

STORMWATER MANAGEMENT REPORT FOR

PRELIMINARY AND FINAL MAJOR SITE PLAN FOR MARS INCORPORATED PROPOSED TRAILER PARKING LOT BLOCK 4, LOT 1

TOWN OF HACKETTSTOWN, COUNTY OF WARREN, STATE OF NEW JERSEY

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Our File No.: SCE- R08719.074

March 2019



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03-28-2019
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1.0 INTRODUCTION

This Stormwater Management Report is prepared in conjunction with plans entitled; “Preliminary and Final Site Plan for Mars Incorporated Proposed Trailer Parking Lot, Block 4, Lot 1, Town of Hackettstown, County of Warren, State of New Jersey” prepared by **SUBURBAN CONSULTING ENGINEERS, INC. (SCE)**, dated March 28, 2019. The proposed project includes the demolition of an existing wastewater treatment facility, and the construction of a trailer parking lot, retaining walls, landscaping, and stormwater management measures. Due to the proposed increase of impervious coverage a stormwater detention system will be installed to reduce the peak flows of the 2-year, 10-year and 100-year storms to 50%, 75%, and 80%, respectively, of the predeveloped flows leaving the site.

The subject project is known as Block 4, Lot 1 as identified on the Town of Hackettstown Tax Maps (Sheet 5) and is located at 700 High Street. The entire property consists of approximately 61.6 acres, total. This report is prepared to address the stormwater management design and soil erosion and sediment control requirements for the proposed site improvements which includes a trailer parking lot, retaining walls, landscaping, and stormwater management measures.

The project area for the purpose of this drainage report will be the existing wastewater treatment plant which is approximately 3.87 acres in area. The site is bound by Hackettstown Brook to the west, the M&M Mars building and associated parking to the north, railroad tracks to the south, and continuation of the demolished wastewater treatment plant footprint to the east.

1.1 *Existing Conditions*

The project area, under existing conditions, contains compacted gravel and structures associated with the wastewater treatment plant, as well as small areas of lawn, pavement and sidewalks. The project area is comprised of two (2) distinct drainage areas: EDA-1 (DET.), which generates flow from the area of the proposed trailer parking lot, and will be routed to Design Point #1 located at the Hackettstown Brook downstream of the site, and EDA-1 (UNDET.), which generates flow from the remaining area of the project site and also drains towards Design Point #1. Per the NRCS Soils Map (please see Appendix A of this report), existing conditions are modeled as hydrologic soil group (HSG) ‘D’ and good conditions are assumed. The existing time of concentration was determined to be less than six (6) minutes and therefore the minimum time of concentration of six (6) minutes (0.1 hour) was utilized per TR-55 guidance. An Existing Drainage Area Map can be found in Appendix I of this report.

A previous site plan application to the Town of Hackettstown, prepared by Dynamic Engineering, dated October 15, 2014, revised through April 3, 2015, and memorialized at the Town of Hackettstown Zoning Board of Adjustment on December 16, 2014, proposed the demolition of various impervious areas of the existing wastewater treatment plant, reverting these areas back to pervious areas. For purposes of this report, the land coverage utilized for the existing conditions reflect the proposed conditions of the Dynamic site plan set.

1.2 *Proposed Conditions*

The project proposes to construct parking for trailers at the Mars Facility. Three (3) existing tanks are to remain on-site until no longer needed, at which time extra parking spaces will be developed in their place. The proposed construction is considered a major development, and therefore, per the New Jersey Department of Environmental Protection (NJDEP) Stormwater Rules, a drainage analysis was completed to evaluate the need for stormwater attenuation measures. One (1)

underground detention basin is proposed in order to meet the allowable flows for the detained drainage area. PDA-1 (DET.) generates flow from the post-construction trailer parking lot and will be routed to Design Point #1. PDA-1 (UNDET.) generates flow from the remaining area of the project site and also drains towards Design Point #1. A Proposed Drainage Area Map can be found in Appendix I of this report. A minimum six (6) minute (0.1 hour) time of concentration was utilized for the design per TR-55 guidance.

2.0 DESIGN REGULATIONS

2.1 NJDEP Stormwater Management Regulations (SWM)

In accordance with the NJDEP Stormwater Management Regulations, a major development is any "development" that disturbs one (1) or more acres of land or increases impervious coverage by one-quarter acre or more. Since the project disturbs over an acre of land, the project is considered a major development and must meet NJDEP Stormwater Management rules with regards to design and performance standards for stormwater management measures.

Per the NJDEP Best Management Practices (BMP) manual, the underground basin will be protected by an easement to prevent its neglect, adverse alteration, or removal.

2.2 NJDEP Flood Hazard Area (FHA) Regulations

The site is located within the Flood Hazard Area (FHA) of the Hackettstown Brook. The FHA Design Flood Elevation for the project was determined utilizing Method 6 per NJAC 7:13-3.

An FHA Individual Permit (IP) has been applied for at NJDEP in March 2019, and approval is pending per NJDEP review. Once the project's IP is approved, a copy of the approval will be sent to the Town of Hackettstown for filing. Please see Section 3.2 below for more information on the proposed design in regard to compliance with NJDEP FHA regulations.

2.3 Town of Hackettstown

Town of Hackettstown has adopted the NJDEP Stormwater Rules for major developments, and per the Ordinance, "stormwater management measures for major developments shall be developed to meet the erosion control, groundwater recharge, stormwater runoff quantity, and stormwater runoff quality standards." As stated above, the project disturbs over an acre of land, is considered a major development and must meet NJDEP Stormwater Management Rules with regards to design and performance standards for stormwater management measures.

2.4 Soil Erosion and Sediment Control

The project is also required to comply with the Soil Erosion and Sediment Control Standards for New Jersey. These standards outline specific requirements for minimizing soil erosion both during and after construction is complete. The project disturbs more than 5,000 square feet and, therefore, will need to be certified by the Warren County Soil Conservation District (WCSCD). Additionally, the project disturbs more than one (1) acre and, therefore, a NJDEP Request for Authorization (RFA) will also be required.

3.0 DESIGN METHODOLOGY

3.1 Computer Software

Computer software (PondPack V8i by Bentley Haestad Solutions) was utilized to model stormwater runoff rates and hydrograph volumes for the 2-year, 10-year and 100-year storm

events. PondPack uses the TR-55 method to route stormwater models. Runoff curve number (CN) values were chosen based upon for the appropriate land cover.

Land Cover	CN Value
Pervious Industrial (Soil D)	93
Other Impervious	98

3.2 NJDEP FHA Regulation Compliance

Per the NJDEP FHA regulations stated in NJAC 7:13-11.4, the proposed flood storage volume shall be greater or equal to the existing flood storage volume onsite for both the volume between the FHA design flood and the 10-year flood, and the volume between the 10-year flood and the ground. The majority of the proposed project lies above the 10-year flood elevation, so the volume between the 10-year flood and the ground remains the same under proposed conditions. Per the proposed FHA Flood Volume Exhibits (please see Appendix F of this report), the proposed project creates volume between the FHA design flood and 10-year flood elevations, and therefore complies with the NJDEP FHA regulations.

With regards to the underground detention basin design, per NJAC 7:13-12.2, a backflow preventer device will be utilized on the discharge 15" pipe of the underground detention basin, downstream of the water quality device. This will prevent any flood waters from backing up the pipe into the basin and the water quality structure. In addition, a tailwater condition has been modeled at the crown of the 15" outlet pipe (inv. elev = 561.90; tailwater elev = 563.15).

In addition to the proposed construction creating additional flood storage as part of the project, it should also be noted that the project site is bound to the west by Hackettstown Brook, to the north by an elevated driveway, and to the south by elevated train tracks. The entire FHA design flood elevation is within the project site, so when flooding will occur, it will be fully contained within the project site; the additional flood storage will also assist in alleviating flooding downstream of the project site.

4.0 DESIGN RESULTS

4.1 Stormwater Quantity

In accordance with N.J.A.C. 7:8-5.4-(a)3, stormwater runoff will be reduced utilizing the following options:

(Hydrograph Method)

- i. Demonstrate through hydrologic and hydraulic analysis that for stormwater leaving the site, post-construction runoff hydrographs for the two, 10 and 100-year storm events do not exceed, at any point in time, the pre-construction runoff hydrographs for the same storm events;

(Reduction Method)

- i. Design stormwater management measures so that the post-construction peak runoff rates for the 2, 10 and 100-year storm events are 50, 75 and 80 percent, respectively, of the pre-construction peak runoff rates. The percentages apply only to the post-construction stormwater runoff that is attributable to the portion of the site on which the proposed development or project is to be constructed.

In order to comply with the applicable regulations, the site will include an underground detention basin. The proposed underground detention basin will provide stormwater quantity reductions to meet the NJDEP requirements. The proposed development located within the detained PDA-1 (DET.) drainage areas will comply with the NJDEP regulations utilizing the 'Reduction Method.' The undetained PDA-1 (UNDET.) drainage areas will comply with the NJDEP regulations utilizing the 'Reduction Method.'

A summary of the existing and proposed peak flows to each design point is provided in the tables below:

Design Point #1: EDA-1 (DET.) (Reduction Method Utilized)			
Frequency Storm Event	Total Existing Discharge of EDA 1 (DET.) (CFS)	Reduction Factor	Allowable Discharge (CFS)
2	4.56	0.50	2.28
10	6.93	0.75	5.20
100	11.36	0.80	9.10

Design Point #1: EDA-1 (UNDET.) (Hydrograph Method Utilized)			
Frequency Storm Event	Total Existing Discharge of EDA 1 (UNDET.) (cfs)	Reduction Factor	Allowable Discharge (cfs)
2	5.45	1.00	5.45
10	8.26	1.00	8.26
100	13.51	1.00	13.51

Design Point #1: PDA-1 (DET.) (Reduction Method Utilized)			
Frequency Storm Event	Existing Discharge to Point of Analysis from EDA 1 (DET.) (cfs)	Allowable Discharge (cfs)	Proposed Discharge to Point of Analysis (cfs)
2	4.56	2.28	2.27 (complies)
10	6.93	5.20	4.69 (complies)
100	11.36	9.10	8.65 (complies)

Design Point #1: PDA-1 (UNDET.) (Hydrograph Method Utilized)			
Frequency Storm Event	Existing Discharge to Point of Analysis from EDA 1 (UNDET.) (cfs)	Allowable Discharge (cfs)	Proposed Discharge to Point of Analysis (cfs)
2	5.45	5.45	5.44 (complies)
10	8.26	8.26	8.25 (complies)
100	13.51	13.51	13.50 (complies)

4.2 Water Quality & Groundwater Recharge

Water quality is being provided as part of this project via one (1) manufactured treatment device (MTD) located just downstream of the detention basin. The MTD is specified as a Contech Stormfilter device, which is NJDEP-certified to provide 80% TSS removal. The MTD has been sized for the water quality design flow utilizing the PondPack software.

Groundwater recharge meets the requirements of 7:8-5.4 by maintaining “100 percent of the average annual pre-construction groundwater recharge volume for the site.” Please see the Groundwater Recharge Spreadsheet located in Appendix E of this report.

4.3 *Soil Erosion*

Since this project will disturb more than 5,000 square feet, certification from the Warren County Soil Conservation District is required.

The plans depict the location and details for the following erosion controls:

1. Stabilized construction entrance to reduce the tracking of sediment onto paved roadway or other impervious surfaces;
2. Sediment barriers to intercept small amounts of sediment from unprotected areas of limited extent;
3. Storm sewer inlet protection to intercept and retain sediment, thus preventing the entrance of sediment into a storm sewer system; and
4. Temporary stockpile for the stripping of any topsoil for subsequent use on the project site.

4.4 *Stormwater Conveyance System*

The Rational Method was used for the design of the drainage conveyance system. All proposed piping conveys the 25-year storm event without surcharge above any grate elevation (please see Appendix B of this report).

5.0 MAINTENANCE

A stormwater operation & maintenance manual will be provided under separate cover for Town review as a condition of approval, after all necessary Town-required revisions are incorporated into the plan set and design.

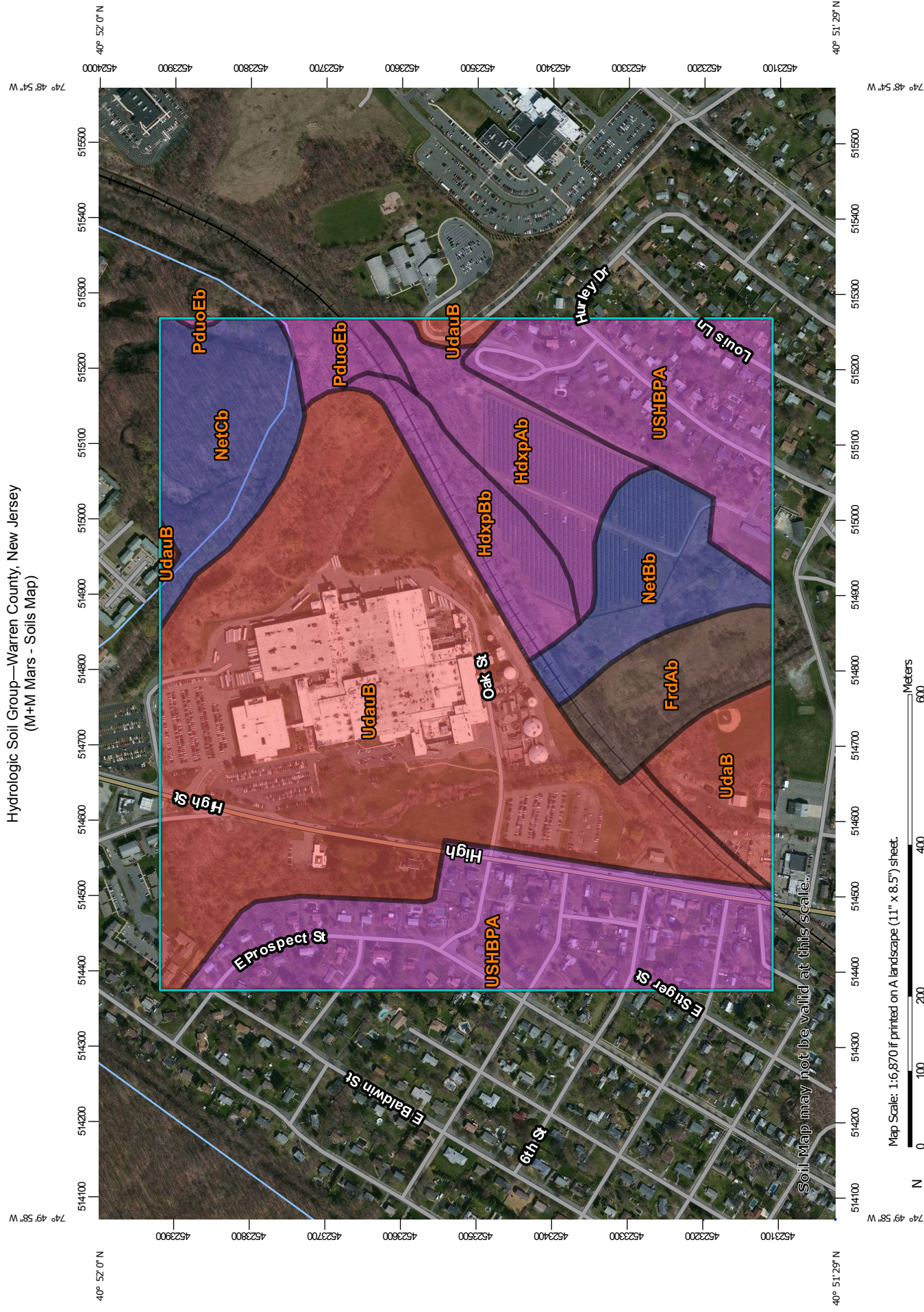
6.0 CONCLUSION

The proposed drainage design utilizes the most current standards and best management practices to support compliance with applicable regulations. The disturbed project areas have met the NJDEP requirements for each design storm, and therefore, the site is in compliance with the NJDEP stormwater quantity requirements. Water quality requirements have also been met to reduce TSS by 80% via a Contech MTD. Groundwater recharge requirements have been met and Low Impact Development techniques have been incorporated to the greatest extent practical. Lastly, soil erosion and sediment control certification are being sought from the WCSCD and the NJDEP.

Appendix A

SOILS MAP

Hydrologic Soil Group—Warren County, New Jersey (M+M Mars - Soils Map)



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

C

C/D

D

Not rated or not available

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Warren County, New Jersey
Survey Area Data: Version 13, Sep 14, 2018

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

Date(s) aerial images were photographed: Mar 26, 2011—May 1, 2011

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
FrdAb	Fredon-Halsey complex, 0 to 3 percent slopes, very stony	B/D	8.5	4.7%
HdxpAb	Hazen-Paulins Kill complex, 0 to 3 percent slopes, very stony	A	10.3	5.8%
HdxpBb	Hazen-Paulins Kill complex, 3 to 8 percent slopes, very stony	A	8.1	4.5%
NetBb	Netcong loam, 0 to 8 percent slopes, very stony	B	10.6	5.9%
NetCb	Netcong loam, 8 to 15 percent slopes, very stony	B	13.0	7.3%
PduoEb	Paulins Kill-Otisville complex, 25 to 60 percent slopes, very stony	A	3.1	1.8%
UdaB	Udorthents, 0 to 8 percent slopes, smoothed	D	6.5	3.6%
UdauB	Udorthents-Urban land complex, 0 to 8 percent slopes	D	73.7	41.1%
USHBPA	Urban land-Hazen- Paulins Kill complex, 0 to 3 percent slopes	A	45.6	25.4%
Totals for Area of Interest			179.5	100.0%

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Appendix B

BENTLEY PONDPACK REPORT

Project Summary

Title	M+M Mars Hackettstown - Trailer Parking Lot
Engineer	BMD
Company	Suburban Consulting Engineers Inc
Date	3/25/2019

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Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft ³ /s)
EDA-1 (DET)	Pre-Dev 2-yr	2	0.397	12.10	4.56
EDA-1 (DET)	Pre-Dev 10-yr	10	0.621	12.10	6.93
EDA-1 (DET)	Pre-Dev 100-yr	100	1.049	12.10	11.36
PDA-1 (DET)	Post-Dev WQ Storm	1	0.141	1.10	4.91
PDA-1 (DET)	Post-Dev 2-yr	2	0.444	12.10	4.84
PDA-1 (DET)	Post-Dev 10-yr	10	0.671	12.10	7.16
PDA-1 (DET)	Post-Dev 25-yr	25	0.889	12.10	9.37
PDA-1 (DET)	Post-Dev 100-yr	100	1.102	12.10	11.53
PDA-1 (UNDET)	Post-Dev WQ Storm	1	0.129	1.10	4.76
PDA-1 (UNDET)	Post-Dev 2-yr	2	0.475	12.10	5.44
PDA-1 (UNDET)	Post-Dev 10-yr	10	0.741	12.10	8.25
PDA-1 (UNDET)	Post-Dev 25-yr	25	0.998	12.10	10.91
PDA-1 (UNDET)	Post-Dev 100-yr	100	1.250	12.10	13.50
EDA-1 (UNDET)	Pre-Dev 2-yr	2	0.477	12.10	5.45
EDA-1 (UNDET)	Pre-Dev 10-yr	10	0.744	12.10	8.26
EDA-1 (UNDET)	Pre-Dev 100-yr	100	1.252	12.10	13.51

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft ³ /s)
Outfall	Post-Dev WQ Storm	1	0.247	1.10	5.00
Outfall	Pre-Dev 2-yr	2	0.874	12.10	10.01
Outfall	Post-Dev 2-yr	2	0.884	12.10	7.01
Outfall	Pre-Dev 10-yr	10	1.365	12.10	15.20
Outfall	Post-Dev 10-yr	10	1.373	12.15	11.64
Outfall	Post-Dev 25-yr	25	1.841	12.10	17.09
Outfall	Pre-Dev 100-yr	100	2.301	12.10	24.87
Outfall	Post-Dev 100-yr	100	2.302	12.10	21.50

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft ³ /s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
PO-1 (UG Basin) (IN)	Post-Dev WQ Storm	1	0.141	1.10	4.91	(N/A)	(N/A)
PO-1 (UG Basin) (OUT)	Post-Dev WQ Storm	1	0.118	1.75	0.50	563.99	0.109
PO-1 (UG Basin) (IN)	Post-Dev 2-yr	2	0.444	12.10	4.84	(N/A)	(N/A)
PO-1 (UG Basin) (OUT)	Post-Dev 2-yr	2	0.409	12.30	2.26	564.70	0.173

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft ³ /s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
PO-1 (UG Basin) (IN)	Post-Dev 10-yr	10	0.671	12.10	7.16	(N/A)	(N/A)
PO-1 (UG Basin) (OUT)	Post-Dev 10-yr	10	0.631	12.20	4.69	565.42	0.217
PO-1 (UG Basin) (IN)	Post-Dev 25-yr	25	0.889	12.10	9.37	(N/A)	(N/A)
PO-1 (UG Basin) (OUT)	Post-Dev 25-yr	25	0.844	12.20	7.06	565.93	0.242
PO-1 (UG Basin) (IN)	Post-Dev 100- yr	100	1.102	12.10	11.53	(N/A)	(N/A)
PO-1 (UG Basin) (OUT)	Post-Dev 100- yr	100	1.052	12.20	8.65	566.42	0.267

Subsection: Time-Depth Curve
Label: Morris Cnty Rainfall

Return Event: 100 years
Storm Event: 100-yr

Time-Depth Curve: 100-yr

Label	100-yr
Start Time	0.00 hours
Increment	0.10 hours
End Time	24.00 hours
Return Event	100 years

CUMULATIVE RAINFALL (in)

Output Time Increment = 0.10 hours

Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.0	0.0	0.0	0.0	0.0
0.50	0.0	0.0	0.1	0.1	0.1
1.00	0.1	0.1	0.1	0.1	0.1
1.50	0.1	0.1	0.1	0.1	0.1
2.00	0.2	0.2	0.2	0.2	0.2
2.50	0.2	0.2	0.2	0.2	0.2
3.00	0.2	0.2	0.3	0.3	0.3
3.50	0.3	0.3	0.3	0.3	0.3
4.00	0.3	0.3	0.4	0.4	0.4
4.50	0.4	0.4	0.4	0.4	0.4
5.00	0.4	0.5	0.5	0.5	0.5
5.50	0.5	0.5	0.5	0.5	0.6
6.00	0.6	0.6	0.6	0.6	0.6
6.50	0.6	0.6	0.7	0.7	0.7
7.00	0.7	0.7	0.7	0.8	0.8
7.50	0.8	0.8	0.8	0.9	0.9
8.00	0.9	0.9	0.9	1.0	1.0
8.50	1.0	1.0	1.1	1.1	1.1
9.00	1.1	1.2	1.2	1.2	1.3
9.50	1.3	1.3	1.4	1.4	1.4
10.00	1.5	1.5	1.6	1.6	1.6
10.50	1.7	1.7	1.8	1.8	1.9
11.00	2.0	2.0	2.1	2.2	2.2
11.50	2.3	2.5	2.7	2.9	3.3
12.00	3.9	4.6	4.9	5.2	5.4
12.50	5.5	5.6	5.7	5.7	5.8
13.00	5.9	5.9	6.0	6.0	6.1
13.50	6.1	6.2	6.2	6.3	6.3
14.00	6.3	6.4	6.4	6.5	6.5
14.50	6.5	6.6	6.6	6.6	6.7
15.00	6.7	6.7	6.7	6.8	6.8
15.50	6.8	6.8	6.9	6.9	6.9
16.00	6.9	6.9	7.0	7.0	7.0
16.50	7.0	7.0	7.1	7.1	7.1
17.00	7.1	7.1	7.1	7.2	7.2
17.50	7.2	7.2	7.2	7.2	7.2

Subsection: Time-Depth Curve
Label: Morris Cnty Rainfall

Return Event: 100 years
Storm Event: 100-yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.10 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
18.00	7.3	7.3	7.3	7.3	7.3
18.50	7.3	7.3	7.3	7.4	7.4
19.00	7.4	7.4	7.4	7.4	7.4
19.50	7.4	7.4	7.5	7.5	7.5
20.00	7.5	7.5	7.5	7.5	7.5
20.50	7.5	7.5	7.6	7.6	7.6
21.00	7.6	7.6	7.6	7.6	7.6
21.50	7.6	7.6	7.6	7.7	7.7
22.00	7.7	7.7	7.7	7.7	7.7
22.50	7.7	7.7	7.7	7.7	7.7
23.00	7.7	7.8	7.8	7.8	7.8
23.50	7.8	7.8	7.8	7.8	7.8
24.00	7.8	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: Morris Cnty Rainfall

Return Event: 10 years
Storm Event: 10-yr

Time-Depth Curve: 10-yr

Label	10-yr
Start Time	0.00 hours
Increment	0.10 hours
End Time	24.00 hours
Return Event	10 years

CUMULATIVE RAINFALL (in)

Output Time Increment = 0.10 hours

Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.0	0.0	0.0	0.0	0.0
0.50	0.0	0.0	0.0	0.0	0.0
1.00	0.0	0.1	0.1	0.1	0.1
1.50	0.1	0.1	0.1	0.1	0.1
2.00	0.1	0.1	0.1	0.1	0.1
2.50	0.1	0.1	0.1	0.1	0.1
3.00	0.2	0.2	0.2	0.2	0.2
3.50	0.2	0.2	0.2	0.2	0.2
4.00	0.2	0.2	0.2	0.2	0.2
4.50	0.2	0.2	0.3	0.3	0.3
5.00	0.3	0.3	0.3	0.3	0.3
5.50	0.3	0.3	0.3	0.3	0.3
6.00	0.4	0.4	0.4	0.4	0.4
6.50	0.4	0.4	0.4	0.4	0.4
7.00	0.4	0.5	0.5	0.5	0.5
7.50	0.5	0.5	0.5	0.5	0.5
8.00	0.6	0.6	0.6	0.6	0.6
8.50	0.6	0.6	0.7	0.7	0.7
9.00	0.7	0.7	0.8	0.8	0.8
9.50	0.8	0.8	0.9	0.9	0.9
10.00	0.9	0.9	1.0	1.0	1.0
10.50	1.1	1.1	1.1	1.2	1.2
11.00	1.2	1.3	1.3	1.3	1.4
11.50	1.5	1.5	1.7	1.8	2.0
12.00	2.4	2.9	3.1	3.2	3.4
12.50	3.4	3.5	3.5	3.6	3.6
13.00	3.7	3.7	3.7	3.8	3.8
13.50	3.8	3.9	3.9	3.9	3.9
14.00	4.0	4.0	4.0	4.0	4.1
14.50	4.1	4.1	4.1	4.1	4.2
15.00	4.2	4.2	4.2	4.2	4.2
15.50	4.3	4.3	4.3	4.3	4.3
16.00	4.3	4.3	4.4	4.4	4.4
16.50	4.4	4.4	4.4	4.4	4.4
17.00	4.4	4.5	4.5	4.5	4.5
17.50	4.5	4.5	4.5	4.5	4.5

Subsection: Time-Depth Curve
 Label: Morris Cnty Rainfall

Return Event: 10 years
 Storm Event: 10-yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.10 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
18.00	4.5	4.5	4.6	4.6	4.6
18.50	4.6	4.6	4.6	4.6	4.6
19.00	4.6	4.6	4.6	4.6	4.6
19.50	4.6	4.7	4.7	4.7	4.7
20.00	4.7	4.7	4.7	4.7	4.7
20.50	4.7	4.7	4.7	4.7	4.7
21.00	4.7	4.7	4.8	4.8	4.8
21.50	4.8	4.8	4.8	4.8	4.8
22.00	4.8	4.8	4.8	4.8	4.8
22.50	4.8	4.8	4.8	4.8	4.8
23.00	4.8	4.9	4.9	4.9	4.9
23.50	4.9	4.9	4.9	4.9	4.9
24.00	4.9	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
Label: Morris Cnty Rainfall

Return Event: 2 years
Storm Event: 2-yr

Time-Depth Curve: 2-yr

Label	2-yr
Start Time	0.00 hours
Increment	0.10 hours
End Time	24.00 hours
Return Event	2 years

CUMULATIVE RAINFALL (in)

Output Time Increment = 0.10 hours

Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.0	0.0	0.0	0.0	0.0
0.50	0.0	0.0	0.0	0.0	0.0
1.00	0.0	0.0	0.0	0.0	0.0
1.50	0.1	0.1	0.1	0.1	0.1
2.00	0.1	0.1	0.1	0.1	0.1
2.50	0.1	0.1	0.1	0.1	0.1
3.00	0.1	0.1	0.1	0.1	0.1
3.50	0.1	0.1	0.1	0.1	0.1
4.00	0.1	0.1	0.2	0.2	0.2
4.50	0.2	0.2	0.2	0.2	0.2
5.00	0.2	0.2	0.2	0.2	0.2
5.50	0.2	0.2	0.2	0.2	0.2
6.00	0.2	0.2	0.3	0.3	0.3
6.50	0.3	0.3	0.3	0.3	0.3
7.00	0.3	0.3	0.3	0.3	0.3
7.50	0.3	0.3	0.4	0.4	0.4
8.00	0.4	0.4	0.4	0.4	0.4
8.50	0.4	0.4	0.5	0.5	0.5
9.00	0.5	0.5	0.5	0.5	0.5
9.50	0.6	0.6	0.6	0.6	0.6
10.00	0.6	0.6	0.7	0.7	0.7
10.50	0.7	0.7	0.8	0.8	0.8
11.00	0.8	0.9	0.9	0.9	1.0
11.50	1.0	1.0	1.1	1.2	1.4
12.00	1.7	2.0	2.1	2.2	2.3
12.50	2.3	2.4	2.4	2.5	2.5
13.00	2.5	2.5	2.6	2.6	2.6
13.50	2.6	2.6	2.7	2.7	2.7
14.00	2.7	2.7	2.7	2.8	2.8
14.50	2.8	2.8	2.8	2.8	2.8
15.00	2.9	2.9	2.9	2.9	2.9
15.50	2.9	2.9	2.9	2.9	3.0
16.00	3.0	3.0	3.0	3.0	3.0
16.50	3.0	3.0	3.0	3.0	3.0
17.00	3.0	3.0	3.1	3.1	3.1
17.50	3.1	3.1	3.1	3.1	3.1

Subsection: Time-Depth Curve
 Label: Morris Cnty Rainfall

Return Event: 2 years
 Storm Event: 2-yr

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.10 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
18.00	3.1	3.1	3.1	3.1	3.1
18.50	3.1	3.1	3.1	3.1	3.1
19.00	3.2	3.2	3.2	3.2	3.2
19.50	3.2	3.2	3.2	3.2	3.2
20.00	3.2	3.2	3.2	3.2	3.2
20.50	3.2	3.2	3.2	3.2	3.2
21.00	3.2	3.2	3.2	3.2	3.3
21.50	3.3	3.3	3.3	3.3	3.3
22.00	3.3	3.3	3.3	3.3	3.3
22.50	3.3	3.3	3.3	3.3	3.3
23.00	3.3	3.3	3.3	3.3	3.3
23.50	3.3	3.3	3.3	3.3	3.3
24.00	3.3	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time-Depth Curve
 Label: Morris Cnty Rainfall

Return Event: 1 years
 Storm Event: WQ

Time-Depth Curve: WQ

Label	WQ
Start Time	0.00 hours
Increment	0.08 hours
End Time	2.00 hours
Return Event	1 years

CUMULATIVE RAINFALL (in)

Output Time Increment = 0.08 hours

Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.00	0.0	0.0	0.0	0.0	0.1
0.42	0.1	0.1	0.1	0.2	0.2
0.83	0.3	0.4	0.6	0.9	1.0
1.25	1.1	1.1	1.1	1.2	1.2
1.67	1.2	1.2	1.2	1.2	1.3

Subsection: Unit Hydrograph Summary
Label: EDA-1 (DET)

Return Event: 2 years
Storm Event: 2-yr

Storm Event	2-yr
Return Event	2 years
Duration	24.00 hours
Depth	3.3 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	1.77 acres
Computational Time Increment	0.01 hours
Time to Peak (Computed)	12.11 hours
Flow (Peak, Computed)	4.56 ft ³ /s
Output Increment	0.05 hours
Time to Flow (Peak Interpolated Output)	12.10 hours
Flow (Peak Interpolated Output)	4.56 ft ³ /s
Drainage Area	
SCS CN (Composite)	94.13
Area (User Defined)	1.77 acres
Maximum Retention (Pervious)	0.6 in
Maximum Retention (Pervious, 20 percent)	0.1 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.7 in
Runoff Volume (Pervious)	0.397 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.397 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.10 hours
Computational Time Increment	0.01 hours
Unit Hydrograph Shape Factor	483.43
K Factor	0.75
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	20.05 ft ³ /s
Unit peak time, Tp	0.07 hours

Subsection: Unit Hydrograph Summary
Label: EDA-1 (DET)

Return Event: 2 years
Storm Event: 2-yr

SCS Unit Hydrograph Parameters	
Unit receding limb, Tr	0.27 hours
Total unit time, Tb	0.33 hours

Subsection: Unit Hydrograph (Hydrograph Table)
Label: EDA-1 (DET)

Return Event: 2 years
Storm Event: 2-yr

Storm Event	2-yr
Return Event	2 years
Duration	24.00 hours
Depth	3.3 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	1.77 acres

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
3.70	0.00	0.00	0.00	0.00	0.00
3.95	0.00	0.00	0.00	0.00	0.01
4.20	0.01	0.01	0.01	0.01	0.01
4.45	0.01	0.01	0.01	0.01	0.01
4.70	0.01	0.01	0.01	0.01	0.01
4.95	0.01	0.01	0.02	0.02	0.02
5.20	0.02	0.02	0.02	0.02	0.02
5.45	0.02	0.02	0.02	0.02	0.02
5.70	0.02	0.02	0.02	0.02	0.03
5.95	0.03	0.03	0.03	0.03	0.03
6.20	0.03	0.03	0.03	0.03	0.03
6.45	0.03	0.04	0.04	0.04	0.04
6.70	0.04	0.04	0.04	0.04	0.05
6.95	0.05	0.05	0.05	0.05	0.05
7.20	0.05	0.05	0.06	0.06	0.06
7.45	0.06	0.06	0.06	0.06	0.06
7.70	0.07	0.07	0.07	0.07	0.07
7.95	0.07	0.07	0.08	0.08	0.08
8.20	0.08	0.09	0.09	0.09	0.09
8.45	0.10	0.10	0.10	0.11	0.11
8.70	0.11	0.11	0.12	0.12	0.12
8.95	0.13	0.13	0.13	0.14	0.14
9.20	0.14	0.15	0.15	0.15	0.16
9.45	0.16	0.16	0.17	0.17	0.17
9.70	0.18	0.18	0.18	0.19	0.19
9.95	0.19	0.20	0.20	0.21	0.21
10.20	0.22	0.22	0.23	0.24	0.24
10.45	0.25	0.26	0.26	0.27	0.28
10.70	0.29	0.29	0.30	0.31	0.31
10.95	0.32	0.33	0.34	0.36	0.37
11.20	0.40	0.42	0.45	0.47	0.50
11.45	0.52	0.55	0.62	0.74	0.91
11.70	1.15	1.36	1.61	1.84	2.12
11.95	2.81	3.94	4.39	4.56	4.03
12.20	2.96	2.43	2.08	1.83	1.55

Subsection: Unit Hydrograph (Hydrograph Table)
 Label: EDA-1 (DET)

Return Event: 2 years
 Storm Event: 2-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
12.45	1.33	1.06	0.89	0.73	0.66
12.70	0.62	0.59	0.56	0.54	0.51
12.95	0.48	0.46	0.44	0.42	0.41
13.20	0.40	0.39	0.39	0.38	0.37
13.45	0.37	0.36	0.35	0.35	0.34
13.70	0.33	0.33	0.32	0.31	0.31
13.95	0.30	0.29	0.29	0.28	0.28
14.20	0.27	0.27	0.27	0.26	0.26
14.45	0.26	0.25	0.25	0.25	0.24
14.70	0.24	0.24	0.23	0.23	0.23
14.95	0.22	0.22	0.22	0.21	0.21
15.20	0.21	0.20	0.20	0.20	0.19
15.45	0.19	0.19	0.18	0.18	0.18
15.70	0.17	0.17	0.17	0.17	0.16
15.95	0.16	0.16	0.15	0.15	0.15
16.20	0.15	0.15	0.14	0.14	0.14
16.45	0.14	0.14	0.14	0.13	0.13
16.70	0.13	0.13	0.13	0.13	0.13
16.95	0.13	0.12	0.12	0.12	0.12
17.20	0.12	0.12	0.12	0.11	0.11
17.45	0.11	0.11	0.11	0.11	0.10
17.70	0.10	0.10	0.10	0.10	0.10
17.95	0.10	0.09	0.09	0.09	0.09
18.20	0.09	0.09	0.09	0.09	0.09
18.45	0.09	0.09	0.09	0.09	0.09
18.70	0.09	0.09	0.09	0.09	0.09
18.95	0.08	0.08	0.08	0.08	0.08
19.20	0.08	0.08	0.08	0.08	0.08
19.45	0.08	0.08	0.08	0.08	0.08
19.70	0.08	0.08	0.08	0.08	0.08
19.95	0.08	0.08	0.08	0.08	0.07
20.20	0.07	0.07	0.07	0.07	0.07
20.45	0.07	0.07	0.07	0.07	0.07
20.70	0.07	0.07	0.07	0.07	0.07
20.95	0.07	0.07	0.07	0.07	0.07
21.20	0.07	0.07	0.07	0.07	0.07
21.45	0.07	0.07	0.07	0.07	0.07
21.70	0.06	0.06	0.06	0.06	0.06
21.95	0.06	0.06	0.06	0.06	0.06
22.20	0.06	0.06	0.06	0.06	0.06
22.45	0.06	0.06	0.06	0.06	0.06
22.70	0.06	0.06	0.06	0.06	0.06
22.95	0.06	0.06	0.06	0.06	0.06
23.20	0.06	0.05	0.05	0.05	0.05

Subsection: Unit Hydrograph (Hydrograph Table)
Label: EDA-1 (DET)

Return Event: 2 years
Storm Event: 2-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
23.45	0.05	0.05	0.05	0.05	0.05
23.70	0.05	0.05	0.05	0.05	0.05
23.95	0.05	0.05	(N/A)	(N/A)	(N/A)

Subsection: Unit Hydrograph Summary
Label: EDA-1 (DET)

Return Event: 10 years
Storm Event: 10-yr

Storm Event	10-yr
Return Event	10 years
Duration	24.00 hours
Depth	4.9 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	1.77 acres
Computational Time Increment	0.01 hours
Time to Peak (Computed)	12.11 hours
Flow (Peak, Computed)	6.94 ft ³ /s
Output Increment	0.05 hours
Time to Flow (Peak Interpolated Output)	12.10 hours
Flow (Peak Interpolated Output)	6.93 ft ³ /s
Drainage Area	
SCS CN (Composite)	94.13
Area (User Defined)	1.77 acres
Maximum Retention (Pervious)	0.6 in
Maximum Retention (Pervious, 20 percent)	0.1 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.2 in
Runoff Volume (Pervious)	0.622 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.621 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.10 hours
Computational Time Increment	0.01 hours
Unit Hydrograph Shape Factor	483.43
K Factor	0.75
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	20.05 ft ³ /s
Unit peak time, Tp	0.07 hours

Subsection: Unit Hydrograph Summary
Label: EDA-1 (DET)

Return Event: 10 years
Storm Event: 10-yr

SCS Unit Hydrograph Parameters	
Unit receding limb, Tr	0.27 hours
Total unit time, Tb	0.33 hours

Subsection: Unit Hydrograph (Hydrograph Table)
Label: EDA-1 (DET)

Return Event: 10 years
Storm Event: 10-yr

Storm Event	10-yr
Return Event	10 years
Duration	24.00 hours
Depth	4.9 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	1.77 acres

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
2.65	0.00	0.00	0.00	0.00	0.00
2.90	0.00	0.01	0.01	0.01	0.01
3.15	0.01	0.01	0.01	0.01	0.01
3.40	0.01	0.01	0.02	0.02	0.02
3.65	0.02	0.02	0.02	0.02	0.02
3.90	0.02	0.02	0.02	0.03	0.03
4.15	0.03	0.03	0.03	0.03	0.03
4.40	0.03	0.03	0.03	0.03	0.04
4.65	0.04	0.04	0.04	0.04	0.04
4.90	0.04	0.04	0.04	0.04	0.05
5.15	0.05	0.05	0.05	0.05	0.05
5.40	0.05	0.05	0.05	0.05	0.06
5.65	0.06	0.06	0.06	0.06	0.06
5.90	0.06	0.06	0.06	0.06	0.07
6.15	0.07	0.07	0.07	0.07	0.07
6.40	0.08	0.08	0.08	0.08	0.08
6.65	0.09	0.09	0.09	0.09	0.09
6.90	0.10	0.10	0.10	0.10	0.10
7.15	0.11	0.11	0.11	0.11	0.11
7.40	0.12	0.12	0.12	0.12	0.13
7.65	0.13	0.13	0.13	0.13	0.14
7.90	0.14	0.14	0.14	0.15	0.15
8.15	0.15	0.16	0.16	0.17	0.17
8.40	0.18	0.18	0.19	0.19	0.19
8.65	0.20	0.20	0.21	0.21	0.22
8.90	0.22	0.23	0.23	0.24	0.24
9.15	0.25	0.25	0.26	0.26	0.27
9.40	0.27	0.28	0.28	0.29	0.29
9.65	0.30	0.31	0.31	0.32	0.32
9.90	0.33	0.33	0.34	0.34	0.35
10.15	0.36	0.37	0.38	0.39	0.40
10.40	0.41	0.42	0.43	0.44	0.45
10.65	0.46	0.47	0.48	0.49	0.50
10.90	0.52	0.53	0.54	0.55	0.58
11.15	0.61	0.64	0.68	0.72	0.75

Subsection: Unit Hydrograph (Hydrograph Table)
 Label: EDA-1 (DET)

Return Event: 10 years
 Storm Event: 10-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
11.40	0.80	0.83	0.87	0.99	1.18
11.65	1.44	1.81	2.14	2.53	2.87
11.90	3.29	4.34	6.05	6.72	6.93
12.15	6.11	4.47	3.67	3.13	2.75
12.40	2.33	1.99	1.59	1.33	1.09
12.65	0.99	0.92	0.88	0.84	0.80
12.90	0.76	0.73	0.68	0.66	0.63
13.15	0.61	0.60	0.59	0.58	0.57
13.40	0.56	0.55	0.54	0.53	0.52
13.65	0.51	0.50	0.49	0.48	0.47
13.90	0.46	0.45	0.44	0.43	0.42
14.15	0.41	0.41	0.40	0.40	0.39
14.40	0.39	0.38	0.38	0.37	0.37
14.65	0.36	0.36	0.35	0.35	0.34
14.90	0.34	0.33	0.33	0.32	0.32
15.15	0.31	0.31	0.30	0.30	0.29
15.40	0.29	0.29	0.28	0.28	0.27
15.65	0.27	0.26	0.26	0.25	0.25
15.90	0.24	0.24	0.23	0.23	0.22
16.15	0.22	0.22	0.22	0.21	0.21
16.40	0.21	0.21	0.21	0.20	0.20
16.65	0.20	0.20	0.19	0.19	0.19
16.90	0.19	0.19	0.18	0.18	0.18
17.15	0.18	0.17	0.17	0.17	0.17
17.40	0.17	0.16	0.16	0.16	0.16
17.65	0.16	0.15	0.15	0.15	0.15
17.90	0.15	0.14	0.14	0.14	0.14
18.15	0.14	0.14	0.14	0.13	0.13
18.40	0.13	0.13	0.13	0.13	0.13
18.65	0.13	0.13	0.13	0.13	0.13
18.90	0.13	0.13	0.13	0.13	0.12
19.15	0.12	0.12	0.12	0.12	0.12
19.40	0.12	0.12	0.12	0.12	0.12
19.65	0.12	0.12	0.12	0.12	0.11
19.90	0.11	0.11	0.11	0.11	0.11
20.15	0.11	0.11	0.11	0.11	0.11
20.40	0.11	0.11	0.11	0.11	0.11
20.65	0.11	0.11	0.11	0.10	0.10
20.90	0.10	0.10	0.10	0.10	0.10
21.15	0.10	0.10	0.10	0.10	0.10
21.40	0.10	0.10	0.10	0.10	0.10
21.65	0.10	0.10	0.10	0.10	0.10
21.90	0.09	0.09	0.09	0.09	0.09
22.15	0.09	0.09	0.09	0.09	0.09

