KAW VALLEY ENGINEERING

STORM DRAINAGE REPORT
HAZEL GROVE ELEMENTARY
LITTLE CEDEAR CREEK WATERSHED
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Section 25, Township 48 N, Range 32 W

Prepared for:

LEE'S SUMMIT R-VII SCHOOL DISTRICT FACILITY SERVICES
502 SE Transport Road
Lee's Summit, Missouri 64081

Prepared by:

KAW VALLEY ENGINEERING, INC.
14700 West 114th Terrace
Lenexa, Kansas 66215

February 18, 2026

Kaw Valley Engineering Project No. **C25D2528**

STORM DRAINAGE REPORT

Hazel Grove Elementary School
Lee's Summit, Missouri
Project No. C25D2528

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EXHIBITS

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Exhibit C – Proposed Drainage Area Map & Calculations, BMP Plan & Worksheets
Exhibit D – Pondpack Analysis

REVISIONS

Revision 0 – February 18, 2026 Preliminary Development Plan

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February 18, 2026 **C25D2528**

Mr. Kyle Gorrell
Lee's Summit School District Facility Services
502 SE Transport Road
Lee's Summit, MO 64081

RE: STORMWATER MANAGEMENT STUDY
HAZEL GROVE ELEMENTARY
LEES SUMMIT, MISSOURI, 64034

Dear Mr. Gorrell:

Kaw Valley Engineering, Inc. has completed a review of the stormwater management implications associated with the Lee's Summit R-VII School District's (LSR7) proposal to relocate Hazel Grove Elementary School approximately ½ miles southeast of the existing school to a 29.7-acre property recently purchased by the district. The purpose of this study is to analyze the anticipated changes in stormwater drainage conditions and flows associated with the proposed project.

CITY STORM WATER MANAGEMENT REQUIREMENTS

Based upon the Storm Water Management Guidelines as described in the City of Lee's Summit Design and Construction Manual, Section 5600, the proposed development on the property would be subject to the following requirements:

- The City has adopted the Default Strategy: Comprehensive Protection method. Under this strategy, peak runoff control will be required for the 1%, 10%, and 50% annual chance storm event. Peak runoff control will be required where there are known downstream flooding problems or where an increase in the peak runoff from a development has the potential to create flooding of property, structures, stormwater infrastructure, roads, bridges, and dams. Under this strategy, volumetric and/or extended detention control of the 90% mean annual event storm event shall be provided for broad protection of the receiving system, including channel erosion protection and flood peak reductions over a range of return periods. Volumetric and/or extended detention control of the 90% mean annual even storm shall be implemented for all sites unless otherwise exempt by Section 5601.3. Performance standards and sizing criteria are provided in Section 5608

Based on information provided in the effective Flood Insurance Report for Jackson County, Missouri (Study 29095CV006C, dated December 7, 2023), there are no apparent downstream flooding issues at Colbern Road crossing and/or the railroad crossing. Therefore, KVE is recommending that the proposed development of the site shall maintain existing drainage patterns and releases rates from both the developed site and the existing detention basin that provides mitigation for the Summit Village Corporate Park Development and a portion of the Unity Villa Apartments.

EXISTING CONDITIONS

The project site is located on the south side of NW Colbern Road, approximately ¼ mile east of U.S. 350 Highway in Lee's Summit, Missouri as located on the general vicinity map.

Figure 1 - Vicinity Map, Not to scale

The subject property is approximately 29.70 acres and is generally bound by NW Colbern Road to the north, NW Blue Parkway to the west, commercial development to the south and undeveloped city owned land to the east. The property is currently undeveloped with dense tree coverage across the site. The property generally drains to the east / northeast to an unnamed tributary of Little Cedar Creek. There is an existing detention pond located in the northwest corner of the site that provides stormwater mitigation for Summit Village Corporate Park Lots 1 & 2 to the west. In addition, approximately 2.62 acres of the Unity Villa Apartments drain through the subject property. Approximately 1 acre of the apartments drains to the existing detention basin and the remaining 1.62 acres flows east to the creek. For the purposes of this report, the offsite areas are included in calculations. The existing land cover within the site and offsite areas is defined in Table 1.

Table 1 - Hazel Grove Elementary School - Existing Drainage Area Conditions

Description	Area (sf)	Area (ac)	Land Cover	CN Value	Area (sf)	Area (ac)	%	CN
EXDA Offsite (Detained)	264,492	6.07	Open Space (HSG D)	77	118,573	2.72	45%	89
			Buildings/Pavements	98	145,919	3.35	55%	
EXDA Offsite (Undetained)	70,777	1.62	Open Space (HSG D)	77	38,446	0.88	15%	87
			Buildings/Pavements	98	32,331	0.74	12%	
EXDA Onsite (Detained)	38,584	0.89	Woods (HSG D)	77	14,144	0.32	37%	78
			Meadow (HSG D)	78	24,440	0.56	63%	
EXDA Onsite (Undetained)	1,255,096	28.81	Woods (HSG D)	77	1,183,555	27.17	94%	77
			Meadow (HSG D)	78	63,595	1.46	5%	
			Pond (HSG D)	98	7,946	0.18	1%	
Total Contributing Drainage Area	1,628,949	37.40	Woods (HSG D)	77	1,197,699	27.50	74%	80
			Meadow (HSG D)	78	88,035	2.02	5%	
			Pond (HSG D)	98	7,946	0.18	0%	
			Open Space (HSG D)	80	157,019	3.60	10%	
			Buildings/Pavements	98	178,250	4.09	11%	

The contributing drainage area to the stream on the east side of the property is in excess of 40 acres, therefore KVE is recommending that the stream is protected by a stream buffer zone in accordance with APWA Section 5605.3. The buffer zone should measure 100 feet on either side of the stream banks. The proposed limits of the stream buffer zone are shown on the Site Development Plan & Preliminary Plat in Exhibit B.

The subject property is shown to be located in Zone "X" on the revised flood insurance rate map for Jackson County, Missouri (Community Panel No. 29095C0409G) dated January 20, 2017.

A soils map has been obtained for the site. The soils were identified according to the soil survey maps in the *NRCS Web Soil Survey*. The map indicates that the following soils exist on the site and included the following engineering characteristics and soil and water features information.

- **10113 – Oska silty clay loam, 5 to 9 percent slopes, eroded.** The surface runoff class is very high. The groundwater table is located at more than 80 inches. The soil is classified as a type D hydrologic soil group and is a well drained non-hydric hydric soil.

- **10128 – Sharpsburg-Urban land complex, 2 to 5 percent slopes.** The surface runoff class is high. The groundwater table is located at 24 to 35 inches. The soil is classified as a type D hydrologic soil group and is a moderately well drained non-hydric soil.

- **10179 – Udarents-Urban land-Oska complex, 5 to 9 percent slopes.** The surface runoff class is very high. The groundwater table is located at more than 80 inches. The soil is classified as a type C hydrologic soil group and is a somewhat poorly drained non-hydric soil.

- **40107 – Snead-Rock outcrop complex, warm, 5 to 14 percent slopes.** The surface runoff class is undefined. The groundwater table is located at 24 to 30 inches. The soil is classified as a type D hydrologic soil group and is a moderately well drained non-hydric soil.

- **99012 – Urban land, upland, 5 to 9 percent slopes.**

See Exhibit A for the Existing Site Topography and Existing Drainage Area Map.

PROPOSED CONDITIONS

To align with current LSR7 building standards and allow for future growth in enrollment, LSR7 is proposing to build a new elementary school with associated drives, sidewalks, parking lots, outdoor play areas, and utilities on the subject property. In order to maintain existing drainage conditions and functionality of the existing detention basin, KVE is proposing to expand the existing detention basin to continue to provide stormwater mitigation for Summit Village Corporate Park Lots 1 & 2 as well as provide stormwater mitigation and treatment for the new school development. The expanded detention basin will detain the contributing drainage area from Summit Village Corporate Park Lots 1 & 2, 2.62 acres of the Unity Villa Apartments and 5.58 acres on the north half of the school property. The proposed land cover within the project area is defined in Table 2.

Table 2 - Hazel Grove Elementary School - Proposed Drainage Area Conditions								
Description	**Area (sf)**	**Area (ac)**	**Land Cover**	**CN Value**	**Area (sf)**	**Area (ac)**	**%**	**CN**
PDA Onsite (Detained)	243,121	5.58	Woods (HSG D)	77	29,661	0.68	12%	86
			Meadow (HSG D)	78	6,498	0.15	3%	
			Open Space (HSG D)	80	118,175	2.71	49%	
			Buildings/Pavements	98	88,787	2.04	37%	
PDA Offsite (Detained)	335,279	7.70	Open Space (HSG D)	80	157,029	3.60	47%	90
			Buildings/Pavements	98	178,250	4.09	53%	
PDA Onsite (Undetained)	1,050,549	24.12	Woods (HSG D)	77	528,522	12.13	50%	82
			Meadow (HSG D)	78	21,239	0.49	2%	
			Open Space (HSG D)	80	305,955	7.02	29%	
			Buildings/Pavements	98	194,833	4.47	19%	
Total Contributing Drainage Area	1,628,949	37.40	Woods (HSG D)	77	558,183	12.81	34%	84
			Meadow (HSG D)	78	27,737	0.64	2%	
			Open Space (HSG D)	80	581,159	13.34	36%	
			Buildings/Pavements	98	461,870	10.60	28%	

The detention basin will discharge via public storm sewer infrastructure to the creek to the east. The south and east half of the school will drain via overland flow and storm sewer east to the creek. See Exhibit B Existing for the Site Development Plan & Preliminary Plat, Grading Plan and Exhibit C for the Proposed Drainage Area Map.

DRAINAGE ANALYSIS

The storm runoff for the project site was analyzed for the 2-year, 10-year, and 100-year storms for the existing and proposed conditions.

Runoff and time of concentration were calculated using the SCS Method as described in *Urban Hydrology for Small Watersheds (TR-55)*

The Curve Number (CN) for the drainage areas to be used in the calculations are identified in Tables 1 and 2. This number was based upon the existing and proposed land cover as specified in TR-55. It was assumed that maintained pervious surfaces have a range of CN values depending upon soil type and land cover. Newly established pervious areas are assumed to have a CN value of 80 for planned turf (lawn) areas. These values are based upon APWA guidelines and are representative of typical grading operations based upon the existing soil types on the campus and assuming moderate compaction efforts and placement of the requisite topsoil. Impervious surfaces have a CN value of 98.

DETENTION ROUTING AND ANALYSIS

For this study, the existing detention basin was evaluated based on as built conditions of the basin and the full build out of the Summit Village Corporate Park Lots 1 & 2 as approved by the City of Lee's Summit. The basin currently provides stormwater mitigation for 5.07 acres of Summit Village Corporate Park Lots 1 & 2, 1 acre of the Unity Villa Apartments and 0.89 acre of the school property. Discharges are controlled via 4' x 4' concrete box outlet structure with multiple orifices to control the 2-year, 10-year and 100-year storm events. A summary of the existing detention routing and discharge calculations for the existing school property are included in Table 3 below. The existing combined release rates were used as the total allowable release rates in the design of the expanded basin.

Table 3: Existing Detention Routing Summary

2 Year Design Storm	Existing Pond Detained	EXDA Onsite Undetained	EXDA Offsite Undetained	Comparative Analysis	Site
Inflow (cfs)	20.69	34.19	4.78	Existing Inflow (cfs)	59.66
Outflow (cfs)	0.89	34.19	4.78	Existing Outflow (cfs)	39.86
Storage (ac-ft)	0.744	-	-		
Max WS Elev.	940.59	-	-	Allowable Flow (cfs)	39.86
10 Year Design Storm	Existing Pond Detained	EXDA Onsite Undetained	EXDA Offsite Undetained	Comparative Analysis	Site
Inflow (cfs)	35.22	70.24	8.22	Existing Inflow (cfs)	113.68
Outflow (cfs)	1.68	70.24	8.22	Existing Outflow (cfs)	80.14
Storage (ac-ft)	1.346	-	-		
Max WS Elev.	942.75	-	-	Allowable Flow (cfs)	80.14
100 Year Design Storm	Existing Pond Detained	EXDA Onsite Undetained	EXDA Offsite Undetained	Comparative Analysis	Site
Inflow (cfs)	55.27	124.28	12.97	Existing Inflow (cfs)	192.52
Outflow (cfs)	17.22	124.28	12.97	Existing Outflow (cfs)	154.47
Storage (ac-ft)	1.76	-	-		
Max WS Elev.	944	-	-	Allowable Flow (cfs)	154.47

In order to provide continued stormwater mitigation for Summit Village Corporate Lots 1 & 2 and to maintain existing release rates from the school property KVE is proposing to expand the existing detention basin.

The top of the embankment is at 935.0 ft minimum with side slopes of 3:1. The detention basin will receive stormwater from the Summit Village Corporate Park Development to the west, the Unity Villa Apartments to the North and the north quarter of the development school property. The 2-year event is controlled by a 4" perforated underdrain and riser that drains to the outlet structure at elevation 922.0 The 10-year and 100-year storm evens are controlled by a 5' x 4' area inlet with a single 5' x 0.5' opening that functions as an orifice. The flow from the outlet structure is conveyed to the 42" public storm line running through the school property that discharges to the creek to the east. In the unlikely scenario that the primary outlet orifice is compromised, additional overflow is provided via grated opening on the surface of the outlet structure.

Refer to the Stormwater Management Plan in Exhibit C for details. Detention routing calculations were modeled using PondPack Connect Edition. Results can be found in Exhibit D.

A summary of the proposed detention routing and discharge calculations for the proposed school development are included in table 4 below.

Table 4: Proposed Detention Routing Summary				
2 Year Design Storm	Proposed Pond Detained	PDA Onsite Undetained	Comparative Analysis	Site
Inflow (cfs)	40.33	37.05	Proposed Inflow (cfs)	77.38
Outflow (cfs)	1.20	37.05	Proposed Outflow	38.25
Storage (ac-ft)	1.544	-	Allowable Flow (cfs)	39.86
Max WS Elev.	930.38	-	Reduction in Flow	-1.61
10 Year Design Storm	Proposed Pond Detained	PDA Onsite Undetained	Comparative Analysis	Site
Inflow (cfs)	68.19	70.00	Proposed Inflow (cfs)	138.19
Outflow (cfs)	3.74	70.00	Proposed Outflow	73.74
Storage (ac-ft)	2.639	-	Allowable Flow (cfs)	80.14
Max WS Elev.	932.79	-	Reduction in Flow	-6.40
100 Year Design Storm	Proposed Pond Detained	PDA Onsite Undetained	Comparative Analysis	Site
Inflow (cfs)	106.62	117.29	Proposed Inflow (cfs)	223.91
Outflow (cfs)	30.81	117.29	Proposed Outflow	148.1
Storage (ac-ft)	3.423	-	Allowable Flow (cfs)	154.47
Max WS Elev.	934.21	-	Reduction in Flow	-6.37

As shown in Table 4 above the increase in impervious coverage and run-off generated by the development of the proposed school is mitigated by the proposed expanded detention basin. A reduction in peak runoff from the existing condition is provided for the 2-year, 10-year, and 100-year storm events.

WATER QUALITY REQUIREMENTS

Per methods outlined in the October 2012 MARC BMP Manual, the required value rating for the site was calculated based upon the change in Curve Number and planned area for the project. Using worksheet 1 for an undeveloped site, KVE determined that a Level of Service (LoS) of 6.0 should be provided for the planned improvements on the site. To meet these requirements, KVE determined the value rating that is realized by preserving the existing native vegetation within the undeveloped areas of the site, the proposed extended dry detention basin that provides treatment of the water quality event, and establishing native vegetation within the basin footprint. The level of service provided by the proposed stormwater mitigation efforts, yields a value rating of 6.2 which meets the required LOS. The level of service calculations and BMP details are included in Exhibit C.

To mitigate the storm water impacts of the proposed improvements during construction, Kaw Valley Engineering is recommending that construction activities onsite shall adhere to the project Erosion Control and Storm Water Pollution Prevention Plan. The contractor shall use structural BMP's including silt fence, wattles, inlet protection and other means as site construction progresses and these BMP's shall be maintained until the site can be permanently stabilized.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of this study, the proposed expansion of the detention basin is capable of the continued mitigation of Summit Village Corporate Park Lots 1 & 2 as well as mitigating the increases in run-off due to the proposed school development. In addition, stormwater treatment of the water quality storm event is provided by preserving and/or establishing native vegetation outside of the disturbed area of the proposed improvements, extended storage of the water quality event within the basin and establishing native vegetation within the basin footprint. Based on these findings, it is the opinion of Kaw Valley Engineering, Inc. that the City of Lee's Summit design requirements are satisfied for the planned improvements.

If you have any questions or require additional information, please do not hesitate to contact me at (913) 894-5150 or via email at crowder@kveng.com.

Respectfully submitted,
Kaw Valley Engineering, Inc.

Christian J. Crowder, P.E.
Project Engineer

cc. Incite Design Studio

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EXHIBIT A

EXISTING CONDITIONS PLAN
EXISTING DRAINAGE AREA MAP
FEMA FIRMETTE
NRCS SOILS REPORT
NATIONAL WETLANDS INVENTORY MAP
ZONING MAP

HORIZONTAL AND VERTICAL DATUM:
REFERENCE PRELIMINARY DEVELOPMENT PLAN (C0.0)

PROJECT BENCH MARKS:
REFERENCE PRELIMINARY DEVELOPMENT PLAN (C0.0)

PROJECT CONTROL:
REFERENCE PRELIMINARY DEVELOPMENT PLAN (C0.0)

DEMOLITION
1 TO REMAIN.

EROSION & PROPOSED IMPROVEMENTS LEGEND:

- INDICATES TREE/SHRUB TO BE REMOVED. TREES OVER 9" DBH TO BE FELLED PRIOR TO MARCH 31, 2026. (±665,480 SF)
- EXISTING POND TO BE DRAINED AND EMBANKMENT BREACHED (±16,183 SF)
- LIMITS OF DRAINAGE COURSE/STREAM

CAUTION – NOTICE TO CONTRACTOR
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICTS PRIOR TO ANY CONSTRUCTION.

WARRANTY / DISCLAIMER
THE DESIGNS REPRESENTED IN THESE PLANS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING FOR THE DESIGN FUNCTIONS AND USES INTENDED BY THE OWNER AT THIS TIME. HOWEVER, NEITHER KAW VALLEY ENGINEERING, INC NOR ITS PERSONNEL CAN OR DO WARRANTY THESE DESIGNS OR PLANS AS CONSTRUCTED, EXCEPT IN THE SPECIFIC CASES WHERE KAW VALLEY ENGINEERING PERSONNEL INSPECT AND CONTROL THE PHYSICAL CONSTRUCTION ON A CONTEMPORARY BASIS AT THE SITE.

SAFETY NOTICE TO CONTRACTOR
IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

\\VMLX-FILE\PROJECTS\C25_2528\C3D24\DSN\PDP PPLAT\2528DEMO.DWG

Know what's **below.**
Call before you dig.

PROJ. NO. C25_2528 DSN: DDW
CFN: 2528DEMO DWN: NJN

DAVID D. WOOD
ENGINEER
MO # 2011037427

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incite Design Studio
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DAVID D. WOOD

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Cert. of Authority
#000842
KAW VALLEY ENGINEERING, INC.

STATE OF MISSOURI
DAVID D. WOOD
NUMBER
PE-2011037427
PROFESSIONAL ENGINEER
2.18.2026

HAZEL GROVE ELEMENTARY SCHOOL

NW ROSEMARY COURT
LEE'S SUMMIT, MO 64086

Project Phase
PRELIMINARY DEVELOPMENT PACKAGE

Project Number
26-107

Issue Date
02.18.2026

Revision No.	Description	Date Issued

Area Plan

Sheet Name
EXISTING CONDITIONS AND TREE CLEARING PLAN

Sheet Number
C0.6

in • cite *v.* to provoke thought

0 100 200 400

SCALE: 1" = 200'

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KAW VALLEY ENGINEERING

EXISTING DRAINAGE AREA MAP

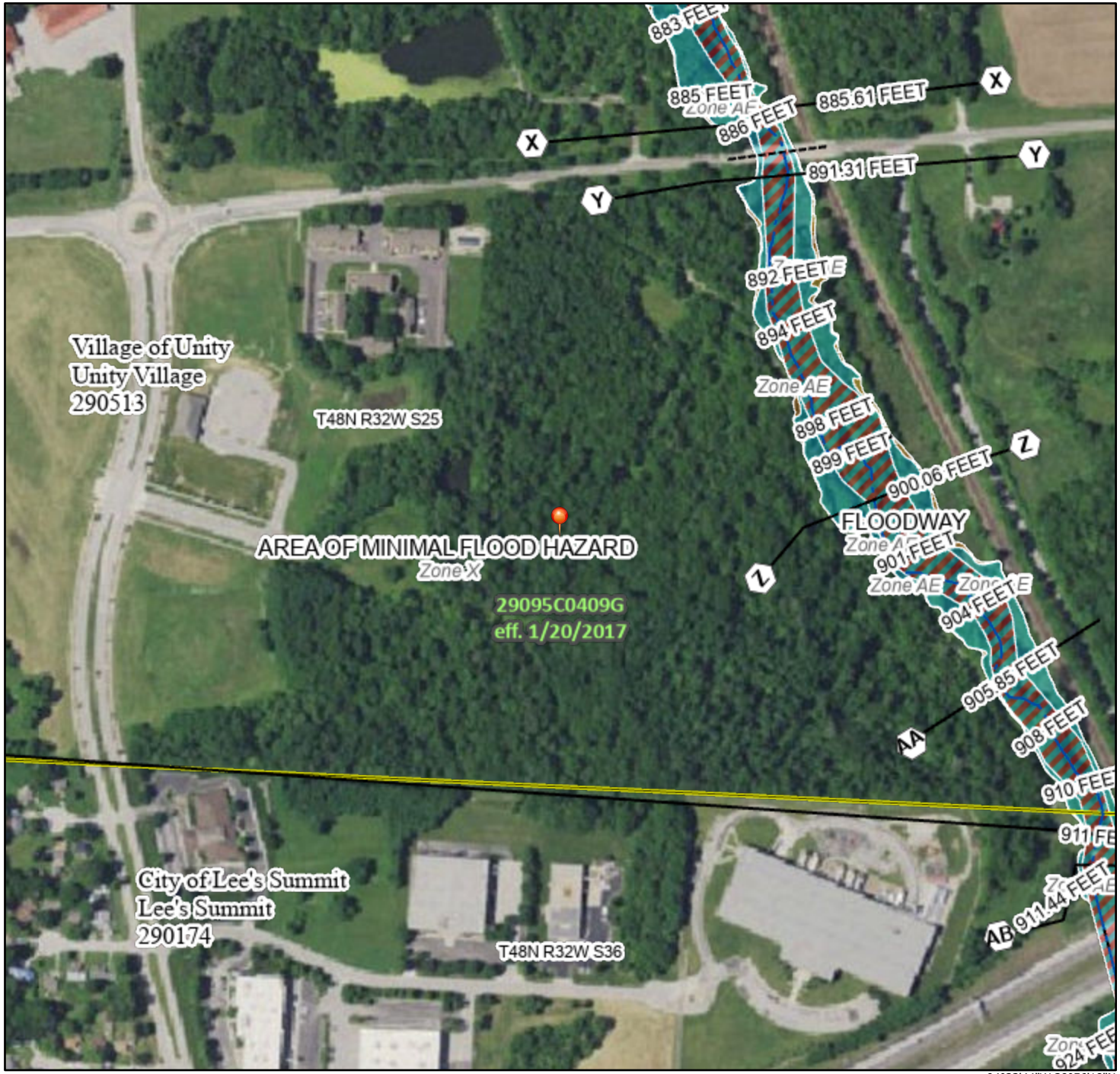
2/18/2026

2528DAM2

National Flood Hazard Layer FIRMette

FEMA

94°24'21"W 38°56'46"N



94°23'44"W 38°56'18"N

Feet

0 250 500 1,000 1,500 2,000

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

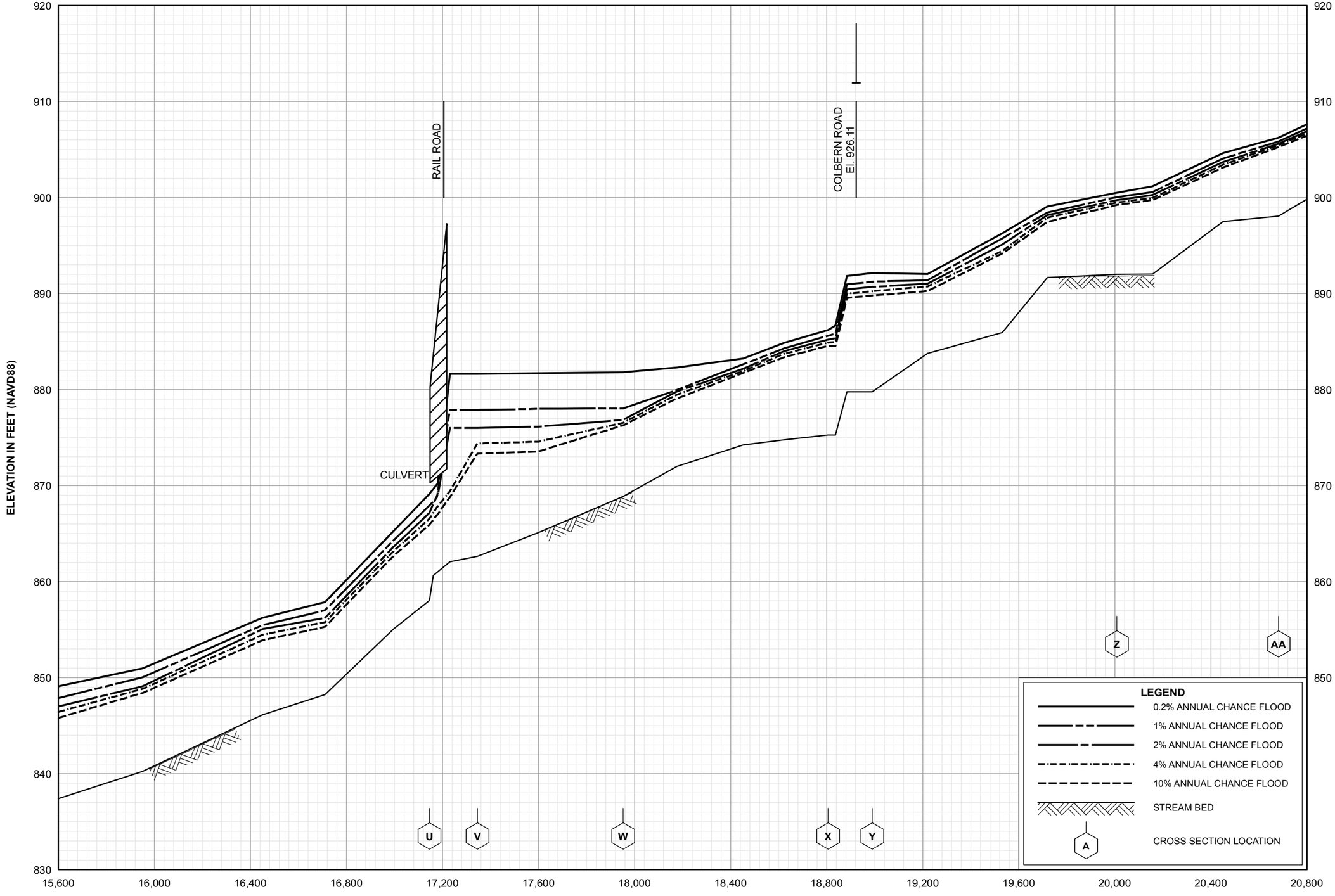
N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/29/2026 at 4:41 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



