



Drainage Design Summary
Lee's Summit Medical Center –
Medical Office Building
Lee's Summit, MO
S&ME Project No. 527116043

PREPARED FOR:

Lee's Summit Medical Center
2100 SE Blue Parkway
Lee's Summit, MO 64063

PREPARED BY:

S&ME, Inc.
1615 Edgewater Dr., Suite 200
Orlando, FL 32804

April 10, 2019



Table of Contents

1.0 Overview.....1

 1.1 Site Description.....1

 1.2 Existing Soils, Groundwater and Topography.....1

2.0 Design Overview1

3.0 Pre-Development Stormwater Conditions2

4.0 Proposed Stormwater Design.....3

 4.1 Wetland Considerations.....3

 4.2 Post-Development Stormwater Conditions.....3

 4.3 Stormwater Modeling.....3

 4.4 Water Quantity4

 4.5 Water Quality.....5

5.0 Floodplain Considerations.....6

6.0 Storm Drain Hydraulics.....6

7.0 Conclusion.....6

Appendices

- Appendix I – Vicinity & Aerial Maps
- Appendix II – Support Maps and Project Documents (FIRM Panel, Soils Maps, Property Appraiser’s Card, etc.)
- Appendix III - Pre-Development Drainage Basin Map
- Appendix IV - Post-Development Drainage Map
- Appendix V ICPR Pre-Development Modeling
- Appendix VI - ICPR Post-Development Modeling
- Appendix VII – Support Material
- Appendix VIII – StormCAD Hydraulic Model



April 10, 2019
George B. Huddleston, III, P.E.
MO PE 35508



1.0 Overview

1.1 Site Description

The proposed project is a Medical Office Building (MOB) addition to the existing Lee's Summit Medical Center Campus. The site is located south of SE Shenandoah Drive and north of SE Blue Parkway between SE Cumberland Drive and SE Battery Drive in Lee's Summit, MO.

The existing portion of campus being modified presently contains a parking lot and an existing dry detention pond for the southwest portion of the campus. The proposed project impact area consists of 5.69± ac., of which 3.46± ac. is impervious development.

Surface runoff from the existing site is collected by a series of catch basins which appear to direct storm flows towards the southwest to a dry detention pond for treatment before discharging to an existing 60 inch CMP underneath Southeast Shenandoah Drive. The proposed site improvements will include a revised dry detention pond to provide stormwater attenuation by means of detention.

1.2 Existing Soils, Groundwater and Topography

The topography of the site is relatively flat with grades ranging from approximately 1016± down to 991± NAVD88. A review of the USDA Soil Conservation Service Soil Survey of Jackson County, Missouri indicates that the following soil types can be found on the site:

Soils Survey, Jackson County, Missouri		
Map Unit Symbol	Map Unit Name	Hydrologic Group
10082	Arisburg-Urban land complex, 1 to 5 percent slopes	D
10180	Udarents-Urban land-Sampsel complex, 2 to 5 percent slopes	C

Source: <http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>

The primary hydrologic soils located within the limits of design/ construction are classified as Group 'C/D' (see **Appendix II**).

A geotechnical investigation was performed by Terracon, dated June 9, 2017 (provided under a separate cover). Groundwater elevations are located at approximately 9± below grade NAVD88.

2.0 Design Overview

This project is located east and south of the existing Lee's Summit Medical Center; therefore, the stormwater analyses detailed herein are focused on the existing and proposed conditions of this portion of the campus as a retrofit condition. The remainder of the Lee's Summit Medical Center will remain mostly unchanged.



Detention criteria will be determined as provided for in the American Public Works Associations (APWA), Division V, Section 5600, as approved on February 16, 2011 by the Kansas City Metropolitan Chapter of the APWA (KCAPWA) and as adopted and amended on September 16, 2004 by the City of Lee's Summit. Additionally, the release rate of stormwater under APWA 5600 §5608.4(c)1 shall be observed. Specifically, the peak flat rate of discharge for the 2-Year, 10-Year and 100-Year events shall not exceed 0.5 cfs/ac, 2.0 cfs/ac, and 3.0 cfs/ac, respectively, for the added impervious area. Required drawdown of 80% of the stormwater volume was also considered for each design storm. And finally, an emergency discharge weir was designed for the event the discharge control structure were to become clogged. Criteria such as soil types, ground cover and ground topography were used to calculate times of concentration (Tc) and runoff curve numbers (CN) per TR-55 methodology, and considered as part of this analysis.

3.0 Pre-Development Stormwater Conditions

The existing stormwater management system appears to have surface runoff captured by catch basins and routed to a dry detention pond located in the southwest corner of the property. Per the previous stormwater management plan for the Lee's Summit Medical Center, prepared by GBA on April 13, 2006, the existing detention pond, Pond A accounted for Watershed-A which included some of the future parking lot expansion.

Based on the previous stormwater management plan, we determined the additional basin areas that will be routed through the pond in post-development to determine the total outfall from the site for the disturbed portions of the campus. Per the previous stormwater report, the basin area discharging to Pond A is 7.11 acres. Watersheds A-1 and A-2 were added to the pre-development condition to account for the areas that will be disturbed in the post condition.

Per the calculations provided in the 2006 Lee's Summit Medical Center Stormwater Report, the maximum permitted discharge from the stormwater system in Watershed A is 12 cfs, 19 cfs, 27 cfs for the 2/24, 10/24, and 100/24 storm events, respectively. Additional maximum flows from Watershed A-1 and Watershed A-2 were added to the maximum discharge from Watershed A to get the total discharge rate for the pre-development condition. A summary of the modeled pre-development conditions results are provided here:

	Pre-Development Max. Flow (cfs)		
	02-Yr/ 24-Hr	10-Yr/ 24-Hr	100-Yr/ 24-Hr
Watershed A*	12.00	19.00	27.00
Watershed A-1	0.42	0.85	1.67
Watershed A-2	0.86	1.71	3.36
Pond A Discharge	13.28	21.56	32.03

* From 2006 Lee's Summit Medical Center Stormwater Report

The information detailing this information is provided in **Appendix VII**.



4.0 Proposed Stormwater Design

4.1 Wetland Considerations

There are no proposed wetland impacts.

4.2 Post-Development Stormwater Conditions

The proposed improvements to the project area largely consists of impervious surfaces being placed over existing impervious area with small exception. Impervious area presently used for parking is proposed to be replaced with impervious area consisting of roof area for the MOB (including future expansion zones). The existing pond and berm have been reconfigured due to the necessary parking; therefore, a retaining wall with an integral handrail is proposed to achieve the required pond volume. The proposed project area of 8.09 acres overlays with some of the existing impervious area. The proposed building (with expansion zone) and parking covers 3.64 ac. total, with 1.78 ac. of impervious area removed (a difference of 1.86 ac. of additional impervious area). Note that the 2006 Stormwater report by GBA included an unused impervious area of 0.82 Ac. for future development. This area is considered in the "new" impervious area proposed as part of this development phase.

Impervious Area			
	Removed	Added (with Expansion Zone)	
Building	--	33,415	
Pavement	70,405	113,448	
Sidewalk	2,179	7,357	
Concrete	5,090	4,403	Total
Ft ² :	77,674	158,623	80,949
Ac	1.78	3.64	1.86
Additional Remaining Impervious area from 2006 Report:			0.82 Ac
Net Additional Impervious:			1.04 Ac

In the post-development configuration, the stormwater flows generated by the site are directed to catch basins that route flows to the modified dry detention pond. Per TR-55 methodology, a CN value of 98 was used to reflect the imperviousness of the proposed building and paved areas located over both Type 'C' and 'D' soils, while the pervious areas had CN values of 74 assigned for the corresponding Type 'C' soil groups, respectively (see **Appendix VIII**). There are three (3) sub-basins defined to exist based on topography and site conditions: Basin A, Basin A-1 and Basin A-2 which discharge to Pond A and its integrated bioretention basin.

4.3 Stormwater Modeling

Modeling software, adICPR, ver 4.03.02 with PercPack by Streamline Technologies (ICPR), was used to quantify the pre- and post-development conditions based on the model parameters discussed above. The post-development configuration was modeled based on the proposed conditions. Additionally, a parallel "dummy" system was



modeled to reflect the conditions necessary for the Flat Release Rate criteria for the proposed impervious area being added that exceeds the previous permitted area.

Please note that a side drain analysis was performed using recovery software PONDs 3.3 by Devo Seereeram, Ph.D., P.E. and Robert D. Casper, M.E. ©2012 (PONDs). This software was used to evaluate the infiltration recovery of the limited water volume in the pond below the outflow control structure such that no volume remains after three days (72 hours), the typical spawning and development time necessary for mosquito eggs and larvae to mature into the adult phase of the life cycle. PONDs considers aquifer elevation, water table, soil parameters and side drain geometry to evaluate recovery of the remnant volume in the pond. The PONDs side drain analysis is provided in **Appendix VII**. The proposed pond's stage/ area/ volume quantities are tabulated here for ease of reference:

Stage (Pond-10)	Area (sf)	Area (ac.)	Volume (ac-ft)	Cumulative Volume (ac-ft)	
991.00	2,468	0.0567			
992.00	8,505	0.1952	0.13	0.13	
992.30	9,273	0.2129	0.06	0.19	
993.00	11,064	0.2540	0.22	0.35	
994.00	11,902	0.2732	0.26	0.61	
995.00	12,473	0.2863	0.28	0.89	
996.00	13,067	0.3000	0.29	1.19	
997.00	13,685	0.3142	0.31	1.49	
998.00	14,328	0.3289	0.32	1.82	
999.00	14,984	0.3440	0.34	2.15	
999.63	15,391	0.3533	0.22	2.37	
1000.00	15,630	0.3588	0.35	2.50	
1000.50	15,949	0.3661	0.18	2.68	Top of Bank

8153 cu.ft

Rainfall amounts were obtained for NOAA's Precipitation Atlas (see **Appendix VII**). The rainfall depths for each of the design storms is 3.71", 5.66" and 9.25" for the 2/24, 10/24, and 100/24 storm events, respectively. ICPR storm attenuation analysis is provided in **Appendix V**.

4.4 Water Quantity

Per APWA, Division V, Section 5600, the design storms for this project are the 2-year/ 24-hour, 10-year/ 24-hour and 100-year/ 24-hour storm events. The design storms were evaluated using modeling software detailed in Section 4.3 for the pre- versus post-development flow rates discharging from the site. Resulting Pond A discharge rates are provided below:

	Post-Development Max. Flow (cfs)		
	02-Yr/ 24-Hr	10-Yr/ 24-Hr	100-Yr/ 24-Hr
Pond A Discharge	9.10	12.05	22.95



As discussed in Section 2.0 of this report, additional consideration was given to the release rate of stormwater under APWA 5600 §5608.4(c)1. The peak rate of discharge for the 2-Year, 10-Year and 100-Year events shall not exceed 0.5 cfs/ac, 2.0 cfs/ac, and 3.0 cfs/ac, respectively. The results of the proposed condition are reflected below:

	Post-Development Flat Release Rate (cfs)		
	02-Yr/ 24-Hr	10-Yr/ 24-Hr	100-Yr/ 24-Hr
Discharge Allowed (cfs)	0.50	2.00	3.00
Discharged Rate (cfs)	0.03	0.83	2.97

Per APWA 6508, 80% of the volume must recover within 24 hours from the peak flow. Per ICPR modeling, evaluation of this criterion is based on:

Pond Bottom: 992	Recovery Performance		
	02-Yr/ 24-Hr	10-Yr/ 24-Hr	100-Yr/ 24-Hr
Stage (ft)	994.74	997.16	999.61
Time Peak/ +24 (hrs)	12.0/ 36.0	12.25/ 36.25	12.25/ 36.25
Difference from Bottom (ft)	2.74	5.16	7.61
Stage at +24 hrs (ft)	992.37	992.37	992.38
Resulting Percentage	86%	93%	95%

An emergency overflow structure has been designed such that in the event of a total clog within the two control structure orifices, Pond-10 can discharge the 100-year flow from the pond at full capacity but only provides about 0.6' of foot of freeboard from the site's retaining wall in the system. As this is a retro-fit project, it was agreed during conversations with City Staff that a freeboard of less than 1.0 would be considered as acceptable performance design.

4.5 Water Quality

Per the Lee's Summit Design and Construction Manual, Section 5600, a water quality element to the proposed stormwater management system design is required to manage the 90% mean annual storm event via 40 hour extended detention for all areas of the proposed development improvements. After discussions with City staff, the APWA/ MARC BMP Manual, dated October 2012 ("APWA Manual") was referenced to establish acceptable water quality treatment methodologies.

In consideration of the project site's constraints due to existing development limits, the additional proposed development, soil types present, and the water quantity requirements, Biofiltration was considered to be the most effective means of providing water quality. "Biofiltration" is defined as a small engineered and landscaped basin designed to filter runoff before release. Per Chapter 4.20 of the APWA Manual, the proposed project incrementally modifies a previously developed site; therefore, the pre-development/ post-development procedures for the seven (7) steps specified in this section were followed in determining the bases of design of the biofiltration area. The calculations for the necessary treatment, recovery and performance of the biofiltration bed are provided in **Appendix VII**.



5.0 Floodplain Considerations

FEMA FIRM Panel 29095C0439G, dated January 20, 2017, included in **Appendix II**, was referenced to determine if portions of the property lie within the 100-year flood plain. The FIRM indicates no portion of the proposed project or its associated development lies within the established flood plain.

6.0 Storm Drain Hydraulics

The proposed storm conveyance system, proposed to be mainly constructed of yard drains, catch basins and trench drains was evaluated using the Bentley StormCAD V8i, Series 5 (StormCAD) modeling software. A series of catchment areas with given Tc's, C coefficients, and areas subdivide the site into small contributing areas to each proposed inlet for the given 10-year design storm's stage at peak inflow resulting from the primary stormwater design for Pond A. The peak inflow of 49.25 cfs occurs at hour 12 with a resulting stage of 995.86. The hydrograph data is provided by *NOAA Atlas 14 Precipitation Intensity*; https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=mo, provided for reference in **Appendix VIII**). Each catchment area will then calculate the amount of runoff collected by each inlet, and conveyed through the pipe network to the proposed stormwater treatment and storage systems. Profiles of the resulting HGLs are provided in the StormCAD modeling results in **Appendix VI**.

7.0 Conclusion

The proposed project to add an MOB to the existing Lee's Summit Medical Center campus, and its accompanying stormwater management system, has been shown not to adversely impact either the surrounding properties, or the subject property itself. Per the American Public Works Association, Division V, Section 5600 design regulations and design code criteria, the following parameters had to be considered for the pre-development vs. post-development conditions:

- Stormwater discharge rate for the 2-, 10-, and 100-year, 24-hour storm events;
- Flat Release Rate for added impervious area per APWA 5600 §5608.4(c)1
- Water Quality treatment
- Floodplain compensating storage, if necessary

The onsite detention area provides the necessary stormwater attenuation for the proposed development and performs as required. The primary component of the analysis of attenuation success is the comparison of pre- versus post-development flow rates discharged from the site which can be found in the table below.

	Max. Flow (cfs)		
	02-Yr/ 24-Hr	10-Yr/ 24-Hr	100-Yr/ 24-Hr
Pre Outflow	13.28	21.56	32.03
Post Outflow	9.10	12.05	22.95
Delta	(4.18)	(9.51)	(9.08)



Additionally, the Flat Release Rate requirement of APWA 5600 §5608.4(c)1 was demonstrated to have been met:

	Post-Development Flat Release Rate (cfs)		
	02-Yr/ 24-Hr	10-Yr/ 24-Hr	100-Yr/ 24-Hr
Discharge Allowed (cfs)	0.50	2.00	3.00
Discharged Rate (cfs)	0.03	0.83	2.97

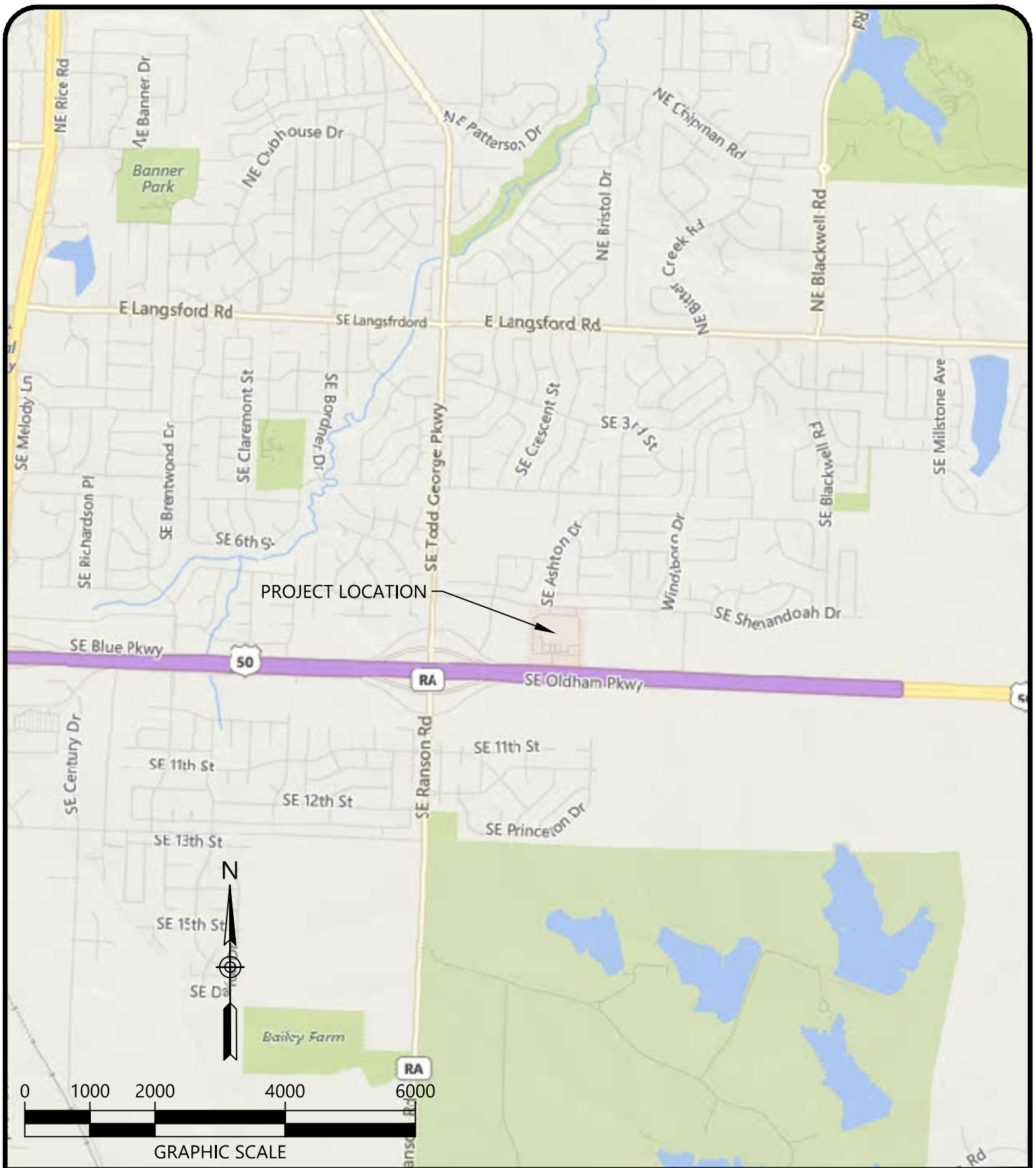
As for volume recovery, the following storm recoveries were observed per modeling:

Pond Bottom: 992	Recovery Performance		
	02-Yr/ 24-Hr	10-Yr/ 24-Hr	100-Yr/ 24-Hr
Stage (ft)	994.74	997.16	999.61
Time Peak/ +24 (hrs)	12.0/ 36.0	12.25/ 36.25	12.25/ 36.25
Difference from Bottom (ft)	2.74	5.16	7.61
Stage at +24 hrs (ft)	992.37	992.37	992.38
Resulting Percentage	86%	93%	95%

The proposed project, as described herein and in the plans provides levels of stormwater flow control, water quality improvements and site discharge controls that are not presently provided by the site's present stormwater system, even with the small increase in proposed impervious area. All things considered, the overall improvement to the site's stormwater management systems vastly extends beyond the almost trivial amount of additional impervious area.

Appendices

Appendix I – Vicinity & Aerial Maps



1615 EDGEWATER DRIVE,
SUITE 200,
ORLANDO, FLORIDA 32804
T 407.975.1273
F 407.975.1278
www.smeinc.com

PROJECT:
**Lee's Summit MC
Medical Office Building
Lee's Summit, MO**

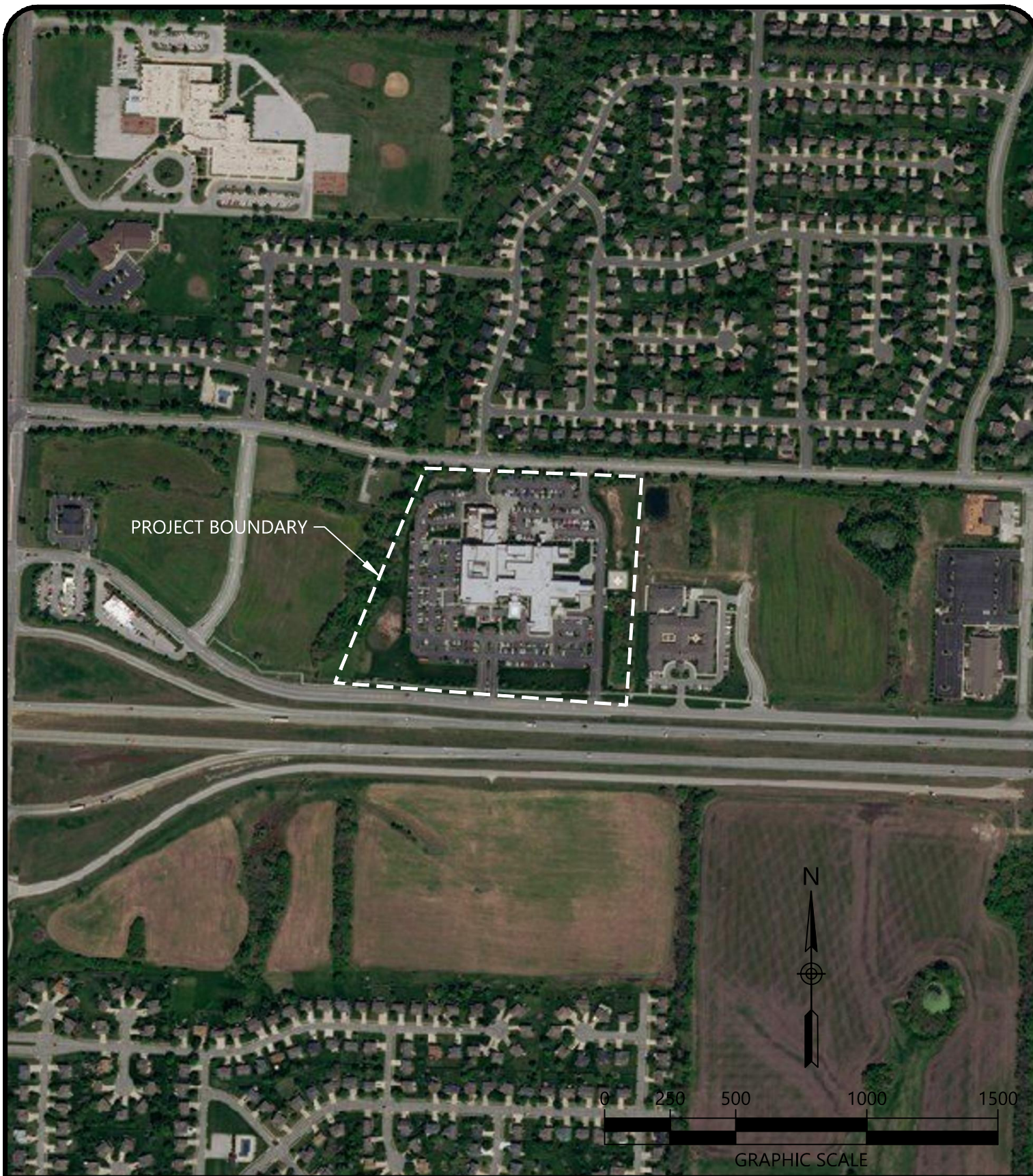
TITLE:
Vicinity Map

PROJ # 527116043

DATE: 09/01/2017

DWG. NO.