Subsection: Unit Hydrograph (Hydrograph Table)
 Label: EDA-1 (DET)

Return Event: 10 years
 Storm Event: 10-yr

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.05 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
22.40	0.09	0.09	0.09	0.09	0.09
22.65	0.09	0.09	0.09	0.09	0.09
22.90	0.08	0.08	0.08	0.08	0.08
23.15	0.08	0.08	0.08	0.08	0.08
23.40	0.08	0.08	0.08	0.08	0.08
23.65	0.08	0.08	0.08	0.08	0.08
23.90	0.07	0.07	0.07	(N/A)	(N/A)

Subsection: Unit Hydrograph Summary
Label: EDA-1 (DET)

Return Event: 100 years
Storm Event: 100-yr

Storm Event	100-yr
Return Event	100 years
Duration	24.00 hours
Depth	7.8 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	1.77 acres
Computational Time Increment	0.01 hours
Time to Peak (Computed)	12.11 hours
Flow (Peak, Computed)	11.36 ft ³ /s
Output Increment	0.05 hours
Time to Flow (Peak Interpolated Output)	12.10 hours
Flow (Peak Interpolated Output)	11.36 ft ³ /s
Drainage Area	
SCS CN (Composite)	94.13
Area (User Defined)	1.77 acres
Maximum Retention (Pervious)	0.6 in
Maximum Retention (Pervious, 20 percent)	0.1 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	7.1 in
Runoff Volume (Pervious)	1.050 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.049 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.10 hours
Computational Time Increment	0.01 hours
Unit Hydrograph Shape Factor	483.43
K Factor	0.75
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	20.05 ft ³ /s
Unit peak time, Tp	0.07 hours

Subsection: Unit Hydrograph Summary
Label: EDA-1 (DET)

Return Event: 100 years
Storm Event: 100-yr

SCS Unit Hydrograph Parameters	
Unit receding limb, Tr	0.27 hours
Total unit time, Tb	0.33 hours

Subsection: Unit Hydrograph (Hydrograph Table)
Label: EDA-1 (DET)

Return Event: 100 years
Storm Event: 100-yr

Storm Event	100-yr
Return Event	100 years
Duration	24.00 hours
Depth	7.8 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	1.77 acres

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
1.65	0.00	0.00	0.00	0.00	0.01
1.90	0.01	0.01	0.01	0.01	0.01
2.15	0.02	0.02	0.02	0.02	0.02
2.40	0.02	0.03	0.03	0.03	0.03
2.65	0.03	0.03	0.04	0.04	0.04
2.90	0.04	0.04	0.04	0.05	0.05
3.15	0.05	0.05	0.05	0.05	0.06
3.40	0.06	0.06	0.06	0.06	0.06
3.65	0.07	0.07	0.07	0.07	0.07
3.90	0.07	0.08	0.08	0.08	0.08
4.15	0.08	0.08	0.09	0.09	0.09
4.40	0.09	0.09	0.09	0.10	0.10
4.65	0.10	0.10	0.10	0.10	0.11
4.90	0.11	0.11	0.11	0.11	0.11
5.15	0.12	0.12	0.12	0.12	0.12
5.40	0.12	0.13	0.13	0.13	0.13
5.65	0.13	0.13	0.14	0.14	0.14
5.90	0.14	0.14	0.14	0.15	0.15
6.15	0.15	0.15	0.16	0.16	0.16
6.40	0.17	0.17	0.17	0.18	0.18
6.65	0.18	0.19	0.19	0.19	0.20
6.90	0.20	0.21	0.21	0.21	0.22
7.15	0.22	0.22	0.23	0.23	0.23
7.40	0.24	0.24	0.25	0.25	0.25
7.65	0.26	0.26	0.26	0.27	0.27
7.90	0.28	0.28	0.28	0.29	0.29
8.15	0.30	0.31	0.32	0.32	0.33
8.40	0.34	0.35	0.35	0.36	0.37
8.65	0.38	0.39	0.39	0.40	0.41
8.90	0.42	0.43	0.43	0.44	0.45
9.15	0.46	0.47	0.48	0.48	0.49
9.40	0.50	0.51	0.52	0.53	0.53
9.65	0.54	0.55	0.56	0.57	0.58
9.90	0.59	0.59	0.60	0.61	0.63
10.15	0.64	0.66	0.67	0.69	0.70

Subsection: Unit Hydrograph (Hydrograph Table)
 Label: EDA-1 (DET)

Return Event: 100 years
 Storm Event: 100-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
10.40	0.72	0.74	0.76	0.77	0.79
10.65	0.81	0.82	0.84	0.86	0.87
10.90	0.89	0.91	0.93	0.95	0.99
11.15	1.04	1.11	1.16	1.23	1.29
11.40	1.36	1.41	1.48	1.68	2.00
11.65	2.43	3.05	3.59	4.23	4.79
11.90	5.47	7.19	9.99	11.05	11.36
12.15	9.99	7.29	5.97	5.09	4.47
12.40	3.79	3.24	2.58	2.17	1.77
12.65	1.60	1.50	1.43	1.36	1.30
12.90	1.23	1.18	1.11	1.06	1.02
13.15	0.99	0.97	0.95	0.94	0.92
13.40	0.90	0.89	0.87	0.85	0.84
13.65	0.82	0.80	0.79	0.77	0.75
13.90	0.74	0.72	0.70	0.69	0.68
14.15	0.67	0.66	0.65	0.64	0.64
14.40	0.63	0.62	0.61	0.60	0.60
14.65	0.59	0.58	0.57	0.56	0.56
14.90	0.55	0.54	0.53	0.52	0.52
15.15	0.51	0.50	0.49	0.48	0.48
15.40	0.47	0.46	0.45	0.44	0.44
15.65	0.43	0.42	0.41	0.40	0.40
15.90	0.39	0.38	0.37	0.37	0.36
16.15	0.36	0.35	0.35	0.35	0.34
16.40	0.34	0.33	0.33	0.33	0.32
16.65	0.32	0.32	0.31	0.31	0.31
16.90	0.30	0.30	0.30	0.29	0.29
17.15	0.29	0.28	0.28	0.28	0.27
17.40	0.27	0.27	0.26	0.26	0.25
17.65	0.25	0.25	0.25	0.24	0.24
17.90	0.23	0.23	0.23	0.22	0.22
18.15	0.22	0.22	0.22	0.22	0.22
18.40	0.22	0.21	0.21	0.21	0.21
18.65	0.21	0.21	0.21	0.21	0.21
18.90	0.20	0.20	0.20	0.20	0.20
19.15	0.20	0.20	0.20	0.20	0.20
19.40	0.19	0.19	0.19	0.19	0.19
19.65	0.19	0.19	0.19	0.19	0.19
19.90	0.18	0.18	0.18	0.18	0.18
20.15	0.18	0.18	0.18	0.18	0.18
20.40	0.18	0.17	0.17	0.17	0.17
20.65	0.17	0.17	0.17	0.17	0.17
20.90	0.17	0.17	0.17	0.17	0.16
21.15	0.16	0.16	0.16	0.16	0.16

Subsection: Unit Hydrograph (Hydrograph Table)
 Label: EDA-1 (DET)

Return Event: 100 years
 Storm Event: 100-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
21.40	0.16	0.16	0.16	0.16	0.16
21.65	0.16	0.15	0.15	0.15	0.15
21.90	0.15	0.15	0.15	0.15	0.15
22.15	0.15	0.15	0.15	0.15	0.14
22.40	0.14	0.14	0.14	0.14	0.14
22.65	0.14	0.14	0.14	0.14	0.14
22.90	0.14	0.14	0.13	0.13	0.13
23.15	0.13	0.13	0.13	0.13	0.13
23.40	0.13	0.13	0.13	0.13	0.13
23.65	0.12	0.12	0.12	0.12	0.12
23.90	0.12	0.12	0.12	(N/A)	(N/A)

Subsection: Unit Hydrograph Summary
Label: EDA-1 (UNDET)

Return Event: 2 years
Storm Event: 2-yr

Storm Event	2-yr
Return Event	2 years
Duration	24.00 hours
Depth	3.3 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	2.10 acres
Computational Time Increment	0.01 hours
Time to Peak (Computed)	12.11 hours
Flow (Peak, Computed)	5.46 ft ³ /s
Output Increment	0.05 hours
Time to Flow (Peak Interpolated Output)	12.10 hours
Flow (Peak Interpolated Output)	5.45 ft ³ /s
Drainage Area	
SCS CN (Composite)	94.48
Area (User Defined)	2.10 acres
Maximum Retention (Pervious)	0.6 in
Maximum Retention (Pervious, 20 percent)	0.1 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.7 in
Runoff Volume (Pervious)	0.477 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.477 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.10 hours
Computational Time Increment	0.01 hours
Unit Hydrograph Shape Factor	483.43
K Factor	0.75
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	23.79 ft ³ /s
Unit peak time, Tp	0.07 hours

Subsection: Unit Hydrograph Summary
Label: EDA-1 (UNDET)

Return Event: 2 years
Storm Event: 2-yr

SCS Unit Hydrograph Parameters	
Unit receding limb, Tr	0.27 hours
Total unit time, Tb	0.33 hours

Subsection: Unit Hydrograph (Hydrograph Table)
Label: EDA-1 (UNDET)

Return Event: 2 years
Storm Event: 2-yr

Storm Event	2-yr
Return Event	2 years
Duration	24.00 hours
Depth	3.3 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	2.10 acres

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
3.50	0.00	0.00	0.00	0.00	0.00
3.75	0.00	0.00	0.00	0.01	0.01
4.00	0.01	0.01	0.01	0.01	0.01
4.25	0.01	0.01	0.01	0.01	0.01
4.50	0.01	0.01	0.01	0.02	0.02
4.75	0.02	0.02	0.02	0.02	0.02
5.00	0.02	0.02	0.02	0.02	0.02
5.25	0.02	0.02	0.03	0.03	0.03
5.50	0.03	0.03	0.03	0.03	0.03
5.75	0.03	0.03	0.03	0.03	0.03
6.00	0.03	0.04	0.04	0.04	0.04
6.25	0.04	0.04	0.04	0.04	0.05
6.50	0.05	0.05	0.05	0.05	0.05
6.75	0.05	0.05	0.06	0.06	0.06
7.00	0.06	0.06	0.06	0.07	0.07
7.25	0.07	0.07	0.07	0.07	0.07
7.50	0.08	0.08	0.08	0.08	0.08
7.75	0.08	0.09	0.09	0.09	0.09
8.00	0.09	0.10	0.10	0.10	0.10
8.25	0.11	0.11	0.11	0.12	0.12
8.50	0.12	0.13	0.13	0.13	0.14
8.75	0.14	0.14	0.15	0.15	0.16
9.00	0.16	0.16	0.17	0.17	0.18
9.25	0.18	0.18	0.19	0.19	0.19
9.50	0.20	0.20	0.21	0.21	0.22
9.75	0.22	0.22	0.23	0.23	0.24
10.00	0.24	0.25	0.25	0.26	0.27
10.25	0.27	0.28	0.29	0.30	0.31
10.50	0.31	0.32	0.33	0.34	0.35
10.75	0.36	0.36	0.37	0.38	0.39
11.00	0.40	0.41	0.43	0.45	0.48
11.25	0.51	0.54	0.57	0.60	0.63
11.50	0.66	0.75	0.90	1.10	1.38
11.75	1.64	1.94	2.21	2.54	3.37
12.00	4.72	5.26	5.45	4.82	3.53

Subsection: Unit Hydrograph (Hydrograph Table)
 Label: EDA-1 (UNDET)

Return Event: 2 years
 Storm Event: 2-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
12.25	2.90	2.48	2.18	1.85	1.58
12.50	1.26	1.06	0.87	0.79	0.74
12.75	0.70	0.67	0.64	0.61	0.58
13.00	0.54	0.52	0.50	0.49	0.48
13.25	0.47	0.46	0.45	0.44	0.44
13.50	0.43	0.42	0.41	0.40	0.40
13.75	0.39	0.38	0.37	0.36	0.36
14.00	0.35	0.34	0.33	0.33	0.33
14.25	0.32	0.32	0.31	0.31	0.31
14.50	0.30	0.30	0.29	0.29	0.29
14.75	0.28	0.28	0.28	0.27	0.27
15.00	0.26	0.26	0.26	0.25	0.25
15.25	0.24	0.24	0.24	0.23	0.23
15.50	0.22	0.22	0.22	0.21	0.21
15.75	0.20	0.20	0.20	0.19	0.19
16.00	0.18	0.18	0.18	0.18	0.17
16.25	0.17	0.17	0.17	0.17	0.17
16.50	0.16	0.16	0.16	0.16	0.16
16.75	0.16	0.15	0.15	0.15	0.15
17.00	0.15	0.15	0.14	0.14	0.14
17.25	0.14	0.14	0.14	0.13	0.13
17.50	0.13	0.13	0.13	0.12	0.12
17.75	0.12	0.12	0.12	0.12	0.11
18.00	0.11	0.11	0.11	0.11	0.11
18.25	0.11	0.11	0.11	0.11	0.11
18.50	0.11	0.11	0.10	0.10	0.10
18.75	0.10	0.10	0.10	0.10	0.10
19.00	0.10	0.10	0.10	0.10	0.10
19.25	0.10	0.10	0.10	0.10	0.10
19.50	0.10	0.10	0.09	0.09	0.09
19.75	0.09	0.09	0.09	0.09	0.09
20.00	0.09	0.09	0.09	0.09	0.09
20.25	0.09	0.09	0.09	0.09	0.09
20.50	0.09	0.09	0.09	0.09	0.08
20.75	0.08	0.08	0.08	0.08	0.08
21.00	0.08	0.08	0.08	0.08	0.08
21.25	0.08	0.08	0.08	0.08	0.08
21.50	0.08	0.08	0.08	0.08	0.08
21.75	0.08	0.08	0.08	0.08	0.08
22.00	0.07	0.07	0.07	0.07	0.07
22.25	0.07	0.07	0.07	0.07	0.07
22.50	0.07	0.07	0.07	0.07	0.07
22.75	0.07	0.07	0.07	0.07	0.07
23.00	0.07	0.07	0.07	0.07	0.07

Subsection: Unit Hydrograph (Hydrograph Table)
Label: EDA-1 (UNDET)

Return Event: 2 years
Storm Event: 2-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
23.25	0.07	0.06	0.06	0.06	0.06
23.50	0.06	0.06	0.06	0.06	0.06
23.75	0.06	0.06	0.06	0.06	0.06
24.00	0.06	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Unit Hydrograph Summary
Label: EDA-1 (UNDET)

Return Event: 10 years
Storm Event: 10-yr

Storm Event	10-yr
Return Event	10 years
Duration	24.00 hours
Depth	4.9 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	2.10 acres
Computational Time Increment	0.01 hours
Time to Peak (Computed)	12.11 hours
Flow (Peak, Computed)	8.27 ft ³ /s
Output Increment	0.05 hours
Time to Flow (Peak Interpolated Output)	12.10 hours
Flow (Peak Interpolated Output)	8.26 ft ³ /s
Drainage Area	
SCS CN (Composite)	94.48
Area (User Defined)	2.10 acres
Maximum Retention (Pervious)	0.6 in
Maximum Retention (Pervious, 20 percent)	0.1 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.3 in
Runoff Volume (Pervious)	0.744 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.744 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.10 hours
Computational Time Increment	0.01 hours
Unit Hydrograph Shape Factor	483.43
K Factor	0.75
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	23.79 ft ³ /s
Unit peak time, Tp	0.07 hours

Subsection: Unit Hydrograph Summary
Label: EDA-1 (UNDET)

Return Event: 10 years
Storm Event: 10-yr

SCS Unit Hydrograph Parameters	
Unit receding limb, Tr	0.27 hours
Total unit time, Tb	0.33 hours

Subsection: Unit Hydrograph (Hydrograph Table)
 Label: EDA-1 (UNDET)

Return Event: 10 years
 Storm Event: 10-yr

Storm Event	10-yr
Return Event	10 years
Duration	24.00 hours
Depth	4.9 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	2.10 acres

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
2.50	0.00	0.00	0.00	0.00	0.00
2.75	0.01	0.01	0.01	0.01	0.01
3.00	0.01	0.01	0.01	0.01	0.02
3.25	0.02	0.02	0.02	0.02	0.02
3.50	0.02	0.02	0.02	0.02	0.03
3.75	0.03	0.03	0.03	0.03	0.03
4.00	0.03	0.03	0.04	0.04	0.04
4.25	0.04	0.04	0.04	0.04	0.04
4.50	0.04	0.05	0.05	0.05	0.05
4.75	0.05	0.05	0.05	0.05	0.05
5.00	0.06	0.06	0.06	0.06	0.06
5.25	0.06	0.06	0.06	0.07	0.07
5.50	0.07	0.07	0.07	0.07	0.07
5.75	0.07	0.07	0.08	0.08	0.08
6.00	0.08	0.08	0.08	0.08	0.09
6.25	0.09	0.09	0.09	0.10	0.10
6.50	0.10	0.10	0.10	0.11	0.11
6.75	0.11	0.11	0.12	0.12	0.12
7.00	0.12	0.13	0.13	0.13	0.13
7.25	0.14	0.14	0.14	0.14	0.15
7.50	0.15	0.15	0.15	0.16	0.16
7.75	0.16	0.17	0.17	0.17	0.17
8.00	0.18	0.18	0.18	0.19	0.19
8.25	0.20	0.20	0.21	0.22	0.22
8.50	0.23	0.23	0.24	0.24	0.25
8.75	0.25	0.26	0.27	0.27	0.28
9.00	0.28	0.29	0.30	0.30	0.31
9.25	0.31	0.32	0.33	0.33	0.34
9.50	0.34	0.35	0.36	0.36	0.37
9.75	0.38	0.38	0.39	0.40	0.40
10.00	0.41	0.42	0.42	0.43	0.45
10.25	0.46	0.47	0.48	0.50	0.51
10.50	0.52	0.53	0.54	0.56	0.57
10.75	0.58	0.59	0.61	0.62	0.63
11.00	0.65	0.67	0.69	0.73	0.77

Subsection: Unit Hydrograph (Hydrograph Table)
 Label: EDA-1 (UNDET)

Return Event: 10 years
 Storm Event: 10-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
11.25	0.82	0.86	0.91	0.95	1.00
11.50	1.05	1.19	1.42	1.73	2.17
11.75	2.56	3.03	3.43	3.93	5.18
12.00	7.22	8.01	8.26	7.28	5.32
12.25	4.37	3.72	3.27	2.78	2.37
12.50	1.89	1.59	1.30	1.17	1.10
12.75	1.05	1.00	0.96	0.91	0.86
13.00	0.81	0.78	0.75	0.73	0.71
13.25	0.70	0.69	0.68	0.66	0.65
13.50	0.64	0.63	0.61	0.60	0.59
13.75	0.58	0.57	0.55	0.54	0.53
14.00	0.52	0.51	0.50	0.49	0.48
14.25	0.48	0.47	0.47	0.46	0.46
14.50	0.45	0.44	0.44	0.43	0.43
14.75	0.42	0.41	0.41	0.40	0.40
15.00	0.39	0.39	0.38	0.37	0.37
15.25	0.36	0.36	0.35	0.34	0.34
15.50	0.33	0.33	0.32	0.32	0.31
15.75	0.30	0.30	0.29	0.29	0.28
16.00	0.27	0.27	0.27	0.26	0.26
16.25	0.26	0.25	0.25	0.25	0.25
16.50	0.24	0.24	0.24	0.24	0.23
16.75	0.23	0.23	0.23	0.22	0.22
17.00	0.22	0.22	0.21	0.21	0.21
17.25	0.21	0.20	0.20	0.20	0.20
17.50	0.19	0.19	0.19	0.19	0.18
17.75	0.18	0.18	0.18	0.17	0.17
18.00	0.17	0.17	0.16	0.16	0.16
18.25	0.16	0.16	0.16	0.16	0.16
18.50	0.16	0.16	0.16	0.15	0.15
18.75	0.15	0.15	0.15	0.15	0.15
19.00	0.15	0.15	0.15	0.15	0.15
19.25	0.15	0.14	0.14	0.14	0.14
19.50	0.14	0.14	0.14	0.14	0.14
19.75	0.14	0.14	0.14	0.14	0.13
20.00	0.13	0.13	0.13	0.13	0.13
20.25	0.13	0.13	0.13	0.13	0.13
20.50	0.13	0.13	0.13	0.13	0.13
20.75	0.12	0.12	0.12	0.12	0.12
21.00	0.12	0.12	0.12	0.12	0.12
21.25	0.12	0.12	0.12	0.12	0.12
21.50	0.12	0.12	0.12	0.12	0.11
21.75	0.11	0.11	0.11	0.11	0.11
22.00	0.11	0.11	0.11	0.11	0.11

Subsection: Unit Hydrograph (Hydrograph Table)
Label: EDA-1 (UNDET)

Return Event: 10 years
Storm Event: 10-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
22.25	0.11	0.11	0.11	0.11	0.11
22.50	0.10	0.10	0.10	0.10	0.10
22.75	0.10	0.10	0.10	0.10	0.10
23.00	0.10	0.10	0.10	0.10	0.10
23.25	0.10	0.10	0.10	0.10	0.09
23.50	0.09	0.09	0.09	0.09	0.09
23.75	0.09	0.09	0.09	0.09	0.09
24.00	0.09	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Unit Hydrograph Summary
Label: EDA-1 (UNDET)

Return Event: 100 years
Storm Event: 100-yr

Storm Event	100-yr
Return Event	100 years
Duration	24.00 hours
Depth	7.8 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	2.10 acres
Computational Time Increment	0.01 hours
Time to Peak (Computed)	12.11 hours
Flow (Peak, Computed)	13.51 ft ³ /s
Output Increment	0.05 hours
Time to Flow (Peak Interpolated Output)	12.10 hours
Flow (Peak Interpolated Output)	13.51 ft ³ /s
Drainage Area	
SCS CN (Composite)	94.48
Area (User Defined)	2.10 acres
Maximum Retention (Pervious)	0.6 in
Maximum Retention (Pervious, 20 percent)	0.1 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	7.2 in
Runoff Volume (Pervious)	1.253 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.252 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.10 hours
Computational Time Increment	0.01 hours
Unit Hydrograph Shape Factor	483.43
K Factor	0.75
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	23.79 ft ³ /s
Unit peak time, Tp	0.07 hours

Subsection: Unit Hydrograph Summary
Label: EDA-1 (UNDET)

Return Event: 100 years
Storm Event: 100-yr

SCS Unit Hydrograph Parameters	
Unit receding limb, Tr	0.27 hours
Total unit time, Tb	0.33 hours

Subsection: Unit Hydrograph (Hydrograph Table)
Label: EDA-1 (UNDET)

Return Event: 100 years
Storm Event: 100-yr

Storm Event	100-yr
Return Event	100 years
Duration	24.00 hours
Depth	7.8 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	2.10 acres

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
1.55	0.00	0.00	0.00	0.01	0.01
1.80	0.01	0.01	0.01	0.02	0.02
2.05	0.02	0.02	0.02	0.03	0.03
2.30	0.03	0.03	0.03	0.04	0.04
2.55	0.04	0.04	0.04	0.05	0.05
2.80	0.05	0.05	0.05	0.06	0.06
3.05	0.06	0.06	0.06	0.07	0.07
3.30	0.07	0.07	0.07	0.08	0.08
3.55	0.08	0.08	0.08	0.09	0.09
3.80	0.09	0.09	0.09	0.10	0.10
4.05	0.10	0.10	0.10	0.11	0.11
4.30	0.11	0.11	0.11	0.12	0.12
4.55	0.12	0.12	0.12	0.13	0.13
4.80	0.13	0.13	0.13	0.14	0.14
5.05	0.14	0.14	0.14	0.15	0.15
5.30	0.15	0.15	0.15	0.16	0.16
5.55	0.16	0.16	0.16	0.17	0.17
5.80	0.17	0.17	0.17	0.17	0.18
6.05	0.18	0.18	0.19	0.19	0.19
6.30	0.20	0.20	0.20	0.21	0.21
6.55	0.22	0.22	0.23	0.23	0.23
6.80	0.24	0.24	0.25	0.25	0.25
7.05	0.26	0.26	0.27	0.27	0.28
7.30	0.28	0.29	0.29	0.29	0.30
7.55	0.30	0.31	0.31	0.32	0.32
7.80	0.33	0.33	0.34	0.34	0.34
8.05	0.35	0.36	0.36	0.37	0.38
8.30	0.39	0.40	0.41	0.42	0.43
8.55	0.44	0.45	0.46	0.47	0.48
8.80	0.48	0.49	0.50	0.51	0.52
9.05	0.53	0.54	0.55	0.56	0.57
9.30	0.58	0.59	0.60	0.61	0.62
9.55	0.63	0.64	0.65	0.66	0.67
9.80	0.68	0.69	0.70	0.71	0.72
10.05	0.73	0.75	0.77	0.79	0.80

Subsection: Unit Hydrograph (Hydrograph Table)
 Label: EDA-1 (UNDET)

Return Event: 100 years
 Storm Event: 100-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
10.30	0.83	0.84	0.87	0.88	0.91
10.55	0.92	0.95	0.96	0.99	1.00
10.80	1.03	1.04	1.07	1.09	1.11
11.05	1.14	1.19	1.24	1.32	1.39
11.30	1.47	1.54	1.62	1.69	1.77
11.55	2.00	2.39	2.90	3.63	4.27
11.80	5.04	5.70	6.51	8.56	11.89
12.05	13.14	13.51	11.87	8.67	7.10
12.30	6.05	5.31	4.51	3.85	3.06
12.55	2.57	2.11	1.90	1.78	1.70
12.80	1.62	1.55	1.47	1.40	1.32
13.05	1.26	1.21	1.18	1.15	1.13
13.30	1.11	1.09	1.07	1.05	1.03
13.55	1.01	0.99	0.98	0.95	0.94
13.80	0.91	0.90	0.88	0.86	0.84
14.05	0.82	0.80	0.79	0.78	0.77
14.30	0.76	0.75	0.74	0.74	0.73
14.55	0.72	0.71	0.70	0.69	0.68
14.80	0.67	0.66	0.65	0.64	0.63
15.05	0.62	0.61	0.60	0.59	0.59
15.30	0.57	0.57	0.56	0.55	0.54
15.55	0.53	0.52	0.51	0.50	0.49
15.80	0.48	0.47	0.46	0.45	0.44
16.05	0.44	0.43	0.42	0.42	0.41
16.30	0.41	0.41	0.40	0.40	0.39
16.55	0.39	0.38	0.38	0.38	0.37
16.80	0.37	0.36	0.36	0.36	0.35
17.05	0.35	0.34	0.34	0.34	0.33
17.30	0.33	0.32	0.32	0.32	0.31
17.55	0.31	0.30	0.30	0.29	0.29
17.80	0.29	0.28	0.28	0.27	0.27
18.05	0.27	0.26	0.26	0.26	0.26
18.30	0.26	0.26	0.26	0.25	0.25
18.55	0.25	0.25	0.25	0.25	0.25
18.80	0.25	0.24	0.24	0.24	0.24
19.05	0.24	0.24	0.24	0.24	0.23
19.30	0.23	0.23	0.23	0.23	0.23
19.55	0.23	0.23	0.22	0.22	0.22
19.80	0.22	0.22	0.22	0.22	0.22
20.05	0.22	0.21	0.21	0.21	0.21
20.30	0.21	0.21	0.21	0.21	0.21
20.55	0.21	0.20	0.20	0.20	0.20
20.80	0.20	0.20	0.20	0.20	0.20
21.05	0.20	0.20	0.19	0.19	0.19

Subsection: Unit Hydrograph (Hydrograph Table)
Label: EDA-1 (UNDET)

Return Event: 100 years
Storm Event: 100-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
21.30	0.19	0.19	0.19	0.19	0.19
21.55	0.19	0.19	0.19	0.18	0.18
21.80	0.18	0.18	0.18	0.18	0.18
22.05	0.18	0.18	0.18	0.18	0.17
22.30	0.17	0.17	0.17	0.17	0.17
22.55	0.17	0.17	0.17	0.17	0.16
22.80	0.16	0.16	0.16	0.16	0.16
23.05	0.16	0.16	0.16	0.16	0.16
23.30	0.15	0.15	0.15	0.15	0.15
23.55	0.15	0.15	0.15	0.15	0.15
23.80	0.15	0.14	0.14	0.14	0.14

Subsection: Unit Hydrograph Summary
Label: PDA-1 (DET)

Return Event: 1 years
Storm Event: WQ

Storm Event	WQ
Return Event	1 years
Duration	24.00 hours
Depth	1.3 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	1.77 acres
Computational Time Increment	0.01 hours
Time to Peak (Computed)	1.09 hours
Flow (Peak, Computed)	4.93 ft ³ /s
Output Increment	0.05 hours
Time to Flow (Peak Interpolated Output)	1.10 hours
Flow (Peak Interpolated Output)	4.91 ft ³ /s
Drainage Area	
SCS CN (Composite)	97.15
Area (User Defined)	1.77 acres
Maximum Retention (Pervious)	0.3 in
Maximum Retention (Pervious, 20 percent)	0.1 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.0 in
Runoff Volume (Pervious)	0.141 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.141 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.10 hours
Computational Time Increment	0.01 hours
Unit Hydrograph Shape Factor	483.43
K Factor	0.75
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	20.05 ft ³ /s
Unit peak time, Tp	0.07 hours

Subsection: Unit Hydrograph Summary
Label: PDA-1 (DET)

Return Event: 1 years
Storm Event: WQ

SCS Unit Hydrograph Parameters	
Unit receding limb, Tr	0.27 hours
Total unit time, Tb	0.33 hours

Subsection: Unit Hydrograph (Hydrograph Table)
 Label: PDA-1 (DET)

Return Event: 1 years
 Storm Event: WQ

Storm Event	WQ
Return Event	1 years
Duration	24.00 hours
Depth	1.3 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	1.77 acres

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
0.35	0.00	0.00	0.02	0.06	0.11
0.60	0.18	0.24	0.29	0.34	0.46
0.85	0.67	1.05	1.73	3.45	4.54
1.10	4.91	3.72	2.43	1.65	1.18
1.35	0.85	0.73	0.69	0.68	0.63
1.60	0.55	0.52	0.52	0.51	0.42
1.85	0.26	0.20	0.18	0.17	0.12
2.10	0.04	0.01	0.00	0.00	(N/A)

Subsection: Unit Hydrograph Summary
Label: PDA-1 (DET)

Return Event: 2 years
Storm Event: 2-yr

Storm Event	2-yr
Return Event	2 years
Duration	24.00 hours
Depth	3.3 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	1.77 acres
Computational Time Increment	0.01 hours
Time to Peak (Computed)	12.11 hours
Flow (Peak, Computed)	4.84 ft ³ /s
Output Increment	0.05 hours
Time to Flow (Peak Interpolated Output)	12.10 hours
Flow (Peak Interpolated Output)	4.84 ft ³ /s
Drainage Area	
SCS CN (Composite)	97.15
Area (User Defined)	1.77 acres
Maximum Retention (Pervious)	0.3 in
Maximum Retention (Pervious, 20 percent)	0.1 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.0 in
Runoff Volume (Pervious)	0.444 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.444 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.10 hours
Computational Time Increment	0.01 hours
Unit Hydrograph Shape Factor	483.43
K Factor	0.75
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	20.05 ft ³ /s
Unit peak time, Tp	0.07 hours

Subsection: Unit Hydrograph Summary
Label: PDA-1 (DET)

Return Event: 2 years
Storm Event: 2-yr

SCS Unit Hydrograph Parameters	
Unit receding limb, Tr	0.27 hours
Total unit time, Tb	0.33 hours

Subsection: Unit Hydrograph (Hydrograph Table)
 Label: PDA-1 (DET)

Return Event: 2 years
 Storm Event: 2-yr

Storm Event	2-yr
Return Event	2 years
Duration	24.00 hours
Depth	3.3 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	1.77 acres

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
1.90	0.00	0.00	0.00	0.00	0.00
2.15	0.00	0.00	0.01	0.01	0.01
2.40	0.01	0.01	0.01	0.01	0.01
2.65	0.01	0.01	0.01	0.01	0.01
2.90	0.01	0.01	0.02	0.02	0.02
3.15	0.02	0.02	0.02	0.02	0.02
3.40	0.02	0.02	0.02	0.02	0.02
3.65	0.02	0.03	0.03	0.03	0.03
3.90	0.03	0.03	0.03	0.03	0.03
4.15	0.03	0.03	0.03	0.03	0.03
4.40	0.04	0.04	0.04	0.04	0.04
4.65	0.04	0.04	0.04	0.04	0.04
4.90	0.04	0.04	0.04	0.04	0.05
5.15	0.05	0.05	0.05	0.05	0.05
5.40	0.05	0.05	0.05	0.05	0.05
5.65	0.05	0.05	0.05	0.06	0.06
5.90	0.06	0.06	0.06	0.06	0.06
6.15	0.06	0.06	0.06	0.07	0.07
6.40	0.07	0.07	0.07	0.07	0.07
6.65	0.07	0.08	0.08	0.08	0.08
6.90	0.08	0.08	0.09	0.09	0.09
7.15	0.09	0.09	0.09	0.09	0.10
7.40	0.10	0.10	0.10	0.10	0.10
7.65	0.11	0.11	0.11	0.11	0.11
7.90	0.11	0.12	0.12	0.12	0.12
8.15	0.12	0.13	0.13	0.13	0.14
8.40	0.14	0.14	0.15	0.15	0.15
8.65	0.16	0.16	0.16	0.17	0.17
8.90	0.17	0.18	0.18	0.18	0.19
9.15	0.19	0.20	0.20	0.20	0.21
9.40	0.21	0.21	0.22	0.22	0.22
9.65	0.23	0.23	0.23	0.24	0.24
9.90	0.25	0.25	0.25	0.26	0.26
10.15	0.27	0.28	0.28	0.29	0.30
10.40	0.30	0.31	0.32	0.33	0.33

Subsection: Unit Hydrograph (Hydrograph Table)
 Label: PDA-1 (DET)

Return Event: 2 years
 Storm Event: 2-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
10.65	0.34	0.35	0.35	0.36	0.37
10.90	0.38	0.38	0.39	0.40	0.42
11.15	0.44	0.47	0.49	0.52	0.54
11.40	0.57	0.60	0.63	0.71	0.85
11.65	1.03	1.29	1.52	1.80	2.03
11.90	2.32	3.05	4.25	4.70	4.84
12.15	4.25	3.11	2.54	2.17	1.90
12.40	1.62	1.38	1.10	0.92	0.76
12.65	0.68	0.64	0.61	0.58	0.56
12.90	0.53	0.50	0.47	0.45	0.43
13.15	0.42	0.41	0.41	0.40	0.39
13.40	0.38	0.38	0.37	0.36	0.36
13.65	0.35	0.34	0.34	0.33	0.32
13.90	0.31	0.31	0.30	0.29	0.29
14.15	0.28	0.28	0.28	0.27	0.27
14.40	0.27	0.26	0.26	0.26	0.25
14.65	0.25	0.25	0.24	0.24	0.24
14.90	0.23	0.23	0.23	0.22	0.22
15.15	0.22	0.21	0.21	0.21	0.20
15.40	0.20	0.20	0.19	0.19	0.19
15.65	0.18	0.18	0.18	0.17	0.17
15.90	0.17	0.16	0.16	0.16	0.15
16.15	0.15	0.15	0.15	0.15	0.15
16.40	0.14	0.14	0.14	0.14	0.14
16.65	0.14	0.14	0.13	0.13	0.13
16.90	0.13	0.13	0.13	0.13	0.12
17.15	0.12	0.12	0.12	0.12	0.12
17.40	0.11	0.11	0.11	0.11	0.11
17.65	0.11	0.11	0.10	0.10	0.10
17.90	0.10	0.10	0.10	0.10	0.09
18.15	0.09	0.09	0.09	0.09	0.09
18.40	0.09	0.09	0.09	0.09	0.09
18.65	0.09	0.09	0.09	0.09	0.09
18.90	0.09	0.09	0.09	0.09	0.09
19.15	0.09	0.08	0.08	0.08	0.08
19.40	0.08	0.08	0.08	0.08	0.08
19.65	0.08	0.08	0.08	0.08	0.08
19.90	0.08	0.08	0.08	0.08	0.08
20.15	0.08	0.08	0.08	0.08	0.08
20.40	0.07	0.07	0.07	0.07	0.07
20.65	0.07	0.07	0.07	0.07	0.07
20.90	0.07	0.07	0.07	0.07	0.07
21.15	0.07	0.07	0.07	0.07	0.07
21.40	0.07	0.07	0.07	0.07	0.07

Subsection: Unit Hydrograph (Hydrograph Table)
Label: PDA-1 (DET)

Return Event: 2 years
Storm Event: 2-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
21.65	0.07	0.07	0.07	0.07	0.07
21.90	0.06	0.06	0.06	0.06	0.06
22.15	0.06	0.06	0.06	0.06	0.06
22.40	0.06	0.06	0.06	0.06	0.06
22.65	0.06	0.06	0.06	0.06	0.06
22.90	0.06	0.06	0.06	0.06	0.06
23.15	0.06	0.06	0.06	0.06	0.06
23.40	0.06	0.05	0.05	0.05	0.05
23.65	0.05	0.05	0.05	0.05	0.05
23.90	0.05	0.05	0.05	(N/A)	(N/A)

Subsection: Unit Hydrograph Summary
Label: PDA-1 (DET)

Return Event: 10 years
Storm Event: 10-yr

Storm Event	10-yr
Return Event	10 years
Duration	24.00 hours
Depth	4.9 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	1.77 acres
Computational Time Increment	0.01 hours
Time to Peak (Computed)	12.11 hours
Flow (Peak, Computed)	7.16 ft ³ /s
Output Increment	0.05 hours
Time to Flow (Peak Interpolated Output)	12.10 hours
Flow (Peak Interpolated Output)	7.16 ft ³ /s
Drainage Area	
SCS CN (Composite)	97.15
Area (User Defined)	1.77 acres
Maximum Retention (Pervious)	0.3 in
Maximum Retention (Pervious, 20 percent)	0.1 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.6 in
Runoff Volume (Pervious)	0.672 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.671 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.10 hours
Computational Time Increment	0.01 hours
Unit Hydrograph Shape Factor	483.43
K Factor	0.75
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	20.05 ft ³ /s
Unit peak time, Tp	0.07 hours

Subsection: Unit Hydrograph Summary
Label: PDA-1 (DET)

Return Event: 10 years
Storm Event: 10-yr

SCS Unit Hydrograph Parameters	
Unit receding limb, Tr	0.27 hours
Total unit time, Tb	0.33 hours

Subsection: Unit Hydrograph (Hydrograph Table)
Label: PDA-1 (DET)

Return Event: 10 years
Storm Event: 10-yr

Storm Event	10-yr
Return Event	10 years
Duration	24.00 hours
Depth	4.9 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	1.77 acres

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
1.30	0.00	0.00	0.00	0.00	0.01
1.55	0.01	0.01	0.01	0.01	0.01
1.80	0.01	0.01	0.02	0.02	0.02
2.05	0.02	0.02	0.02	0.02	0.02
2.30	0.02	0.03	0.03	0.03	0.03
2.55	0.03	0.03	0.03	0.03	0.03
2.80	0.04	0.04	0.04	0.04	0.04
3.05	0.04	0.04	0.04	0.04	0.05
3.30	0.05	0.05	0.05	0.05	0.05
3.55	0.05	0.05	0.05	0.06	0.06
3.80	0.06	0.06	0.06	0.06	0.06
4.05	0.06	0.06	0.07	0.07	0.07
4.30	0.07	0.07	0.07	0.07	0.07
4.55	0.07	0.08	0.08	0.08	0.08
4.80	0.08	0.08	0.08	0.08	0.08
5.05	0.08	0.09	0.09	0.09	0.09
5.30	0.09	0.09	0.09	0.09	0.09
5.55	0.09	0.10	0.10	0.10	0.10
5.80	0.10	0.10	0.10	0.10	0.10
6.05	0.10	0.11	0.11	0.11	0.11
6.30	0.11	0.12	0.12	0.12	0.12
6.55	0.13	0.13	0.13	0.13	0.13
6.80	0.14	0.14	0.14	0.14	0.15
7.05	0.15	0.15	0.15	0.15	0.16
7.30	0.16	0.16	0.16	0.17	0.17
7.55	0.17	0.17	0.18	0.18	0.18
7.80	0.18	0.18	0.19	0.19	0.19
8.05	0.19	0.20	0.20	0.21	0.21
8.30	0.22	0.22	0.23	0.23	0.24
8.55	0.24	0.25	0.25	0.26	0.26
8.80	0.27	0.27	0.28	0.28	0.29
9.05	0.29	0.30	0.30	0.31	0.31
9.30	0.32	0.32	0.33	0.33	0.34
9.55	0.34	0.35	0.35	0.36	0.37
9.80	0.37	0.38	0.38	0.39	0.39

Subsection: Unit Hydrograph (Hydrograph Table)
 Label: PDA-1 (DET)

Return Event: 10 years
 Storm Event: 10-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
10.05	0.40	0.41	0.42	0.43	0.44
10.30	0.45	0.46	0.47	0.48	0.49
10.55	0.50	0.51	0.52	0.53	0.54
10.80	0.55	0.56	0.57	0.58	0.59
11.05	0.61	0.64	0.67	0.71	0.74
11.30	0.79	0.82	0.87	0.90	0.95
11.55	1.07	1.28	1.55	1.94	2.28
11.80	2.69	3.04	3.46	4.55	6.31
12.05	6.97	7.16	6.29	4.59	3.76
12.30	3.20	2.81	2.38	2.03	1.62
12.55	1.36	1.11	1.01	0.94	0.90
12.80	0.85	0.82	0.77	0.74	0.70
13.05	0.67	0.64	0.62	0.61	0.60
13.30	0.59	0.58	0.57	0.56	0.55
13.55	0.54	0.52	0.52	0.50	0.49
13.80	0.48	0.47	0.46	0.45	0.44
14.05	0.43	0.42	0.42	0.41	0.41
14.30	0.40	0.40	0.39	0.39	0.38
14.55	0.38	0.37	0.37	0.36	0.36
14.80	0.35	0.35	0.34	0.34	0.33
15.05	0.33	0.32	0.32	0.31	0.31
15.30	0.30	0.30	0.29	0.29	0.28
15.55	0.28	0.27	0.27	0.26	0.26
15.80	0.25	0.25	0.24	0.24	0.23
16.05	0.23	0.23	0.22	0.22	0.22
16.30	0.22	0.21	0.21	0.21	0.21
16.55	0.21	0.20	0.20	0.20	0.20
16.80	0.19	0.19	0.19	0.19	0.19
17.05	0.18	0.18	0.18	0.18	0.18
17.30	0.17	0.17	0.17	0.17	0.16
17.55	0.16	0.16	0.16	0.16	0.15
17.80	0.15	0.15	0.15	0.14	0.14
18.05	0.14	0.14	0.14	0.14	0.14
18.30	0.14	0.14	0.14	0.13	0.13
18.55	0.13	0.13	0.13	0.13	0.13
18.80	0.13	0.13	0.13	0.13	0.13
19.05	0.13	0.13	0.13	0.12	0.12
19.30	0.12	0.12	0.12	0.12	0.12
19.55	0.12	0.12	0.12	0.12	0.12
19.80	0.12	0.12	0.12	0.11	0.11
20.05	0.11	0.11	0.11	0.11	0.11
20.30	0.11	0.11	0.11	0.11	0.11
20.55	0.11	0.11	0.11	0.11	0.11
20.80	0.11	0.11	0.10	0.10	0.10

Subsection: Unit Hydrograph (Hydrograph Table)
Label: PDA-1 (DET)

Return Event: 10 years
Storm Event: 10-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
21.05	0.10	0.10	0.10	0.10	0.10
21.30	0.10	0.10	0.10	0.10	0.10
21.55	0.10	0.10	0.10	0.10	0.10
21.80	0.10	0.10	0.10	0.09	0.09
22.05	0.09	0.09	0.09	0.09	0.09
22.30	0.09	0.09	0.09	0.09	0.09
22.55	0.09	0.09	0.09	0.09	0.09
22.80	0.09	0.09	0.09	0.09	0.08
23.05	0.08	0.08	0.08	0.08	0.08
23.30	0.08	0.08	0.08	0.08	0.08
23.55	0.08	0.08	0.08	0.08	0.08
23.80	0.08	0.08	0.08	0.07	0.07