FLOOD PROFILES

LITTLE CEDAR CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

JACKSON COUNTY, MO
AND INCORPORATED AREAS

203P

United States Department of Agriculture

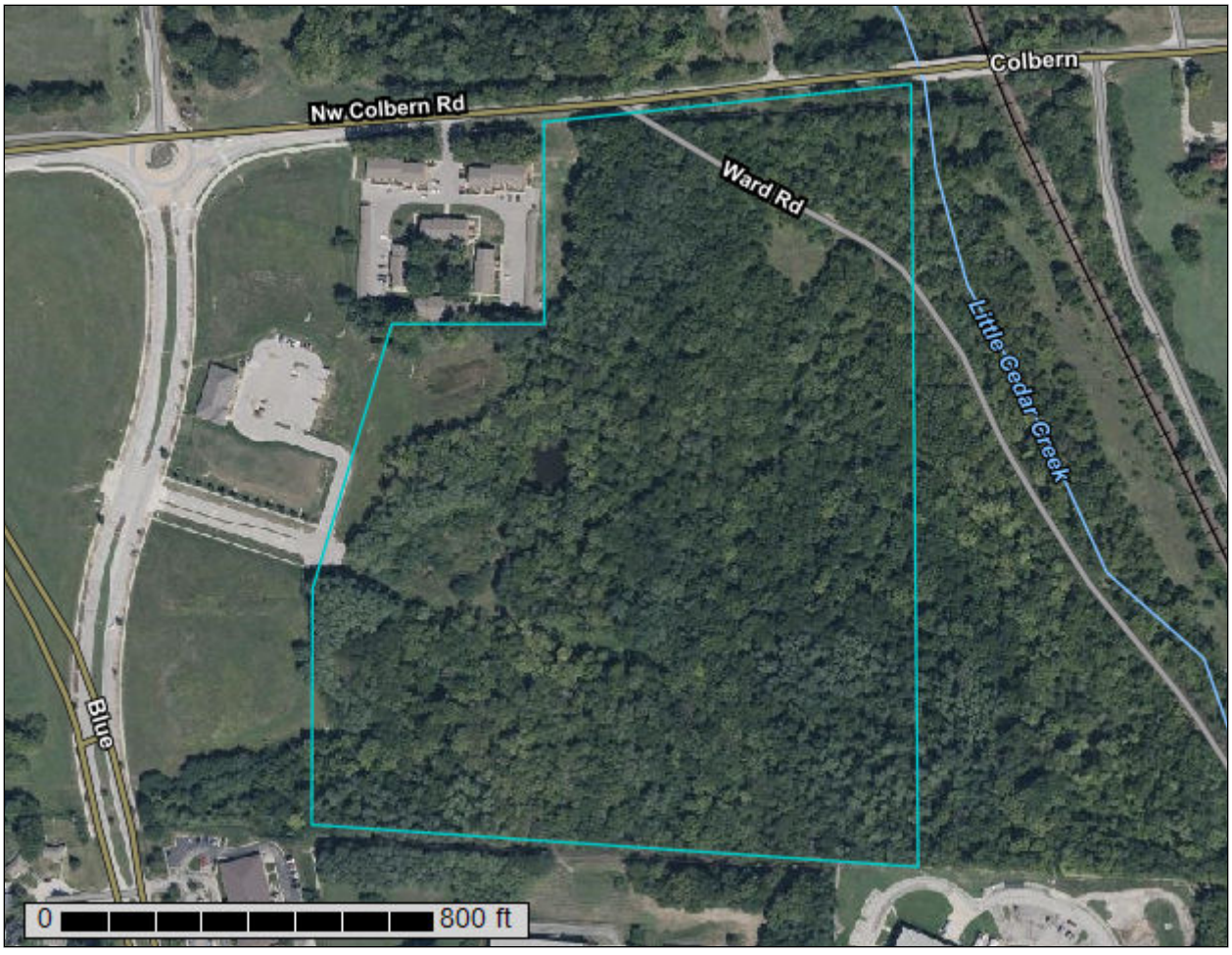
NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Jackson County, Missouri

Hazel Grove Elementary



January 29, 2026

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

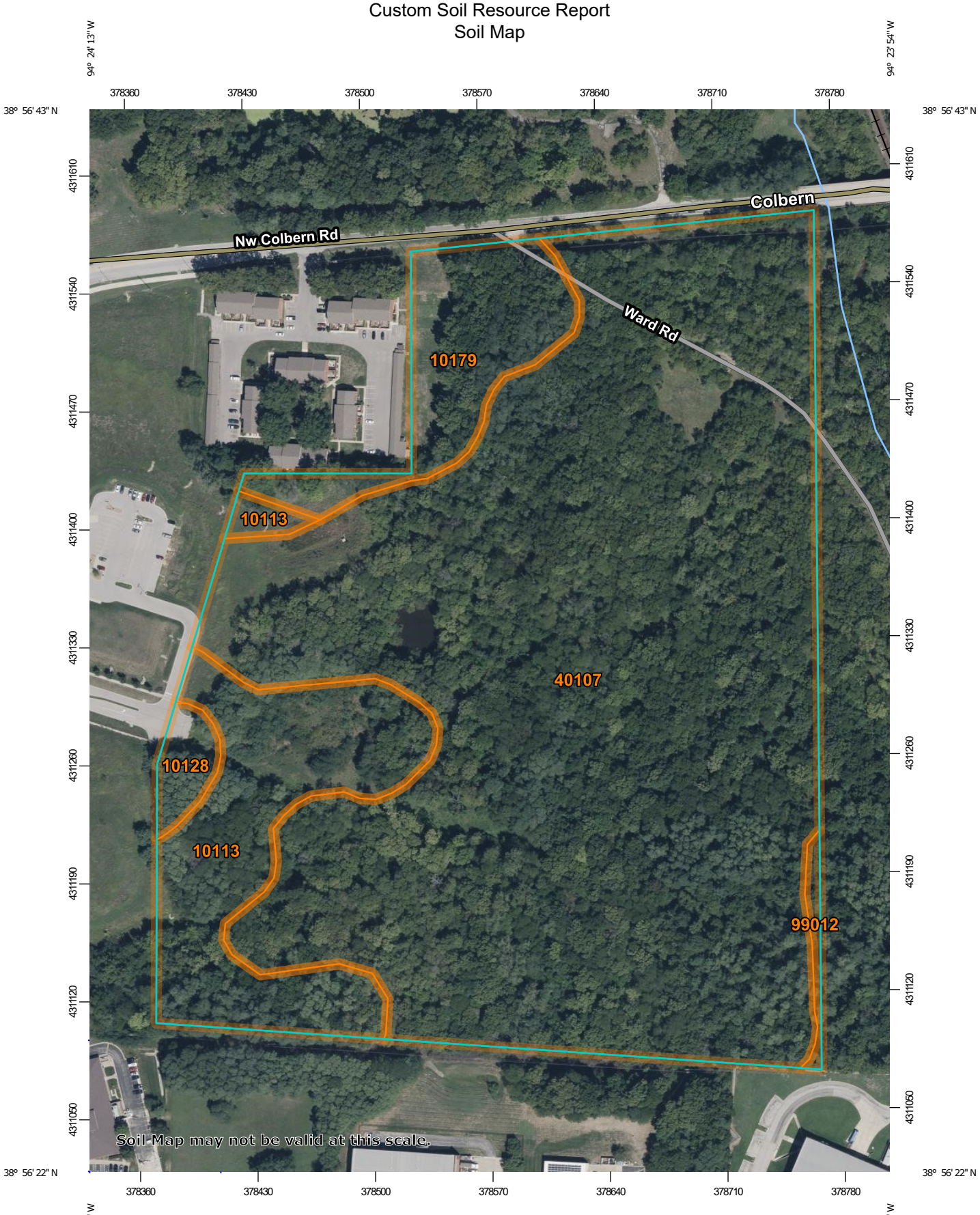
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:3,070 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 45 90 180 270

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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: Jackson County, Missouri
Survey Area Data: Version 28, Sep 2, 2025

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

Date(s) aerial images were photographed: Aug 30, 2022—Sep 8, 2022

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
10113	Oska silty clay loam, 5 to 9 percent slopes, eroded	5.1	12.6%
10128	Sharpsburg-Urban land complex, 2 to 5 percent slopes	0.5	1.3%
10179	Udarents-Urban land-Oska complex, 5 to 9 percent slopes	2.7	6.7%
40107	Snead-Rock outcrop complex, warm, 5 to 14 percent slopes	32.2	78.9%
99012	Urban land, upland, 5 to 9 percent slopes	0.2	0.5%
Totals for Area of Interest		**40.7**	**100.0%**

Map Unit Descriptions

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

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

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

was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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

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

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

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

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

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

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

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

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

Jackson County, Missouri

10113—Oska silty clay loam, 5 to 9 percent slopes, eroded

Map Unit Setting

National map unit symbol: yrm7
Landscape: Hills
Elevation: 600 to 1,200 feet
Mean annual precipitation: 33 to 43 inches
Mean annual air temperature: 50 to 57 degrees F
Frost-free period: 177 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Oska and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Oska

Setting

Landscape: Hills
Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum

Typical profile

A - 0 to 7 inches: silty clay loam
Bt - 7 to 34 inches: silty clay loam
R - 34 to 80 inches: bedrock

Properties and qualities

Slope: 5 to 9 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R106XY075NE - Loamy Upland
Hydric soil rating: No

Minor Components

Sampsel

Percent of map unit: 5 percent
Landscape: Uplands
Landform: Hillslopes
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Concave
Ecological site: R109XY010MO - Interbedded Sedimentary Upland Savanna
Hydric soil rating: No

Snead, eroded, warm

Percent of map unit: 5 percent
Landscape: Plains
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R109XY010MO - Interbedded Sedimentary Upland Savanna
Hydric soil rating: No

10128—Sharpsburg-Urban land complex, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2ql09
Landscape: Hills
Elevation: 1,000 to 1,320 feet
Mean annual precipitation: 33 to 41 inches
Mean annual air temperature: 50 to 55 degrees F
Frost-free period: 155 to 220 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Sharpsburg and similar soils: 60 percent
Urban land: 35 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sharpsburg

Setting

Landscape: Hills
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex

Across-slope shape: Convex
Parent material: Loess

Typical profile

A - 0 to 17 inches: silt loam
Bt - 17 to 55 inches: silty clay loam
C - 55 to 60 inches: silty clay loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 24 to 35 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very high (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: D
Ecological site: R109XY002MO - Loess Upland Prairie
Hydric soil rating: No

Description of Urban Land

Setting

Landscape: Hills
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: No

Minor Components

Macksburg

Percent of map unit: 5 percent
Landscape: Uplands
Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R108XD860IA - Loess Upland Prairie
Hydric soil rating: No

10179—Udarents-Urban land-Oska complex, 5 to 9 percent slopes

Map Unit Setting

National map unit symbol: 1n85j
Elevation: 700 to 1,200 feet
Mean annual precipitation: 33 to 43 inches
Mean annual air temperature: 50 to 57 degrees F
Frost-free period: 175 to 220 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Udarents and similar soils: 46 percent
Urban land: 39 percent
Oska and similar soils: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udarents

Setting

Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Anthropogenic Feature: Urban land
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Mine spoil or earthy fill

Typical profile

C1 - 0 to 5 inches: silt loam
C2 - 5 to 80 inches: silty clay loam

Properties and qualities

Slope: 5 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Ecological site: R107XB002MO - Deep Loess Upland Prairie
Hydric soil rating: No

Description of Urban Land

Setting

Landscape: Hills
Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Across-slope shape: Convex

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: No

Description of Oska

Setting

Landscape: Hills
Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum

Typical profile

A - 0 to 7 inches: silty clay loam
Bt - 7 to 34 inches: silty clay loam
R - 34 to 80 inches: bedrock

Properties and qualities

Slope: 5 to 9 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Ecological site: R106XY075NE - Loamy Upland
Hydric soil rating: No

40107—Snead-Rock outcrop complex, warm, 5 to 14 percent slopes

Map Unit Setting

National map unit symbol: 2zccr
Landscape: Plains
Elevation: 660 to 1,130 feet
Mean annual precipitation: 39 to 43 inches
Mean annual air temperature: 54 to 57 degrees F
Frost-free period: 185 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Snead, warm, and similar soils: 70 percent
Rock outcrop: 20 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Snead, Warm

Setting

Landscape: Plains
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Residuum weathered from limestone and shale

Typical profile

A - 0 to 10 inches: silty clay loam
Bw - 10 to 20 inches: silty clay
BC - 20 to 24 inches: silty clay
C - 24 to 35 inches: silty clay
Cr - 35 to 45 inches: bedrock

Properties and qualities

Slope: 5 to 14 percent
Depth to restrictive feature: 20 to 40 inches to paralithic bedrock
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 24 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D
Ecological site: R109XY010MO - Interbedded Sedimentary Upland Savanna
Hydric soil rating: No

Description of Rock Outcrop

Typical profile

R - 0 to 79 inches: bedrock

Properties and qualities

Slope: 5 to 14 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: No

Minor Components

Oska

Percent of map unit: 4 percent
Landscape: Plains
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R106XY075NE - Loamy Upland
Hydric soil rating: No

Kennebec, occasionally flooded

Percent of map unit: 3 percent
Landscape: Plains
Landform: Drainageways
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R109XY028MO - Loamy Upland Drainageway Savanna
Hydric soil rating: No

Sampsel

Percent of map unit: 3 percent
Landscape: Plains
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Concave
Ecological site: R109XY010MO - Interbedded Sedimentary Upland Savanna
Hydric soil rating: Yes

99012—Urban land, upland, 5 to 9 percent slopes

Map Unit Setting

National map unit symbol: 2q0qh
Mean annual precipitation: 36 to 43 inches
Frost-free period: 170 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Anthropogenic Feature: Urban land

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: Unranked

Minor Components

Udorthents

Percent of map unit: 5 percent
Landform position (three-dimensional): Tread
Anthropogenic features: Spoil piles
Down-slope shape: Convex
Across-slope shape: Concave
Ecological site: R107XB002MO - Deep Loess Upland Prairie
Hydric soil rating: No

Harvester

Percent of map unit: 5 percent
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Anthropogenic features: Urban land
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F115XB061MO - Anthropic Deep Loess Upland
Hydric soil rating: No

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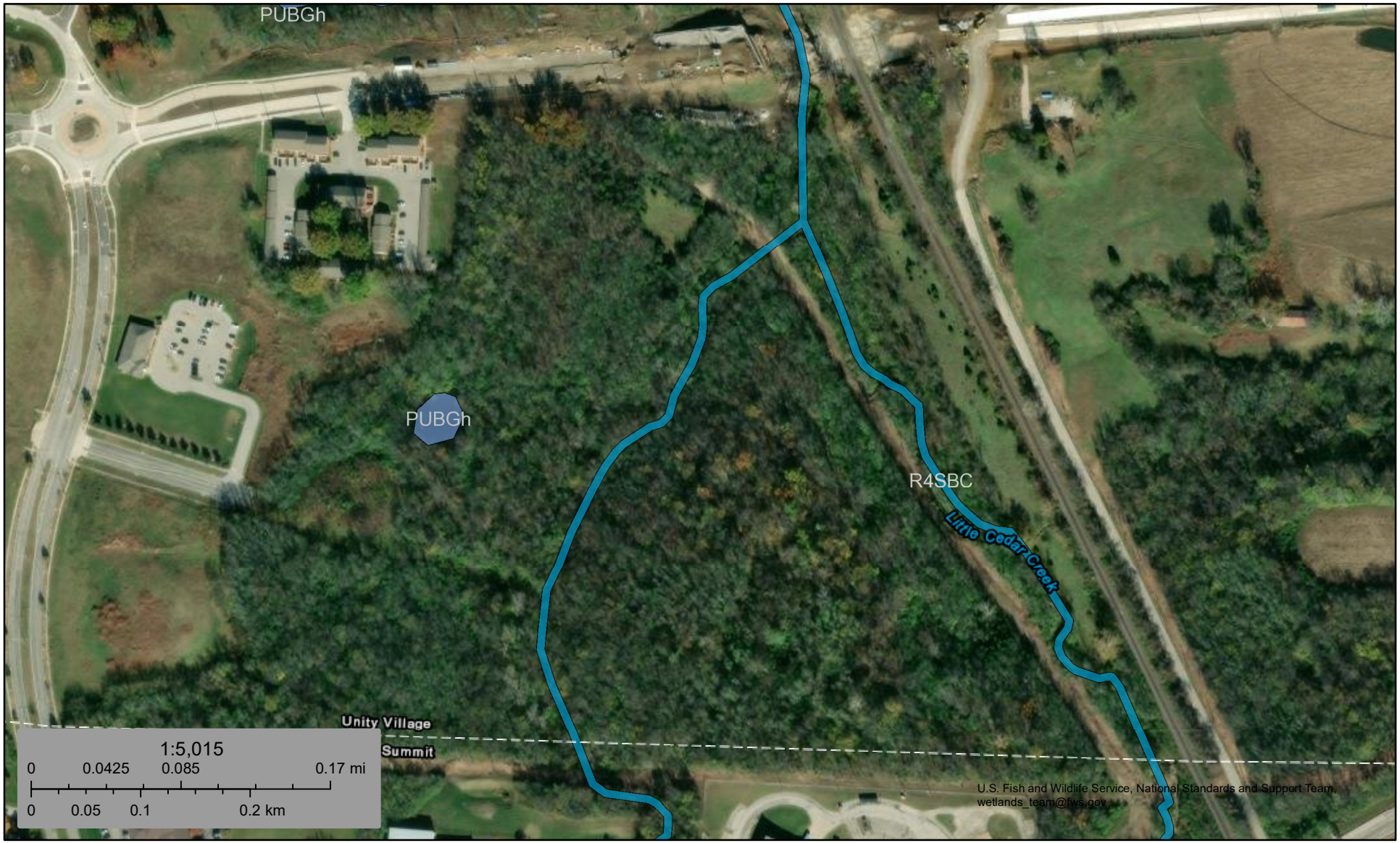
U.S. Fish and Wildlife Service
National Wetlands Inventory

Hazel Grove Elementary



January 29, 2026

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

Hazel Grove Zoning Map

1/29/2026

1:8,227

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

Zoning

- AG - Agricultural
- CP-2 - Planned Community Commercial
- PI - Planned Industrial
- PMIX - Planned Mixed Use
- PO - Planned Office
- R-1 - Single Family Residential
- RDR - Rural Density Residential

World Imagery

Low Resolution 15m Imagery

High Resolution 60cm Imagery

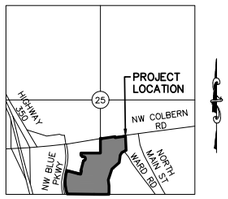
High Resolution 30cm Imagery

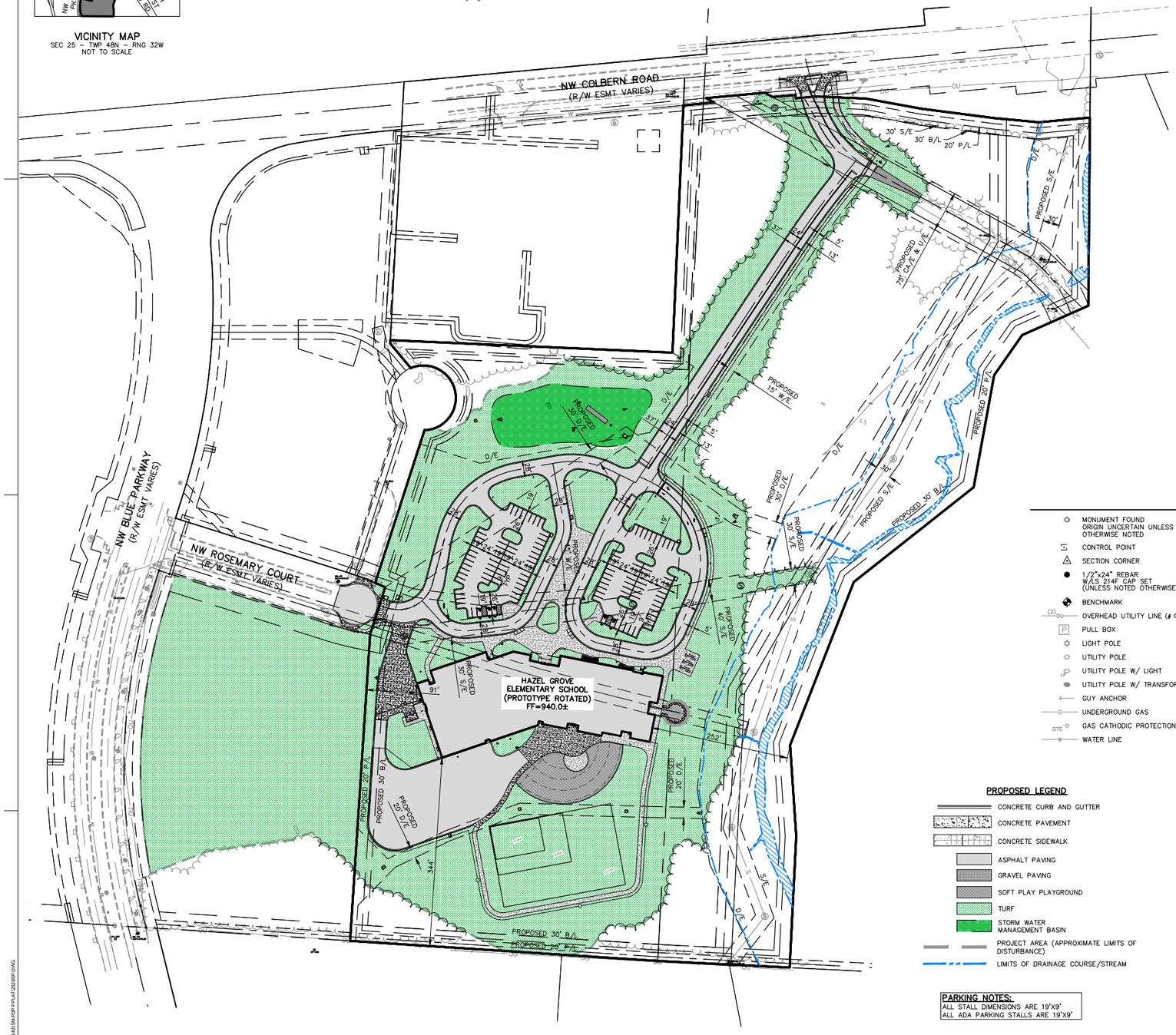
Citations

Vantor, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, City of Lee's

EXHIBIT B

PRELMINARY DEVELOPMENT PLAN
GRADING & STORMWATER MANAGEMENT PLAN





VICINITY MAP
SEC 25 – TWP 48N – RNG 32W
NOT TO SCALE

PREPARED BY:
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HAZEL GROVE ELEMENTARY SCHOOL
SUMMIT VILLAGE CORPORATE SITE
SITE PLAN
LEE'S SUMMIT, MO 64086
SECTION 25 - TOWNSHIP 48 NORTH - RANGE 32 WEST

LEGEND:

○	MONUMENT FOUND ORIGIN UNCERTAIN UNLESS OTHERWISE NOTED	⊗	WATER LINE GATE VALVE
⊡	CONTROL POINT		FIRE HYDRANT
△	SECTION CORNER	FOC	FIBER OPTIC CABLE SIGN
●	1/2"x24" REBAR W/LS 214F CAP SET (UNLESS NOTED OTHERWISE)	—FOC—	UNDERGROUND FIBER OPTIC CABLE
⊕	BENCHMARK	Ⓢ	SANITARY SEWER MANHOLE
(2) —OU—	OVERHEAD UTILITY LINE (# OF LINES)	Ⓓ	STORM SEWER MANHOLE
P	PULL BOX	—S—	SANITARY SEWER LINE
☼	LIGHT POLE	CMP	CORRUGATED METAL PIPE
	UTILITY POLE	RCB	REINFORCED CONCRETE BOX
LP	UTILITY POLE W/ LIGHT	PVC	POLYVINYL CHLORIDE PIPE
	UTILITY POLE W/ TRANSFORMER	HDPE	HIGH DENSITY POLYETHYLENE
←	GUY ANCHOR		STREET/TRAFFIC SIGN
—G—	UNDERGROUND GAS	B/B	BACK TO BACK OF CURB MEASUREMENT
GTS ○	GAS CATHODIC PROTECTION TESTING STATION	E/E	EDGE TO EDGE OF ASPHALT
—W—	WATER LINE		DECIDUOUS TREE
			TREE LINE
		—X—	WIRE FENCE
		939	EXISTING GRADE 1' CONTOUR
		950	EXISTING GRADE 5' CONTOUR

Know what's below.
Call before you dig.

