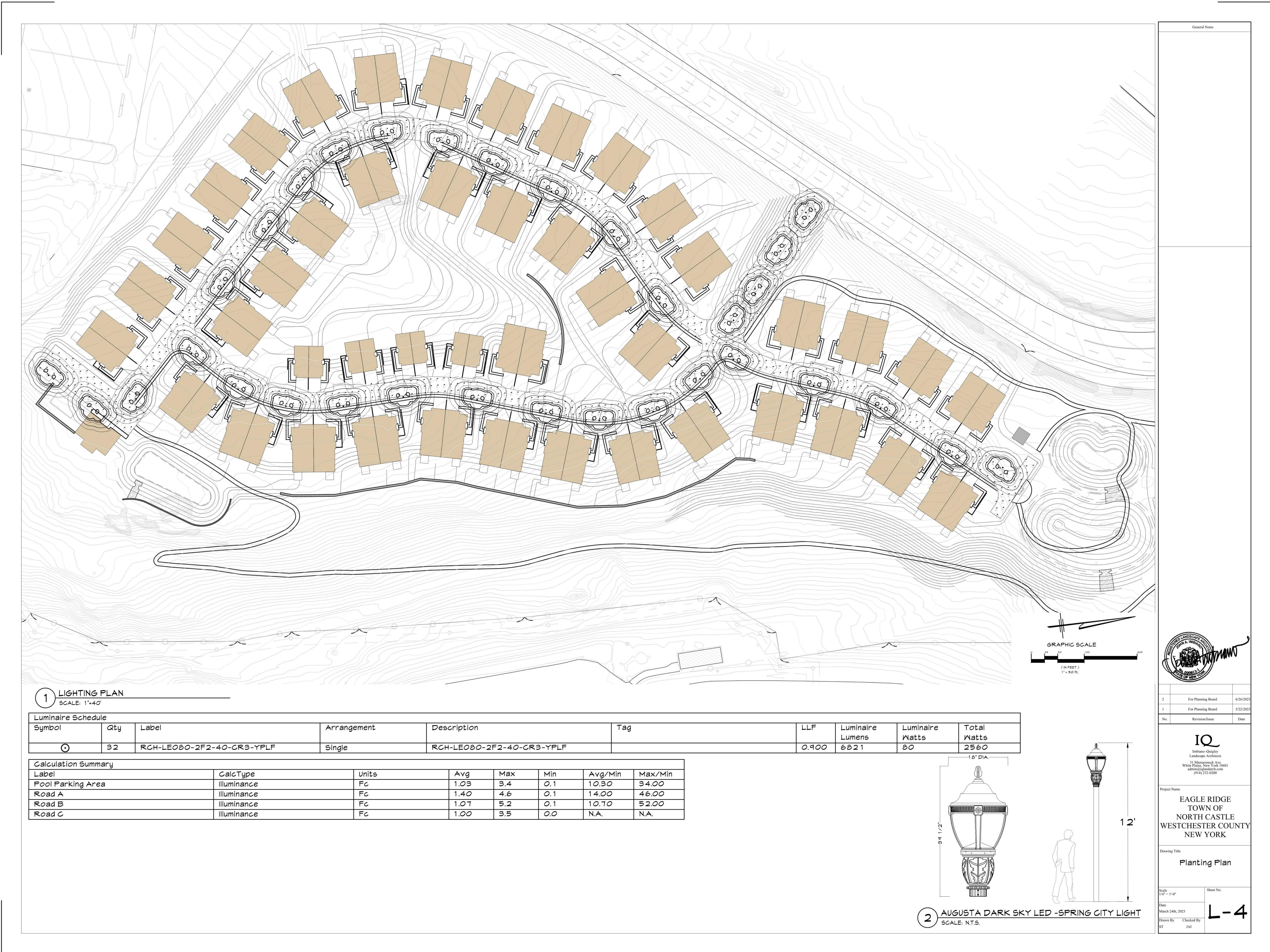
EAGLE RIDGE TOWN OF NORTH CASTLE WESTCHESTER COUNTY **NEW YORK**

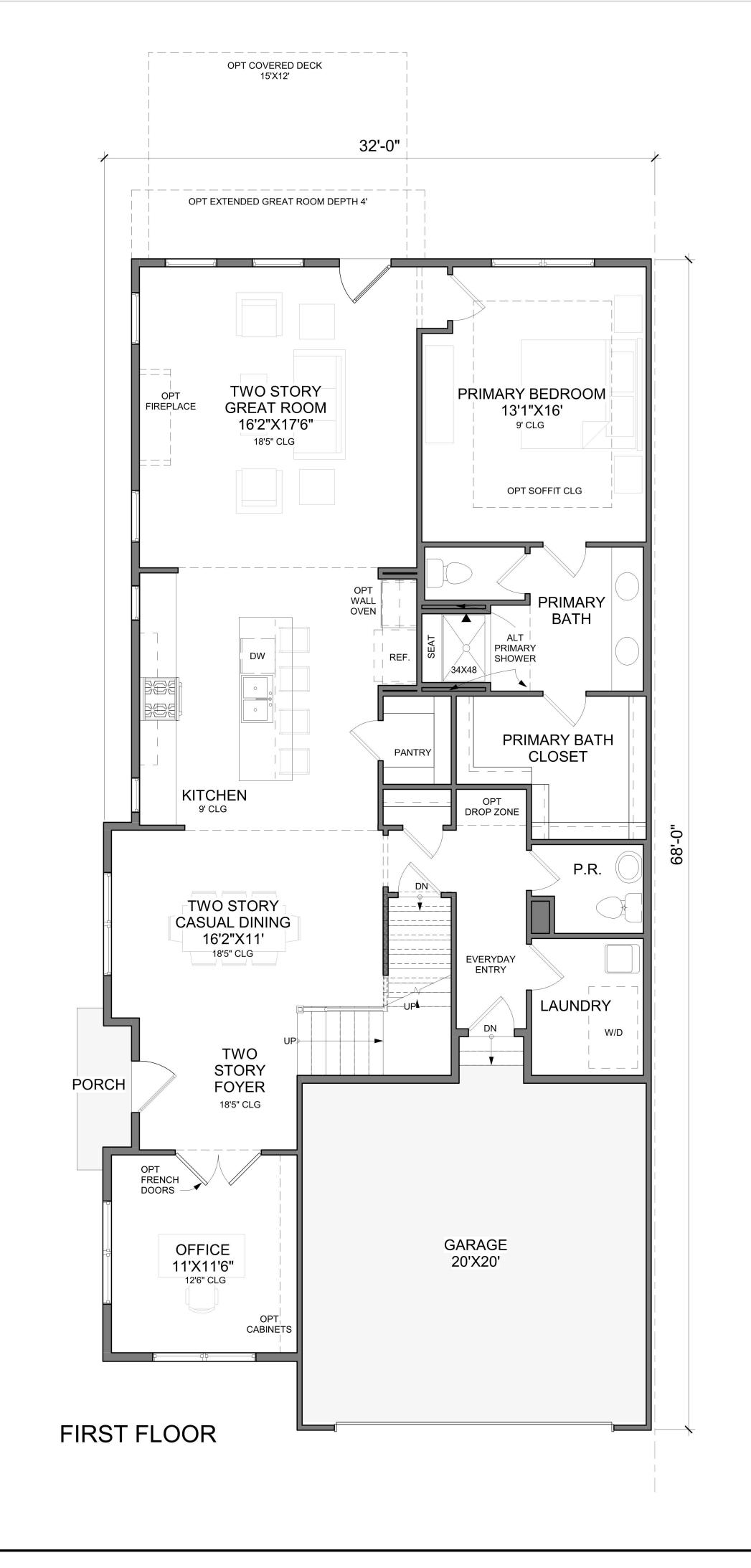