EXH



PROJECT BOUNDARY



0 250 500 1000 1500

GRAPHIC SCALE



1615 EDGEWATER DRIVE,
SUITE 200,
ORLANDO, FLORIDA 32804
T 407.975.1273
F 407.975.1278
www.smeinc.com

PROJECT:
Lee's Summit MC
Medical Office Building
Lee's Summit, MO

TITLE:
Aerial Map

PROJ # 527116043

DATE: 09/01/2017

DWG. NO.

EXH

**Appendix II – Support Maps and Project Documents (FIRM Panel,
Soils Maps, Property Appraiser's Card, etc.)**

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **Floodway** data have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Missouri State Plane West Zone (FIPS zone 2403). The **horizontal datum** was NAD 83, GRS 1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NNGS12
National Geodetic Survey
SIOC-3, #6202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on this FIRM was derived from the U.S.D.A. Farm Service National Agriculture Imagery Program (NAIP) dated 2014. Produced at scale of 1:24,000.

The **profile baselines** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the **profile baseline**, in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

Based on updated topographic information, this map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables for multiple streams in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unreviewed streams may differ from what is shown on previous maps.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHA) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (also known as the base flood) is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, AV, and VE. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of actual fast flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently determined. Zone AR indicates that the former flood control system is being retained to provide protection from the 1% annual chance or greater flood.
- ZONE AV** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or average drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE D Areas determined to be outside the 0.2% annual chance floodplain. Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPA)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% Annual Chance Floodplain Boundary

0.2% Annual Chance Floodplain Boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Areas and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.

Base Flood Elevation line and value; elevation in feet

Base Flood Elevation value where uniform within zone; elevation in feet

Reference to the North American Vertical Datum of 1988

Cross section line

Transect line

Current

Bridge

Geographic coordinates reference to the North American Datum of 1983 (NAD 83) Western Hemisphere

3100000 FT

FIPS Zone 2403, Transverse Mercator projection

Bench mark (see explanation in Notes to Users section of this FISB panel)

1:1.5

MAP REPOSITORIES

Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP

September 29, 2008

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

January 25, 2017 - to change Special Flood Hazard Areas

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-438-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 150 300 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0439G
FIRM
FLOOD INSURANCE RATE MAP
JACKSON COUNTY,
MISSOURI
AND INCORPORATED AREAS

PANEL 439 OF 625
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:	COMMUNITY	NUMBER	PANEL	SUFFIX
	JACKSON COUNTY	290402	0439	G
	UNIONVILLE	290174	0439	G
	LET'S SUMMIT	290174	0439	G
	CITY OF			

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

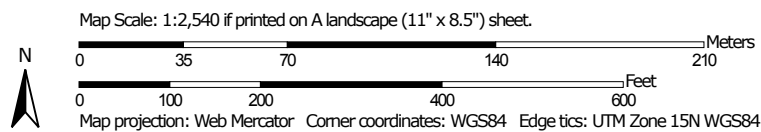
MAP NUMBER
29095C0439G
MAP REVISED
JANUARY 20, 2017

Federal Emergency Management Agency

Hydrologic Soil Group—Jackson County, Missouri



Soil Map may not be valid at this scale.



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

8/28/2017
Page 1 of 4

MAP LEGEND**Area of Interest (AOI)**
 Area of Interest (AOI)
Soils**Soil Rating Polygons**

-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Lines

-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Points

-  A
-  A/D
-  B
-  B/D

-  C
-  C/D
-  D
-  Not rated or not available

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 17, Sep 28, 2016

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

Date(s) aerial images were photographed: Oct 14, 2014—Oct 10, 2016

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

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Jackson County, Missouri (MO095)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
10082	Arisburg-Urban land complex, 1 to 5 percent slopes	D	11.9	58.4%
10180	Udarents-Urban land-Sampsel complex, 2 to 5 percent slopes	C	8.5	41.6%
Totals for Area of Interest			20.4	100.0%

Description

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

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

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

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

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

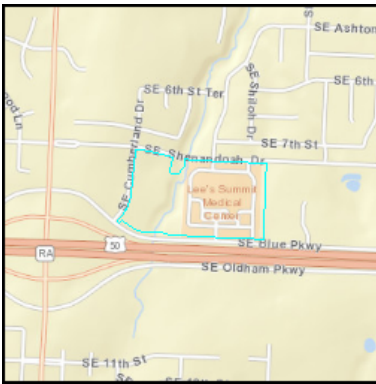
Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over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

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



Property Information

No Property Picture Available



Parcel ID: 60-420-99-09-00-0-00-000

Addresses on this Parcel:

There are 3 addresses on this parcel.

(Primary) 2100 SE SHENANDOAH DR LEE'S SUMMIT, MO 64063	1950 SE SHENANDOAH DR LEE'S SUMMIT, MO 64063	2000 SE SHENANDOAH DR LEE'S SUMMIT, MO 64063
--	---	---

Owner Information:

MIDWEST DIVISION LSH LLC
PO BOX 80610
INDIANAPOLIS, IN 46280

Mortgage Holder Information:

No Mortgage Holder Information.

Property Characteristics:

Year Built: NA
Living Area (Approx. sq. ft.): NA
Tax Neighborhood Code: 9978
Parcel Area (Approx.): 28.39 (acres), 1,239,168.70 (SqFt)

Property Class (PCA Code): Commercial Improved (code: 2010)

Land Use Type: Hospital (code: 2221)

Tax Code Area:

Code: 49
City: Lee's Summit
Fire: NA
Library: Mid Continent
School: Lees Summit R-7
Water: NA

Assessment Information:

Tax Year: 2017
Market Value: \$40,856,600
Assessed Value: \$13,072,753
Taxable Value: \$1,384,935
[Where are my tax dollars going?](#)

Exemptions and Abatements Status (2014):

1) Description: D10 - D10 (N) TIF, D10 Placeholder for TIF not an Exemption

Community Improvement District (CID):

Property is not in a CID for which Jackson County collects a tax or assessment.

TIF Information:

TIF Plan: 50 Hwy Corridor TIF 10
TIF Project: 50 Hwy Corridor Project 1

Property Tax Account Summary

[Direct Link to Jackson County Assessment Profile](#)

Parcel Number 60-420-99-09-00-0-00-000 Property Address 2100 SE SHENANDOAH DR , LEES SUMMIT, MO 64063

General Information
 Property Description HCA MIDWEST, LOTS 1A & 1B---LOT 1A
 Property Category Land and Improvements
 Status Active, Host Other Property, Locally Assessed
 Tax Code Area 049

Property Characteristics
 Property Class 2010

Parties

Role	Percent	Name	Address
Taxpayer	100	MIDWEST DIVISION LSH LLC	C/O % DUCHARME, MCMILLEN & ASSOC, PO BOX 80610, INDIANAPOLIS, IN 46280
Owner	100	MIDWEST DIVISION LSH LLC	C/O % DUCHARME, MCMILLEN & ASSOC, PO BOX 80610, INDIANAPOLIS, IN 46280

Property Values

Value Type	Tax Year 2017	Tax Year 2016	Tax Year 2015	Tax Year 2014	Tax Year 2013
Market Value Total	40,856,600	38,500,324	38,500,324	38,500,000	38,500,000
Taxable Value Total	1,384,935	1,384,935	1,384,935	1,384,935	1,384,935
Assessed Value Total	13,072,753	12,318,745	12,318,745	12,318,706	12,318,706

Active Exemptions
 D10 (N) TIF
 Events

Effective Date	Entry Date-Time	Type	Remarks
12/10/2007	12/10/2007 12:17	Created by Seg/Merge	Created by Seg/Merge 017341, Effective: 01/01/2008 by shelpau

No Charges are currently due.
 No Charge Amounts are currently due for this property. If you believe this is incorrect, please contact the Taxpayer Services Unit at (816) 881-3232.

NOTICE: Telephones are staffed during regular business hours (8am to 5pm, Monday through Friday, excluding holidays observed by Jackson County).

Distribution of Current Taxes

District	Amount
BOARD OF DISABLED SERVICES	1,022.080000
CITY - LEES SUMMIT	21,325.230000
JACKSON COUNTY	6,959.300000
LEES SUMMIT SCHOOL R-VII	83,036.550000
MENTAL HEALTH	1,663.300000
METRO JUNIOR COLLEGE	3,239.360000
MID-CONTINENT LIBRARY	4,366.700000
STATE BLIND PENSION	415.480000
CITY - LEES SUMMIT	960,108.790000
REPLACEMENT TAX	157,110.160000
STATE BLIND PENSION	3,280.140000
REPLACEMENT TAX	19,898.500000

Receipts

Date	Receipt No.	Amount Applied	Amount Due	Tendered	Change
01/04/2017 14:47	10121405	1,262,425.59	1,262,425.59	1,262,425.59	0.00
01/19/2016 11:11	9593769	1,259,296.63	1,259,296.63	1,259,296.63	0.00
12/22/2014 08:17	8893891	1,284,250.91	1,284,250.91	1,284,250.91	0.00
01/30/2014 11:27	8484908	1,277,069.10	1,277,069.10	1,277,069.10	0.00
12/21/2012 00:00	7786343	1,276,231.44	1,276,231.44	1,276,231.44	0.00
03/09/2012 08:45	7417464	55,687.99	199,741.04	199,741.04	0.00
01/04/2012 00:00	7350831	1,222,699.22	1,422,440.26	1,222,699.22	0.00

REMINDER: Occasionally, the parcel number for a real estate parcel changes, due to a parcel segregation or merge. In such a case, a search of the new parcel number may not reflect tax delinquency or a full tax history concerning that parcel. You may wish to contact us to obtain that information. Or, you may wish to search all relevant parcel numbers of parcels involved in such a segregation or merge. [Click here](#) to begin a search on this website to see if a parcel was involved in a segregation or merge occurring within the past five years and to see a list of parent parcel(s) and child parcel(s) involved.
NOTE: Information concerning a segregation or merge occurring more than five years prior to the search is not available on this website.

ATTENTION: This website will close at 11:00 p.m. on December 31.
 Taxes paid online after the website reopens in the New Year will accrue interest, penalties and fees.

Content in Property Account Summary Developed by Manatron, Inc.
 ©2005-2010 All rights reserved.
 Version 1.0.5228.20119

Disclaimer: The information contained in this website is provided to the recipient pursuant to Section 610.011, RSMo. Jackson County makes no warranties or representations of any kind, express or implied, regarding the information, data, or images provided herein. All information, data, and service are provided "as is," and "with all faults" and by accessing this website, the recipient accepts the risk of any errors or omissions. Jackson County is not liable in any way to the users of information, data or service provided herein. By accessing and using this information, data or service you agree to hold the County harmless in all matters and accounts arising from the use or reliance on the completeness or accuracy of this information, data or service.

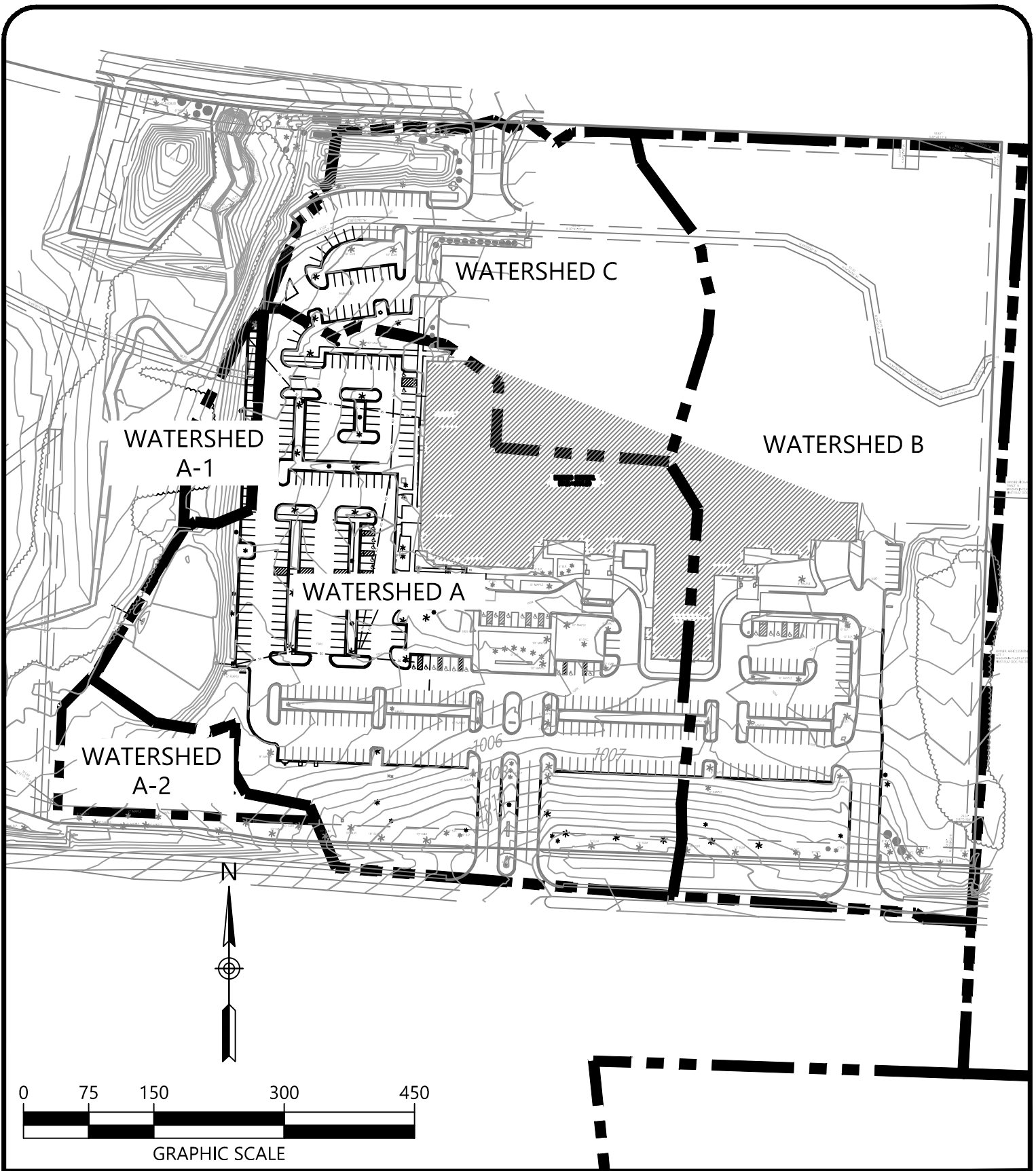
Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Appendix III - Pre-Development Drainage Basin Map



1615 EDGEWATER DRIVE,
SUITE 200,
ORLANDO, FLORIDA 32804
T 407.975.1273
F 407.975.1278
www.smeinc.com

PROJECT:
Lee's Summit MC
Medical Office Building
Lee's Summit, MO

TITLE:
Pre Basin Map

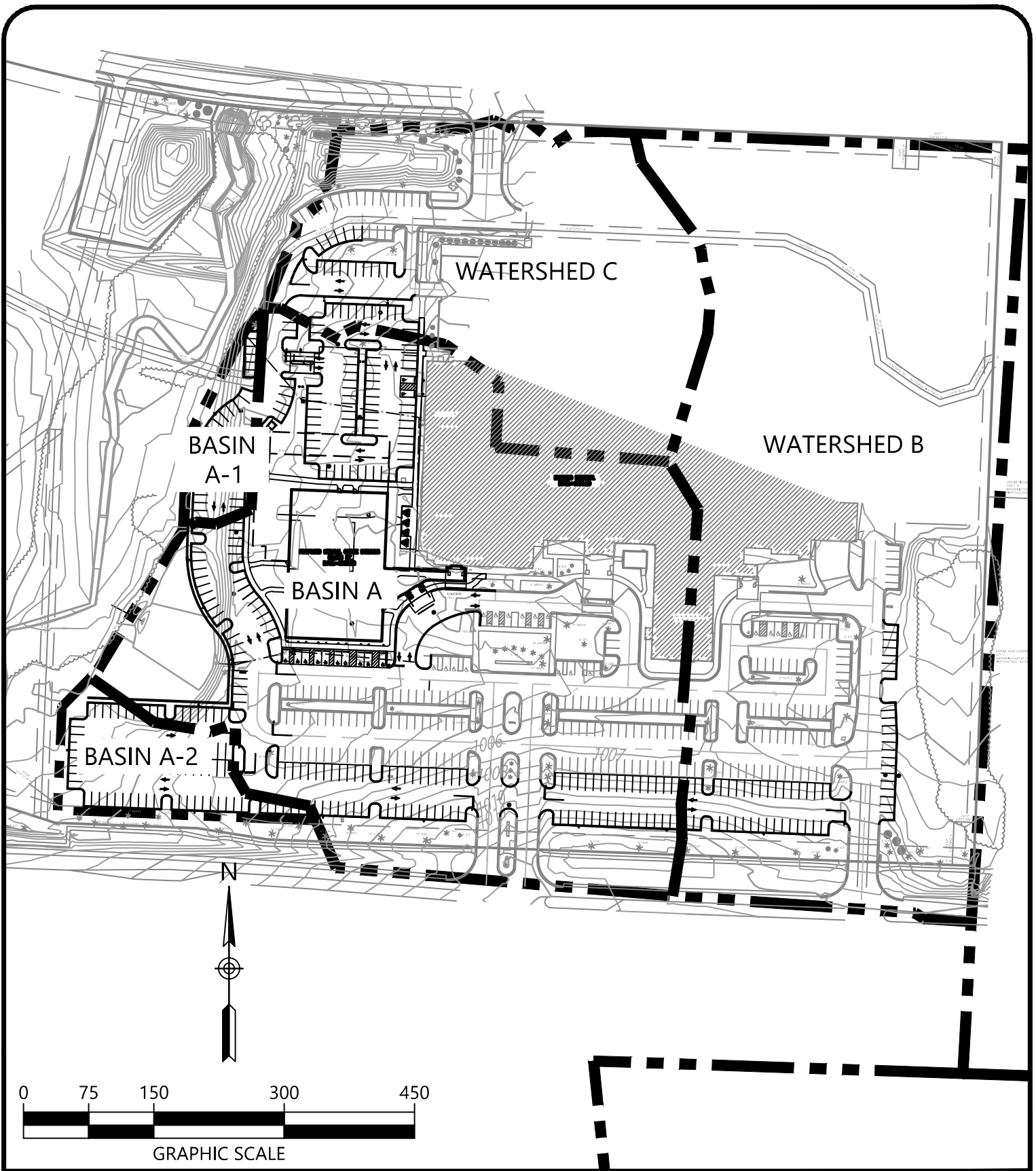
PROJ # 527116043

DATE: 09/01/2017

DWG. NO.