SCALE: 1" = 100'

CONVERGENCE ANGLE
ESTABLISHED FROM JA–98.

PROPOSED LEGEND

═	CONCRETE CURB AND GUTTER
▨	CONCRETE PAVEMENT
▨	CONCRETE SIDEWALK
▨	ASPHALT PAVING
▨	GRAVEL PAVING
▨	SOFT PLAY PLAYGROUND
🟩	TURF
🟩	STORM WATER MANAGEMENT BASIN
— —	PROJECT AREA (APPROXIMATE LIMITS OF DISTURBANCE)
—·—	LIMITS OF DRAINAGE COURSE/STREAM

PARKING NOTES:
ALL STALL DIMENSIONS ARE 19'X9'
ALL ADA PARKING STALLS ARE 19'X9'

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PROJ. NO. C25_2528 DSN: DDW
CFN: 2528SP DWN: NJN

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incite Design Studio
architects building relationships

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Landscape Architect
LAND3 STUDIO
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816.207.6019

Food Service
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Cert. of Authority
#000842
KAW VALLEY ENGINEERING, INC.

DAVID D. WOOD
NUMBER
PE-2011037427
2.18.2026

HAZEL GROVE ELEMENTARY SCHOOL

NW ROSEMARY COURT
LEE'S SUMMIT, MO 64086

Project Phase
PRELIMINARY DEVELOPMENT PACKAGE

Project Number
26-107

Issue Date
02.18.2026

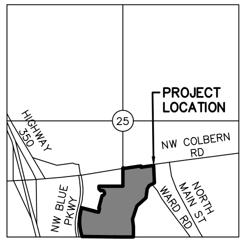
Revision No.	Description	Date Issued

Area Plan

Sheet Name
SITE PLAN

Sheet Number
C1.0

in • cite *v.* to provoke thought



VICINITY MAP
SEC 25 – TWP 48N – RNG 32W
NOT TO SCALE

GRID NORTH 00°02'53" TRUE NORTH

SCALE: 1" = 100'

CONVERGENCE ANGLE ESTABLISHED FROM JA-98.

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EMAIL: kyle.gorrell@lsr7.net

HAZEL GROVE ELEMENTARY SCHOOL
SUMMIT VILLAGE CORPORATE SITE
GRADING AND STORM WATER MANAGEMENT PLAN
LEE'S SUMMIT, MO 64086
SECTION 25 - TOWNSHIP 48 NORTH - RANGE 32 WEST
UNNAMED TRIBUTARY OF LITTLE CEDAR CREEK
DISTURBED AREA = 20.531 Ac

FLOOD STATEMENT:
THE SUBJECT PROPERTY IS SHOWN TO BE LOCATED IN ZONE "X" (AREA OF MINIMAL FLOOD HAZARD), AS DEPICTED ON THE FLOOD INSURANCE RATE MAP NO. 29095C0409G, MAP REVISED JANUARY 20, 2017, CITY OF LEE'S SUMMIT, JACKSON COUNTY, MISSOURI. LOCATION DETERMINED BY A SCALED GRAPHICAL PLOT OF THE FLOOD INSURANCE RATE MAP.

STORM WATER:
THE SITE IS SITUATED IN THE LITTLE CEDAR CREEK WATERSHED. STORM WATER WILL BE COLLECTED AND CONVEYED BY PRIVATE/PUBLIC STORM SEWER OR OVERLAND FLOW ON PROPERTY AND DISCHARGE DIRECTLY TO AN UNNAMED TRIBUTARY. THE DEVELOPMENT OF THE PROPERTY WILL CAUSE AN INCREASE IN IMPERVIOUS COVERAGE. FLOOD CONTROL AND WATER QUALITY MITIGATION WILL BE REQUIRED AS PART OF THIS PROJECT. STORM WATER FEATURES WILL BE DESIGNED IN ACCORDANCE WITH THE LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL, SECTION 5600.

PROPOSED LEGEND

- CONCRETE CURB AND GUTTER
- CONCRETE PAVEMENT
- CONCRETE SIDEWALK
- ASPHALT PAVING
- GRAVEL PAVING
- SOFT PLAY PLAYGROUND
- TURF
- STORM WATER MANAGEMENT BASIN
- PROJECT AREA (APPROXIMATE LIMITS OF DISTURBANCE)
- LIMITS OF DRAINAGE COURSE/STREAM

LEGEND:

Symbol	Description	Symbol	Description
O	MONUMENT FOUND ORIGIN UNCERTAIN UNLESS OTHERWISE NOTED	⊗	WATER LINE GATE VALVE
	CONTROL POINT		FIRE HYDRANT
△	SECTION CORNER	FOC	FIBER OPTIC CABLE SIGN
●	1/2"x24" REBAR W/LS 214F CAP SET (UNLESS NOTED OTHERWISE)	—FOC—	UNDERGROUND FIBER OPTIC CABLE
	BENCHMARK	Ⓢ	SANITARY SEWER MANHOLE
(2) OU	OVERHEAD UTILITY LINE (# OF LINES)	Ⓓ	STORM SEWER MANHOLE
P	PULL BOX	—S—	SANITARY SEWER LINE
	LIGHT POLE	CMP	CORRUGATED METAL PIPE
	UTILITY POLE	RCB	REINFORCED CONCRETE BOX
LP	UTILITY POLE W/ LIGHT	PVC	POLYVINYL CHLORIDE PIPE
	UTILITY POLE W/ TRANSFORMER	HDPE	HIGH DENSITY POLYETHYLENE
←	GUY ANCHOR		STREET/TRAFFIC SIGN
—G—	UNDERGROUND GAS	B/B	BACK TO BACK OF CURB MEASUREMENT
GTS O	GAS CATHODIC PROTECTION TESTING STATION	E/E	EDGE TO EDGE OF ASPHALT
—W—	WATER LINE		DECIDUOUS TREE
			TREE LINE
		—X—	WIRE FENCE
		939	EXISTING GRADE 1' CONTOUR
		950	EXISTING GRADE 5' CONTOUR

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811
Know what's **below.**
Call before you dig.

PROJ. NO. C25_2528 DSN: DDW
CFN: 2528GP DWN: NJN

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architects building relationships

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INCITE DESIGN STUDIO
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DAVID D. WOOD

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Cert. of Authority
#000842
KAW VALLEY ENGINEERING, INC.

STATE OF MISSOURI
DAVID D. WOOD
NUMBER PE-2011037427
PROFESSIONAL ENGINEER
2.18.2026

HAZEL GROVE ELEMENTARY SCHOOL

NW ROSEMARY COURT
LEE'S SUMMIT, MO 64086

Project Phase
PRELIMINARY DEVELOPMENT PACKAGE

Project Number
26-107

Issue Date
02.18.2026

Revision No.	Description	Date Issued

Area Plan

Sheet Name
GRADING AND STORM WATER MANAGEMENT PLAN

Sheet Number
C3.0

in • cite *v.* to provoke thought

EXHIBIT C

PROPOSED DRAINAGE AREA MAP & CALCULATIONS
BMP PLAN & WORKSHEETS

0 100 200 400

SCALE: 1" = 200'

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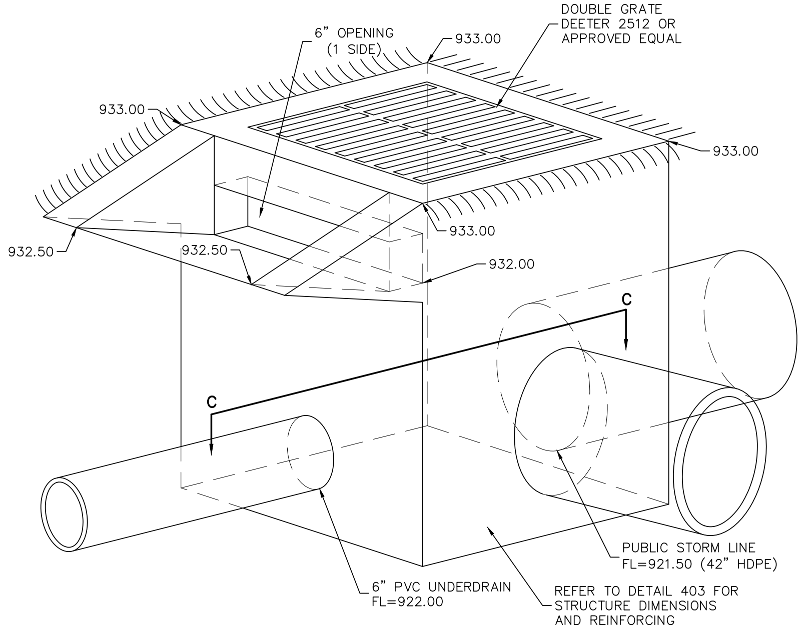
KAW VALLEY ENGINEERING

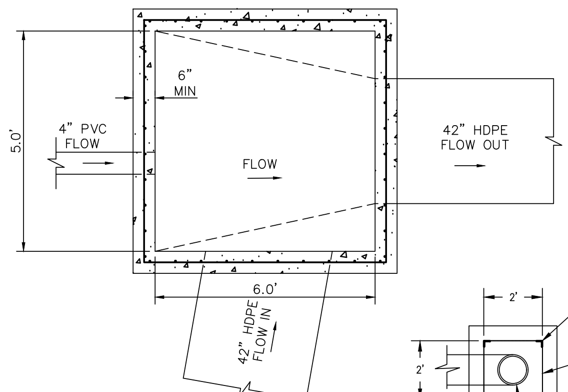
PROPOSED DRAINAGE AREA MAP

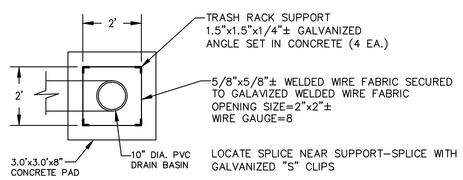
2/18/2026

2528DAM2



POND OUTLET STRUCTURE PB2 DETAIL





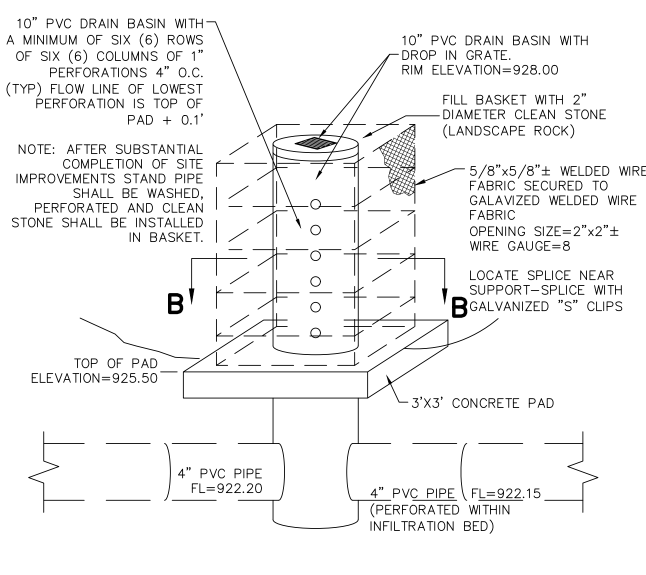
B–B RISER PIPE PLAN
N.T.S.

POND DISCHARGE

Q_2=1.16 cfs

Q_{10}=2.50 cfs

Q_{100}=28.27 cfs



OUTLET STRUCTURE J1 DETAIL
NOT TO SCALE

NATIVE VEGATATION TO BE ESTABLISHED
REFER TO LANDSCAPE PLANS
ELEVATION 928.00 AND BELOW

NOTE: SLOPES SHALL BE STABILIZED PRIOR TO PLANTING PERMANENT VEGETATION. UPSTREAM EROSION CONTROL SHALL REMAIN IN PLACE UNTIL VEGETATION IN BASIN IS ESTABLISHED.

HIGH FLOW, LONG TERM CLASS 2, TYPE F BIODEGRADEABLE EROSION CONTROL MAT.

GRADING NOTES:
REFERENCE OVERALL GRADING PLAN (C3.00)

HORIZONTAL AND VERTICAL DATUM:
REFERENCE OVERALL SITE PLAN (C0.00)

PROJECT BENCH MARKS:
REFERENCE OVERALL SITE PLAN (C0.00)

PROJECT CONTROL:
REFERENCE OVERALL SITE PLAN (C0.00)

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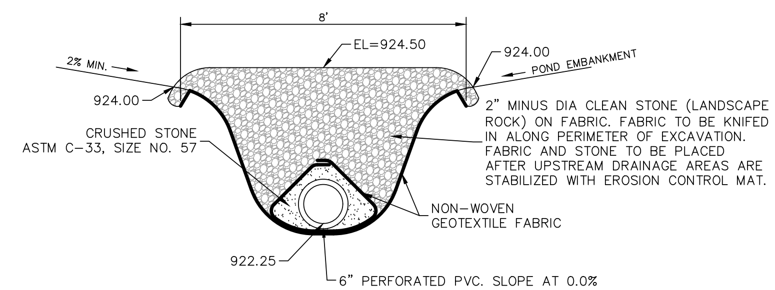
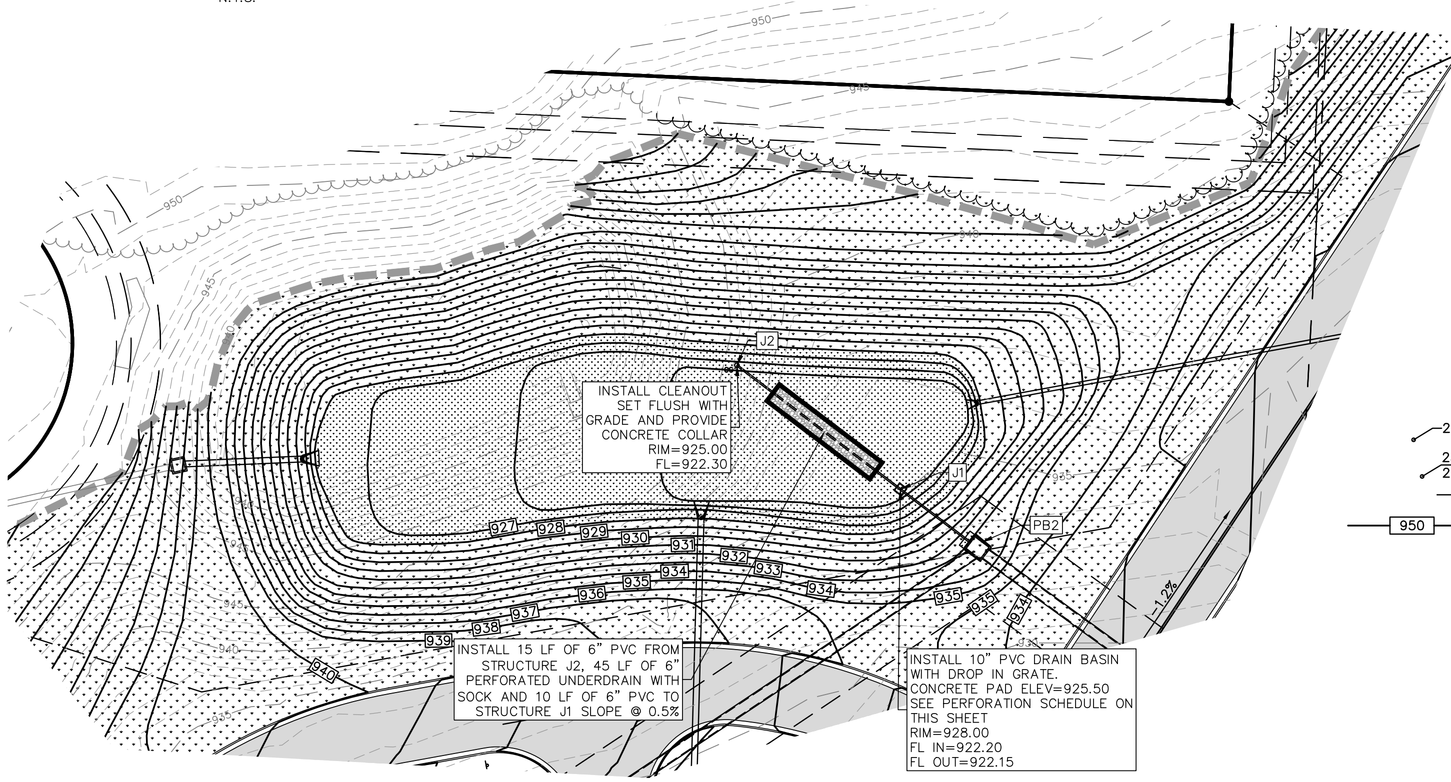


UNDERDRAIN
SECTION: A

BASIN AREA TABLE

ELEVATION	AREA
925.00	4,199 SF
926.00	7,401 SF
927.00	10,951 SF
928.00	13,099 SF
929.00	14,853 SF
930.00	16,655 SF
931.00	18,585 SF
932.00	20,638 SF
933.00	22,774 SF
934.00	25,206 SF
935.00	27,519 SF



Know what's below. Call before you dig.

SCALE: 1" = 30'

NOTES:
21 MATCH EXISTING CURB ELEVATION.
22 MATCH EXISTING SIDEWALK ELEVATION.
23 MATCH EXISTING PAVEMENT ELEVATION.
24 TRANSITION FROM ZERO HEIGHT CURB TO FULL HEIGHT CURB
25 TRANSITION FROM LAYBACK CURB TO FULL HEIGHT CURB

LEGEND (PROPOSED)
22.9 SPOT ELEVATION (ADD 900), TOP OF PAVEMENT
23.6 / 23.1 TOP OF CURB (ADD 900) FLOWLINE OF CURB (ADD 900)
FLOW DIRECTION
950 FINISHED 1' CONTOUR INTERVALS, TOP OF PAVEMENT
SWALE
LP LOW POINT
HP HIGH POINT
LOC LIP OF CURB
TW TOP OF WALL
BW BOTTOM OF WALL
SW SIDEWALK ELEVATION
P PAVEMENT ELEVATION

PROJ. NO. C25_2528 DSN: DDW
CFN: 2528GP–DET DWN: NJN

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KAW VALLEY ENGINEERING, INC.

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DAVID D. WOOD
NUMBER
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PROFESSIONAL ENGINEER

HAZEL GROVE ELEMENTARY SCHOOL

NW ROSEMARY COURT
LEE'S SUMMIT, MO 64086

Project Phase
PRELIMINARY DEVELOPMENT PACKAGE

Project Number
26-107

Issue Date
02.18.2026

Revision No.	Description	Date Issued

Area Plan

Sheet Name
BMP PLAN

Sheet Number
C3.25

in • cite v. to provoke thought

WORKSHEET 1: REQUIRED LEVEL OF SERVICE - UNDEVELOPED SITE

Project: C25D2528 - Hazel Grove Elementary School By: CC Date: 2/4/2026
Location: Greenwood, MO

1. Runoff Curve Number

A. Predevelopment CN

Cover Description	Soil HSG	CN from Table 1	Area (ac.)	Product of CN x Area
Woods (Good)	D	77	27.50	2117.5
Meadows (Good)	D	78	2.02	157.6
Pond	D	98	0.18	17.6
		Totals:	29.70	2292.7

Area-Weighted CN = total product/total area = 77.20 77 (Round to integer)

B. Postdevelopment CN

Cover Description	Soil HSG[1]	CN from Table 1	Area (ac.)	Product of CN x Area
Woods (Good)	D	77	10.86	836.22
Meadows (Good)	D	78	0.49	38.22
Open Space (Good)	D	80	11.79	943.2
Building/Pavement	D	98	6.56	642.88
		Totals:	29.70	2460.52

[1] Postdevelopment CN is one HSG higher for all cover types except preserved vegetation, absent documentation showing how postdevelopment soil structure will be peserved.

Area-Weighted CN = total product/total area = 82.85 83 (Round to integer)

C. Level of Service (LS) Calculation

Predevelopment CN:	77
Postdevelopment CN:	83
Difference:	6
LS Required (see scale at right):	6

Change in CN	LS
1	4.3
2	4.7
3	5
4	5.3
5	5.7
6	6
7	6.1
8	6.2
9	6.3
10	6.4

* All CN Values determined from Table 4.1 of the BMP Manual

WORKSHEET 2: DEVELOP MITIGATION PACKAGE(S) THAT MEET THE REQUIRED LS

Project:	C25D2528 - Hazel Grove Elementary School	By:	CC	Date:	2/4/2026
Location:	Greenwood, MO	Checked:	CC	Date:	2/4/2026
Sheet	1 of 1				

1. Required LS (New Development, Wksht 1) or Total VR (Redevelopment, Wksht 1A): 6.0

Note: Various BMPs may alter CN of proposed development, and LS; recalculate both if applicable.