Subsection: Unit Hydrograph Summary
Label: PDA-1 (DET)

Return Event: 25 years
Storm Event: 25-yr

Storm Event	25-yr
Return Event	25 years
Duration	24.00 hours
Depth	6.4 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	1.77 acres
Computational Time Increment	0.01 hours
Time to Peak (Computed)	12.11 hours
Flow (Peak, Computed)	9.37 ft ³ /s
Output Increment	0.05 hours
Time to Flow (Peak Interpolated Output)	12.10 hours
Flow (Peak Interpolated Output)	9.37 ft ³ /s
Drainage Area	
SCS CN (Composite)	97.15
Area (User Defined)	1.77 acres
Maximum Retention (Pervious)	0.3 in
Maximum Retention (Pervious, 20 percent)	0.1 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.0 in
Runoff Volume (Pervious)	0.890 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.889 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.10 hours
Computational Time Increment	0.01 hours
Unit Hydrograph Shape Factor	483.43
K Factor	0.75
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	20.05 ft ³ /s
Unit peak time, Tp	0.07 hours

Subsection: Unit Hydrograph Summary
Label: PDA-1 (DET)

Return Event: 25 years
Storm Event: 25-yr

SCS Unit Hydrograph Parameters	
Unit receding limb, Tr	0.27 hours
Total unit time, Tb	0.33 hours

Subsection: Unit Hydrograph (Hydrograph Table)
Label: PDA-1 (DET)

Return Event: 25 years
Storm Event: 25-yr

Storm Event	25-yr
Return Event	25 years
Duration	24.00 hours
Depth	6.4 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	1.77 acres

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
1.00	0.00	0.00	0.00	0.01	0.01
1.25	0.01	0.01	0.02	0.02	0.02
1.50	0.02	0.02	0.02	0.03	0.03
1.75	0.03	0.03	0.03	0.03	0.04
2.00	0.04	0.04	0.04	0.04	0.04
2.25	0.04	0.05	0.05	0.05	0.05
2.50	0.05	0.05	0.06	0.06	0.06
2.75	0.06	0.06	0.06	0.06	0.07
3.00	0.07	0.07	0.07	0.07	0.07
3.25	0.08	0.08	0.08	0.08	0.08
3.50	0.08	0.08	0.09	0.09	0.09
3.75	0.09	0.09	0.09	0.09	0.10
4.00	0.10	0.10	0.10	0.10	0.10
4.25	0.10	0.10	0.11	0.11	0.11
4.50	0.11	0.11	0.11	0.11	0.12
4.75	0.12	0.12	0.12	0.12	0.12
5.00	0.12	0.12	0.13	0.13	0.13
5.25	0.13	0.13	0.13	0.13	0.13
5.50	0.14	0.14	0.14	0.14	0.14
5.75	0.14	0.14	0.14	0.15	0.15
6.00	0.15	0.15	0.15	0.15	0.16
6.25	0.16	0.16	0.16	0.17	0.17
6.50	0.17	0.18	0.18	0.18	0.19
6.75	0.19	0.19	0.19	0.20	0.20
7.00	0.20	0.21	0.21	0.21	0.21
7.25	0.22	0.22	0.22	0.23	0.23
7.50	0.23	0.24	0.24	0.24	0.25
7.75	0.25	0.25	0.25	0.26	0.26
8.00	0.26	0.27	0.27	0.28	0.28
8.25	0.29	0.30	0.30	0.31	0.32
8.50	0.32	0.33	0.34	0.34	0.35
8.75	0.36	0.36	0.37	0.38	0.38
9.00	0.39	0.39	0.40	0.41	0.42
9.25	0.42	0.43	0.44	0.44	0.45
9.50	0.46	0.46	0.47	0.48	0.48

Subsection: Unit Hydrograph (Hydrograph Table)
 Label: PDA-1 (DET)

Return Event: 25 years
 Storm Event: 25-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
9.75	0.49	0.50	0.50	0.51	0.52
10.00	0.52	0.53	0.54	0.55	0.57
10.25	0.58	0.59	0.61	0.62	0.63
10.50	0.65	0.66	0.68	0.69	0.70
10.75	0.72	0.73	0.74	0.76	0.77
11.00	0.79	0.81	0.84	0.88	0.94
11.25	0.98	1.04	1.09	1.14	1.19
11.50	1.25	1.41	1.68	2.04	2.55
11.75	3.00	3.53	3.99	4.54	5.96
12.00	8.27	9.12	9.37	8.22	6.00
12.25	4.91	4.18	3.67	3.12	2.66
12.50	2.12	1.78	1.46	1.31	1.23
12.75	1.17	1.12	1.07	1.01	0.96
13.00	0.91	0.87	0.83	0.81	0.79
13.25	0.78	0.77	0.75	0.74	0.73
13.50	0.71	0.70	0.69	0.67	0.66
13.75	0.65	0.63	0.62	0.60	0.59
14.00	0.58	0.57	0.55	0.55	0.54
14.25	0.53	0.53	0.52	0.51	0.51
14.50	0.50	0.49	0.49	0.48	0.47
14.75	0.47	0.46	0.46	0.45	0.44
15.00	0.44	0.43	0.42	0.42	0.41
15.25	0.40	0.40	0.39	0.38	0.38
15.50	0.37	0.36	0.36	0.35	0.34
15.75	0.34	0.33	0.33	0.32	0.31
16.00	0.31	0.30	0.30	0.29	0.29
16.25	0.29	0.28	0.28	0.28	0.27
16.50	0.27	0.27	0.26	0.26	0.26
16.75	0.26	0.25	0.25	0.25	0.25
17.00	0.24	0.24	0.24	0.23	0.23
17.25	0.23	0.23	0.22	0.22	0.22
17.50	0.21	0.21	0.21	0.21	0.20
17.75	0.20	0.20	0.19	0.19	0.19
18.00	0.19	0.18	0.18	0.18	0.18
18.25	0.18	0.18	0.18	0.18	0.18
18.50	0.17	0.17	0.17	0.17	0.17
18.75	0.17	0.17	0.17	0.17	0.17
19.00	0.17	0.17	0.16	0.16	0.16
19.25	0.16	0.16	0.16	0.16	0.16
19.50	0.16	0.16	0.16	0.15	0.15
19.75	0.15	0.15	0.15	0.15	0.15
20.00	0.15	0.15	0.15	0.15	0.15
20.25	0.15	0.14	0.14	0.14	0.14
20.50	0.14	0.14	0.14	0.14	0.14

Subsection: Unit Hydrograph (Hydrograph Table)
 Label: PDA-1 (DET)

Return Event: 25 years
 Storm Event: 25-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
20.75	0.14	0.14	0.14	0.14	0.14
21.00	0.14	0.14	0.13	0.13	0.13
21.25	0.13	0.13	0.13	0.13	0.13
21.50	0.13	0.13	0.13	0.13	0.13
21.75	0.13	0.13	0.13	0.12	0.12
22.00	0.12	0.12	0.12	0.12	0.12
22.25	0.12	0.12	0.12	0.12	0.12
22.50	0.12	0.12	0.12	0.12	0.11
22.75	0.11	0.11	0.11	0.11	0.11
23.00	0.11	0.11	0.11	0.11	0.11
23.25	0.11	0.11	0.11	0.11	0.10
23.50	0.10	0.10	0.10	0.10	0.10
23.75	0.10	0.10	0.10	0.10	0.10
24.00	0.10	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Unit Hydrograph Summary
Label: PDA-1 (DET)

Return Event: 100 years
Storm Event: 100-yr

Storm Event	100-yr
Return Event	100 years
Duration	24.00 hours
Depth	7.8 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	1.77 acres
Computational Time Increment	0.01 hours
Time to Peak (Computed)	12.11 hours
Flow (Peak, Computed)	11.53 ft ³ /s
Output Increment	0.05 hours
Time to Flow (Peak Interpolated Output)	12.10 hours
Flow (Peak Interpolated Output)	11.53 ft ³ /s
Drainage Area	
SCS CN (Composite)	97.15
Area (User Defined)	1.77 acres
Maximum Retention (Pervious)	0.3 in
Maximum Retention (Pervious, 20 percent)	0.1 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	7.5 in
Runoff Volume (Pervious)	1.103 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.102 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.10 hours
Computational Time Increment	0.01 hours
Unit Hydrograph Shape Factor	483.43
K Factor	0.75
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	20.05 ft ³ /s
Unit peak time, Tp	0.07 hours

Subsection: Unit Hydrograph Summary
Label: PDA-1 (DET)

Return Event: 100 years
Storm Event: 100-yr

SCS Unit Hydrograph Parameters	
Unit receding limb, Tr	0.27 hours
Total unit time, Tb	0.33 hours

Subsection: Unit Hydrograph (Hydrograph Table)
Label: PDA-1 (DET)

Return Event: 100 years
Storm Event: 100-yr

Storm Event	100-yr
Return Event	100 years
Duration	24.00 hours
Depth	7.8 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	1.77 acres

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
0.80	0.00	0.00	0.01	0.01	0.01
1.05	0.02	0.02	0.02	0.02	0.03
1.30	0.03	0.03	0.03	0.04	0.04
1.55	0.04	0.04	0.05	0.05	0.05
1.80	0.05	0.05	0.06	0.06	0.06
2.05	0.06	0.06	0.06	0.07	0.07
2.30	0.07	0.07	0.07	0.08	0.08
2.55	0.08	0.08	0.08	0.09	0.09
2.80	0.09	0.09	0.09	0.09	0.10
3.05	0.10	0.10	0.10	0.10	0.11
3.30	0.11	0.11	0.11	0.11	0.11
3.55	0.12	0.12	0.12	0.12	0.12
3.80	0.12	0.13	0.13	0.13	0.13
4.05	0.13	0.13	0.14	0.14	0.14
4.30	0.14	0.14	0.14	0.15	0.15
4.55	0.15	0.15	0.15	0.15	0.15
4.80	0.16	0.16	0.16	0.16	0.16
5.05	0.16	0.17	0.17	0.17	0.17
5.30	0.17	0.17	0.17	0.18	0.18
5.55	0.18	0.18	0.18	0.18	0.18
5.80	0.19	0.19	0.19	0.19	0.19
6.05	0.19	0.20	0.20	0.20	0.20
6.30	0.21	0.21	0.22	0.22	0.22
6.55	0.23	0.23	0.23	0.24	0.24
6.80	0.24	0.25	0.25	0.26	0.26
7.05	0.26	0.27	0.27	0.27	0.28
7.30	0.28	0.28	0.29	0.29	0.30
7.55	0.30	0.30	0.31	0.31	0.31
7.80	0.32	0.32	0.33	0.33	0.33
8.05	0.34	0.34	0.35	0.36	0.37
8.30	0.37	0.38	0.39	0.40	0.41
8.55	0.41	0.42	0.43	0.44	0.45
8.80	0.45	0.46	0.47	0.48	0.49
9.05	0.49	0.50	0.51	0.52	0.53
9.30	0.54	0.54	0.55	0.56	0.57

Subsection: Unit Hydrograph (Hydrograph Table)
Label: PDA-1 (DET)

Return Event: 100 years
Storm Event: 100-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
9.55	0.58	0.59	0.59	0.60	0.61
9.80	0.62	0.63	0.63	0.64	0.65
10.05	0.66	0.67	0.69	0.71	0.72
10.30	0.74	0.75	0.77	0.79	0.81
10.55	0.82	0.84	0.85	0.87	0.89
10.80	0.91	0.92	0.94	0.96	0.97
11.05	1.00	1.04	1.09	1.16	1.22
11.30	1.28	1.34	1.41	1.47	1.54
11.55	1.74	2.07	2.52	3.15	3.70
11.80	4.35	4.92	5.60	7.35	10.18
12.05	11.23	11.53	10.12	7.38	6.04
12.30	5.14	4.51	3.83	3.27	2.60
12.55	2.18	1.79	1.61	1.51	1.44
12.80	1.37	1.31	1.24	1.18	1.12
13.05	1.07	1.02	1.00	0.98	0.96
13.30	0.94	0.93	0.91	0.89	0.88
13.55	0.86	0.84	0.83	0.81	0.79
13.80	0.78	0.76	0.74	0.73	0.71
14.05	0.70	0.68	0.67	0.66	0.66
14.30	0.65	0.64	0.63	0.62	0.61
14.55	0.61	0.60	0.59	0.58	0.58
14.80	0.57	0.56	0.55	0.54	0.53
15.05	0.53	0.52	0.51	0.50	0.50
15.30	0.49	0.48	0.47	0.46	0.45
15.55	0.45	0.44	0.43	0.42	0.42
15.80	0.41	0.40	0.39	0.38	0.37
16.05	0.37	0.36	0.36	0.35	0.35
16.30	0.35	0.34	0.34	0.34	0.33
16.55	0.33	0.33	0.32	0.32	0.32
16.80	0.31	0.31	0.31	0.30	0.30
17.05	0.29	0.29	0.29	0.28	0.28
17.30	0.28	0.27	0.27	0.27	0.26
17.55	0.26	0.26	0.25	0.25	0.25
17.80	0.24	0.24	0.24	0.23	0.23
18.05	0.23	0.22	0.22	0.22	0.22
18.30	0.22	0.22	0.22	0.22	0.21
18.55	0.21	0.21	0.21	0.21	0.21
18.80	0.21	0.21	0.21	0.20	0.20
19.05	0.20	0.20	0.20	0.20	0.20
19.30	0.20	0.20	0.20	0.19	0.19
19.55	0.19	0.19	0.19	0.19	0.19
19.80	0.19	0.19	0.18	0.18	0.18
20.05	0.18	0.18	0.18	0.18	0.18
20.30	0.18	0.18	0.18	0.18	0.17

Subsection: Unit Hydrograph (Hydrograph Table)
 Label: PDA-1 (DET)

Return Event: 100 years
 Storm Event: 100-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
20.55	0.17	0.17	0.17	0.17	0.17
20.80	0.17	0.17	0.17	0.17	0.17
21.05	0.17	0.17	0.16	0.16	0.16
21.30	0.16	0.16	0.16	0.16	0.16
21.55	0.16	0.16	0.16	0.16	0.15
21.80	0.15	0.15	0.15	0.15	0.15
22.05	0.15	0.15	0.15	0.15	0.15
22.30	0.15	0.15	0.15	0.14	0.14
22.55	0.14	0.14	0.14	0.14	0.14
22.80	0.14	0.14	0.14	0.14	0.14
23.05	0.13	0.13	0.13	0.13	0.13
23.30	0.13	0.13	0.13	0.13	0.13
23.55	0.13	0.13	0.13	0.12	0.12
23.80	0.12	0.12	0.12	0.12	0.12

Subsection: Unit Hydrograph Summary
Label: PDA-1 (UNDET)

Return Event: 1 years
Storm Event: WQ

Storm Event	WQ
Return Event	1 years
Duration	24.00 hours
Depth	1.3 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	2.10 acres
Computational Time Increment	0.01 hours
Time to Peak (Computed)	1.11 hours
Flow (Peak, Computed)	4.77 ft ³ /s
Output Increment	0.05 hours
Time to Flow (Peak Interpolated Output)	1.10 hours
Flow (Peak Interpolated Output)	4.76 ft ³ /s
Drainage Area	
SCS CN (Composite)	94.36
Area (User Defined)	2.10 acres
Maximum Retention (Pervious)	0.6 in
Maximum Retention (Pervious, 20 percent)	0.1 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	0.7 in
Runoff Volume (Pervious)	0.129 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.129 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.10 hours
Computational Time Increment	0.01 hours
Unit Hydrograph Shape Factor	483.43
K Factor	0.75
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	23.79 ft ³ /s
Unit peak time, Tp	0.07 hours

Subsection: Unit Hydrograph Summary
Label: PDA-1 (UNDET)

Return Event: 1 years
Storm Event: WQ

SCS Unit Hydrograph Parameters	
Unit receding limb, Tr	0.27 hours
Total unit time, Tb	0.33 hours

Subsection: Unit Hydrograph (Hydrograph Table)
 Label: PDA-1 (UNDET)

Return Event: 1 years
 Storm Event: WQ

Storm Event	WQ
Return Event	1 years
Duration	24.00 hours
Depth	1.3 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	2.10 acres

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
0.55	0.00	0.00	0.03	0.08	0.12
0.80	0.21	0.37	0.67	1.27	2.87
1.05	4.13	4.76	3.73	2.50	1.72
1.30	1.24	0.90	0.77	0.73	0.72
1.55	0.68	0.59	0.56	0.56	0.55
1.80	0.46	0.28	0.21	0.19	0.19
2.05	0.14	0.05	0.01	0.00	0.00

Subsection: Unit Hydrograph Summary
Label: PDA-1 (UNDET)

Return Event: 2 years
Storm Event: 2-yr

Storm Event	2-yr
Return Event	2 years
Duration	24.00 hours
Depth	3.3 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	2.10 acres
Computational Time Increment	0.01 hours
Time to Peak (Computed)	12.11 hours
Flow (Peak, Computed)	5.44 ft ³ /s
Output Increment	0.05 hours
Time to Flow (Peak Interpolated Output)	12.10 hours
Flow (Peak Interpolated Output)	5.44 ft ³ /s
Drainage Area	
SCS CN (Composite)	94.36
Area (User Defined)	2.10 acres
Maximum Retention (Pervious)	0.6 in
Maximum Retention (Pervious, 20 percent)	0.1 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.7 in
Runoff Volume (Pervious)	0.475 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.475 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.10 hours
Computational Time Increment	0.01 hours
Unit Hydrograph Shape Factor	483.43
K Factor	0.75
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	23.79 ft ³ /s
Unit peak time, Tp	0.07 hours

Subsection: Unit Hydrograph Summary
Label: PDA-1 (UNDET)

Return Event: 2 years
Storm Event: 2-yr

SCS Unit Hydrograph Parameters	
Unit receding limb, Tr	0.27 hours
Total unit time, Tb	0.33 hours

Subsection: Unit Hydrograph (Hydrograph Table)
Label: PDA-1 (UNDET)

Return Event: 2 years
Storm Event: 2-yr

Storm Event	2-yr
Return Event	2 years
Duration	24.00 hours
Depth	3.3 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	2.10 acres

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
3.55	0.00	0.00	0.00	0.00	0.00
3.80	0.00	0.00	0.00	0.01	0.01
4.05	0.01	0.01	0.01	0.01	0.01
4.30	0.01	0.01	0.01	0.01	0.01
4.55	0.01	0.01	0.01	0.02	0.02
4.80	0.02	0.02	0.02	0.02	0.02
5.05	0.02	0.02	0.02	0.02	0.02
5.30	0.02	0.02	0.02	0.03	0.03
5.55	0.03	0.03	0.03	0.03	0.03
5.80	0.03	0.03	0.03	0.03	0.03
6.05	0.03	0.04	0.04	0.04	0.04
6.30	0.04	0.04	0.04	0.04	0.05
6.55	0.05	0.05	0.05	0.05	0.05
6.80	0.05	0.05	0.06	0.06	0.06
7.05	0.06	0.06	0.06	0.07	0.07
7.30	0.07	0.07	0.07	0.07	0.07
7.55	0.08	0.08	0.08	0.08	0.08
7.80	0.08	0.09	0.09	0.09	0.09
8.05	0.09	0.10	0.10	0.10	0.11
8.30	0.11	0.11	0.12	0.12	0.12
8.55	0.12	0.13	0.13	0.14	0.14
8.80	0.14	0.15	0.15	0.15	0.16
9.05	0.16	0.17	0.17	0.17	0.18
9.30	0.18	0.18	0.19	0.19	0.20
9.55	0.20	0.21	0.21	0.21	0.22
9.80	0.22	0.23	0.23	0.23	0.24
10.05	0.24	0.25	0.26	0.26	0.27
10.30	0.28	0.29	0.30	0.30	0.31
10.55	0.32	0.33	0.34	0.34	0.35
10.80	0.36	0.37	0.38	0.39	0.40
11.05	0.41	0.43	0.45	0.48	0.51
11.30	0.54	0.56	0.60	0.62	0.66
11.55	0.75	0.89	1.09	1.37	1.63
11.80	1.93	2.20	2.53	3.36	4.71
12.05	5.24	5.44	4.80	3.52	2.90

Subsection: Unit Hydrograph (Hydrograph Table)
 Label: PDA-1 (UNDET)

Return Event: 2 years
 Storm Event: 2-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
12.30	2.47	2.17	1.85	1.58	1.26
12.55	1.06	0.87	0.78	0.73	0.70
12.80	0.67	0.64	0.61	0.58	0.54
13.05	0.52	0.50	0.49	0.48	0.47
13.30	0.46	0.45	0.44	0.44	0.43
13.55	0.42	0.41	0.40	0.40	0.39
13.80	0.38	0.37	0.36	0.36	0.35
14.05	0.34	0.33	0.33	0.33	0.32
14.30	0.32	0.31	0.31	0.31	0.30
14.55	0.30	0.29	0.29	0.29	0.28
14.80	0.28	0.27	0.27	0.27	0.26
15.05	0.26	0.25	0.25	0.25	0.24
15.30	0.24	0.24	0.23	0.23	0.22
15.55	0.22	0.22	0.21	0.21	0.20
15.80	0.20	0.20	0.19	0.19	0.18
16.05	0.18	0.18	0.18	0.17	0.17
16.30	0.17	0.17	0.17	0.17	0.16
16.55	0.16	0.16	0.16	0.16	0.16
16.80	0.15	0.15	0.15	0.15	0.15
17.05	0.15	0.14	0.14	0.14	0.14
17.30	0.14	0.14	0.13	0.13	0.13
17.55	0.13	0.13	0.12	0.12	0.12
17.80	0.12	0.12	0.12	0.11	0.11
18.05	0.11	0.11	0.11	0.11	0.11
18.30	0.11	0.11	0.11	0.11	0.11
18.55	0.11	0.10	0.10	0.10	0.10
18.80	0.10	0.10	0.10	0.10	0.10
19.05	0.10	0.10	0.10	0.10	0.10
19.30	0.10	0.10	0.10	0.10	0.10
19.55	0.09	0.09	0.09	0.09	0.09
19.80	0.09	0.09	0.09	0.09	0.09
20.05	0.09	0.09	0.09	0.09	0.09
20.30	0.09	0.09	0.09	0.09	0.09
20.55	0.09	0.09	0.09	0.08	0.08
20.80	0.08	0.08	0.08	0.08	0.08
21.05	0.08	0.08	0.08	0.08	0.08
21.30	0.08	0.08	0.08	0.08	0.08
21.55	0.08	0.08	0.08	0.08	0.08
21.80	0.08	0.08	0.08	0.08	0.07
22.05	0.07	0.07	0.07	0.07	0.07
22.30	0.07	0.07	0.07	0.07	0.07
22.55	0.07	0.07	0.07	0.07	0.07
22.80	0.07	0.07	0.07	0.07	0.07
23.05	0.07	0.07	0.07	0.07	0.07

Subsection: Unit Hydrograph (Hydrograph Table)
Label: PDA-1 (UNDET)

Return Event: 2 years
Storm Event: 2-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
23.30	0.06	0.06	0.06	0.06	0.06
23.55	0.06	0.06	0.06	0.06	0.06
23.80	0.06	0.06	0.06	0.06	0.06

Subsection: Unit Hydrograph Summary
Label: PDA-1 (UNDET)

Return Event: 10 years
Storm Event: 10-yr

Storm Event	10-yr
Return Event	10 years
Duration	24.00 hours
Depth	4.9 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	2.10 acres
Computational Time Increment	0.01 hours
Time to Peak (Computed)	12.11 hours
Flow (Peak, Computed)	8.26 ft ³ /s
Output Increment	0.05 hours
Time to Flow (Peak Interpolated Output)	12.10 hours
Flow (Peak Interpolated Output)	8.25 ft ³ /s
Drainage Area	
SCS CN (Composite)	94.36
Area (User Defined)	2.10 acres
Maximum Retention (Pervious)	0.6 in
Maximum Retention (Pervious, 20 percent)	0.1 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.2 in
Runoff Volume (Pervious)	0.742 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.741 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.10 hours
Computational Time Increment	0.01 hours
Unit Hydrograph Shape Factor	483.43
K Factor	0.75
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	23.79 ft ³ /s
Unit peak time, Tp	0.07 hours

Subsection: Unit Hydrograph Summary
Label: PDA-1 (UNDET)

Return Event: 10 years
Storm Event: 10-yr

SCS Unit Hydrograph Parameters	
Unit receding limb, Tr	0.27 hours
Total unit time, Tb	0.33 hours

Subsection: Unit Hydrograph (Hydrograph Table)
Label: PDA-1 (UNDET)

Return Event: 10 years
Storm Event: 10-yr

Storm Event	10-yr
Return Event	10 years
Duration	24.00 hours
Depth	4.9 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	2.10 acres

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
2.55	0.00	0.00	0.00	0.00	0.00
2.80	0.01	0.01	0.01	0.01	0.01
3.05	0.01	0.01	0.01	0.01	0.01
3.30	0.02	0.02	0.02	0.02	0.02
3.55	0.02	0.02	0.02	0.02	0.03
3.80	0.03	0.03	0.03	0.03	0.03
4.05	0.03	0.03	0.03	0.04	0.04
4.30	0.04	0.04	0.04	0.04	0.04
4.55	0.04	0.04	0.05	0.05	0.05
4.80	0.05	0.05	0.05	0.05	0.05
5.05	0.06	0.06	0.06	0.06	0.06
5.30	0.06	0.06	0.06	0.06	0.07
5.55	0.07	0.07	0.07	0.07	0.07
5.80	0.07	0.07	0.08	0.08	0.08
6.05	0.08	0.08	0.08	0.08	0.09
6.30	0.09	0.09	0.09	0.10	0.10
6.55	0.10	0.10	0.10	0.11	0.11
6.80	0.11	0.11	0.12	0.12	0.12
7.05	0.12	0.13	0.13	0.13	0.13
7.30	0.14	0.14	0.14	0.14	0.15
7.55	0.15	0.15	0.16	0.16	0.16
7.80	0.16	0.17	0.17	0.17	0.17
8.05	0.18	0.18	0.19	0.19	0.20
8.30	0.20	0.21	0.21	0.22	0.22
8.55	0.23	0.24	0.24	0.25	0.25
8.80	0.26	0.26	0.27	0.28	0.28
9.05	0.29	0.29	0.30	0.30	0.31
9.30	0.32	0.32	0.33	0.34	0.34
9.55	0.35	0.35	0.36	0.37	0.37
9.80	0.38	0.39	0.39	0.40	0.41
10.05	0.41	0.42	0.43	0.44	0.46
10.30	0.47	0.48	0.49	0.50	0.52
10.55	0.53	0.54	0.55	0.57	0.58
10.80	0.59	0.60	0.62	0.63	0.64
11.05	0.66	0.69	0.73	0.77	0.81

Subsection: Unit Hydrograph (Hydrograph Table)
 Label: PDA-1 (UNDET)

Return Event: 10 years
 Storm Event: 10-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
11.30	0.86	0.90	0.95	0.99	1.04
11.55	1.18	1.41	1.72	2.16	2.55
11.80	3.02	3.42	3.92	5.17	7.21
12.05	8.00	8.25	7.27	5.32	4.36
12.30	3.72	3.27	2.78	2.37	1.89
12.55	1.59	1.30	1.17	1.10	1.05
12.80	1.00	0.96	0.90	0.86	0.81
13.05	0.78	0.74	0.73	0.71	0.70
13.30	0.69	0.68	0.66	0.65	0.64
13.55	0.63	0.61	0.60	0.59	0.58
13.80	0.57	0.55	0.54	0.53	0.52
14.05	0.51	0.50	0.49	0.48	0.48
14.30	0.47	0.47	0.46	0.46	0.45
14.55	0.44	0.44	0.43	0.43	0.42
14.80	0.41	0.41	0.40	0.40	0.39
15.05	0.39	0.38	0.37	0.37	0.36
15.30	0.36	0.35	0.34	0.34	0.33
15.55	0.33	0.32	0.32	0.31	0.30
15.80	0.30	0.29	0.29	0.28	0.27
16.05	0.27	0.27	0.26	0.26	0.26
16.30	0.25	0.25	0.25	0.25	0.24
16.55	0.24	0.24	0.24	0.23	0.23
16.80	0.23	0.23	0.22	0.22	0.22
17.05	0.22	0.21	0.21	0.21	0.21
17.30	0.20	0.20	0.20	0.20	0.19
17.55	0.19	0.19	0.19	0.18	0.18
17.80	0.18	0.17	0.17	0.17	0.17
18.05	0.17	0.16	0.16	0.16	0.16
18.30	0.16	0.16	0.16	0.16	0.16
18.55	0.16	0.16	0.15	0.15	0.15
18.80	0.15	0.15	0.15	0.15	0.15
19.05	0.15	0.15	0.15	0.15	0.15
19.30	0.14	0.14	0.14	0.14	0.14
19.55	0.14	0.14	0.14	0.14	0.14
19.80	0.14	0.14	0.14	0.13	0.13
20.05	0.13	0.13	0.13	0.13	0.13
20.30	0.13	0.13	0.13	0.13	0.13
20.55	0.13	0.13	0.13	0.13	0.12
20.80	0.12	0.12	0.12	0.12	0.12
21.05	0.12	0.12	0.12	0.12	0.12
21.30	0.12	0.12	0.12	0.12	0.12
21.55	0.12	0.12	0.11	0.11	0.11
21.80	0.11	0.11	0.11	0.11	0.11
22.05	0.11	0.11	0.11	0.11	0.11

Subsection: Unit Hydrograph (Hydrograph Table)
Label: PDA-1 (UNDET)

Return Event: 10 years
Storm Event: 10-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
22.30	0.11	0.11	0.11	0.11	0.10
22.55	0.10	0.10	0.10	0.10	0.10
22.80	0.10	0.10	0.10	0.10	0.10
23.05	0.10	0.10	0.10	0.10	0.10
23.30	0.10	0.10	0.10	0.09	0.09
23.55	0.09	0.09	0.09	0.09	0.09
23.80	0.09	0.09	0.09	0.09	0.09

Subsection: Unit Hydrograph Summary
Label: PDA-1 (UNDET)

Return Event: 25 years
Storm Event: 25-yr

Storm Event	25-yr
Return Event	25 years
Duration	24.00 hours
Depth	6.4 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	2.10 acres
Computational Time Increment	0.01 hours
Time to Peak (Computed)	12.11 hours
Flow (Peak, Computed)	10.91 ft ³ /s
Output Increment	0.05 hours
Time to Flow (Peak Interpolated Output)	12.10 hours
Flow (Peak Interpolated Output)	10.91 ft ³ /s
Drainage Area	
SCS CN (Composite)	94.36
Area (User Defined)	2.10 acres
Maximum Retention (Pervious)	0.6 in
Maximum Retention (Pervious, 20 percent)	0.1 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.7 in
Runoff Volume (Pervious)	0.998 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.998 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.10 hours
Computational Time Increment	0.01 hours
Unit Hydrograph Shape Factor	483.43
K Factor	0.75
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	23.79 ft ³ /s
Unit peak time, Tp	0.07 hours

Subsection: Unit Hydrograph Summary
Label: PDA-1 (UNDET)

Return Event: 25 years
Storm Event: 25-yr

SCS Unit Hydrograph Parameters	
Unit receding limb, Tr	0.27 hours
Total unit time, Tb	0.33 hours

Subsection: Unit Hydrograph (Hydrograph Table)
Label: PDA-1 (UNDET)

Return Event: 25 years
Storm Event: 25-yr

Storm Event	25-yr
Return Event	25 years
Duration	24.00 hours
Depth	6.4 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	2.10 acres

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
1.95	0.00	0.00	0.00	0.00	0.01
2.20	0.01	0.01	0.01	0.01	0.01
2.45	0.01	0.02	0.02	0.02	0.02
2.70	0.02	0.02	0.02	0.03	0.03
2.95	0.03	0.03	0.03	0.03	0.04
3.20	0.04	0.04	0.04	0.04	0.04
3.45	0.04	0.05	0.05	0.05	0.05
3.70	0.05	0.05	0.06	0.06	0.06
3.95	0.06	0.06	0.06	0.07	0.07
4.20	0.07	0.07	0.07	0.07	0.07
4.45	0.08	0.08	0.08	0.08	0.08
4.70	0.08	0.09	0.09	0.09	0.09
4.95	0.09	0.09	0.10	0.10	0.10
5.20	0.10	0.10	0.10	0.11	0.11
5.45	0.11	0.11	0.11	0.11	0.11
5.70	0.12	0.12	0.12	0.12	0.12
5.95	0.12	0.13	0.13	0.13	0.13
6.20	0.14	0.14	0.14	0.14	0.15
6.45	0.15	0.15	0.16	0.16	0.16
6.70	0.17	0.17	0.17	0.18	0.18
6.95	0.18	0.19	0.19	0.19	0.20
7.20	0.20	0.20	0.21	0.21	0.21
7.45	0.22	0.22	0.23	0.23	0.23
7.70	0.24	0.24	0.24	0.25	0.25
7.95	0.25	0.26	0.26	0.27	0.27
8.20	0.28	0.29	0.30	0.30	0.31
8.45	0.32	0.33	0.33	0.34	0.35
8.70	0.36	0.36	0.37	0.38	0.39
8.95	0.39	0.40	0.41	0.42	0.43
9.20	0.43	0.44	0.45	0.46	0.47
9.45	0.47	0.48	0.49	0.50	0.51
9.70	0.52	0.52	0.53	0.54	0.55
9.95	0.56	0.56	0.57	0.59	0.60
10.20	0.62	0.63	0.65	0.66	0.68
10.45	0.69	0.71	0.73	0.74	0.76

Subsection: Unit Hydrograph (Hydrograph Table)
 Label: PDA-1 (UNDET)

Return Event: 25 years
 Storm Event: 25-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
10.70	0.78	0.79	0.81	0.83	0.84
10.95	0.86	0.88	0.90	0.94	0.99
11.20	1.05	1.10	1.17	1.22	1.29
11.45	1.34	1.41	1.60	1.91	2.32
11.70	2.90	3.42	4.04	4.58	5.23
11.95	6.88	9.58	10.60	10.91	9.60
12.20	7.01	5.75	4.89	4.30	3.65
12.45	3.12	2.48	2.09	1.71	1.54
12.70	1.44	1.38	1.31	1.25	1.19
12.95	1.13	1.07	1.02	0.98	0.95
13.20	0.93	0.92	0.90	0.89	0.87
13.45	0.85	0.84	0.82	0.81	0.79
13.70	0.77	0.76	0.74	0.73	0.71
13.95	0.70	0.68	0.67	0.65	0.64
14.20	0.64	0.63	0.62	0.61	0.60
14.45	0.60	0.59	0.58	0.57	0.57
14.70	0.56	0.55	0.54	0.54	0.53
14.95	0.52	0.51	0.51	0.50	0.49
15.20	0.48	0.47	0.47	0.46	0.45
15.45	0.44	0.44	0.43	0.42	0.41
15.70	0.41	0.40	0.39	0.38	0.37
15.95	0.37	0.36	0.35	0.35	0.34
16.20	0.34	0.34	0.33	0.33	0.33
16.45	0.32	0.32	0.32	0.31	0.31
16.70	0.31	0.30	0.30	0.30	0.29
16.95	0.29	0.29	0.28	0.28	0.28
17.20	0.27	0.27	0.27	0.26	0.26
17.45	0.26	0.25	0.25	0.25	0.24
17.70	0.24	0.24	0.23	0.23	0.23
17.95	0.22	0.22	0.22	0.21	0.21
18.20	0.21	0.21	0.21	0.21	0.21
18.45	0.21	0.21	0.20	0.20	0.20
18.70	0.20	0.20	0.20	0.20	0.20
18.95	0.20	0.20	0.19	0.19	0.19
19.20	0.19	0.19	0.19	0.19	0.19
19.45	0.19	0.19	0.18	0.18	0.18
19.70	0.18	0.18	0.18	0.18	0.18
19.95	0.18	0.18	0.17	0.17	0.17
20.20	0.17	0.17	0.17	0.17	0.17
20.45	0.17	0.17	0.17	0.17	0.17
20.70	0.16	0.16	0.16	0.16	0.16
20.95	0.16	0.16	0.16	0.16	0.16
21.20	0.16	0.16	0.16	0.15	0.15
21.45	0.15	0.15	0.15	0.15	0.15

Subsection: Unit Hydrograph (Hydrograph Table)
Label: PDA-1 (UNDET)

Return Event: 25 years
Storm Event: 25-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
21.70	0.15	0.15	0.15	0.15	0.15
21.95	0.15	0.14	0.14	0.14	0.14
22.20	0.14	0.14	0.14	0.14	0.14
22.45	0.14	0.14	0.14	0.14	0.14
22.70	0.13	0.13	0.13	0.13	0.13
22.95	0.13	0.13	0.13	0.13	0.13
23.20	0.13	0.13	0.13	0.12	0.12
23.45	0.12	0.12	0.12	0.12	0.12
23.70	0.12	0.12	0.12	0.12	0.12
23.95	0.12	0.12	(N/A)	(N/A)	(N/A)

Subsection: Unit Hydrograph Summary
Label: PDA-1 (UNDET)

Return Event: 100 years
Storm Event: 100-yr

Storm Event	100-yr
Return Event	100 years
Duration	24.00 hours
Depth	7.8 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	2.10 acres
Computational Time Increment	0.01 hours
Time to Peak (Computed)	12.11 hours
Flow (Peak, Computed)	13.50 ft ³ /s
Output Increment	0.05 hours
Time to Flow (Peak Interpolated Output)	12.10 hours
Flow (Peak Interpolated Output)	13.50 ft ³ /s
Drainage Area	
SCS CN (Composite)	94.36
Area (User Defined)	2.10 acres
Maximum Retention (Pervious)	0.6 in
Maximum Retention (Pervious, 20 percent)	0.1 in
Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	7.1 in
Runoff Volume (Pervious)	1.250 ac-ft
Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.250 ac-ft
SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.10 hours
Computational Time Increment	0.01 hours
Unit Hydrograph Shape Factor	483.43
K Factor	0.75
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	23.79 ft ³ /s
Unit peak time, Tp	0.07 hours

Subsection: Unit Hydrograph Summary
Label: PDA-1 (UNDET)

Return Event: 100 years
Storm Event: 100-yr

SCS Unit Hydrograph Parameters	
Unit receding limb, Tr	0.27 hours
Total unit time, Tb	0.33 hours

Subsection: Unit Hydrograph (Hydrograph Table)
Label: PDA-1 (UNDET)

Return Event: 100 years
Storm Event: 100-yr

Storm Event	100-yr
Return Event	100 years
Duration	24.00 hours
Depth	7.8 in
Time of Concentration (Composite)	0.10 hours
Area (User Defined)	2.10 acres

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
1.60	0.00	0.00	0.00	0.01	0.01
1.85	0.01	0.01	0.01	0.02	0.02
2.10	0.02	0.02	0.02	0.03	0.03
2.35	0.03	0.03	0.03	0.04	0.04
2.60	0.04	0.04	0.04	0.05	0.05
2.85	0.05	0.05	0.05	0.06	0.06
3.10	0.06	0.06	0.06	0.07	0.07
3.35	0.07	0.07	0.07	0.08	0.08
3.60	0.08	0.08	0.08	0.09	0.09
3.85	0.09	0.09	0.09	0.10	0.10
4.10	0.10	0.10	0.10	0.11	0.11
4.35	0.11	0.11	0.11	0.12	0.12
4.60	0.12	0.12	0.12	0.13	0.13
4.85	0.13	0.13	0.13	0.14	0.14
5.10	0.14	0.14	0.14	0.15	0.15
5.35	0.15	0.15	0.15	0.16	0.16
5.60	0.16	0.16	0.16	0.17	0.17
5.85	0.17	0.17	0.17	0.17	0.18
6.10	0.18	0.18	0.19	0.19	0.20
6.35	0.20	0.20	0.21	0.21	0.21
6.60	0.22	0.22	0.23	0.23	0.24
6.85	0.24	0.24	0.25	0.25	0.26
7.10	0.26	0.27	0.27	0.27	0.28
7.35	0.28	0.29	0.29	0.30	0.30
7.60	0.30	0.31	0.31	0.32	0.32
7.85	0.33	0.33	0.34	0.34	0.35
8.10	0.35	0.36	0.37	0.38	0.39
8.35	0.40	0.41	0.42	0.43	0.43
8.60	0.44	0.45	0.46	0.47	0.48
8.85	0.49	0.50	0.51	0.52	0.53
9.10	0.54	0.55	0.56	0.57	0.58
9.35	0.59	0.60	0.61	0.62	0.63
9.60	0.64	0.65	0.66	0.67	0.68
9.85	0.69	0.70	0.71	0.72	0.73
10.10	0.75	0.76	0.78	0.80	0.82

Subsection: Unit Hydrograph (Hydrograph Table)
Label: PDA-1 (UNDET)

Return Event: 100 years
Storm Event: 100-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
10.35	0.84	0.86	0.88	0.90	0.92
10.60	0.94	0.96	0.98	1.00	1.02
10.85	1.04	1.06	1.08	1.10	1.14
11.10	1.19	1.24	1.32	1.38	1.47
11.35	1.53	1.61	1.68	1.77	2.00
11.60	2.38	2.90	3.63	4.27	5.03
11.85	5.69	6.50	8.55	11.88	13.13
12.10	13.50	11.86	8.66	7.10	6.04
12.35	5.30	4.51	3.84	3.06	2.57
12.60	2.11	1.90	1.78	1.70	1.62
12.85	1.55	1.46	1.40	1.31	1.26
13.10	1.21	1.18	1.15	1.13	1.11
13.35	1.09	1.07	1.05	1.03	1.01
13.60	0.99	0.97	0.95	0.94	0.91
13.85	0.90	0.87	0.86	0.84	0.82
14.10	0.80	0.79	0.78	0.77	0.76
14.35	0.75	0.74	0.74	0.73	0.72
14.60	0.71	0.70	0.69	0.68	0.67
14.85	0.66	0.65	0.64	0.63	0.62
15.10	0.61	0.60	0.59	0.58	0.57
15.35	0.57	0.56	0.55	0.54	0.53
15.60	0.52	0.51	0.50	0.49	0.48
15.85	0.47	0.46	0.45	0.44	0.44
16.10	0.43	0.42	0.42	0.41	0.41
16.35	0.41	0.40	0.40	0.39	0.39
16.60	0.38	0.38	0.38	0.37	0.37
16.85	0.36	0.36	0.36	0.35	0.35
17.10	0.34	0.34	0.34	0.33	0.33
17.35	0.32	0.32	0.32	0.31	0.31
17.60	0.30	0.30	0.29	0.29	0.29
17.85	0.28	0.28	0.27	0.27	0.27
18.10	0.26	0.26	0.26	0.26	0.26
18.35	0.26	0.26	0.25	0.25	0.25
18.60	0.25	0.25	0.25	0.25	0.25
18.85	0.24	0.24	0.24	0.24	0.24
19.10	0.24	0.24	0.24	0.23	0.23
19.35	0.23	0.23	0.23	0.23	0.23
19.60	0.23	0.22	0.22	0.22	0.22
19.85	0.22	0.22	0.22	0.22	0.21
20.10	0.21	0.21	0.21	0.21	0.21
20.35	0.21	0.21	0.21	0.21	0.21
20.60	0.20	0.20	0.20	0.20	0.20
20.85	0.20	0.20	0.20	0.20	0.20
21.10	0.20	0.19	0.19	0.19	0.19

Subsection: Unit Hydrograph (Hydrograph Table)
 Label: PDA-1 (UNDET)

Return Event: 100 years
 Storm Event: 100-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
21.35	0.19	0.19	0.19	0.19	0.19
21.60	0.19	0.19	0.18	0.18	0.18
21.85	0.18	0.18	0.18	0.18	0.18
22.10	0.18	0.18	0.18	0.17	0.17
22.35	0.17	0.17	0.17	0.17	0.17
22.60	0.17	0.17	0.17	0.16	0.16
22.85	0.16	0.16	0.16	0.16	0.16
23.10	0.16	0.16	0.16	0.16	0.15
23.35	0.15	0.15	0.15	0.15	0.15
23.60	0.15	0.15	0.15	0.15	0.15
23.85	0.14	0.14	0.14	0.14	(N/A)

Subsection: Addition Summary
Label: Outfall

Return Event: 1 years
Storm Event: WQ

Summary for Hydrograph Addition at 'Outfall'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1 (UNDET)
Outlet-2	PO-1 (UG Basin)

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft ³ /s)
Flow (From)	PDA-1 (UNDET)	0.129	1.10	4.76
Flow (From)	Outlet-2	0.118	1.75	0.50
Flow (In)	Outfall	0.247	1.10	5.00