EXH

Appendix IV - Post-Development Drainage Map



1615 EDGEWATER DRIVE,
SUITE 200,
ORLANDO, FLORIDA 32804
T 407.975.1273
F 407.975.1278
www.smeinc.com

PROJECT:
Lee's Summit MC
Medical Office Building
Lee's Summit, MO

TITLE:
Post Basin Map

PROJ # 527116043

DATE: 09/01/2017

DWG. NO.
EXH

Appendix V – ICPR Pre-Development Modeling

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
Boundary	BASE	002Yr024Hr-Pre	0.00	991.86	991.86	0.0000	0	12.25	1.27	0.00	0.00
Boundary	BASE	010Yr024Hr-Pre	0.00	991.86	991.86	0.0000	0	12.24	2.54	0.00	0.00
Boundary	BASE	100Yr024Hr-Pre	0.00	991.86	991.86	0.0000	0	12.24	5.00	0.00	0.00

Basin Name: Watershed A-1
Group Name: BASE
Simulation: 002Yr024Hr-Pre
Node Name: Boundary
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 0.80
Comp Time Inc (min): 0.80
Rainfall File: Scsii
Rainfall Amount (in): 3.710
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 6.00
Time Shift (hrs): 0.00
Area (ac): 0.325
Vol of Unit Hyd (in): 1.000
Curve Number: 76.000
DCIA (%): 0.000

Time Max (hrs): 12.25
Flow Max (cfs): 0.42
Runoff Volume (in): 1.519
Runoff Volume (ft3): 1792

Basin Name: Watershed A-2
Group Name: BASE
Simulation: 002Yr024Hr-Pre
Node Name: Boundary
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 0.80
Comp Time Inc (min): 0.80
Rainfall File: Scsii
Rainfall Amount (in): 3.710
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 6.00
Time Shift (hrs): 0.00
Area (ac): 0.655
Vol of Unit Hyd (in): 1.000
Curve Number: 76.000
DCIA (%): 0.000

Time Max (hrs): 12.25
Flow Max (cfs): 0.86
Runoff Volume (in): 1.519
Runoff Volume (ft3): 3612

Basin Name: Watershed A-1
Group Name: BASE
Simulation: 010Yr024Hr-Pre
Node Name: Boundary
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256

Peaking Fator: 256.0
Spec Time Inc (min): 0.80
Comp Time Inc (min): 0.80
Rainfall File: Scsiii
Rainfall Amount (in): 5.660
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 6.00
Time Shift (hrs): 0.00
Area (ac): 0.325
Vol of Unit Hyd (in): 1.000
Curve Number: 76.000
DCIA (%): 0.000

Time Max (hrs): 12.25
Flow Max (cfs): 0.85
Runoff Volume (in): 3.088
Runoff Volume (ft3): 3643

Basin Name: Watershed A-2
Group Name: BASE
Simulation: 010Yr024Hr-Pre
Node Name: Boundary
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 0.80
Comp Time Inc (min): 0.80
Rainfall File: Scsiii
Rainfall Amount (in): 5.660
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 6.00
Time Shift (hrs): 0.00
Area (ac): 0.655
Vol of Unit Hyd (in): 1.000
Curve Number: 76.000
DCIA (%): 0.000

Time Max (hrs): 12.25
Flow Max (cfs): 1.71
Runoff Volume (in): 3.088
Runoff Volume (ft3): 7341

Basin Name: Watershed A-1
Group Name: BASE
Simulation: 100Yr024Hr-Pre
Node Name: Boundary
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 0.80
Comp Time Inc (min): 0.80
Rainfall File: Scsiii
Rainfall Amount (in): 9.250
Storm Duration (hrs): 24.00
Status: Onsite

Time of Conc (min): 6.00
Time Shift (hrs): 0.00
Area (ac): 0.325
Vol of Unit Hyd (in): 1.000
Curve Number: 76.000
DCIA (%): 0.000

Time Max (hrs): 12.24
Flow Max (cfs): 1.67
Runoff Volume (in): 6.305
Runoff Volume (ft3): 7439

Basin Name: Watershed A-2
Group Name: BASE
Simulation: 100Yr024Hr-Pre
Node Name: Boundary
Basin Type: SCS Unit Hydrograph

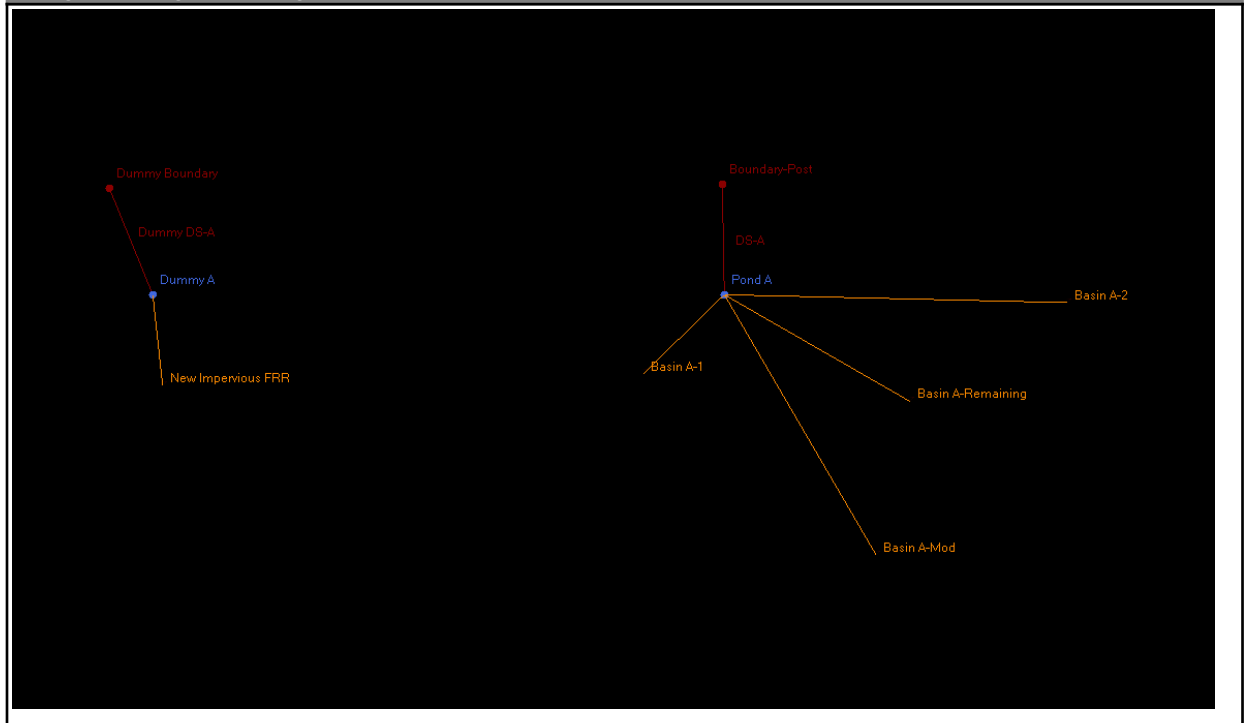
Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 0.80
Comp Time Inc (min): 0.80
Rainfall File: Scsiii
Rainfall Amount (in): 9.250
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 6.00
Time Shift (hrs): 0.00
Area (ac): 0.655
Vol of Unit Hyd (in): 1.000
Curve Number: 76.000
DCIA (%): 0.000

Time Max (hrs): 12.24
Flow Max (cfs): 3.36
Runoff Volume (in): 6.305
Runoff Volume (ft3): 14992

Appendix VI - ICPR Post-Development Modeling

Storm Routing

Background Image: NodalDiagram



Sim	Link Name	From Node Name	To Node Name	Relative Time [hrs]	Maximum Flow Rate [cfs]	Time to Maximum Flow Rate [hrs]
002Yr24Hr-Post	Dummy DS-A	--D~Dummy DS-A~N	Dummy Boundary	29.7591	0.03	13.8794
010Yr24Hr-Post	Dummy DS-A	--D~Dummy DS-A~N	Dummy Boundary	29.7564	0.83	12.4131
100Yr24Hr-Post	Dummy DS-A	--D~Dummy DS-A~N	Dummy Boundary	29.7619	2.97	12.2107

Scenario	Sim	Node Name	Relative Time [hrs]	Warning Stage [ft]	Maximum Stage [ft]	Time to Maximum Stage [hrs]
lcpr3	002Yr24Hr-Post	Pond A	29.7591	999.50	995.56	12.2146
lcpr3	010Yr24Hr-Post	Pond A	29.7564	999.50	997.16	12.2434
lcpr3	100Yr24Hr-Post	Pond A	29.7619	999.50	999.62	12.2144

Sim	Link Name	From Node Name	To Node Name	Maximum Flow Rate [cfs]
002Yr24Hr-Post	DS-A	~~D~DS-A~N	Boundary-Post	9.10
010Yr24Hr-Post	DS-A	~~D~DS-A~N	Boundary-Post	12.05
100Yr24Hr-Post	DS-A	~~D~DS-A~N	Boundary-Post	22.95

Sim	Node Name	Relative Time [hrs]	Stage [ft]	Total Inflow Rate [cfs]
002Yr24Hr-Post	Pond A	0.0000	991.00	0.00
002Yr24Hr-Post	Pond A	0.2511	991.00	0.00
002Yr24Hr-Post	Pond A	0.5050	991.00	0.00
002Yr24Hr-Post	Pond A	0.7556	991.00	0.00
002Yr24Hr-Post	Pond A	1.0021	991.00	0.00
002Yr24Hr-Post	Pond A	1.2546	991.00	0.02
002Yr24Hr-Post	Pond A	1.5105	991.01	0.05
002Yr24Hr-Post	Pond A	1.7531	991.04	0.08
002Yr24Hr-Post	Pond A	2.0062	991.07	0.11
002Yr24Hr-Post	Pond A	2.2515	991.10	0.12
002Yr24Hr-Post	Pond A	2.5017	991.14	0.15
002Yr24Hr-Post	Pond A	2.7514	991.18	0.15
002Yr24Hr-Post	Pond A	3.0001	991.22	0.18
002Yr24Hr-Post	Pond A	3.2510	991.26	0.20
002Yr24Hr-Post	Pond A	3.5032	991.31	0.19
002Yr24Hr-Post	Pond A	3.7542	991.35	0.22
002Yr24Hr-Post	Pond A	4.0030	991.40	0.28
002Yr24Hr-Post	Pond A	4.2523	991.45	0.32
002Yr24Hr-Post	Pond A	4.5018	991.50	0.31
002Yr24Hr-Post	Pond A	4.7517	991.56	0.35
002Yr24Hr-Post	Pond A	5.0007	991.61	0.36
002Yr24Hr-Post	Pond A	5.2541	991.66	0.34
002Yr24Hr-Post	Pond A	5.5037	991.71	0.38
002Yr24Hr-Post	Pond A	5.7530	991.76	0.36
002Yr24Hr-Post	Pond A	6.0035	991.80	0.39
002Yr24Hr-Post	Pond A	6.2527	991.86	0.49
002Yr24Hr-Post	Pond A	6.5005	991.91	0.47
002Yr24Hr-Post	Pond A	6.7526	991.97	0.52
002Yr24Hr-Post	Pond A	7.0017	992.02	0.48
002Yr24Hr-Post	Pond A	7.2504	992.07	0.53
002Yr24Hr-Post	Pond A	7.5041	992.13	0.49
002Yr24Hr-Post	Pond A	7.7514	992.18	0.54
002Yr24Hr-Post	Pond A	8.0022	992.23	0.55
002Yr24Hr-Post	Pond A	8.2521	992.29	0.60
002Yr24Hr-Post	Pond A	8.5008	992.35	0.77
002Yr24Hr-Post	Pond A	8.7531	992.42	0.72
002Yr24Hr-Post	Pond A	9.0018	992.49	0.79
002Yr24Hr-Post	Pond A	9.2519	992.57	0.90
002Yr24Hr-Post	Pond A	9.5002	992.65	0.84
002Yr24Hr-Post	Pond A	9.7517	992.73	1.02
002Yr24Hr-Post	Pond A	10.0025	992.79	0.96

Sim	Node Name	Relative Time [hrs]	Stage [ft]	Total Inflow Rate [cfs]
002Yr24Hr-Post	Pond A	10.2554	992.82	1.15
002Yr24Hr-Post	Pond A	10.5044	992.85	1.28
002Yr24Hr-Post	Pond A	10.7523	992.90	1.73
002Yr24Hr-Post	Pond A	11.0014	992.97	2.12
002Yr24Hr-Post	Pond A	11.2529	993.04	2.28
002Yr24Hr-Post	Pond A	11.5014	993.13	3.17
002Yr24Hr-Post	Pond A	11.7502	993.52	10.93
002Yr24Hr-Post	Pond A	12.0000	994.74	32.01
002Yr24Hr-Post	Pond A	12.2505	995.55	7.56
002Yr24Hr-Post	Pond A	12.5006	995.27	3.36
002Yr24Hr-Post	Pond A	12.7505	994.91	2.89
002Yr24Hr-Post	Pond A	13.0000	994.56	2.11
002Yr24Hr-Post	Pond A	13.2503	994.22	1.89
002Yr24Hr-Post	Pond A	13.5007	993.93	1.51
002Yr24Hr-Post	Pond A	13.7507	993.69	1.39
002Yr24Hr-Post	Pond A	14.0004	993.51	1.26
002Yr24Hr-Post	Pond A	14.2507	993.36	1.04
002Yr24Hr-Post	Pond A	14.5005	993.25	1.00
002Yr24Hr-Post	Pond A	14.7519	993.15	0.81
002Yr24Hr-Post	Pond A	15.0006	993.08	0.87
002Yr24Hr-Post	Pond A	15.2527	993.03	0.87
002Yr24Hr-Post	Pond A	15.5006	992.98	0.70
002Yr24Hr-Post	Pond A	15.7558	992.94	0.74
002Yr24Hr-Post	Pond A	16.0074	992.91	0.69
002Yr24Hr-Post	Pond A	16.2557	992.89	0.74
002Yr24Hr-Post	Pond A	16.5052	992.87	0.69
002Yr24Hr-Post	Pond A	16.7581	992.85	0.63
002Yr24Hr-Post	Pond A	17.0055	992.83	0.62
002Yr24Hr-Post	Pond A	17.2527	992.82	0.57
002Yr24Hr-Post	Pond A	17.5043	992.81	0.62
002Yr24Hr-Post	Pond A	17.7542	992.80	0.57
002Yr24Hr-Post	Pond A	18.0042	992.78	0.51
002Yr24Hr-Post	Pond A	18.2542	992.77	0.50
002Yr24Hr-Post	Pond A	18.5042	992.76	0.46
002Yr24Hr-Post	Pond A	18.7542	992.75	0.50
002Yr24Hr-Post	Pond A	19.0042	992.74	0.46
002Yr24Hr-Post	Pond A	19.2542	992.73	0.50
002Yr24Hr-Post	Pond A	19.5042	992.73	0.46
002Yr24Hr-Post	Pond A	19.7542	992.73	0.50
002Yr24Hr-Post	Pond A	20.0042	992.72	0.38
002Yr24Hr-Post	Pond A	20.2542	992.71	0.34

Sim	Node Name	Relative Time [hrs]	Stage [ft]	Total Inflow Rate [cfs]
002Yr24Hr-Post	Pond A	20.5042	992.70	0.37
002Yr24Hr-Post	Pond A	20.7542	992.69	0.34
002Yr24Hr-Post	Pond A	21.0042	992.68	0.37
002Yr24Hr-Post	Pond A	21.2542	992.68	0.37
002Yr24Hr-Post	Pond A	21.5042	992.67	0.34
002Yr24Hr-Post	Pond A	21.7542	992.67	0.37
002Yr24Hr-Post	Pond A	22.0042	992.67	0.34
002Yr24Hr-Post	Pond A	22.2542	992.66	0.37
002Yr24Hr-Post	Pond A	22.5042	992.66	0.34
002Yr24Hr-Post	Pond A	22.7542	992.66	0.37
002Yr24Hr-Post	Pond A	23.0042	992.66	0.38
002Yr24Hr-Post	Pond A	23.2542	992.66	0.34
002Yr24Hr-Post	Pond A	23.5042	992.66	0.37
002Yr24Hr-Post	Pond A	23.7542	992.66	0.34
002Yr24Hr-Post	Pond A	24.0042	992.65	0.26
002Yr24Hr-Post	Pond A	24.2576	992.63	0.02
002Yr24Hr-Post	Pond A	24.5007	992.60	0.00
002Yr24Hr-Post	Pond A	24.7576	992.58	0.00
002Yr24Hr-Post	Pond A	25.0041	992.56	0.00
002Yr24Hr-Post	Pond A	25.2595	992.54	0.00
002Yr24Hr-Post	Pond A	25.5021	992.53	0.00
002Yr24Hr-Post	Pond A	25.7591	992.52	0.00
002Yr24Hr-Post	Pond A	26.0091	992.50	0.00
002Yr24Hr-Post	Pond A	26.2591	992.49	0.00
002Yr24Hr-Post	Pond A	26.5091	992.48	0.00
002Yr24Hr-Post	Pond A	26.7591	992.47	0.00
002Yr24Hr-Post	Pond A	27.0091	992.47	0.00
002Yr24Hr-Post	Pond A	27.2591	992.46	0.00
002Yr24Hr-Post	Pond A	27.5091	992.45	0.00
002Yr24Hr-Post	Pond A	27.7591	992.44	0.00
002Yr24Hr-Post	Pond A	28.0091	992.44	0.00
002Yr24Hr-Post	Pond A	28.2591	992.43	0.00
002Yr24Hr-Post	Pond A	28.5091	992.43	0.00
002Yr24Hr-Post	Pond A	28.7591	992.43	0.00
002Yr24Hr-Post	Pond A	29.0091	992.42	0.00
002Yr24Hr-Post	Pond A	29.2591	992.42	0.00
002Yr24Hr-Post	Pond A	29.5091	992.42	0.00
002Yr24Hr-Post	Pond A	29.7591	992.41	0.00
002Yr24Hr-Post	Pond A	30.0091	992.41	0.00
002Yr24Hr-Post	Pond A	30.2591	992.41	0.00
002Yr24Hr-Post	Pond A	30.5091	992.41	0.00

Sim	Node Name	Relative Time [hrs]	Stage [ft]	Total Inflow Rate [cfs]
002Yr24Hr-Post	Pond A	30.7591	992.40	0.00
002Yr24Hr-Post	Pond A	31.0091	992.40	0.00
002Yr24Hr-Post	Pond A	31.2591	992.40	0.00
002Yr24Hr-Post	Pond A	31.5091	992.40	0.00
002Yr24Hr-Post	Pond A	31.7591	992.40	0.00
002Yr24Hr-Post	Pond A	32.0091	992.40	0.00
002Yr24Hr-Post	Pond A	32.2591	992.40	0.00
002Yr24Hr-Post	Pond A	32.5091	992.39	0.00
002Yr24Hr-Post	Pond A	32.7591	992.39	0.00
002Yr24Hr-Post	Pond A	33.0091	992.39	0.00
002Yr24Hr-Post	Pond A	33.2591	992.39	0.00
002Yr24Hr-Post	Pond A	33.5091	992.39	0.00
002Yr24Hr-Post	Pond A	33.7591	992.39	0.00
002Yr24Hr-Post	Pond A	34.0091	992.38	0.00
002Yr24Hr-Post	Pond A	34.2591	992.38	0.00
002Yr24Hr-Post	Pond A	34.5091	992.38	0.00
002Yr24Hr-Post	Pond A	34.7591	992.38	0.00
002Yr24Hr-Post	Pond A	35.0091	992.38	0.00
002Yr24Hr-Post	Pond A	35.2591	992.38	0.00
002Yr24Hr-Post	Pond A	35.5091	992.37	0.00
002Yr24Hr-Post	Pond A	35.7591	992.37	0.00
002Yr24Hr-Post	Pond A	36.0091	992.37	0.00
002Yr24Hr-Post	Pond A	36.2591	992.37	0.00
002Yr24Hr-Post	Pond A	36.5091	992.37	0.00
002Yr24Hr-Post	Pond A	36.7591	992.37	0.00
002Yr24Hr-Post	Pond A	37.0091	992.37	0.00
002Yr24Hr-Post	Pond A	37.2591	992.36	0.00
002Yr24Hr-Post	Pond A	37.5091	992.36	0.00
002Yr24Hr-Post	Pond A	37.7591	992.36	0.00
002Yr24Hr-Post	Pond A	38.0091	992.36	0.00
002Yr24Hr-Post	Pond A	38.2591	992.36	0.00
002Yr24Hr-Post	Pond A	38.5091	992.36	0.00
002Yr24Hr-Post	Pond A	38.7591	992.36	0.00
002Yr24Hr-Post	Pond A	39.0091	992.36	0.00
002Yr24Hr-Post	Pond A	39.2591	992.36	0.00
002Yr24Hr-Post	Pond A	39.5091	992.35	0.00
002Yr24Hr-Post	Pond A	39.7591	992.35	0.00
002Yr24Hr-Post	Pond A	40.0091	992.35	0.00
002Yr24Hr-Post	Pond A	40.2591	992.35	0.00
002Yr24Hr-Post	Pond A	40.5091	992.35	0.00
002Yr24Hr-Post	Pond A	40.7591	992.35	0.00

Sim	Node Name	Relative Time [hrs]	Stage [ft]	Total Inflow Rate [cfs]
002Yr24Hr-Post	Pond A	41.0091	992.35	0.00
002Yr24Hr-Post	Pond A	41.2591	992.35	0.00
002Yr24Hr-Post	Pond A	41.5091	992.35	0.00
002Yr24Hr-Post	Pond A	41.7591	992.35	0.00
002Yr24Hr-Post	Pond A	42.0091	992.35	0.00
002Yr24Hr-Post	Pond A	42.2591	992.35	0.00
002Yr24Hr-Post	Pond A	42.5091	992.35	0.00
002Yr24Hr-Post	Pond A	42.7591	992.34	0.00
002Yr24Hr-Post	Pond A	43.0091	992.34	0.00
002Yr24Hr-Post	Pond A	43.2591	992.34	0.00
002Yr24Hr-Post	Pond A	43.5091	992.34	0.00
002Yr24Hr-Post	Pond A	43.7591	992.34	0.00
002Yr24Hr-Post	Pond A	44.0091	992.34	0.00
002Yr24Hr-Post	Pond A	44.2591	992.34	0.00
002Yr24Hr-Post	Pond A	44.5091	992.34	0.00
002Yr24Hr-Post	Pond A	44.7591	992.34	0.00
002Yr24Hr-Post	Pond A	45.0091	992.34	0.00
002Yr24Hr-Post	Pond A	45.2591	992.34	0.00
002Yr24Hr-Post	Pond A	45.5091	992.34	0.00
002Yr24Hr-Post	Pond A	45.7591	992.34	0.00
002Yr24Hr-Post	Pond A	46.0091	992.34	0.00
002Yr24Hr-Post	Pond A	46.2591	992.34	0.00
002Yr24Hr-Post	Pond A	46.5091	992.34	0.00
002Yr24Hr-Post	Pond A	46.7591	992.34	0.00
002Yr24Hr-Post	Pond A	47.0091	992.34	0.00
002Yr24Hr-Post	Pond A	47.2591	992.34	0.00
002Yr24Hr-Post	Pond A	47.5091	992.34	0.00
002Yr24Hr-Post	Pond A	47.7591	992.34	0.00
002Yr24Hr-Post	Pond A	48.0091	992.33	0.00
002Yr24Hr-Post	Pond A	48.2591	992.33	0.00
002Yr24Hr-Post	Pond A	48.5091	992.33	0.00
002Yr24Hr-Post	Pond A	48.7591	992.33	0.00
002Yr24Hr-Post	Pond A	49.0091	992.33	0.00
002Yr24Hr-Post	Pond A	49.2591	992.33	0.00
002Yr24Hr-Post	Pond A	49.5091	992.33	0.00
002Yr24Hr-Post	Pond A	49.7591	992.33	0.00
002Yr24Hr-Post	Pond A	50.0091	992.33	0.00
002Yr24Hr-Post	Pond A	50.2591	992.33	0.00
002Yr24Hr-Post	Pond A	50.5091	992.33	0.00
002Yr24Hr-Post	Pond A	50.7591	992.33	0.00
002Yr24Hr-Post	Pond A	51.0091	992.33	0.00