2. Proposed BMP Option Package No. 1

Cover/BMP Description	Treatment Area	VR from Table 4.4 or 4.6[1]	Product of VR x Area
Preserved Native Vegetation (S.M.E)	13.53	9.25	125.2
Established Native Vegetation	0.50	9.25	4.6
Extended Dry Detention Basin	13.28	4	53.1
Untreated	2.39	0	0.0
Total[2]	29.70	**Totals:**	182.9
		Weighted VR	6.2

[1] VR calculated for final BMP only in Treatment Train
[2] Total treatment area cannot exceed 100 percent of the actual site area.
* Blank in Redevelopment

Meets required LS (Yes/No)? YES

EXHIBIT D

PONDPACK ANALYSIS

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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 (ft³/s)
EXDA (Detained)	2 YEAR	2	1.313	12.000	20.69
EXDA (Detained)	10 YEAR	10	2.289	12.000	35.22
EXDA (Detained)	100 YEAR	100	3.689	12.000	55.27
PDA Offsite (Detained)	2 YEAR	2	1.567	12.000	24.44
PDA Offsite (Detained)	10 YEAR	10	2.668	12.000	40.49
PDA Offsite (Detained)	100 YEAR	100	4.232	12.000	62.51
EXDA Offsite (Undetained)	2 YEAR	2	0.294	12.000	4.78
EXDA Offsite (Undetained)	10 YEAR	10	0.519	12.000	8.22
EXDA Offsite (Undetained)	100 YEAR	100	0.843	12.000	12.97
PDA Onsite (Detained)	2 YEAR	2	0.974	12.000	15.89
PDA Onsite (Detained)	10 YEAR	10	1.739	12.000	27.71
PDA Onsite (Detained)	100 YEAR	100	2.849	12.000	44.11
PDA Onsite (Undetained)	2 YEAR	2	3.556	12.200	37.05
PDA Onsite (Undetained)	10 YEAR	10	6.685	12.150	70.00
PDA Onsite (Undetained)	100 YEAR	100	11.325	12.150	117.29
EXDA Onsite (Undetained)	2 YEAR	2	3.407	12.200	34.19
EXDA Onsite (Undetained)	10 YEAR	10	6.857	12.200	70.24
EXDA Onsite (Undetained)	100 YEAR	100	12.148	12.150	124.28

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)
EX Offsite D	2 YEAR	2	0.914	13.950	0.89
EX Offsite D	10 YEAR	10	1.378	13.600	1.67
EX Offsite D	100 YEAR	100	2.629	12.200	17.43
P OUT	2 YEAR	2	4.907	12.200	38.18
P OUT	10 YEAR	10	8.808	12.150	71.30
P OUT	100 YEAR	100	15.943	12.150	147.23
EX Onsite UD	2 YEAR	2	3.407	12.200	34.19
EX Onsite UD	10 YEAR	10	6.857	12.200	70.24
EX Onsite UD	100 YEAR	100	12.148	12.150	124.28
EX Offsite UD	2 YEAR	2	0.294	12.000	4.78
EX Offsite UD	10 YEAR	10	0.519	12.000	8.22
EX Offsite UD	100 YEAR	100	0.843	12.000	12.97

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)

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)
Existing Pond (IN)	2 YEAR	2	1.313	12.000	20.69	(N/A)	(N/A)
Existing Pond (OUT)	2 YEAR	2	0.914	13.950	0.89	940.59	0.744
Existing Pond (IN)	10 YEAR	10	2.289	12.000	35.22	(N/A)	(N/A)
Existing Pond (OUT)	10 YEAR	10	1.378	13.600	1.67	942.75	1.346
Existing Pond (IN)	100 YEAR	100	3.689	12.000	55.27	(N/A)	(N/A)
Existing Pond (OUT)	100 YEAR	100	2.629	12.200	17.43	943.99	1.758
Proposed EDDB (IN)	2 YEAR	2	2.541	12.000	40.33	(N/A)	(N/A)
Proposed EDDB (OUT)	2 YEAR	2	1.351	15.300	1.20	930.38	1.544
Proposed EDDB (IN)	10 YEAR	10	4.407	12.000	68.19	(N/A)	(N/A)
Proposed EDDB (OUT)	10 YEAR	10	2.123	13.300	3.74	932.79	2.639
Proposed EDDB (IN)	100 YEAR	100	7.081	12.000	106.62	(N/A)	(N/A)
Proposed EDDB (OUT)	100 YEAR	100	4.618	12.200	30.81	934.21	3.423

Time-Depth Curve: 10 Year	
Label	10 Year
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	10 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.1	0.1	0.1	0.1	0.1
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.2	0.2	0.2	0.2
3.000	0.2	0.2	0.2	0.2	0.2
3.500	0.2	0.2	0.2	0.2	0.2
4.000	0.3	0.3	0.3	0.3	0.3
4.500	0.3	0.3	0.3	0.3	0.3
5.000	0.3	0.3	0.4	0.4	0.4
5.500	0.4	0.4	0.4	0.4	0.4
6.000	0.4	0.4	0.4	0.5	0.5
6.500	0.5	0.5	0.5	0.5	0.5
7.000	0.5	0.5	0.5	0.6	0.6
7.500	0.6	0.6	0.6	0.6	0.6
8.000	0.6	0.6	0.7	0.7	0.7
8.500	0.7	0.7	0.7	0.7	0.8
9.000	0.8	0.8	0.8	0.8	0.8
9.500	0.9	0.9	0.9	0.9	0.9
10.000	1.0	1.0	1.0	1.0	1.1
10.500	1.1	1.1	1.1	1.2	1.2
11.000	1.2	1.3	1.3	1.4	1.4
11.500	1.5	1.6	1.9	2.3	3.0
12.000	3.5	3.6	3.7	3.8	3.8
12.500	3.9	3.9	4.0	4.0	4.1
13.000	4.1	4.1	4.2	4.2	4.2
13.500	4.2	4.3	4.3	4.3	4.3
14.000	4.3	4.4	4.4	4.4	4.4
14.500	4.4	4.5	4.5	4.5	4.5
15.000	4.5	4.5	4.6	4.6	4.6
15.500	4.6	4.6	4.6	4.6	4.7
16.000	4.7	4.7	4.7	4.7	4.7
16.500	4.7	4.7	4.7	4.8	4.8
17.000	4.8	4.8	4.8	4.8	4.8
17.500	4.8	4.8	4.9	4.9	4.9
18.000	4.9	4.9	4.9	4.9	4.9
18.500	4.9	4.9	4.9	5.0	5.0
19.000	5.0	5.0	5.0	5.0	5.0
19.500	5.0	5.0	5.0	5.0	5.0
20.000	5.0	5.1	5.1	5.1	5.1

Subsection: Time-Depth Curve
Label: HGE Rainfaill Type II
Scenario: 10 YEAR

Return Event: 10 years
Storm Event: 10 Year

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
20.500	5.1	5.1	5.1	5.1	5.1
21.000	5.1	5.1	5.1	5.1	5.1
21.500	5.1	5.2	5.2	5.2	5.2
22.000	5.2	5.2	5.2	5.2	5.2
22.500	5.2	5.2	5.2	5.2	5.2
23.000	5.2	5.2	5.3	5.3	5.3
23.500	5.3	5.3	5.3	5.3	5.3
24.000	5.3	(N/A)	(N/A)	(N/A)	(N/A)

Time-Depth Curve: 100 YR	
Label	100 YR
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	100 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.1	0.1	0.1
1.000	0.1	0.1	0.1	0.1	0.1
1.500	0.1	0.1	0.1	0.2	0.2
2.000	0.2	0.2	0.2	0.2	0.2
2.500	0.2	0.2	0.2	0.2	0.3
3.000	0.3	0.3	0.3	0.3	0.3
3.500	0.3	0.3	0.3	0.4	0.4
4.000	0.4	0.4	0.4	0.4	0.4
4.500	0.4	0.4	0.5	0.5	0.5
5.000	0.5	0.5	0.5	0.5	0.5
5.500	0.6	0.6	0.6	0.6	0.6
6.000	0.6	0.6	0.7	0.7	0.7
6.500	0.7	0.7	0.7	0.7	0.8
7.000	0.8	0.8	0.8	0.8	0.8
7.500	0.9	0.9	0.9	0.9	0.9
8.000	0.9	1.0	1.0	1.0	1.0
8.500	1.0	1.1	1.1	1.1	1.1
9.000	1.1	1.2	1.2	1.2	1.2
9.500	1.3	1.3	1.3	1.4	1.4
10.000	1.4	1.4	1.5	1.5	1.6
10.500	1.6	1.6	1.7	1.7	1.8
11.000	1.8	1.9	2.0	2.0	2.1
11.500	2.2	2.4	2.8	3.4	4.4
12.000	5.2	5.3	5.4	5.6	5.7
12.500	5.7	5.8	5.9	5.9	6.0
13.000	6.0	6.1	6.1	6.2	6.2
13.500	6.2	6.3	6.3	6.3	6.4
14.000	6.4	6.4	6.5	6.5	6.5
14.500	6.5	6.6	6.6	6.6	6.6
15.000	6.7	6.7	6.7	6.7	6.7
15.500	6.8	6.8	6.8	6.8	6.8
16.000	6.9	6.9	6.9	6.9	6.9
16.500	7.0	7.0	7.0	7.0	7.0
17.000	7.0	7.0	7.1	7.1	7.1
17.500	7.1	7.1	7.1	7.2	7.2
18.000	7.2	7.2	7.2	7.2	7.2
18.500	7.3	7.3	7.3	7.3	7.3
19.000	7.3	7.3	7.3	7.3	7.4
19.500	7.4	7.4	7.4	7.4	7.4
20.000	7.4	7.4	7.4	7.5	7.5

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
20.500	7.5	7.5	7.5	7.5	7.5
21.000	7.5	7.5	7.5	7.6	7.6
21.500	7.6	7.6	7.6	7.6	7.6
22.000	7.6	7.6	7.6	7.6	7.7
22.500	7.7	7.7	7.7	7.7	7.7
23.000	7.7	7.7	7.7	7.7	7.7
23.500	7.8	7.8	7.8	7.8	7.8
24.000	7.8	(N/A)	(N/A)	(N/A)	(N/A)

Time-Depth Curve: 2 Year	
Label	2 Year
Start Time	0.000 hours
Increment	0.100 hours
End Time	24.000 hours
Return Event	2 years

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
0.000	0.0	0.0	0.0	0.0	0.0
0.500	0.0	0.0	0.0	0.0	0.0
1.000	0.0	0.0	0.0	0.0	0.1
1.500	0.1	0.1	0.1	0.1	0.1
2.000	0.1	0.1	0.1	0.1	0.1
2.500	0.1	0.1	0.1	0.1	0.1
3.000	0.1	0.1	0.1	0.1	0.1
3.500	0.1	0.1	0.2	0.2	0.2
4.000	0.2	0.2	0.2	0.2	0.2
4.500	0.2	0.2	0.2	0.2	0.2
5.000	0.2	0.2	0.2	0.2	0.2
5.500	0.2	0.3	0.3	0.3	0.3
6.000	0.3	0.3	0.3	0.3	0.3
6.500	0.3	0.3	0.3	0.3	0.3
7.000	0.3	0.4	0.4	0.4	0.4
7.500	0.4	0.4	0.4	0.4	0.4
8.000	0.4	0.4	0.4	0.4	0.5
8.500	0.5	0.5	0.5	0.5	0.5
9.000	0.5	0.5	0.5	0.5	0.6
9.500	0.6	0.6	0.6	0.6	0.6
10.000	0.6	0.6	0.7	0.7	0.7
10.500	0.7	0.7	0.8	0.8	0.8
11.000	0.8	0.8	0.9	0.9	1.0
11.500	1.0	1.1	1.2	1.5	2.0
12.000	2.3	2.4	2.4	2.5	2.5
12.500	2.6	2.6	2.6	2.7	2.7
13.000	2.7	2.7	2.7	2.8	2.8
13.500	2.8	2.8	2.8	2.8	2.9
14.000	2.9	2.9	2.9	2.9	2.9
14.500	2.9	2.9	3.0	3.0	3.0
15.000	3.0	3.0	3.0	3.0	3.0
15.500	3.0	3.0	3.1	3.1	3.1
16.000	3.1	3.1	3.1	3.1	3.1
16.500	3.1	3.1	3.1	3.1	3.1
17.000	3.2	3.2	3.2	3.2	3.2
17.500	3.2	3.2	3.2	3.2	3.2
18.000	3.2	3.2	3.2	3.2	3.2
18.500	3.3	3.3	3.3	3.3	3.3
19.000	3.3	3.3	3.3	3.3	3.3
19.500	3.3	3.3	3.3	3.3	3.3
20.000	3.3	3.3	3.3	3.3	3.4

CUMULATIVE RAINFALL (in)
Output Time Increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Depth (in)	Depth (in)	Depth (in)	Depth (in)	Depth (in)
20.500	3.4	3.4	3.4	3.4	3.4
21.000	3.4	3.4	3.4	3.4	3.4
21.500	3.4	3.4	3.4	3.4	3.4
22.000	3.4	3.4	3.4	3.4	3.4
22.500	3.4	3.4	3.4	3.5	3.5
23.000	3.5	3.5	3.5	3.5	3.5
23.500	3.5	3.5	3.5	3.5	3.5
24.000	3.5	(N/A)	(N/A)	(N/A)	(N/A)

Unit Hydrograph Method (Computational Notes)
Definition of Terms

At	Total area (acres): At = Ai+Ap
Ai	Impervious area (acres)
Ap	Pervious area (acres)
CNi	Runoff curve number for impervious area
CNp	Runoff curve number for pervious area
fLoss	f loss constant infiltration (depth/time)
gKs	Saturated Hydraulic Conductivity (depth/time)
Md	Volumetric Moisture Deficit
Psi	Capillary Suction (length)
hK	Horton Infiltration Decay Rate (time^-1)
fo	Initial Infiltration Rate (depth/time)
fc	Ultimate(capacity)Infiltration Rate (depth/time)
Ia	Initial Abstraction (length)
dt	Computational increment (duration of unit excess rainfall) Default dt is smallest value of 0.1333Tc, rtm, and th (Smallest dt is then adjusted to match up with Tp)
UDdt	User specified override computational main time increment (only used if UDdt is => .1333Tc)
D(t)	Point on distribution curve (fraction of P) for time step t
K	2 / (1 + (Tr/Tp)): default K = 0.75: (for Tr/Tp = 1.67)
Ks	Hydrograph shape factor = Unit Conversions * K: = ((1hr/3600sec) * (1ft/12in) * ((5280ft)**2/sq.mi)) * K Default Ks = 645.333 * 0.75 = 484
Lag	Lag time from center of excess runoff (dt) to Tp: Lag = 0.6Tc
P	Total precipitation depth, inches
Pa(t)	Accumulated rainfall at time step t
Pi(t)	Incremental rainfall at time step t
qp	Peak discharge (cfs) for 1in. runoff, for 1hr, for 1 sq.mi. = (Ks * A * Q) / Tp (where Q = 1in. runoff, A=sq.mi.)
Qu(t)	Unit hydrograph ordinate (cfs) at time step t
Q(t)	Final hydrograph ordinate (cfs) at time step t
Rai(t)	Accumulated runoff (inches) at time step t for impervious area
Rap(t)	Accumulated runoff (inches) at time step t for pervious area
Rii(t)	Incremental runoff (inches) at time step t for impervious area
Rip(t)	Incremental runoff (inches) at time step t for pervious area
R(t)	Incremental weighted total runoff (inches)
Rtm	Time increment for rainfall table
Si	S for impervious area: Si = (1000/CNi) - 10
Sp	S for pervious area: Sp = (1000/CNp) - 10
t	Time step (row) number
Tc	Time of concentration
Tb	Time (hrs) of entire unit hydrograph: Tb = Tp + Tr
Tp	Time (hrs) to peak of a unit hydrograph: Tp = (dt/2) + Lag
Tr	Time (hrs) of receding limb of unit hydrograph: Tr = ratio of Tp

Unit Hydrograph Method
Computational Notes
Precipitation

Column (1)	Time for time step t
Column (2)	D(t) = Point on distribution curve for time step t
Column (3)	Pi(t) = Pa(t) - Pa(t-1): Col.(4) - Preceding Col.(4)
Column (4)	Pa(t) = D(t) x P: Col.(2) x P

Pervious Area Runoff (using SCS Runoff CN Method)

Column (5)	Rap(t) = Accumulated pervious runoff for time step t
	If (Pa(t) is <= 0.2Sp) then use: Rap(t) = 0.0
	If (Pa(t) is > 0.2Sp) then use:
	
	Rap(t) = (Col.(4)-0.2Sp)**2 / (Col.(4)+0.8Sp)

Column (6)	Rip(t) = Incremental pervious runoff for time step t Rip(t) = Rap(t) - Rap(t-1) Rip(t) = Col.(5) for current row - Col.(5) for preceding row.

Impervious Area Runoff

Column (7 & 8)...	Did not specify to use impervious areas.

Incremental Weighted Runoff

Column (9)	R(t) = (Ap/At) x Rip(t) + (Ai/At) x Rii(t) R(t) = (Ap/At) x Col.(6) + (Ai/At) x Col.(8)

SCS Unit Hydrograph Method

Column (10)	Q(t) is computed with the SCS unit hydrograph method using R(t) and Qu(t).

Storm Event	2 Year
Return Event	2 years
Duration	24.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.189 hours
Area (User Defined)	6.960 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	11.995 hours
Flow (Peak, Computed)	20.72 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	20.69 ft³/s

Drainage Area	
SCS CN (Composite)	88.000
Area (User Defined)	6.960 acres
Maximum Retention (Pervious)	1.4 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.3 in
Runoff Volume (Pervious)	1.316 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.313 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.189 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	41.72 ft³/s
Unit peak time, Tp	0.126 hours
Unit receding limb, Tr	0.504 hours
Total unit time, Tb	0.630 hours

Storm Event	10 Year
Return Event	10 years
Duration	24.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.189 hours
Area (User Defined)	6.960 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	11.995 hours
Flow (Peak, Computed)	35.32 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	35.22 ft³/s

Drainage Area	
SCS CN (Composite)	88.000
Area (User Defined)	6.960 acres
Maximum Retention (Pervious)	1.4 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.0 in
Runoff Volume (Pervious)	2.294 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2.289 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.189 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	41.72 ft³/s
Unit peak time, Tp	0.126 hours
Unit receding limb, Tr	0.504 hours
Total unit time, Tb	0.630 hours

Storm Event	100 YR
Return Event	100 years
Duration	24.000 hours
Depth	7.8 in
Time of Concentration (Composite)	0.189 hours
Area (User Defined)	6.960 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	11.995 hours
Flow (Peak, Computed)	55.46 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	55.27 ft³/s

Drainage Area	
SCS CN (Composite)	88.000
Area (User Defined)	6.960 acres
Maximum Retention (Pervious)	1.4 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.4 in
Runoff Volume (Pervious)	3.696 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3.689 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.189 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	41.72 ft³/s
Unit peak time, Tp	0.126 hours
Unit receding limb, Tr	0.504 hours
Total unit time, Tb	0.630 hours

Storm Event	2 Year
Return Event	2 years
Duration	24.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.167 hours
Area (User Defined)	1.620 acres

Computational Time Increment	0.022 hours
Time to Peak (Computed)	11.979 hours
Flow (Peak, Computed)	4.80 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	4.78 ft³/s

Drainage Area	
SCS CN (Composite)	87.000
Area (User Defined)	1.620 acres
Maximum Retention (Pervious)	1.5 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.2 in
Runoff Volume (Pervious)	0.295 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.294 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.167 hours
Computational Time Increment	0.022 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	10.99 ft³/s
Unit peak time, Tp	0.111 hours
Unit receding limb, Tr	0.445 hours
Total unit time, Tb	0.557 hours

Storm Event	10 Year
Return Event	10 years
Duration	24.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.167 hours
Area (User Defined)	1.620 acres

Computational Time Increment	0.022 hours
Time to Peak (Computed)	11.979 hours
Flow (Peak, Computed)	8.30 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	8.22 ft³/s

Drainage Area	
SCS CN (Composite)	87.000
Area (User Defined)	1.620 acres
Maximum Retention (Pervious)	1.5 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.9 in
Runoff Volume (Pervious)	0.520 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.519 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.167 hours
Computational Time Increment	0.022 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	10.99 ft³/s
Unit peak time, Tp	0.111 hours
Unit receding limb, Tr	0.445 hours
Total unit time, Tb	0.557 hours

Storm Event	100 YR
Return Event	100 years
Duration	24.000 hours
Depth	7.8 in
Time of Concentration (Composite)	0.167 hours
Area (User Defined)	1.620 acres

Computational Time Increment	0.022 hours
Time to Peak (Computed)	11.979 hours
Flow (Peak, Computed)	13.14 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	12.97 ft³/s

Drainage Area	
SCS CN (Composite)	87.000
Area (User Defined)	1.620 acres
Maximum Retention (Pervious)	1.5 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.3 in
Runoff Volume (Pervious)	0.844 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.843 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.167 hours
Computational Time Increment	0.022 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	10.99 ft³/s
Unit peak time, Tp	0.111 hours
Unit receding limb, Tr	0.445 hours
Total unit time, Tb	0.557 hours

Storm Event	2 Year
Return Event	2 years
Duration	24.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.495 hours
Area (User Defined)	28.810 acres

Computational Time Increment	0.066 hours
Time to Peak (Computed)	12.210 hours
Flow (Peak, Computed)	34.31 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	34.19 ft³/s

Drainage Area	
SCS CN (Composite)	77.000
Area (User Defined)	28.810 acres
Maximum Retention (Pervious)	3.0 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.4 in
Runoff Volume (Pervious)	3.434 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3.407 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.495 hours
Computational Time Increment	0.066 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	65.95 ft³/s
Unit peak time, Tp	0.330 hours
Unit receding limb, Tr	1.320 hours
Total unit time, Tb	1.650 hours

Storm Event	10 Year
Return Event	10 years
Duration	24.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.495 hours
Area (User Defined)	28.810 acres

Computational Time Increment	0.066 hours
Time to Peak (Computed)	12.210 hours
Flow (Peak, Computed)	70.30 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	70.24 ft³/s

Drainage Area	
SCS CN (Composite)	77.000
Area (User Defined)	28.810 acres
Maximum Retention (Pervious)	3.0 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.9 in
Runoff Volume (Pervious)	6.905 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	6.857 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.495 hours
Computational Time Increment	0.066 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	65.95 ft³/s
Unit peak time, Tp	0.330 hours
Unit receding limb, Tr	1.320 hours
Total unit time, Tb	1.650 hours

Storm Event	100 YR
Return Event	100 years
Duration	24.000 hours
Depth	7.8 in
Time of Concentration (Composite)	0.495 hours
Area (User Defined)	28.810 acres

Computational Time Increment	0.066 hours
Time to Peak (Computed)	12.144 hours
Flow (Peak, Computed)	124.33 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	124.28 ft³/s

Drainage Area	
SCS CN (Composite)	77.000
Area (User Defined)	28.810 acres
Maximum Retention (Pervious)	3.0 in
Maximum Retention (Pervious, 20 percent)	0.6 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.1 in
Runoff Volume (Pervious)	12.223 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	12.148 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.495 hours
Computational Time Increment	0.066 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	65.95 ft³/s
Unit peak time, Tp	0.330 hours
Unit receding limb, Tr	1.320 hours
Total unit time, Tb	1.650 hours

Storm Event	2 Year
Return Event	2 years
Duration	24.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.189 hours
Area (User Defined)	7.700 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	11.995 hours
Flow (Peak, Computed)	24.49 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	24.44 ft³/s

Drainage Area	
SCS CN (Composite)	90.000
Area (User Defined)	7.700 acres
Maximum Retention (Pervious)	1.1 in
Maximum Retention (Pervious, 20 percent)	0.2 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.4 in
Runoff Volume (Pervious)	1.571 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.567 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.189 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	46.16 ft³/s
Unit peak time, Tp	0.126 hours
Unit receding limb, Tr	0.504 hours
Total unit time, Tb	0.630 hours

Storm Event	10 Year
Return Event	10 years
Duration	24.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.189 hours
Area (User Defined)	7.700 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	11.995 hours
Flow (Peak, Computed)	40.62 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	40.49 ft³/s

Drainage Area	
SCS CN (Composite)	90.000
Area (User Defined)	7.700 acres
Maximum Retention (Pervious)	1.1 in
Maximum Retention (Pervious, 20 percent)	0.2 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.2 in
Runoff Volume (Pervious)	2.673 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2.668 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.189 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	46.16 ft³/s
Unit peak time, Tp	0.126 hours
Unit receding limb, Tr	0.504 hours
Total unit time, Tb	0.630 hours

Storm Event	100 YR
Return Event	100 years
Duration	24.000 hours
Depth	7.8 in
Time of Concentration (Composite)	0.189 hours
Area (User Defined)	7.700 acres

Computational Time Increment	0.025 hours
Time to Peak (Computed)	11.995 hours
Flow (Peak, Computed)	62.74 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	62.51 ft³/s

Drainage Area	
SCS CN (Composite)	90.000
Area (User Defined)	7.700 acres
Maximum Retention (Pervious)	1.1 in
Maximum Retention (Pervious, 20 percent)	0.2 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.6 in
Runoff Volume (Pervious)	4.241 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	4.232 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.189 hours
Computational Time Increment	0.025 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	46.16 ft³/s
Unit peak time, Tp	0.126 hours
Unit receding limb, Tr	0.504 hours
Total unit time, Tb	0.630 hours

Storm Event	2 Year
Return Event	2 years
Duration	24.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.167 hours
Area (User Defined)	5.580 acres

Computational Time Increment	0.022 hours
Time to Peak (Computed)	11.979 hours
Flow (Peak, Computed)	15.93 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	15.89 ft³/s

Drainage Area	
SCS CN (Composite)	86.000
Area (User Defined)	5.580 acres
Maximum Retention (Pervious)	1.6 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	2.1 in
Runoff Volume (Pervious)	0.976 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.974 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.167 hours
Computational Time Increment	0.022 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	37.86 ft³/s
Unit peak time, Tp	0.111 hours
Unit receding limb, Tr	0.445 hours
Total unit time, Tb	0.557 hours

Storm Event	10 Year
Return Event	10 years
Duration	24.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.167 hours
Area (User Defined)	5.580 acres

Computational Time Increment	0.022 hours
Time to Peak (Computed)	11.979 hours
Flow (Peak, Computed)	27.96 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	27.71 ft³/s