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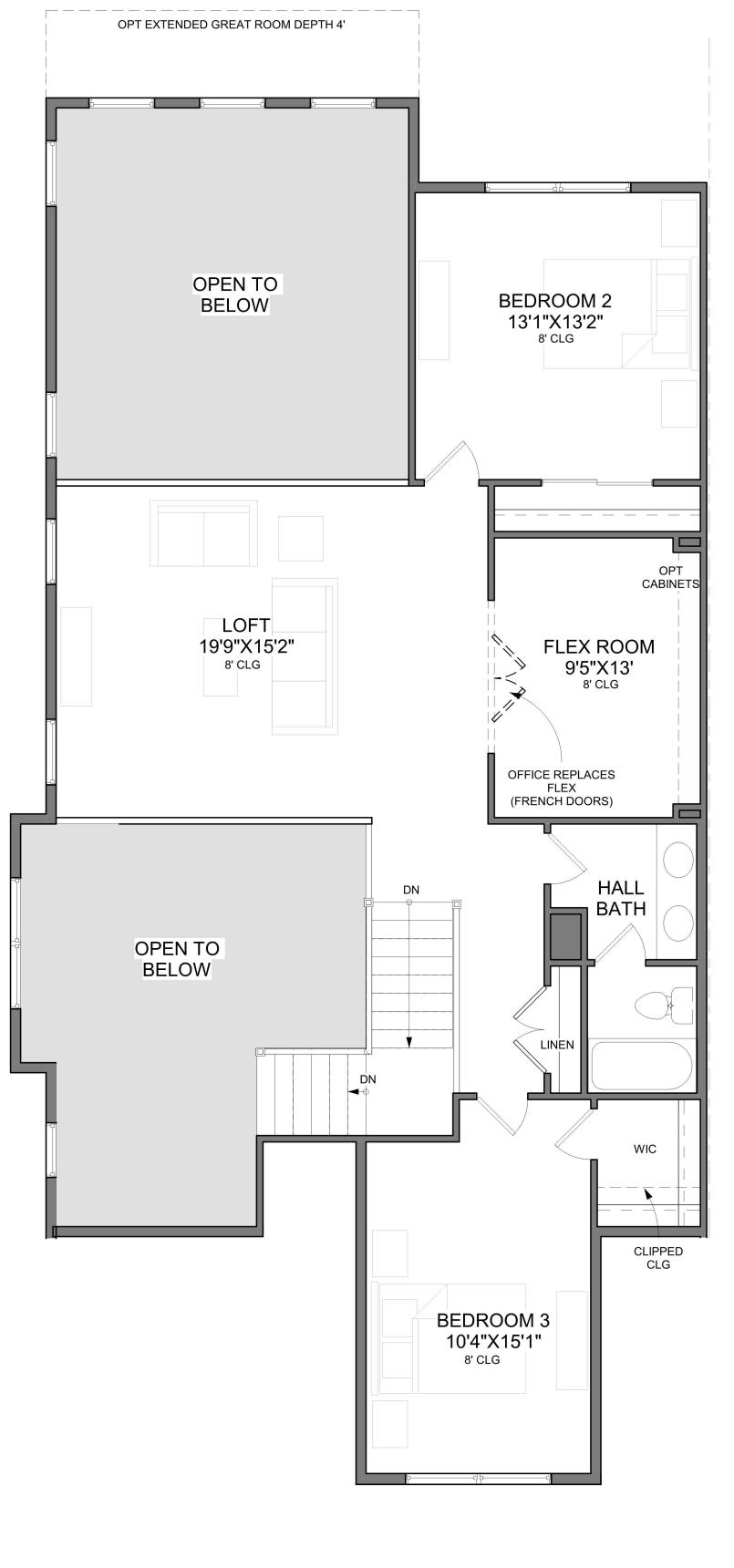
Planting Details