Subsection: Addition Summary
Label: Outfall

Return Event: 2 years
Storm Event: 2-yr

Summary for Hydrograph Addition at 'Outfall'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1 (UNDET)
Outlet-2	PO-1 (UG Basin)

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft ³ /s)
Flow (From)	PDA-1 (UNDET)	0.475	12.10	5.44
Flow (From)	Outlet-2	0.409	12.30	2.26
Flow (In)	Outfall	0.884	12.10	7.01

Subsection: Addition Summary
Label: Outfall

Return Event: 2 years
Storm Event: 2-yr

Summary for Hydrograph Addition at 'Outfall'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-1 (DET)
<Catchment to Outflow Node>	EDA-1 (UNDET)

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft ³ /s)
Flow (From)	EDA-1 (DET)	0.397	12.10	4.56
Flow (From)	EDA-1 (UNDET)	0.477	12.10	5.45
Flow (In)	Outfall	0.874	12.10	10.01

Subsection: Addition Summary
Label: Outfall

Return Event: 10 years
Storm Event: 10-yr

Summary for Hydrograph Addition at 'Outfall'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1 (UNDET)
Outlet-2	PO-1 (UG Basin)

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft ³ /s)
Flow (From)	PDA-1 (UNDET)	0.741	12.10	8.25
Flow (From)	Outlet-2	0.631	12.20	4.69
Flow (In)	Outfall	1.373	12.15	11.64

Subsection: Addition Summary
Label: Outfall

Return Event: 10 years
Storm Event: 10-yr

Summary for Hydrograph Addition at 'Outfall'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-1 (DET)
<Catchment to Outflow Node>	EDA-1 (UNDET)

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft ³ /s)
Flow (From)	EDA-1 (DET)	0.621	12.10	6.93
Flow (From)	EDA-1 (UNDET)	0.744	12.10	8.26
Flow (In)	Outfall	1.365	12.10	15.20

Subsection: Addition Summary
Label: Outfall

Return Event: 25 years
Storm Event: 25-yr

Summary for Hydrograph Addition at 'Outfall'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1 (UNDET)
Outlet-2	PO-1 (UG Basin)

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft ³ /s)
Flow (From)	PDA-1 (UNDET)	0.998	12.10	10.91
Flow (From)	Outlet-2	0.844	12.20	7.06
Flow (In)	Outfall	1.841	12.10	17.09

Subsection: Addition Summary
Label: Outfall

Return Event: 100 years
Storm Event: 100-yr

Summary for Hydrograph Addition at 'Outfall'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1 (UNDET)
Outlet-2	PO-1 (UG Basin)

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft ³ /s)
Flow (From)	PDA-1 (UNDET)	1.250	12.10	13.50
Flow (From)	Outlet-2	1.052	12.20	8.65
Flow (In)	Outfall	2.302	12.10	21.50

Subsection: Addition Summary
Label: Outfall

Return Event: 100 years
Storm Event: 100-yr

Summary for Hydrograph Addition at 'Outfall'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EDA-1 (DET)
<Catchment to Outflow Node>	EDA-1 (UNDET)

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft ³ /s)
Flow (From)	EDA-1 (DET)	1.049	12.10	11.36
Flow (From)	EDA-1 (UNDET)	1.252	12.10	13.51
Flow (In)	Outfall	2.301	12.10	24.87

Subsection: Time vs. Elevation
Label: PO-1 (UG Basin) (OUT)

Return Event: 1 years
Storm Event: WQ

Time vs. Elevation (ft)

Output Time increment = 0.05 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.00	562.50	562.50	562.50	562.50	562.50
0.25	562.50	562.50	562.50	562.50	562.50
0.50	562.50	562.51	562.53	562.54	562.57
0.75	562.60	562.63	562.68	562.76	562.88
1.00	563.06	563.26	563.49	563.67	563.80
1.25	563.87	563.92	563.94	563.96	563.97
1.50	563.98	563.98	563.99	563.99	563.99
1.75	563.99	563.99	563.98	563.97	563.96
2.00	563.94	563.93	563.91	563.90	563.88
2.25	563.86	563.84	563.83	563.81	563.80
2.50	563.78	563.77	563.75	563.74	563.72
2.75	563.71	563.70	563.68	563.67	563.66
3.00	563.64	563.63	563.62	563.60	563.59
3.25	563.58	563.57	563.55	563.54	563.53
3.50	563.52	563.51	563.50	563.48	563.47
3.75	563.46	563.45	563.44	563.43	563.42
4.00	563.41	563.40	563.39	563.38	563.37
4.25	563.36	563.35	563.34	563.33	563.32
4.50	563.32	563.31	563.30	563.29	563.29
4.75	563.28	563.27	563.27	563.26	563.25
5.00	563.25	563.24	563.23	563.23	563.22
5.25	563.22	563.21	563.21	563.20	563.20
5.50	563.19	563.19	563.18	563.18	563.17
5.75	563.17	563.16	563.16	563.16	563.15
6.00	563.15	563.14	563.14	563.14	563.13
6.25	563.13	563.13	563.12	563.12	563.12
6.50	563.12	563.11	563.11	563.11	563.10
6.75	563.10	563.10	563.10	563.09	563.09
7.00	563.09	563.09	563.09	563.08	563.08
7.25	563.08	563.08	563.08	563.07	563.07
7.50	563.07	563.07	563.07	563.06	563.06
7.75	563.06	563.06	563.06	563.06	563.06
8.00	563.05	563.05	563.05	563.05	563.05
8.25	563.05	563.05	563.05	563.04	563.04
8.50	563.04	563.04	563.04	563.04	563.04
8.75	563.04	563.04	563.04	563.03	563.03
9.00	563.03	563.03	563.03	563.03	563.03
9.25	563.03	563.03	563.03	563.03	563.03
9.50	563.03	563.02	563.02	563.02	563.02
9.75	563.02	563.02	563.02	563.02	563.02
10.00	563.02	563.02	563.02	563.02	563.02
10.25	563.02	563.02	563.02	563.02	563.02
10.50	563.02	563.02	563.01	563.01	563.01

Subsection: Time vs. Elevation
Label: PO-1 (UG Basin) (OUT)

Return Event: 1 years
Storm Event: WQ

Time vs. Elevation (ft)

Output Time increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.75	563.01	563.01	563.01	563.01	563.01
11.00	563.01	563.01	563.01	563.01	563.01
11.25	563.01	563.01	563.01	563.01	563.01
11.50	563.01	563.01	563.01	563.01	563.01
11.75	563.01	563.01	563.01	563.01	563.01
12.00	563.01	563.01	563.01	563.01	563.01
12.25	563.01	563.01	563.01	563.01	563.01
12.50	563.01	563.01	563.01	563.01	563.01
12.75	563.01	563.00	563.00	563.00	563.00
13.00	563.00	563.00	563.00	563.00	563.00
13.25	563.00	563.00	563.00	563.00	563.00
13.50	563.00	563.00	563.00	563.00	563.00
13.75	563.00	563.00	563.00	563.00	563.00
14.00	563.00	563.00	563.00	563.00	563.00
14.25	563.00	563.00	563.00	563.00	563.00
14.50	563.00	563.00	563.00	563.00	563.00
14.75	563.00	563.00	563.00	563.00	563.00
15.00	563.00	563.00	563.00	563.00	563.00
15.25	563.00	563.00	563.00	563.00	563.00
15.50	563.00	563.00	563.00	563.00	563.00
15.75	563.00	563.00	563.00	563.00	563.00
16.00	563.00	563.00	563.00	563.00	563.00
16.25	563.00	563.00	563.00	563.00	563.00
16.50	563.00	563.00	563.00	563.00	563.00
16.75	563.00	563.00	563.00	563.00	563.00
17.00	563.00	563.00	563.00	563.00	563.00
17.25	563.00	563.00	563.00	563.00	563.00
17.50	563.00	563.00	563.00	563.00	563.00
17.75	563.00	563.00	563.00	563.00	563.00
18.00	563.00	563.00	563.00	563.00	563.00
18.25	563.00	563.00	563.00	563.00	563.00
18.50	563.00	563.00	563.00	563.00	563.00
18.75	563.00	563.00	563.00	563.00	563.00
19.00	563.00	563.00	563.00	563.00	563.00
19.25	563.00	563.00	563.00	563.00	563.00
19.50	563.00	563.00	563.00	563.00	563.00
19.75	563.00	563.00	563.00	563.00	563.00
20.00	563.00	563.00	563.00	563.00	563.00
20.25	563.00	563.00	563.00	563.00	563.00
20.50	563.00	563.00	563.00	563.00	563.00
20.75	563.00	563.00	563.00	563.00	563.00
21.00	563.00	563.00	563.00	563.00	563.00
21.25	563.00	563.00	563.00	563.00	563.00

Subsection: Time vs. Elevation
Label: PO-1 (UG Basin) (OUT)

Return Event: 1 years
Storm Event: WQ

Time vs. Elevation (ft)

Output Time increment = 0.05 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
21.50	563.00	563.00	563.00	563.00	563.00
21.75	563.00	563.00	563.00	563.00	563.00
22.00	563.00	563.00	563.00	563.00	563.00
22.25	563.00	563.00	563.00	563.00	563.00
22.50	563.00	563.00	563.00	563.00	563.00
22.75	563.00	563.00	563.00	563.00	563.00
23.00	563.00	563.00	563.00	563.00	563.00
23.25	563.00	563.00	563.00	563.00	563.00
23.50	563.00	563.00	563.00	563.00	563.00
23.75	563.00	563.00	563.00	563.00	563.00
24.00	563.00	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time vs. Elevation
Label: PO-1 (UG Basin) (OUT)

Return Event: 2 years
Storm Event: 2-yr

Time vs. Elevation (ft)

Output Time increment = 0.05 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.00	562.50	562.50	562.50	562.50	562.50
0.25	562.50	562.50	562.50	562.50	562.50
0.50	562.50	562.50	562.50	562.50	562.50
0.75	562.50	562.50	562.50	562.50	562.50
1.00	562.50	562.50	562.50	562.50	562.50
1.25	562.50	562.50	562.50	562.50	562.50
1.50	562.50	562.50	562.50	562.50	562.50
1.75	562.50	562.50	562.50	562.50	562.50
2.00	562.50	562.50	562.50	562.50	562.50
2.25	562.50	562.50	562.50	562.50	562.50
2.50	562.51	562.51	562.51	562.51	562.51
2.75	562.51	562.51	562.51	562.51	562.51
3.00	562.52	562.52	562.52	562.52	562.52
3.25	562.52	562.53	562.53	562.53	562.53
3.50	562.53	562.54	562.54	562.54	562.54
3.75	562.54	562.55	562.55	562.55	562.55
4.00	562.56	562.56	562.56	562.56	562.57
4.25	562.57	562.57	562.58	562.58	562.58
4.50	562.59	562.59	562.59	562.60	562.60
4.75	562.60	562.61	562.61	562.61	562.62
5.00	562.62	562.63	562.63	562.63	562.64
5.25	562.64	562.65	562.65	562.66	562.66
5.50	562.66	562.67	562.67	562.68	562.68
5.75	562.69	562.69	562.70	562.70	562.71
6.00	562.71	562.72	562.72	562.73	562.73
6.25	562.74	562.75	562.75	562.76	562.76
6.50	562.77	562.78	562.78	562.79	562.80
6.75	562.80	562.81	562.82	562.82	562.83
7.00	562.84	562.85	562.85	562.86	562.87
7.25	562.88	562.89	562.90	562.90	562.91
7.50	562.92	562.93	562.94	562.95	562.96
7.75	562.97	562.98	562.99	563.00	563.00
8.00	563.01	563.02	563.02	563.03	563.03
8.25	563.04	563.04	563.05	563.06	563.06
8.50	563.07	563.07	563.08	563.08	563.09
8.75	563.10	563.10	563.11	563.11	563.12
9.00	563.13	563.13	563.14	563.14	563.15
9.25	563.16	563.16	563.17	563.17	563.18
9.50	563.19	563.19	563.20	563.21	563.21
9.75	563.22	563.23	563.23	563.24	563.24
10.00	563.25	563.26	563.26	563.27	563.28
10.25	563.28	563.29	563.30	563.31	563.31
10.50	563.32	563.33	563.34	563.35	563.36

Subsection: Time vs. Elevation
 Label: PO-1 (UG Basin) (OUT)

Return Event: 2 years
 Storm Event: 2-yr

Time vs. Elevation (ft)

Output Time increment = 0.05 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.75	563.36	563.37	563.38	563.39	563.40
11.00	563.41	563.42	563.43	563.44	563.45
11.25	563.47	563.48	563.49	563.51	563.52
11.50	563.54	563.56	563.58	563.61	563.65
11.75	563.70	563.76	563.83	563.91	564.01
12.00	564.14	564.29	564.44	564.58	564.66
12.25	564.69	564.70	564.69	564.66	564.63
12.50	564.59	564.55	564.50	564.46	564.42
12.75	564.38	564.34	564.31	564.28	564.25
13.00	564.23	564.20	564.18	564.16	564.14
13.25	564.12	564.10	564.09	564.07	564.06
13.50	564.05	564.04	564.03	564.02	564.01
13.75	564.00	563.99	563.99	563.98	563.97
14.00	563.96	563.95	563.95	563.94	563.93
14.25	563.92	563.92	563.91	563.90	563.90
14.50	563.89	563.88	563.88	563.87	563.86
14.75	563.86	563.85	563.84	563.84	563.83
15.00	563.83	563.82	563.81	563.81	563.80
15.25	563.80	563.79	563.78	563.78	563.77
15.50	563.77	563.76	563.75	563.75	563.74
15.75	563.74	563.73	563.72	563.72	563.71
16.00	563.70	563.70	563.69	563.68	563.68
16.25	563.67	563.66	563.66	563.65	563.64
16.50	563.64	563.63	563.62	563.62	563.61
16.75	563.60	563.60	563.59	563.58	563.58
17.00	563.57	563.56	563.56	563.55	563.55
17.25	563.54	563.53	563.53	563.52	563.51
17.50	563.51	563.50	563.49	563.49	563.48
17.75	563.47	563.47	563.46	563.45	563.45
18.00	563.44	563.44	563.43	563.42	563.42
18.25	563.41	563.41	563.40	563.40	563.39
18.50	563.39	563.38	563.38	563.37	563.37
18.75	563.36	563.36	563.35	563.35	563.34
19.00	563.34	563.34	563.33	563.33	563.32
19.25	563.32	563.32	563.31	563.31	563.30
19.50	563.30	563.30	563.29	563.29	563.29
19.75	563.29	563.28	563.28	563.28	563.27
20.00	563.27	563.27	563.26	563.26	563.26
20.25	563.26	563.25	563.25	563.25	563.25
20.50	563.24	563.24	563.24	563.24	563.23
20.75	563.23	563.23	563.23	563.23	563.22
21.00	563.22	563.22	563.22	563.22	563.21
21.25	563.21	563.21	563.21	563.21	563.21

Subsection: Time vs. Elevation
 Label: PO-1 (UG Basin) (OUT)

Return Event: 2 years
 Storm Event: 2-yr

Time vs. Elevation (ft)

Output Time increment = 0.05 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
21.50	563.20	563.20	563.20	563.20	563.20
21.75	563.20	563.19	563.19	563.19	563.19
22.00	563.19	563.19	563.18	563.18	563.18
22.25	563.18	563.18	563.18	563.18	563.18
22.50	563.17	563.17	563.17	563.17	563.17
22.75	563.17	563.17	563.17	563.16	563.16
23.00	563.16	563.16	563.16	563.16	563.16
23.25	563.16	563.15	563.15	563.15	563.15
23.50	563.15	563.15	563.15	563.15	563.15
23.75	563.15	563.14	563.14	563.14	563.14
24.00	563.14	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time vs. Elevation
Label: PO-1 (UG Basin) (OUT)

Return Event: 10 years
Storm Event: 10-yr

Time vs. Elevation (ft)

Output Time increment = 0.05 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.00	562.50	562.50	562.50	562.50	562.50
0.25	562.50	562.50	562.50	562.50	562.50
0.50	562.50	562.50	562.50	562.50	562.50
0.75	562.50	562.50	562.50	562.50	562.50
1.00	562.50	562.50	562.50	562.50	563.00
1.25	562.50	562.50	562.50	562.50	562.50
1.50	562.50	562.50	562.50	562.50	562.50
1.75	562.51	562.51	562.51	562.51	562.51
2.00	562.51	562.51	562.52	562.52	562.52
2.25	562.52	562.52	562.53	562.53	562.53
2.50	562.53	562.54	562.54	562.54	562.54
2.75	562.55	562.55	562.55	562.56	562.56
3.00	562.56	562.57	562.57	562.57	562.58
3.25	562.58	562.59	562.59	562.60	562.60
3.50	562.60	562.61	562.61	562.62	562.62
3.75	562.63	562.63	562.64	562.64	562.65
4.00	562.66	562.66	562.67	562.67	562.68
4.25	562.68	562.69	562.70	562.70	562.71
4.50	562.72	562.72	562.73	562.74	562.74
4.75	562.75	562.76	562.76	562.77	562.78
5.00	562.79	562.79	562.80	562.81	562.82
5.25	562.82	562.83	562.84	562.85	562.86
5.50	562.86	562.87	562.88	562.89	562.90
5.75	562.91	562.92	562.92	562.93	562.94
6.00	562.95	562.96	562.97	562.98	562.99
6.25	563.00	563.01	563.01	563.02	563.02
6.50	563.03	563.03	563.04	563.04	563.05
6.75	563.05	563.06	563.07	563.07	563.08
7.00	563.08	563.09	563.09	563.10	563.10
7.25	563.11	563.11	563.12	563.12	563.13
7.50	563.13	563.14	563.14	563.15	563.15
7.75	563.16	563.16	563.17	563.17	563.18
8.00	563.18	563.19	563.20	563.20	563.21
8.25	563.21	563.22	563.22	563.23	563.23
8.50	563.24	563.25	563.25	563.26	563.26
8.75	563.27	563.28	563.28	563.29	563.30
9.00	563.30	563.31	563.32	563.33	563.33
9.25	563.34	563.35	563.35	563.36	563.37
9.50	563.38	563.39	563.39	563.40	563.41
9.75	563.42	563.42	563.43	563.44	563.45
10.00	563.46	563.47	563.47	563.48	563.49
10.25	563.50	563.51	563.52	563.53	563.54
10.50	563.55	563.56	563.57	563.58	563.59

Subsection: Time vs. Elevation
Label: PO-1 (UG Basin) (OUT)

Return Event: 10 years
Storm Event: 10-yr

Time vs. Elevation (ft)

Output Time increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.75	563.60	563.61	563.63	563.64	563.65
11.00	563.66	563.68	563.69	563.71	563.72
11.25	563.74	563.76	563.78	563.81	563.83
11.50	563.85	563.88	563.92	563.96	564.01
11.75	564.08	564.16	564.24	564.33	564.45
12.00	564.62	564.84	565.08	565.34	565.42
12.25	565.38	565.30	565.21	565.11	565.02
12.50	564.95	564.88	564.81	564.74	564.67
12.75	564.61	564.56	564.51	564.47	564.43
13.00	564.40	564.36	564.33	564.30	564.28
13.25	564.25	564.23	564.21	564.19	564.17
13.50	564.16	564.14	564.13	564.12	564.11
13.75	564.09	564.08	564.07	564.06	564.06
14.00	564.05	564.04	564.03	564.03	564.02
14.25	564.01	564.01	564.00	564.00	563.99
14.50	563.99	563.98	563.98	563.97	563.97
14.75	563.96	563.96	563.95	563.95	563.94
15.00	563.94	563.93	563.92	563.92	563.91
15.25	563.91	563.90	563.90	563.89	563.89
15.50	563.88	563.88	563.87	563.86	563.86
15.75	563.85	563.85	563.84	563.84	563.83
16.00	563.83	563.82	563.81	563.81	563.80
16.25	563.80	563.79	563.79	563.78	563.78
16.50	563.77	563.77	563.76	563.75	563.75
16.75	563.74	563.74	563.73	563.73	563.72
17.00	563.72	563.71	563.70	563.70	563.69
17.25	563.69	563.68	563.67	563.67	563.66
17.50	563.66	563.65	563.65	563.64	563.63
17.75	563.63	563.62	563.62	563.61	563.60
18.00	563.60	563.59	563.59	563.58	563.57
18.25	563.57	563.56	563.56	563.55	563.54
18.50	563.54	563.53	563.53	563.52	563.52
18.75	563.51	563.51	563.50	563.49	563.49
19.00	563.48	563.48	563.47	563.47	563.46
19.25	563.46	563.45	563.45	563.44	563.44
19.50	563.43	563.43	563.42	563.42	563.41
19.75	563.41	563.40	563.40	563.40	563.39
20.00	563.39	563.38	563.38	563.38	563.37
20.25	563.37	563.36	563.36	563.36	563.35
20.50	563.35	563.35	563.34	563.34	563.34
20.75	563.34	563.33	563.33	563.33	563.32
21.00	563.32	563.32	563.32	563.31	563.31
21.25	563.31	563.30	563.30	563.30	563.30

Subsection: Time vs. Elevation
Label: PO-1 (UG Basin) (OUT)

Return Event: 10 years
Storm Event: 10-yr

Time vs. Elevation (ft)

Output Time increment = 0.05 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
21.50	563.29	563.29	563.29	563.29	563.29
21.75	563.28	563.28	563.28	563.28	563.27
22.00	563.27	563.27	563.27	563.27	563.26
22.25	563.26	563.26	563.26	563.26	563.25
22.50	563.25	563.25	563.25	563.25	563.25
22.75	563.24	563.24	563.24	563.24	563.24
23.00	563.24	563.23	563.23	563.23	563.23
23.25	563.23	563.23	563.22	563.22	563.22
23.50	563.22	563.22	563.22	563.22	563.21
23.75	563.21	563.21	563.21	563.21	563.21
24.00	563.21	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time vs. Elevation
Label: PO-1 (UG Basin) (OUT)

Return Event: 25 years
Storm Event: 25-yr

Time vs. Elevation (ft)

Output Time increment = 0.05 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.00	562.50	562.50	562.50	562.50	562.50
0.25	562.50	562.50	562.50	562.50	562.50
0.50	562.50	562.50	562.50	562.50	562.50
0.75	562.50	562.50	562.50	562.50	562.50
1.00	562.50	562.50	562.50	562.50	562.50
1.25	562.50	562.50	562.51	562.51	562.51
1.50	562.51	562.51	562.51	562.52	562.52
1.75	562.52	562.52	562.53	562.53	562.53
2.00	562.54	562.54	562.54	562.55	562.55
2.25	562.55	562.56	562.56	562.57	562.57
2.50	562.58	562.58	562.59	562.59	562.60
2.75	562.60	562.61	562.61	562.62	562.62
3.00	562.63	562.64	562.64	562.65	562.65
3.25	562.66	562.67	562.67	562.68	562.69
3.50	562.70	562.70	562.71	562.72	562.73
3.75	562.73	562.74	562.75	562.76	562.77
4.00	562.78	562.78	562.79	562.80	562.81
4.25	562.82	562.83	562.84	562.85	562.86
4.50	562.87	562.88	562.89	562.90	562.91
4.75	562.92	562.93	562.94	562.95	562.96
5.00	562.97	562.98	562.99	563.00	563.01
5.25	563.02	563.02	563.03	563.03	563.04
5.50	563.04	563.05	563.06	563.06	563.07
5.75	563.07	563.08	563.08	563.09	563.09
6.00	563.10	563.10	563.11	563.11	563.12
6.25	563.12	563.13	563.13	563.14	563.14
6.50	563.15	563.15	563.16	563.16	563.17
6.75	563.17	563.18	563.18	563.19	563.19
7.00	563.20	563.20	563.21	563.22	563.22
7.25	563.23	563.23	563.24	563.24	563.25
7.50	563.25	563.26	563.26	563.27	563.27
7.75	563.28	563.29	563.29	563.30	563.30
8.00	563.31	563.31	563.32	563.33	563.33
8.25	563.34	563.34	563.35	563.36	563.36
8.50	563.37	563.38	563.38	563.39	563.40
8.75	563.41	563.41	563.42	563.43	563.44
9.00	563.45	563.46	563.46	563.47	563.48
9.25	563.49	563.50	563.51	563.52	563.53
9.50	563.53	563.54	563.55	563.56	563.57
9.75	563.58	563.59	563.60	563.61	563.62
10.00	563.63	563.64	563.65	563.66	563.68
10.25	563.69	563.70	563.71	563.73	563.74
10.50	563.75	563.77	563.78	563.80	563.82

Subsection: Time vs. Elevation
Label: PO-1 (UG Basin) (OUT)

Return Event: 25 years
Storm Event: 25-yr

Time vs. Elevation (ft)

Output Time increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.75	563.83	563.85	563.86	563.88	563.89
11.00	563.91	563.93	563.94	563.96	563.98
11.25	564.00	564.02	564.04	564.06	564.09
11.50	564.11	564.13	564.16	564.20	564.26
11.75	564.33	564.41	564.51	564.63	564.78
12.00	565.00	565.43	565.74	565.93	565.93
12.25	565.82	565.68	565.55	565.41	565.28
12.50	565.14	565.02	564.94	564.87	564.80
12.75	564.74	564.68	564.63	564.58	564.53
13.00	564.49	564.46	564.43	564.40	564.37
13.25	564.34	564.32	564.30	564.28	564.26
13.50	564.24	564.22	564.21	564.20	564.18
13.75	564.17	564.16	564.15	564.14	564.13
14.00	564.12	564.11	564.10	564.09	564.08
14.25	564.08	564.07	564.06	564.06	564.05
14.50	564.05	564.04	564.04	564.03	564.03
14.75	564.02	564.02	564.01	564.01	564.01
15.00	564.00	564.00	564.00	563.99	563.99
15.25	563.98	563.98	563.98	563.97	563.97
15.50	563.96	563.96	563.95	563.95	563.94
15.75	563.94	563.93	563.93	563.92	563.92
16.00	563.91	563.91	563.90	563.89	563.89
16.25	563.88	563.88	563.87	563.87	563.86
16.50	563.86	563.85	563.85	563.84	563.84
16.75	563.83	563.83	563.82	563.82	563.81
17.00	563.81	563.80	563.80	563.79	563.79
17.25	563.78	563.78	563.78	563.77	563.77
17.50	563.76	563.76	563.75	563.75	563.74
17.75	563.73	563.73	563.72	563.72	563.71
18.00	563.71	563.70	563.70	563.69	563.68
18.25	563.68	563.67	563.67	563.66	563.66
18.50	563.65	563.65	563.64	563.64	563.63
18.75	563.63	563.62	563.62	563.61	563.61
19.00	563.60	563.60	563.59	563.59	563.58
19.25	563.58	563.57	563.57	563.56	563.56
19.50	563.55	563.55	563.54	563.54	563.53
19.75	563.53	563.52	563.52	563.51	563.51
20.00	563.50	563.50	563.50	563.49	563.49
20.25	563.48	563.48	563.47	563.47	563.46
20.50	563.46	563.45	563.45	563.45	563.44
20.75	563.44	563.43	563.43	563.43	563.42
21.00	563.42	563.41	563.41	563.41	563.40
21.25	563.40	563.40	563.39	563.39	563.39

Subsection: Time vs. Elevation
Label: PO-1 (UG Basin) (OUT)

Return Event: 25 years
Storm Event: 25-yr

Time vs. Elevation (ft)

Output Time increment = 0.05 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
21.50	563.38	563.38	563.38	563.38	563.37
21.75	563.37	563.37	563.36	563.36	563.36
22.00	563.36	563.35	563.35	563.35	563.34
22.25	563.34	563.34	563.34	563.33	563.33
22.50	563.33	563.33	563.33	563.32	563.32
22.75	563.32	563.32	563.31	563.31	563.31
23.00	563.31	563.31	563.30	563.30	563.30
23.25	563.30	563.29	563.29	563.29	563.29
23.50	563.29	563.28	563.28	563.28	563.28
23.75	563.28	563.28	563.27	563.27	563.27
24.00	563.27	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time vs. Elevation
Label: PO-1 (UG Basin) (OUT)

Return Event: 100 years
Storm Event: 100-yr

Time vs. Elevation (ft)

Output Time increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.00	562.50	562.50	562.50	562.50	562.50
0.25	562.50	562.50	562.50	562.50	562.50
0.50	562.50	562.50	562.50	562.50	562.50
0.75	562.50	562.50	562.50	562.50	562.50
1.00	562.50	562.50	562.50	562.51	562.51
1.25	562.51	562.51	562.52	562.52	562.52
1.50	562.53	562.53	562.53	562.54	562.54
1.75	562.55	562.55	562.55	562.56	562.56
2.00	562.57	562.57	562.58	562.59	562.59
2.25	562.60	562.60	562.61	562.62	562.62
2.50	562.63	562.64	562.64	562.65	562.66
2.75	562.67	562.67	562.68	562.69	562.70
3.00	562.71	562.72	562.72	562.73	562.74
3.25	562.75	562.76	562.77	562.78	562.79
3.50	562.80	562.81	562.82	562.83	562.84
3.75	562.85	562.86	562.88	562.89	562.90
4.00	562.91	562.92	562.93	562.95	562.96
4.25	562.97	562.98	563.00	563.00	563.01
4.50	563.02	563.03	563.03	563.04	563.05
4.75	563.05	563.06	563.07	563.07	563.08
5.00	563.08	563.09	563.10	563.10	563.11
5.25	563.11	563.12	563.12	563.13	563.14
5.50	563.14	563.15	563.15	563.16	563.16
5.75	563.17	563.17	563.18	563.18	563.19
6.00	563.19	563.20	563.20	563.21	563.21
6.25	563.22	563.22	563.23	563.23	563.24
6.50	563.24	563.25	563.25	563.26	563.26
6.75	563.27	563.27	563.28	563.28	563.29
7.00	563.30	563.30	563.31	563.31	563.32
7.25	563.33	563.33	563.34	563.34	563.35
7.50	563.35	563.36	563.37	563.37	563.38
7.75	563.39	563.39	563.40	563.40	563.41
8.00	563.42	563.42	563.43	563.44	563.44
8.25	563.45	563.46	563.46	563.47	563.48
8.50	563.49	563.50	563.50	563.51	563.52
8.75	563.53	563.54	563.55	563.56	563.56
9.00	563.57	563.58	563.59	563.60	563.61
9.25	563.63	563.64	563.65	563.66	563.67
9.50	563.68	563.69	563.71	563.72	563.73
9.75	563.74	563.76	563.77	563.78	563.80
10.00	563.81	563.82	563.84	563.85	563.87
10.25	563.88	563.89	563.91	563.92	563.94
10.50	563.95	563.97	563.98	564.00	564.01

Subsection: Time vs. Elevation
Label: PO-1 (UG Basin) (OUT)

Return Event: 100 years
Storm Event: 100-yr

Time vs. Elevation (ft)

Output Time increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
10.75	564.03	564.04	564.06	564.07	564.08
11.00	564.09	564.10	564.11	564.13	564.14
11.25	564.15	564.17	564.19	564.20	564.22
11.50	564.24	564.27	564.30	564.34	564.41
11.75	564.49	564.60	564.72	564.86	565.07
12.00	565.48	565.88	566.21	566.41	566.42
12.25	566.28	566.09	565.89	565.70	565.54
12.50	565.37	565.21	565.07	564.97	564.90
12.75	564.84	564.78	564.73	564.68	564.63
13.00	564.59	564.54	564.51	564.48	564.45
13.25	564.42	564.40	564.37	564.35	564.33
13.50	564.32	564.30	564.28	564.27	564.25
13.75	564.24	564.23	564.22	564.20	564.19
14.00	564.18	564.17	564.16	564.15	564.14
14.25	564.14	564.13	564.12	564.11	564.11
14.50	564.10	564.09	564.09	564.08	564.08
14.75	564.07	564.07	564.06	564.06	564.06
15.00	564.05	564.05	564.04	564.04	564.03
15.25	564.03	564.03	564.02	564.02	564.02
15.50	564.01	564.01	564.01	564.00	564.00
15.75	563.99	563.99	563.99	563.98	563.98
16.00	563.97	563.97	563.96	563.96	563.95
16.25	563.95	563.94	563.94	563.93	563.93
16.50	563.92	563.92	563.91	563.91	563.90
16.75	563.90	563.89	563.89	563.88	563.88
17.00	563.88	563.87	563.87	563.86	563.86
17.25	563.85	563.85	563.84	563.84	563.83
17.50	563.83	563.83	563.82	563.82	563.81
17.75	563.81	563.80	563.80	563.79	563.79
18.00	563.78	563.78	563.78	563.77	563.77
18.25	563.76	563.76	563.75	563.75	563.74
18.50	563.74	563.73	563.73	563.72	563.72
18.75	563.71	563.71	563.70	563.70	563.70
19.00	563.69	563.69	563.68	563.68	563.67
19.25	563.67	563.66	563.66	563.65	563.65
19.50	563.65	563.64	563.64	563.63	563.63
19.75	563.62	563.62	563.61	563.61	563.61
20.00	563.60	563.60	563.59	563.59	563.58
20.25	563.58	563.58	563.57	563.57	563.56
20.50	563.56	563.56	563.55	563.55	563.54
20.75	563.54	563.54	563.53	563.53	563.52
21.00	563.52	563.52	563.51	563.51	563.50
21.25	563.50	563.50	563.49	563.49	563.48

Subsection: Time vs. Elevation
Label: PO-1 (UG Basin) (OUT)

Return Event: 100 years
Storm Event: 100-yr

Time vs. Elevation (ft)

Output Time increment = 0.05 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
21.50	563.48	563.48	563.47	563.47	563.46
21.75	563.46	563.46	563.45	563.45	563.45
22.00	563.44	563.44	563.44	563.43	563.43
22.25	563.43	563.42	563.42	563.42	563.41
22.50	563.41	563.41	563.40	563.40	563.40
22.75	563.39	563.39	563.39	563.39	563.38
23.00	563.38	563.38	563.38	563.37	563.37
23.25	563.37	563.36	563.36	563.36	563.36
23.50	563.35	563.35	563.35	563.35	563.35
23.75	563.34	563.34	563.34	563.34	563.33
24.00	563.33	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time vs. Volume
Label: PO-1 (UG Basin)

Return Event: 1 years
Storm Event: WQ

Time vs. Volume (ac-ft)

Output Time increment = 0.05 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
0.00	0.000	0.000	0.000	0.000	0.000
0.25	0.000	0.000	0.000	0.000	0.000
0.50	0.000	0.001	0.001	0.002	0.003
0.75	0.004	0.006	0.008	0.012	0.018
1.00	0.028	0.045	0.063	0.080	0.091
1.25	0.098	0.102	0.105	0.106	0.107
1.50	0.108	0.109	0.109	0.109	0.109
1.75	0.109	0.109	0.109	0.108	0.106
2.00	0.105	0.104	0.102	0.101	0.099
2.25	0.097	0.096	0.094	0.093	0.091
2.50	0.090	0.089	0.087	0.086	0.085
2.75	0.083	0.082	0.081	0.080	0.078
3.00	0.077	0.076	0.075	0.074	0.072
3.25	0.071	0.070	0.069	0.068	0.067
3.50	0.066	0.065	0.064	0.063	0.062
3.75	0.061	0.060	0.059	0.058	0.057
4.00	0.056	0.056	0.055	0.054	0.053
4.25	0.053	0.052	0.051	0.050	0.050
4.50	0.049	0.048	0.048	0.047	0.047
4.75	0.046	0.045	0.045	0.044	0.044
5.00	0.043	0.043	0.042	0.042	0.041
5.25	0.041	0.040	0.040	0.040	0.039
5.50	0.039	0.038	0.038	0.038	0.037
5.75	0.037	0.037	0.036	0.036	0.036
6.00	0.035	0.035	0.035	0.034	0.034
6.25	0.034	0.034	0.033	0.033	0.033
6.50	0.033	0.032	0.032	0.032	0.032
6.75	0.032	0.031	0.031	0.031	0.031
7.00	0.031	0.030	0.030	0.030	0.030
7.25	0.030	0.030	0.029	0.029	0.029
7.50	0.029	0.029	0.029	0.029	0.028
7.75	0.028	0.028	0.028	0.028	0.028
8.00	0.028	0.028	0.027	0.027	0.027
8.25	0.027	0.027	0.027	0.027	0.027
8.50	0.027	0.027	0.027	0.026	0.026
8.75	0.026	0.026	0.026	0.026	0.026
9.00	0.026	0.026	0.026	0.026	0.026
9.25	0.026	0.026	0.025	0.025	0.025
9.50	0.025	0.025	0.025	0.025	0.025
9.75	0.025	0.025	0.025	0.025	0.025
10.00	0.025	0.025	0.025	0.025	0.025
10.25	0.025	0.025	0.025	0.025	0.025
10.50	0.024	0.024	0.024	0.024	0.024

Subsection: Time vs. Volume
Label: PO-1 (UG Basin)

Return Event: 1 years
Storm Event: WQ

Time vs. Volume (ac-ft)

Output Time increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
10.75	0.024	0.024	0.024	0.024	0.024
11.00	0.024	0.024	0.024	0.024	0.024
11.25	0.024	0.024	0.024	0.024	0.024
11.50	0.024	0.024	0.024	0.024	0.024
11.75	0.024	0.024	0.024	0.024	0.024
12.00	0.024	0.024	0.024	0.024	0.024
12.25	0.024	0.024	0.024	0.024	0.024
12.50	0.024	0.024	0.024	0.024	0.024
12.75	0.024	0.024	0.024	0.024	0.024
13.00	0.024	0.024	0.024	0.024	0.024
13.25	0.024	0.024	0.024	0.024	0.024
13.50	0.024	0.024	0.023	0.023	0.023
13.75	0.023	0.023	0.023	0.023	0.023
14.00	0.023	0.023	0.023	0.023	0.023
14.25	0.023	0.023	0.023	0.023	0.023
14.50	0.023	0.023	0.023	0.023	0.023
14.75	0.023	0.023	0.023	0.023	0.023
15.00	0.023	0.023	0.023	0.023	0.023
15.25	0.023	0.023	0.023	0.023	0.023
15.50	0.023	0.023	0.023	0.023	0.023
15.75	0.023	0.023	0.023	0.023	0.023
16.00	0.023	0.023	0.023	0.023	0.023
16.25	0.023	0.023	0.023	0.023	0.023
16.50	0.023	0.023	0.023	0.023	0.023
16.75	0.023	0.023	0.023	0.023	0.023
17.00	0.023	0.023	0.023	0.023	0.023
17.25	0.023	0.023	0.023	0.023	0.023
17.50	0.023	0.023	0.023	0.023	0.023
17.75	0.023	0.023	0.023	0.023	0.023
18.00	0.023	0.023	0.023	0.023	0.023
18.25	0.023	0.023	0.023	0.023	0.023
18.50	0.023	0.023	0.023	0.023	0.023
18.75	0.023	0.023	0.023	0.023	0.023
19.00	0.023	0.023	0.023	0.023	0.023
19.25	0.023	0.023	0.023	0.023	0.023
19.50	0.023	0.023	0.023	0.023	0.023
19.75	0.023	0.023	0.023	0.023	0.023
20.00	0.023	0.023	0.023	0.023	0.023
20.25	0.023	0.023	0.023	0.023	0.023
20.50	0.023	0.023	0.023	0.023	0.023
20.75	0.023	0.023	0.023	0.023	0.023
21.00	0.023	0.023	0.023	0.023	0.023
21.25	0.023	0.023	0.023	0.023	0.023

Subsection: Time vs. Volume
Label: PO-1 (UG Basin)

Return Event: 1 years
Storm Event: WQ

Time vs. Volume (ac-ft)

Output Time increment = 0.05 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
21.50	0.023	0.023	0.023	0.023	0.023
21.75	0.023	0.023	0.023	0.023	0.023
22.00	0.023	0.023	0.023	0.023	0.023
22.25	0.023	0.023	0.023	0.023	0.023
22.50	0.023	0.023	0.023	0.023	0.023
22.75	0.023	0.023	0.023	0.023	0.023
23.00	0.023	0.023	0.023	0.023	0.023
23.25	0.023	0.023	0.023	0.023	0.023
23.50	0.023	0.023	0.023	0.023	0.023
23.75	0.023	0.023	0.023	0.023	0.023
24.00	0.023	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time vs. Volume
Label: PO-1 (UG Basin)

Return Event: 2 years
Storm Event: 2-yr

Time vs. Volume (ac-ft)

Output Time increment = 0.05 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
0.00	0.000	0.000	0.000	0.000	0.000
0.25	0.000	0.000	0.000	0.000	0.000
0.50	0.000	0.000	0.000	0.000	0.000
0.75	0.000	0.000	0.000	0.000	0.000
1.00	0.000	0.000	0.000	0.000	0.000
1.25	0.000	0.000	0.000	0.000	0.000
1.50	0.000	0.000	0.000	0.000	0.000
1.75	0.000	0.000	0.000	0.000	0.000
2.00	0.000	0.000	0.000	0.000	0.000
2.25	0.000	0.000	0.000	0.000	0.000
2.50	0.000	0.000	0.000	0.000	0.000
2.75	0.000	0.001	0.001	0.001	0.001
3.00	0.001	0.001	0.001	0.001	0.001
3.25	0.001	0.001	0.001	0.001	0.001
3.50	0.002	0.002	0.002	0.002	0.002
3.75	0.002	0.002	0.002	0.002	0.003
4.00	0.003	0.003	0.003	0.003	0.003
4.25	0.003	0.003	0.004	0.004	0.004
4.50	0.004	0.004	0.004	0.004	0.005
4.75	0.005	0.005	0.005	0.005	0.005
5.00	0.006	0.006	0.006	0.006	0.006
5.25	0.007	0.007	0.007	0.007	0.007
5.50	0.008	0.008	0.008	0.008	0.008
5.75	0.009	0.009	0.009	0.009	0.010
6.00	0.010	0.010	0.010	0.011	0.011
6.25	0.011	0.011	0.012	0.012	0.012
6.50	0.013	0.013	0.013	0.013	0.014
6.75	0.014	0.014	0.015	0.015	0.015
7.00	0.016	0.016	0.016	0.017	0.017
7.25	0.018	0.018	0.018	0.019	0.019
7.50	0.020	0.020	0.020	0.021	0.021
7.75	0.022	0.022	0.023	0.023	0.024
8.00	0.024	0.025	0.025	0.025	0.026
8.25	0.026	0.027	0.027	0.028	0.028
8.50	0.029	0.029	0.030	0.030	0.031
8.75	0.031	0.032	0.032	0.033	0.033
9.00	0.034	0.034	0.034	0.035	0.035
9.25	0.036	0.036	0.037	0.037	0.038
9.50	0.038	0.039	0.040	0.040	0.041
9.75	0.041	0.042	0.042	0.043	0.043
10.00	0.044	0.044	0.045	0.045	0.046
10.25	0.046	0.047	0.048	0.048	0.049
10.50	0.050	0.050	0.051	0.052	0.052

Subsection: Time vs. Volume
Label: PO-1 (UG Basin)

Return Event: 2 years
Storm Event: 2-yr

Time vs. Volume (ac-ft)

Output Time increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
10.75	0.053	0.054	0.054	0.055	0.056
11.00	0.057	0.057	0.058	0.059	0.060
11.25	0.061	0.062	0.064	0.065	0.066
11.50	0.068	0.069	0.071	0.074	0.078
11.75	0.082	0.088	0.094	0.102	0.111
12.00	0.123	0.137	0.151	0.163	0.170
12.25	0.172	0.173	0.172	0.170	0.167
12.50	0.164	0.160	0.156	0.153	0.149
12.75	0.145	0.142	0.139	0.136	0.134
13.00	0.131	0.129	0.127	0.125	0.123
13.25	0.121	0.120	0.118	0.117	0.116
13.50	0.115	0.114	0.113	0.112	0.111
13.75	0.110	0.110	0.109	0.108	0.108
14.00	0.107	0.106	0.105	0.105	0.104
14.25	0.103	0.103	0.102	0.101	0.101
14.50	0.100	0.099	0.099	0.098	0.098
14.75	0.097	0.096	0.096	0.095	0.095
15.00	0.094	0.094	0.093	0.092	0.092
15.25	0.091	0.091	0.090	0.090	0.089
15.50	0.089	0.088	0.088	0.087	0.086
15.75	0.086	0.085	0.085	0.084	0.083
16.00	0.083	0.082	0.082	0.081	0.080
16.25	0.080	0.079	0.078	0.078	0.077
16.50	0.077	0.076	0.075	0.075	0.074
16.75	0.074	0.073	0.072	0.072	0.071
17.00	0.071	0.070	0.069	0.069	0.068
17.25	0.068	0.067	0.066	0.066	0.065
17.50	0.065	0.064	0.064	0.063	0.062
17.75	0.062	0.061	0.061	0.060	0.060
18.00	0.059	0.059	0.058	0.058	0.057
18.25	0.057	0.056	0.056	0.056	0.055
18.50	0.055	0.054	0.054	0.053	0.053
18.75	0.053	0.052	0.052	0.052	0.051
19.00	0.051	0.051	0.050	0.050	0.050
19.25	0.049	0.049	0.049	0.048	0.048
19.50	0.048	0.048	0.047	0.047	0.047
19.75	0.047	0.046	0.046	0.046	0.046
20.00	0.045	0.045	0.045	0.045	0.044
20.25	0.044	0.044	0.044	0.044	0.043
20.50	0.043	0.043	0.043	0.043	0.042
20.75	0.042	0.042	0.042	0.042	0.042
21.00	0.041	0.041	0.041	0.041	0.041
21.25	0.041	0.040	0.040	0.040	0.040