Drainage Area	
SCS CN (Composite)	86.000
Area (User Defined)	5.580 acres
Maximum Retention (Pervious)	1.6 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.7 in
Runoff Volume (Pervious)	1.743 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	1.739 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.167 hours
Computational Time Increment	0.022 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	37.86 ft³/s
Unit peak time, Tp	0.111 hours
Unit receding limb, Tr	0.445 hours
Total unit time, Tb	0.557 hours

Storm Event	100 YR
Return Event	100 years
Duration	24.000 hours
Depth	7.8 in
Time of Concentration (Composite)	0.167 hours
Area (User Defined)	5.580 acres

Computational Time Increment	0.022 hours
Time to Peak (Computed)	11.979 hours
Flow (Peak, Computed)	44.68 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	44.11 ft³/s

Drainage Area	
SCS CN (Composite)	86.000
Area (User Defined)	5.580 acres
Maximum Retention (Pervious)	1.6 in
Maximum Retention (Pervious, 20 percent)	0.3 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.1 in
Runoff Volume (Pervious)	2.854 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	2.849 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.167 hours
Computational Time Increment	0.022 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	37.86 ft³/s
Unit peak time, Tp	0.111 hours
Unit receding limb, Tr	0.445 hours
Total unit time, Tb	0.557 hours

Storm Event	2 Year
Return Event	2 years
Duration	24.000 hours
Depth	3.5 in
Time of Concentration (Composite)	0.476 hours
Area (User Defined)	24.100 acres

Computational Time Increment	0.063 hours
Time to Peak (Computed)	12.186 hours
Flow (Peak, Computed)	37.59 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.200 hours
Flow (Peak Interpolated Output)	37.05 ft³/s

Drainage Area	
SCS CN (Composite)	82.000
Area (User Defined)	24.100 acres
Maximum Retention (Pervious)	2.2 in
Maximum Retention (Pervious, 20 percent)	0.4 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	1.8 in
Runoff Volume (Pervious)	3.580 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	3.556 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.476 hours
Computational Time Increment	0.063 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	57.37 ft³/s
Unit peak time, Tp	0.317 hours
Unit receding limb, Tr	1.269 hours
Total unit time, Tb	1.587 hours

Storm Event	10 Year
Return Event	10 years
Duration	24.000 hours
Depth	5.3 in
Time of Concentration (Composite)	0.476 hours
Area (User Defined)	24.100 acres

Computational Time Increment	0.063 hours
Time to Peak (Computed)	12.186 hours
Flow (Peak, Computed)	70.59 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	70.00 ft³/s

Drainage Area	
SCS CN (Composite)	82.000
Area (User Defined)	24.100 acres
Maximum Retention (Pervious)	2.2 in
Maximum Retention (Pervious, 20 percent)	0.4 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.3 in
Runoff Volume (Pervious)	6.725 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	6.685 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.476 hours
Computational Time Increment	0.063 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	57.37 ft³/s
Unit peak time, Tp	0.317 hours
Unit receding limb, Tr	1.269 hours
Total unit time, Tb	1.587 hours

Storm Event	100 YR
Return Event	100 years
Duration	24.000 hours
Depth	7.8 in
Time of Concentration (Composite)	0.476 hours
Area (User Defined)	24.100 acres

Computational Time Increment	0.063 hours
Time to Peak (Computed)	12.186 hours
Flow (Peak, Computed)	117.74 ft³/s
Output Increment	0.050 hours
Time to Flow (Peak Interpolated Output)	12.150 hours
Flow (Peak Interpolated Output)	117.29 ft³/s

Drainage Area	
SCS CN (Composite)	82.000
Area (User Defined)	24.100 acres
Maximum Retention (Pervious)	2.2 in
Maximum Retention (Pervious, 20 percent)	0.4 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.7 in
Runoff Volume (Pervious)	11.388 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	11.325 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.476 hours
Computational Time Increment	0.063 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	57.37 ft³/s
Unit peak time, Tp	0.317 hours
Unit receding limb, Tr	1.269 hours
Total unit time, Tb	1.587 hours

Summary for Hydrograph Addition at 'EX Offsite D'

Upstream Link	Upstream Node
Pond Out	Existing Pond

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	Pond Out	0.914	13.950	0.89
Flow (In)	EX Offsite D	0.914	13.950	0.89

Summary for Hydrograph Addition at 'EX Offsite D'

Upstream Link	Upstream Node
Pond Out	Existing Pond

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	Pond Out	1.378	13.600	1.67
Flow (In)	EX Offsite D	1.378	13.600	1.67

Summary for Hydrograph Addition at 'EX Offsite D'

Upstream Link	Upstream Node
Pond Out	Existing Pond

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	Pond Out	2.629	12.200	17.43
Flow (In)	EX Offsite D	2.629	12.200	17.43

Summary for Hydrograph Addition at 'EX Offsite UD'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EXDA Offsite (Undetained)

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EXDA Offsite (Undetained)	0.294	12.000	4.78
Flow (In)	EX Offsite UD	0.294	12.000	4.78

Summary for Hydrograph Addition at 'EX Offsite UD'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EXDA Offsite (Undetained)

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EXDA Offsite (Undetained)	0.519	12.000	8.22
Flow (In)	EX Offsite UD	0.519	12.000	8.22

Summary for Hydrograph Addition at 'EX Offsite UD'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EXDA Offsite (Undetained)

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EXDA Offsite (Undetained)	0.843	12.000	12.97
Flow (In)	EX Offsite UD	0.843	12.000	12.97

Summary for Hydrograph Addition at 'EX Onsite UD'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EXDA Onsite (Undetained)

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EXDA Onsite (Undetained)	3.407	12.200	34.19
Flow (In)	EX Onsite UD	3.407	12.200	34.19

Summary for Hydrograph Addition at 'EX Onsite UD'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EXDA Onsite (Undetained)

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EXDA Onsite (Undetained)	6.857	12.200	70.24
Flow (In)	EX Onsite UD	6.857	12.200	70.24

Summary for Hydrograph Addition at 'EX Onsite UD'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	EXDA Onsite (Undetained)

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	EXDA Onsite (Undetained)	12.148	12.150	124.28
Flow (In)	EX Onsite UD	12.148	12.150	124.28

Summary for Hydrograph Addition at 'P OUT'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA Onsite (Undetained)
Pond Out	Proposed EDDB

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	PDA Onsite (Undetained)	3.556	12.200	37.05
Flow (From)	Pond Out	1.351	15.300	1.20
Flow (In)	P OUT	4.907	12.200	38.18

Summary for Hydrograph Addition at 'P OUT'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA Onsite (Undetained)
Pond Out	Proposed EDDB

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft³/s)
Flow (From)	PDA Onsite (Undetained)	6.685	12.150	70.00
Flow (From)	Pond Out	2.123	13.300	3.74
Flow (In)	P OUT	8.808	12.150	71.30

Summary for Hydrograph Addition at 'P OUT'

Upstream Link	Upstream Node
<Catchment to Outflow Node>	PDA Onsite (Undetained)
Pond Out	Proposed EDDB

Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (hours)	Flow (Peak) (ft^3/s)
Flow (From)	PDA Onsite (Undetained)	11.325	12.150	117.29
Flow (From)	Pond Out	4.618	12.200	30.81
Flow (In)	P OUT	15.943	12.150	147.23

Elevation (ft)	Planimeter (ft²)	Area (acres)	A1+A2+sqr(A1*A2) (acres)	Volume (ac-ft)	Volume (Total) (ac-ft)
935.91	0.0	0.003	0.000	0.000	0.000
937.00	0.0	0.129	0.152	0.055	0.055
938.00	0.0	0.170	0.448	0.149	0.204
939.00	0.0	0.201	0.556	0.185	0.390
940.00	0.0	0.229	0.645	0.215	0.605
941.00	0.0	0.258	0.730	0.243	0.848
942.00	0.0	0.288	0.818	0.273	1.121
943.00	0.0	0.320	0.912	0.304	1.425
944.00	0.0	0.354	1.011	0.337	1.762
945.00	0.0	0.391	1.116	0.372	2.134
946.00	0.0	0.462	1.278	0.426	2.560

Pond Volume Equations
* Incremental volume computed by the Conic Method for Reservoir Volumes.

Volume = (1/3) * (EL2 - El1) * (Area1 + Area2 + sqr(Area1 * Area2))

where:	EL1, EL2	Lower and upper elevations of the increment
	Area1, Area2	Areas computed for EL1, EL2, respectively
	Volume	Incremental volume between EL1 and EL2

Subsection: Elevation-Area Volume Curve
Label: Proposed EDDB
Scenario: 100 YEAR

Return Event: 100 years
Storm Event: 100 YR

Elevation (ft)	Planimeter (ft²)	Area (acres)	A1+A2+sqr(A1*A2) (acres)	Volume (ac-ft)	Volume (Total) (ac-ft)
922.00	0.0	0.000	0.000	0.000	0.000
925.00	0.0	0.096	0.096	0.096	0.096
926.00	0.0	0.170	0.394	0.131	0.228
927.00	0.0	0.251	0.628	0.209	0.437
928.00	0.0	0.301	0.827	0.276	0.713
929.00	0.0	0.341	0.962	0.321	1.033
930.00	0.0	0.382	1.084	0.361	1.395
931.00	0.0	0.427	1.213	0.404	1.799
932.00	0.0	0.474	1.350	0.450	2.249
933.00	0.0	0.523	1.494	0.498	2.747
934.00	0.0	0.579	1.651	0.551	3.298
935.00	0.0	0.632	1.815	0.605	3.903

Pond Volume Equations
* Incremental volume computed by the Conic Method for Reservoir Volumes.

Volume = (1/3) * (EL2 - El1) * (Area1 + Area2 + sqr(Area1 * Area2))

where:	EL1, EL2	Lower and upper elevations of the increment
	Area1, Area2	Areas computed for EL1, EL2, respectively
	Volume	Incremental volume between EL1 and EL2

Requested Pond Water Surface Elevations	
Minimum (Headwater)	935.91 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	946.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Orifice-Circular	Underdrain	Forward	Outlet Pipe	935.91	946.00
Orifice-Circular	Secondary Orifice	Forward	Outlet Pipe	942.10	946.00
Rectangular Weir	Overflow	Forward	Outlet Pipe	942.75	946.00
Orifice-Area	Primary Orifice	Forward	Outlet Pipe	943.44	946.00
Culvert-Circular	Outlet Pipe	Forward	TW	935.32	946.00
Rectangular Weir	Spillway	Forward	TW	945.00	946.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: Underdrain Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	935.91 ft
Orifice Diameter	4.0 in
Orifice Coefficient	0.600

Structure ID: Outlet Pipe Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	15.0 in
Length	81.00 ft
Length (Computed Barrel)	81.03 ft
Slope (Computed)	0.026 ft/ft

Outlet Control Data	
Manning's n	0.012
Ke	0.200
Kb	0.020
Kr	0.200
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0018
M	2.0000
C	0.0292
Y	0.7400
T1 ratio (HW/D)	1.049
T2 ratio (HW/D)	1.194
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	936.63 ft	T1 Flow	4.80 ft³/s
T2 Elevation	936.81 ft	T2 Flow	5.49 ft³/s

Structure ID: Spillway Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	945.00 ft
Weir Length	240.00 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: Secondary Orifice Structure Type: Orifice-Circular	
Number of Openings	2
Elevation	942.10 ft
Orifice Diameter	4.0 in
Orifice Coefficient	0.600

Structure ID: Primary Orifice Structure Type: Orifice-Area	
Number of Openings	1
Elevation	943.44 ft
Orifice Area	1.8 ft²
Top Elevation	943.94 ft
Datum Elevation	943.69 ft
Orifice Coefficient	0.600

Structure ID: Overflow Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	942.75 ft
Weir Length	3.10 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: TW Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
935.91	0.00	(N/A)	0.00	(no Q: Underdrain,Secondary Orifice,Overflow,Primary Orifice,Outlet Pipe,Spillway)
936.41	0.24	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
936.91	0.38	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
937.41	0.48	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
937.91	0.57	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
938.41	0.64	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
938.91	0.71	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
939.41	0.77	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
939.91	0.82	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
940.41	0.87	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
940.91	0.92	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
941.41	0.97	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
941.91	1.02	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
942.10	1.03	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
942.41	1.35	(N/A)	0.00	Underdrain,Secondary Orifice,Outlet Pipe (no Q: Overflow,Primary Orifice,Spillway)
942.75	1.67	(N/A)	0.00	Underdrain,Secondary Orifice,Outlet Pipe (no Q: Overflow,Primary Orifice,Spillway)
942.91	2.37	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Outlet Pipe (no Q: Primary Orifice,Spillway)
943.41	7.02	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Outlet Pipe (no Q: Primary Orifice,Spillway)
943.44	7.38	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Outlet Pipe (no Q: Primary Orifice,Spillway)
943.91	17.27	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Primary Orifice,Outlet Pipe (no Q: Spillway)
944.41	18.30	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Primary Orifice,Outlet Pipe (no Q: Spillway)
944.91	18.86	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Primary Orifice,Outlet Pipe (no Q: Spillway)
945.00	18.95	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Primary Orifice,Outlet Pipe (no Q: Spillway)
945.41	208.38	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Primary Orifice,Outlet Pipe,Spillway
945.91	644.85	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Primary Orifice,Outlet Pipe,Spillway
946.00	739.91	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Primary Orifice,Outlet Pipe,Spillway

Requested Pond Water Surface Elevations	
Minimum (Headwater)	935.91 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	946.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Orifice-Circular	Underdrain	Forward	Outlet Pipe	935.91	946.00
Orifice-Circular	Secondary Orifice	Forward	Outlet Pipe	942.10	946.00
Rectangular Weir	Overflow	Forward	Outlet Pipe	942.75	946.00
Orifice-Area	Primary Orifice	Forward	Outlet Pipe	943.44	946.00
Culvert-Circular	Outlet Pipe	Forward	TW	935.32	946.00
Rectangular Weir	Spillway	Forward	TW	945.00	946.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: Underdrain Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	935.91 ft
Orifice Diameter	4.0 in
Orifice Coefficient	0.600

Structure ID: Outlet Pipe Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	15.0 in
Length	81.00 ft
Length (Computed Barrel)	81.03 ft
Slope (Computed)	0.026 ft/ft

Outlet Control Data	
Manning's n	0.012
Ke	0.200
Kb	0.020
Kr	0.200
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0018
M	2.0000
C	0.0292
Y	0.7400
T1 ratio (HW/D)	1.049
T2 ratio (HW/D)	1.194
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	936.63 ft	T1 Flow	4.80 ft³/s
T2 Elevation	936.81 ft	T2 Flow	5.49 ft³/s

Structure ID: Spillway Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	945.00 ft
Weir Length	240.00 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: Secondary Orifice Structure Type: Orifice-Circular	
Number of Openings	2
Elevation	942.10 ft
Orifice Diameter	4.0 in
Orifice Coefficient	0.600

Structure ID: Primary Orifice Structure Type: Orifice-Area	
Number of Openings	1
Elevation	943.44 ft
Orifice Area	1.8 ft²
Top Elevation	943.94 ft
Datum Elevation	943.69 ft
Orifice Coefficient	0.600

Structure ID: Overflow Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	942.75 ft
Weir Length	3.10 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: TW Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
935.91	0.00	(N/A)	0.00	(no Q: Underdrain,Secondary Orifice,Overflow,Primary Orifice,Outlet Pipe,Spillway)
936.41	0.24	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
936.91	0.38	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
937.41	0.48	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
937.91	0.57	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
938.41	0.64	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
938.91	0.71	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
939.41	0.77	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
939.91	0.82	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
940.41	0.87	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
940.91	0.92	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
941.41	0.97	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
941.91	1.02	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
942.10	1.03	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
942.41	1.35	(N/A)	0.00	Underdrain,Secondary Orifice,Outlet Pipe (no Q: Overflow,Primary Orifice,Spillway)
942.75	1.67	(N/A)	0.00	Underdrain,Secondary Orifice,Outlet Pipe (no Q: Overflow,Primary Orifice,Spillway)
942.91	2.37	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Outlet Pipe (no Q: Primary Orifice,Spillway)
943.41	7.02	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Outlet Pipe (no Q: Primary Orifice,Spillway)
943.44	7.38	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Outlet Pipe (no Q: Primary Orifice,Spillway)
943.91	17.27	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Primary Orifice,Outlet Pipe (no Q: Spillway)
944.41	18.30	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Primary Orifice,Outlet Pipe (no Q: Spillway)
944.91	18.86	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Primary Orifice,Outlet Pipe (no Q: Spillway)
945.00	18.95	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Primary Orifice,Outlet Pipe (no Q: Spillway)
945.41	208.38	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Primary Orifice,Outlet Pipe,Spillway
945.91	644.85	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Primary Orifice,Outlet Pipe,Spillway
946.00	739.91	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Primary Orifice,Outlet Pipe,Spillway

Requested Pond Water Surface Elevations	
Minimum (Headwater)	935.91 ft
Increment (Headwater)	0.50 ft
Maximum (Headwater)	946.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Orifice-Circular	Underdrain	Forward	Outlet Pipe	935.91	946.00
Orifice-Circular	Secondary Orifice	Forward	Outlet Pipe	942.10	946.00
Rectangular Weir	Overflow	Forward	Outlet Pipe	942.75	946.00
Orifice-Area	Primary Orifice	Forward	Outlet Pipe	943.44	946.00
Culvert-Circular	Outlet Pipe	Forward	TW	935.32	946.00
Rectangular Weir	Spillway	Forward	TW	945.00	946.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: Underdrain Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	935.91 ft
Orifice Diameter	4.0 in
Orifice Coefficient	0.600

Structure ID: Outlet Pipe Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	15.0 in
Length	81.00 ft
Length (Computed Barrel)	81.03 ft
Slope (Computed)	0.026 ft/ft

Outlet Control Data	
Manning's n	0.012
Ke	0.200
Kb	0.020
Kr	0.200
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0018
M	2.0000
C	0.0292
Y	0.7400
T1 ratio (HW/D)	1.049
T2 ratio (HW/D)	1.194
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	936.63 ft	T1 Flow	4.80 ft³/s
T2 Elevation	936.81 ft	T2 Flow	5.49 ft³/s

Structure ID: Spillway Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	945.00 ft
Weir Length	240.00 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: Secondary Orifice Structure Type: Orifice-Circular	
Number of Openings	2
Elevation	942.10 ft
Orifice Diameter	4.0 in
Orifice Coefficient	0.600

Structure ID: Primary Orifice Structure Type: Orifice-Area	
Number of Openings	1
Elevation	943.44 ft
Orifice Area	1.8 ft²
Top Elevation	943.94 ft
Datum Elevation	943.69 ft
Orifice Coefficient	0.600

Structure ID: Overflow Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	942.75 ft
Weir Length	3.10 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: TW Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
935.91	0.00	(N/A)	0.00	(no Q: Underdrain,Secondary Orifice,Overflow,Primary Orifice,Outlet Pipe,Spillway)
936.41	0.24	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
936.91	0.38	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
937.41	0.48	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
937.91	0.57	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
938.41	0.64	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
938.91	0.71	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
939.41	0.77	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
939.91	0.82	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
940.41	0.87	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
940.91	0.92	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
941.41	0.97	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
941.91	1.02	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
942.10	1.03	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Secondary Orifice,Overflow,Primary Orifice,Spillway)
942.41	1.35	(N/A)	0.00	Underdrain,Secondary Orifice,Outlet Pipe (no Q: Overflow,Primary Orifice,Spillway)
942.75	1.67	(N/A)	0.00	Underdrain,Secondary Orifice,Outlet Pipe (no Q: Overflow,Primary Orifice,Spillway)
942.91	2.37	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Outlet Pipe (no Q: Primary Orifice,Spillway)
943.41	7.02	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Outlet Pipe (no Q: Primary Orifice,Spillway)
943.44	7.38	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Outlet Pipe (no Q: Primary Orifice,Spillway)
943.91	17.27	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Primary Orifice,Outlet Pipe (no Q: Spillway)
944.41	18.30	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Primary Orifice,Outlet Pipe (no Q: Spillway)
944.91	18.86	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Primary Orifice,Outlet Pipe (no Q: Spillway)
945.00	18.95	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Primary Orifice,Outlet Pipe (no Q: Spillway)
945.41	208.38	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Primary Orifice,Outlet Pipe,Spillway
945.91	644.85	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Primary Orifice,Outlet Pipe,Spillway
946.00	739.91	(N/A)	0.00	Underdrain,Secondary Orifice,Overflow,Primary Orifice,Outlet Pipe,Spillway

Requested Pond Water Surface Elevations	
Minimum (Headwater)	922.00 ft
Increment (Headwater)	0.10 ft
Maximum (Headwater)	935.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Rectangular Weir	Apron	Forward	Area Inlet	932.50	935.00
Orifice-Area	Area Inlet	Forward	Outlet Pipe	932.00	935.00
Orifice-Circular	Underdrain	Forward	Outlet Pipe	922.00	935.00
Orifice-Area	Overflow	Forward	Outlet Pipe	933.00	935.00
Culvert-Circular	Outlet Pipe	Forward	TW	921.50	935.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: Underdrain Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	922.00 ft
Orifice Diameter	4.0 in
Orifice Coefficient	0.600

Structure ID: Outlet Pipe Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	42.0 in
Length	81.00 ft
Length (Computed Barrel)	81.06 ft
Slope (Computed)	0.037 ft/ft

Outlet Control Data	
Manning's n	0.012
Ke	0.200
Kb	0.005
Kr	0.200
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.077
T2 ratio (HW/D)	1.179
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	925.27 ft	T1 Flow	63.00 ft³/s
T2 Elevation	925.63 ft	T2 Flow	72.00 ft³/s

Structure ID: Apron Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	932.50 ft
Weir Length	5.00 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: Area Inlet Structure Type: Orifice-Area	
Number of Openings	1
Elevation	932.00 ft
Orifice Area	2.5 ft²
Top Elevation	932.50 ft
Datum Elevation	932.25 ft
Orifice Coefficient	0.600

Structure ID: Overflow Structure Type: Orifice-Area	
Number of Openings	1
Elevation	933.00 ft
Orifice Area	2.5 ft²
Top Elevation	0.00 ft
Datum Elevation	0.00 ft
Orifice Coefficient	0.600

Structure ID: TW Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
922.00	0.00	(N/A)	0.00	(no Q: Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe)
922.10	0.02	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
922.20	0.07	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
922.30	0.14	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
922.40	0.20	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
922.50	0.24	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
922.60	0.28	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
922.70	0.31	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
922.80	0.33	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
922.90	0.36	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.00	0.38	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.10	0.41	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.20	0.43	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.30	0.45	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.40	0.47	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.50	0.48	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.60	0.50	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.70	0.52	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
923.80	0.54	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.90	0.55	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.00	0.57	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.10	0.58	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.20	0.60	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.30	0.61	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.40	0.63	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.50	0.64	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.60	0.66	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.70	0.67	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.80	0.68	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.90	0.69	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.00	0.71	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.10	0.72	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.20	0.73	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.30	0.74	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.40	0.76	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.50	0.77	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
925.60	0.78	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.70	0.79	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.80	0.80	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.90	0.81	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.00	0.82	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.10	0.83	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.20	0.84	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.30	0.85	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.40	0.86	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.50	0.87	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.60	0.88	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.70	0.89	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.80	0.90	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.90	0.91	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.00	0.92	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.10	0.93	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.20	0.94	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.30	0.95	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
927.40	0.96	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.50	0.97	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.60	0.98	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.70	0.99	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.80	1.00	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.90	1.01	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.00	1.01	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.10	1.02	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.20	1.03	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.30	1.04	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.40	1.05	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.50	1.06	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.60	1.07	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.70	1.07	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.80	1.08	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.90	1.09	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.00	1.10	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.10	1.11	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
929.20	1.11	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.30	1.12	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.40	1.13	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.50	1.14	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.60	1.15	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.70	1.15	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.80	1.16	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.90	1.17	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.00	1.18	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.10	1.18	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.20	1.19	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.30	1.20	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.40	1.21	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.50	1.21	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.60	1.22	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.70	1.23	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.80	1.23	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.90	1.24	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
931.00	1.25	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.10	1.26	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.20	1.26	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.30	1.27	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.40	1.28	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.50	1.28	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.60	1.29	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.70	1.30	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.80	1.30	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.90	1.31	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
932.00	1.32	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
932.10	1.32	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
932.20	1.33	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
932.30	1.34	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
932.40	1.34	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
932.50	1.35	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
932.60	1.83	(N/A)	0.00	Apron,Area Inlet,Underdrain,Outlet Pipe (no Q: Overflow)
932.70	2.70	(N/A)	0.00	Apron,Area Inlet,Underdrain,Outlet Pipe (no Q: Overflow)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
932.80	3.83	(N/A)	0.00	Apron,Area Inlet,Underdrain,Outlet Pipe (no Q: Overflow)
932.90	5.17	(N/A)	0.00	Apron,Area Inlet,Underdrain,Outlet Pipe (no Q: Overflow)
933.00	6.68	(N/A)	0.00	Apron,Area Inlet,Underdrain,Outlet Pipe (no Q: Overflow)
933.10	12.04	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
933.20	14.97	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
933.30	17.36	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
933.40	19.44	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
933.50	21.27	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
933.60	22.94	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
933.70	24.47	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
933.80	25.87	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
933.90	27.18	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.00	28.41	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.10	29.57	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.20	30.67	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.30	31.72	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.40	32.73	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.50	33.71	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
934.60	34.65	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.70	35.56	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.80	36.45	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.90	37.30	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
935.00	38.12	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe

Requested Pond Water Surface Elevations	
Minimum (Headwater)	922.00 ft
Increment (Headwater)	0.10 ft
Maximum (Headwater)	935.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Rectangular Weir	Apron	Forward	Area Inlet	932.50	935.00
Orifice-Area	Area Inlet	Forward	Outlet Pipe	932.00	935.00
Orifice-Circular	Underdrain	Forward	Outlet Pipe	922.00	935.00
Orifice-Area	Overflow	Forward	Outlet Pipe	933.00	935.00
Culvert-Circular	Outlet Pipe	Forward	TW	921.50	935.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: Underdrain Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	922.00 ft
Orifice Diameter	4.0 in
Orifice Coefficient	0.600

Structure ID: Outlet Pipe Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	42.0 in
Length	81.00 ft
Length (Computed Barrel)	81.06 ft
Slope (Computed)	0.037 ft/ft

Outlet Control Data	
Manning's n	0.012
Ke	0.200
Kb	0.005
Kr	0.200
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.077
T2 ratio (HW/D)	1.179
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	925.27 ft	T1 Flow	63.00 ft³/s
T2 Elevation	925.63 ft	T2 Flow	72.00 ft³/s

Structure ID: Apron Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	932.50 ft
Weir Length	5.00 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: Area Inlet Structure Type: Orifice-Area	
Number of Openings	1
Elevation	932.00 ft
Orifice Area	2.5 ft²
Top Elevation	932.50 ft
Datum Elevation	932.25 ft
Orifice Coefficient	0.600

Structure ID: Overflow Structure Type: Orifice-Area	
Number of Openings	1
Elevation	933.00 ft
Orifice Area	2.5 ft²
Top Elevation	0.00 ft
Datum Elevation	0.00 ft
Orifice Coefficient	0.600

Structure ID: TW Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
922.00	0.00	(N/A)	0.00	(no Q: Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe)
922.10	0.02	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
922.20	0.07	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
922.30	0.14	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
922.40	0.20	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
922.50	0.24	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
922.60	0.28	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
922.70	0.31	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
922.80	0.33	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
922.90	0.36	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.00	0.38	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.10	0.41	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.20	0.43	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.30	0.45	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.40	0.47	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.50	0.48	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.60	0.50	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.70	0.52	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
923.80	0.54	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.90	0.55	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.00	0.57	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.10	0.58	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.20	0.60	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.30	0.61	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.40	0.63	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.50	0.64	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.60	0.66	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.70	0.67	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.80	0.68	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.90	0.69	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.00	0.71	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.10	0.72	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.20	0.73	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.30	0.74	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.40	0.76	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.50	0.77	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
925.60	0.78	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.70	0.79	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.80	0.80	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.90	0.81	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.00	0.82	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.10	0.83	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.20	0.84	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.30	0.85	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.40	0.86	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.50	0.87	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.60	0.88	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.70	0.89	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.80	0.90	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.90	0.91	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.00	0.92	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.10	0.93	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.20	0.94	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.30	0.95	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
927.40	0.96	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.50	0.97	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.60	0.98	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.70	0.99	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.80	1.00	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.90	1.01	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.00	1.01	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.10	1.02	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.20	1.03	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.30	1.04	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.40	1.05	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.50	1.06	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.60	1.07	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.70	1.07	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.80	1.08	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.90	1.09	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.00	1.10	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.10	1.11	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
929.20	1.11	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.30	1.12	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.40	1.13	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.50	1.14	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.60	1.15	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.70	1.15	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.80	1.16	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.90	1.17	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.00	1.18	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.10	1.18	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.20	1.19	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.30	1.20	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.40	1.21	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.50	1.21	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.60	1.22	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.70	1.23	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.80	1.23	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.90	1.24	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
931.00	1.25	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.10	1.26	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.20	1.26	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.30	1.27	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.40	1.28	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.50	1.28	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.60	1.29	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.70	1.30	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.80	1.30	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.90	1.31	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
932.00	1.32	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
932.10	1.32	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
932.20	1.33	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
932.30	1.34	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
932.40	1.34	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
932.50	1.35	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
932.60	1.83	(N/A)	0.00	Apron,Area Inlet,Underdrain,Outlet Pipe (no Q: Overflow)
932.70	2.70	(N/A)	0.00	Apron,Area Inlet,Underdrain,Outlet Pipe (no Q: Overflow)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
932.80	3.83	(N/A)	0.00	Apron,Area Inlet,Underdrain,Outlet Pipe (no Q: Overflow)
932.90	5.17	(N/A)	0.00	Apron,Area Inlet,Underdrain,Outlet Pipe (no Q: Overflow)
933.00	6.68	(N/A)	0.00	Apron,Area Inlet,Underdrain,Outlet Pipe (no Q: Overflow)
933.10	12.04	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
933.20	14.97	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
933.30	17.36	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
933.40	19.44	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
933.50	21.27	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
933.60	22.94	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
933.70	24.47	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
933.80	25.87	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
933.90	27.18	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.00	28.41	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.10	29.57	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.20	30.67	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.30	31.72	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.40	32.73	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.50	33.71	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe

Subsection: Composite Rating Curve
Label: PR Primary Outlet Structure
Scenario: 10 YEAR

Return Event: 10 years
Storm Event: 10 Year

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
934.60	34.65	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.70	35.56	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.80	36.45	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.90	37.30	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
935.00	38.12	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe

Requested Pond Water Surface Elevations	
Minimum (Headwater)	922.00 ft
Increment (Headwater)	0.10 ft
Maximum (Headwater)	935.00 ft

Outlet Connectivity

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Rectangular Weir	Apron	Forward	Area Inlet	932.50	935.00
Orifice-Area	Area Inlet	Forward	Outlet Pipe	932.00	935.00
Orifice-Circular	Underdrain	Forward	Outlet Pipe	922.00	935.00
Orifice-Area	Overflow	Forward	Outlet Pipe	933.00	935.00
Culvert-Circular	Outlet Pipe	Forward	TW	921.50	935.00
Tailwater Settings	Tailwater			(N/A)	(N/A)

Structure ID: Underdrain Structure Type: Orifice-Circular	
Number of Openings	1
Elevation	922.00 ft
Orifice Diameter	4.0 in
Orifice Coefficient	0.600

Structure ID: Outlet Pipe Structure Type: Culvert-Circular	
Number of Barrels	1
Diameter	42.0 in
Length	81.00 ft
Length (Computed Barrel)	81.06 ft
Slope (Computed)	0.037 ft/ft

Outlet Control Data	
Manning's n	0.012
Ke	0.200
Kb	0.005
Kr	0.200
Convergence Tolerance	0.00 ft

Inlet Control Data	
Equation Form	Form 1
K	0.0045
M	2.0000
C	0.0317
Y	0.6900
T1 ratio (HW/D)	1.077
T2 ratio (HW/D)	1.179
Slope Correction Factor	-0.500

Use unsubmerged inlet control 0 equation below T1 elevation.
Use submerged inlet control 0 equation above T2 elevation

In transition zone between unsubmerged and submerged inlet control,
interpolate between flows at T1 & T2...

T1 Elevation	925.27 ft	T1 Flow	63.00 ft³/s
T2 Elevation	925.63 ft	T2 Flow	72.00 ft³/s

Structure ID: Apron Structure Type: Rectangular Weir	
Number of Openings	1
Elevation	932.50 ft
Weir Length	5.00 ft
Weir Coefficient	3.00 (ft^0.5)/s

Structure ID: Area Inlet Structure Type: Orifice-Area	
Number of Openings	1
Elevation	932.00 ft
Orifice Area	2.5 ft²
Top Elevation	932.50 ft
Datum Elevation	932.25 ft
Orifice Coefficient	0.600

Structure ID: Overflow Structure Type: Orifice-Area	
Number of Openings	1
Elevation	933.00 ft
Orifice Area	2.5 ft²
Top Elevation	0.00 ft
Datum Elevation	0.00 ft
Orifice Coefficient	0.600

Structure ID: TW Structure Type: TW Setup, DS Channel	
Tailwater Type	Free Outfall

Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft³/s
Flow Tolerance (Maximum)	10.000 ft³/s

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
922.00	0.00	(N/A)	0.00	(no Q: Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe)
922.10	0.02	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
922.20	0.07	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
922.30	0.14	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
922.40	0.20	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
922.50	0.24	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
922.60	0.28	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
922.70	0.31	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
922.80	0.33	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
922.90	0.36	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.00	0.38	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.10	0.41	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.20	0.43	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.30	0.45	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.40	0.47	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.50	0.48	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.60	0.50	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.70	0.52	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
923.80	0.54	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
923.90	0.55	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.00	0.57	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.10	0.58	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.20	0.60	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.30	0.61	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.40	0.63	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.50	0.64	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.60	0.66	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.70	0.67	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.80	0.68	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
924.90	0.69	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.00	0.71	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.10	0.72	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.20	0.73	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.30	0.74	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.40	0.76	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.50	0.77	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft^3/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
925.60	0.78	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.70	0.79	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.80	0.80	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
925.90	0.81	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.00	0.82	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.10	0.83	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.20	0.84	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.30	0.85	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.40	0.86	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.50	0.87	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.60	0.88	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.70	0.89	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.80	0.90	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
926.90	0.91	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.00	0.92	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.10	0.93	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.20	0.94	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.30	0.95	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
927.40	0.96	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.50	0.97	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.60	0.98	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.70	0.99	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.80	1.00	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
927.90	1.01	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.00	1.01	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.10	1.02	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.20	1.03	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.30	1.04	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.40	1.05	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.50	1.06	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.60	1.07	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.70	1.07	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.80	1.08	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
928.90	1.09	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.00	1.10	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.10	1.11	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
929.20	1.11	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.30	1.12	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.40	1.13	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.50	1.14	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.60	1.15	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.70	1.15	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.80	1.16	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
929.90	1.17	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.00	1.18	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.10	1.18	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.20	1.19	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.30	1.20	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.40	1.21	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.50	1.21	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.60	1.22	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.70	1.23	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.80	1.23	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
930.90	1.24	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
931.00	1.25	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.10	1.26	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.20	1.26	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.30	1.27	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.40	1.28	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.50	1.28	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.60	1.29	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.70	1.30	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.80	1.30	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
931.90	1.31	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
932.00	1.32	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
932.10	1.32	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
932.20	1.33	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
932.30	1.34	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
932.40	1.34	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
932.50	1.35	(N/A)	0.00	Underdrain,Outlet Pipe (no Q: Apron,Area Inlet,Overflow)
932.60	1.83	(N/A)	0.00	Apron,Area Inlet,Underdrain,Outlet Pipe (no Q: Overflow)
932.70	2.70	(N/A)	0.00	Apron,Area Inlet,Underdrain,Outlet Pipe (no Q: Overflow)

Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft³/s)	Tailwater Elevation (ft)	Convergence Error (ft)	Contributing Structures
932.80	3.83	(N/A)	0.00	Apron,Area Inlet,Underdrain,Outlet Pipe (no Q: Overflow)
932.90	5.17	(N/A)	0.00	Apron,Area Inlet,Underdrain,Outlet Pipe (no Q: Overflow)
933.00	6.68	(N/A)	0.00	Apron,Area Inlet,Underdrain,Outlet Pipe (no Q: Overflow)
933.10	12.04	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
933.20	14.97	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
933.30	17.36	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
933.40	19.44	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
933.50	21.27	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
933.60	22.94	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
933.70	24.47	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
933.80	25.87	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
933.90	27.18	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.00	28.41	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.10	29.57	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.20	30.67	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.30	31.72	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.40	32.73	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.50	33.71	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe

Subsection: Composite Rating Curve
Label: PR Primary Outlet Structure
Scenario: 100 YEAR

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)	Contributing Structures
934.60	34.65	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.70	35.56	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.80	36.45	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
934.90	37.30	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe
935.00	38.12	(N/A)	0.00	Apron,Area Inlet,Underdrain,Overflow, Outlet Pipe

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	935.91 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	0.050 hours

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
935.91	0.00	0.000	0.003	0.00	0.00	0.00
936.41	0.24	0.009	0.038	0.00	0.24	4.39
936.91	0.38	0.044	0.112	0.00	0.38	21.83
937.41	0.48	0.111	0.145	0.00	0.48	54.38
937.91	0.57	0.189	0.166	0.00	0.57	92.12
938.41	0.64	0.277	0.183	0.00	0.64	134.51
938.91	0.71	0.372	0.198	0.00	0.71	180.64
939.41	0.77	0.474	0.212	0.00	0.77	230.42
939.91	0.82	0.584	0.227	0.00	0.82	283.58
940.41	0.87	0.701	0.241	0.00	0.87	340.17
940.91	0.92	0.825	0.255	0.00	0.92	400.18
941.41	0.97	0.956	0.270	0.00	0.97	463.72
941.91	1.02	1.095	0.285	0.00	1.02	530.91
942.10	1.03	1.150	0.291	0.00	1.03	557.42
942.41	1.35	1.241	0.301	0.00	1.35	602.16
942.75	1.67	1.346	0.312	0.00	1.67	652.92
942.91	2.37	1.396	0.317	0.00	2.37	677.99
943.41	7.02	1.559	0.334	0.00	7.02	761.45
943.44	7.38	1.569	0.335	0.00	7.38	766.66
943.91	17.27	1.730	0.351	0.00	17.27	854.55
944.41	18.30	1.910	0.369	0.00	18.30	942.62
944.91	18.86	2.099	0.387	0.00	18.86	1,034.63
945.00	18.95	2.134	0.391	0.00	18.95	1,051.66
945.41	208.38	2.300	0.419	0.00	208.38	1,321.41
945.91	644.85	2.518	0.455	0.00	644.85	1,863.69
946.00	739.91	2.560	0.462	0.00	739.91	1,978.74

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	935.91 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	0.050 hours

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
935.91	0.00	0.000	0.003	0.00	0.00	0.00
936.41	0.24	0.009	0.038	0.00	0.24	4.39
936.91	0.38	0.044	0.112	0.00	0.38	21.83
937.41	0.48	0.111	0.145	0.00	0.48	54.38
937.91	0.57	0.189	0.166	0.00	0.57	92.12
938.41	0.64	0.277	0.183	0.00	0.64	134.51
938.91	0.71	0.372	0.198	0.00	0.71	180.64
939.41	0.77	0.474	0.212	0.00	0.77	230.42
939.91	0.82	0.584	0.227	0.00	0.82	283.58
940.41	0.87	0.701	0.241	0.00	0.87	340.17
940.91	0.92	0.825	0.255	0.00	0.92	400.18
941.41	0.97	0.956	0.270	0.00	0.97	463.72
941.91	1.02	1.095	0.285	0.00	1.02	530.91
942.10	1.03	1.150	0.291	0.00	1.03	557.42
942.41	1.35	1.241	0.301	0.00	1.35	602.16
942.75	1.67	1.346	0.312	0.00	1.67	652.92
942.91	2.37	1.396	0.317	0.00	2.37	677.99
943.41	7.02	1.559	0.334	0.00	7.02	761.45
943.44	7.38	1.569	0.335	0.00	7.38	766.66
943.91	17.27	1.730	0.351	0.00	17.27	854.55
944.41	18.30	1.910	0.369	0.00	18.30	942.62
944.91	18.86	2.099	0.387	0.00	18.86	1,034.63
945.00	18.95	2.134	0.391	0.00	18.95	1,051.66
945.41	208.38	2.300	0.419	0.00	208.38	1,321.41
945.91	644.85	2.518	0.455	0.00	644.85	1,863.69
946.00	739.91	2.560	0.462	0.00	739.91	1,978.74

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	935.91 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	0.050 hours

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
935.91	0.00	0.000	0.003	0.00	0.00	0.00
936.41	0.24	0.009	0.038	0.00	0.24	4.39
936.91	0.38	0.044	0.112	0.00	0.38	21.83
937.41	0.48	0.111	0.145	0.00	0.48	54.38
937.91	0.57	0.189	0.166	0.00	0.57	92.12
938.41	0.64	0.277	0.183	0.00	0.64	134.51
938.91	0.71	0.372	0.198	0.00	0.71	180.64
939.41	0.77	0.474	0.212	0.00	0.77	230.42
939.91	0.82	0.584	0.227	0.00	0.82	283.58
940.41	0.87	0.701	0.241	0.00	0.87	340.17
940.91	0.92	0.825	0.255	0.00	0.92	400.18
941.41	0.97	0.956	0.270	0.00	0.97	463.72
941.91	1.02	1.095	0.285	0.00	1.02	530.91
942.10	1.03	1.150	0.291	0.00	1.03	557.42
942.41	1.35	1.241	0.301	0.00	1.35	602.16
942.75	1.67	1.346	0.312	0.00	1.67	652.92
942.91	2.37	1.396	0.317	0.00	2.37	677.99
943.41	7.02	1.559	0.334	0.00	7.02	761.45
943.44	7.38	1.569	0.335	0.00	7.38	766.66
943.91	17.27	1.730	0.351	0.00	17.27	854.55
944.41	18.30	1.910	0.369	0.00	18.30	942.62
944.91	18.86	2.099	0.387	0.00	18.86	1,034.63
945.00	18.95	2.134	0.391	0.00	18.95	1,051.66
945.41	208.38	2.300	0.419	0.00	208.38	1,321.41
945.91	644.85	2.518	0.455	0.00	644.85	1,863.69
946.00	739.91	2.560	0.462	0.00	739.91	1,978.74

Peak Discharge	0.89 ft³/s
Time to Peak	13.950 hours
Hydrograph Volume	0.914 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
6.150	0.00	0.00	0.00	0.00	0.00
6.400	0.01	0.01	0.01	0.01	0.01
6.650	0.01	0.01	0.02	0.02	0.02
6.900	0.02	0.02	0.03	0.03	0.03
7.150	0.03	0.03	0.04	0.04	0.04
7.400	0.04	0.04	0.05	0.05	0.05
7.650	0.05	0.06	0.06	0.06	0.06
7.900	0.07	0.07	0.07	0.07	0.08
8.150	0.08	0.08	0.08	0.09	0.09
8.400	0.09	0.10	0.10	0.11	0.11
8.650	0.11	0.12	0.12	0.13	0.13
8.900	0.14	0.14	0.15	0.16	0.16
9.150	0.17	0.17	0.18	0.18	0.19
9.400	0.19	0.20	0.20	0.21	0.21
9.650	0.22	0.22	0.23	0.24	0.24
9.900	0.25	0.25	0.25	0.25	0.25
10.150	0.25	0.25	0.26	0.26	0.26
10.400	0.26	0.27	0.27	0.27	0.28
10.650	0.28	0.29	0.29	0.30	0.30
10.900	0.31	0.32	0.32	0.33	0.34
11.150	0.35	0.36	0.37	0.38	0.38
11.400	0.39	0.40	0.40	0.41	0.42
11.650	0.43	0.45	0.48	0.51	0.55
11.900	0.60	0.65	0.71	0.75	0.79
12.150	0.82	0.83	0.84	0.85	0.86
12.400	0.86	0.86	0.87	0.87	0.87
12.650	0.87	0.88	0.88	0.88	0.88
12.900	0.88	0.88	0.88	0.88	0.89
13.150	0.89	0.89	0.89	0.89	0.89
13.400	0.89	0.89	0.89	0.89	0.89
13.650	0.89	0.89	0.89	0.89	0.89
13.900	0.89	0.89	0.89	0.89	0.89
14.150	0.89	0.89	0.89	0.89	0.89
14.400	0.89	0.89	0.89	0.89	0.89
14.650	0.89	0.89	0.89	0.89	0.89
14.900	0.89	0.89	0.89	0.89	0.89
15.150	0.89	0.89	0.89	0.88	0.88
15.400	0.88	0.88	0.88	0.88	0.88
15.650	0.88	0.88	0.88	0.88	0.88
15.900	0.88	0.88	0.88	0.88	0.88
16.150	0.88	0.88	0.87	0.87	0.87
16.400	0.87	0.87	0.87	0.87	0.87
16.650	0.87	0.87	0.87	0.87	0.87
16.900	0.87	0.87	0.86	0.86	0.86
17.150	0.86	0.86	0.86	0.86	0.86

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
17.400	0.86	0.86	0.86	0.86	0.86
17.650	0.86	0.85	0.85	0.85	0.85
17.900	0.85	0.85	0.85	0.85	0.85
18.150	0.85	0.85	0.85	0.85	0.84
18.400	0.84	0.84	0.84	0.84	0.84
18.650	0.84	0.84	0.84	0.84	0.84
18.900	0.84	0.83	0.83	0.83	0.83
19.150	0.83	0.83	0.83	0.83	0.83
19.400	0.83	0.83	0.82	0.82	0.82
19.650	0.82	0.82	0.82	0.82	0.82
19.900	0.82	0.82	0.81	0.81	0.81
20.150	0.81	0.81	0.81	0.81	0.81
20.400	0.81	0.80	0.80	0.80	0.80
20.650	0.80	0.80	0.80	0.80	0.80
20.900	0.79	0.79	0.79	0.79	0.79
21.150	0.79	0.79	0.79	0.79	0.78
21.400	0.78	0.78	0.78	0.78	0.78
21.650	0.78	0.78	0.78	0.78	0.77
21.900	0.77	0.77	0.77	0.77	0.77
22.150	0.77	0.77	0.76	0.76	0.76
22.400	0.76	0.76	0.76	0.76	0.76
22.650	0.76	0.75	0.75	0.75	0.75
22.900	0.75	0.75	0.75	0.75	0.74
23.150	0.74	0.74	0.74	0.74	0.74
23.400	0.74	0.74	0.73	0.73	0.73
23.650	0.73	0.73	0.73	0.73	0.73
23.900	0.73	0.72	0.72	(N/A)	(N/A)

Peak Discharge	1.67 ft³/s
Time to Peak	13.600 hours
Hydrograph Volume	1.378 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
4.450	0.00	0.00	0.00	0.00	0.00
4.700	0.01	0.01	0.01	0.01	0.01
4.950	0.02	0.02	0.02	0.02	0.03
5.200	0.03	0.03	0.04	0.04	0.04
5.450	0.04	0.05	0.05	0.05	0.06
5.700	0.06	0.06	0.07	0.07	0.08
5.950	0.08	0.08	0.09	0.09	0.09
6.200	0.10	0.10	0.11	0.11	0.11
6.450	0.12	0.12	0.13	0.13	0.13
6.700	0.14	0.14	0.15	0.15	0.16
6.950	0.16	0.16	0.17	0.17	0.18
7.200	0.18	0.19	0.19	0.19	0.20
7.450	0.20	0.21	0.21	0.22	0.22
7.700	0.23	0.23	0.24	0.24	0.24
7.950	0.25	0.25	0.25	0.25	0.25
8.200	0.25	0.25	0.25	0.25	0.26
8.450	0.26	0.26	0.26	0.26	0.27
8.700	0.27	0.27	0.27	0.28	0.28
8.950	0.28	0.29	0.29	0.29	0.30
9.200	0.30	0.31	0.31	0.32	0.32
9.450	0.32	0.33	0.33	0.34	0.34
9.700	0.35	0.35	0.36	0.36	0.37
9.950	0.37	0.38	0.38	0.39	0.39
10.200	0.39	0.39	0.40	0.40	0.40
10.450	0.41	0.41	0.42	0.42	0.43
10.700	0.43	0.44	0.44	0.45	0.45
10.950	0.46	0.47	0.47	0.48	0.49
11.200	0.49	0.50	0.51	0.52	0.52
11.450	0.53	0.54	0.55	0.57	0.58
11.700	0.60	0.64	0.67	0.71	0.77
11.950	0.83	0.89	0.94	0.98	1.01
12.200	1.03	1.11	1.21	1.29	1.35
12.450	1.40	1.43	1.47	1.50	1.52
12.700	1.54	1.56	1.57	1.59	1.60
12.950	1.61	1.62	1.63	1.64	1.65
13.200	1.65	1.66	1.66	1.67	1.67
13.450	1.67	1.67	1.67	1.67	1.67
13.700	1.67	1.67	1.67	1.67	1.67
13.950	1.66	1.66	1.66	1.65	1.65
14.200	1.64	1.64	1.63	1.63	1.62
14.450	1.62	1.61	1.61	1.60	1.60
14.700	1.59	1.59	1.58	1.58	1.57
14.950	1.56	1.56	1.55	1.55	1.54
15.200	1.53	1.53	1.52	1.51	1.51
15.450	1.50	1.49	1.49	1.48	1.47