Sheet No.

March 24th, 2023 Drawn By Checked By



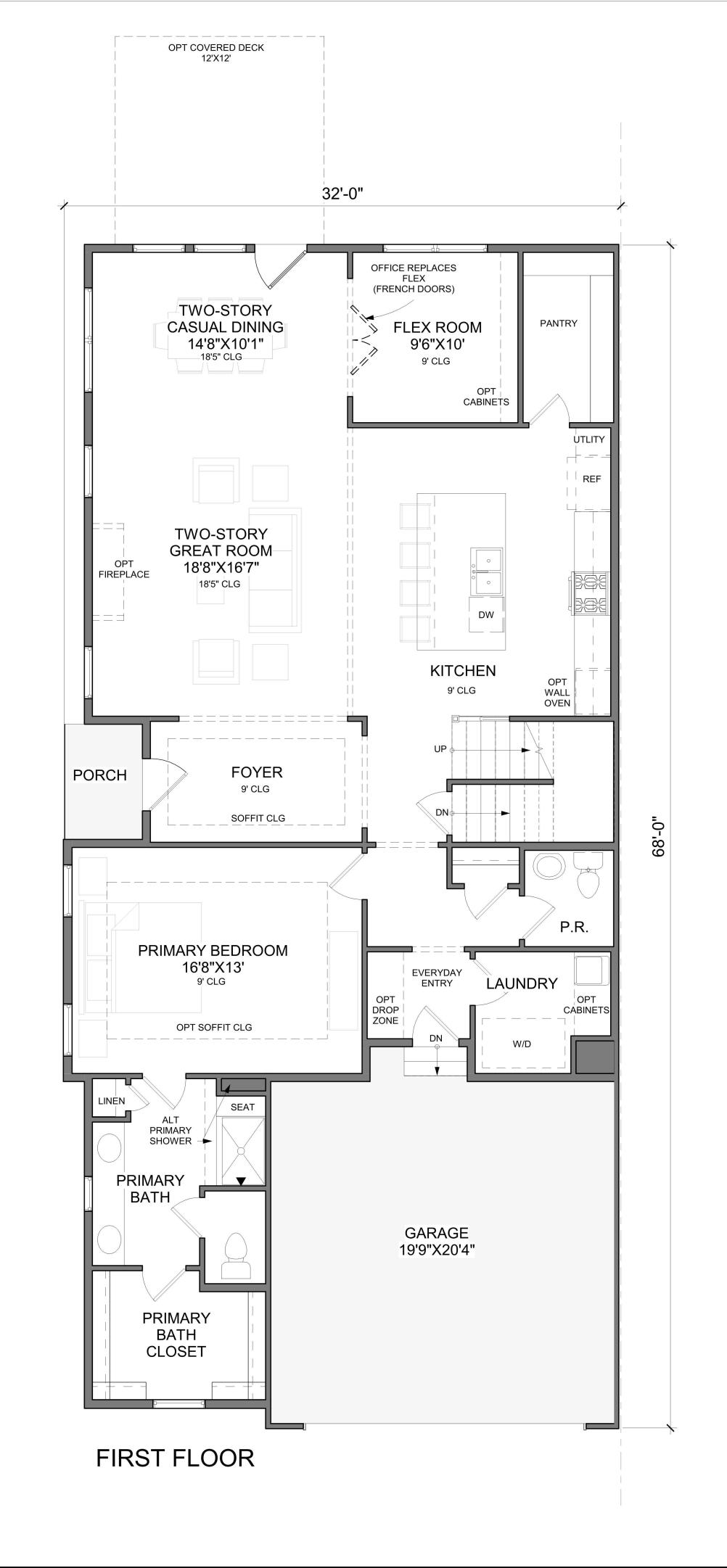