Subsection: Time vs. Volume
Label: PO-1 (UG Basin)

Return Event: 2 years
Storm Event: 2-yr

Time vs. Volume (ac-ft)

Output Time increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
21.50	0.040	0.040	0.040	0.039	0.039
21.75	0.039	0.039	0.039	0.039	0.039
22.00	0.039	0.038	0.038	0.038	0.038
22.25	0.038	0.038	0.038	0.038	0.038
22.50	0.037	0.037	0.037	0.037	0.037
22.75	0.037	0.037	0.037	0.037	0.037
23.00	0.036	0.036	0.036	0.036	0.036
23.25	0.036	0.036	0.036	0.036	0.036
23.50	0.036	0.035	0.035	0.035	0.035
23.75	0.035	0.035	0.035	0.035	0.035
24.00	0.035	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time vs. Volume
 Label: PO-1 (UG Basin)

Return Event: 10 years
 Storm Event: 10-yr

Time vs. Volume (ac-ft)

Output Time increment = 0.05 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
0.00	0.000	0.000	0.000	0.000	0.000
0.25	0.000	0.000	0.000	0.000	0.000
0.50	0.000	0.000	0.000	0.000	0.000
0.75	0.000	0.000	0.000	0.000	0.000
1.00	0.000	0.000	0.000	0.000	0.023
1.25	0.000	0.000	0.000	0.000	0.000
1.50	0.000	0.000	0.000	0.000	0.000
1.75	0.000	0.000	0.000	0.000	0.000
2.00	0.001	0.001	0.001	0.001	0.001
2.25	0.001	0.001	0.001	0.001	0.001
2.50	0.002	0.002	0.002	0.002	0.002
2.75	0.002	0.002	0.002	0.003	0.003
3.00	0.003	0.003	0.003	0.003	0.004
3.25	0.004	0.004	0.004	0.004	0.005
3.50	0.005	0.005	0.005	0.006	0.006
3.75	0.006	0.006	0.006	0.007	0.007
4.00	0.007	0.007	0.008	0.008	0.008
4.25	0.009	0.009	0.009	0.009	0.010
4.50	0.010	0.010	0.011	0.011	0.011
4.75	0.012	0.012	0.012	0.013	0.013
5.00	0.013	0.014	0.014	0.014	0.015
5.25	0.015	0.015	0.016	0.016	0.017
5.50	0.017	0.017	0.018	0.018	0.018
5.75	0.019	0.019	0.020	0.020	0.021
6.00	0.021	0.021	0.022	0.022	0.023
6.25	0.023	0.024	0.024	0.025	0.025
6.50	0.025	0.026	0.026	0.027	0.027
6.75	0.028	0.028	0.029	0.029	0.029
7.00	0.030	0.030	0.031	0.031	0.032
7.25	0.032	0.032	0.033	0.033	0.034
7.50	0.034	0.035	0.035	0.035	0.036
7.75	0.036	0.037	0.037	0.038	0.038
8.00	0.038	0.039	0.039	0.040	0.040
8.25	0.040	0.041	0.041	0.042	0.042
8.50	0.043	0.043	0.044	0.044	0.045
8.75	0.045	0.046	0.046	0.047	0.047
9.00	0.048	0.049	0.049	0.050	0.050
9.25	0.051	0.052	0.052	0.053	0.053
9.50	0.054	0.055	0.055	0.056	0.057
9.75	0.057	0.058	0.059	0.059	0.060
10.00	0.061	0.061	0.062	0.063	0.063
10.25	0.064	0.065	0.066	0.067	0.068
10.50	0.068	0.069	0.070	0.071	0.072

Subsection: Time vs. Volume
 Label: PO-1 (UG Basin)

Return Event: 10 years
 Storm Event: 10-yr

Time vs. Volume (ac-ft)

Output Time increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
10.75	0.073	0.075	0.076	0.077	0.078
11.00	0.079	0.081	0.082	0.083	0.085
11.25	0.086	0.088	0.090	0.092	0.095
11.50	0.097	0.099	0.102	0.106	0.112
11.75	0.118	0.125	0.132	0.141	0.151
12.00	0.166	0.184	0.201	0.213	0.217
12.25	0.215	0.211	0.207	0.202	0.198
12.50	0.193	0.188	0.182	0.176	0.171
12.75	0.166	0.161	0.157	0.153	0.150
13.00	0.147	0.144	0.141	0.138	0.136
13.25	0.134	0.131	0.130	0.128	0.126
13.50	0.125	0.123	0.122	0.121	0.120
13.75	0.119	0.118	0.117	0.116	0.115
14.00	0.115	0.114	0.113	0.113	0.112
14.25	0.111	0.111	0.110	0.110	0.110
14.50	0.109	0.109	0.108	0.108	0.107
14.75	0.107	0.106	0.106	0.105	0.105
15.00	0.104	0.104	0.103	0.103	0.102
15.25	0.102	0.101	0.101	0.100	0.100
15.50	0.099	0.099	0.098	0.098	0.097
15.75	0.097	0.096	0.096	0.095	0.095
16.00	0.094	0.094	0.093	0.093	0.092
16.25	0.092	0.091	0.091	0.090	0.090
16.50	0.089	0.089	0.088	0.088	0.087
16.75	0.087	0.086	0.085	0.085	0.084
17.00	0.084	0.083	0.083	0.082	0.082
17.25	0.081	0.081	0.080	0.080	0.079
17.50	0.079	0.078	0.078	0.077	0.076
17.75	0.076	0.075	0.075	0.074	0.074
18.00	0.073	0.072	0.072	0.071	0.071
18.25	0.070	0.070	0.069	0.069	0.068
18.50	0.068	0.067	0.067	0.066	0.066
18.75	0.065	0.065	0.064	0.064	0.063
19.00	0.063	0.062	0.062	0.061	0.061
19.25	0.060	0.060	0.060	0.059	0.059
19.50	0.058	0.058	0.058	0.057	0.057
19.75	0.057	0.056	0.056	0.056	0.055
20.00	0.055	0.055	0.054	0.054	0.054
20.25	0.053	0.053	0.053	0.052	0.052
20.50	0.052	0.052	0.051	0.051	0.051
20.75	0.051	0.050	0.050	0.050	0.050
21.00	0.049	0.049	0.049	0.049	0.049
21.25	0.048	0.048	0.048	0.048	0.047

Subsection: Time vs. Volume
 Label: PO-1 (UG Basin)

Return Event: 10 years
 Storm Event: 10-yr

Time vs. Volume (ac-ft)

Output Time increment = 0.05 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
21.50	0.047	0.047	0.047	0.047	0.047
21.75	0.046	0.046	0.046	0.046	0.046
22.00	0.045	0.045	0.045	0.045	0.045
22.25	0.045	0.044	0.044	0.044	0.044
22.50	0.044	0.044	0.044	0.043	0.043
22.75	0.043	0.043	0.043	0.043	0.043
23.00	0.042	0.042	0.042	0.042	0.042
23.25	0.042	0.042	0.042	0.041	0.041
23.50	0.041	0.041	0.041	0.041	0.041
23.75	0.041	0.040	0.040	0.040	0.040
24.00	0.040	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time vs. Volume
Label: PO-1 (UG Basin)

Return Event: 25 years
Storm Event: 25-yr

Time vs. Volume (ac-ft)

Output Time increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
0.00	0.000	0.000	0.000	0.000	0.000
0.25	0.000	0.000	0.000	0.000	0.000
0.50	0.000	0.000	0.000	0.000	0.000
0.75	0.000	0.000	0.000	0.000	0.000
1.00	0.000	0.000	0.000	0.000	0.000
1.25	0.000	0.000	0.000	0.000	0.000
1.50	0.000	0.001	0.001	0.001	0.001
1.75	0.001	0.001	0.001	0.001	0.002
2.00	0.002	0.002	0.002	0.002	0.002
2.25	0.003	0.003	0.003	0.003	0.003
2.50	0.004	0.004	0.004	0.004	0.004
2.75	0.005	0.005	0.005	0.005	0.006
3.00	0.006	0.006	0.007	0.007	0.007
3.25	0.007	0.008	0.008	0.008	0.009
3.50	0.009	0.009	0.010	0.010	0.011
3.75	0.011	0.011	0.012	0.012	0.012
4.00	0.013	0.013	0.014	0.014	0.014
4.25	0.015	0.015	0.016	0.016	0.017
4.50	0.017	0.018	0.018	0.018	0.019
4.75	0.019	0.020	0.020	0.021	0.021
5.00	0.022	0.022	0.023	0.023	0.024
5.25	0.024	0.025	0.025	0.026	0.026
5.50	0.027	0.027	0.028	0.028	0.029
5.75	0.029	0.030	0.030	0.030	0.031
6.00	0.031	0.032	0.032	0.032	0.033
6.25	0.033	0.034	0.034	0.035	0.035
6.50	0.035	0.036	0.036	0.037	0.037
6.75	0.037	0.038	0.038	0.039	0.039
7.00	0.040	0.040	0.040	0.041	0.041
7.25	0.042	0.042	0.043	0.043	0.043
7.50	0.044	0.044	0.045	0.045	0.046
7.75	0.046	0.047	0.047	0.047	0.048
8.00	0.048	0.049	0.049	0.050	0.050
8.25	0.051	0.051	0.052	0.052	0.053
8.50	0.053	0.054	0.055	0.055	0.056
8.75	0.056	0.057	0.058	0.058	0.059
9.00	0.060	0.060	0.061	0.062	0.063
9.25	0.063	0.064	0.065	0.066	0.066
9.50	0.067	0.068	0.069	0.070	0.071
9.75	0.071	0.072	0.073	0.074	0.075
10.00	0.076	0.077	0.078	0.079	0.080
10.25	0.081	0.083	0.084	0.085	0.086
10.50	0.088	0.089	0.090	0.092	0.093

Subsection: Time vs. Volume
 Label: PO-1 (UG Basin)

Return Event: 25 years
 Storm Event: 25-yr

Time vs. Volume (ac-ft)

Output Time increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
10.75	0.095	0.096	0.098	0.099	0.101
11.00	0.102	0.103	0.105	0.107	0.108
11.25	0.110	0.112	0.114	0.116	0.118
11.50	0.120	0.122	0.125	0.129	0.134
11.75	0.141	0.148	0.157	0.167	0.179
12.00	0.197	0.217	0.233	0.242	0.242
12.25	0.237	0.230	0.223	0.216	0.210
12.50	0.204	0.198	0.192	0.187	0.181
12.75	0.176	0.171	0.167	0.163	0.159
13.00	0.156	0.153	0.150	0.147	0.144
13.25	0.142	0.140	0.138	0.136	0.134
13.50	0.132	0.131	0.130	0.128	0.127
13.75	0.126	0.125	0.124	0.123	0.122
14.00	0.121	0.120	0.119	0.119	0.118
14.25	0.117	0.117	0.116	0.115	0.115
14.50	0.114	0.114	0.114	0.113	0.113
14.75	0.112	0.112	0.112	0.111	0.111
15.00	0.111	0.110	0.110	0.110	0.109
15.25	0.109	0.108	0.108	0.108	0.107
15.50	0.107	0.106	0.106	0.105	0.105
15.75	0.105	0.104	0.104	0.103	0.103
16.00	0.102	0.101	0.101	0.100	0.100
16.25	0.099	0.099	0.098	0.098	0.097
16.50	0.097	0.096	0.096	0.096	0.095
16.75	0.095	0.094	0.094	0.093	0.093
17.00	0.092	0.092	0.092	0.091	0.091
17.25	0.090	0.090	0.089	0.089	0.089
17.50	0.088	0.088	0.087	0.087	0.086
17.75	0.086	0.085	0.085	0.084	0.084
18.00	0.083	0.083	0.082	0.082	0.081
18.25	0.081	0.080	0.080	0.079	0.079
18.50	0.078	0.078	0.077	0.077	0.076
18.75	0.076	0.075	0.075	0.074	0.074
19.00	0.073	0.073	0.072	0.072	0.071
19.25	0.071	0.071	0.070	0.070	0.069
19.50	0.069	0.068	0.068	0.067	0.067
19.75	0.067	0.066	0.066	0.065	0.065
20.00	0.064	0.064	0.064	0.063	0.063
20.25	0.062	0.062	0.062	0.061	0.061
20.50	0.061	0.060	0.060	0.060	0.059
20.75	0.059	0.059	0.058	0.058	0.058
21.00	0.057	0.057	0.057	0.056	0.056
21.25	0.056	0.056	0.055	0.055	0.055

Subsection: Time vs. Volume
Label: PO-1 (UG Basin)

Return Event: 25 years
Storm Event: 25-yr

Time vs. Volume (ac-ft)

Output Time increment = 0.05 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
21.50	0.055	0.054	0.054	0.054	0.054
21.75	0.053	0.053	0.053	0.053	0.052
22.00	0.052	0.052	0.052	0.052	0.051
22.25	0.051	0.051	0.051	0.051	0.050
22.50	0.050	0.050	0.050	0.050	0.049
22.75	0.049	0.049	0.049	0.049	0.048
23.00	0.048	0.048	0.048	0.048	0.048
23.25	0.047	0.047	0.047	0.047	0.047
23.50	0.047	0.046	0.046	0.046	0.046
23.75	0.046	0.046	0.046	0.045	0.045
24.00	0.045	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Time vs. Volume
 Label: PO-1 (UG Basin)

Return Event: 100 years
 Storm Event: 100-yr

Time vs. Volume (ac-ft)

Output Time increment = 0.05 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
0.00	0.000	0.000	0.000	0.000	0.000
0.25	0.000	0.000	0.000	0.000	0.000
0.50	0.000	0.000	0.000	0.000	0.000
0.75	0.000	0.000	0.000	0.000	0.000
1.00	0.000	0.000	0.000	0.000	0.000
1.25	0.001	0.001	0.001	0.001	0.001
1.50	0.001	0.001	0.002	0.002	0.002
1.75	0.002	0.002	0.003	0.003	0.003
2.00	0.003	0.003	0.004	0.004	0.004
2.25	0.005	0.005	0.005	0.005	0.006
2.50	0.006	0.006	0.007	0.007	0.007
2.75	0.008	0.008	0.008	0.009	0.009
3.00	0.010	0.010	0.010	0.011	0.011
3.25	0.012	0.012	0.013	0.013	0.014
3.50	0.014	0.014	0.015	0.015	0.016
3.75	0.016	0.017	0.017	0.018	0.019
4.00	0.019	0.020	0.020	0.021	0.021
4.25	0.022	0.022	0.023	0.024	0.024
4.50	0.025	0.025	0.026	0.026	0.027
4.75	0.028	0.028	0.029	0.029	0.030
5.00	0.030	0.031	0.031	0.032	0.032
5.25	0.032	0.033	0.033	0.034	0.034
5.50	0.035	0.035	0.036	0.036	0.036
5.75	0.037	0.037	0.038	0.038	0.039
6.00	0.039	0.039	0.040	0.040	0.040
6.25	0.041	0.041	0.042	0.042	0.043
6.50	0.043	0.043	0.044	0.044	0.045
6.75	0.045	0.046	0.046	0.046	0.047
7.00	0.047	0.048	0.048	0.049	0.049
7.25	0.050	0.050	0.051	0.051	0.052
7.50	0.052	0.053	0.053	0.054	0.054
7.75	0.055	0.055	0.056	0.056	0.057
8.00	0.057	0.058	0.058	0.059	0.059
8.25	0.060	0.061	0.061	0.062	0.062
8.50	0.063	0.064	0.065	0.065	0.066
8.75	0.067	0.068	0.068	0.069	0.070
9.00	0.071	0.072	0.073	0.074	0.075
9.25	0.076	0.077	0.078	0.079	0.080
9.50	0.081	0.082	0.083	0.084	0.085
9.75	0.087	0.088	0.089	0.090	0.092
10.00	0.093	0.094	0.095	0.097	0.098
10.25	0.099	0.100	0.102	0.103	0.104
10.50	0.106	0.107	0.109	0.110	0.112

Subsection: Time vs. Volume
 Label: PO-1 (UG Basin)

Return Event: 100 years
 Storm Event: 100-yr

Time vs. Volume (ac-ft)

Output Time increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
10.75	0.113	0.114	0.115	0.116	0.118
11.00	0.119	0.120	0.121	0.122	0.123
11.25	0.124	0.126	0.127	0.129	0.131
11.50	0.133	0.135	0.138	0.142	0.148
11.75	0.155	0.164	0.175	0.186	0.200
12.00	0.220	0.240	0.256	0.266	0.267
12.25	0.260	0.250	0.240	0.231	0.222
12.50	0.214	0.207	0.200	0.194	0.189
12.75	0.184	0.179	0.175	0.171	0.167
13.00	0.163	0.160	0.157	0.154	0.152
13.25	0.149	0.147	0.145	0.143	0.141
13.50	0.139	0.138	0.136	0.135	0.134
13.75	0.132	0.131	0.130	0.129	0.128
14.00	0.127	0.126	0.125	0.124	0.123
14.25	0.123	0.122	0.121	0.121	0.120
14.50	0.120	0.119	0.118	0.118	0.118
14.75	0.117	0.117	0.116	0.116	0.115
15.00	0.115	0.115	0.114	0.114	0.113
15.25	0.113	0.113	0.112	0.112	0.112
15.50	0.111	0.111	0.111	0.110	0.110
15.75	0.110	0.109	0.109	0.109	0.108
16.00	0.108	0.107	0.107	0.106	0.106
16.25	0.105	0.105	0.104	0.104	0.104
16.50	0.103	0.103	0.102	0.102	0.101
16.75	0.101	0.100	0.100	0.100	0.099
17.00	0.099	0.098	0.098	0.097	0.097
17.25	0.097	0.096	0.096	0.095	0.095
17.50	0.095	0.094	0.094	0.093	0.093
17.75	0.092	0.092	0.092	0.091	0.091
18.00	0.090	0.090	0.089	0.089	0.089
18.25	0.088	0.088	0.087	0.087	0.086
18.50	0.086	0.085	0.085	0.085	0.084
18.75	0.084	0.083	0.083	0.083	0.082
19.00	0.082	0.081	0.081	0.080	0.080
19.25	0.080	0.079	0.079	0.078	0.078
19.50	0.078	0.077	0.077	0.076	0.076
19.75	0.075	0.075	0.075	0.074	0.074
20.00	0.073	0.073	0.073	0.072	0.072
20.25	0.071	0.071	0.071	0.070	0.070
20.50	0.070	0.069	0.069	0.068	0.068
20.75	0.068	0.067	0.067	0.067	0.066
21.00	0.066	0.065	0.065	0.065	0.064
21.25	0.064	0.064	0.063	0.063	0.063

Subsection: Time vs. Volume
 Label: PO-1 (UG Basin)

Return Event: 100 years
 Storm Event: 100-yr

Time vs. Volume (ac-ft)

Output Time increment = 0.05 hours
Time on left represents time for first value in each row.

Time (hours)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
21.50	0.062	0.062	0.062	0.061	0.061
21.75	0.061	0.060	0.060	0.060	0.060
22.00	0.059	0.059	0.059	0.058	0.058
22.25	0.058	0.058	0.057	0.057	0.057
22.50	0.057	0.056	0.056	0.056	0.056
22.75	0.055	0.055	0.055	0.055	0.055
23.00	0.054	0.054	0.054	0.054	0.053
23.25	0.053	0.053	0.053	0.053	0.052
23.50	0.052	0.052	0.052	0.052	0.051
23.75	0.051	0.051	0.051	0.051	0.050
24.00	0.050	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Storage Chamber System
Label: PO-1 (UG Basin)

Return Event: 1 years
Storm Event: WQ

Storage Chamber			
ID	67	Notes	
Label	30" HDPE - 180'		
Storage Chamber			
Effective Length	180.00 ft	Manufacturer	
Section Length Varies?	False	Default Spacing	0.50 ft
Storage Chamber			
Storage Chamber Type	Circular	Wall Thickness	3.0 in
Storage Multiplier	100.0 %	Nominal Diameter	30.0 in
Storage Chamber (Pond)			
Chamber System Invert	562.50 ft		
Chamber System Rows	8		
Chambers per Row	1		
Chamber System Fill Void Space	40.0 %		
Chamber System Row Spacing	6.0 in		
Chamber System Side Fill	12.0 in		
Chamber System Fill Cover Depth	12.0 in		
Chamber System Fill Base Depth	0.0 in		
Chamber System Fill Side Slope	0.000 H:V		
Chamber System End Fill	12.0 in		
Chamber System Includes Header?	True		
Chamber System Header	30" HDPE - 27.5'		
Chambers In Header	1		
Chamber System Header Distance	0.00 ft		
Chamber System Header			
ID	68	Notes	
Label	30" HDPE - 27.5'		
Storage Chamber			
Effective Length	27.50 ft	Manufacturer	
Section Length Varies?	False	Default Spacing	0.50 ft
Storage Chamber			

Subsection: Storage Chamber System
Label: PO-1 (UG Basin)

Return Event: 1 years
Storm Event: WQ

Storage Chamber

Storage Chamber Type	Circular	Wall Thickness	3.0 in
Storage Multiplier	100.0 %	Nominal Diameter	30.0 in

Subsection: Storage Chamber System
Label: PO-1 (UG Basin)

Return Event: 2 years
Storm Event: 2-yr

Storage Chamber

ID	67	Notes
Label	30" HDPE - 180'	

Storage Chamber

Effective Length	180.00 ft	Manufacturer	
Section Length Varies?	False	Default Spacing	0.50 ft

Storage Chamber

Storage Chamber Type	Circular	Wall Thickness	3.0 in
Storage Multiplier	100.0 %	Nominal Diameter	30.0 in

Storage Chamber (Pond)

Chamber System Invert	562.50 ft
Chamber System Rows	8
Chambers per Row	1
Chamber System Fill Void Space	40.0 %
Chamber System Row Spacing	6.0 in
Chamber System Side Fill	12.0 in
Chamber System Fill Cover Depth	12.0 in
Chamber System Fill Base Depth	0.0 in
Chamber System Fill Side Slope	0.000 H:V
Chamber System End Fill	12.0 in
Chamber System Includes Header?	True
Chamber System Header	30" HDPE - 27.5'
Chambers In Header	1
Chamber System Header Distance	0.00 ft

Chamber System Header

ID	68	Notes
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Subsection: Storage Chamber System
Label: PO-1 (UG Basin)

Return Event: 2 years
Storm Event: 2-yr

Chamber System Header			
Label	30" HDPE - 27.5'		
Storage Chamber			
Effective Length	27.50 ft	Manufacturer	
Section Length Varies?	False	Default Spacing	0.50 ft
Storage Chamber			
Storage Chamber Type	Circular	Wall Thickness	3.0 in
Storage Multiplier	100.0 %	Nominal Diameter	30.0 in

Subsection: Storage Chamber System
Label: PO-1 (UG Basin)

Return Event: 10 years
Storm Event: 10-yr

Storage Chamber			
ID	67	Notes	
Label	30" HDPE - 180'		
Storage Chamber			
Effective Length	180.00 ft	Manufacturer	
Section Length Varies?	False	Default Spacing	0.50 ft
Storage Chamber			
Storage Chamber Type	Circular	Wall Thickness	3.0 in
Storage Multiplier	100.0 %	Nominal Diameter	30.0 in

Storage Chamber (Pond)	
Chamber System Invert	562.50 ft
Chamber System Rows	8
Chambers per Row	1
Chamber System Fill Void Space	40.0 %
Chamber System Row Spacing	6.0 in
Chamber System Side Fill	12.0 in
Chamber System Fill Cover Depth	12.0 in
Chamber System Fill Base Depth	0.0 in
Chamber System Fill Side Slope	0.000 H:V
Chamber System End Fill	12.0 in
Chamber System Includes Header?	True

Subsection: Storage Chamber System
Label: PO-1 (UG Basin)

Return Event: 10 years
Storm Event: 10-yr

Storage Chamber (Pond)			
Chamber System Header	30" HDPE - 27.5'		
Chambers In Header	1		
Chamber System Header Distance	0.00 ft		
Chamber System Header			
ID	68	Notes	
Label	30" HDPE - 27.5'		
Storage Chamber			
Effective Length	27.50 ft	Manufacturer	
Section Length Varies?	False	Default Spacing	0.50 ft
Storage Chamber			
Storage Chamber Type	Circular	Wall Thickness	3.0 in
Storage Multiplier	100.0 %	Nominal Diameter	30.0 in

Subsection: Storage Chamber System
Label: PO-1 (UG Basin)

Return Event: 25 years
Storm Event: 25-yr

Storage Chamber			
ID	67	Notes	
Label	30" HDPE - 180'		
Storage Chamber			
Effective Length	180.00 ft	Manufacturer	
Section Length Varies?	False	Default Spacing	0.50 ft
Storage Chamber			
Storage Chamber Type	Circular	Wall Thickness	3.0 in
Storage Multiplier	100.0 %	Nominal Diameter	30.0 in
Storage Chamber (Pond)			
Chamber System Invert	562.50 ft		
Chamber System Rows	8		
Chambers per Row	1		
Chamber System Fill Void Space	40.0 %		
Chamber System Row Spacing	6.0 in		
Chamber System Side Fill	12.0 in		

Subsection: Storage Chamber System
Label: PO-1 (UG Basin)

Return Event: 25 years
Storm Event: 25-yr

Storage Chamber (Pond)			
Chamber System Fill Cover Depth	12.0 in		
Chamber System Fill Base Depth	0.0 in		
Chamber System Fill Side Slope	0.000 H:V		
Chamber System End Fill	12.0 in		
Chamber System Includes Header?	True		
Chamber System Header	30" HDPE - 27.5'		
Chambers In Header	1		
Chamber System Header Distance	0.00 ft		
Chamber System Header			
ID	68	Notes	
Label	30" HDPE - 27.5'		
Storage Chamber			
Effective Length	27.50 ft	Manufacturer	
Section Length Varies?	False	Default Spacing	0.50 ft
Storage Chamber			
Storage Chamber Type	Circular	Wall Thickness	3.0 in
Storage Multiplier	100.0 %	Nominal Diameter	30.0 in

Subsection: Storage Chamber System
Label: PO-1 (UG Basin)

Return Event: 100 years
Storm Event: 100-yr

Storage Chamber			
ID	67	Notes	
Label	30" HDPE - 180'		
Storage Chamber			
Effective Length	180.00 ft	Manufacturer	
Section Length Varies?	False	Default Spacing	0.50 ft
Storage Chamber			
Storage Chamber Type	Circular	Wall Thickness	3.0 in
Storage Multiplier	100.0 %	Nominal Diameter	30.0 in
Storage Chamber (Pond)			
Chamber System Invert	562.50 ft		

Subsection: Storage Chamber System
Label: PO-1 (UG Basin)

Return Event: 100 years
Storm Event: 100-yr

Storage Chamber (Pond)			
Chamber System Rows	8		
Chambers per Row	1		
Chamber System Fill Void Space	40.0 %		
Chamber System Row Spacing	6.0 in		
Chamber System Side Fill	12.0 in		
Chamber System Fill Cover Depth	12.0 in		
Chamber System Fill Base Depth	0.0 in		
Chamber System Fill Side Slope	0.000 H:V		
Chamber System End Fill	12.0 in		
Chamber System Includes Header?	True		
Chamber System Header	30" HDPE - 27.5'		
Chambers In Header	1		
Chamber System Header Distance	0.00 ft		
Chamber System Header			
ID	68	Notes	
Label	30" HDPE - 27.5'		
Storage Chamber			
Effective Length	27.50 ft	Manufacturer	
Section Length Varies?	False	Default Spacing	0.50 ft
Storage Chamber			
Storage Chamber Type	Circular	Wall Thickness	3.0 in
Storage Multiplier	100.0 %	Nominal Diameter	30.0 in

Subsection: Outlet Input Data
Label: Composite Outlet Structure - 1

Return Event: 1 years
Storm Event: WQ

Requested Pond Water Surface Elevations	
Minimum (Headwater)	562.50 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	566.50 ft

Outlet Connectivity

Subsection: Outlet Input Data
Label: Composite Outlet Structure - 1

Return Event: 1 years
Storm Event: WQ

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Orifice-Circular	Orifice - 1	Forward	TW	562.50	566.50
Orifice-Circular	Orifice - 2	Forward	TW	563.80	566.50
Orifice-Circular	Orifice - 3	Forward	TW	564.80	566.50
Tailwater Settings	Tailwater			(N/A)	(N/A)

Subsection: Outlet Input Data

Label: Composite Outlet Structure - 1

Return Event: 1 years

Storm Event: WQ

Structure ID: Orifice - 1	
Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	562.50 ft
Orifice Diameter	4.0 in
Orifice Coefficient	0.60
Structure ID: Orifice - 2	
Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	563.80 ft
Orifice Diameter	10.0 in
Orifice Coefficient	0.60
Structure ID: Orifice - 3	
Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	564.80 ft
Orifice Diameter	12.0 in
Orifice Coefficient	0.60

Subsection: Composite Rating Curve
 Label: Composite Outlet Structure - 1

Return Event: 1 years
 Storm Event: WQ

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft ³ /s)	Tailwater Elevation (ft)	Convergence Error (ft)
562.50	0.00	563.15	0.00
563.00	0.00	563.15	0.00
563.50	0.25	563.15	0.00
563.80	0.34	563.15	0.00
564.00	0.51	563.15	0.00
564.50	1.71	563.15	0.00
564.80	2.54	563.15	0.00
565.00	3.03	563.15	0.00
565.50	5.03	563.15	0.00
566.00	7.38	563.15	0.00
566.50	8.88	563.15	0.00

Contributing Structures

Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2 + Orifice - 3
Orifice - 1 + Orifice - 2 + Orifice - 3
Orifice - 1 + Orifice - 2 + Orifice - 3
Orifice - 1 + Orifice - 2 + Orifice - 3

Subsection: Outlet Input Data
Label: Composite Outlet Structure - 1

Return Event: 2 years
Storm Event: 2-yr

Requested Pond Water Surface Elevations

Minimum (Headwater)	562.50 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	566.50 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Orifice-Circular	Orifice - 1	Forward	TW	562.50	566.50
Orifice-Circular	Orifice - 2	Forward	TW	563.80	566.50
Orifice-Circular	Orifice - 3	Forward	TW	564.80	566.50
Tailwater Settings	Tailwater			(N/A)	(N/A)

Subsection: Outlet Input Data

Label: Composite Outlet Structure - 1

Return Event: 2 years

Storm Event: 2-yr

Structure ID: Orifice - 1	
Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	562.50 ft
Orifice Diameter	4.0 in
Orifice Coefficient	0.60
Structure ID: Orifice - 2	
Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	563.80 ft
Orifice Diameter	10.0 in
Orifice Coefficient	0.60
Structure ID: Orifice - 3	
Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	564.80 ft
Orifice Diameter	12.0 in
Orifice Coefficient	0.60

Subsection: Composite Rating Curve
 Label: Composite Outlet Structure - 1

Return Event: 2 years
 Storm Event: 2-yr

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft ³ /s)	Tailwater Elevation (ft)	Convergence Error (ft)
562.50	0.00	563.15	0.00
563.00	0.00	563.15	0.00
563.50	0.25	563.15	0.00
563.80	0.34	563.15	0.00
564.00	0.51	563.15	0.00
564.50	1.71	563.15	0.00
564.80	2.54	563.15	0.00
565.00	3.03	563.15	0.00
565.50	5.03	563.15	0.00
566.00	7.38	563.15	0.00
566.50	8.88	563.15	0.00

Contributing Structures

Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2 + Orifice - 3
Orifice - 1 + Orifice - 2 + Orifice - 3
Orifice - 1 + Orifice - 2 + Orifice - 3
Orifice - 1 + Orifice - 2 + Orifice - 3

Subsection: Outlet Input Data
Label: Composite Outlet Structure - 1

Return Event: 10 years
Storm Event: 10-yr

Requested Pond Water Surface Elevations

Minimum (Headwater)	562.50 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	566.50 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Orifice-Circular	Orifice - 1	Forward	TW	562.50	566.50
Orifice-Circular	Orifice - 2	Forward	TW	563.80	566.50
Orifice-Circular	Orifice - 3	Forward	TW	564.80	566.50
Tailwater Settings	Tailwater			(N/A)	(N/A)

Subsection: Outlet Input Data

Label: Composite Outlet Structure - 1

Return Event: 10 years

Storm Event: 10-yr

Structure ID: Orifice - 1	
Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	562.50 ft
Orifice Diameter	4.0 in
Orifice Coefficient	0.60
Structure ID: Orifice - 2	
Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	563.80 ft
Orifice Diameter	10.0 in
Orifice Coefficient	0.60
Structure ID: Orifice - 3	
Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	564.80 ft
Orifice Diameter	12.0 in
Orifice Coefficient	0.60

Subsection: Composite Rating Curve
Label: Composite Outlet Structure - 1

Return Event: 10 years
Storm Event: 10-yr

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft ³ /s)	Tailwater Elevation (ft)	Convergence Error (ft)
562.50	0.00	563.15	0.00
563.00	0.00	563.15	0.00
563.50	0.25	563.15	0.00
563.80	0.34	563.15	0.00
564.00	0.51	563.15	0.00
564.50	1.71	563.15	0.00
564.80	2.54	563.15	0.00
565.00	3.03	563.15	0.00
565.50	5.03	563.15	0.00
566.00	7.38	563.15	0.00
566.50	8.88	563.15	0.00

Contributing Structures

Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2 + Orifice - 3
Orifice - 1 + Orifice - 2 + Orifice - 3
Orifice - 1 + Orifice - 2 + Orifice - 3
Orifice - 1 + Orifice - 2 + Orifice - 3

Subsection: Outlet Input Data
Label: Composite Outlet Structure - 1

Return Event: 25 years
Storm Event: 25-yr

Requested Pond Water Surface Elevations

Minimum (Headwater)	562.50 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	566.50 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Orifice-Circular	Orifice - 1	Forward	TW	562.50	566.50
Orifice-Circular	Orifice - 2	Forward	TW	563.80	566.50
Orifice-Circular	Orifice - 3	Forward	TW	564.80	566.50
Tailwater Settings	Tailwater			(N/A)	(N/A)

Subsection: Outlet Input Data

Label: Composite Outlet Structure - 1

Return Event: 25 years

Storm Event: 25-yr

Structure ID: Orifice - 1	
Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	562.50 ft
Orifice Diameter	4.0 in
Orifice Coefficient	0.60
Structure ID: Orifice - 2	
Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	563.80 ft
Orifice Diameter	10.0 in
Orifice Coefficient	0.60
Structure ID: Orifice - 3	
Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	564.80 ft
Orifice Diameter	12.0 in
Orifice Coefficient	0.60

Subsection: Composite Rating Curve
Label: Composite Outlet Structure - 1

Return Event: 25 years
Storm Event: 25-yr

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft ³ /s)	Tailwater Elevation (ft)	Convergence Error (ft)
562.50	0.00	563.15	0.00
563.00	0.00	563.15	0.00
563.50	0.25	563.15	0.00
563.80	0.34	563.15	0.00
564.00	0.51	563.15	0.00
564.50	1.71	563.15	0.00
564.80	2.54	563.15	0.00
565.00	3.03	563.15	0.00
565.50	5.03	563.15	0.00
566.00	7.38	563.15	0.00
566.50	8.88	563.15	0.00

Contributing Structures

Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2 + Orifice - 3
Orifice - 1 + Orifice - 2 + Orifice - 3
Orifice - 1 + Orifice - 2 + Orifice - 3
Orifice - 1 + Orifice - 2 + Orifice - 3

Subsection: Outlet Input Data
Label: Composite Outlet Structure - 1

Return Event: 100 years
Storm Event: 100-yr

Requested Pond Water Surface Elevations

Minimum (Headwater)	562.50 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	566.50 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Orifice-Circular	Orifice - 1	Forward	TW	562.50	566.50
Orifice-Circular	Orifice - 2	Forward	TW	563.80	566.50
Orifice-Circular	Orifice - 3	Forward	TW	564.80	566.50
Tailwater Settings	Tailwater			(N/A)	(N/A)

Subsection: Outlet Input Data

Label: Composite Outlet Structure - 1

Return Event: 100 years

Storm Event: 100-yr

Structure ID: Orifice - 1	
Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	562.50 ft
Orifice Diameter	4.0 in
Orifice Coefficient	0.60
Structure ID: Orifice - 2	
Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	563.80 ft
Orifice Diameter	10.0 in
Orifice Coefficient	0.60
Structure ID: Orifice - 3	
Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	564.80 ft
Orifice Diameter	12.0 in
Orifice Coefficient	0.60

Subsection: Composite Rating Curve
 Label: Composite Outlet Structure - 1

Return Event: 100 years
 Storm Event: 100-yr

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft ³ /s)	Tailwater Elevation (ft)	Convergence Error (ft)
562.50	0.00	563.15	0.00
563.00	0.00	563.15	0.00
563.50	0.25	563.15	0.00
563.80	0.34	563.15	0.00
564.00	0.51	563.15	0.00
564.50	1.71	563.15	0.00
564.80	2.54	563.15	0.00
565.00	3.03	563.15	0.00
565.50	5.03	563.15	0.00
566.00	7.38	563.15	0.00
566.50	8.88	563.15	0.00

Contributing Structures

Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2
Orifice - 1 + Orifice - 2 + Orifice - 3
Orifice - 1 + Orifice - 2 + Orifice - 3
Orifice - 1 + Orifice - 2 + Orifice - 3
Orifice - 1 + Orifice - 2 + Orifice - 3

Subsection: Diverted Hydrograph
Label: Outlet-2

Return Event: 1 years
Storm Event: WQ

Peak Discharge	0.50 ft ³ /s
Time to Peak	1.75 hours
Hydrograph Volume	0.118 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
0.95	0.00	0.03	0.13	0.24	0.30
1.20	0.34	0.40	0.44	0.46	0.47
1.45	0.48	0.49	0.49	0.50	0.50
1.70	0.50	0.50	0.50	0.49	0.48
1.95	0.47	0.46	0.45	0.44	0.42
2.20	0.40	0.39	0.38	0.36	0.35
2.45	0.34	0.33	0.33	0.32	0.32
2.70	0.32	0.31	0.31	0.30	0.30
2.95	0.30	0.29	0.29	0.28	0.28
3.20	0.28	0.27	0.27	0.27	0.26
3.45	0.26	0.25	0.25	0.25	0.24
3.70	0.24	0.23	0.22	0.22	0.21
3.95	0.21	0.20	0.20	0.19	0.19
4.20	0.18	0.18	0.17	0.17	0.17
4.45	0.16	0.16	0.15	0.15	0.15
4.70	0.14	0.14	0.14	0.13	0.13
4.95	0.13	0.12	0.12	0.12	0.11
5.20	0.11	0.11	0.11	0.10	0.10
5.45	0.10	0.10	0.09	0.09	0.09
5.70	0.09	0.08	0.08	0.08	0.08
5.95	0.08	0.07	0.07	0.07	0.07
6.20	0.07	0.07	0.06	0.06	0.06
6.45	0.06	0.06	0.06	0.05	0.05
6.70	0.05	0.05	0.05	0.05	0.05
6.95	0.05	0.04	0.04	0.04	0.04
7.20	0.04	0.04	0.04	0.04	0.04
7.45	0.04	0.03	0.03	0.03	0.03
7.70	0.03	0.03	0.03	0.03	0.03
7.95	0.03	0.03	0.03	0.03	0.03
8.20	0.02	0.02	0.02	0.02	0.02
8.45	0.02	0.02	0.02	0.02	0.02
8.70	0.02	0.02	0.02	0.02	0.02
8.95	0.02	0.02	0.02	0.02	0.02
9.20	0.01	0.01	0.01	0.01	0.01
9.45	0.01	0.01	0.01	0.01	0.01
9.70	0.01	0.01	0.01	0.01	0.01
9.95	0.01	0.01	0.01	0.01	0.01
10.20	0.01	0.01	0.01	0.01	0.01
10.45	0.01	0.01	0.01	0.01	0.01

Subsection: Diverted Hydrograph
Label: Outlet-2

Return Event: 1 years
Storm Event: WQ

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
10.70	0.01	0.01	0.01	0.01	0.01
10.95	0.01	0.01	0.01	0.01	0.01
11.20	0.01	0.01	0.01	0.01	0.00
11.45	0.00	0.00	0.00	0.00	0.00
11.70	0.00	0.00	0.00	0.00	0.00
11.95	0.00	0.00	0.00	0.00	0.00
12.20	0.00	0.00	0.00	0.00	0.00
12.45	0.00	0.00	0.00	0.00	0.00
12.70	0.00	0.00	0.00	0.00	0.00
12.95	0.00	0.00	0.00	0.00	0.00
13.20	0.00	0.00	0.00	0.00	0.00
13.45	0.00	0.00	0.00	0.00	0.00
13.70	0.00	0.00	0.00	0.00	0.00
13.95	0.00	0.00	0.00	0.00	0.00
14.20	0.00	0.00	0.00	0.00	0.00
14.45	0.00	0.00	(N/A)	(N/A)	(N/A)

Subsection: Diverted Hydrograph
Label: Outlet-2

Return Event: 2 years
Storm Event: 2-yr

Peak Discharge	2.26 ft ³ /s
Time to Peak	12.30 hours
Hydrograph Volume	0.409 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
7.90	0.00	0.00	0.01	0.01	0.01
8.15	0.01	0.02	0.02	0.02	0.02
8.40	0.03	0.03	0.03	0.04	0.04
8.65	0.04	0.04	0.05	0.05	0.05
8.90	0.06	0.06	0.06	0.07	0.07
9.15	0.07	0.07	0.08	0.08	0.08
9.40	0.09	0.09	0.09	0.10	0.10
9.65	0.10	0.11	0.11	0.11	0.12
9.90	0.12	0.12	0.12	0.13	0.13
10.15	0.13	0.14	0.14	0.15	0.15
10.40	0.15	0.16	0.16	0.16	0.17
10.65	0.17	0.18	0.18	0.19	0.19
10.90	0.19	0.20	0.20	0.21	0.21
11.15	0.22	0.22	0.23	0.24	0.25
11.40	0.25	0.26	0.26	0.27	0.27
11.65	0.28	0.29	0.31	0.33	0.36
11.90	0.43	0.52	0.84	1.22	1.58
12.15	1.93	2.16	2.25	2.26	2.23
12.40	2.17	2.08	1.97	1.85	1.71
12.65	1.61	1.51	1.42	1.34	1.26
12.90	1.19	1.12	1.05	0.99	0.94
13.15	0.88	0.84	0.79	0.75	0.72
13.40	0.68	0.65	0.62	0.60	0.57
13.65	0.55	0.53	0.51	0.50	0.49
13.90	0.49	0.48	0.48	0.47	0.46
14.15	0.46	0.45	0.44	0.44	0.43
14.40	0.42	0.42	0.41	0.41	0.40
14.65	0.40	0.39	0.39	0.38	0.38
14.90	0.37	0.36	0.36	0.35	0.35
15.15	0.35	0.34	0.34	0.34	0.33
15.40	0.33	0.33	0.33	0.33	0.32
15.65	0.32	0.32	0.32	0.32	0.32
15.90	0.31	0.31	0.31	0.31	0.31
16.15	0.30	0.30	0.30	0.30	0.30
16.40	0.29	0.29	0.29	0.29	0.29
16.65	0.28	0.28	0.28	0.28	0.28
16.90	0.27	0.27	0.27	0.27	0.27
17.15	0.26	0.26	0.26	0.26	0.26
17.40	0.25	0.25	0.25	0.25	0.25