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
15.700	1.47	1.46	1.45	1.44	1.44
15.950	1.43	1.42	1.42	1.41	1.40
16.200	1.39	1.39	1.38	1.37	1.36
16.450	1.36	1.35	1.34	1.33	1.32
16.700	1.32	1.31	1.30	1.29	1.28
16.950	1.28	1.27	1.26	1.25	1.25
17.200	1.24	1.23	1.22	1.22	1.21
17.450	1.20	1.20	1.19	1.18	1.17
17.700	1.17	1.16	1.15	1.15	1.14
17.950	1.13	1.13	1.12	1.11	1.10
18.200	1.10	1.09	1.08	1.08	1.07
18.450	1.07	1.06	1.05	1.05	1.04
18.700	1.03	1.03	1.03	1.03	1.03
18.950	1.03	1.03	1.03	1.03	1.03
19.200	1.03	1.03	1.03	1.03	1.03
19.450	1.03	1.02	1.02	1.02	1.02
19.700	1.02	1.02	1.02	1.02	1.02
19.950	1.02	1.02	1.02	1.02	1.02
20.200	1.02	1.01	1.01	1.01	1.01
20.450	1.01	1.01	1.01	1.01	1.01
20.700	1.01	1.01	1.01	1.01	1.00
20.950	1.00	1.00	1.00	1.00	1.00
21.200	1.00	1.00	1.00	1.00	1.00
21.450	1.00	1.00	0.99	0.99	0.99
21.700	0.99	0.99	0.99	0.99	0.99
21.950	0.99	0.99	0.99	0.99	0.99
22.200	0.98	0.98	0.98	0.98	0.98
22.450	0.98	0.98	0.98	0.98	0.98
22.700	0.98	0.98	0.98	0.97	0.97
22.950	0.97	0.97	0.97	0.97	0.97
23.200	0.97	0.97	0.97	0.97	0.97
23.450	0.96	0.96	0.96	0.96	0.96
23.700	0.96	0.96	0.96	0.96	0.96
23.950	0.96	0.96	(N/A)	(N/A)	(N/A)

Peak Discharge	17.43 ft³/s
Time to Peak	12.200 hours
Hydrograph Volume	2.629 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
3.200	0.00	0.00	0.00	0.00	0.01
3.450	0.01	0.01	0.01	0.02	0.02
3.700	0.02	0.03	0.03	0.04	0.04
3.950	0.04	0.05	0.05	0.06	0.06
4.200	0.07	0.07	0.08	0.08	0.09
4.450	0.09	0.10	0.10	0.11	0.11
4.700	0.12	0.13	0.13	0.14	0.14
4.950	0.15	0.16	0.16	0.17	0.17
5.200	0.18	0.19	0.19	0.20	0.20
5.450	0.21	0.22	0.22	0.23	0.24
5.700	0.24	0.25	0.25	0.25	0.25
5.950	0.25	0.25	0.25	0.25	0.26
6.200	0.26	0.26	0.26	0.26	0.27
6.450	0.27	0.27	0.27	0.27	0.28
6.700	0.28	0.28	0.29	0.29	0.29
6.950	0.29	0.30	0.30	0.30	0.31
7.200	0.31	0.31	0.32	0.32	0.32
7.450	0.33	0.33	0.33	0.34	0.34
7.700	0.35	0.35	0.35	0.36	0.36
7.950	0.37	0.37	0.37	0.38	0.38
8.200	0.38	0.39	0.39	0.39	0.39
8.450	0.40	0.40	0.40	0.40	0.41
8.700	0.41	0.41	0.42	0.42	0.42
8.950	0.43	0.43	0.43	0.44	0.44
9.200	0.45	0.45	0.45	0.46	0.46
9.450	0.47	0.47	0.48	0.48	0.48
9.700	0.49	0.49	0.49	0.50	0.50
9.950	0.51	0.51	0.51	0.52	0.52
10.200	0.53	0.53	0.54	0.54	0.55
10.450	0.55	0.56	0.57	0.57	0.58
10.700	0.58	0.59	0.59	0.60	0.61
10.950	0.62	0.62	0.63	0.64	0.65
11.200	0.65	0.66	0.67	0.68	0.69
11.450	0.70	0.71	0.72	0.73	0.75
11.700	0.78	0.81	0.84	0.89	0.95
11.950	1.02	1.54	5.55	12.79	17.30
12.200	17.43	17.41	17.30	15.92	14.32
12.450	12.83	11.49	10.29	9.23	8.30
12.700	7.50	7.04	6.73	6.44	6.17
12.950	5.91	5.66	5.43	5.20	4.99
13.200	4.80	4.61	4.43	4.27	4.12
13.450	3.97	3.83	3.70	3.58	3.46
13.700	3.35	3.25	3.15	3.05	2.96
13.950	2.88	2.80	2.72	2.64	2.57
14.200	2.50	2.44	2.38	2.35	2.32

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
14.450	2.30	2.27	2.25	2.22	2.20
14.700	2.17	2.15	2.13	2.10	2.08
14.950	2.06	2.04	2.01	1.99	1.97
15.200	1.95	1.93	1.91	1.89	1.86
15.450	1.84	1.82	1.80	1.78	1.76
15.700	1.74	1.72	1.70	1.68	1.67
15.950	1.67	1.66	1.66	1.65	1.65
16.200	1.64	1.64	1.63	1.62	1.62
16.450	1.61	1.61	1.60	1.60	1.59
16.700	1.59	1.58	1.57	1.57	1.56
16.950	1.56	1.55	1.55	1.54	1.53
17.200	1.53	1.52	1.52	1.51	1.51
17.450	1.50	1.49	1.49	1.48	1.48
17.700	1.47	1.47	1.46	1.45	1.45
17.950	1.44	1.44	1.43	1.42	1.42
18.200	1.41	1.41	1.40	1.40	1.39
18.450	1.38	1.38	1.37	1.37	1.36
18.700	1.35	1.35	1.34	1.33	1.33
18.950	1.32	1.31	1.31	1.30	1.29
19.200	1.29	1.28	1.27	1.27	1.26
19.450	1.25	1.25	1.24	1.23	1.23
19.700	1.22	1.21	1.21	1.20	1.19
19.950	1.19	1.18	1.17	1.17	1.16
20.200	1.15	1.15	1.14	1.13	1.13
20.450	1.12	1.12	1.11	1.10	1.10
20.700	1.09	1.09	1.08	1.07	1.07
20.950	1.06	1.06	1.05	1.05	1.04
21.200	1.04	1.03	1.03	1.03	1.03
21.450	1.03	1.03	1.03	1.03	1.03
21.700	1.03	1.03	1.03	1.03	1.03
21.950	1.03	1.03	1.03	1.03	1.03
22.200	1.03	1.02	1.02	1.02	1.02
22.450	1.02	1.02	1.02	1.02	1.02
22.700	1.02	1.02	1.02	1.02	1.02
22.950	1.02	1.02	1.02	1.02	1.02
23.200	1.02	1.01	1.01	1.01	1.01
23.450	1.01	1.01	1.01	1.01	1.01
23.700	1.01	1.01	1.01	1.01	1.01
23.950	1.01	1.01	(N/A)	(N/A)	(N/A)

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	922.00 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	0.050 hours

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
922.00	0.00	0.000	0.000	0.00	0.00	0.00
922.10	0.02	0.000	0.000	0.00	0.02	0.02
922.20	0.07	0.000	0.000	0.00	0.07	0.08
922.30	0.14	0.000	0.001	0.00	0.14	0.19
922.40	0.20	0.000	0.002	0.00	0.20	0.31
922.50	0.24	0.000	0.003	0.00	0.24	0.46
922.60	0.28	0.001	0.004	0.00	0.28	0.65
922.70	0.31	0.001	0.005	0.00	0.31	0.90
922.80	0.33	0.002	0.007	0.00	0.33	1.22
922.90	0.36	0.003	0.009	0.00	0.36	1.62
923.00	0.38	0.004	0.011	0.00	0.38	2.11
923.10	0.41	0.005	0.013	0.00	0.41	2.71
923.20	0.43	0.006	0.015	0.00	0.43	3.41
923.30	0.45	0.008	0.018	0.00	0.45	4.24
923.40	0.47	0.010	0.021	0.00	0.47	5.21
923.50	0.48	0.012	0.024	0.00	0.48	6.32
923.60	0.50	0.015	0.027	0.00	0.50	7.58
923.70	0.52	0.018	0.031	0.00	0.52	9.01
923.80	0.54	0.021	0.035	0.00	0.54	10.61
923.90	0.55	0.024	0.039	0.00	0.55	12.41
924.00	0.57	0.029	0.043	0.00	0.57	14.39
924.10	0.58	0.033	0.047	0.00	0.58	16.59
924.20	0.60	0.038	0.052	0.00	0.60	19.00
924.30	0.61	0.043	0.057	0.00	0.61	21.64
924.40	0.63	0.049	0.062	0.00	0.63	24.52
924.50	0.64	0.056	0.067	0.00	0.64	27.64
924.60	0.66	0.063	0.072	0.00	0.66	31.03
924.70	0.67	0.070	0.078	0.00	0.67	34.68
924.80	0.68	0.078	0.084	0.00	0.68	38.61
924.90	0.69	0.087	0.090	0.00	0.69	42.84
925.00	0.71	0.096	0.096	0.00	0.71	47.36
925.10	0.72	0.106	0.103	0.00	0.72	52.19
925.20	0.73	0.117	0.109	0.00	0.73	57.34
925.30	0.74	0.128	0.116	0.00	0.74	62.82
925.40	0.76	0.140	0.123	0.00	0.76	68.63
925.50	0.77	0.153	0.131	0.00	0.77	74.78
925.60	0.78	0.166	0.138	0.00	0.78	81.29

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Proposed EDDB
Scenario: 2 YEAR

Return Event: 2 years
Storm Event: 2 Year

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
925.70	0.79	0.181	0.146	0.00	0.79	88.17
925.80	0.80	0.195	0.154	0.00	0.80	95.42
925.90	0.81	0.211	0.162	0.00	0.81	103.05
926.00	0.82	0.228	0.170	0.00	0.82	111.09
926.10	0.83	0.245	0.177	0.00	0.83	119.50
926.20	0.84	0.263	0.185	0.00	0.84	128.28
926.30	0.85	0.282	0.193	0.00	0.85	137.43
926.40	0.86	0.302	0.201	0.00	0.86	146.95
926.50	0.87	0.322	0.209	0.00	0.87	156.87
926.60	0.88	0.344	0.217	0.00	0.88	167.17
926.70	0.89	0.366	0.225	0.00	0.89	177.88
926.80	0.90	0.389	0.234	0.00	0.90	189.00
926.90	0.91	0.412	0.243	0.00	0.91	200.54
927.00	0.92	0.437	0.251	0.00	0.92	212.50
927.10	0.93	0.463	0.256	0.00	0.93	224.79
927.20	0.94	0.488	0.261	0.00	0.94	237.32
927.30	0.95	0.515	0.266	0.00	0.95	250.07
927.40	0.96	0.542	0.271	0.00	0.96	263.06
927.50	0.97	0.569	0.276	0.00	0.97	276.28
927.60	0.98	0.597	0.280	0.00	0.98	289.75
927.70	0.99	0.625	0.285	0.00	0.99	303.45
927.80	1.00	0.654	0.290	0.00	1.00	317.40
927.90	1.01	0.683	0.296	0.00	1.01	331.59
928.00	1.01	0.713	0.301	0.00	1.01	346.03
928.10	1.02	0.743	0.305	0.00	1.02	360.68
928.20	1.03	0.774	0.309	0.00	1.03	375.53
928.30	1.04	0.805	0.313	0.00	1.04	390.57
928.40	1.05	0.836	0.317	0.00	1.05	405.80
928.50	1.06	0.868	0.321	0.00	1.06	421.23
928.60	1.07	0.900	0.325	0.00	1.07	436.85
928.70	1.07	0.933	0.329	0.00	1.07	452.66
928.80	1.08	0.966	0.333	0.00	1.08	468.67
928.90	1.09	1.000	0.337	0.00	1.09	484.89
929.00	1.10	1.033	0.341	0.00	1.10	501.30
929.10	1.11	1.068	0.345	0.00	1.11	517.91
929.20	1.11	1.102	0.349	0.00	1.11	534.71
929.30	1.12	1.138	0.353	0.00	1.12	551.71
929.40	1.13	1.173	0.357	0.00	1.13	568.91
929.50	1.14	1.209	0.361	0.00	1.14	586.31
929.60	1.15	1.245	0.366	0.00	1.15	603.91
929.70	1.15	1.282	0.370	0.00	1.15	621.71
929.80	1.16	1.319	0.374	0.00	1.16	639.71
929.90	1.17	1.357	0.378	0.00	1.17	657.91
930.00	1.18	1.395	0.382	0.00	1.18	676.32
930.10	1.18	1.433	0.387	0.00	1.18	694.94
930.20	1.19	1.472	0.391	0.00	1.19	713.77
930.30	1.20	1.512	0.395	0.00	1.20	732.81
930.40	1.21	1.551	0.400	0.00	1.21	752.06
930.50	1.21	1.592	0.404	0.00	1.21	771.52
930.60	1.22	1.632	0.409	0.00	1.22	791.20
930.70	1.23	1.673	0.413	0.00	1.23	811.09

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Proposed EDDB
Scenario: 2 YEAR

Return Event: 2 years
Storm Event: 2 Year

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)
930.80	1.23	1.715	0.418	0.00	1.23	831.20
930.90	1.24	1.757	0.422	0.00	1.24	851.53
931.00	1.25	1.799	0.427	0.00	1.25	872.08
931.10	1.26	1.842	0.431	0.00	1.26	892.84
931.20	1.26	1.885	0.436	0.00	1.26	913.84
931.30	1.27	1.929	0.441	0.00	1.27	935.05
931.40	1.28	1.974	0.445	0.00	1.28	956.49
931.50	1.28	2.018	0.450	0.00	1.28	978.16
931.60	1.29	2.064	0.455	0.00	1.29	1,000.06
931.70	1.30	2.109	0.459	0.00	1.30	1,022.19
931.80	1.30	2.155	0.464	0.00	1.30	1,044.54
931.90	1.31	2.202	0.469	0.00	1.31	1,067.13
932.00	1.32	2.249	0.474	0.00	1.32	1,089.95
932.10	1.32	2.297	0.479	0.00	1.32	1,113.00
932.20	1.33	2.345	0.483	0.00	1.33	1,136.29
932.30	1.34	2.394	0.488	0.00	1.34	1,159.81
932.40	1.34	2.443	0.493	0.00	1.34	1,183.57
932.50	1.35	2.492	0.498	0.00	1.35	1,207.56
932.60	1.83	2.542	0.503	0.00	1.83	1,232.26
932.70	2.70	2.593	0.508	0.00	2.70	1,257.59
932.80	3.83	2.644	0.513	0.00	3.83	1,283.43
932.90	5.17	2.695	0.518	0.00	5.17	1,309.70
933.00	6.68	2.747	0.523	0.00	6.68	1,336.40
933.10	12.04	2.800	0.528	0.00	12.04	1,367.19
933.20	14.97	2.853	0.534	0.00	14.97	1,395.82
933.30	17.36	2.907	0.539	0.00	17.36	1,424.18
933.40	19.44	2.961	0.545	0.00	19.44	1,452.49
933.50	21.27	3.016	0.550	0.00	21.27	1,480.83
933.60	22.94	3.071	0.556	0.00	22.94	1,509.27
933.70	24.47	3.127	0.562	0.00	24.47	1,537.84
933.80	25.87	3.183	0.567	0.00	25.87	1,566.56
933.90	27.18	3.240	0.573	0.00	27.18	1,595.47
934.00	28.41	3.298	0.579	0.00	28.41	1,624.56
934.10	29.57	3.356	0.584	0.00	29.57	1,653.85
934.20	30.67	3.415	0.589	0.00	30.67	1,683.34
934.30	31.72	3.474	0.594	0.00	31.72	1,713.03
934.40	32.73	3.533	0.600	0.00	32.73	1,742.94
934.50	33.71	3.594	0.605	0.00	33.71	1,773.06
934.60	34.65	3.654	0.610	0.00	34.65	1,803.41
934.70	35.56	3.716	0.616	0.00	35.56	1,833.98
934.80	36.45	3.778	0.621	0.00	36.45	1,864.80
934.90	37.30	3.840	0.626	0.00	37.30	1,895.83
935.00	38.12	3.903	0.632	0.00	38.12	1,927.10

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	922.00 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	0.050 hours

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
922.00	0.00	0.000	0.000	0.00	0.00	0.00
922.10	0.02	0.000	0.000	0.00	0.02	0.02
922.20	0.07	0.000	0.000	0.00	0.07	0.08
922.30	0.14	0.000	0.001	0.00	0.14	0.19
922.40	0.20	0.000	0.002	0.00	0.20	0.31
922.50	0.24	0.000	0.003	0.00	0.24	0.46
922.60	0.28	0.001	0.004	0.00	0.28	0.65
922.70	0.31	0.001	0.005	0.00	0.31	0.90
922.80	0.33	0.002	0.007	0.00	0.33	1.22
922.90	0.36	0.003	0.009	0.00	0.36	1.62
923.00	0.38	0.004	0.011	0.00	0.38	2.11
923.10	0.41	0.005	0.013	0.00	0.41	2.71
923.20	0.43	0.006	0.015	0.00	0.43	3.41
923.30	0.45	0.008	0.018	0.00	0.45	4.24
923.40	0.47	0.010	0.021	0.00	0.47	5.21
923.50	0.48	0.012	0.024	0.00	0.48	6.32
923.60	0.50	0.015	0.027	0.00	0.50	7.58
923.70	0.52	0.018	0.031	0.00	0.52	9.01
923.80	0.54	0.021	0.035	0.00	0.54	10.61
923.90	0.55	0.024	0.039	0.00	0.55	12.41
924.00	0.57	0.029	0.043	0.00	0.57	14.39
924.10	0.58	0.033	0.047	0.00	0.58	16.59
924.20	0.60	0.038	0.052	0.00	0.60	19.00
924.30	0.61	0.043	0.057	0.00	0.61	21.64
924.40	0.63	0.049	0.062	0.00	0.63	24.52
924.50	0.64	0.056	0.067	0.00	0.64	27.64
924.60	0.66	0.063	0.072	0.00	0.66	31.03
924.70	0.67	0.070	0.078	0.00	0.67	34.68
924.80	0.68	0.078	0.084	0.00	0.68	38.61
924.90	0.69	0.087	0.090	0.00	0.69	42.84
925.00	0.71	0.096	0.096	0.00	0.71	47.36
925.10	0.72	0.106	0.103	0.00	0.72	52.19
925.20	0.73	0.117	0.109	0.00	0.73	57.34
925.30	0.74	0.128	0.116	0.00	0.74	62.82
925.40	0.76	0.140	0.123	0.00	0.76	68.63
925.50	0.77	0.153	0.131	0.00	0.77	74.78
925.60	0.78	0.166	0.138	0.00	0.78	81.29

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
925.70	0.79	0.181	0.146	0.00	0.79	88.17
925.80	0.80	0.195	0.154	0.00	0.80	95.42
925.90	0.81	0.211	0.162	0.00	0.81	103.05
926.00	0.82	0.228	0.170	0.00	0.82	111.09
926.10	0.83	0.245	0.177	0.00	0.83	119.50
926.20	0.84	0.263	0.185	0.00	0.84	128.28
926.30	0.85	0.282	0.193	0.00	0.85	137.43
926.40	0.86	0.302	0.201	0.00	0.86	146.95
926.50	0.87	0.322	0.209	0.00	0.87	156.87
926.60	0.88	0.344	0.217	0.00	0.88	167.17
926.70	0.89	0.366	0.225	0.00	0.89	177.88
926.80	0.90	0.389	0.234	0.00	0.90	189.00
926.90	0.91	0.412	0.243	0.00	0.91	200.54
927.00	0.92	0.437	0.251	0.00	0.92	212.50
927.10	0.93	0.463	0.256	0.00	0.93	224.79
927.20	0.94	0.488	0.261	0.00	0.94	237.32
927.30	0.95	0.515	0.266	0.00	0.95	250.07
927.40	0.96	0.542	0.271	0.00	0.96	263.06
927.50	0.97	0.569	0.276	0.00	0.97	276.28
927.60	0.98	0.597	0.280	0.00	0.98	289.75
927.70	0.99	0.625	0.285	0.00	0.99	303.45
927.80	1.00	0.654	0.290	0.00	1.00	317.40
927.90	1.01	0.683	0.296	0.00	1.01	331.59
928.00	1.01	0.713	0.301	0.00	1.01	346.03
928.10	1.02	0.743	0.305	0.00	1.02	360.68
928.20	1.03	0.774	0.309	0.00	1.03	375.53
928.30	1.04	0.805	0.313	0.00	1.04	390.57
928.40	1.05	0.836	0.317	0.00	1.05	405.80
928.50	1.06	0.868	0.321	0.00	1.06	421.23
928.60	1.07	0.900	0.325	0.00	1.07	436.85
928.70	1.07	0.933	0.329	0.00	1.07	452.66
928.80	1.08	0.966	0.333	0.00	1.08	468.67
928.90	1.09	1.000	0.337	0.00	1.09	484.89
929.00	1.10	1.033	0.341	0.00	1.10	501.30
929.10	1.11	1.068	0.345	0.00	1.11	517.91
929.20	1.11	1.102	0.349	0.00	1.11	534.71
929.30	1.12	1.138	0.353	0.00	1.12	551.71
929.40	1.13	1.173	0.357	0.00	1.13	568.91
929.50	1.14	1.209	0.361	0.00	1.14	586.31
929.60	1.15	1.245	0.366	0.00	1.15	603.91
929.70	1.15	1.282	0.370	0.00	1.15	621.71
929.80	1.16	1.319	0.374	0.00	1.16	639.71
929.90	1.17	1.357	0.378	0.00	1.17	657.91
930.00	1.18	1.395	0.382	0.00	1.18	676.32
930.10	1.18	1.433	0.387	0.00	1.18	694.94
930.20	1.19	1.472	0.391	0.00	1.19	713.77
930.30	1.20	1.512	0.395	0.00	1.20	732.81
930.40	1.21	1.551	0.400	0.00	1.21	752.06
930.50	1.21	1.592	0.404	0.00	1.21	771.52
930.60	1.22	1.632	0.409	0.00	1.22	791.20
930.70	1.23	1.673	0.413	0.00	1.23	811.09

Subsection: Elevation-Volume-Flow Table (Pond)
Label: Proposed EDDB
Scenario: 10 YEAR

Return Event: 10 years
Storm Event: 10 Year

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)
930.80	1.23	1.715	0.418	0.00	1.23	831.20
930.90	1.24	1.757	0.422	0.00	1.24	851.53
931.00	1.25	1.799	0.427	0.00	1.25	872.08
931.10	1.26	1.842	0.431	0.00	1.26	892.84
931.20	1.26	1.885	0.436	0.00	1.26	913.84
931.30	1.27	1.929	0.441	0.00	1.27	935.05
931.40	1.28	1.974	0.445	0.00	1.28	956.49
931.50	1.28	2.018	0.450	0.00	1.28	978.16
931.60	1.29	2.064	0.455	0.00	1.29	1,000.06
931.70	1.30	2.109	0.459	0.00	1.30	1,022.19
931.80	1.30	2.155	0.464	0.00	1.30	1,044.54
931.90	1.31	2.202	0.469	0.00	1.31	1,067.13
932.00	1.32	2.249	0.474	0.00	1.32	1,089.95
932.10	1.32	2.297	0.479	0.00	1.32	1,113.00
932.20	1.33	2.345	0.483	0.00	1.33	1,136.29
932.30	1.34	2.394	0.488	0.00	1.34	1,159.81
932.40	1.34	2.443	0.493	0.00	1.34	1,183.57
932.50	1.35	2.492	0.498	0.00	1.35	1,207.56
932.60	1.83	2.542	0.503	0.00	1.83	1,232.26
932.70	2.70	2.593	0.508	0.00	2.70	1,257.59
932.80	3.83	2.644	0.513	0.00	3.83	1,283.43
932.90	5.17	2.695	0.518	0.00	5.17	1,309.70
933.00	6.68	2.747	0.523	0.00	6.68	1,336.40
933.10	12.04	2.800	0.528	0.00	12.04	1,367.19
933.20	14.97	2.853	0.534	0.00	14.97	1,395.82
933.30	17.36	2.907	0.539	0.00	17.36	1,424.18
933.40	19.44	2.961	0.545	0.00	19.44	1,452.49
933.50	21.27	3.016	0.550	0.00	21.27	1,480.83
933.60	22.94	3.071	0.556	0.00	22.94	1,509.27
933.70	24.47	3.127	0.562	0.00	24.47	1,537.84
933.80	25.87	3.183	0.567	0.00	25.87	1,566.56
933.90	27.18	3.240	0.573	0.00	27.18	1,595.47
934.00	28.41	3.298	0.579	0.00	28.41	1,624.56
934.10	29.57	3.356	0.584	0.00	29.57	1,653.85
934.20	30.67	3.415	0.589	0.00	30.67	1,683.34
934.30	31.72	3.474	0.594	0.00	31.72	1,713.03
934.40	32.73	3.533	0.600	0.00	32.73	1,742.94
934.50	33.71	3.594	0.605	0.00	33.71	1,773.06
934.60	34.65	3.654	0.610	0.00	34.65	1,803.41
934.70	35.56	3.716	0.616	0.00	35.56	1,833.98
934.80	36.45	3.778	0.621	0.00	36.45	1,864.80
934.90	37.30	3.840	0.626	0.00	37.30	1,895.83
935.00	38.12	3.903	0.632	0.00	38.12	1,927.10