Sim	Node Name	Relative Time [hrs]	Stage [ft]	Total Inflow Rate [cfs]
002Yr24Hr-Post	Pond A	51.2591	992.33	0.00
002Yr24Hr-Post	Pond A	51.5091	992.33	0.00
002Yr24Hr-Post	Pond A	51.7591	992.33	0.00
002Yr24Hr-Post	Pond A	52.0091	992.33	0.00
002Yr24Hr-Post	Pond A	52.2591	992.33	0.00
002Yr24Hr-Post	Pond A	52.5091	992.33	0.00
002Yr24Hr-Post	Pond A	52.7591	992.33	0.00
002Yr24Hr-Post	Pond A	53.0091	992.33	0.00
002Yr24Hr-Post	Pond A	53.2591	992.33	0.00
002Yr24Hr-Post	Pond A	53.5091	992.33	0.00
002Yr24Hr-Post	Pond A	53.7591	992.33	0.00
002Yr24Hr-Post	Pond A	54.0091	992.33	0.00
002Yr24Hr-Post	Pond A	54.2591	992.33	0.00
002Yr24Hr-Post	Pond A	54.5091	992.33	0.00
002Yr24Hr-Post	Pond A	54.7591	992.33	0.00
002Yr24Hr-Post	Pond A	55.0091	992.33	0.00
002Yr24Hr-Post	Pond A	55.2591	992.33	0.00
002Yr24Hr-Post	Pond A	55.5091	992.33	0.00
002Yr24Hr-Post	Pond A	55.7591	992.33	0.00
002Yr24Hr-Post	Pond A	56.0091	992.33	0.00
002Yr24Hr-Post	Pond A	56.2591	992.33	0.00
002Yr24Hr-Post	Pond A	56.5091	992.33	0.00
002Yr24Hr-Post	Pond A	56.7591	992.33	0.00
002Yr24Hr-Post	Pond A	57.0091	992.33	0.00
002Yr24Hr-Post	Pond A	57.2591	992.33	0.00
002Yr24Hr-Post	Pond A	57.5091	992.33	0.00
002Yr24Hr-Post	Pond A	57.7591	992.32	0.00
002Yr24Hr-Post	Pond A	58.0091	992.32	0.00
002Yr24Hr-Post	Pond A	58.2591	992.32	0.00
002Yr24Hr-Post	Pond A	58.5091	992.32	0.00
002Yr24Hr-Post	Pond A	58.7591	992.32	0.00
002Yr24Hr-Post	Pond A	59.0091	992.32	0.00
002Yr24Hr-Post	Pond A	59.2591	992.32	0.00
002Yr24Hr-Post	Pond A	59.5091	992.32	0.00
002Yr24Hr-Post	Pond A	59.7591	992.32	0.00
010Yr24Hr-Post	Pond A	0.0000	991.00	0.00
010Yr24Hr-Post	Pond A	0.2511	991.00	0.00
010Yr24Hr-Post	Pond A	0.5050	991.00	0.00
010Yr24Hr-Post	Pond A	0.7556	991.00	0.00
010Yr24Hr-Post	Pond A	1.0021	991.01	0.00
010Yr24Hr-Post	Pond A	1.2534	991.04	0.00

Sim	Node Name	Relative Time [hrs]	Stage [ft]	Total Inflow Rate [cfs]
010Yr24Hr-Post	Pond A	1.5021	991.09	0.00
010Yr24Hr-Post	Pond A	1.7501	991.15	0.00
010Yr24Hr-Post	Pond A	2.0032	991.21	0.00
010Yr24Hr-Post	Pond A	2.2535	991.28	0.00
010Yr24Hr-Post	Pond A	2.5025	991.34	0.00
010Yr24Hr-Post	Pond A	2.7507	991.40	0.00
010Yr24Hr-Post	Pond A	3.0016	991.46	0.00
010Yr24Hr-Post	Pond A	3.2511	991.53	0.00
010Yr24Hr-Post	Pond A	3.5011	991.59	0.00
010Yr24Hr-Post	Pond A	3.7524	991.65	0.00
010Yr24Hr-Post	Pond A	4.0029	991.71	0.00
010Yr24Hr-Post	Pond A	4.2527	991.78	0.00
010Yr24Hr-Post	Pond A	4.5015	991.85	0.00
010Yr24Hr-Post	Pond A	4.7527	991.92	0.00
010Yr24Hr-Post	Pond A	5.0019	991.99	0.00
010Yr24Hr-Post	Pond A	5.2515	992.05	0.00
010Yr24Hr-Post	Pond A	5.5025	992.12	0.00
010Yr24Hr-Post	Pond A	5.7511	992.18	0.00
010Yr24Hr-Post	Pond A	6.0023	992.25	0.00
010Yr24Hr-Post	Pond A	6.2505	992.32	0.00
010Yr24Hr-Post	Pond A	6.5017	992.40	0.00
010Yr24Hr-Post	Pond A	6.7502	992.47	0.00
010Yr24Hr-Post	Pond A	7.0011	992.54	0.00
010Yr24Hr-Post	Pond A	7.2508	992.62	0.00
010Yr24Hr-Post	Pond A	7.5015	992.69	0.00
010Yr24Hr-Post	Pond A	7.7507	992.77	0.00
010Yr24Hr-Post	Pond A	8.0033	992.79	0.00
010Yr24Hr-Post	Pond A	8.2527	992.81	0.00
010Yr24Hr-Post	Pond A	8.5013	992.84	0.00
010Yr24Hr-Post	Pond A	8.7566	992.87	0.00
010Yr24Hr-Post	Pond A	9.0037	992.89	0.00
010Yr24Hr-Post	Pond A	9.2528	992.92	0.00
010Yr24Hr-Post	Pond A	9.5077	992.94	0.00
010Yr24Hr-Post	Pond A	9.7558	992.97	0.00
010Yr24Hr-Post	Pond A	10.0036	992.99	0.00
010Yr24Hr-Post	Pond A	10.2537	993.02	0.00
010Yr24Hr-Post	Pond A	10.5054	993.06	0.00
010Yr24Hr-Post	Pond A	10.7500	993.12	0.00
010Yr24Hr-Post	Pond A	11.0009	993.21	0.00
010Yr24Hr-Post	Pond A	11.2525	993.30	0.00
010Yr24Hr-Post	Pond A	11.5006	993.42	0.00

Sim	Node Name	Relative Time [hrs]	Stage [ft]	Total Inflow Rate [cfs]
010Yr24Hr-Post	Pond A	11.7502	993.99	0.00
010Yr24Hr-Post	Pond A	12.0000	995.86	0.00
010Yr24Hr-Post	Pond A	12.2504	997.16	0.00
010Yr24Hr-Post	Pond A	12.5004	996.87	0.00
010Yr24Hr-Post	Pond A	12.7502	996.44	0.00
010Yr24Hr-Post	Pond A	13.0003	995.99	0.00
010Yr24Hr-Post	Pond A	13.2500	995.54	0.00
010Yr24Hr-Post	Pond A	13.5004	995.12	0.00
010Yr24Hr-Post	Pond A	13.7501	994.72	0.00
010Yr24Hr-Post	Pond A	14.0001	994.36	0.00
010Yr24Hr-Post	Pond A	14.2505	994.05	0.00
010Yr24Hr-Post	Pond A	14.5002	993.78	0.00
010Yr24Hr-Post	Pond A	14.7504	993.58	0.00
010Yr24Hr-Post	Pond A	15.0012	993.43	0.00
010Yr24Hr-Post	Pond A	15.2516	993.31	0.00
010Yr24Hr-Post	Pond A	15.5012	993.22	0.00
010Yr24Hr-Post	Pond A	15.7527	993.15	0.00
010Yr24Hr-Post	Pond A	16.0046	993.09	0.00
010Yr24Hr-Post	Pond A	16.2533	993.05	0.00
010Yr24Hr-Post	Pond A	16.5080	993.02	0.00
010Yr24Hr-Post	Pond A	16.7534	993.00	0.00
010Yr24Hr-Post	Pond A	17.0028	992.97	0.00
010Yr24Hr-Post	Pond A	17.2545	992.95	0.00
010Yr24Hr-Post	Pond A	17.5048	992.93	0.00
010Yr24Hr-Post	Pond A	17.7581	992.92	0.00
010Yr24Hr-Post	Pond A	18.0042	992.90	0.00
010Yr24Hr-Post	Pond A	18.2599	992.88	0.00
010Yr24Hr-Post	Pond A	18.5103	992.87	0.00
010Yr24Hr-Post	Pond A	18.7510	992.85	0.00
010Yr24Hr-Post	Pond A	19.0001	992.84	0.00
010Yr24Hr-Post	Pond A	19.2501	992.84	0.00
010Yr24Hr-Post	Pond A	19.5001	992.83	0.00
010Yr24Hr-Post	Pond A	19.7501	992.83	0.00
010Yr24Hr-Post	Pond A	20.0001	992.82	0.00
010Yr24Hr-Post	Pond A	20.2601	992.80	0.00
010Yr24Hr-Post	Pond A	20.5001	992.79	0.00
010Yr24Hr-Post	Pond A	20.7501	992.78	0.00
010Yr24Hr-Post	Pond A	21.0001	992.77	0.00
010Yr24Hr-Post	Pond A	21.2501	992.77	0.00
010Yr24Hr-Post	Pond A	21.5001	992.76	0.00
010Yr24Hr-Post	Pond A	21.7501	992.76	0.00

Sim	Node Name	Relative Time [hrs]	Stage [ft]	Total Inflow Rate [cfs]
010Yr24Hr-Post	Pond A	22.0001	992.75	0.00
010Yr24Hr-Post	Pond A	22.2501	992.75	0.00
010Yr24Hr-Post	Pond A	22.5001	992.75	0.00
010Yr24Hr-Post	Pond A	22.7501	992.74	0.00
010Yr24Hr-Post	Pond A	23.0001	992.75	0.00
010Yr24Hr-Post	Pond A	23.2501	992.74	0.00
010Yr24Hr-Post	Pond A	23.5001	992.74	0.00
010Yr24Hr-Post	Pond A	23.7501	992.74	0.00
010Yr24Hr-Post	Pond A	24.0001	992.73	0.00
010Yr24Hr-Post	Pond A	24.2514	992.71	0.00
010Yr24Hr-Post	Pond A	24.5057	992.67	0.00
010Yr24Hr-Post	Pond A	24.7534	992.64	0.00
010Yr24Hr-Post	Pond A	25.0091	992.61	0.00
010Yr24Hr-Post	Pond A	25.2506	992.59	0.00
010Yr24Hr-Post	Pond A	25.5050	992.56	0.00
010Yr24Hr-Post	Pond A	25.7550	992.55	0.00
010Yr24Hr-Post	Pond A	26.0064	992.53	0.00
010Yr24Hr-Post	Pond A	26.2564	992.52	0.00
010Yr24Hr-Post	Pond A	26.5064	992.51	0.00
010Yr24Hr-Post	Pond A	26.7564	992.49	0.00
010Yr24Hr-Post	Pond A	27.0064	992.48	0.00
010Yr24Hr-Post	Pond A	27.2564	992.48	0.00
010Yr24Hr-Post	Pond A	27.5064	992.47	0.00
010Yr24Hr-Post	Pond A	27.7564	992.46	0.00
010Yr24Hr-Post	Pond A	28.0064	992.45	0.00
010Yr24Hr-Post	Pond A	28.2564	992.45	0.00
010Yr24Hr-Post	Pond A	28.5064	992.44	0.00
010Yr24Hr-Post	Pond A	28.7564	992.44	0.00
010Yr24Hr-Post	Pond A	29.0064	992.43	0.00
010Yr24Hr-Post	Pond A	29.2564	992.43	0.00
010Yr24Hr-Post	Pond A	29.5064	992.42	0.00
010Yr24Hr-Post	Pond A	29.7564	992.42	0.00
010Yr24Hr-Post	Pond A	30.0064	992.42	0.00
010Yr24Hr-Post	Pond A	30.2564	992.41	0.00
010Yr24Hr-Post	Pond A	30.5064	992.41	0.00
010Yr24Hr-Post	Pond A	30.7564	992.41	0.00
010Yr24Hr-Post	Pond A	31.0064	992.41	0.00
010Yr24Hr-Post	Pond A	31.2564	992.41	0.00
010Yr24Hr-Post	Pond A	31.5064	992.40	0.00
010Yr24Hr-Post	Pond A	31.7564	992.40	0.00
010Yr24Hr-Post	Pond A	32.0064	992.40	0.00

Sim	Node Name	Relative Time [hrs]	Stage [ft]	Total Inflow Rate [cfs]
010Yr24Hr-Post	Pond A	32.2564	992.40	0.00
010Yr24Hr-Post	Pond A	32.5064	992.40	0.00
010Yr24Hr-Post	Pond A	32.7564	992.40	0.00
010Yr24Hr-Post	Pond A	33.0064	992.39	0.00
010Yr24Hr-Post	Pond A	33.2564	992.39	0.00
010Yr24Hr-Post	Pond A	33.5064	992.39	0.00
010Yr24Hr-Post	Pond A	33.7564	992.39	0.00
010Yr24Hr-Post	Pond A	34.0064	992.39	0.00
010Yr24Hr-Post	Pond A	34.2564	992.39	0.00
010Yr24Hr-Post	Pond A	34.5064	992.38	0.00
010Yr24Hr-Post	Pond A	34.7564	992.38	0.00
010Yr24Hr-Post	Pond A	35.0064	992.38	0.00
010Yr24Hr-Post	Pond A	35.2564	992.38	0.00
010Yr24Hr-Post	Pond A	35.5064	992.38	0.00
010Yr24Hr-Post	Pond A	35.7564	992.38	0.00
010Yr24Hr-Post	Pond A	36.0064	992.37	0.00
010Yr24Hr-Post	Pond A	36.2564	992.37	0.00
010Yr24Hr-Post	Pond A	36.5064	992.37	0.00
010Yr24Hr-Post	Pond A	36.7564	992.37	0.00
010Yr24Hr-Post	Pond A	37.0064	992.37	0.00
010Yr24Hr-Post	Pond A	37.2564	992.37	0.00
010Yr24Hr-Post	Pond A	37.5064	992.37	0.00
010Yr24Hr-Post	Pond A	37.7564	992.36	0.00
010Yr24Hr-Post	Pond A	38.0064	992.36	0.00
010Yr24Hr-Post	Pond A	38.2564	992.36	0.00
010Yr24Hr-Post	Pond A	38.5064	992.36	0.00
010Yr24Hr-Post	Pond A	38.7564	992.36	0.00
010Yr24Hr-Post	Pond A	39.0064	992.36	0.00
010Yr24Hr-Post	Pond A	39.2564	992.36	0.00
010Yr24Hr-Post	Pond A	39.5064	992.36	0.00
010Yr24Hr-Post	Pond A	39.7564	992.36	0.00
010Yr24Hr-Post	Pond A	40.0064	992.35	0.00
010Yr24Hr-Post	Pond A	40.2564	992.35	0.00
010Yr24Hr-Post	Pond A	40.5064	992.35	0.00
010Yr24Hr-Post	Pond A	40.7564	992.35	0.00
010Yr24Hr-Post	Pond A	41.0064	992.35	0.00
010Yr24Hr-Post	Pond A	41.2564	992.35	0.00
010Yr24Hr-Post	Pond A	41.5064	992.35	0.00
010Yr24Hr-Post	Pond A	41.7564	992.35	0.00
010Yr24Hr-Post	Pond A	42.0064	992.35	0.00
010Yr24Hr-Post	Pond A	42.2564	992.35	0.00

Sim	Node Name	Relative Time [hrs]	Stage [ft]	Total Inflow Rate [cfs]
010Yr24Hr-Post	Pond A	42.5064	992.35	0.00
010Yr24Hr-Post	Pond A	42.7564	992.35	0.00
010Yr24Hr-Post	Pond A	43.0064	992.35	0.00
010Yr24Hr-Post	Pond A	43.2564	992.34	0.00
010Yr24Hr-Post	Pond A	43.5064	992.34	0.00
010Yr24Hr-Post	Pond A	43.7564	992.34	0.00
010Yr24Hr-Post	Pond A	44.0064	992.34	0.00
010Yr24Hr-Post	Pond A	44.2564	992.34	0.00
010Yr24Hr-Post	Pond A	44.5064	992.34	0.00
010Yr24Hr-Post	Pond A	44.7564	992.34	0.00
010Yr24Hr-Post	Pond A	45.0064	992.34	0.00
010Yr24Hr-Post	Pond A	45.2564	992.34	0.00
010Yr24Hr-Post	Pond A	45.5064	992.34	0.00
010Yr24Hr-Post	Pond A	45.7564	992.34	0.00
010Yr24Hr-Post	Pond A	46.0064	992.34	0.00
010Yr24Hr-Post	Pond A	46.2564	992.34	0.00
010Yr24Hr-Post	Pond A	46.5064	992.34	0.00
010Yr24Hr-Post	Pond A	46.7564	992.34	0.00
010Yr24Hr-Post	Pond A	47.0064	992.34	0.00
010Yr24Hr-Post	Pond A	47.2564	992.34	0.00
010Yr24Hr-Post	Pond A	47.5064	992.34	0.00
010Yr24Hr-Post	Pond A	47.7564	992.34	0.00
010Yr24Hr-Post	Pond A	48.0064	992.34	0.00
010Yr24Hr-Post	Pond A	48.2564	992.34	0.00
010Yr24Hr-Post	Pond A	48.5064	992.33	0.00
010Yr24Hr-Post	Pond A	48.7564	992.33	0.00
010Yr24Hr-Post	Pond A	49.0064	992.33	0.00
010Yr24Hr-Post	Pond A	49.2564	992.33	0.00
010Yr24Hr-Post	Pond A	49.5064	992.33	0.00
010Yr24Hr-Post	Pond A	49.7564	992.33	0.00
010Yr24Hr-Post	Pond A	50.0064	992.33	0.00
010Yr24Hr-Post	Pond A	50.2564	992.33	0.00
010Yr24Hr-Post	Pond A	50.5064	992.33	0.00
010Yr24Hr-Post	Pond A	50.7564	992.33	0.00
010Yr24Hr-Post	Pond A	51.0064	992.33	0.00
010Yr24Hr-Post	Pond A	51.2564	992.33	0.00
010Yr24Hr-Post	Pond A	51.5064	992.33	0.00
010Yr24Hr-Post	Pond A	51.7564	992.33	0.00
010Yr24Hr-Post	Pond A	52.0064	992.33	0.00
010Yr24Hr-Post	Pond A	52.2564	992.33	0.00
010Yr24Hr-Post	Pond A	52.5064	992.33	0.00

Sim	Node Name	Relative Time [hrs]	Stage [ft]	Total Inflow Rate [cfs]
010Yr24Hr-Post	Pond A	52.7564	992.33	0.00
010Yr24Hr-Post	Pond A	53.0064	992.33	0.00
010Yr24Hr-Post	Pond A	53.2564	992.33	0.00
010Yr24Hr-Post	Pond A	53.5064	992.33	0.00
010Yr24Hr-Post	Pond A	53.7564	992.33	0.00
010Yr24Hr-Post	Pond A	54.0064	992.33	0.00
010Yr24Hr-Post	Pond A	54.2564	992.33	0.00
010Yr24Hr-Post	Pond A	54.5064	992.33	0.00
010Yr24Hr-Post	Pond A	54.7564	992.33	0.00
010Yr24Hr-Post	Pond A	55.0064	992.33	0.00
010Yr24Hr-Post	Pond A	55.2564	992.33	0.00
010Yr24Hr-Post	Pond A	55.5064	992.33	0.00
010Yr24Hr-Post	Pond A	55.7564	992.33	0.00
010Yr24Hr-Post	Pond A	56.0064	992.33	0.00
010Yr24Hr-Post	Pond A	56.2564	992.33	0.00
010Yr24Hr-Post	Pond A	56.5064	992.33	0.00
010Yr24Hr-Post	Pond A	56.7564	992.33	0.00
010Yr24Hr-Post	Pond A	57.0064	992.33	0.00
010Yr24Hr-Post	Pond A	57.2564	992.33	0.00
010Yr24Hr-Post	Pond A	57.5064	992.33	0.00
010Yr24Hr-Post	Pond A	57.7564	992.33	0.00
010Yr24Hr-Post	Pond A	58.0064	992.33	0.00
010Yr24Hr-Post	Pond A	58.2564	992.32	0.00
010Yr24Hr-Post	Pond A	58.5064	992.32	0.00
010Yr24Hr-Post	Pond A	58.7564	992.32	0.00
010Yr24Hr-Post	Pond A	59.0064	992.32	0.00
010Yr24Hr-Post	Pond A	59.2564	992.32	0.00
010Yr24Hr-Post	Pond A	59.5064	992.32	0.00
010Yr24Hr-Post	Pond A	59.7564	992.32	0.00
100Yr24Hr-Post	Pond A	0.0000	991.00	0.00
100Yr24Hr-Post	Pond A	0.2511	991.00	0.00
100Yr24Hr-Post	Pond A	0.5050	991.00	0.00
100Yr24Hr-Post	Pond A	0.7534	991.02	0.00
100Yr24Hr-Post	Pond A	1.0014	991.09	0.00
100Yr24Hr-Post	Pond A	1.2506	991.19	0.00
100Yr24Hr-Post	Pond A	1.5006	991.29	0.00
100Yr24Hr-Post	Pond A	1.7516	991.39	0.00
100Yr24Hr-Post	Pond A	2.0009	991.50	0.00
100Yr24Hr-Post	Pond A	2.2506	991.60	0.00
100Yr24Hr-Post	Pond A	2.5004	991.69	0.00
100Yr24Hr-Post	Pond A	2.7517	991.78	0.00