Subsection: Diverted Hydrograph
Label: Outlet-2

Return Event: 2 years
Storm Event: 2-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
17.65	0.24	0.24	0.24	0.23	0.23
17.90	0.23	0.22	0.22	0.22	0.21
18.15	0.21	0.21	0.20	0.20	0.20
18.40	0.20	0.19	0.19	0.19	0.19
18.65	0.18	0.18	0.18	0.18	0.18
18.90	0.17	0.17	0.17	0.17	0.16
19.15	0.16	0.16	0.16	0.16	0.16
19.40	0.15	0.15	0.15	0.15	0.15
19.65	0.14	0.14	0.14	0.14	0.14
19.90	0.14	0.14	0.13	0.13	0.13
20.15	0.13	0.13	0.13	0.13	0.12
20.40	0.12	0.12	0.12	0.12	0.12
20.65	0.12	0.12	0.12	0.11	0.11
20.90	0.11	0.11	0.11	0.11	0.11
21.15	0.11	0.11	0.11	0.10	0.10
21.40	0.10	0.10	0.10	0.10	0.10
21.65	0.10	0.10	0.10	0.10	0.10
21.90	0.09	0.09	0.09	0.09	0.09
22.15	0.09	0.09	0.09	0.09	0.09
22.40	0.09	0.09	0.09	0.09	0.09
22.65	0.08	0.08	0.08	0.08	0.08
22.90	0.08	0.08	0.08	0.08	0.08
23.15	0.08	0.08	0.08	0.08	0.08
23.40	0.08	0.08	0.07	0.07	0.07
23.65	0.07	0.07	0.07	0.07	0.07
23.90	0.07	0.07	0.07	(N/A)	(N/A)

Subsection: Diverted Hydrograph
Label: Outlet-2

Return Event: 10 years
Storm Event: 10-yr

Peak Discharge	4.69 ft ³ /s
Time to Peak	12.20 hours
Hydrograph Volume	0.631 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
6.25	0.00	0.00	0.01	0.01	0.01
6.50	0.01	0.02	0.02	0.02	0.02
6.75	0.03	0.03	0.03	0.04	0.04
7.00	0.04	0.04	0.05	0.05	0.05
7.25	0.05	0.06	0.06	0.06	0.06
7.50	0.07	0.07	0.07	0.07	0.08
7.75	0.08	0.08	0.08	0.09	0.09
8.00	0.09	0.09	0.10	0.10	0.10
8.25	0.10	0.11	0.11	0.11	0.12
8.50	0.12	0.12	0.13	0.13	0.13
8.75	0.13	0.14	0.14	0.14	0.15
9.00	0.15	0.15	0.16	0.16	0.17
9.25	0.17	0.17	0.18	0.18	0.18
9.50	0.19	0.19	0.20	0.20	0.20
9.75	0.21	0.21	0.22	0.22	0.22
10.00	0.23	0.23	0.24	0.24	0.24
10.25	0.25	0.25	0.25	0.26	0.26
10.50	0.26	0.27	0.27	0.27	0.28
10.75	0.28	0.28	0.29	0.29	0.29
11.00	0.30	0.30	0.31	0.31	0.32
11.25	0.32	0.33	0.33	0.34	0.36
11.50	0.38	0.41	0.44	0.47	0.54
11.75	0.70	0.88	1.09	1.31	1.58
12.00	2.05	2.64	3.35	4.37	4.69
12.25	4.54	4.22	3.85	3.47	3.09
12.50	2.91	2.74	2.57	2.37	2.19
12.75	2.02	1.87	1.74	1.64	1.55
13.00	1.46	1.38	1.31	1.24	1.17
13.25	1.12	1.06	1.01	0.97	0.93
13.50	0.89	0.85	0.82	0.79	0.76
13.75	0.73	0.71	0.68	0.66	0.64
14.00	0.62	0.60	0.59	0.57	0.55
14.25	0.54	0.52	0.51	0.50	0.50
14.50	0.50	0.49	0.49	0.48	0.48
14.75	0.47	0.47	0.47	0.46	0.46
15.00	0.45	0.45	0.44	0.44	0.43
15.25	0.43	0.43	0.42	0.42	0.41
15.50	0.41	0.40	0.40	0.39	0.39
15.75	0.38	0.38	0.37	0.37	0.36

Subsection: Diverted Hydrograph
Label: Outlet-2

Return Event: 10 years
Storm Event: 10-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
16.00	0.36	0.36	0.35	0.35	0.34
16.25	0.34	0.34	0.33	0.33	0.33
16.50	0.33	0.33	0.33	0.32	0.32
16.75	0.32	0.32	0.32	0.32	0.31
17.00	0.31	0.31	0.31	0.31	0.31
17.25	0.30	0.30	0.30	0.30	0.30
17.50	0.30	0.29	0.29	0.29	0.29
17.75	0.29	0.29	0.28	0.28	0.28
18.00	0.28	0.28	0.27	0.27	0.27
18.25	0.27	0.27	0.27	0.26	0.26
18.50	0.26	0.26	0.26	0.26	0.25
18.75	0.25	0.25	0.25	0.25	0.24
19.00	0.24	0.24	0.23	0.23	0.23
19.25	0.23	0.22	0.22	0.22	0.22
19.50	0.21	0.21	0.21	0.21	0.20
19.75	0.20	0.20	0.20	0.20	0.19
20.00	0.19	0.19	0.19	0.19	0.18
20.25	0.18	0.18	0.18	0.18	0.18
20.50	0.17	0.17	0.17	0.17	0.17
20.75	0.17	0.17	0.16	0.16	0.16
21.00	0.16	0.16	0.16	0.16	0.15
21.25	0.15	0.15	0.15	0.15	0.15
21.50	0.15	0.15	0.14	0.14	0.14
21.75	0.14	0.14	0.14	0.14	0.14
22.00	0.14	0.13	0.13	0.13	0.13
22.25	0.13	0.13	0.13	0.13	0.13
22.50	0.13	0.12	0.12	0.12	0.12
22.75	0.12	0.12	0.12	0.12	0.12
23.00	0.12	0.12	0.12	0.11	0.11
23.25	0.11	0.11	0.11	0.11	0.11
23.50	0.11	0.11	0.11	0.11	0.11
23.75	0.11	0.10	0.10	0.10	0.10
24.00	0.10	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Diverted Hydrograph
Label: Outlet-2

Return Event: 25 years
Storm Event: 25-yr

Peak Discharge	7.06 ft ³ /s
Time to Peak	12.20 hours
Hydrograph Volume	0.844 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
5.10	0.00	0.00	0.00	0.01	0.01
5.35	0.01	0.02	0.02	0.02	0.03
5.60	0.03	0.03	0.03	0.04	0.04
5.85	0.04	0.04	0.05	0.05	0.05
6.10	0.05	0.06	0.06	0.06	0.06
6.35	0.07	0.07	0.07	0.07	0.08
6.60	0.08	0.08	0.08	0.09	0.09
6.85	0.09	0.09	0.10	0.10	0.10
7.10	0.10	0.11	0.11	0.11	0.11
7.35	0.12	0.12	0.12	0.13	0.13
7.60	0.13	0.13	0.14	0.14	0.14
7.85	0.14	0.15	0.15	0.15	0.16
8.10	0.16	0.16	0.16	0.17	0.17
8.35	0.17	0.18	0.18	0.18	0.19
8.60	0.19	0.19	0.20	0.20	0.21
8.85	0.21	0.21	0.22	0.22	0.23
9.10	0.23	0.24	0.24	0.24	0.25
9.35	0.25	0.25	0.26	0.26	0.26
9.60	0.26	0.27	0.27	0.27	0.28
9.85	0.28	0.28	0.28	0.29	0.29
10.10	0.29	0.30	0.30	0.30	0.31
10.35	0.31	0.32	0.32	0.32	0.33
10.60	0.33	0.34	0.35	0.36	0.38
10.85	0.39	0.40	0.42	0.43	0.44
11.10	0.46	0.47	0.49	0.51	0.56
11.35	0.61	0.66	0.71	0.77	0.82
11.60	0.90	1.00	1.13	1.30	1.50
11.85	1.74	2.07	2.49	3.03	4.74
12.10	6.18	7.03	7.06	6.54	5.89
12.35	5.25	4.67	4.13	3.61	3.11
12.60	2.89	2.71	2.55	2.37	2.21
12.85	2.06	1.93	1.81	1.70	1.61
13.10	1.54	1.46	1.39	1.33	1.28
13.35	1.22	1.17	1.13	1.09	1.05
13.60	1.01	0.98	0.95	0.92	0.89
13.85	0.86	0.83	0.81	0.79	0.77
14.10	0.74	0.72	0.71	0.69	0.67
14.35	0.66	0.64	0.63	0.62	0.60
14.60	0.59	0.58	0.57	0.56	0.55

Subsection: Diverted Hydrograph
Label: Outlet-2

Return Event: 25 years
Storm Event: 25-yr

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.05 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
14.85	0.54	0.53	0.52	0.51	0.51
15.10	0.50	0.50	0.50	0.49	0.49
15.35	0.49	0.48	0.48	0.48	0.47
15.60	0.47	0.46	0.46	0.45	0.45
15.85	0.45	0.44	0.44	0.43	0.43
16.10	0.42	0.42	0.41	0.41	0.40
16.35	0.40	0.39	0.39	0.39	0.38
16.60	0.38	0.37	0.37	0.36	0.36
16.85	0.36	0.35	0.35	0.35	0.34
17.10	0.34	0.34	0.34	0.33	0.33
17.35	0.33	0.33	0.33	0.33	0.33
17.60	0.32	0.32	0.32	0.32	0.32
17.85	0.32	0.31	0.31	0.31	0.31
18.10	0.31	0.31	0.30	0.30	0.30
18.35	0.30	0.30	0.30	0.29	0.29
18.60	0.29	0.29	0.29	0.29	0.28
18.85	0.28	0.28	0.28	0.28	0.28
19.10	0.28	0.27	0.27	0.27	0.27
19.35	0.27	0.27	0.27	0.26	0.26
19.60	0.26	0.26	0.26	0.26	0.26
19.85	0.25	0.25	0.25	0.25	0.25
20.10	0.25	0.24	0.24	0.24	0.24
20.35	0.23	0.23	0.23	0.23	0.23
20.60	0.22	0.22	0.22	0.22	0.22
20.85	0.21	0.21	0.21	0.21	0.21
21.10	0.20	0.20	0.20	0.20	0.20
21.35	0.20	0.19	0.19	0.19	0.19
21.60	0.19	0.19	0.19	0.18	0.18
21.85	0.18	0.18	0.18	0.18	0.18
22.10	0.17	0.17	0.17	0.17	0.17
22.35	0.17	0.17	0.17	0.16	0.16
22.60	0.16	0.16	0.16	0.16	0.16
22.85	0.16	0.15	0.15	0.15	0.15
23.10	0.15	0.15	0.15	0.15	0.15
23.35	0.15	0.14	0.14	0.14	0.14
23.60	0.14	0.14	0.14	0.14	0.14
23.85	0.14	0.13	0.13	0.13	(N/A)

Subsection: Diverted Hydrograph
Label: Outlet-2

Return Event: 100 years
Storm Event: 100-yr

Peak Discharge	8.65 ft ³ /s
Time to Peak	12.20 hours
Hydrograph Volume	1.052 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
4.35	0.00	0.00	0.01	0.01	0.01
4.60	0.02	0.02	0.02	0.03	0.03
4.85	0.03	0.04	0.04	0.04	0.04
5.10	0.05	0.05	0.05	0.06	0.06
5.35	0.06	0.06	0.07	0.07	0.07
5.60	0.08	0.08	0.08	0.08	0.09
5.85	0.09	0.09	0.09	0.10	0.10
6.10	0.10	0.10	0.11	0.11	0.11
6.35	0.11	0.12	0.12	0.12	0.12
6.60	0.13	0.13	0.13	0.13	0.14
6.85	0.14	0.14	0.14	0.15	0.15
7.10	0.15	0.16	0.16	0.16	0.16
7.35	0.17	0.17	0.17	0.18	0.18
7.60	0.18	0.19	0.19	0.19	0.19
7.85	0.20	0.20	0.20	0.21	0.21
8.10	0.21	0.22	0.22	0.22	0.23
8.35	0.23	0.23	0.24	0.24	0.25
8.60	0.25	0.25	0.25	0.26	0.26
8.85	0.26	0.27	0.27	0.27	0.27
9.10	0.28	0.28	0.28	0.29	0.29
9.35	0.29	0.30	0.30	0.30	0.31
9.60	0.31	0.31	0.32	0.32	0.33
9.85	0.33	0.33	0.34	0.35	0.36
10.10	0.37	0.38	0.39	0.41	0.42
10.35	0.43	0.44	0.45	0.47	0.48
10.60	0.49	0.51	0.54	0.58	0.61
10.85	0.64	0.67	0.70	0.73	0.75
11.10	0.78	0.81	0.84	0.88	0.92
11.35	0.96	1.00	1.04	1.09	1.15
11.60	1.23	1.34	1.49	1.69	1.99
11.85	2.33	2.70	3.30	4.95	6.81
12.10	8.00	8.62	8.65	8.22	7.64
12.35	6.85	5.98	5.19	4.50	3.86
12.60	3.30	2.95	2.79	2.64	2.49
12.85	2.34	2.20	2.07	1.95	1.84
13.10	1.73	1.65	1.59	1.52	1.46
13.35	1.41	1.36	1.31	1.27	1.23
13.60	1.19	1.15	1.12	1.09	1.06
13.85	1.03	1.00	0.97	0.94	0.92

Subsection: Diverted Hydrograph
Label: Outlet-2

Return Event: 100 years
Storm Event: 100-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
14.10	0.90	0.87	0.85	0.83	0.81
14.35	0.80	0.78	0.76	0.75	0.74
14.60	0.72	0.71	0.70	0.68	0.67
14.85	0.66	0.65	0.64	0.63	0.62
15.10	0.61	0.60	0.59	0.58	0.57
15.35	0.56	0.55	0.54	0.54	0.53
15.60	0.52	0.51	0.50	0.50	0.50
15.85	0.49	0.49	0.49	0.48	0.48
16.10	0.47	0.47	0.47	0.46	0.46
16.35	0.45	0.45	0.45	0.44	0.44
16.60	0.43	0.43	0.43	0.42	0.42
16.85	0.41	0.41	0.41	0.40	0.40
17.10	0.39	0.39	0.39	0.38	0.38
17.35	0.37	0.37	0.37	0.36	0.36
17.60	0.36	0.35	0.35	0.34	0.34
17.85	0.34	0.34	0.34	0.33	0.33
18.10	0.33	0.33	0.33	0.33	0.33
18.35	0.32	0.32	0.32	0.32	0.32
18.60	0.32	0.32	0.31	0.31	0.31
18.85	0.31	0.31	0.31	0.31	0.30
19.10	0.30	0.30	0.30	0.30	0.30
19.35	0.30	0.29	0.29	0.29	0.29
19.60	0.29	0.29	0.29	0.29	0.28
19.85	0.28	0.28	0.28	0.28	0.28
20.10	0.28	0.28	0.27	0.27	0.27
20.35	0.27	0.27	0.27	0.27	0.27
20.60	0.26	0.26	0.26	0.26	0.26
20.85	0.26	0.26	0.26	0.25	0.25
21.10	0.25	0.25	0.25	0.25	0.25
21.35	0.24	0.24	0.24	0.24	0.24
21.60	0.23	0.23	0.23	0.23	0.23
21.85	0.23	0.22	0.22	0.22	0.22
22.10	0.22	0.21	0.21	0.21	0.21
22.35	0.21	0.21	0.21	0.20	0.20
22.60	0.20	0.20	0.20	0.20	0.19
22.85	0.19	0.19	0.19	0.19	0.19
23.10	0.19	0.19	0.18	0.18	0.18
23.35	0.18	0.18	0.18	0.18	0.18
23.60	0.17	0.17	0.17	0.17	0.17
23.85	0.17	0.17	0.17	0.16	(N/A)

Subsection: Elevation-Volume-Flow Table (Pond)
Label: PO-1 (UG Basin)

Return Event: 1 years
Storm Event: WQ

Infiltration	
Infiltration Method (Computed)	No Infiltration
Initial Conditions	
Elevation (Water Surface, Initial)	562.50 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	0.00 ft ³ /s
Flow (Initial Infiltration)	0.00 ft ³ /s
Flow (Initial, Total)	0.00 ft ³ /s
Time Increment	0.05 hours

Elevation (ft)	Outflow (ft ³ /s)	Storage (ac-ft)	Area (acres)	Infiltration (ft ³ /s)	Flow (Total) (ft ³ /s)	2S/t + O (ft ³ /s)
562.50	0.00	0.000	0.00	0.00	0.00	0.00
563.00	0.00	0.023	0.00	0.00	0.00	11.24
563.50	0.25	0.064	0.00	0.00	0.25	31.25
563.80	0.34	0.092	0.00	0.00	0.34	44.75
564.00	0.51	0.110	0.00	0.00	0.51	53.86
564.50	1.71	0.156	0.00	0.00	1.71	77.42
564.80	2.54	0.181	0.00	0.00	2.54	90.10
565.00	3.03	0.197	0.00	0.00	3.03	98.49
565.50	5.03	0.220	0.00	0.00	5.03	111.73
566.00	7.38	0.246	0.00	0.00	7.38	126.21
566.50	8.88	0.271	0.00	0.00	8.88	139.84

Subsection: Level Pool Pond Routing Summary
Label: PO-1 (UG Basin) (IN)

Return Event: 1 years
Storm Event: WQ

Infiltration			
Infiltration Method (Computed)		No Infiltration	
Initial Conditions			
Elevation (Water Surface, Initial)		562.50 ft	
Volume (Initial)		0.000 ac-ft	
Flow (Initial Outlet)		0.00 ft³/s	
Flow (Initial Infiltration)		0.00 ft³/s	
Flow (Initial, Total)		0.00 ft³/s	
Time Increment		0.05 hours	
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)		4.91 ft³/s	Time to Peak (Flow, In)
Flow (Peak Outlet)		0.50 ft³/s	Time to Peak (Flow, Outlet)
			1.10 hours
			1.75 hours
Elevation (Water Surface, Peak)		563.99 ft	
Volume (Peak)		0.109 ac-ft	
Mass Balance (ac-ft)			
Volume (Initial)		0.000 ac-ft	
Volume (Total Inflow)		0.141 ac-ft	
Volume (Total Infiltration)		0.000 ac-ft	
Volume (Total Outlet Outflow)		0.118 ac-ft	
Volume (Retained)		0.023 ac-ft	
Volume (Unrouted)		0.000 ac-ft	
Error (Mass Balance)		0.0 %	

Subsection: Level Pool Pond Routing Summary
Label: PO-1 (UG Basin) (IN)

Return Event: 2 years
Storm Event: 2-yr

Infiltration			
Infiltration Method (Computed)		No Infiltration	
Initial Conditions			
Elevation (Water Surface, Initial)	562.50 ft		
Volume (Initial)	0.000 ac-ft		
Flow (Initial Outlet)	0.00 ft³/s		
Flow (Initial Infiltration)	0.00 ft³/s		
Flow (Initial, Total)	0.00 ft³/s		
Time Increment	0.05 hours		
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)	4.84 ft³/s	Time to Peak (Flow, In)	12.10 hours
Flow (Peak Outlet)	2.26 ft³/s	Time to Peak (Flow, Outlet)	12.30 hours
Peak Conditions			
Elevation (Water Surface, Peak)	564.70 ft		
Volume (Peak)	0.173 ac-ft		
Mass Balance (ac-ft)			
Volume (Initial)	0.000 ac-ft		
Volume (Total Inflow)	0.444 ac-ft		
Volume (Total Infiltration)	0.000 ac-ft		
Volume (Total Outlet Outflow)	0.409 ac-ft		
Volume (Retained)	0.034 ac-ft		
Volume (Unrouted)	0.000 ac-ft		
Error (Mass Balance)	0.1 %		

Subsection: Level Pool Pond Routing Summary
Label: PO-1 (UG Basin) (IN)

Return Event: 10 years
Storm Event: 10-yr

Infiltration			
Infiltration Method (Computed)		No Infiltration	
Initial Conditions			
Elevation (Water Surface, Initial)		562.50 ft	
Volume (Initial)		0.000 ac-ft	
Flow (Initial Outlet)		0.00 ft³/s	
Flow (Initial Infiltration)		0.00 ft³/s	
Flow (Initial, Total)		0.00 ft³/s	
Time Increment		0.05 hours	
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)		7.16 ft³/s	Time to Peak (Flow, In)
Flow (Peak Outlet)		4.69 ft³/s	Time to Peak (Flow, Outlet)
			12.10 hours
			12.20 hours
Peak Conditions			
Elevation (Water Surface, Peak)		565.42 ft	
Volume (Peak)		0.217 ac-ft	
Mass Balance (ac-ft)			
Volume (Initial)		0.000 ac-ft	
Volume (Total Inflow)		0.671 ac-ft	
Volume (Total Infiltration)		0.000 ac-ft	
Volume (Total Outlet Outflow)		0.631 ac-ft	
Volume (Retained)		0.040 ac-ft	
Volume (Unrouted)		0.000 ac-ft	
Error (Mass Balance)		0.1 %	

Subsection: Level Pool Pond Routing Summary
Label: PO-1 (UG Basin) (IN)

Return Event: 25 years
Storm Event: 25-yr

Infiltration			
Infiltration Method (Computed)		No Infiltration	
Initial Conditions			
Elevation (Water Surface, Initial)		562.50 ft	
Volume (Initial)		0.000 ac-ft	
Flow (Initial Outlet)		0.00 ft³/s	
Flow (Initial Infiltration)		0.00 ft³/s	
Flow (Initial, Total)		0.00 ft³/s	
Time Increment		0.05 hours	
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)		9.37 ft³/s	Time to Peak (Flow, In)
Flow (Peak Outlet)		7.06 ft³/s	Time to Peak (Flow, Outlet)
			12.10 hours
			12.20 hours
Peak Conditions			
Elevation (Water Surface, Peak)		565.93 ft	
Volume (Peak)		0.242 ac-ft	
Mass Balance (ac-ft)			
Volume (Initial)		0.000 ac-ft	
Volume (Total Inflow)		0.889 ac-ft	
Volume (Total Infiltration)		0.000 ac-ft	
Volume (Total Outlet Outflow)		0.844 ac-ft	
Volume (Retained)		0.045 ac-ft	
Volume (Unrouted)		-0.001 ac-ft	
Error (Mass Balance)		0.1 %	

Subsection: Level Pool Pond Routing Summary
Label: PO-1 (UG Basin) (IN)

Return Event: 100 years
Storm Event: 100-yr

Infiltration			
Infiltration Method (Computed)		No Infiltration	
Initial Conditions			
Elevation (Water Surface, Initial)		562.50 ft	
Volume (Initial)		0.000 ac-ft	
Flow (Initial Outlet)		0.00 ft³/s	
Flow (Initial Infiltration)		0.00 ft³/s	
Flow (Initial, Total)		0.00 ft³/s	
Time Increment		0.05 hours	
Inflow/Outflow Hydrograph Summary			
Flow (Peak In)		11.53 ft³/s	Time to Peak (Flow, In)
Flow (Peak Outlet)		8.65 ft³/s	Time to Peak (Flow, Outlet)
			12.10 hours
			12.20 hours
Elevation (Water Surface, Peak)		566.42 ft	
Volume (Peak)		0.267 ac-ft	
Mass Balance (ac-ft)			
Volume (Initial)		0.000 ac-ft	
Volume (Total Inflow)		1.102 ac-ft	
Volume (Total Infiltration)		0.000 ac-ft	
Volume (Total Outlet Outflow)		1.052 ac-ft	
Volume (Retained)		0.050 ac-ft	
Volume (Unrouted)		-0.001 ac-ft	
Error (Mass Balance)		0.1 %	

Subsection: Pond Routed Hydrograph (total out)
 Label: PO-1 (UG Basin) (OUT)

Return Event: 1 years
 Storm Event: WQ

Peak Discharge	0.50 ft ³ /s
Time to Peak	1.75 hours
Hydrograph Volume	0.118 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
0.95	0.00	0.03	0.13	0.24	0.30
1.20	0.34	0.40	0.44	0.46	0.47
1.45	0.48	0.49	0.49	0.50	0.50
1.70	0.50	0.50	0.50	0.49	0.48
1.95	0.47	0.46	0.45	0.44	0.42
2.20	0.40	0.39	0.38	0.36	0.35
2.45	0.34	0.33	0.33	0.32	0.32
2.70	0.32	0.31	0.31	0.30	0.30
2.95	0.30	0.29	0.29	0.28	0.28
3.20	0.28	0.27	0.27	0.27	0.26
3.45	0.26	0.25	0.25	0.25	0.24
3.70	0.24	0.23	0.22	0.22	0.21
3.95	0.21	0.20	0.20	0.19	0.19
4.20	0.18	0.18	0.17	0.17	0.17
4.45	0.16	0.16	0.15	0.15	0.15
4.70	0.14	0.14	0.14	0.13	0.13
4.95	0.13	0.12	0.12	0.12	0.11
5.20	0.11	0.11	0.11	0.10	0.10
5.45	0.10	0.10	0.09	0.09	0.09
5.70	0.09	0.08	0.08	0.08	0.08
5.95	0.08	0.07	0.07	0.07	0.07
6.20	0.07	0.07	0.06	0.06	0.06
6.45	0.06	0.06	0.06	0.05	0.05
6.70	0.05	0.05	0.05	0.05	0.05
6.95	0.05	0.04	0.04	0.04	0.04
7.20	0.04	0.04	0.04	0.04	0.04
7.45	0.04	0.03	0.03	0.03	0.03
7.70	0.03	0.03	0.03	0.03	0.03
7.95	0.03	0.03	0.03	0.03	0.03
8.20	0.02	0.02	0.02	0.02	0.02
8.45	0.02	0.02	0.02	0.02	0.02
8.70	0.02	0.02	0.02	0.02	0.02
8.95	0.02	0.02	0.02	0.02	0.02
9.20	0.01	0.01	0.01	0.01	0.01
9.45	0.01	0.01	0.01	0.01	0.01
9.70	0.01	0.01	0.01	0.01	0.01
9.95	0.01	0.01	0.01	0.01	0.01
10.20	0.01	0.01	0.01	0.01	0.01
10.45	0.01	0.01	0.01	0.01	0.01

Subsection: Pond Routed Hydrograph (total out)
 Label: PO-1 (UG Basin) (OUT)

Return Event: 1 years
 Storm Event: WQ

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
10.70	0.01	0.01	0.01	0.01	0.01
10.95	0.01	0.01	0.01	0.01	0.01
11.20	0.01	0.01	0.01	0.01	0.00
11.45	0.00	0.00	0.00	0.00	0.00
11.70	0.00	0.00	0.00	0.00	0.00
11.95	0.00	0.00	0.00	0.00	0.00
12.20	0.00	0.00	0.00	0.00	0.00
12.45	0.00	0.00	0.00	0.00	0.00
12.70	0.00	0.00	0.00	0.00	0.00
12.95	0.00	0.00	0.00	0.00	0.00
13.20	0.00	0.00	0.00	0.00	0.00
13.45	0.00	0.00	0.00	0.00	0.00
13.70	0.00	0.00	0.00	0.00	0.00
13.95	0.00	0.00	0.00	0.00	0.00
14.20	0.00	0.00	0.00	0.00	0.00
14.45	0.00	0.00	(N/A)	(N/A)	(N/A)

Subsection: Pond Routed Hydrograph (total out)
 Label: PO-1 (UG Basin) (OUT)

Return Event: 2 years
 Storm Event: 2-yr

Peak Discharge	2.26 ft ³ /s
Time to Peak	12.30 hours
Hydrograph Volume	0.409 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
7.90	0.00	0.00	0.01	0.01	0.01
8.15	0.01	0.02	0.02	0.02	0.02
8.40	0.03	0.03	0.03	0.04	0.04
8.65	0.04	0.04	0.05	0.05	0.05
8.90	0.06	0.06	0.06	0.07	0.07
9.15	0.07	0.07	0.08	0.08	0.08
9.40	0.09	0.09	0.09	0.10	0.10
9.65	0.10	0.11	0.11	0.11	0.12
9.90	0.12	0.12	0.12	0.13	0.13
10.15	0.13	0.14	0.14	0.15	0.15
10.40	0.15	0.16	0.16	0.16	0.17
10.65	0.17	0.18	0.18	0.19	0.19
10.90	0.19	0.20	0.20	0.21	0.21
11.15	0.22	0.22	0.23	0.24	0.25
11.40	0.25	0.26	0.26	0.27	0.27
11.65	0.28	0.29	0.31	0.33	0.36
11.90	0.43	0.52	0.84	1.22	1.58
12.15	1.93	2.16	2.25	2.26	2.23
12.40	2.17	2.08	1.97	1.85	1.71
12.65	1.61	1.51	1.42	1.34	1.26
12.90	1.19	1.12	1.05	0.99	0.94
13.15	0.88	0.84	0.79	0.75	0.72
13.40	0.68	0.65	0.62	0.60	0.57
13.65	0.55	0.53	0.51	0.50	0.49
13.90	0.49	0.48	0.48	0.47	0.46
14.15	0.46	0.45	0.44	0.44	0.43
14.40	0.42	0.42	0.41	0.41	0.40
14.65	0.40	0.39	0.39	0.38	0.38
14.90	0.37	0.36	0.36	0.35	0.35
15.15	0.35	0.34	0.34	0.34	0.33
15.40	0.33	0.33	0.33	0.33	0.32
15.65	0.32	0.32	0.32	0.32	0.32
15.90	0.31	0.31	0.31	0.31	0.31
16.15	0.30	0.30	0.30	0.30	0.30
16.40	0.29	0.29	0.29	0.29	0.29
16.65	0.28	0.28	0.28	0.28	0.28
16.90	0.27	0.27	0.27	0.27	0.27
17.15	0.26	0.26	0.26	0.26	0.26
17.40	0.25	0.25	0.25	0.25	0.25

Subsection: Pond Routed Hydrograph (total out)
 Label: PO-1 (UG Basin) (OUT)

Return Event: 2 years
 Storm Event: 2-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
17.65	0.24	0.24	0.24	0.23	0.23
17.90	0.23	0.22	0.22	0.22	0.21
18.15	0.21	0.21	0.20	0.20	0.20
18.40	0.20	0.19	0.19	0.19	0.19
18.65	0.18	0.18	0.18	0.18	0.18
18.90	0.17	0.17	0.17	0.17	0.16
19.15	0.16	0.16	0.16	0.16	0.16
19.40	0.15	0.15	0.15	0.15	0.15
19.65	0.14	0.14	0.14	0.14	0.14
19.90	0.14	0.14	0.13	0.13	0.13
20.15	0.13	0.13	0.13	0.13	0.12
20.40	0.12	0.12	0.12	0.12	0.12
20.65	0.12	0.12	0.12	0.11	0.11
20.90	0.11	0.11	0.11	0.11	0.11
21.15	0.11	0.11	0.11	0.10	0.10
21.40	0.10	0.10	0.10	0.10	0.10
21.65	0.10	0.10	0.10	0.10	0.10
21.90	0.09	0.09	0.09	0.09	0.09
22.15	0.09	0.09	0.09	0.09	0.09
22.40	0.09	0.09	0.09	0.09	0.09
22.65	0.08	0.08	0.08	0.08	0.08
22.90	0.08	0.08	0.08	0.08	0.08
23.15	0.08	0.08	0.08	0.08	0.08
23.40	0.08	0.08	0.07	0.07	0.07
23.65	0.07	0.07	0.07	0.07	0.07
23.90	0.07	0.07	0.07	(N/A)	(N/A)

Subsection: Pond Routed Hydrograph (total out)
 Label: PO-1 (UG Basin) (OUT)

Return Event: 10 years
 Storm Event: 10-yr

Peak Discharge	4.69 ft ³ /s
Time to Peak	12.20 hours
Hydrograph Volume	0.631 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
6.25	0.00	0.00	0.01	0.01	0.01
6.50	0.01	0.02	0.02	0.02	0.02
6.75	0.03	0.03	0.03	0.04	0.04
7.00	0.04	0.04	0.05	0.05	0.05
7.25	0.05	0.06	0.06	0.06	0.06
7.50	0.07	0.07	0.07	0.07	0.08
7.75	0.08	0.08	0.08	0.09	0.09
8.00	0.09	0.09	0.10	0.10	0.10
8.25	0.10	0.11	0.11	0.11	0.12
8.50	0.12	0.12	0.13	0.13	0.13
8.75	0.13	0.14	0.14	0.14	0.15
9.00	0.15	0.15	0.16	0.16	0.17
9.25	0.17	0.17	0.18	0.18	0.18
9.50	0.19	0.19	0.20	0.20	0.20
9.75	0.21	0.21	0.22	0.22	0.22
10.00	0.23	0.23	0.24	0.24	0.24
10.25	0.25	0.25	0.25	0.26	0.26
10.50	0.26	0.27	0.27	0.27	0.28
10.75	0.28	0.28	0.29	0.29	0.29
11.00	0.30	0.30	0.31	0.31	0.32
11.25	0.32	0.33	0.33	0.34	0.36
11.50	0.38	0.41	0.44	0.47	0.54
11.75	0.70	0.88	1.09	1.31	1.58
12.00	2.05	2.64	3.35	4.37	4.69
12.25	4.54	4.22	3.85	3.47	3.09
12.50	2.91	2.74	2.57	2.37	2.19
12.75	2.02	1.87	1.74	1.64	1.55
13.00	1.46	1.38	1.31	1.24	1.17
13.25	1.12	1.06	1.01	0.97	0.93
13.50	0.89	0.85	0.82	0.79	0.76
13.75	0.73	0.71	0.68	0.66	0.64
14.00	0.62	0.60	0.59	0.57	0.55
14.25	0.54	0.52	0.51	0.50	0.50
14.50	0.50	0.49	0.49	0.48	0.48
14.75	0.47	0.47	0.47	0.46	0.46
15.00	0.45	0.45	0.44	0.44	0.43
15.25	0.43	0.43	0.42	0.42	0.41
15.50	0.41	0.40	0.40	0.39	0.39
15.75	0.38	0.38	0.37	0.37	0.36

Subsection: Pond Routed Hydrograph (total out)
 Label: PO-1 (UG Basin) (OUT)

Return Event: 10 years
 Storm Event: 10-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
16.00	0.36	0.36	0.35	0.35	0.34
16.25	0.34	0.34	0.33	0.33	0.33
16.50	0.33	0.33	0.33	0.32	0.32
16.75	0.32	0.32	0.32	0.32	0.31
17.00	0.31	0.31	0.31	0.31	0.31
17.25	0.30	0.30	0.30	0.30	0.30
17.50	0.30	0.29	0.29	0.29	0.29
17.75	0.29	0.29	0.28	0.28	0.28
18.00	0.28	0.28	0.27	0.27	0.27
18.25	0.27	0.27	0.27	0.26	0.26
18.50	0.26	0.26	0.26	0.26	0.25
18.75	0.25	0.25	0.25	0.25	0.24
19.00	0.24	0.24	0.23	0.23	0.23
19.25	0.23	0.22	0.22	0.22	0.22
19.50	0.21	0.21	0.21	0.21	0.20
19.75	0.20	0.20	0.20	0.20	0.19
20.00	0.19	0.19	0.19	0.19	0.18
20.25	0.18	0.18	0.18	0.18	0.18
20.50	0.17	0.17	0.17	0.17	0.17
20.75	0.17	0.17	0.16	0.16	0.16
21.00	0.16	0.16	0.16	0.16	0.15
21.25	0.15	0.15	0.15	0.15	0.15
21.50	0.15	0.15	0.14	0.14	0.14
21.75	0.14	0.14	0.14	0.14	0.14
22.00	0.14	0.13	0.13	0.13	0.13
22.25	0.13	0.13	0.13	0.13	0.13
22.50	0.13	0.12	0.12	0.12	0.12
22.75	0.12	0.12	0.12	0.12	0.12
23.00	0.12	0.12	0.12	0.11	0.11
23.25	0.11	0.11	0.11	0.11	0.11
23.50	0.11	0.11	0.11	0.11	0.11
23.75	0.11	0.10	0.10	0.10	0.10
24.00	0.10	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Pond Routed Hydrograph (total out)
 Label: PO-1 (UG Basin) (OUT)

Return Event: 25 years
 Storm Event: 25-yr

Peak Discharge	7.06 ft ³ /s
Time to Peak	12.20 hours
Hydrograph Volume	0.844 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
5.10	0.00	0.00	0.00	0.01	0.01
5.35	0.01	0.02	0.02	0.02	0.03
5.60	0.03	0.03	0.03	0.04	0.04
5.85	0.04	0.04	0.05	0.05	0.05
6.10	0.05	0.06	0.06	0.06	0.06
6.35	0.07	0.07	0.07	0.07	0.08
6.60	0.08	0.08	0.08	0.09	0.09
6.85	0.09	0.09	0.10	0.10	0.10
7.10	0.10	0.11	0.11	0.11	0.11
7.35	0.12	0.12	0.12	0.13	0.13
7.60	0.13	0.13	0.14	0.14	0.14
7.85	0.14	0.15	0.15	0.15	0.16
8.10	0.16	0.16	0.16	0.17	0.17
8.35	0.17	0.18	0.18	0.18	0.19
8.60	0.19	0.19	0.20	0.20	0.21
8.85	0.21	0.21	0.22	0.22	0.23
9.10	0.23	0.24	0.24	0.24	0.25
9.35	0.25	0.25	0.26	0.26	0.26
9.60	0.26	0.27	0.27	0.27	0.28
9.85	0.28	0.28	0.28	0.29	0.29
10.10	0.29	0.30	0.30	0.30	0.31
10.35	0.31	0.32	0.32	0.32	0.33
10.60	0.33	0.34	0.35	0.36	0.38
10.85	0.39	0.40	0.42	0.43	0.44
11.10	0.46	0.47	0.49	0.51	0.56
11.35	0.61	0.66	0.71	0.77	0.82
11.60	0.90	1.00	1.13	1.30	1.50
11.85	1.74	2.07	2.49	3.03	4.74
12.10	6.18	7.03	7.06	6.54	5.89
12.35	5.25	4.67	4.13	3.61	3.11
12.60	2.89	2.71	2.55	2.37	2.21
12.85	2.06	1.93	1.81	1.70	1.61
13.10	1.54	1.46	1.39	1.33	1.28
13.35	1.22	1.17	1.13	1.09	1.05
13.60	1.01	0.98	0.95	0.92	0.89
13.85	0.86	0.83	0.81	0.79	0.77
14.10	0.74	0.72	0.71	0.69	0.67
14.35	0.66	0.64	0.63	0.62	0.60
14.60	0.59	0.58	0.57	0.56	0.55

Subsection: Pond Routed Hydrograph (total out)
 Label: PO-1 (UG Basin) (OUT)

Return Event: 25 years
 Storm Event: 25-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
14.85	0.54	0.53	0.52	0.51	0.51
15.10	0.50	0.50	0.50	0.49	0.49
15.35	0.49	0.48	0.48	0.48	0.47
15.60	0.47	0.46	0.46	0.45	0.45
15.85	0.45	0.44	0.44	0.43	0.43
16.10	0.42	0.42	0.41	0.41	0.40
16.35	0.40	0.39	0.39	0.39	0.38
16.60	0.38	0.37	0.37	0.36	0.36
16.85	0.36	0.35	0.35	0.35	0.34
17.10	0.34	0.34	0.34	0.33	0.33
17.35	0.33	0.33	0.33	0.33	0.33
17.60	0.32	0.32	0.32	0.32	0.32
17.85	0.32	0.31	0.31	0.31	0.31
18.10	0.31	0.31	0.30	0.30	0.30
18.35	0.30	0.30	0.30	0.29	0.29
18.60	0.29	0.29	0.29	0.29	0.28
18.85	0.28	0.28	0.28	0.28	0.28
19.10	0.28	0.27	0.27	0.27	0.27
19.35	0.27	0.27	0.27	0.26	0.26
19.60	0.26	0.26	0.26	0.26	0.26
19.85	0.25	0.25	0.25	0.25	0.25
20.10	0.25	0.24	0.24	0.24	0.24
20.35	0.23	0.23	0.23	0.23	0.23
20.60	0.22	0.22	0.22	0.22	0.22
20.85	0.21	0.21	0.21	0.21	0.21
21.10	0.20	0.20	0.20	0.20	0.20
21.35	0.20	0.19	0.19	0.19	0.19
21.60	0.19	0.19	0.19	0.18	0.18
21.85	0.18	0.18	0.18	0.18	0.18
22.10	0.17	0.17	0.17	0.17	0.17
22.35	0.17	0.17	0.17	0.16	0.16
22.60	0.16	0.16	0.16	0.16	0.16
22.85	0.16	0.15	0.15	0.15	0.15
23.10	0.15	0.15	0.15	0.15	0.15
23.35	0.15	0.14	0.14	0.14	0.14
23.60	0.14	0.14	0.14	0.14	0.14
23.85	0.14	0.13	0.13	0.13	(N/A)

Subsection: Pond Routed Hydrograph (total out)
 Label: PO-1 (UG Basin) (OUT)

Return Event: 100 years
 Storm Event: 100-yr

Peak Discharge	8.65 ft ³ /s
Time to Peak	12.20 hours
Hydrograph Volume	1.052 ac-ft

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
4.35	0.00	0.00	0.01	0.01	0.01
4.60	0.02	0.02	0.02	0.03	0.03
4.85	0.03	0.04	0.04	0.04	0.04
5.10	0.05	0.05	0.05	0.06	0.06
5.35	0.06	0.06	0.07	0.07	0.07
5.60	0.08	0.08	0.08	0.08	0.09
5.85	0.09	0.09	0.09	0.10	0.10
6.10	0.10	0.10	0.11	0.11	0.11
6.35	0.11	0.12	0.12	0.12	0.12
6.60	0.13	0.13	0.13	0.13	0.14
6.85	0.14	0.14	0.14	0.15	0.15
7.10	0.15	0.16	0.16	0.16	0.16
7.35	0.17	0.17	0.17	0.18	0.18
7.60	0.18	0.19	0.19	0.19	0.19
7.85	0.20	0.20	0.20	0.21	0.21
8.10	0.21	0.22	0.22	0.22	0.23
8.35	0.23	0.23	0.24	0.24	0.25
8.60	0.25	0.25	0.25	0.26	0.26
8.85	0.26	0.27	0.27	0.27	0.27
9.10	0.28	0.28	0.28	0.29	0.29
9.35	0.29	0.30	0.30	0.30	0.31
9.60	0.31	0.31	0.32	0.32	0.33
9.85	0.33	0.33	0.34	0.35	0.36
10.10	0.37	0.38	0.39	0.41	0.42
10.35	0.43	0.44	0.45	0.47	0.48
10.60	0.49	0.51	0.54	0.58	0.61
10.85	0.64	0.67	0.70	0.73	0.75
11.10	0.78	0.81	0.84	0.88	0.92
11.35	0.96	1.00	1.04	1.09	1.15
11.60	1.23	1.34	1.49	1.69	1.99
11.85	2.33	2.70	3.30	4.95	6.81
12.10	8.00	8.62	8.65	8.22	7.64
12.35	6.85	5.98	5.19	4.50	3.86
12.60	3.30	2.95	2.79	2.64	2.49
12.85	2.34	2.20	2.07	1.95	1.84
13.10	1.73	1.65	1.59	1.52	1.46
13.35	1.41	1.36	1.31	1.27	1.23
13.60	1.19	1.15	1.12	1.09	1.06
13.85	1.03	1.00	0.97	0.94	0.92

Subsection: Pond Routed Hydrograph (total out)
 Label: PO-1 (UG Basin) (OUT)

Return Event: 100 years
 Storm Event: 100-yr

HYDROGRAPH ORDINATES (ft³/s)

Output Time Increment = 0.05 hours

Time on left represents time for first value in each row.