Infiltration	
Infiltration Method (Computed)	No Infiltration

Initial Conditions	
Elevation (Water Surface, Initial)	922.00 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	0.050 hours

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
922.00	0.00	0.000	0.000	0.00	0.00	0.00
922.10	0.02	0.000	0.000	0.00	0.02	0.02
922.20	0.07	0.000	0.000	0.00	0.07	0.08
922.30	0.14	0.000	0.001	0.00	0.14	0.19
922.40	0.20	0.000	0.002	0.00	0.20	0.31
922.50	0.24	0.000	0.003	0.00	0.24	0.46
922.60	0.28	0.001	0.004	0.00	0.28	0.65
922.70	0.31	0.001	0.005	0.00	0.31	0.90
922.80	0.33	0.002	0.007	0.00	0.33	1.22
922.90	0.36	0.003	0.009	0.00	0.36	1.62
923.00	0.38	0.004	0.011	0.00	0.38	2.11
923.10	0.41	0.005	0.013	0.00	0.41	2.71
923.20	0.43	0.006	0.015	0.00	0.43	3.41
923.30	0.45	0.008	0.018	0.00	0.45	4.24
923.40	0.47	0.010	0.021	0.00	0.47	5.21
923.50	0.48	0.012	0.024	0.00	0.48	6.32
923.60	0.50	0.015	0.027	0.00	0.50	7.58
923.70	0.52	0.018	0.031	0.00	0.52	9.01
923.80	0.54	0.021	0.035	0.00	0.54	10.61
923.90	0.55	0.024	0.039	0.00	0.55	12.41
924.00	0.57	0.029	0.043	0.00	0.57	14.39
924.10	0.58	0.033	0.047	0.00	0.58	16.59
924.20	0.60	0.038	0.052	0.00	0.60	19.00
924.30	0.61	0.043	0.057	0.00	0.61	21.64
924.40	0.63	0.049	0.062	0.00	0.63	24.52
924.50	0.64	0.056	0.067	0.00	0.64	27.64
924.60	0.66	0.063	0.072	0.00	0.66	31.03
924.70	0.67	0.070	0.078	0.00	0.67	34.68
924.80	0.68	0.078	0.084	0.00	0.68	38.61
924.90	0.69	0.087	0.090	0.00	0.69	42.84
925.00	0.71	0.096	0.096	0.00	0.71	47.36
925.10	0.72	0.106	0.103	0.00	0.72	52.19
925.20	0.73	0.117	0.109	0.00	0.73	57.34
925.30	0.74	0.128	0.116	0.00	0.74	62.82
925.40	0.76	0.140	0.123	0.00	0.76	68.63
925.50	0.77	0.153	0.131	0.00	0.77	74.78
925.60	0.78	0.166	0.138	0.00	0.78	81.29

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
925.70	0.79	0.181	0.146	0.00	0.79	88.17
925.80	0.80	0.195	0.154	0.00	0.80	95.42
925.90	0.81	0.211	0.162	0.00	0.81	103.05
926.00	0.82	0.228	0.170	0.00	0.82	111.09
926.10	0.83	0.245	0.177	0.00	0.83	119.50
926.20	0.84	0.263	0.185	0.00	0.84	128.28
926.30	0.85	0.282	0.193	0.00	0.85	137.43
926.40	0.86	0.302	0.201	0.00	0.86	146.95
926.50	0.87	0.322	0.209	0.00	0.87	156.87
926.60	0.88	0.344	0.217	0.00	0.88	167.17
926.70	0.89	0.366	0.225	0.00	0.89	177.88
926.80	0.90	0.389	0.234	0.00	0.90	189.00
926.90	0.91	0.412	0.243	0.00	0.91	200.54
927.00	0.92	0.437	0.251	0.00	0.92	212.50
927.10	0.93	0.463	0.256	0.00	0.93	224.79
927.20	0.94	0.488	0.261	0.00	0.94	237.32
927.30	0.95	0.515	0.266	0.00	0.95	250.07
927.40	0.96	0.542	0.271	0.00	0.96	263.06
927.50	0.97	0.569	0.276	0.00	0.97	276.28
927.60	0.98	0.597	0.280	0.00	0.98	289.75
927.70	0.99	0.625	0.285	0.00	0.99	303.45
927.80	1.00	0.654	0.290	0.00	1.00	317.40
927.90	1.01	0.683	0.296	0.00	1.01	331.59
928.00	1.01	0.713	0.301	0.00	1.01	346.03
928.10	1.02	0.743	0.305	0.00	1.02	360.68
928.20	1.03	0.774	0.309	0.00	1.03	375.53
928.30	1.04	0.805	0.313	0.00	1.04	390.57
928.40	1.05	0.836	0.317	0.00	1.05	405.80
928.50	1.06	0.868	0.321	0.00	1.06	421.23
928.60	1.07	0.900	0.325	0.00	1.07	436.85
928.70	1.07	0.933	0.329	0.00	1.07	452.66
928.80	1.08	0.966	0.333	0.00	1.08	468.67
928.90	1.09	1.000	0.337	0.00	1.09	484.89
929.00	1.10	1.033	0.341	0.00	1.10	501.30
929.10	1.11	1.068	0.345	0.00	1.11	517.91
929.20	1.11	1.102	0.349	0.00	1.11	534.71
929.30	1.12	1.138	0.353	0.00	1.12	551.71
929.40	1.13	1.173	0.357	0.00	1.13	568.91
929.50	1.14	1.209	0.361	0.00	1.14	586.31
929.60	1.15	1.245	0.366	0.00	1.15	603.91
929.70	1.15	1.282	0.370	0.00	1.15	621.71
929.80	1.16	1.319	0.374	0.00	1.16	639.71
929.90	1.17	1.357	0.378	0.00	1.17	657.91
930.00	1.18	1.395	0.382	0.00	1.18	676.32
930.10	1.18	1.433	0.387	0.00	1.18	694.94
930.20	1.19	1.472	0.391	0.00	1.19	713.77
930.30	1.20	1.512	0.395	0.00	1.20	732.81
930.40	1.21	1.551	0.400	0.00	1.21	752.06
930.50	1.21	1.592	0.404	0.00	1.21	771.52
930.60	1.22	1.632	0.409	0.00	1.22	791.20
930.70	1.23	1.673	0.413	0.00	1.23	811.09

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)
930.80	1.23	1.715	0.418	0.00	1.23	831.20
930.90	1.24	1.757	0.422	0.00	1.24	851.53
931.00	1.25	1.799	0.427	0.00	1.25	872.08
931.10	1.26	1.842	0.431	0.00	1.26	892.84
931.20	1.26	1.885	0.436	0.00	1.26	913.84
931.30	1.27	1.929	0.441	0.00	1.27	935.05
931.40	1.28	1.974	0.445	0.00	1.28	956.49
931.50	1.28	2.018	0.450	0.00	1.28	978.16
931.60	1.29	2.064	0.455	0.00	1.29	1,000.06
931.70	1.30	2.109	0.459	0.00	1.30	1,022.19
931.80	1.30	2.155	0.464	0.00	1.30	1,044.54
931.90	1.31	2.202	0.469	0.00	1.31	1,067.13
932.00	1.32	2.249	0.474	0.00	1.32	1,089.95
932.10	1.32	2.297	0.479	0.00	1.32	1,113.00
932.20	1.33	2.345	0.483	0.00	1.33	1,136.29
932.30	1.34	2.394	0.488	0.00	1.34	1,159.81
932.40	1.34	2.443	0.493	0.00	1.34	1,183.57
932.50	1.35	2.492	0.498	0.00	1.35	1,207.56
932.60	1.83	2.542	0.503	0.00	1.83	1,232.26
932.70	2.70	2.593	0.508	0.00	2.70	1,257.59
932.80	3.83	2.644	0.513	0.00	3.83	1,283.43
932.90	5.17	2.695	0.518	0.00	5.17	1,309.70
933.00	6.68	2.747	0.523	0.00	6.68	1,336.40
933.10	12.04	2.800	0.528	0.00	12.04	1,367.19
933.20	14.97	2.853	0.534	0.00	14.97	1,395.82
933.30	17.36	2.907	0.539	0.00	17.36	1,424.18
933.40	19.44	2.961	0.545	0.00	19.44	1,452.49
933.50	21.27	3.016	0.550	0.00	21.27	1,480.83
933.60	22.94	3.071	0.556	0.00	22.94	1,509.27
933.70	24.47	3.127	0.562	0.00	24.47	1,537.84
933.80	25.87	3.183	0.567	0.00	25.87	1,566.56
933.90	27.18	3.240	0.573	0.00	27.18	1,595.47
934.00	28.41	3.298	0.579	0.00	28.41	1,624.56
934.10	29.57	3.356	0.584	0.00	29.57	1,653.85
934.20	30.67	3.415	0.589	0.00	30.67	1,683.34
934.30	31.72	3.474	0.594	0.00	31.72	1,713.03
934.40	32.73	3.533	0.600	0.00	32.73	1,742.94
934.50	33.71	3.594	0.605	0.00	33.71	1,773.06
934.60	34.65	3.654	0.610	0.00	34.65	1,803.41
934.70	35.56	3.716	0.616	0.00	35.56	1,833.98
934.80	36.45	3.778	0.621	0.00	36.45	1,864.80
934.90	37.30	3.840	0.626	0.00	37.30	1,895.83
935.00	38.12	3.903	0.632	0.00	38.12	1,927.10

Peak Discharge	1.20 ft³/s
Time to Peak	15.300 hours
Hydrograph Volume	1.351 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
5.150	0.00	0.00	0.00	0.00	0.01
5.400	0.01	0.01	0.01	0.02	0.02
5.650	0.02	0.02	0.03	0.03	0.03
5.900	0.03	0.04	0.04	0.04	0.04
6.150	0.05	0.05	0.05	0.05	0.06
6.400	0.06	0.06	0.06	0.07	0.07
6.650	0.07	0.08	0.08	0.08	0.09
6.900	0.09	0.09	0.10	0.10	0.11
7.150	0.11	0.12	0.12	0.13	0.13
7.400	0.14	0.14	0.15	0.15	0.16
7.650	0.16	0.17	0.17	0.18	0.18
7.900	0.19	0.19	0.20	0.20	0.21
8.150	0.21	0.22	0.23	0.24	0.25
8.400	0.25	0.26	0.27	0.27	0.28
8.650	0.29	0.30	0.31	0.31	0.32
8.900	0.33	0.34	0.35	0.36	0.36
9.150	0.37	0.38	0.39	0.39	0.40
9.400	0.40	0.41	0.42	0.42	0.43
9.650	0.43	0.44	0.44	0.45	0.45
9.900	0.46	0.47	0.47	0.48	0.49
10.150	0.49	0.50	0.51	0.52	0.52
10.400	0.53	0.54	0.55	0.56	0.56
10.650	0.57	0.58	0.59	0.60	0.60
10.900	0.61	0.62	0.63	0.64	0.65
11.150	0.65	0.66	0.67	0.68	0.69
11.400	0.70	0.71	0.72	0.73	0.74
11.650	0.76	0.78	0.81	0.85	0.88
11.900	0.93	0.98	1.02	1.06	1.10
12.150	1.12	1.13	1.14	1.15	1.15
12.400	1.16	1.16	1.17	1.17	1.17
12.650	1.17	1.18	1.18	1.18	1.18
12.900	1.18	1.18	1.19	1.19	1.19
13.150	1.19	1.19	1.19	1.19	1.19
13.400	1.19	1.19	1.19	1.20	1.20
13.650	1.20	1.20	1.20	1.20	1.20
13.900	1.20	1.20	1.20	1.20	1.20
14.150	1.20	1.20	1.20	1.20	1.20
14.400	1.20	1.20	1.20	1.20	1.20
14.650	1.20	1.20	1.20	1.20	1.20
14.900	1.20	1.20	1.20	1.20	1.20
15.150	1.20	1.20	1.20	1.20	1.20
15.400	1.20	1.20	1.20	1.20	1.20
15.650	1.20	1.20	1.20	1.20	1.20
15.900	1.20	1.20	1.20	1.20	1.20
16.150	1.20	1.20	1.20	1.20	1.20

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
16.400	1.20	1.20	1.20	1.20	1.20
16.650	1.20	1.20	1.20	1.20	1.20
16.900	1.20	1.20	1.20	1.20	1.20
17.150	1.20	1.20	1.20	1.20	1.20
17.400	1.20	1.20	1.20	1.20	1.20
17.650	1.20	1.19	1.19	1.19	1.19
17.900	1.19	1.19	1.19	1.19	1.19
18.150	1.19	1.19	1.19	1.19	1.19
18.400	1.19	1.19	1.19	1.19	1.19
18.650	1.19	1.19	1.19	1.19	1.19
18.900	1.19	1.19	1.19	1.19	1.18
19.150	1.18	1.18	1.18	1.18	1.18
19.400	1.18	1.18	1.18	1.18	1.18
19.650	1.18	1.18	1.18	1.18	1.18
19.900	1.18	1.18	1.18	1.18	1.18
20.150	1.18	1.17	1.17	1.17	1.17
20.400	1.17	1.17	1.17	1.17	1.17
20.650	1.17	1.17	1.17	1.17	1.17
20.900	1.17	1.17	1.17	1.17	1.17
21.150	1.16	1.16	1.16	1.16	1.16
21.400	1.16	1.16	1.16	1.16	1.16
21.650	1.16	1.16	1.16	1.16	1.16
21.900	1.16	1.16	1.16	1.16	1.15
22.150	1.15	1.15	1.15	1.15	1.15
22.400	1.15	1.15	1.15	1.15	1.15
22.650	1.15	1.15	1.15	1.15	1.15
22.900	1.15	1.15	1.14	1.14	1.14
23.150	1.14	1.14	1.14	1.14	1.14
23.400	1.14	1.14	1.14	1.14	1.14
23.650	1.14	1.14	1.14	1.14	1.13
23.900	1.13	1.13	1.13	(N/A)	(N/A)

Peak Discharge	3.74 ft³/s
Time to Peak	13.300 hours
Hydrograph Volume	2.123 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
3.650	0.00	0.00	0.00	0.01	0.01
3.900	0.01	0.02	0.02	0.02	0.03
4.150	0.03	0.03	0.04	0.04	0.05
4.400	0.05	0.05	0.06	0.06	0.07
4.650	0.07	0.07	0.08	0.08	0.09
4.900	0.09	0.10	0.10	0.10	0.11
5.150	0.12	0.12	0.13	0.14	0.15
5.400	0.15	0.16	0.17	0.17	0.18
5.650	0.19	0.20	0.20	0.21	0.22
5.900	0.23	0.24	0.24	0.25	0.25
6.150	0.26	0.26	0.27	0.28	0.28
6.400	0.29	0.30	0.30	0.31	0.31
6.650	0.32	0.33	0.33	0.34	0.34
6.900	0.35	0.36	0.36	0.37	0.37
7.150	0.38	0.38	0.39	0.40	0.40
7.400	0.41	0.41	0.42	0.42	0.43
7.650	0.43	0.44	0.44	0.45	0.45
7.900	0.46	0.46	0.47	0.47	0.48
8.150	0.48	0.49	0.49	0.50	0.50
8.400	0.51	0.51	0.52	0.52	0.53
8.650	0.54	0.54	0.55	0.55	0.56
8.900	0.57	0.57	0.58	0.59	0.59
9.150	0.60	0.60	0.61	0.61	0.62
9.400	0.62	0.63	0.63	0.64	0.64
9.650	0.65	0.65	0.66	0.66	0.67
9.900	0.67	0.68	0.68	0.69	0.69
10.150	0.70	0.70	0.71	0.72	0.72
10.400	0.73	0.73	0.74	0.74	0.75
10.650	0.76	0.76	0.77	0.78	0.78
10.900	0.79	0.79	0.80	0.81	0.82
11.150	0.82	0.83	0.84	0.84	0.85
11.400	0.86	0.87	0.88	0.89	0.90
11.650	0.91	0.93	0.96	0.99	1.03
11.900	1.08	1.14	1.19	1.24	1.27
12.150	1.30	1.31	1.32	1.33	1.34
12.400	1.34	1.35	1.42	1.66	1.89
12.650	2.20	2.45	2.67	2.89	3.09
12.900	3.25	3.39	3.49	3.58	3.64
13.150	3.68	3.71	3.73	3.74	3.73
13.400	3.72	3.71	3.68	3.65	3.62
13.650	3.58	3.54	3.49	3.44	3.40
13.900	3.34	3.29	3.24	3.19	3.13
14.150	3.08	3.02	2.97	2.92	2.88
14.400	2.83	2.79	2.75	2.71	2.68
14.650	2.65	2.62	2.59	2.56	2.53

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
14.900	2.50	2.48	2.45	2.42	2.40
15.150	2.37	2.34	2.32	2.29	2.27
15.400	2.24	2.22	2.19	2.17	2.14
15.650	2.12	2.09	2.07	2.04	2.02
15.900	2.00	1.97	1.95	1.92	1.90
16.150	1.88	1.85	1.83	1.82	1.81
16.400	1.80	1.78	1.77	1.76	1.75
16.650	1.74	1.73	1.72	1.71	1.70
16.900	1.68	1.67	1.66	1.65	1.64
17.150	1.63	1.62	1.61	1.60	1.59
17.400	1.58	1.57	1.56	1.55	1.54
17.650	1.53	1.53	1.52	1.51	1.50
17.900	1.49	1.48	1.47	1.46	1.45
18.150	1.44	1.43	1.42	1.41	1.41
18.400	1.40	1.39	1.38	1.37	1.36
18.650	1.35	1.35	1.35	1.35	1.35
18.900	1.35	1.35	1.35	1.35	1.35
19.150	1.35	1.35	1.35	1.35	1.35
19.400	1.35	1.35	1.35	1.35	1.35
19.650	1.35	1.35	1.35	1.35	1.35
19.900	1.35	1.35	1.35	1.35	1.34
20.150	1.34	1.34	1.34	1.34	1.34
20.400	1.34	1.34	1.34	1.34	1.34
20.650	1.34	1.34	1.34	1.34	1.34
20.900	1.34	1.34	1.34	1.34	1.34
21.150	1.34	1.34	1.34	1.34	1.34
21.400	1.34	1.34	1.34	1.34	1.34
21.650	1.34	1.34	1.34	1.34	1.34
21.900	1.34	1.33	1.33	1.33	1.33
22.150	1.33	1.33	1.33	1.33	1.33
22.400	1.33	1.33	1.33	1.33	1.33
22.650	1.33	1.33	1.33	1.33	1.33
22.900	1.33	1.33	1.33	1.33	1.33
23.150	1.33	1.33	1.33	1.33	1.33
23.400	1.33	1.33	1.33	1.32	1.32
23.650	1.32	1.32	1.32	1.32	1.32
23.900	1.32	1.32	1.32	(N/A)	(N/A)

Peak Discharge	30.81 ft³/s
Time to Peak	12.200 hours
Hydrograph Volume	4.618 ac-ft

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
2.600	0.00	0.00	0.00	0.01	0.01
2.850	0.02	0.03	0.03	0.04	0.05
3.100	0.05	0.06	0.07	0.07	0.08
3.350	0.09	0.09	0.10	0.10	0.11
3.600	0.12	0.13	0.13	0.14	0.15
3.850	0.16	0.17	0.18	0.19	0.20
4.100	0.21	0.22	0.23	0.25	0.25
4.350	0.26	0.27	0.27	0.28	0.29
4.600	0.30	0.31	0.31	0.32	0.33
4.850	0.34	0.35	0.35	0.36	0.37
5.100	0.38	0.38	0.39	0.40	0.41
5.350	0.41	0.42	0.43	0.43	0.44
5.600	0.45	0.45	0.46	0.46	0.47
5.850	0.48	0.48	0.49	0.49	0.50
6.100	0.50	0.51	0.52	0.52	0.53
6.350	0.53	0.54	0.54	0.55	0.55
6.600	0.56	0.56	0.57	0.57	0.58
6.850	0.58	0.59	0.59	0.59	0.60
7.100	0.60	0.61	0.61	0.62	0.62
7.350	0.62	0.63	0.63	0.64	0.64
7.600	0.65	0.65	0.65	0.66	0.66
7.850	0.67	0.67	0.67	0.68	0.68
8.100	0.68	0.69	0.69	0.70	0.70
8.350	0.70	0.71	0.71	0.72	0.72
8.600	0.73	0.73	0.73	0.74	0.74
8.850	0.75	0.75	0.76	0.76	0.77
9.100	0.77	0.78	0.78	0.79	0.79
9.350	0.79	0.80	0.80	0.81	0.81
9.600	0.81	0.82	0.82	0.83	0.83
9.850	0.83	0.84	0.84	0.85	0.85
10.100	0.86	0.86	0.87	0.87	0.88
10.350	0.88	0.89	0.89	0.90	0.90
10.600	0.91	0.91	0.92	0.92	0.93
10.850	0.93	0.94	0.95	0.95	0.96
11.100	0.97	0.97	0.98	0.99	0.99
11.350	1.00	1.01	1.02	1.03	1.04
11.600	1.05	1.07	1.09	1.12	1.15
11.850	1.20	1.25	1.31	3.18	20.26
12.100	27.16	29.94	30.81	30.72	30.13
12.350	29.27	28.23	27.06	25.76	24.36
12.600	22.87	21.32	19.73	18.12	16.55
12.850	15.08	13.57	12.29	10.62	9.28
13.100	8.32	7.62	7.09	6.69	6.58
13.350	6.48	6.37	6.25	6.13	6.01
13.600	5.89	5.77	5.65	5.53	5.41

HYDROGRAPH ORDINATES (ft³/s)
Output Time Increment = 0.050 hours
Time on left represents time for first value in each row.

Time (hours)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)	Flow (ft³/s)
13.850	5.29	5.18	5.08	4.97	4.87
14.100	4.77	4.68	4.58	4.49	4.41
14.350	4.33	4.25	4.18	4.11	4.05
14.600	3.98	3.92	3.87	3.82	3.77
14.850	3.73	3.68	3.64	3.60	3.56
15.100	3.51	3.47	3.43	3.39	3.36
15.350	3.32	3.28	3.24	3.20	3.16
15.600	3.13	3.09	3.05	3.01	2.98
15.850	2.94	2.90	2.87	2.83	2.80
16.100	2.76	2.72	2.69	2.67	2.64
16.350	2.62	2.59	2.57	2.55	2.53
16.600	2.51	2.49	2.47	2.45	2.43
16.850	2.41	2.39	2.37	2.36	2.34
17.100	2.32	2.31	2.29	2.28	2.26
17.350	2.24	2.23	2.21	2.20	2.18
17.600	2.17	2.16	2.14	2.13	2.11
17.850	2.10	2.09	2.07	2.06	2.04
18.100	2.03	2.02	2.00	1.99	1.98
18.350	1.96	1.95	1.94	1.92	1.91
18.600	1.90	1.88	1.87	1.86	1.85
18.850	1.83	1.82	1.82	1.81	1.80
19.100	1.79	1.79	1.78	1.77	1.76
19.350	1.75	1.74	1.73	1.72	1.71
19.600	1.70	1.69	1.68	1.67	1.66
19.850	1.65	1.64	1.63	1.62	1.61
20.100	1.60	1.59	1.58	1.57	1.56
20.350	1.55	1.54	1.53	1.53	1.52
20.600	1.51	1.50	1.49	1.48	1.48
20.850	1.47	1.46	1.46	1.45	1.44
21.100	1.44	1.43	1.42	1.42	1.41
21.350	1.41	1.40	1.39	1.39	1.38
21.600	1.38	1.37	1.37	1.36	1.36
21.850	1.35	1.35	1.35	1.35	1.35
22.100	1.35	1.35	1.35	1.35	1.35
22.350	1.35	1.35	1.35	1.35	1.35
22.600	1.35	1.35	1.35	1.35	1.35
22.850	1.35	1.35	1.35	1.35	1.35
23.100	1.35	1.35	1.35	1.35	1.35
23.350	1.35	1.35	1.35	1.35	1.35
23.600	1.35	1.35	1.35	1.35	1.35
23.850	1.35	1.35	1.35	1.35	(N/A)

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