Sim	Node Name	Relative Time [hrs]	Stage [ft]	Total Inflow Rate [cfs]
100Yr24Hr-Post	Pond A	3.0019	991.87	0.00
100Yr24Hr-Post	Pond A	3.2521	991.95	0.00
100Yr24Hr-Post	Pond A	3.5025	992.03	0.00
100Yr24Hr-Post	Pond A	3.7524	992.11	0.00
100Yr24Hr-Post	Pond A	4.0006	992.20	0.00
100Yr24Hr-Post	Pond A	4.2521	992.30	0.00
100Yr24Hr-Post	Pond A	4.5004	992.40	0.00
100Yr24Hr-Post	Pond A	4.7510	992.50	0.00
100Yr24Hr-Post	Pond A	5.0017	992.60	0.00
100Yr24Hr-Post	Pond A	5.2521	992.70	0.00
100Yr24Hr-Post	Pond A	5.5018	992.79	0.00
100Yr24Hr-Post	Pond A	5.7557	992.82	0.00
100Yr24Hr-Post	Pond A	6.0072	992.85	0.00
100Yr24Hr-Post	Pond A	6.2516	992.88	0.00
100Yr24Hr-Post	Pond A	6.5008	992.92	0.00
100Yr24Hr-Post	Pond A	6.7548	992.94	0.00
100Yr24Hr-Post	Pond A	7.0031	992.96	0.00
100Yr24Hr-Post	Pond A	7.2557	992.98	0.00
100Yr24Hr-Post	Pond A	7.5088	992.99	0.00
100Yr24Hr-Post	Pond A	7.7563	993.00	0.00
100Yr24Hr-Post	Pond A	8.0046	993.01	0.00
100Yr24Hr-Post	Pond A	8.2502	993.03	0.00
100Yr24Hr-Post	Pond A	8.5034	993.06	0.00
100Yr24Hr-Post	Pond A	8.7547	993.09	0.00
100Yr24Hr-Post	Pond A	9.0008	993.12	0.00
100Yr24Hr-Post	Pond A	9.2526	993.16	0.00
100Yr24Hr-Post	Pond A	9.5062	993.19	0.00
100Yr24Hr-Post	Pond A	9.7532	993.22	0.00
100Yr24Hr-Post	Pond A	10.0029	993.25	0.00
100Yr24Hr-Post	Pond A	10.2501	993.29	0.00
100Yr24Hr-Post	Pond A	10.5025	993.34	0.00
100Yr24Hr-Post	Pond A	10.7510	993.43	0.00
100Yr24Hr-Post	Pond A	11.0007	993.57	0.00
100Yr24Hr-Post	Pond A	11.2506	993.72	0.00
100Yr24Hr-Post	Pond A	11.5009	993.90	0.00
100Yr24Hr-Post	Pond A	11.7500	994.83	0.00
100Yr24Hr-Post	Pond A	12.0000	997.84	0.00
100Yr24Hr-Post	Pond A	12.2503	999.61	0.00
100Yr24Hr-Post	Pond A	12.5003	999.02	0.00
100Yr24Hr-Post	Pond A	12.7503	998.31	0.00
100Yr24Hr-Post	Pond A	13.0003	997.70	0.00

Sim	Node Name	Relative Time [hrs]	Stage [ft]	Total Inflow Rate [cfs]
100Yr24Hr-Post	Pond A	13.2504	997.18	0.00
100Yr24Hr-Post	Pond A	13.5000	996.69	0.00
100Yr24Hr-Post	Pond A	13.7503	996.21	0.00
100Yr24Hr-Post	Pond A	14.0000	995.75	0.00
100Yr24Hr-Post	Pond A	14.2501	995.32	0.00
100Yr24Hr-Post	Pond A	14.5004	994.92	0.00
100Yr24Hr-Post	Pond A	14.7502	994.55	0.00
100Yr24Hr-Post	Pond A	15.0005	994.23	0.00
100Yr24Hr-Post	Pond A	15.2502	993.97	0.00
100Yr24Hr-Post	Pond A	15.5010	993.75	0.00
100Yr24Hr-Post	Pond A	15.7513	993.59	0.00
100Yr24Hr-Post	Pond A	16.0005	993.47	0.00
100Yr24Hr-Post	Pond A	16.2530	993.37	0.00
100Yr24Hr-Post	Pond A	16.5024	993.31	0.00
100Yr24Hr-Post	Pond A	16.7520	993.25	0.00
100Yr24Hr-Post	Pond A	17.0052	993.20	0.00
100Yr24Hr-Post	Pond A	17.2552	993.16	0.00
100Yr24Hr-Post	Pond A	17.5039	993.13	0.00
100Yr24Hr-Post	Pond A	17.7518	993.11	0.00
100Yr24Hr-Post	Pond A	18.0036	993.08	0.00
100Yr24Hr-Post	Pond A	18.2508	993.06	0.00
100Yr24Hr-Post	Pond A	18.5019	993.03	0.00
100Yr24Hr-Post	Pond A	18.7509	993.02	0.00
100Yr24Hr-Post	Pond A	19.0113	993.00	0.00
100Yr24Hr-Post	Pond A	19.2551	992.99	0.00
100Yr24Hr-Post	Pond A	19.5051	992.98	0.00
100Yr24Hr-Post	Pond A	19.7551	992.98	0.00
100Yr24Hr-Post	Pond A	20.0058	992.97	0.00
100Yr24Hr-Post	Pond A	20.2503	992.95	0.00
100Yr24Hr-Post	Pond A	20.5112	992.93	0.00
100Yr24Hr-Post	Pond A	20.7611	992.91	0.00
100Yr24Hr-Post	Pond A	21.0045	992.90	0.00
100Yr24Hr-Post	Pond A	21.2545	992.90	0.00
100Yr24Hr-Post	Pond A	21.5045	992.89	0.00
100Yr24Hr-Post	Pond A	21.7545	992.89	0.00
100Yr24Hr-Post	Pond A	22.0045	992.88	0.00
100Yr24Hr-Post	Pond A	22.2545	992.88	0.00
100Yr24Hr-Post	Pond A	22.5045	992.88	0.00
100Yr24Hr-Post	Pond A	22.7545	992.87	0.00
100Yr24Hr-Post	Pond A	23.0045	992.88	0.00
100Yr24Hr-Post	Pond A	23.2545	992.87	0.00

Sim	Node Name	Relative Time [hrs]	Stage [ft]	Total Inflow Rate [cfs]
100Yr24Hr-Post	Pond A	23.5045	992.87	0.00
100Yr24Hr-Post	Pond A	23.7545	992.87	0.00
100Yr24Hr-Post	Pond A	24.0058	992.86	0.00
100Yr24Hr-Post	Pond A	24.2511	992.82	0.00
100Yr24Hr-Post	Pond A	24.5017	992.76	0.00
100Yr24Hr-Post	Pond A	24.7542	992.71	0.00
100Yr24Hr-Post	Pond A	25.0041	992.67	0.00
100Yr24Hr-Post	Pond A	25.2541	992.64	0.00
100Yr24Hr-Post	Pond A	25.5007	992.61	0.00
100Yr24Hr-Post	Pond A	25.7524	992.59	0.00
100Yr24Hr-Post	Pond A	26.0014	992.57	0.00
100Yr24Hr-Post	Pond A	26.2502	992.55	0.00
100Yr24Hr-Post	Pond A	26.5006	992.53	0.00
100Yr24Hr-Post	Pond A	26.7619	992.52	0.00
100Yr24Hr-Post	Pond A	27.0119	992.51	0.00
100Yr24Hr-Post	Pond A	27.2619	992.50	0.00
100Yr24Hr-Post	Pond A	27.5119	992.49	0.00
100Yr24Hr-Post	Pond A	27.7619	992.48	0.00
100Yr24Hr-Post	Pond A	28.0119	992.47	0.00
100Yr24Hr-Post	Pond A	28.2619	992.46	0.00
100Yr24Hr-Post	Pond A	28.5119	992.45	0.00
100Yr24Hr-Post	Pond A	28.7619	992.45	0.00
100Yr24Hr-Post	Pond A	29.0119	992.44	0.00
100Yr24Hr-Post	Pond A	29.2619	992.44	0.00
100Yr24Hr-Post	Pond A	29.5119	992.43	0.00
100Yr24Hr-Post	Pond A	29.7619	992.43	0.00
100Yr24Hr-Post	Pond A	30.0119	992.42	0.00
100Yr24Hr-Post	Pond A	30.2619	992.42	0.00
100Yr24Hr-Post	Pond A	30.5119	992.42	0.00
100Yr24Hr-Post	Pond A	30.7619	992.41	0.00
100Yr24Hr-Post	Pond A	31.0119	992.41	0.00
100Yr24Hr-Post	Pond A	31.2619	992.41	0.00
100Yr24Hr-Post	Pond A	31.5119	992.41	0.00
100Yr24Hr-Post	Pond A	31.7619	992.41	0.00
100Yr24Hr-Post	Pond A	32.0119	992.40	0.00
100Yr24Hr-Post	Pond A	32.2619	992.40	0.00
100Yr24Hr-Post	Pond A	32.5119	992.40	0.00
100Yr24Hr-Post	Pond A	32.7619	992.40	0.00
100Yr24Hr-Post	Pond A	33.0119	992.40	0.00
100Yr24Hr-Post	Pond A	33.2619	992.40	0.00
100Yr24Hr-Post	Pond A	33.5119	992.39	0.00

Sim	Node Name	Relative Time [hrs]	Stage [ft]	Total Inflow Rate [cfs]
100Yr24Hr-Post	Pond A	33.7619	992.39	0.00
100Yr24Hr-Post	Pond A	34.0119	992.39	0.00
100Yr24Hr-Post	Pond A	34.2619	992.39	0.00
100Yr24Hr-Post	Pond A	34.5119	992.39	0.00
100Yr24Hr-Post	Pond A	34.7619	992.39	0.00
100Yr24Hr-Post	Pond A	35.0119	992.38	0.00
100Yr24Hr-Post	Pond A	35.2619	992.38	0.00
100Yr24Hr-Post	Pond A	35.5119	992.38	0.00
100Yr24Hr-Post	Pond A	35.7619	992.38	0.00
100Yr24Hr-Post	Pond A	36.0119	992.38	0.00
100Yr24Hr-Post	Pond A	36.2619	992.38	0.00
100Yr24Hr-Post	Pond A	36.5119	992.37	0.00
100Yr24Hr-Post	Pond A	36.7619	992.37	0.00
100Yr24Hr-Post	Pond A	37.0119	992.37	0.00
100Yr24Hr-Post	Pond A	37.2619	992.37	0.00
100Yr24Hr-Post	Pond A	37.5119	992.37	0.00
100Yr24Hr-Post	Pond A	37.7619	992.37	0.00
100Yr24Hr-Post	Pond A	38.0119	992.37	0.00
100Yr24Hr-Post	Pond A	38.2619	992.36	0.00
100Yr24Hr-Post	Pond A	38.5119	992.36	0.00
100Yr24Hr-Post	Pond A	38.7619	992.36	0.00
100Yr24Hr-Post	Pond A	39.0119	992.36	0.00
100Yr24Hr-Post	Pond A	39.2619	992.36	0.00
100Yr24Hr-Post	Pond A	39.5119	992.36	0.00
100Yr24Hr-Post	Pond A	39.7619	992.36	0.00
100Yr24Hr-Post	Pond A	40.0119	992.36	0.00
100Yr24Hr-Post	Pond A	40.2619	992.36	0.00
100Yr24Hr-Post	Pond A	40.5119	992.35	0.00
100Yr24Hr-Post	Pond A	40.7619	992.35	0.00
100Yr24Hr-Post	Pond A	41.0119	992.35	0.00
100Yr24Hr-Post	Pond A	41.2619	992.35	0.00
100Yr24Hr-Post	Pond A	41.5119	992.35	0.00
100Yr24Hr-Post	Pond A	41.7619	992.35	0.00
100Yr24Hr-Post	Pond A	42.0119	992.35	0.00
100Yr24Hr-Post	Pond A	42.2619	992.35	0.00
100Yr24Hr-Post	Pond A	42.5119	992.35	0.00
100Yr24Hr-Post	Pond A	42.7619	992.35	0.00
100Yr24Hr-Post	Pond A	43.0119	992.35	0.00
100Yr24Hr-Post	Pond A	43.2619	992.35	0.00
100Yr24Hr-Post	Pond A	43.5119	992.35	0.00
100Yr24Hr-Post	Pond A	43.7619	992.34	0.00

Sim	Node Name	Relative Time [hrs]	Stage [ft]	Total Inflow Rate [cfs]
100Yr24Hr-Post	Pond A	44.0119	992.34	0.00
100Yr24Hr-Post	Pond A	44.2619	992.34	0.00
100Yr24Hr-Post	Pond A	44.5119	992.34	0.00
100Yr24Hr-Post	Pond A	44.7619	992.34	0.00
100Yr24Hr-Post	Pond A	45.0119	992.34	0.00
100Yr24Hr-Post	Pond A	45.2619	992.34	0.00
100Yr24Hr-Post	Pond A	45.5119	992.34	0.00
100Yr24Hr-Post	Pond A	45.7619	992.34	0.00
100Yr24Hr-Post	Pond A	46.0119	992.34	0.00
100Yr24Hr-Post	Pond A	46.2619	992.34	0.00
100Yr24Hr-Post	Pond A	46.5119	992.34	0.00
100Yr24Hr-Post	Pond A	46.7619	992.34	0.00
100Yr24Hr-Post	Pond A	47.0119	992.34	0.00
100Yr24Hr-Post	Pond A	47.2619	992.34	0.00
100Yr24Hr-Post	Pond A	47.5119	992.34	0.00
100Yr24Hr-Post	Pond A	47.7619	992.34	0.00
100Yr24Hr-Post	Pond A	48.0119	992.34	0.00
100Yr24Hr-Post	Pond A	48.2619	992.34	0.00
100Yr24Hr-Post	Pond A	48.5119	992.34	0.00
100Yr24Hr-Post	Pond A	48.7619	992.34	0.00
100Yr24Hr-Post	Pond A	49.0119	992.34	0.00
100Yr24Hr-Post	Pond A	49.2619	992.33	0.00
100Yr24Hr-Post	Pond A	49.5119	992.33	0.00
100Yr24Hr-Post	Pond A	49.7619	992.33	0.00
100Yr24Hr-Post	Pond A	50.0119	992.33	0.00
100Yr24Hr-Post	Pond A	50.2619	992.33	0.00
100Yr24Hr-Post	Pond A	50.5119	992.33	0.00
100Yr24Hr-Post	Pond A	50.7619	992.33	0.00
100Yr24Hr-Post	Pond A	51.0119	992.33	0.00
100Yr24Hr-Post	Pond A	51.2619	992.33	0.00
100Yr24Hr-Post	Pond A	51.5119	992.33	0.00
100Yr24Hr-Post	Pond A	51.7619	992.33	0.00
100Yr24Hr-Post	Pond A	52.0119	992.33	0.00
100Yr24Hr-Post	Pond A	52.2619	992.33	0.00
100Yr24Hr-Post	Pond A	52.5119	992.33	0.00
100Yr24Hr-Post	Pond A	52.7619	992.33	0.00
100Yr24Hr-Post	Pond A	53.0119	992.33	0.00
100Yr24Hr-Post	Pond A	53.2619	992.33	0.00
100Yr24Hr-Post	Pond A	53.5119	992.33	0.00
100Yr24Hr-Post	Pond A	53.7619	992.33	0.00
100Yr24Hr-Post	Pond A	54.0119	992.33	0.00

Sim	Node Name	Relative Time [hrs]	Stage [ft]	Total Inflow Rate [cfs]
100Yr24Hr-Post	Pond A	54.2619	992.33	0.00
100Yr24Hr-Post	Pond A	54.5119	992.33	0.00
100Yr24Hr-Post	Pond A	54.7619	992.33	0.00
100Yr24Hr-Post	Pond A	55.0119	992.33	0.00
100Yr24Hr-Post	Pond A	55.2619	992.33	0.00
100Yr24Hr-Post	Pond A	55.5119	992.33	0.00
100Yr24Hr-Post	Pond A	55.7619	992.33	0.00
100Yr24Hr-Post	Pond A	56.0119	992.33	0.00
100Yr24Hr-Post	Pond A	56.2619	992.33	0.00
100Yr24Hr-Post	Pond A	56.5119	992.33	0.00
100Yr24Hr-Post	Pond A	56.7619	992.33	0.00
100Yr24Hr-Post	Pond A	57.0119	992.33	0.00
100Yr24Hr-Post	Pond A	57.2619	992.33	0.00
100Yr24Hr-Post	Pond A	57.5119	992.33	0.00
100Yr24Hr-Post	Pond A	57.7619	992.33	0.00
100Yr24Hr-Post	Pond A	58.0119	992.33	0.00
100Yr24Hr-Post	Pond A	58.2619	992.33	0.00
100Yr24Hr-Post	Pond A	58.5119	992.33	0.00
100Yr24Hr-Post	Pond A	58.7619	992.32	0.00
100Yr24Hr-Post	Pond A	59.0119	992.32	0.00
100Yr24Hr-Post	Pond A	59.2619	992.32	0.00
100Yr24Hr-Post	Pond A	59.5119	992.32	0.00
100Yr24Hr-Post	Pond A	59.7619	992.32	0.00

Manual Basin: Basin A-1

Scenario: Icpr3
 Node: Pond A
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 999999.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH484
 Peaking Factor: 484.0

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.1900	Impervious	C	
0.1400	Open Space-Good Cond.	C	

Comment:

Manual Basin Runoff Summary [Icpr3]

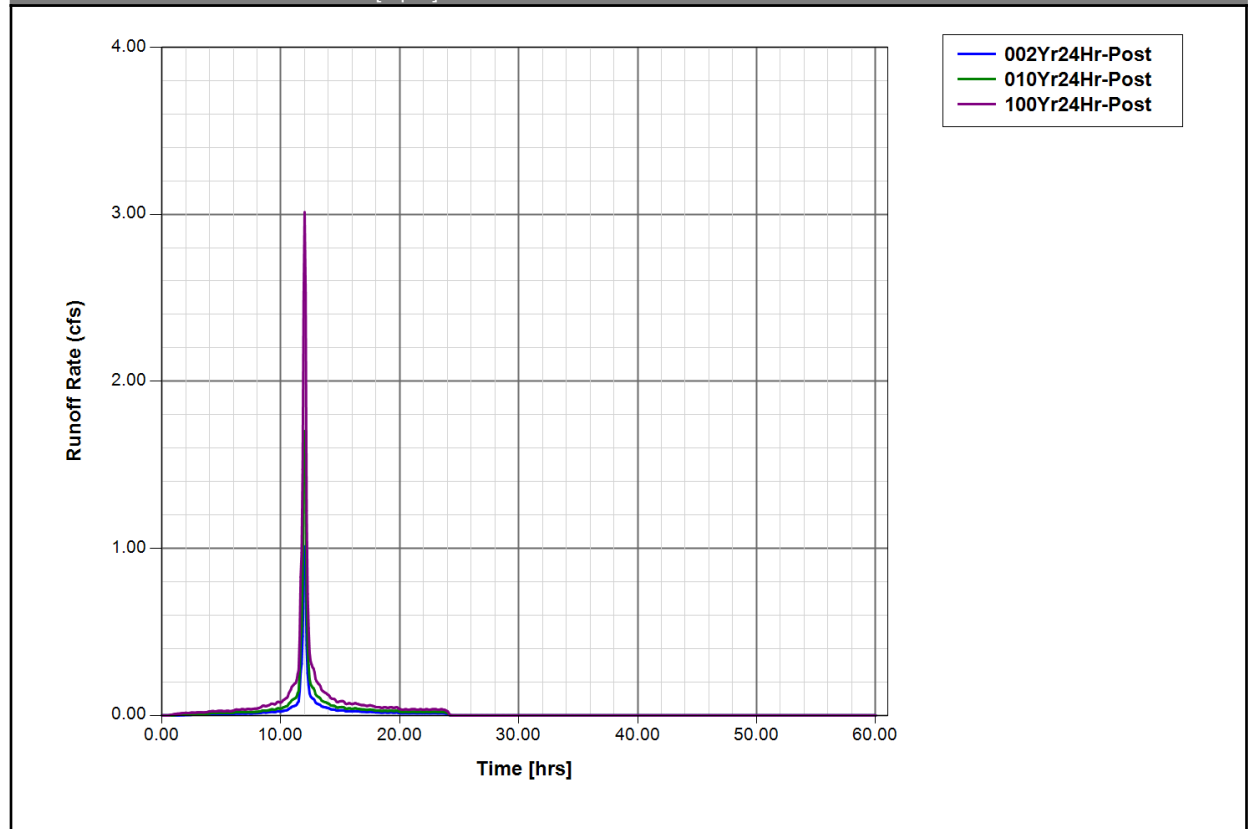
Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
Basin A-1	002Yr24Hr-Post	1.03	12.0167	3.71	2.60	0.3300	89.4	0.00	0.00
Basin A-1	010Yr24Hr-Post	1.73	12.0167	5.66	4.36	0.3300	88.5	0.00	0.00
Basin A-1	100Yr24Hr-Post	3.05	12.0167	9.25	7.78	0.3300	87.7	0.00	0.00

Manual Basin Mass Balance Summary [Icpr3]

Basin Name	Sim Name	Total Rainfall	Total Irrigation	Total Runoff	Total ET	Total Initial Abst	Total Recharge	Change Soil Storage
Basin A-1 [in]	002Yr24Hr-Post	3.71	0.00	2.60	0.00	0.00	0.00	1.11
Basin A-1 [ft3]	002Yr24Hr-Post	4444	0	3110	0	0	0	1335
Basin A-1 [ac-ft]	002Yr24Hr-Post	0.10	0.00	0.07	0.00	0.00	0.00	0.03
Basin A-1 [in]	010Yr24Hr-Post	5.66	0.00	4.36	0.00	0.00	0.00	1.30
Basin A-1 [ft3]	010Yr24Hr-Post	6780	0	5227	0	0	0	1553
Basin A-1 [ac-ft]	010Yr24Hr-Post	0.16	0.00	0.12	0.00	0.00	0.00	0.04
Basin A-1	100Yr24Hr-	9.25	0.00	7.78	0.00	0.00	0.00	1.47

Basin Name	Sim Name	Total Rainfall	Total Irrigation	Total Runoff	Total ET	Total Initial Abst	Total Recharge	Change Soil Storage
[in]	Post							
Basin A-1 [ft3]	100Yr24Hr-Post	11081	0	9315	0	0	0	1766
Basin A-1 [ac-ft]	100Yr24Hr-Post	0.25	0.00	0.21	0.00	0.00	0.00	0.04

Manual Basin Runoff Rate: Basin A-1 [Icpr3]



Manual Basin: Basin A-2

Scenario: Icpr3
 Node: Pond A
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 999999.00 cfs

Time Shift: 0.0000 hr
 Unit Hydrograph: UH484
 Peaking Factor: 484.0

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.6550	Impervious	C	

Comment:

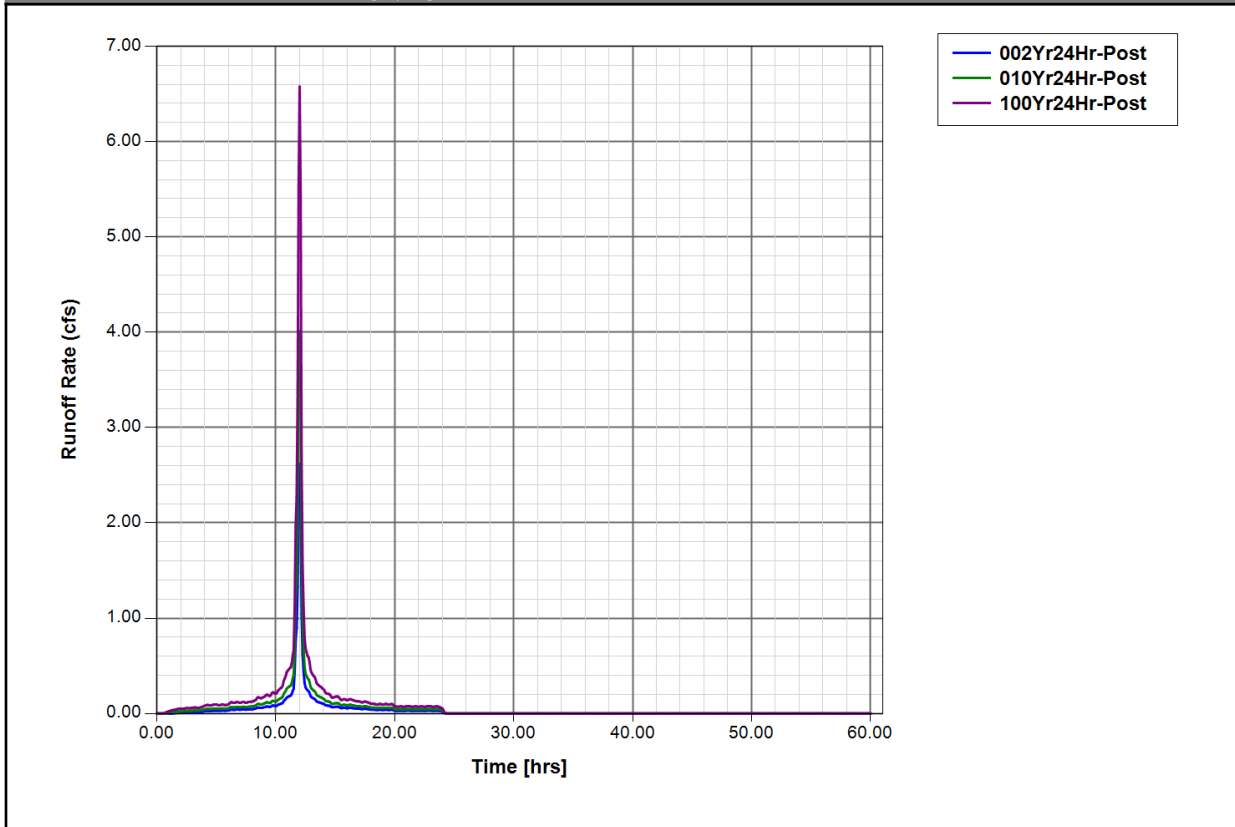
Manual Basin Runoff Summary [Icpr3]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
Basin A-2	002Yr24Hr-Post	2.64	12.0167	3.71	3.48	0.6550	98.0	0.00	0.00
Basin A-2	010Yr24Hr-Post	4.05	12.0167	5.66	5.44	0.6550	98.0	0.00	0.00
Basin A-2	100Yr24Hr-Post	6.63	12.0167	9.25	9.03	0.6550	98.0	0.00	0.00

Manual Basin Mass Balance Summary [Icpr3]

Basin Name	Sim Name	Total Rainfall	Total Irrigation	Total Runoff	Total ET	Total Initial Abst	Total Recharge	Change Soil Storage
Basin A-2 [in]	002Yr24Hr-Post	3.71	0.00	3.48	0.00	0.00	0.00	0.23
Basin A-2 [ft3]	002Yr24Hr-Post	8821	0	8285	0	0	0	537
Basin A-2 [ac-ft]	002Yr24Hr-Post	0.20	0.00	0.19	0.00	0.00	0.00	0.01
Basin A-2 [in]	010Yr24Hr-Post	5.66	0.00	5.44	0.00	0.00	0.00	0.22
Basin A-2 [ft3]	010Yr24Hr-Post	13457	0	12924	0	0	0	534
Basin A-2 [ac-ft]	010Yr24Hr-Post	0.31	0.00	0.30	0.00	0.00	0.00	0.01
Basin A-2 [in]	100Yr24Hr-Post	9.25	0.00	9.03	0.00	0.00	0.00	0.22
Basin A-2 [ft3]	100Yr24Hr-Post	21993	0	21474	0	0	0	520
Basin A-2 [ac-ft]	100Yr24Hr-Post	0.50	0.00	0.49	0.00	0.00	0.00	0.01

Manual Basin Runoff Rate: Basin A-2 [Icpr3]



Manual Basin: Basin A-Mod

Scenario: Icpr3
 Node: Pond A
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 999999.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: Uh484
 Peaking Factor: 484.0

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
1.2050	Impervious	D	

Comment:

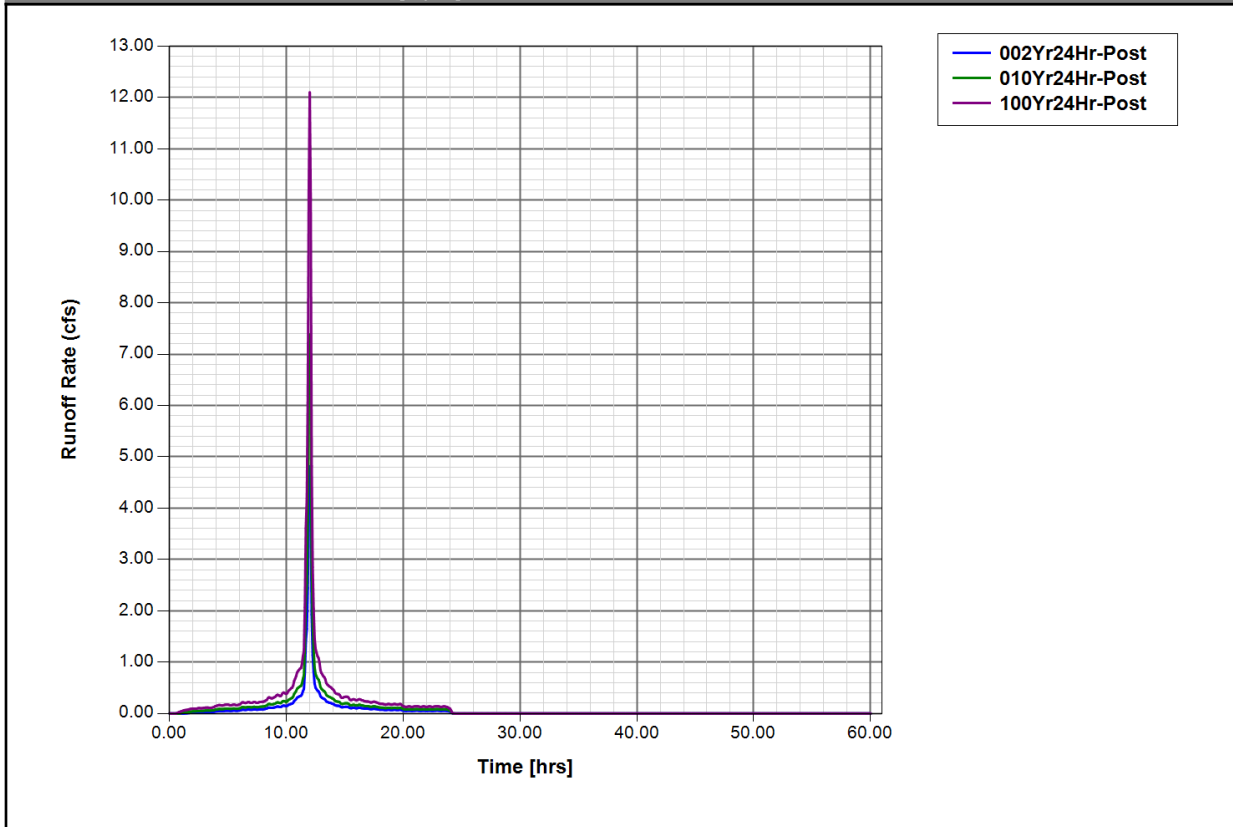
Manual Basin Runoff Summary [Icpr3]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
Basin A-Mod	002Yr24Hr-Post	4.86	12.0167	3.71	3.48	1.2050	98.0	0.00	0.00
Basin A-Mod	010Yr24Hr-Post	7.45	12.0167	5.66	5.44	1.2050	98.0	0.00	0.00
Basin A-Mod	100Yr24Hr-Post	12.20	12.0167	9.25	9.03	1.2050	98.0	0.00	0.00

Manual Basin Mass Balance Summary [Icpr3]

Basin Name	Sim Name	Total Rainfall	Total Irrigation	Total Runoff	Total ET	Total Initial Abst	Total Recharge	Change Soil Storage
Basin A-Mod [in]	002Yr24Hr-Post	3.71	0.00	3.48	0.00	0.00	0.00	0.23
Basin A-Mod [ft3]	002Yr24Hr-Post	16228	0	15241	0	0	0	987
Basin A-Mod [ac-ft]	002Yr24Hr-Post	0.37	0.00	0.35	0.00	0.00	0.00	0.02
Basin A-Mod [in]	010Yr24Hr-Post	5.66	0.00	5.44	0.00	0.00	0.00	0.22
Basin A-Mod [ft3]	010Yr24Hr-Post	24758	0	23776	0	0	0	982
Basin A-Mod [ac-ft]	010Yr24Hr-Post	0.57	0.00	0.55	0.00	0.00	0.00	0.02
Basin A-Mod [in]	100Yr24Hr-Post	9.25	0.00	9.03	0.00	0.00	0.00	0.22
Basin A-Mod [ft3]	100Yr24Hr-Post	40461	0	39505	0	0	0	956
Basin A-Mod [ac-ft]	100Yr24Hr-Post	0.93	0.00	0.91	0.00	0.00	0.00	0.02

Manual Basin Runoff Rate: Basin A-Mod [Icpr3]



Manual Basin: Basin A-Remaining

Scenario: Icpr3
 Node: Pond A
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 999999.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH484
 Peaking Factor: 484.0

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
4.1000	Impervious	D	
0.9600	Impervious	D	
0.8400	Impervious	C	

Comment:

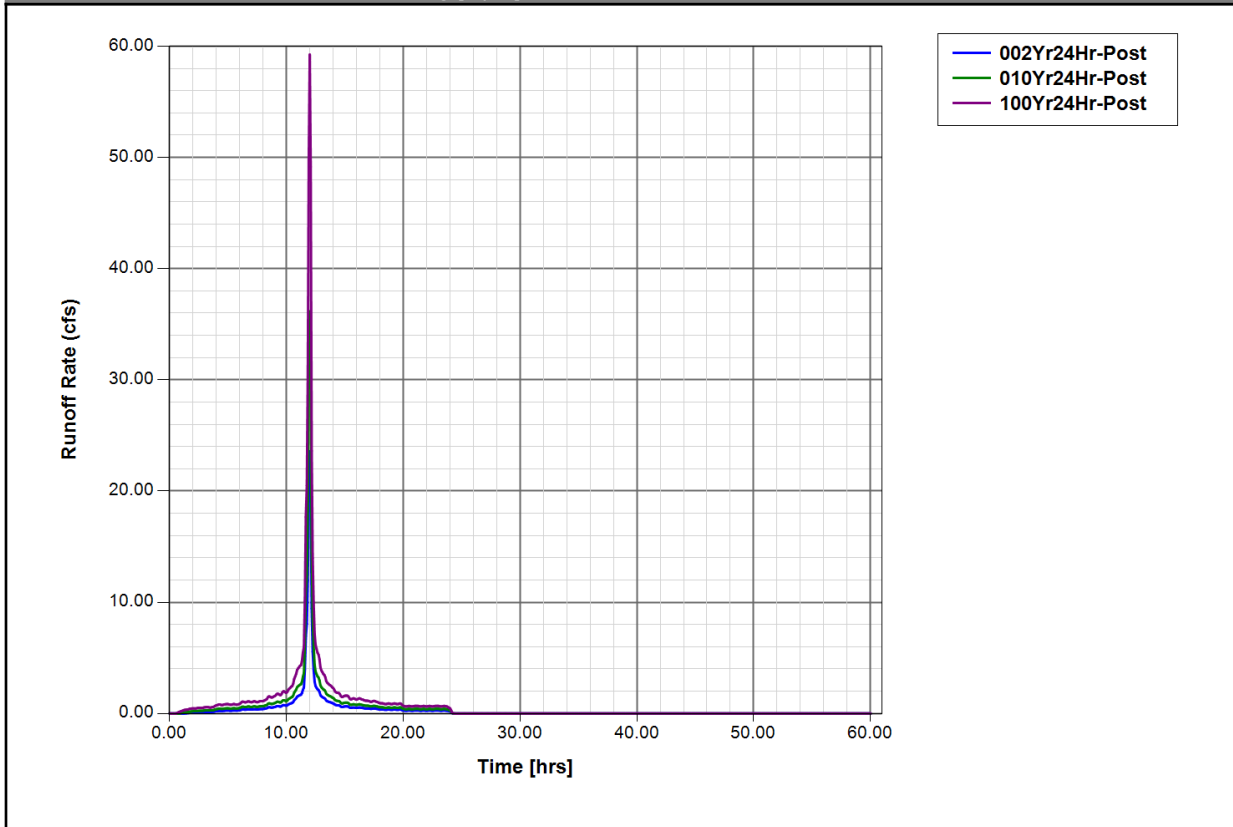
Manual Basin Runoff Summary [Icpr3]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
Basin A-Remaining	002Yr24Hr-Post	23.78	12.0167	3.71	3.48	5.9000	98.0	0.00	0.00
Basin A-Remaining	010Yr24Hr-Post	36.47	12.0167	5.66	5.44	5.9000	98.0	0.00	0.00
Basin A-Remaining	100Yr24Hr-Post	59.76	12.0167	9.25	9.03	5.9000	98.0	0.00	0.00

Manual Basin Mass Balance Summary [Icpr3]

Basin Name	Sim Name	Total Rainfall	Total Irrigation	Total Runoff	Total ET	Total Initial Abst	Total Recharge	Change Soil Storage
Basin A-Remaining [in]	002Yr24Hr-Post	3.71	0.00	3.48	0.00	0.00	0.00	0.23
Basin A-Remaining [ft3]	002Yr24Hr-Post	79457	0	74624	0	0	0	4833
Basin A-Remaining [ac-ft]	002Yr24Hr-Post	1.82	0.00	1.71	0.00	0.00	0.00	0.11
Basin A-Remaining [in]	010Yr24Hr-Post	5.66	0.00	5.44	0.00	0.00	0.00	0.22
Basin A-Remaining [ft3]	010Yr24Hr-Post	121220	0	116411	0	0	0	4809
Basin A-Remaining [ac-ft]	010Yr24Hr-Post	2.78	0.00	2.67	0.00	0.00	0.00	0.11
Basin A-Remaining [in]	100Yr24Hr-Post	9.25	0.00	9.03	0.00	0.00	0.00	0.22
Basin A-Remaining [ft3]	100Yr24Hr-Post	198107	0	193427	0	0	0	4680
Basin A-Remaining [ac-ft]	100Yr24Hr-Post	4.55	0.00	4.44	0.00	0.00	0.00	0.11

Manual Basin Runoff Rate: Basin A-Remaining [Icpr3]



Manual Basin: New Impervious FRR

Scenario: Icpr3
 Node: Dummy A
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH484
 Peaking Factor: 484.0

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
1.0400	Impervious	C	

Comment: A false system to analyze a portion of the contributing basins to Proposed Pond A for Flat Release Rate evaluation

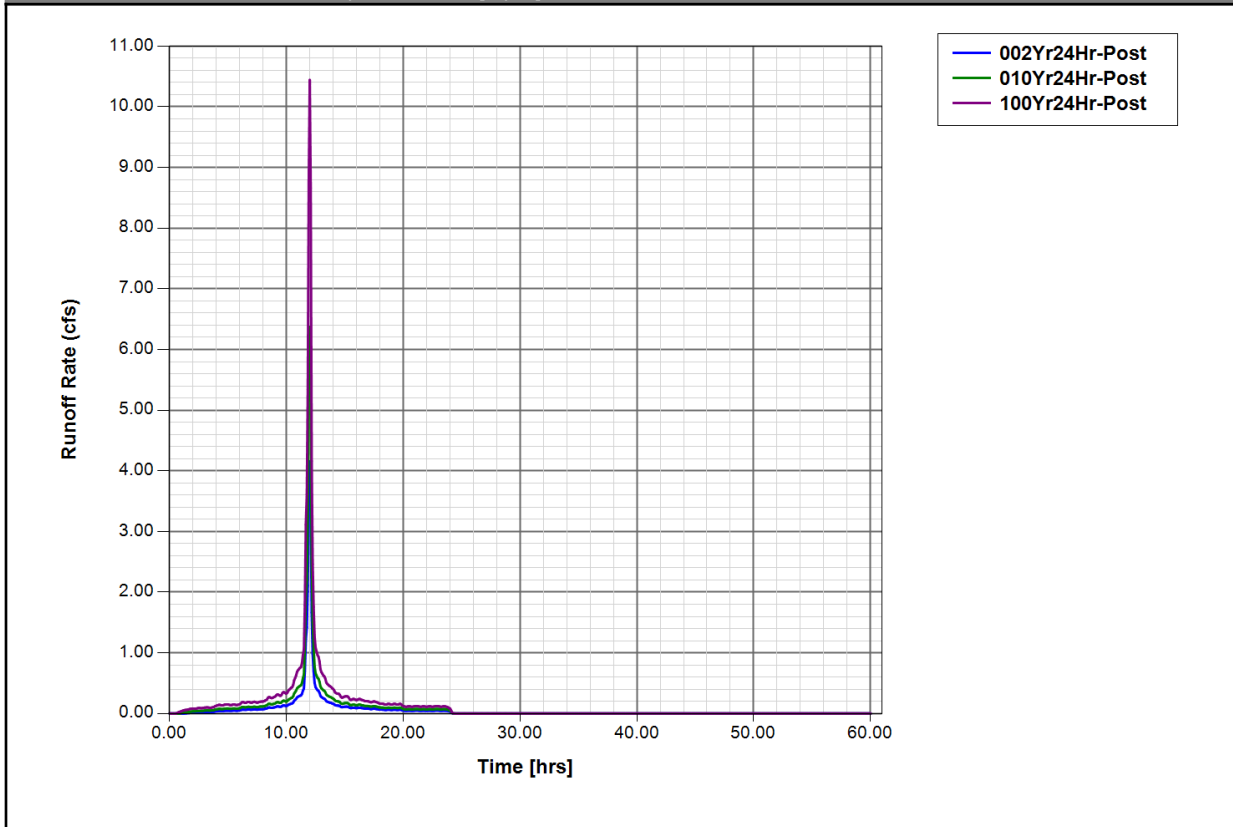
Manual Basin Runoff Summary [Icpr3]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
New Impervious FRR	002Yr24Hr-Post	4.19	12.0167	3.71	3.48	1.0400	98.0	0.00	0.00
New Impervious FRR	010Yr24Hr-Post	6.43	12.0167	5.66	5.44	1.0400	98.0	0.00	0.00
New Impervious FRR	100Yr24Hr-Post	10.53	12.0167	9.25	9.03	1.0400	98.0	0.00	0.00

Manual Basin Mass Balance Summary [Icpr3]

Basin Name	Sim Name	Total Rainfall	Total Irrigation	Total Runoff	Total ET	Total Initial Abst	Total Recharge	Change Soil Storage
New Impervious FRR [in]	002Yr24Hr-Post	3.71	0.00	3.48	0.00	0.00	0.00	0.23
New Impervious FRR [ft3]	002Yr24Hr-Post	14006	0	13154	0	0	0	852
New Impervious FRR [ac-ft]	002Yr24Hr-Post	0.32	0.00	0.30	0.00	0.00	0.00	0.02
New Impervious FRR [in]	010Yr24Hr-Post	5.66	0.00	5.44	0.00	0.00	0.00	0.22
New Impervious FRR [ft3]	010Yr24Hr-Post	21368	0	20520	0	0	0	848
New Impervious FRR [ac-ft]	010Yr24Hr-Post	0.49	0.00	0.47	0.00	0.00	0.00	0.02
New Impervious FRR [in]	100Yr24Hr-Post	9.25	0.00	9.03	0.00	0.00	0.00	0.22
New Impervious FRR [ft3]	100Yr24Hr-Post	34921	0	34096	0	0	0	825
New Impervious FRR [ac-ft]	100Yr24Hr-Post	0.80	0.00	0.78	0.00	0.00	0.00	0.02

Manual Basin Runoff Rate: New Impervious FRR [Icpr3]