Time (hours)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)	Flow (ft ³ /s)
14.10	0.90	0.87	0.85	0.83	0.81
14.35	0.80	0.78	0.76	0.75	0.74
14.60	0.72	0.71	0.70	0.68	0.67
14.85	0.66	0.65	0.64	0.63	0.62
15.10	0.61	0.60	0.59	0.58	0.57
15.35	0.56	0.55	0.54	0.54	0.53
15.60	0.52	0.51	0.50	0.50	0.50
15.85	0.49	0.49	0.49	0.48	0.48
16.10	0.47	0.47	0.47	0.46	0.46
16.35	0.45	0.45	0.45	0.44	0.44
16.60	0.43	0.43	0.43	0.42	0.42
16.85	0.41	0.41	0.41	0.40	0.40
17.10	0.39	0.39	0.39	0.38	0.38
17.35	0.37	0.37	0.37	0.36	0.36
17.60	0.36	0.35	0.35	0.34	0.34
17.85	0.34	0.34	0.34	0.33	0.33
18.10	0.33	0.33	0.33	0.33	0.33
18.35	0.32	0.32	0.32	0.32	0.32
18.60	0.32	0.32	0.31	0.31	0.31
18.85	0.31	0.31	0.31	0.31	0.30
19.10	0.30	0.30	0.30	0.30	0.30
19.35	0.30	0.29	0.29	0.29	0.29
19.60	0.29	0.29	0.29	0.29	0.28
19.85	0.28	0.28	0.28	0.28	0.28
20.10	0.28	0.28	0.27	0.27	0.27
20.35	0.27	0.27	0.27	0.27	0.27
20.60	0.26	0.26	0.26	0.26	0.26
20.85	0.26	0.26	0.26	0.25	0.25
21.10	0.25	0.25	0.25	0.25	0.25
21.35	0.24	0.24	0.24	0.24	0.24
21.60	0.23	0.23	0.23	0.23	0.23
21.85	0.23	0.22	0.22	0.22	0.22
22.10	0.22	0.21	0.21	0.21	0.21
22.35	0.21	0.21	0.21	0.20	0.20
22.60	0.20	0.20	0.20	0.20	0.19
22.85	0.19	0.19	0.19	0.19	0.19
23.10	0.19	0.19	0.18	0.18	0.18
23.35	0.18	0.18	0.18	0.18	0.18
23.60	0.17	0.17	0.17	0.17	0.17
23.85	0.17	0.17	0.17	0.16	(N/A)

Subsection: Pond Inflow Summary
Label: PO-1 (UG Basin) (IN)

Return Event: 1 years
Storm Event: WQ

Summary for Hydrograph Addition at 'PO-1 (UG Basin)'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1 (DET)

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft ³ /s)
Flow (From)	PDA-1 (DET)	0.141	1.10	4.91
Flow (In)	PO-1 (UG Basin)	0.141	1.10	4.91

Subsection: Pond Inflow Summary
Label: PO-1 (UG Basin) (IN)

Return Event: 2 years
Storm Event: 2-yr

Summary for Hydrograph Addition at 'PO-1 (UG Basin)'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1 (DET)

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft ³ /s)
Flow (From)	PDA-1 (DET)	0.444	12.10	4.84
Flow (In)	PO-1 (UG Basin)	0.444	12.10	4.84

Subsection: Pond Inflow Summary
Label: PO-1 (UG Basin) (IN)

Return Event: 10 years
Storm Event: 10-yr

Summary for Hydrograph Addition at 'PO-1 (UG Basin)'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1 (DET)

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft ³ /s)
Flow (From)	PDA-1 (DET)	0.671	12.10	7.16
Flow (In)	PO-1 (UG Basin)	0.671	12.10	7.16

Subsection: Pond Inflow Summary
Label: PO-1 (UG Basin) (IN)

Return Event: 25 years
Storm Event: 25-yr

Summary for Hydrograph Addition at 'PO-1 (UG Basin)'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1 (DET)

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft ³ /s)
Flow (From)	PDA-1 (DET)	0.889	12.10	9.37
Flow (In)	PO-1 (UG Basin)	0.889	12.10	9.37

Subsection: Pond Inflow Summary
Label: PO-1 (UG Basin) (IN)

Return Event: 100 years
Storm Event: 100-yr

Summary for Hydrograph Addition at 'PO-1 (UG Basin)'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA-1 (DET)

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft ³ /s)
Flow (From)	PDA-1 (DET)	1.102	12.10	11.53
Flow (In)	PO-1 (UG Basin)	1.102	12.10	11.53

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Appendix C

STORMWATER CONVEYANCE CALCULATIONS

Hydrologic & Hydraulic Calculations

Proposed Trailer Parking Lot
Town of Hackettstown, Warren County, New Jersey
SCE No. 8917.074

Design Storm: 25 yr

System	Storm Sewer						Rainfall and Runoff Data								Runoff	Conduit Data						Performance	
	From	To	Drainage Area	Individual Area	Accumulated Area	Indiv Impervious Coefficient	Individual Ca	Σ Ca	Time of Concentration				Rainfall Intensity	Q=Cal	Q(Design)	Size	Manning's n	Invert Up	Invert Down	Length	Conduit Slope	100% Full Flow Capacity	Q(Design) vs Q(Capacity)
			[sf]	[acre]	[acre]	--	--	--	Rainfall Frequency	Overland Length	Unmodeled Pipe Length or Gutter	Individual Tc	Controlling Tc										
	Inlet 2	Inlet 3	15,260	0.43	0.43	0.96	0.41	0.41	25			10.0	10.0	6.25	2.58	15	0.012	564.30	563.68	124.0	0.50%	4.95	0.52
	Inlet 3	Inlet 4	13,220	0.27	0.70	0.97	0.26	0.67	25			10.0	10.0	6.25	4.22	18	0.012	563.58	562.93	131.0	0.50%	8.02	0.53
	Inlet 4	Basin	30,657	0.78	1.48	0.98	0.76	1.44	25			10.0	10.0	6.25	8.99	24	0.012	562.83	562.55	50.0	0.56%	18.34	0.49
	Inlet 5	Basin	11,080	0.23	0.23	0.98	0.23	0.23	25			10.0	10.0	6.25	1.41	15	0.012	562.65	562.55	53.0	0.19%	3.04	0.46
	Basin	WQ Structure	0	0.00	N/A	0	0.00	1.66	25			10.0	10.0	6.25	7.06	18	0.012	561.80	561.73	7.0	1.00%	11.38	0.62
	WQ Structure	Outlet	0	0.00	N/A	0	0.00	1.66	25			10.0	10.0	6.25	7.06	18	0.012	561.73	561.65	8.0	1.00%	11.38	0.62
	Existing Inlet	Existing	3,512	0.08	0.08	0	0.00	0.00	25			10.0	10.0	6.25	0.00	15	0.012	0.00	0.00	1.0	0.00%	0.00	0.00

**For proposed 25-year storm out of the UG Basin, please see PondPack Report

Total Drainage Area: 1.77 Acres pl Minimum Tc = 10.0

Appendix D

HYDROLOGIC MODELING DATABASE DATA ENTRY FORM (UG BASIN)

New Jersey Department of Agriculture
Hydrologic Modeling Database – Data Entry Form

Project Site Details

Chpt. 251 Application Number: --

Start Date (if known): --

County: Warren County

Street Address: 700 High Street

Municipality: Town of Hackettstown

Block: 4

Lot: 1

NJDEP Anderson Landuse Code (4 digits):

Landuse description: 1300

Site Centroid Location (NJ State Plane Feet): ¹

Northing: 739045 Easting: 402173

Project Contact Details

Applicant: Mars Incorporated

Address: 700 High Street

Phone: 908-914-5118

Email: matt.baker@effem.com

Post Construction Operation & Maintenance:²

Party Name: Mars Incorporated

Address: 700 High Street

Phone: 908-914-5118

Email: matt.baker@effem.com

Party type: Regional Engineer

New Jersey Department of Agriculture
Hydrologic Modeling Database – Data Entry Form

Basin Details:³

Basin Centroid (NJ State Plane Feet):⁴

Northing: 738905 Easting: 402110

Basin Type: Under Ground Detention Basin

Construction: ☐ excavated ☐ embankment ☒ sub-surface (check one)

Status phase:⁵ Design ☒ As-built ☐

Dam Height: (ft) N/A top width: (ft) N/A

Dam Classification: N/A

Drainage Area(s) to Basin [note- include any bypass areas]⁶

Drainage Area Name	Drainage Area (acres)	Post-Development CN#	Percent Impervious	Time of Concentration (min)
PDA 1 (DET)	1.77 ac.	97.2	83.1%	6 min

Basin Outlet Structure(s)⁷

ID: UG Outlet Structure

End of Pipe Location:⁸ Northing: 738885 Easting: 402060

Discharge Type ⁹ (weir, orifice, etc)	Dimensions (diameter, length)	Elevation (USGS)	Discharge Coefficient ¹⁰	Equation Used ¹¹	
Orifice 1	4"	562.50	0.6	$Q=C_d*A*(2gh)^{1/2}$	(Orifice Equation)
Orifice 2	10"	563.80	0.6	$Q=C_d*A*(2gh)^{1/2}$	(Orifice Equation)
Orifice 3	12"	564.80	0.6	$Q=C_d*A*(2gh)^{1/2}$	(Orifice Equation)

New Jersey Department of Agriculture
Hydrologic Modeling Database – Data Entry Form

Basin Outlet Structure(s)

ID:

N/A

End of Pipe Location: Northing:

Easting:

Discharge Type (weir, orifice, etc)	Dimensions (diameter, length)	Elevation (USGS)	Discharge Coefficient	Equation Used
		N/A		

Basin Stage-Discharge Rating Table¹²

Elevation (USGS Feet)	Storage (Acre-Ft)	Total Outlet Structure Discharge (cfs)
562.50	0.000	0.00
563.00	0.023	0.00
563.50	0.064	0.25
564.00	0.110	0.51
564.50	0.156	1.71
565.00	0.197	3.03
565.50	0.220	5.03
566.00	0.246	7.38
566.50	0.271	8.88

NJDEP BMP Water Quality Structures¹³

Type (rain garden, green roof, seepage pit etc)	Size	Size Units (cu ft, sq ft etc)	Northing (SPF)	Easting (SPF)
WQ MTD	12' x 6'	72 sf	738845	402060

New Jersey Department of Agriculture
Hydrologic Modeling Database – Data Entry Form

Explanatory Notes-

¹ Approximate location of center of site, coordinates in state plane feet

² Indicate who will be responsible for permanent operation and maintenance

³ Additional Basin Detail Pages can be used for more than one basin in a project.

⁴ Approximate location of center of basin, coordinates in state plane feet

⁵ Indicate “design” for basins not yet constructed

⁶ Drainage areas which are modified by construction, but not directed to the basin should still be listed and described

⁷ “Outlet structure” means the control box, outlet headwall, FES etc. This does not refer to an individual control on the structure such as a weir or orifice. There are two tables for more than one outlet structure

⁸ Approximate location of terminal discharge end of basin outfall, coordinates in state plane feet

⁹ Indicate the type of outlet – weir, orifice, hydro brake, etc.

¹⁰ Discharge Coefficient specific to the type of outlet control i.e., 0.6 for circular orifice

¹¹ List the discharge equation for each outlet (weir, orifice etc) used

¹² For basins with dead storage below the primary outlet, indicate 0 cfs discharge until the lowest outlet is reached. Routing table should begin at the lowest basin elevation.

¹³ Describe NJDEP BMP Manual water quality devices such as seepage pits, rain gardens etc. Size is appropriate for device – cubic feet, square feet or linear feet. Location of device using state plane feet coordinates.

Appendix E

GROUNDWATER RECHARGE SPREADSHEET

Annual Groundwater Recharge Analysis (based on GSR-32)

Project Name: Mars - Trailer Parking Lot			
Description: GW Recharge Spreadsheet			
Analysis Date: 03/25/19			

Pre-Developed Conditions				
Land Segment	Area (acres)	TR-55 Land Cover	Soil	Annual Recharge (cu.ft)
1	1.02	Impervious areas	Udorthents	-
2	2.85	Gravel, dirt	Udorthents	-
3	0			
4	0			
5	0			
6	0			
7	0			
8	0			
9	0			
10	0			
11	0			
12	0			
13	0			
14	0			
15	0			
Total =	3.9			

Post-Developed Conditions				
Land Segment	Area (acres)	TR-55 Land Cover	Soil	Annual Recharge (in)
1	2.04	Impervious areas	Udorthents	0.0
2	1.83	Gravel, dirt	Udorthents	0.0
3	0			
4	0			
5	0			
6	0			
7	0			
8	0			
9	0			
10	0			
11	0			
12	0			
13	0			
14	0			
15	0			
Total =	3.9			

Annual Recharge Requirements Calculation ↓				
% of Pre-Developed Annual Recharge to Preserve =				
Post-Development Annual Recharge Deficit=				
Recharge Efficiency Parameters Calculations (area averages)				
RWC= 0.00	(in)	DRWC= 0.00	(in)	
ERWC= 0.00	(in)	EDRWC= 0.00	(in)	
Total Annual Recharge (in)				0.0
Total Annual Recharge (cu.ft)				-
Total Annual Recharge (in)				0.0
Total Annual Recharge (cu.ft)				88,862

Procedure to fill the Pre-Development and Post-Development Conditions Tables

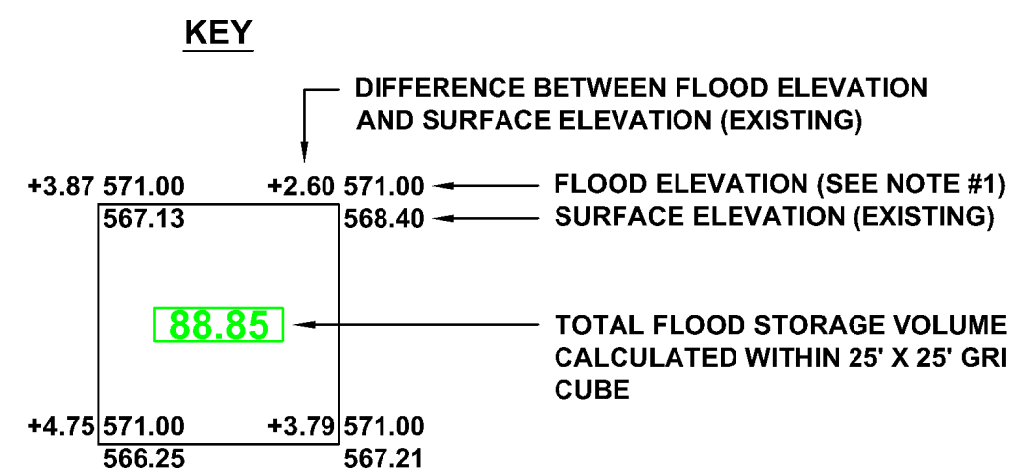
For each land segment, first enter the area, then select TR-55 Land Cover, then select Soil. Start from the top of the table and proceed downward. Don't leave blank rows (with A=0) in between your segment entries. Rows with A=0 will not be displayed or used in calculations. For impervious areas outside of standard lots select "Impervious Areas" as the Land Cover. Soil type for impervious areas are only required if an infiltration facility will be built within these areas.

Appendix F

FHA FLOOD STORAGE VOLUME EXHIBITS



EXISTING FLOOD STORAGE CALCULATIONS
SCALE: 1" = 30'



NOTES:

- FLOOD HAZARD ELEVATION IS 571.
- A PORTION OF THIS SITE LIES IN A FLOOD HAZARD AREA. CERTAIN ACTIVITIES IN FLOOD HAZARD AREAS ARE REGULATED BY THE NJDEP AND SOME ACTIVITIES MAY BE PROHIBITED ON THIS SITE OR MAY FIRST REQUIRE A PERMIT. CONTACT THE LAND USE REGULATION AT (609) 292-0060 FOR MORE INFORMATION PRIOR TO ANY CONSTRUCTION ON-SITE.
- THE FLOOD STORAGE VOLUME CALCULATIONS WERE COMPUTED IN ACCORDANCE WITH THE NJDEP FLOOD HAZARD AREA CONTROL ACT RULES BY UTILIZING THE "GRID METHOD".
- A GRID SIZE OF 25' BY 25' WAS UTILIZED.

NOTICE

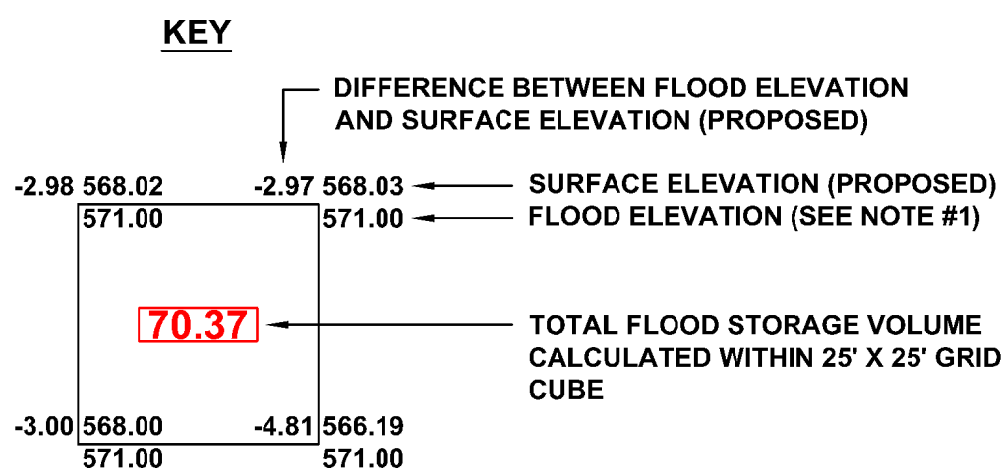
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DESCRIPTION	NO.	DATE:	BY:	CHK:
REVISIONS				



PROPOSED FLOOD STORAGE CALCULATIONS
SCALE: 1" = 30'



FLOOD STORAGE CALCULATIONS:

VOLUME MEASURED WITHIN THE PROJECT AREA ONLY. FILL VOLUME EQUATES TO THE FLOOD STORAGE.

EXISTING FLOOD STORAGE = 7,962.0 CY

PROPOSED FLOOD STORAGE = 8,578.1 CY

NET FLOOD STORAGE = 8,578.1 - 7,962.0 = 616.1

PROPOSED PROJECT INCREASES FLOOD STORAGE 616.1 CY

PRELIMINARY AND FINAL MAJOR SITE PLAN FOR
MARS INCORPORATED
PROPOSED TRAILER PARKING LOT
BLOCK 4, LOT 1
TOWN OF HACKETTSTOWN
COUNTY OF WARREN, STATE OF NEW JERSEY

EXISTING AND PROPOSED
FLOOD STORAGE CALCULATION EXHIBIT

PROJECT NUMBER:
SCE-8719.074

SCALE:
1" = 30'

SHEET 1 OF 1

REVISION

DRAWN BY:
03/28/2019
CHECKED BY:
03/28/2019
CHECKED BY:

DAREN J. PHIL, PE
NJ PROFESSIONAL ENGINEER
LICENSE NO. 24GE03619100

DATE: 03/28/2019

SC SUBURBAN CONSULTING ENGINEERS, INC.
Civil Engineers - Municipal Engineers
Landscape Architects
Planners - Environmentalists - Land Surveyors
96 US Highway 206, Suite 101
Hackettstown, NJ 07936-9733
2101 Hackettstown Road, Suite 101
Hackettstown, NJ 07936-9733

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Appendix G

WATER QUALITY MTDS

Mars Incorporated - Proposed Trailer Parking Lot

Hackettstown, NJ

Information Provided by Engineer (Suburban Consulting Engineers, Inc.):

- Required TSS removal rate = 80%
- Treatment flow rate = 0.50 cfs
- 100-yr Storm bypass flow rate = TBD
- Impervious drainage area = 1.47 acres
- Presiding agency = NJDEP

StormFilter Information and Cartridge Data:

The Stormwater Management StormFilter® is a passive, siphon-actuated, flow-through stormwater filtration system consisting of a precast concrete structure that houses rechargeable, media-filled filter cartridges. The StormFilter works by passing stormwater through the media-filled cartridges, which trap particulates and adsorb pollutants such as dissolved metals, nutrients, and hydrocarbons. **The StormFilter has received final certification from the NJDEP for 80% TSS removal as a stand-alone treatment system.**

- StormFilter cartridge filter media = Perlite
- StormFilter cartridge media height = 27 inches (nominal)
- StormFilter cartridge surface area = 10.61 square feet (nominal)
- StormFilter cartridge specific treatment flow rate = 2.12 gallons/minute per square foot (nominal)
- StormFilter cartridge treatment flow = 22.5 gpm
- **Hydraulic head required: 3.0 feet** (with 27 inch cartridge)
- Minimum physical drop between inlet and outlet pipe = 6 inches

Design Summary:

The StormFilter is sized based on the NJDEP certification, which lists an approved treatment flow rate and maximum impervious acreage limit per cartridge in Table 1. The number of cartridges required based on the impervious drainage area is compared with the number of cartridges required based on the treatment flow rate; the larger number of cartridges governs the sizing.

The StormFilter for this site was sized to provide **11 cartridges** in order to meet the mass load requirement (calculations shown below). To house this number of cartridges, Contech Engineered Solutions recommends a 6' x 12' precast Peak Diversion StormFilter.

$$N_{\text{cartridges hyd.load}} = \frac{Q_{\text{treat}} \times 449 \frac{\text{gpm}}{\text{cfs}}}{Q_{\text{cartridge}}} = \frac{0.50 \text{ cfs} \times 449 \frac{\text{gpm}}{\text{cfs}}}{22.5 \frac{\text{gpm}}{\text{cartridge}}} = 9.97 \Rightarrow (10) \text{ 27" Cartridges}$$

$$N_{\text{cartridges mass load}} = \frac{\text{Area}_{\text{site}}}{\text{Max Area}_{\text{cartridge}}} = \frac{1.47 \text{ acres}}{.136 \frac{\text{acres}}{\text{cartridge}}} = 10.81 \Rightarrow (11) \text{ 27" Cartridges}$$



StormFilter Design Summary

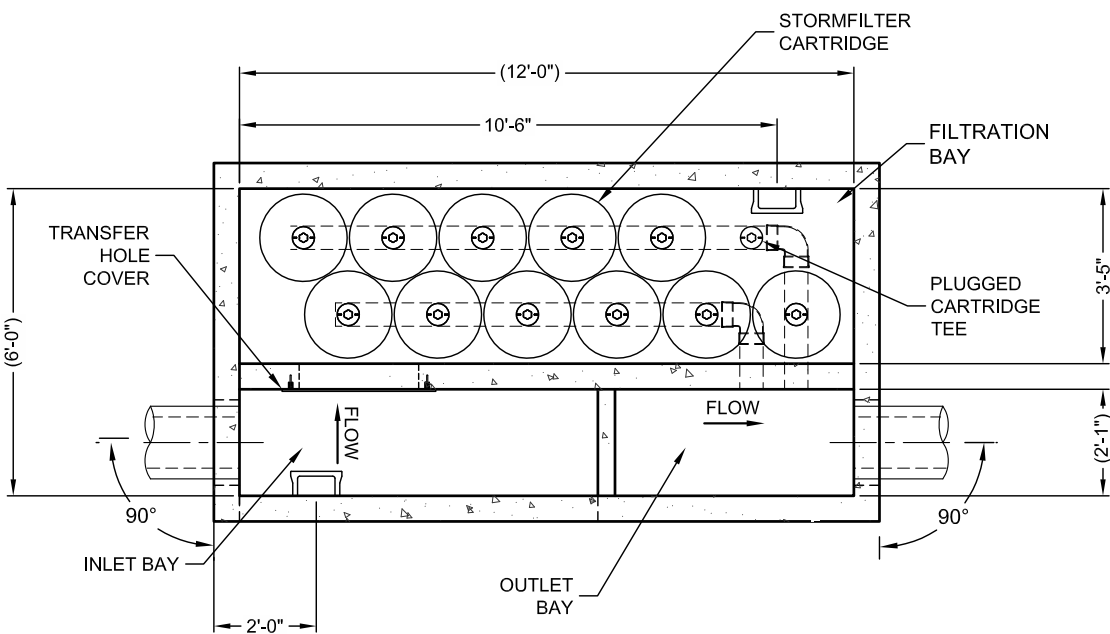
Maintenance:

Maintenance of Stormwater best management practices is required per the New Jersey Administrative Code 7:8-5.8. Recommendations for maintenance are included in chapters 8 & 9 of the New Jersey Stormwater Best Management Practices Manual. To comply with requirements, CONTECH offers a network of Preferred Service Providers that have the capability to perform all necessary inspections, compliance reporting and cleaning services. CONTECH recommends inspecting the system annually and maintaining the system at the recommendation of the annual inspection. Full maintenance is typically required every 24-36 months. Disposal of material should be handled in accordance with local regulations. Please contact CONTECH's Maintenance Department for all questions regarding maintenance at (503) 258-3157 or visit our website at www.conteches.com/maintenance.

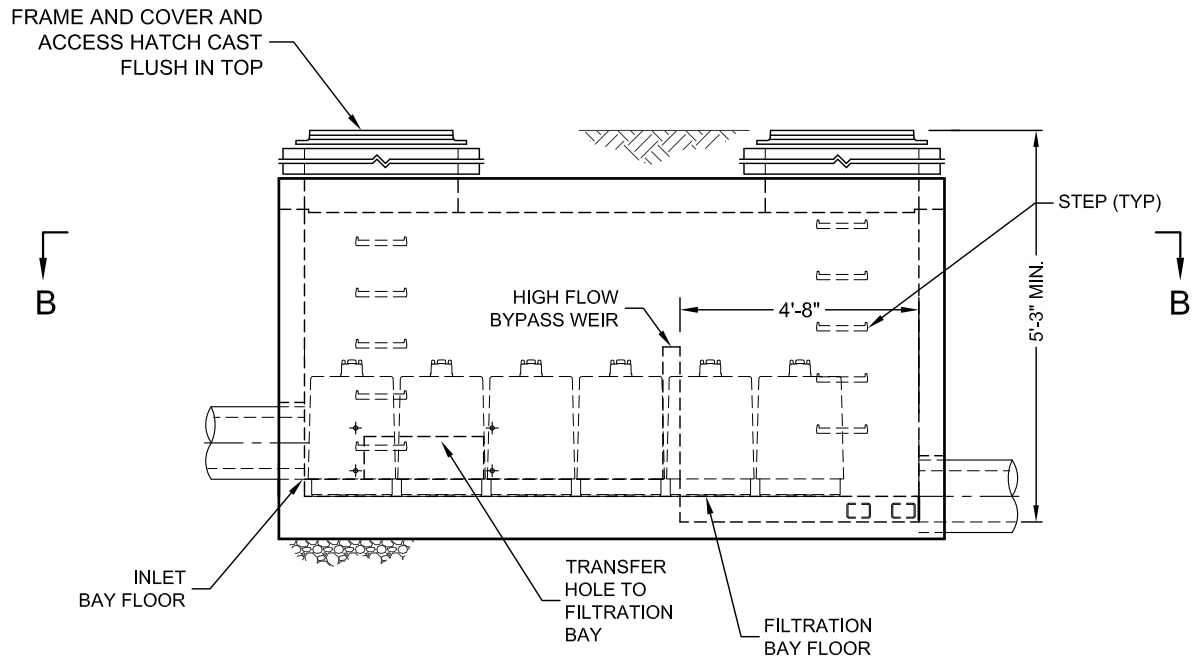
Thank you for the opportunity to present this information to you and your client. If you have any questions, please call me at (410) 609-6140.

Sincerely,

Nicholas T. Busque, EIT
Stormwater Design Engineer
Contech Engineered Solutions LLC



SECTION B-B
VAULT STYLE: 51L



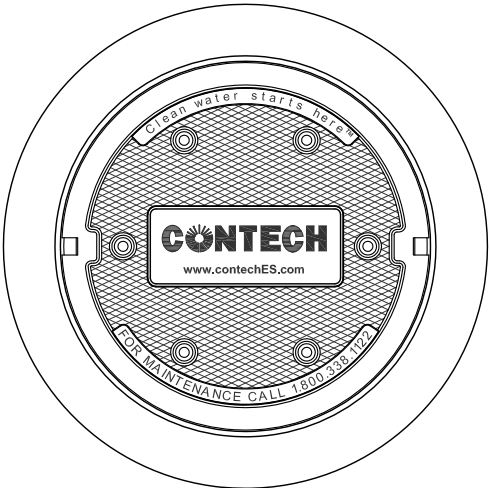
ELEVATION



STORMFILTER DESIGN TABLE

- THE 6' x 12' PEAK DIVERSION STORMFILTER TREATMENT CAPACITY VARIES BY CARTRIDGE COUNT AND LOCALLY APPROVED SURFACE AREA SPECIFIC FLOW RATE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD.
- THE PEAK DIVERSION STORMFILTER IS AVAILABLE IN A LEFT INLET (AS SHOWN) OR RIGHT INLET CONFIGURATION.
- ALL PARTS AND INTERNAL ASSEMBLY PROVIDED BY CONTECH UNLESS OTHERWISE NOTED.

CARTRIDGE HEIGHT	27"		18"		LOW DROP	
SYSTEM HYDRAULIC DROP (H - REQ'D. MIN.)	3.05'		2.3'		1.8'	
HEIGHT OF WEIR (W)	3.00'		2.25'		1.75'	
TREATMENT BY MEDIA SURFACE AREA	2 gpm/ft²	1 gpm/ft²	2 gpm/ft²	1 gpm/ft²	2 gpm/ft²	1 gpm/ft²
CARTRIDGE FLOW RATE (gpm)	22.5	11.25	15	7.5	10	5



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

**SITE SPECIFIC
DATA REQUIREMENTS**

STRUCTURE ID	*		
WATER QUALITY FLOW RATE (cfs)	*		
PEAK FLOW RATE (cfs)	*		
RETURN PERIOD OF PEAK FLOW (yrs)	*		
# OF CARTRIDGES REQUIRED	*		
CARTRIDGE FLOW RATE	*		
MEDIA TYPE (CSF, PERLITE, ZPG)	*		
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE	*	*	*
OUTLET PIPE	*	*	*
INLET BAY RIM ELEVATION		*	
FILTER BAY RIM ELEVATION		*	
ANTI-FLOTATION BALLAST		WIDTH	HEIGHT
		*	*
NOTES/SPECIAL REQUIREMENTS:			
INTERNAL WEIR ELEVATION: XX.XX			

PERFORMANCE SPECIFICATION
FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. **RADIAL MEDIA DEPTH SHALL BE 7-INCHES.** FILTER MEDIA CONTACT TIME SHALL BE AT LEAST **37 SECONDS.** SPECIFIC FLOW RATE SHALL BE **2 GPM/SF (MAXIMUM).** SPECIFIC FLOW RATE IS THE MEASURE OF THE FLOW (GPM) DIVIDED BY THE MEDIA SURFACE CONTACT AREA (SF). MEDIA VOLUMETRIC FLOW RATE SHALL BE **6 GPM/CF OF MEDIA (MAXIMUM).**

- GENERAL NOTES**
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
 2. DIMENSIONS MARKED WITH () ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
 3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH REPRESENTATIVE. www.ContechES.com
 4. STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
 5. STRUCTURE SHALL MEET AASHTO HS-20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 5' AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.

- INSTALLATION NOTES**
- A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
 - B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE (LIFTING CLUTCHES PROVIDED).
 - C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL SECTIONS AND ASSEMBLE STRUCTURE.
 - D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH OUTLET PIPE INVERT WITH OUTLET BAY FLOOR.
 - E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
 - F. CONTRACTOR TO REMOVE THE TRANSFER HOLE COVER WHEN THE SYSTEM IS BROUGHT ONLINE.

CONTECH
ENGINEERED SOLUTIONS LLC
www.ContechES.com
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-526-3999 513-645-7000 513-645-7993 FAX

THE STORMWATER MANAGEMENT STORMFILTER
6' x 12' PEAK DIVERSION STORMFILTER
STANDARD DETAIL



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Bureau of Nonpoint Pollution Control

Division of Water Quality

Mail Code 401-02B

Post Office Box 420

Trenton, New Jersey 08625-0420

609-633-7021 Fax: 609-777-0432

http://www.state.nj.us/dep/dwq/bnpc_home.htm

CHRIS CHRISTIE

Governor

KIM GUADAGNO

Lt. Governor

BOB MARTIN

Commissioner

December 14, 2016

Derek M. Berg
Director - Stormwater Regulatory Management - East
Contech Engineered Solutions LLC
71 US Route 1, Suite F
Scarborough, ME 04074

Re: MTD Laboratory Certification
Stormwater Management StormFilter® (StormFilter) by Contech Engineered Solutions LLC
Off-line Installation

TSS Removal Rate 80%

Dear Mr. Berg:

The Stormwater Management rules under N.J.A.C. 7:8-5.5(b) and 5.7(c) allow the use of manufactured treatment devices (MTDs) for compliance with the design and performance standards at N.J.A.C. 7:8-5 if the pollutant removal rates have been verified by the New Jersey Corporation for Advanced Technology (NJCAT) and have been certified by the New Jersey Department of Environmental Protection (NJDEP). Contech Engineered Solutions LLC has requested a Laboratory Certification for the StormFilter System.

This project falls under the "Procedure for Obtaining Verification of a Stormwater Manufactured Treatment Device from New Jersey Corporation for Advanced Technology" dated January 25, 2013. The applicable protocol is the "New Jersey Department of Environmental Protection Laboratory Protocol to Assess Total Suspended Solids Removal by a Filtration Manufactured Treatment Device" dated January 25, 2013.

NJCAT verification documents submitted to the NJDEP indicate that the requirements of the aforementioned protocol have been met or exceeded. The NJCAT letter also included a recommended certification TSS removal rate and the required maintenance plan. The NJCAT Verification Report with the Verification Appendix for this device is published online at <http://www.njcat.org/verification-process/technology-verification-database.html>.

The NJDEP certifies the use of the StormFilter System by Contech Engineered Solutions LLC at a TSS removal rate of 80%, when designed, operated and maintained in accordance with the information provided in the Verification Appendix and subject to the following conditions:

1. The maximum treatment flow rate (MTFR) for the manufactured treatment device (MTD) is calculated using the New Jersey Water Quality Design Storm (1.25 inches in 2 hrs) in N.J.A.C. 7:8-5.5. The MTFR is calculated based on a verified loading rate of 2.12 gpm/sf of effective filtration treatment area.
2. The StormFilter System shall be installed using the same configuration as the unit tested by NJCAT, and sized in accordance with the criteria specified in item 6 below.
3. This device cannot be used in series with another MTD or a media filter (such as a sand filter), to achieve an enhanced removal rate for total suspended solids (TSS) removal under N.J.A.C. 7:8-5.5.
4. Additional design criteria for MTDs can be found in Chapter 9.6 of the New Jersey Stormwater Best Management Practices (NJ Stormwater BMP) Manual which can be found on-line at www.njstormwater.org.
5. The maintenance plan for a site using this device shall incorporate, at a minimum, the maintenance requirements for the StormFilter, which is attached to this document. However, it is recommended to review the maintenance website at <http://www.conteches.com/DesktopModules/Bring2mind/DMX/Download.aspx?EntryId=2813&PortalId=0&DownloadMethod=attachment> for any changes to the maintenance requirements.
6. Sizing Requirements:

The example below demonstrates the sizing procedure for a StormFilter System.

Example: A 0.25 acre impervious site is to be treated to 80% TSS removal using a StormFilter System. The impervious site runoff (Q) based on the New Jersey Water Quality Design Storm was determined to be 0.79 cfs or 354.58 gpm.

The calculation of the minimum number of cartridges for use in the StormFilter System is based upon both the MTFR and the maximum inflow drainage area. It is necessary to calculate the required cartridges using both methods and to rely on the method that results in the highest minimum number of cartridges determined by the two methods.

Inflow Drainage Area Evaluation:

The drainage area to the StormFilter System in this example is 0.25 acres. Based upon the information in Table 1 below, the following minimum number of cartridges are required in a StormFilter System to treat the impervious area without exceeding the maximum drainage area:

1. Five (5) 12" cartridges,
2. Three (3) 18" cartridges, or
3. Two (2) 27" cartridges

Maximum Treatment Flow Rate (MTFR) Evaluation:

The site runoff (Q) was determined based on the following:

time of concentration = 10 minutes

i=3.2 in/hr (page 5-8, Fig. 5-3 of the NJ Stormwater BMP Manual)

c=0.99 (runoff coefficient for impervious)

$Q=ciA=0.99 \times 3.2 \times 0.25 = 0.79$ cfs = 0.79×448.83 gpm = 354.58 gpm

Based on a flow rate of 354.58 gpm, the following minimum number of cartridges are required in a StormFilter System to treat the impervious area without exceeding the MTFR:

1. Thirty-six (36) 12" cartridges,
2. Twenty-four (24) 18" cartridges, or
3. Sixteen (16) 27" cartridges

The MTFR Evaluation results will be used since that method results in the higher minimum number of cartridges determined by the two methods.

The sizing table corresponding to the available system models are noted below:

TABLE 1 STORMFILTER CARTRIDGE HEIGHTS AND NEW JERSEY TREATMENT CAPACITIES

StormFilter Cartridge Heights and New Jersey Treatment Capacities				
StormFilter Cartridge Height	Filtration Surface Area (sq.ft)	MTFR ¹ (GPM)	Mass Capture Capacity (lbs)	Maximum Allowable Inflow Area ² (acres)
Low Drop (12")	4.71	10	36.3	0.061
18"	7.07	15	54.5	0.09
27"	10.61	22.5	81.8	0.136

Notes:

1. MTFR calculated based on 4.72×10^{-3} cfs/sf (2.12 gpm/sf) of effective filtration treatment area.

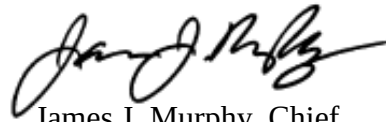
2. Based upon the equation found in the NJDEP Filter Protocol Maximum Inflow Drainage Area (acres) = weight of TSS before 10% loss in MTFR (lbs)/600 lbs/acre of drainage area annually.

Be advised a detailed maintenance plan is mandatory for any project with a Stormwater BMP subject to the Stormwater Management Rules, N.J.A.C. 7:8. The plan must include all of the items identified in Stormwater Management Rules, N.J.A.C. 7:8-5.8. Such items include, but are not limited to, the list of

indication of problems in the system, and training of maintenance personnel. Additional information can be found in Chapter 8: Maintenance and Retrofit of Stormwater Management Measures.

If you have any questions regarding the above information, please contact Shashi Nayak of my office at (609) 633-7021.

Sincerely,

A handwritten signature in black ink, appearing to read "James J. Murphy". The signature is fluid and cursive, with the first name "James" and last name "Murphy" clearly distinguishable.

James J. Murphy, Chief
Bureau of Nonpoint Pollution Control

Attachment: Maintenance Plan

cc: Chron File

Richard Magee, NJCAT

Vince Mazzei, NJDEP - DLUR

Ravi Patraju, NJDEP - BES

Gabriel Mahon, NJDEP - BNPC

Shashi Nayak, NJDEP - BNPC

StormFilter Inspection and Maintenance Procedures



Maintenance Guidelines

The primary purpose of the Stormwater Management StormFilter® is to filter and prevent pollutants from entering our waterways. Like any effective filtration system, periodically these pollutants must be removed to restore the StormFilter to its full efficiency and effectiveness.

Maintenance requirements and frequency are dependent on the pollutant load characteristics of each site. Maintenance activities may be required in the event of a chemical spill or due to excessive sediment loading from site erosion or extreme storms. It is a good practice to inspect the system after major storm events.

Maintenance Procedures

Although there are many effective maintenance options, we believe the following procedure to be efficient, using common equipment and existing maintenance protocols. The following two-step procedure is recommended::

1. Inspection

- Inspection of the vault interior to determine the need for maintenance.

2. Maintenance

- Cartridge replacement
- Sediment removal

Inspection and Maintenance Timing

At least one scheduled inspection should take place per year with maintenance following as warranted.

First, an inspection should be done before the winter season. During the inspection the need for maintenance should be determined and, if disposal during maintenance will be required, samples of the accumulated sediments and media should be obtained.

Second, if warranted, a maintenance (replacement of the filter cartridges and removal of accumulated sediments) should be performed during periods of dry weather.

In addition to these two activities, it is important to check the condition of the StormFilter unit after major storms for potential damage caused by high flows and for high sediment accumulation that may be caused by localized erosion in the drainage area. It may be necessary to adjust the inspection/maintenance schedule depending on the actual operating conditions encountered by the system. In general, inspection activities can be conducted at any time, and maintenance should occur, if warranted, during dryer months in late summer to early fall.

Maintenance Frequency

The primary factor for determining frequency of maintenance for the StormFilter is sediment loading.

A properly functioning system will remove solids from water by trapping particulates in the porous structure of the filter media inside the cartridges. The flow through the system will naturally decrease as more and more particulates are trapped. Eventually the flow through the cartridges will be low enough to require replacement. It may be possible to extend the usable span of the cartridges by removing sediment from upstream trapping devices on a routine as-needed basis, in order to prevent material from being re-suspended and discharged to the StormFilter treatment system.

The average maintenance lifecycle is approximately 1-5 years. Site conditions greatly influence maintenance requirements. StormFilter units located in areas with erosion or active construction may need to be inspected and maintained more often than those with fully stabilized surface conditions.

Regulatory requirements or a chemical spill can shift maintenance timing as well. The maintenance frequency may be adjusted as additional monitoring information becomes available during the inspection program. Areas that develop known problems should be inspected more frequently than areas that demonstrate no problems, particularly after major storms. Ultimately, inspection and maintenance activities should be scheduled based on the historic records and characteristics of an individual StormFilter system or site. It is recommended that the site owner develop a database to properly manage StormFilter inspection and maintenance programs..





Inspection Procedures

The primary goal of an inspection is to assess the condition of the cartridges relative to the level of visual sediment loading as it relates to decreased treatment capacity. It may be desirable to conduct this inspection during a storm to observe the relative flow through the filter cartridges. If the submerged cartridges are severely plugged, then typically large amounts of sediments will be present and very little flow will be discharged from the drainage pipes. If this is the case, then maintenance is warranted and the cartridges need to be replaced.

Warning: In the case of a spill, the worker should abort inspection activities until the proper guidance is obtained. Notify the local hazard control agency and Contech Engineered Solutions immediately.

To conduct an inspection:

Important: Inspection should be performed by a person who is familiar with the operation and configuration of the StormFilter treatment unit.

1. If applicable, set up safety equipment to protect and notify surrounding vehicle and pedestrian traffic.
2. Visually inspect the external condition of the unit and take notes concerning defects/problems.
3. Open the access portals to the vault and allow the system vent.
4. Without entering the vault, visually inspect the inside of the unit, and note accumulations of liquids and solids.
5. Be sure to record the level of sediment build-up on the floor of the vault, in the forebay, and on top of the cartridges. If flow is occurring, note the flow of water per drainage pipe. Record all observations. Digital pictures are valuable for historical documentation.
6. Close and fasten the access portals.
7. Remove safety equipment.
8. If appropriate, make notes about the local drainage area relative to ongoing construction, erosion problems, or high loading of other materials to the system.
9. Discuss conditions that suggest maintenance and make decision as to whether or not maintenance is needed.

Maintenance Decision Tree

The need for maintenance is typically based on results of the inspection. The following Maintenance Decision Tree should be used as a general guide. (Other factors, such as Regulatory Requirements, may need to be considered)

1. Sediment loading on the vault floor.
 - a. If $>4"$ of accumulated sediment, maintenance is required.
2. Sediment loading on top of the cartridge.
 - a. If $>1/4"$ of accumulation, maintenance is required.
3. Submerged cartridges.
 - a. If $>4"$ of static water above cartridge bottom for more than 24 hours after end of rain event, maintenance is required. (Catch basins have standing water in the cartridge bay.)
4. Plugged media.
 - a. If pore space between media granules is absent, maintenance is required.
5. Bypass condition.
 - a. If inspection is conducted during an average rain fall event and StormFilter remains in bypass condition (water over the internal outlet baffle wall or submerged cartridges), maintenance is required.
6. Hazardous material release.
 - a. If hazardous material release (automotive fluids or other) is reported, maintenance is required.
7. Pronounced scum line.
 - a. If pronounced scum line (say $\geq 1/4"$ thick) is present above top cap, maintenance is required.



Maintenance

Depending on the configuration of the particular system, maintenance personnel will be required to enter the vault to perform the maintenance.

Important: If vault entry is required, OSHA rules for confined space entry must be followed.

Filter cartridge replacement should occur during dry weather. It may be necessary to plug the filter inlet pipe if base flows is occurring.

Replacement cartridges can be delivered to the site or customers facility. Information concerning how to obtain the replacement cartridges is available from Contech Engineered Solutions.

Warning: In the case of a spill, the maintenance personnel should abort maintenance activities until the proper guidance is obtained. Notify the local hazard control agency and Contech Engineered Solutions immediately.