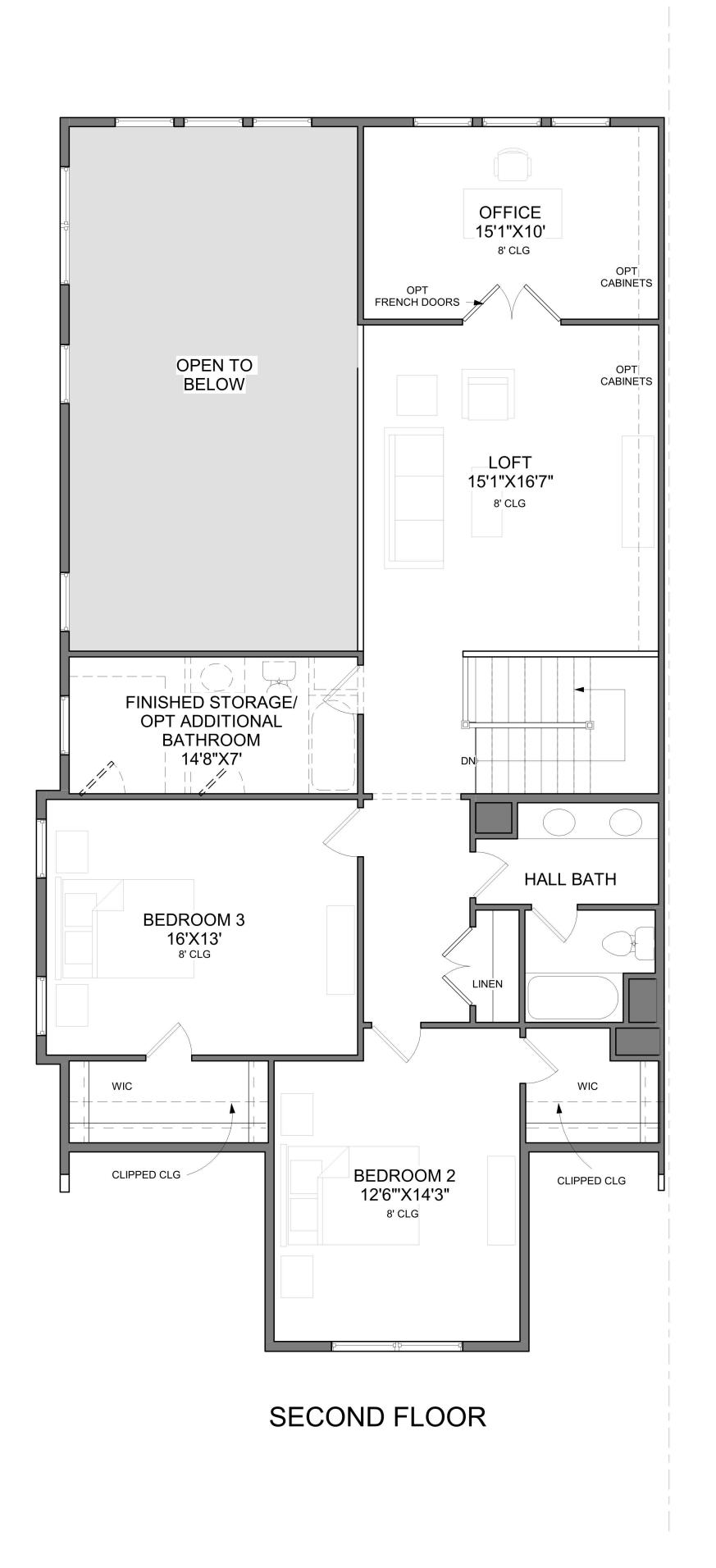


SECOND FLOOR

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