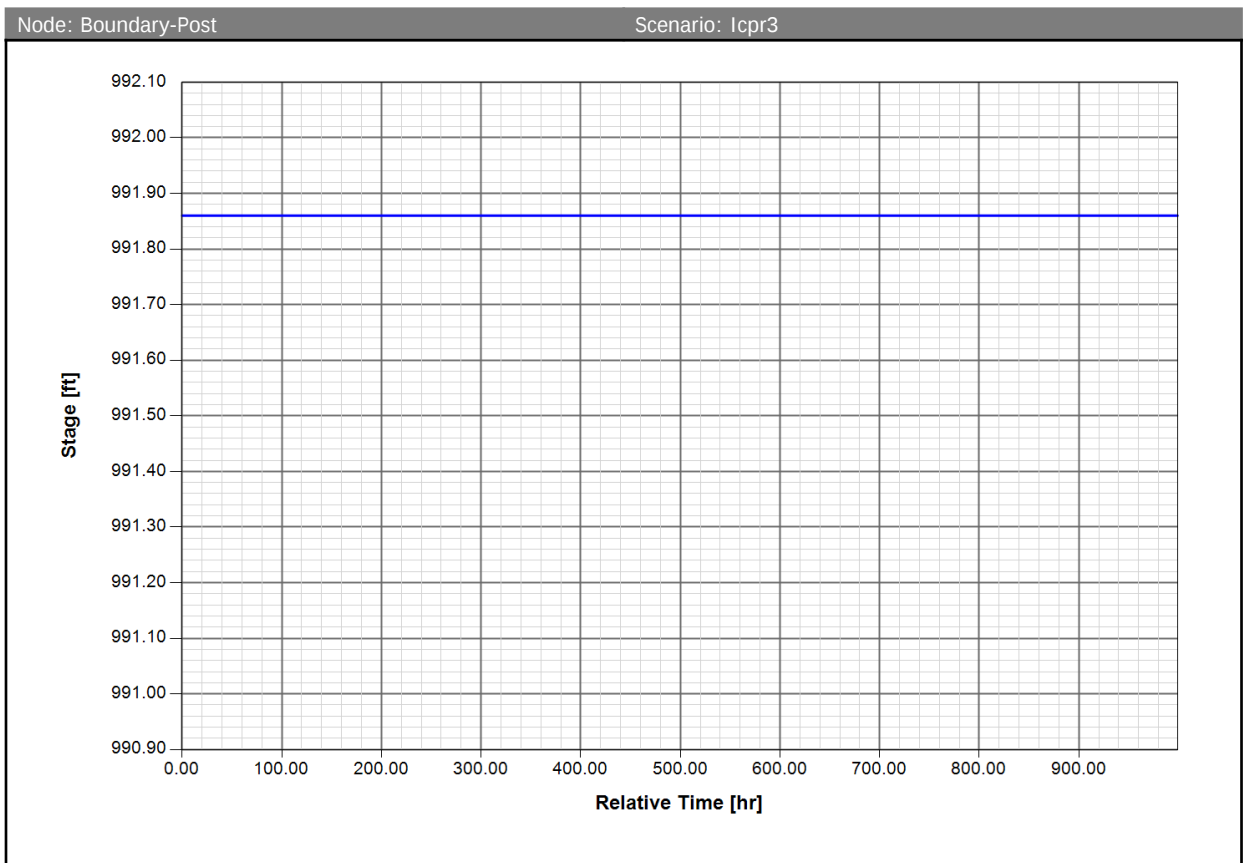


Node: Boundary-Post

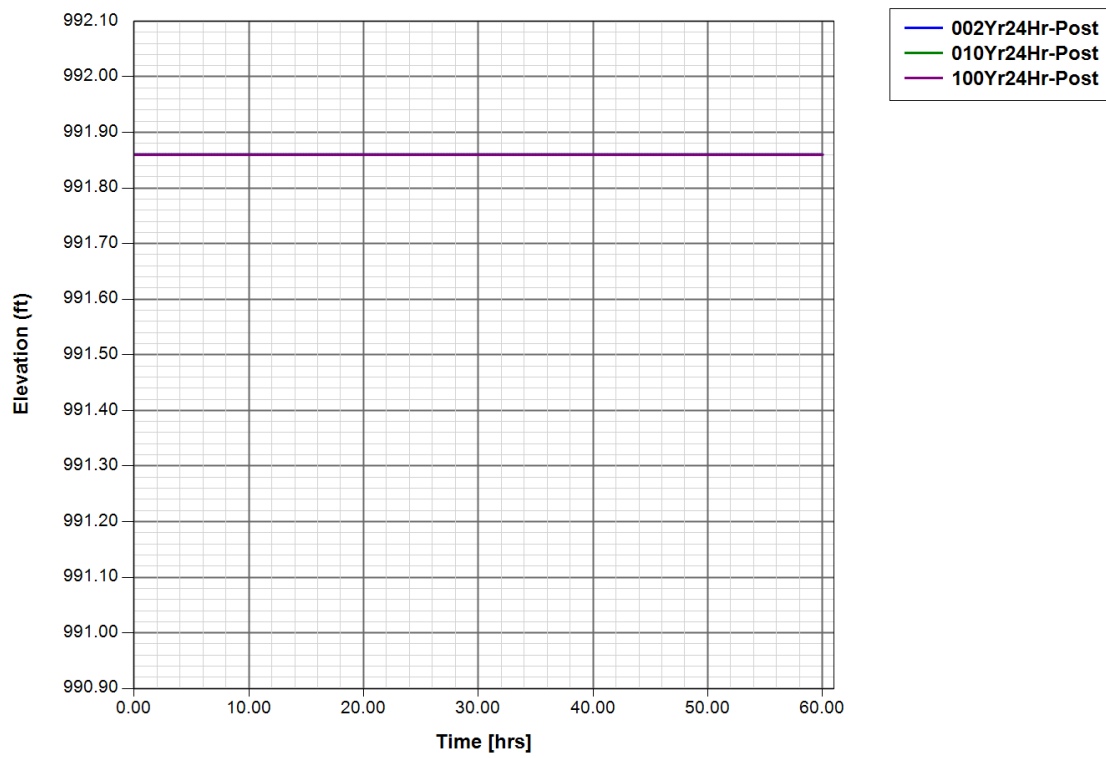
Scenario: Icpr3
 Type: Time/Stage
 Base Flow: 0.00 cfs
 Initial Stage: 991.86 ft
 Warning Stage: 991.86 ft
 Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	991.86
0	0	0	999.0000	991.86

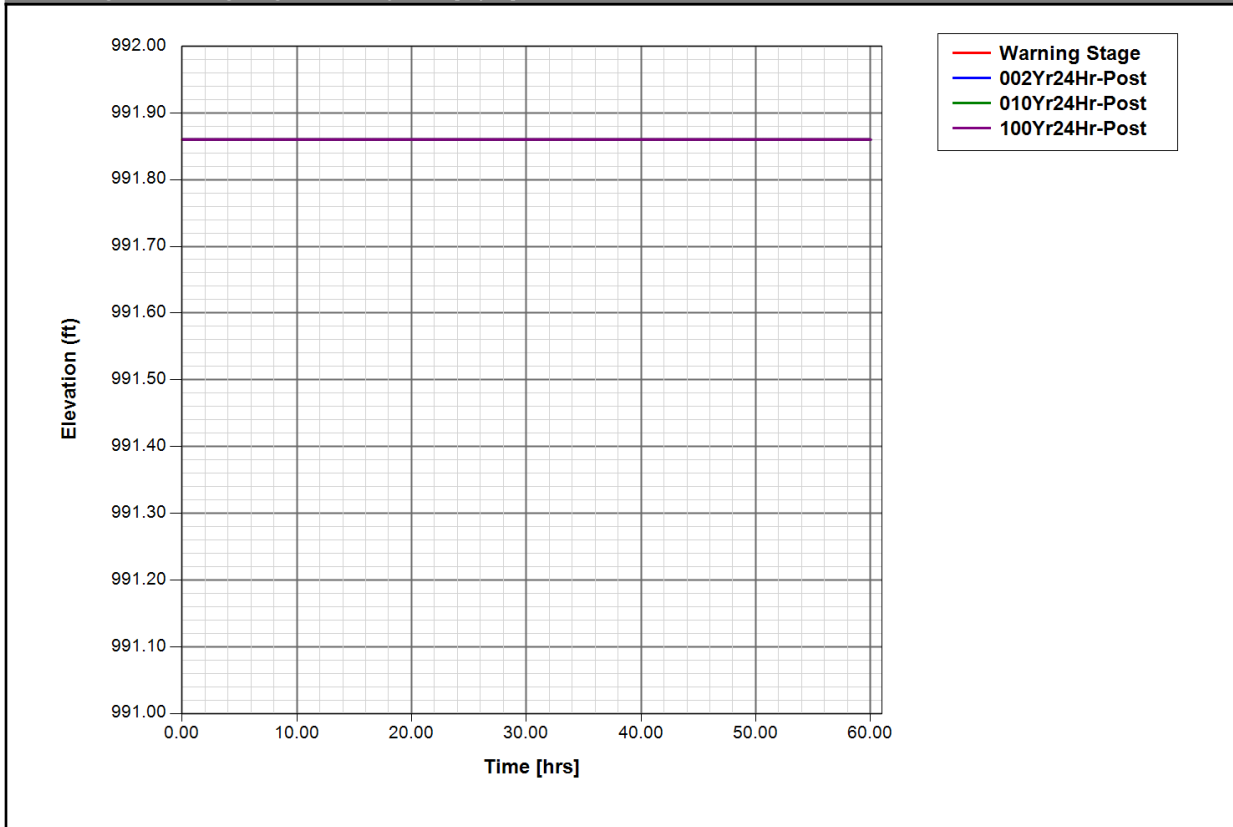
Comment:



Node Stage: Boundary-Post [Icpr3]



Node Stage w/Warning Stage: Boundary-Post [Icpr3]



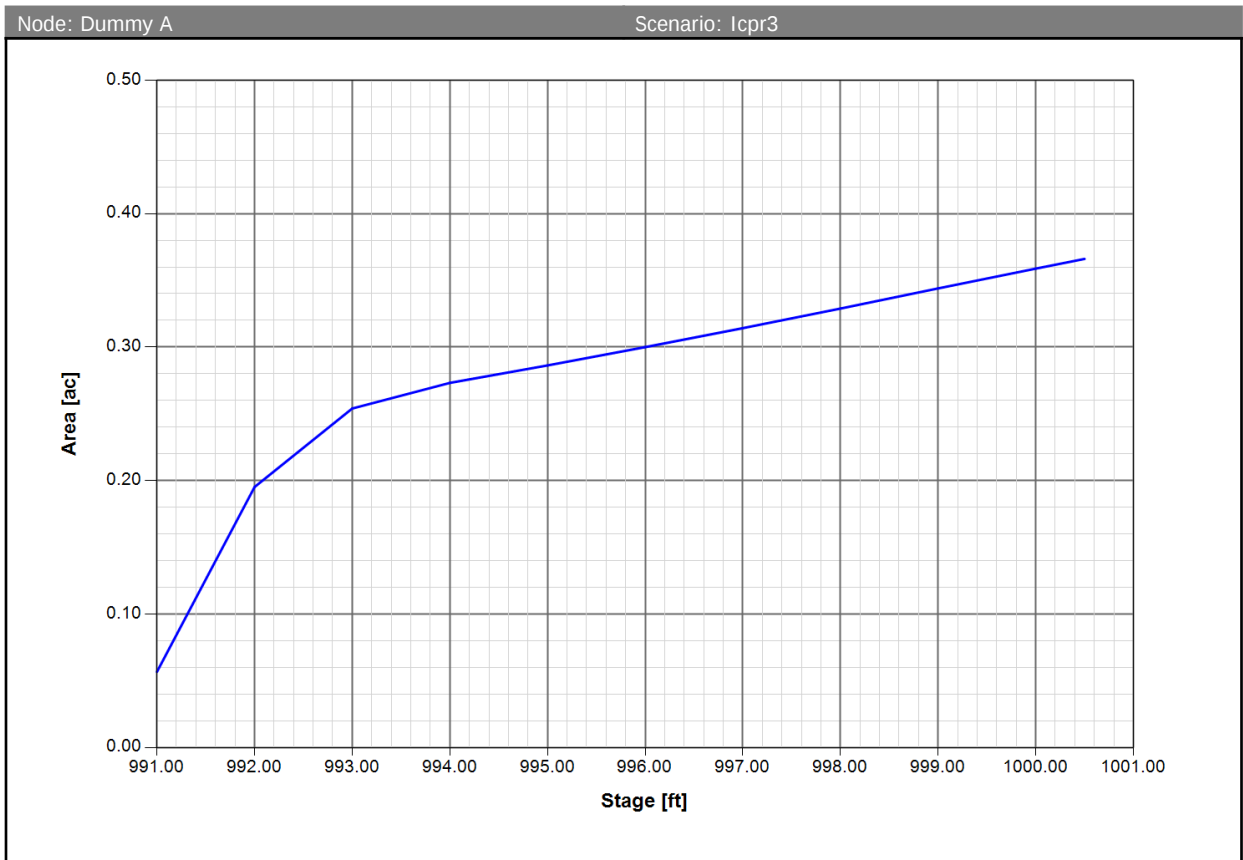
Node: Dummy A

Scenario: Icpr3
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 991.00 ft
 Warning Stage: 999.50 ft

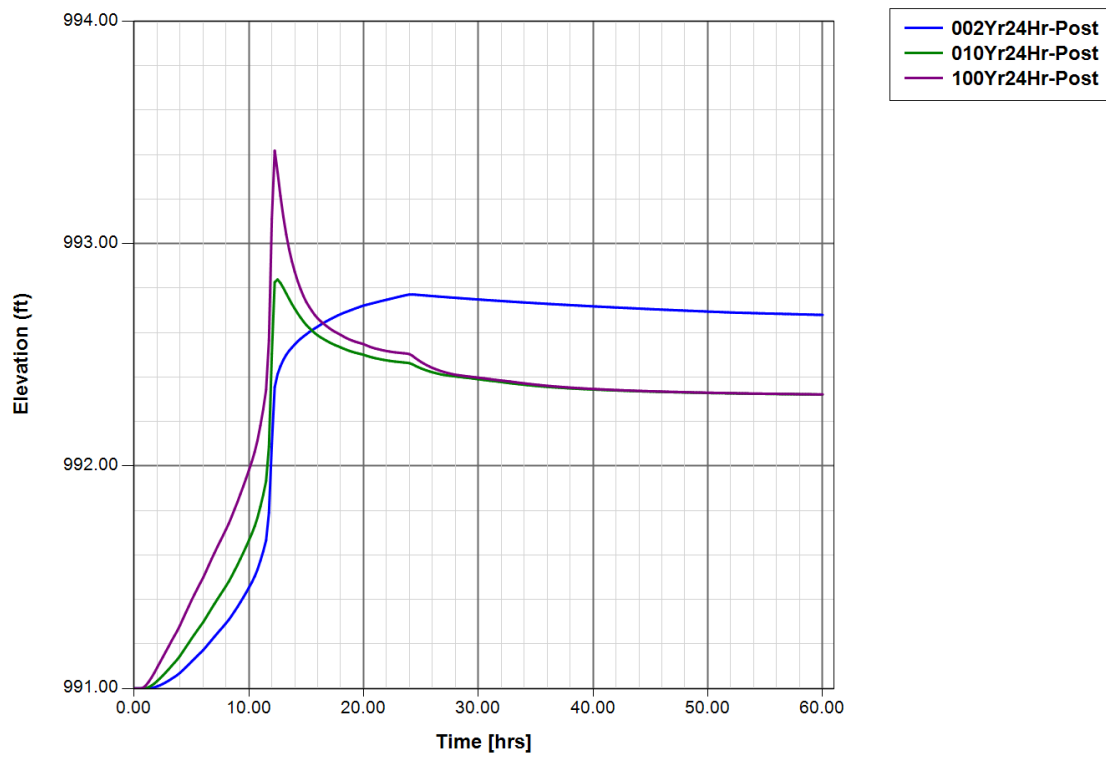
Stage [ft]	Area [ac]	Area [ft2]
991.00	0.0567	2470
992.00	0.1952	8503
993.00	0.2540	11064
994.00	0.2732	11901
995.00	0.2863	12471
996.00	0.3000	13068
997.00	0.3142	13687
998.00	0.3289	14327
999.00	0.3440	14985
1000.00	0.3588	15629

Stage [ft]	Area [ac]	Area [ft2]
1000.50	0.3661	15947

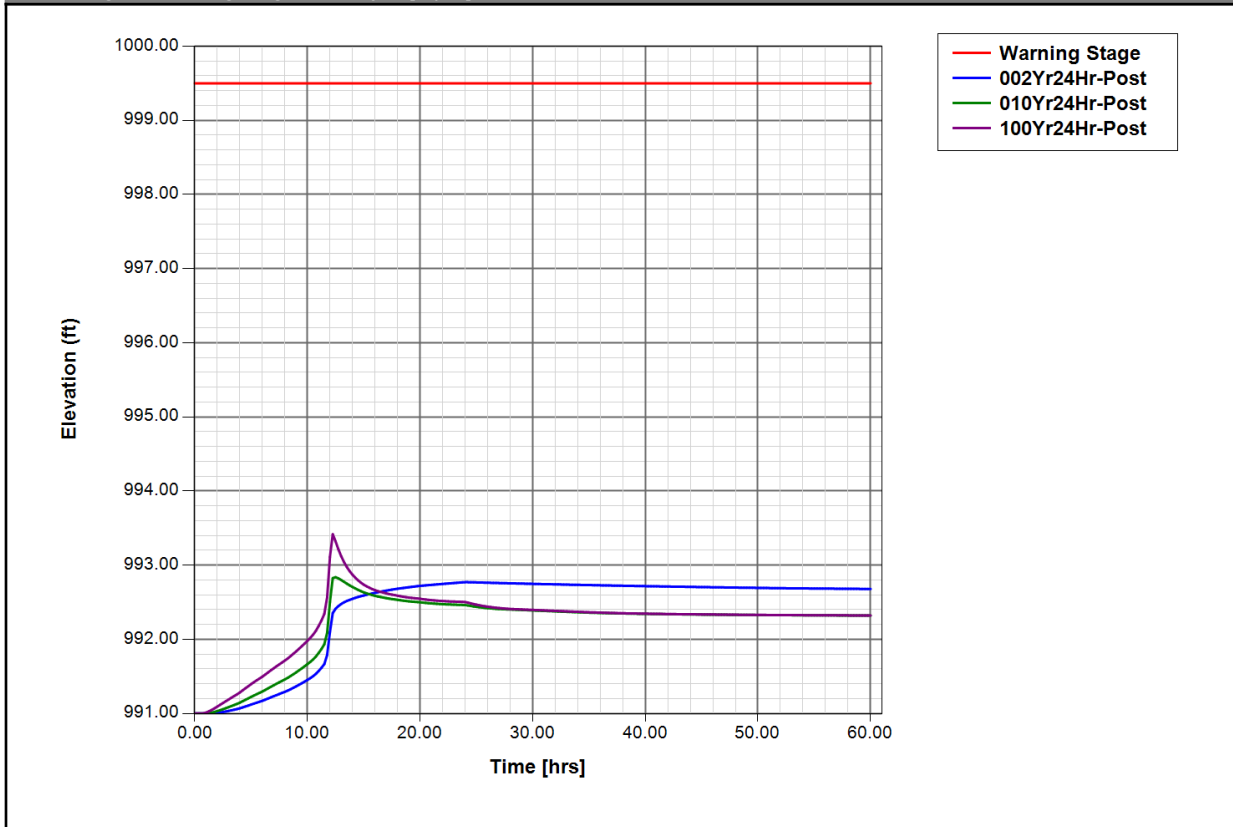
Comment: A false system to analyze a portion of the contributing basins to Proposed Pond A for Flat Release Rate evaluation



Node Stage: Dummy A [Icpr3]



Node Stage w/Warning Stage: Dummy A [Icpr3]

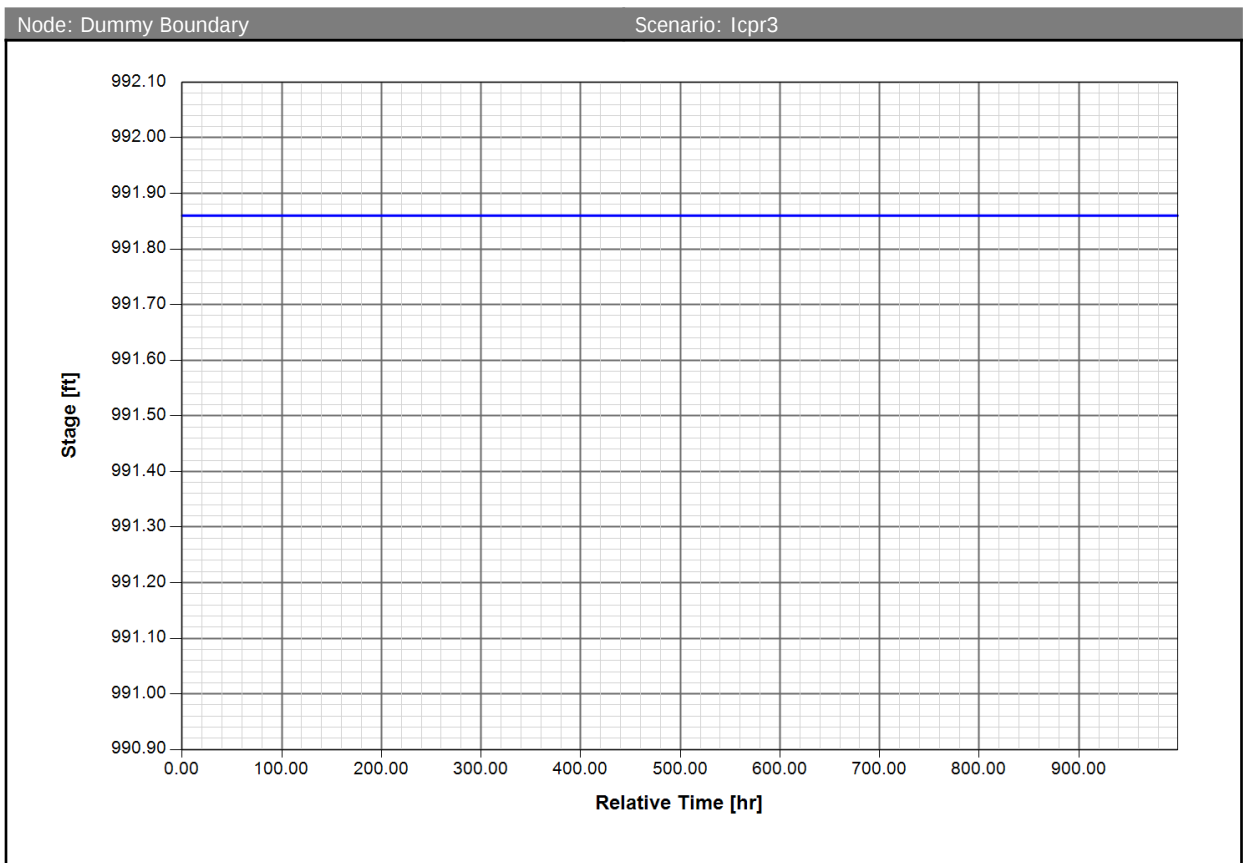


Node: Dummy Boundary

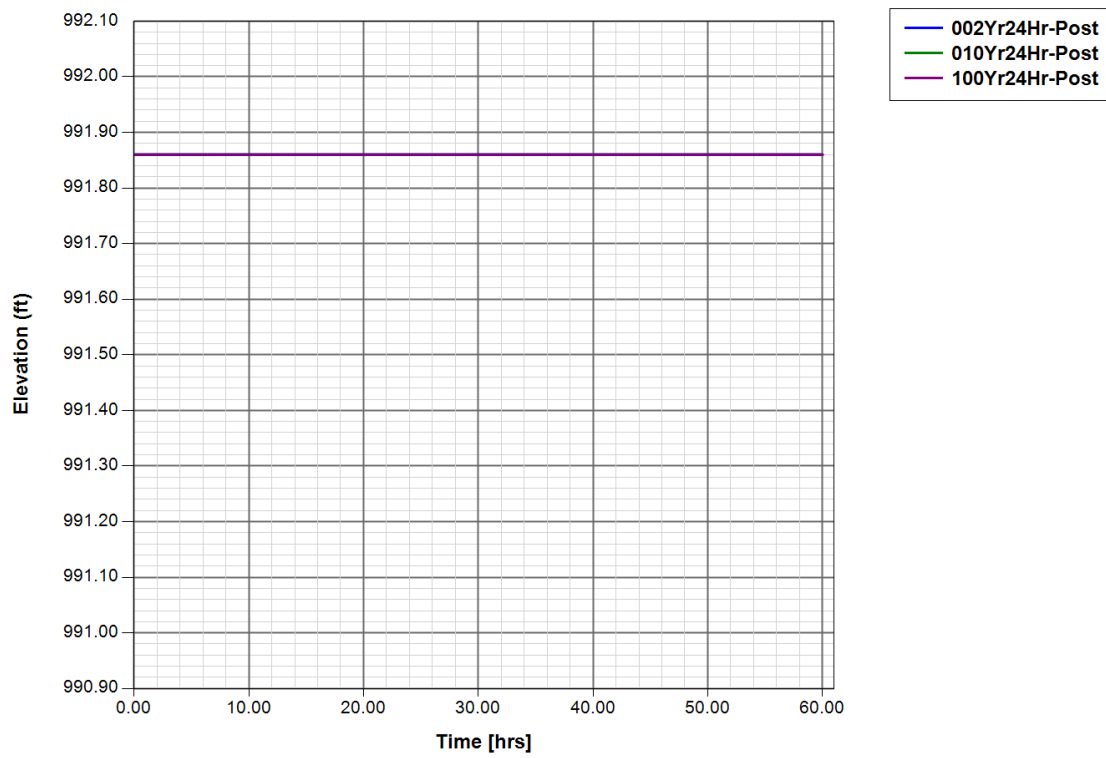
Scenario: Icpr3
 Type: Time/Stage
 Base Flow: 0.00 cfs
 Initial Stage: 991.86 ft
 Warning Stage: 991.86 ft
 Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	991.86
0	0	0	999.0000	991.86