To conduct cartridge replacement and sediment removal maintenance:

1. If applicable, set up safety equipment to protect maintenance personnel and pedestrians from site hazards.
2. Visually inspect the external condition of the unit and take notes concerning defects/problems.
3. Open the doors (access portals) to the vault and allow the system to vent.
4. Without entering the vault, give the inside of the unit, including components, a general condition inspection.
5. Make notes about the external and internal condition of the vault. Give particular attention to recording the level of sediment build-up on the floor of the vault, in the forebay, and on top of the internal components.
6. Using appropriate equipment offload the replacement cartridges (up to 150 lbs. each) and set aside.
7. Remove used cartridges from the vault using one of the following methods:

Method 1:

- A. This activity will require that maintenance personnel enter the vault to remove the cartridges from the under drain manifold and place them under the vault opening for lifting (removal). Disconnect each filter cartridge from the underdrain connector by rotating counterclockwise 1/4 of a turn. Roll the loose cartridge, on edge, to a convenient spot beneath the vault access.

Using appropriate hoisting equipment, attach a cable from the boom, crane, or tripod to the loose cartridge. Contact Contech Engineered Solutions for suggested attachment devices.

- B. Remove the used cartridges (up to 250 lbs. each) from the vault.



Important: Care must be used to avoid damaging the cartridges during removal and installation. The cost of repairing components damaged during maintenance will be the responsibility of the owner.

- C. Set the used cartridge aside or load onto the hauling truck.
- D. Continue steps a through c until all cartridges have been removed.

Method 2:

- A. This activity will require that maintenance personnel enter the vault to remove the cartridges from the under drain manifold and place them under the vault opening for lifting (removal). Disconnect each filter cartridge from the underdrain connector by rotating counterclockwise 1/4 of a turn. Roll the loose cartridge, on edge, to a convenient spot beneath the vault access.
- B. Unscrew the cartridge cap.
- C. Remove the cartridge hood and float.
- D. At location under structure access, tip the cartridge on its side.
- E. Empty the cartridge onto the vault floor. Reassemble the empty cartridge.
- F. Set the empty, used cartridge aside or load onto the hauling truck.
- G. Continue steps a through e until all cartridges have been removed.

8. Remove accumulated sediment from the floor of the vault and from the forebay. This can most effectively be accomplished by use of a vacuum truck.
9. Once the sediments are removed, assess the condition of the vault and the condition of the connectors.
10. Using the vacuum truck boom, crane, or tripod, lower and install the new cartridges. Once again, take care not to damage connections.
11. Close and fasten the door.
12. Remove safety equipment.
13. Finally, dispose of the accumulated materials in accordance with applicable regulations. Make arrangements to return the used **empty** cartridges to Contech Engineered Solutions.

Related Maintenance Activities - Performed on an as-needed basis

StormFilter units are often just one of many structures in a more comprehensive stormwater drainage and treatment system.

In order for maintenance of the StormFilter to be successful, it is imperative that all other components be properly maintained. The maintenance/repair of upstream facilities should be carried out prior to StormFilter maintenance activities.

In addition to considering upstream facilities, it is also important to correct any problems identified in the drainage area. Drainage area concerns may include: erosion problems, heavy oil loading, and discharges of inappropriate materials.

Material Disposal

The accumulated sediment found in stormwater treatment and conveyance systems must be handled and disposed of in accordance with regulatory protocols. It is possible for sediments to contain measurable concentrations of heavy metals and organic chemicals (such as pesticides and petroleum products). Areas with the greatest potential for high pollutant loading include industrial areas and heavily traveled roads.

Sediments and water must be disposed of in accordance with all applicable waste disposal regulations. When scheduling maintenance, consideration must be made for the disposal of solid and liquid wastes. This typically requires coordination with a local landfill for solid waste disposal. For liquid waste disposal a number of options are available including a municipal vacuum truck decant facility, local waste water treatment plant or on-site treatment and discharge.



Inspection Report

Date: Personnel:

Location: _____ System Size: _____

System Type: Vault ☐ Cast-In-Place ☐ Linear Catch Basin ☐ Manhole ☐ Other ☐

Sediment Thickness in Forebay: _____ Date: _____

Sediment Depth on Vault Floor: _____

Structural Damage: _____

Estimated Flow from Drainage Pipes (if available): _____

Cartridges Submerged: Yes ☐ No ☐ Depth of Standing Water: _____

StormFilter Maintenance Activities (check off if done and give description)

☐ Trash and Debris Removal: _____

☐ Minor Structural Repairs: _____

☐ Drainage Area Report _____

Excessive Oil Loading: Yes ☐ No ☐ Source: _____

Sediment Accumulation on Pavement: Yes ☐ No ☐ Source: _____

Erosion of Landscaped Areas: Yes ☐ No ☐ Source: _____

Items Needing Further Work: _____

Owners should contact the local public works department and inquire about how the department disposes of their street waste residuals.

Other Comments:

Review the condition reports from the previous inspection visits.

StormFilter Maintenance Report

Date: _____ Personnel: _____

Location: _____ System Size: _____

System Type: Vault ☐ Cast-In-Place ☐ Linear Catch Basin ☐ Manhole ☐ Other ☐

List Safety Procedures and Equipment Used: _____

System Observations

Months in Service: _____

Oil in Forebay (if present): Yes ☐ No ☐

Sediment Depth in Forebay (if present): _____

Sediment Depth on Vault Floor: _____

Structural Damage: _____

Drainage Area Report

Excessive Oil Loading: Yes ☐ No ☐ Source: _____

Sediment Accumulation on Pavement: Yes ☐ No ☐ Source: _____

Erosion of Landscaped Areas: Yes ☐ No ☐ Source: _____

StormFilter Cartridge Replacement Maintenance Activities

Remove Trash and Debris: Yes ☐ No ☐ Details: _____

Replace Cartridges: Yes ☐ No ☐ Details: _____

Sediment Removed: Yes ☐ No ☐ Details: _____

Quantity of Sediment Removed (estimate?): _____

Minor Structural Repairs: Yes ☐ No ☐ Details: _____

Residuals (debris, sediment) Disposal Methods: _____

Notes:



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Support

- Drawings and specifications are available at www.conteches.com.
- Site-specific design support is available from our engineers.

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Appendix H

**GEOTECH REPORT
PREPARED BY FRANK H. LEHR ASSOCIATED, DATED
MARCH 11, 2019**



SUBSURFACE INVESTIGATION
STORM WATER MANAGEMENT FACILITY
NEW TRAILER STORAGE LOT
MARS CHOCOLATE NORTH AMERICA
HACKETTSTOWN, NEW JERSEY



FRANK H. LEHR ASSOCIATES
A NJ Corporation – Certificate of Authorization No. 24GA27950400
CONSULTING CIVIL ENGINEERS

March 11, 2019

Suburban Consulting Engineers, Inc.
96 US Highway 206, Suite 101
Flanders, NJ 07836

ATT: Brian Duddy, PE

RE: Our Project No. 9145
Report of Subsurface Investigation
Storm Water Management Facility
New Trailer Storage Lot
Mars Chocolate North America
Hackettstown, New Jersey

Ladies and Gentlemen:

In accordance with our agreement, we have conducted a program of test pits and permeability testing at the above-reference site. The field work was conducted on January 28, 2019.

We reviewed basic geological data that has been published for this site. This information indicates that the site lies within a soil area containing older glacial ground moraine deposits. Predominant soil types are silty clays, silts and silty sands with variable concentrations of gravel, cobbles and boulders. In our experience, these materials exhibit rather low permeabilities. The glacial soils may be underlain at shallow (less than 10 feet) depths by limestone bedrock. The limestone bedrock can be highly pinnacled with the depth to rock varying greatly over short distances.

A copy of the USDA Soil Map provided for this analysis indicates that the soils at this site are mapped as Udaub (Udorthents-Urban land complex) and considered to be Hydrologic Soil Group D. Since this site is developed, deposits of fill are likely to be present. Historic aerial photos indicate previous regrading, including a possible former detention basin.



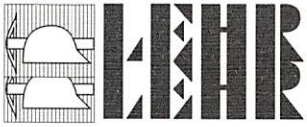
As part of this analysis, 4 test pits (TP-1 to TP-4) excavated to a maximum depth of 13 feet were inspected at 4 requested locations staked by your representative. Existing fill materials were encountered below the surface frost and grass, extending to depths of approximately 3 to 11 feet. The fill generally consisted of medium compact to compact sandy clay loam and loam with significant concentrations of gravel, cobbles and boulders as well as occasional asphalt and concrete fragments. At test pits TP-1 and TP-2, the fill was underlain by the possible original topsoil layer extending to depths of 7.5 to 10.5 feet. The underlying virgin soil generally consisted of sandy clay loam over loamy sands with gravel, cobbles, and boulders. Test pit TP-4 met refusal at a depth of 9 feet on a large boulder or possible limestone bedrock.

Included with this report are logs of the test holes and a location plan. Surface elevations at the test hole locations are based on topographic data provided by others.

Seepage of groundwater was noted at depths ranging from 4 to 5 feet, corresponding to approximate elevations ranging from +560 to +560.5 feet. No mottling was observed above this level. Thus, the estimated seasonal high groundwater elevation at the test pit locations ranges from +560 to +560.5 feet, requiring the bottom of basin to be above elevation +562.5 feet to maintain 2 feet of clearance from the groundwater level.

Five tube permeameter tests were conducted on undisturbed samples taken at depths of 3 to 9 feet in the test pits in accordance with procedures outlined in the NJ Stormwater BMP Manual, Appendix E (Soil Testing Criteria). Test results are included on the attached logs and the grain size analyses conducted on the materials.

The tests indicated permeability rates of $k = 0.006$ inch/hour to $k = 0.022$ inch/hour, all of which correspond to Soils Class K0 which is relatively impervious



and represents a restrictive layer. This also is consistent with Hydrologic Soil Group D as indicated in the published data. Based on the consistent test results and the agreement with the published data, similar conditions are anticipated throughout the project area. Thus, subsurface disposal of storm water does not appear to be feasible at this site due to the relatively impermeable soils above the observed water levels.

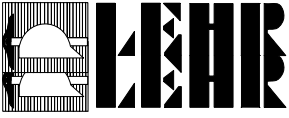
Please contact this office if you have any questions.

Very truly yours,

FRANK H. LEHR ASSOCIATES

Michael J. Sullivan
Professional Engineer
NJ License No. GE 33070

/maf



TEST PIT LOGS

Surface elevations at the test pit locations are based on topographic data provided by others

Test pit logs make no representation or warranties either as to the presence or absence of obstructions other than those actually penetrated by the test pits or as to their nature and extent. Subsurface conditions other than those actually penetrated by the test pits, soil or rock, may vary with regard to elevations, composition, texture, structure, soundness, and other characteristics from the descriptions given in the logs and/or report.

TEST PIT LOG

PROJECT: New Trailer & Storage Lot
LOCATION: M&M Mars – Hackettstown, NJ
INSPECTOR: MJS
WATER DEPTH: Slight to Moderate Seepage @ 4'
 Very Heavy Seepage @ 8.5'

TEST PIT NO.: TP-1
DATE PERFORMED: 01/28/2019
PROJECT NO 9145
GROUND ELEV. 564± Feet

ESTIMATED SEASONAL HIGH GROUNDWATER DEPTH: 4' (approximate Elevation +560 feet)

DEPTH (feet)	SAMPLE DESCRIPTION	REMARKS
	4" Grass & Frost	
1	PROBABLE FILL: Yellowish Brown (10YR 5/4) Sandy Clay Loam w/18% Gravel & occasional cobbles <i>Note: Pocket of Broken Stone @ 4'</i>	Medium Compact
2		
3		
4		
5		
6		
7	Dark Brown (10YR 3/3) Sandy Clay Loam w/15% Gravel & occasional cobbles	Medium Compact Slightly Organic (Possible Topsoil Layer)
8	Yellowish Brown (10YR 5.6) Sandy Clay Loam w/20% Gravel & occasional cobbles	
9	Yellowish Brown (10YR 5/6) Loamy Sand w/40% Gravel & frequent cobbles	
10		
11		
12		
13		
14		
15		

BOTTOM OF TEST PIT @ 11.0'
 (Hole Abandoned Due to Heavy Water Flow)

TUBE PERMEAMETER TEST RESULTS		
DEPTH	PERMEABILITY	CLASS
3'	k = 0.007 inch/hour	K0

TEST PIT LOG

PROJECT: New Trailer & Storage Lot
LOCATION: M&M Mars – Hackettstown, NJ
INSPECTOR: MJS
WATER DEPTH: Slight Seepage @ 4'
 Very Heavy Seepage @ 10.5'

TEST PIT NO.: TP-2
DATE PERFORMED: 01/28/2019
PROJECT NO 9145
GROUND ELEV. 564± Feet

ESTIMATED SEASONAL HIGH GROUNDWATER DEPTH: 4' (approximate Elevation +560 feet)

DEPTH (feet)	SAMPLE DESCRIPTION	REMARKS
	6" Grass & Frost	
1	FILL: Yellowish Brown (10YR 5/6) & Dark Brown (10YR 4/3) Loam w/35% Gravel and occasional asphalt & concrete fragments	Compact
2		
3		
4		
5		
6		
7	FILL: Yellowish Brown (10YR 5/8) Clay Loam w/20% Gravel & occasional concrete fragments	Medium Compact to Compact
8		
9		
10	Greyish Brown (2.5Y 5/2) Clay Loam w/15% Gravel & occasional cobbles	Medium Compact Slightly Organic (Possible Topsoil Layer)
11	Yellowish Brown (10YR 5/6) Loamy Sand w/40% Gravel & frequent cobbles	
12		
13		
14		
15		

BOTTOM OF TEST PIT @ 12.0'
 (Hole Abandoned Due to Heavy Water Flow)

TUBE PERMEAMETER TEST RESULTS		
DEPTH	PERMEABILITY	CLASS
7'	k = 0.006 inch/hour	K0

TEST PIT LOG

PROJECT: New Trailer & Storage Lot
LOCATION: M&M Mars – Hackettstown, NJ
INSPECTOR: MJS
WATER DEPTH: Slight @ 5'
 Heavy Seepage @ 9'

TEST PIT NO.: TP-3
DATE PERFORMED: 01/28/2019
PROJECT NO 9145
GROUND ELEV. 565± Feet

ESTIMATED SEASONAL HIGH GROUNDWATER DEPTH: 5' (approximate Elevation +560 feet)

DEPTH (feet)	SAMPLE DESCRIPTION	REMARKS
	6" Frost	
1	FILL: Dark Yellowish Brown (10YR 4/6) Sandy Clay Loam w/40% Gravel, frequent cobbles & boulders and occasional asphalt fragments	Compact
2		
3		
4		
5		
6		
7	POSSIBLE FILL: Greyish Brown (2.5Y 5/2) Sandy Clay Loam w/24% Gravel & occasional cobble sized Limestone Fragments	Medium Compact
8		
9		
10		
11		
12	Yellowish Brown (10YR 4/6) Loamy Sand w/50% Gravel & frequent cobbles	
13		
14		
15		

BOTTOM OF TEST PIT @ 13.0'
 (Hole Abandoned Due to Heavy Water Flow)

TUBE PERMEAMETER TEST RESULTS		
DEPTH	PERMEABILITY	CLASS
9'	k = 0.018 inch/hour	K0

TEST PIT LOG

PROJECT: New Trailer & Storage Lot
LOCATION: M&M Mars – Hackettstown, NJ
INSPECTOR: MJS
WATER DEPTH: Slight Seepage @ 4.5'
 Moderate Seepage @ 7.5'

TEST PIT NO.: TP-4
DATE PERFORMED: 01/28/2019
PROJECT NO 9145
GROUND ELEV. 565± Feet

ESTIMATED SEASONAL HIGH GROUNDWATER DEPTH: 4.5' (approximate Elevation +560.5 feet)

DEPTH (feet)	SAMPLE DESCRIPTION	REMARKS
	6" Topsoil & Frost	
1	FILL: Dark Yellowish Brown (10YR 4/6) Sandy Clay Loam w/40% Gravel, frequent cobbles & occasional asphalt fragments	Compact
2		
3		
	<i>NOTE: Thin Topsoil Layer @ 3'</i>	
	Yellowish Brown (10YR 5/6) Clay Loam w/6% Gravel	Compact
4		
5	Yellowish Brown (10YR 5/6) Sandy Clay Loam w/14% Gravel and occasional cobbles & boulders	Compact
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

BOTTOM OF TEST PIT @ 9.0'
 (Refusal on Possible Limestone Bedrock or Large Boulder)

TUBE PERMEAMETER TEST RESULTS		
DEPTH	PERMEABILITY	CLASS
4'	k = 0.013 inch/hour	K0
7'	k = 0.022 inch/hour	K0



LABORATORY TEST RESULTS

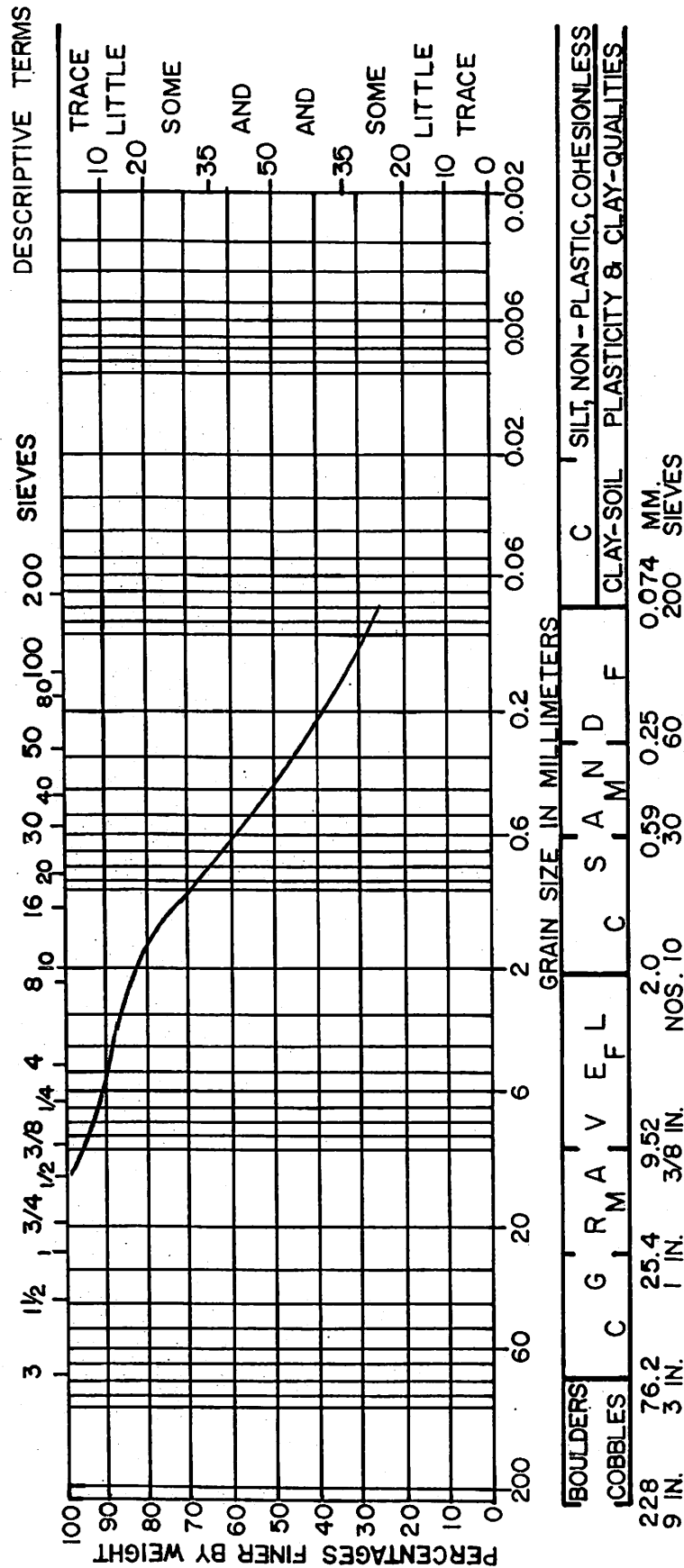


PROJECT: New Trailer & Storage Lot
LOCATION: M&M Mars - Hackettstown, NJ

PROJECT NO.
DATE:

9145
02/07/2019

GRAIN SIZE ANALYSIS



IDENTIFICATION AND DESCRIPTION OF SOILS

TEST HOLE: TP-1

DEPTH: 3 feet

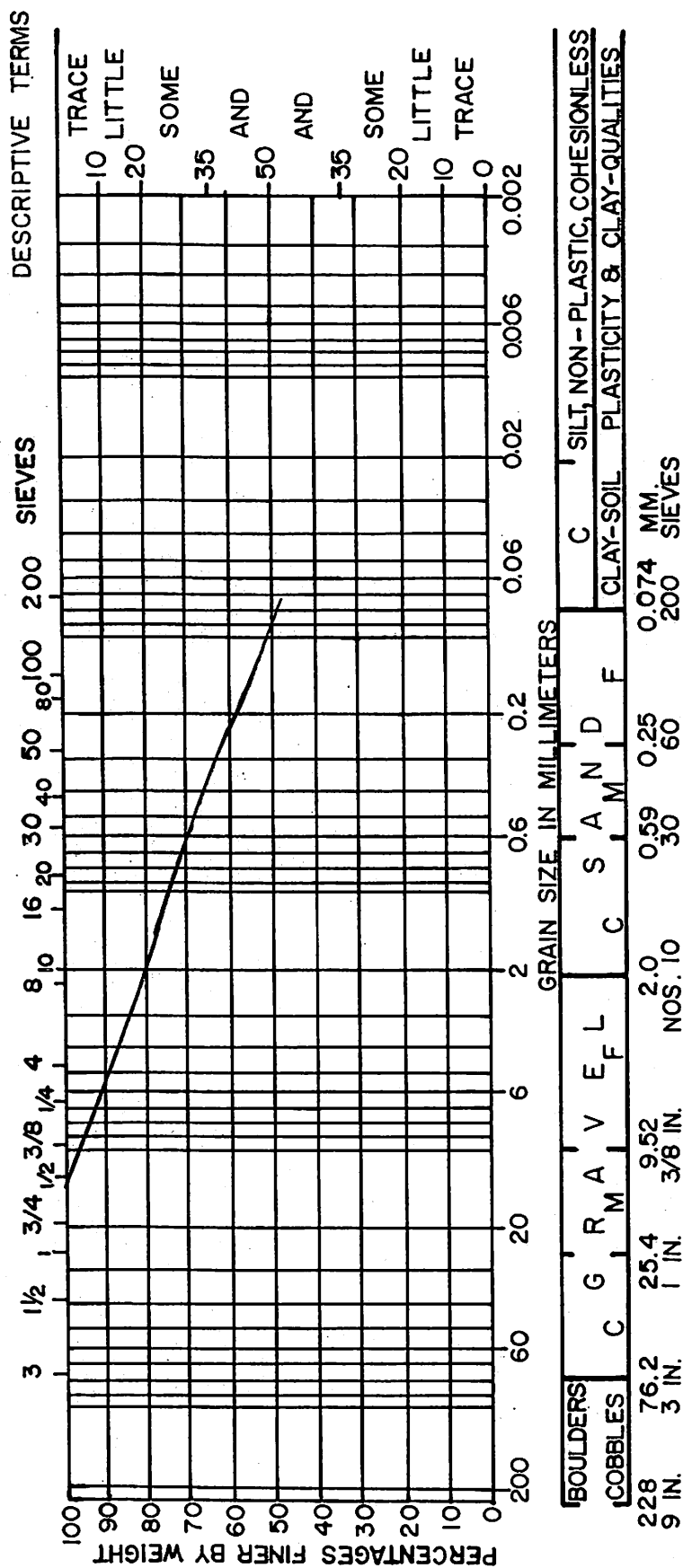
DESCRIPTION:

Yellowish Brown (10YR 5/4) Sandy Clay Loam w/18% Gravel

TUBE PERMEAMETER TEST RESULTS

DEPTH	PERMEABILITY	CLASS
3'	k = 0.007 inch/hour	K0

GRAIN SIZE ANALYSIS



IDENTIFICATION AND DESCRIPTION OF SOILS

TEST HOLE: TP-2

DEPTH: 7 feet

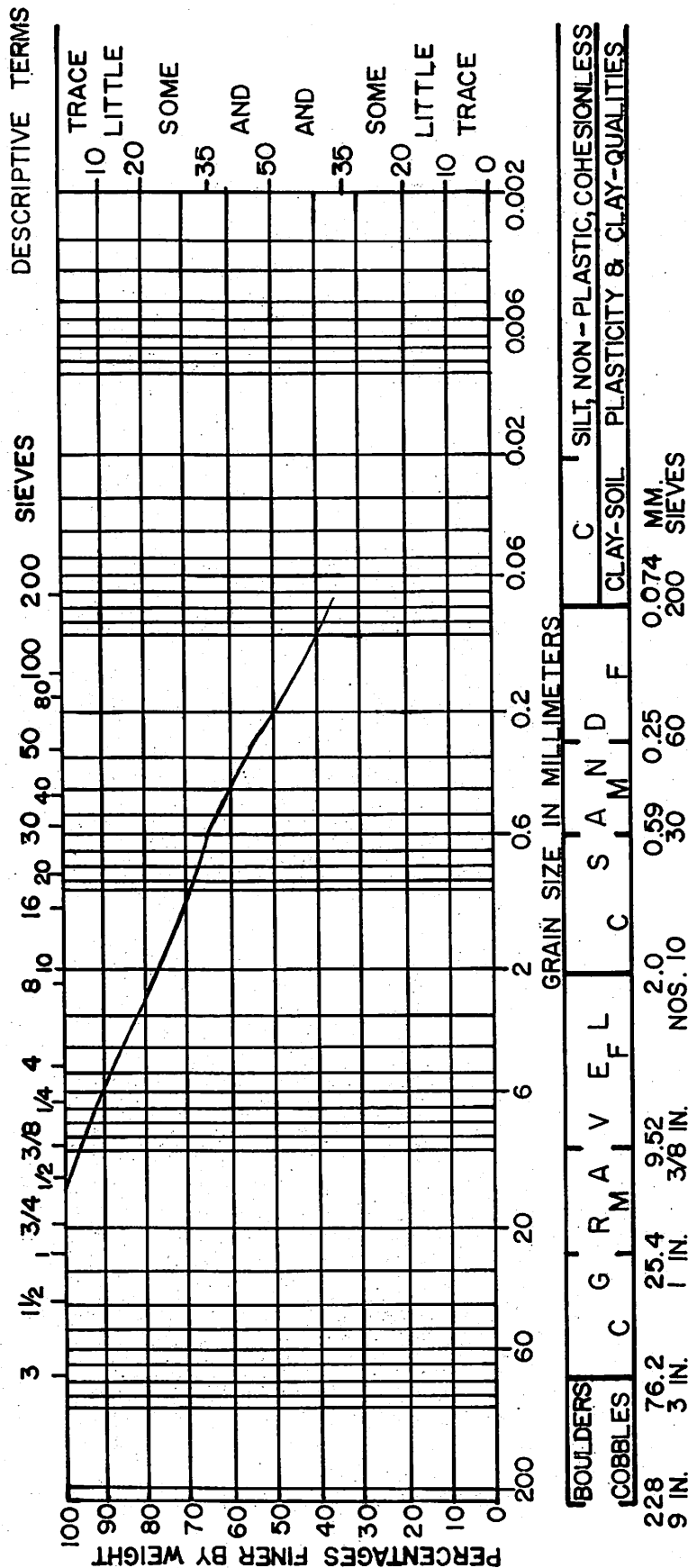
DESCRIPTION:

**Yellowish Brown (10YR 5/8) Clay Loam
w/20% Gravel**

TUBE PERMEAMETER TEST RESULTS

DEPTH	PERMEABILITY	CLASS
7'	k = 0.006 inch/hour	K0

GRAIN SIZE ANALYSIS



IDENTIFICATION AND DESCRIPTION OF SOILS

TEST HOLE: TP-3

DEPTH: 9 feet

DESCRIPTION:

Greyish Brown (2.5Y 5/2) Sandy Clay
Loam w/24% Gravel

TUBE PERMEAMETER TEST RESULTS

DEPTH	PERMEABILITY	CLASS
9'	k = 0.018 inch/hour	K0

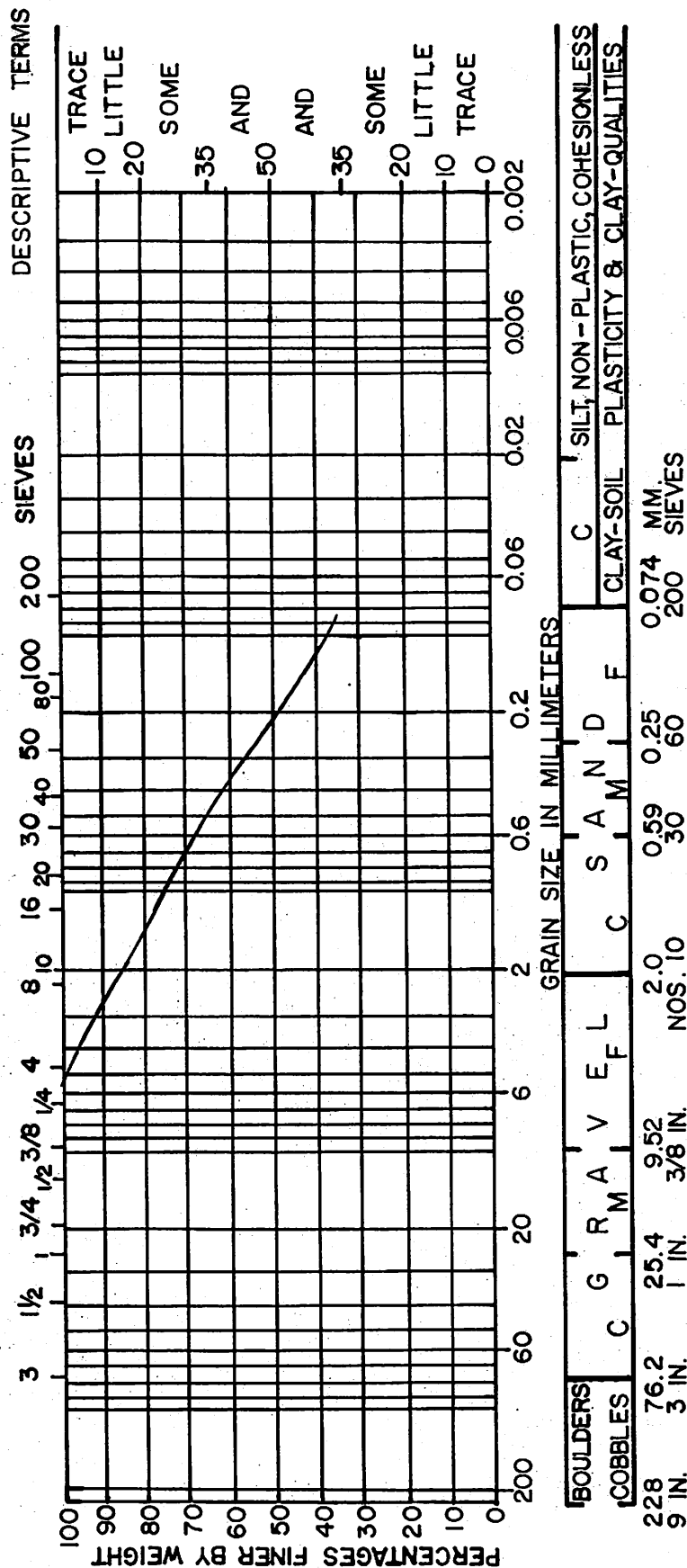


PROJECT: New Trailer & Storage Lot
LOCATION: M&M Mars - Hackettstown, NJ

PROJECT NO.
DATE:

9145
02/07/2019

GRAIN SIZE ANALYSIS



IDENTIFICATION AND DESCRIPTION OF SOILS

TEST HOLE: TP-4

DEPTH: 7 feet

DESCRIPTION:

Yellowish Brown (10YR 5/6) Sandy Clay
Loam w/14% Gravel

TUBE PERMEAMETER TEST RESULTS

DEPTH	PERMEABILITY	CLASS
7'	k = 0.022 inch/hour	K0

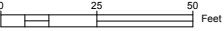


LOCATION PLAN



Test Pit Location Plan

Scale: 1"= 50'



 FRANK H. LEHR ASSOCIATES CONSULTING CIVIL ENGINEERS 101 South Harrison Street East Orange, New Jersey 07018 Certificate of Authorization No. 24GA27950400	REV.	DESCRIPTION	DATE	DRN	APD
		Mars Incorporated Proposed Trailer Parking Lot Hackettstown, New Jersey	PROJECT NO. 9145		
		Test Pit Location Plan	SHEET NO. L-1		
	DRAWN BY rja	CHECKED BY mjs	DATE 3/11/2019	SCALE 1"=50'	OF _____

Appendix I

DRAINAGE AREA MAPS

E:\SCE\Hackettstown\8719 Hackettstown\8719.074 Final Site Plan Trailer Storage Lot\Exhibits\8719.074 03 Inlet Area Map.dwg Thu, Mar 28, 2019 - 2:10pm Komura SUBURBAN CONSULTING ENGINEERS, INC.



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REVISIONS				

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CHECKED BY:	
03/25/2019	
CHECKED BY:	

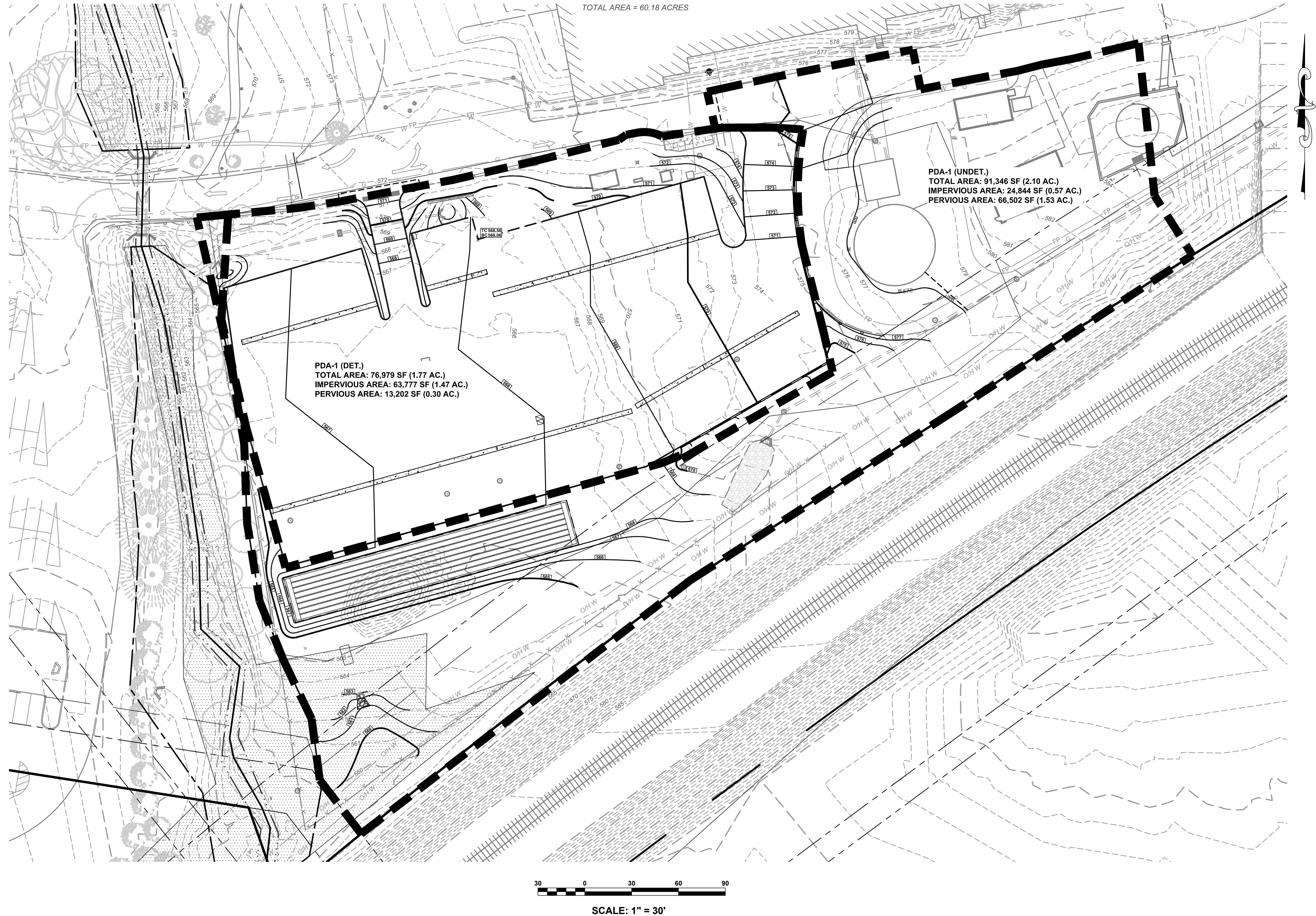
DAREN J. PHIL, PE
NJ PROFESSIONAL ENGINEER
LICENSE NO. 24GE03619100

DATE: 03/25/2019

SC SUBURBAN CONSULTING ENGINEERS, INC.
COA NO: 24GA28037500
21ME10004200
Civil Engineers - Municipal Engineers -
Planners - Landscape Architects -
Environmentalists - Land Surveyors -
96 US Highway 206, Suite 101 2430 Highway 34, Bldg. A Suite 1R
Flanders, N.J. 07836 - 973.398.1776 Wall, N.J. 08736 - 732.282.1776
EXCELLENCE ♦ ECONOMY ♦ ENVIRONMENT

PRELIMINARY AND FINAL MAJOR SITE PLAN FOR MARS INCORPORATED PROPOSED TRAILER PARKING LOT BLOCK 4, LOT 1 TOWN OF HACKETTSTOWN COUNTY OF WARREN, STATE OF NEW JERSEY		PROJECT NUMBER: SCE-8719.074
PROPOSED INLET AREA MAP		SCALE: 1" = 30'
		SHEET 3 OF 3
		REVISION -

E:\SCE\Hackettstown\8719 Hackettstown\8719.074 Final Site Plan Trailer Storage Lot\Exhibits\8719.074 02 Proposed Drainage Plan.dwg Thu, Mar 28, 2019 - 2:13pm Romura SUBURBAN CONSULTING ENGINEERS, INC.



SCALE: 1" = 30'

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DRAWN BY:	03/25/2019
CHECKED BY:	03/25/2019

DAREN J. PHIL, PE
NJ PROFESSIONAL ENGINEER
LICENSE NO. 24GE03619100

DATE: 03/25/2019

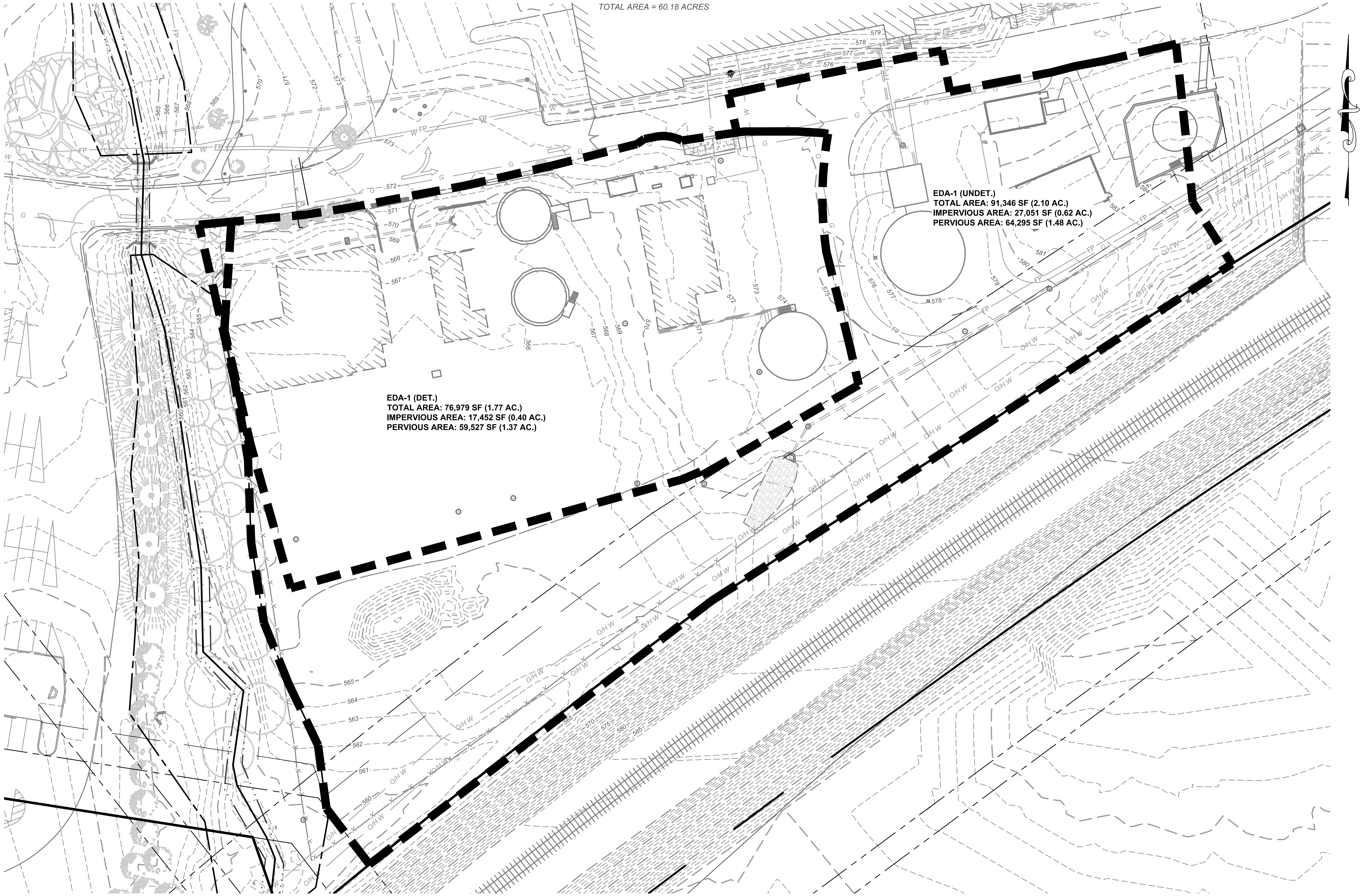
SC SUBURBAN CONSULTING ENGINEERS, INC.
COA NO: 24GA28037500
21ME10004200
Civil Engineers - Municipal Engineers -
Planners - Landscape Architects -
Environmentalists - Land Surveyors -
96 US Highway 206, Suite 101 2430 Highway 34, Bldg. A Suite 1R
Flanders, NJ 07836 - 973.398.1776 Wall, NJ 08736 - 732.282.1776
EXCELLENCE ♦ ECONOMY ♦ ENVIRONMENT

PRELIMINARY AND FINAL MAJOR SITE PLAN FOR
MARS INCORPORATED
PROPOSED TRAILER PARKING LOT
BLOCK 4, LOT 1
TOWN OF HACKETTSTOWN
COUNTY OF WARREN, STATE OF NEW JERSEY

PROPOSED DRAINAGE AREA MAP

PROJECT NUMBER: SCE-8719.074
SCALE: 1" = 30'
SHEET 2 OF 3
REVISION -

E:\SCE\Hackettstown\8719.074 Final Site Plan Trailer Storage Lot\Exhibits\8719.074 01 Existing Drainage Plan.dwg Thu, Mar 28, 2019 - 12:01pm romura SUBURBAN CONSULTING ENGINEERS, INC.



NOTE: DRAINAGE AREA CALCULATIONS DERIVED FROM PROPOSED CONDITIONS BY PLAN ENTITLED "SITE PLAN: MARS CHOCOLATE NORTH AMERICA, LLC, WASTEWATER PRETREATMENT SYSTEM UPGRADES", BY DYNAMIC ENGINEERING, SIGNED AND DATED 10/15/2014, APPROVED BY THE TOWNSHIP OF HACKETTSTOWN.



SCALE: 1" = 30'

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EXCELLENCE ♦ ECONOMY ♦ ENVIRONMENT

PRELIMINARY AND FINAL MAJOR SITE PLAN FOR MARS INCORPORATED PROPOSED TRAILER PARKING LOT BLOCK 4, LOT 1 TOWN OF HACKETTSTOWN COUNTY OF WARREN, STATE OF NEW JERSEY		PROJECT NUMBER: SCE-8719.074
EXISTING DRAINAGE AREA MAP		SCALE: 1" = 30'
		SHEET 1 OF 3
		REVISION -