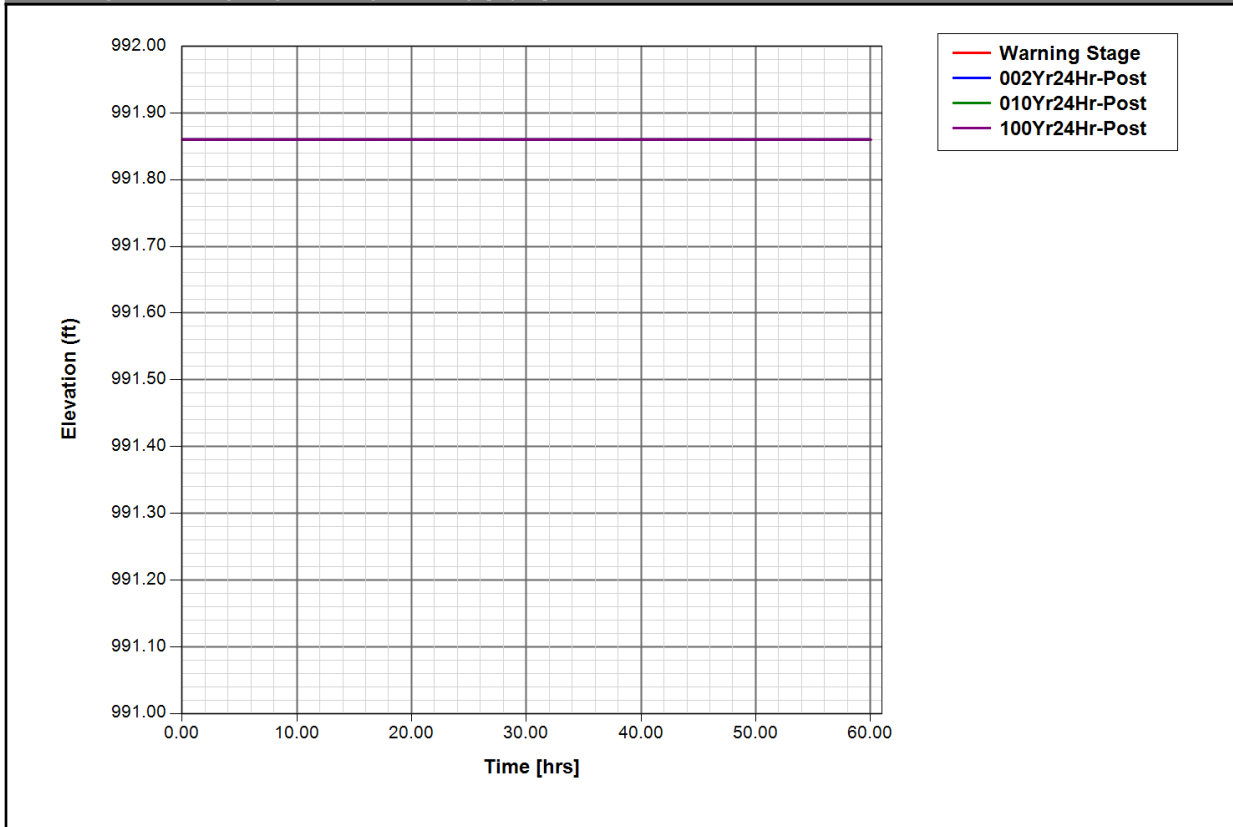
Comment: A false system to analyze a portion of the contributing basins to Proposed Pond A for Flat Release Rate evaluation



Node Stage: Dummy Boundary [Icpr3]



Node Stage w/Warning Stage: Dummy Boundary [Icpr3]



Node: Pond A

Scenario: Icpr3
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 991.00 ft
 Warning Stage: 999.50 ft

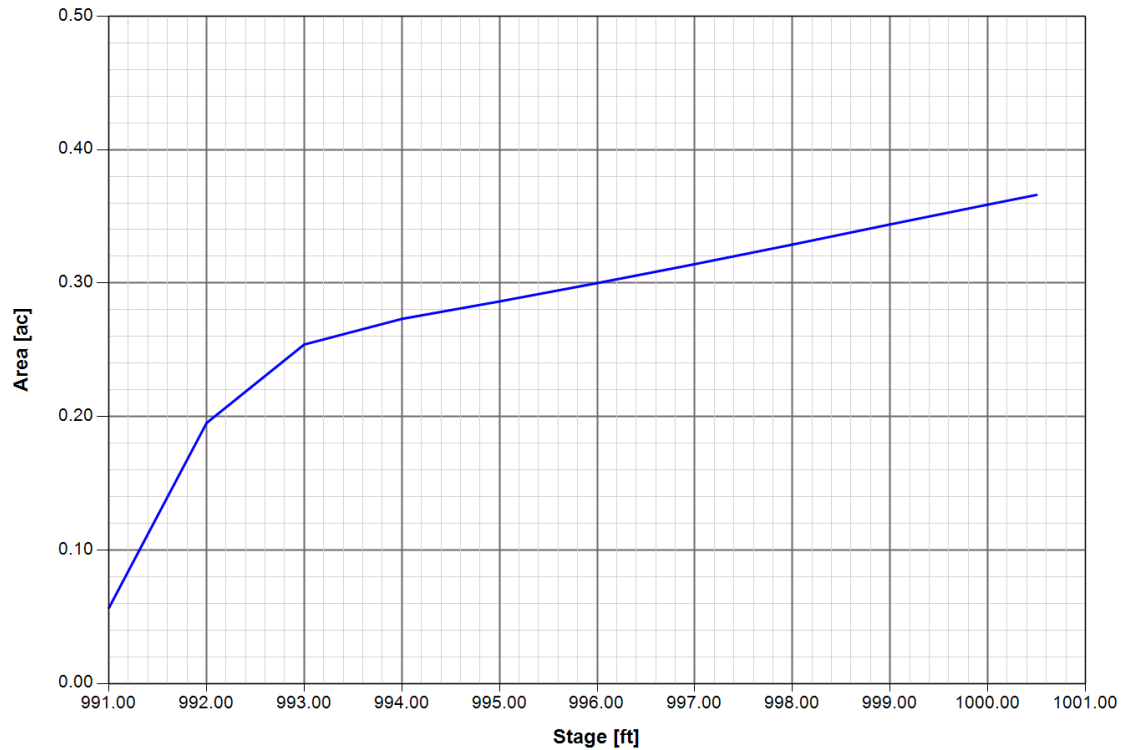
Stage [ft]	Area [ac]	Area [ft2]
991.00	0.0567	2470
992.00	0.1952	8503
993.00	0.2540	11064
994.00	0.2732	11901
995.00	0.2863	12471
996.00	0.3000	13068
997.00	0.3142	13687
998.00	0.3289	14327
999.00	0.3440	14985
1000.00	0.3588	15629

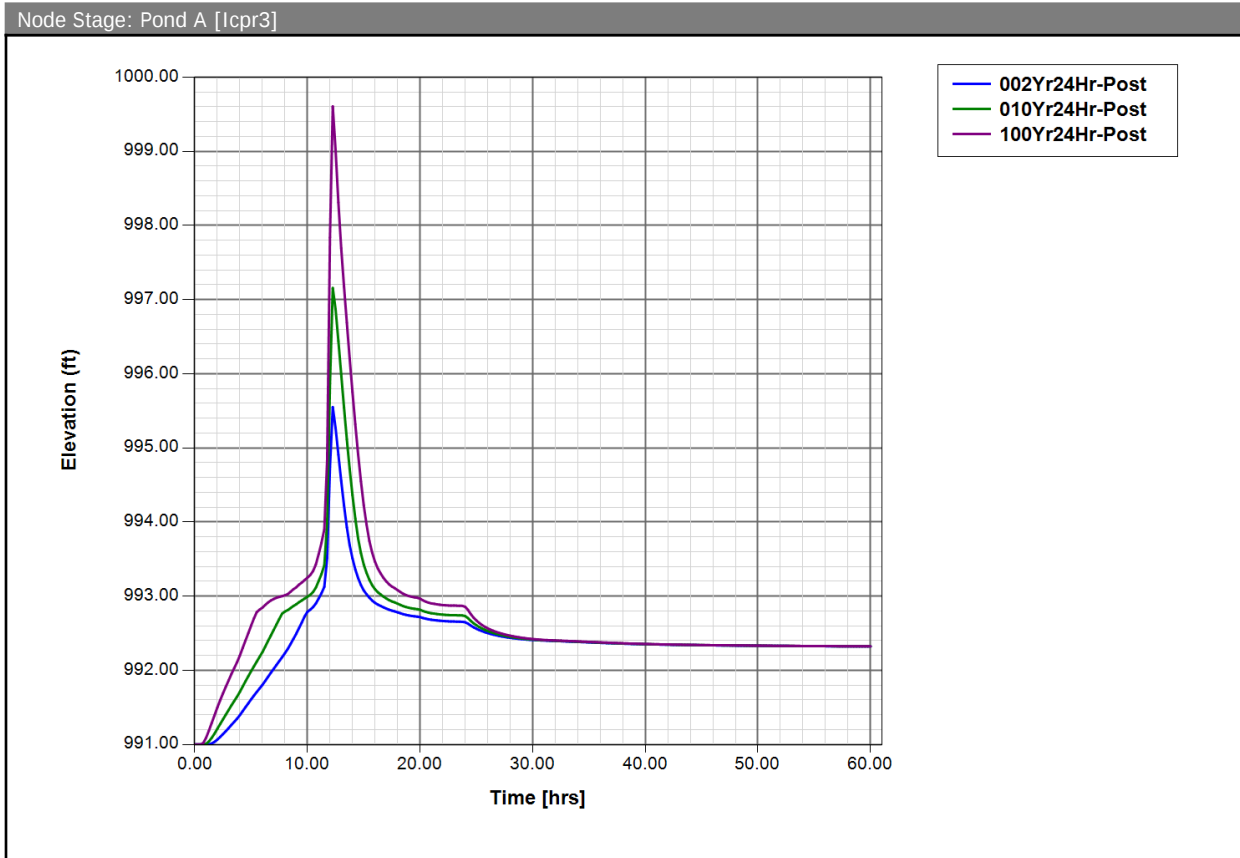
Stage [ft]	Area [ac]	Area [ft2]
1000.50	0.3661	15947

Comment:

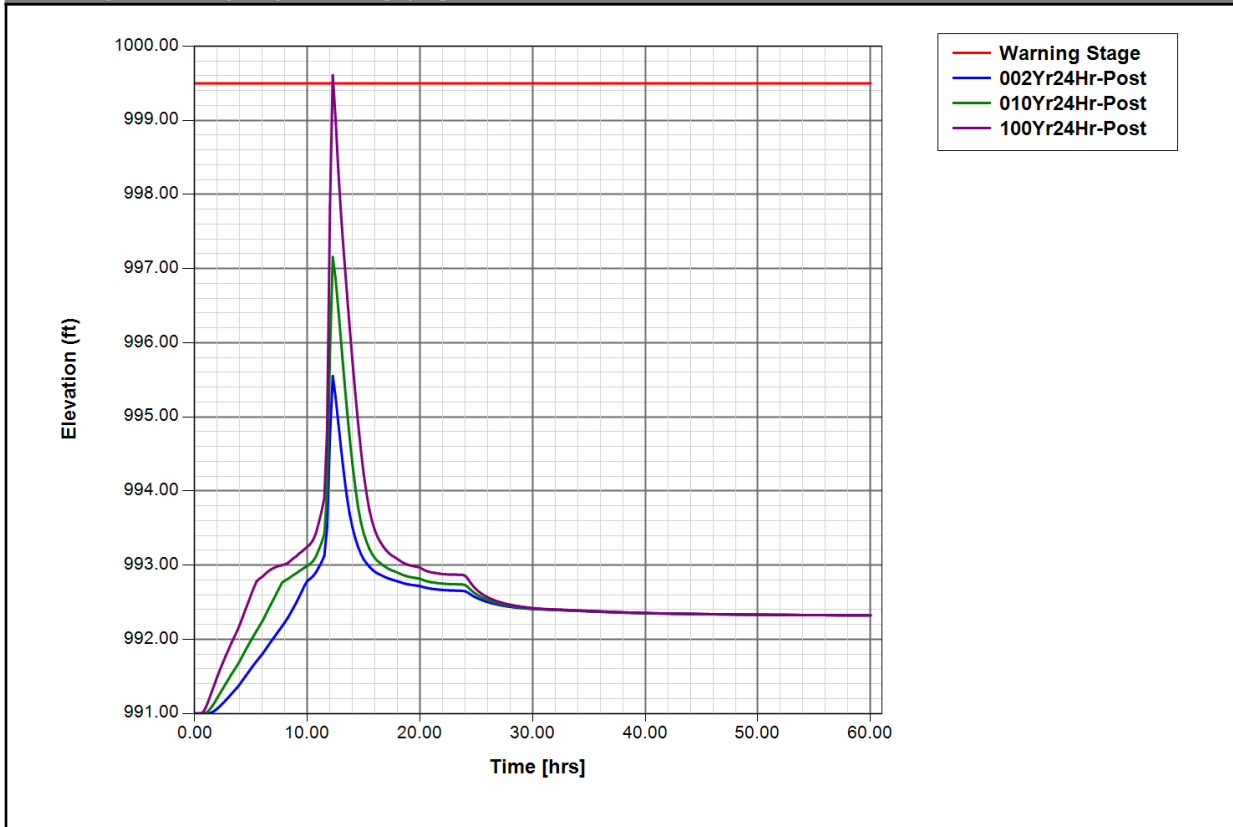
Node: Pond A

Scenario: lcpr3





Node Stage w/Warning Stage: Pond A [Icpr3]



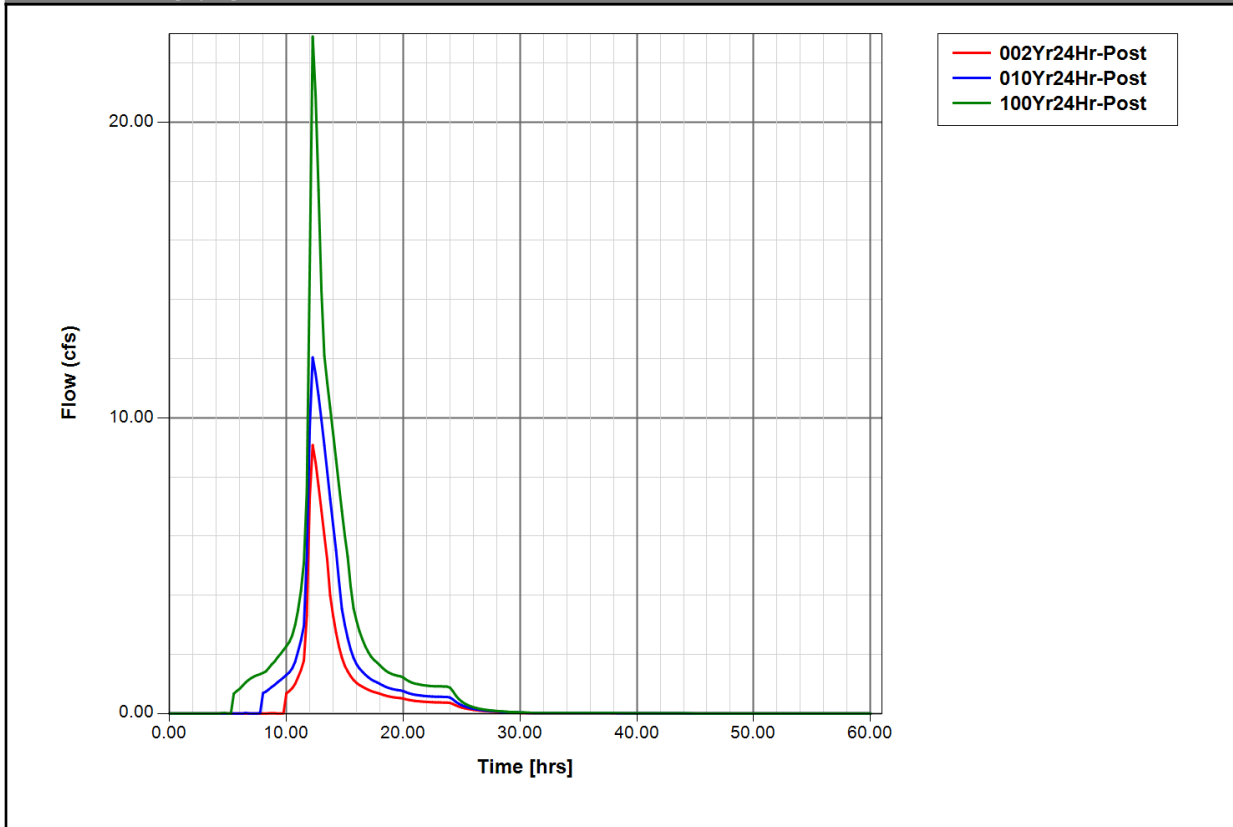
Drop Structure Link: DS-A		Upstream Pipe	Downstream Pipe
Scenario:	Icpr3	Invert: 992.30 ft	Invert: 991.86 ft
From Node:	Pond A	Manning's N: 0.0130	Manning's N: 0.0130
To Node:	Boundary-Post	Geometry: Circular	Geometry: Circular
Link Count:	1	Max Depth: 2.50 ft	Max Depth: 2.50 ft
Flow Direction:	Both	Bottom Clip	
Solution:	Combine	Default: 0.00 ft	Default: 0.00 ft
Increments:	10	Op Table:	Op Table:
Pipe Count:	1	Ref Node:	Ref Node:
Damping:	0.0000 ft	Manning's N: 0.0000	Manning's N: 0.0000
Length:	55.00 ft	Top Clip	
FHWA Code:	1	Default: 0.00 ft	Default: 0.00 ft
Entr Loss Coef:	0.00	Op Table:	Op Table:
Exit Loss Coef:	1.00	Ref Node:	Ref Node:
Bend Loss Coef:	0.00	Manning's N: 0.0000	Manning's N: 0.0000
Bend Location:	0.00 ft		
Energy Switch:	Energy		
Pipe Comment:			

Weir Component	
Weir: 1	Bottom Clip
Weir Count: 1	Default: 0.00 ft
Weir Flow Direction: Both	Op Table:
Damping: 0.0000 ft	Ref Node:
Weir Type: Sharp Crested Vertical	Top Clip
Geometry Type: Circular	Default: 0.00 ft
Invert: 992.30 ft	Op Table:
Control Elevation: 992.30 ft	Ref Node:
Max Depth: 1.33 ft	Discharge Coefficients
	Weir Default: 3.200
	Weir Table:
	Orifice Default: 0.600
	Orifice Table:
Weir Comment:	

Weir Component	
Weir: 2	Bottom Clip
Weir Count: 1	Default: 0.00 ft
Weir Flow Direction: Both	Op Table:
Damping: 0.0000 ft	Ref Node:
Weir Type: Sharp Crested Vertical	Top Clip
Geometry Type: Circular	Default: 0.00 ft
Invert: 997.00 ft	Op Table:
Control Elevation: 997.00 ft	Ref Node:
Max Depth: 1.25 ft	Discharge Coefficients
	Weir Default: 3.200
	Weir Table:
	Orifice Default: 0.600
	Orifice Table:
Weir Comment:	

Drop Structure Comment:

Link Flow: DS-A [Icpr3]



Drop Structure Link: Dummy DS-A		Upstream Pipe	Downstream Pipe
Scenario:	Icpr3	Invert: 992.30 ft	Invert: 991.86 ft
From Node:	Dummy A	Manning's N: 0.0130	Manning's N: 0.0130
To Node:	Dummy Boundary	Geometry: Circular	Geometry: Circular
Link Count:	1	Max Depth: 2.50 ft	Max Depth: 2.50 ft
Flow Direction:	Both	Bottom Clip	
Solution:	Combine	Default: 0.00 ft	Default: 0.00 ft
Increments:	10	Op Table:	Op Table:
Pipe Count:	1	Ref Node:	Ref Node:
Damping:	0.0000 ft	Manning's N: 0.0000	Manning's N: 0.0000
Length:	55.00 ft	Top Clip	
FHWA Code:	1	Default: 0.00 ft	Default: 0.00 ft
Entr Loss Coef:	0.00	Op Table:	Op Table:
Exit Loss Coef:	1.00	Ref Node:	Ref Node:
Bend Loss Coef:	0.00	Manning's N: 0.0000	Manning's N: 0.0000
Bend Location:	0.00 ft		
Energy Switch:	Energy		
Pipe Comment:			

Weir Component	
Weir: 1	Bottom Clip
Weir Count: 1	Default: 0.00 ft
Weir Flow Direction: Both	Op Table:
Damping: 0.0000 ft	Ref Node:
Weir Type: Sharp Crested Vertical	Top Clip
Geometry Type: Circular	Default: 0.00 ft
Invert: 992.30 ft	Op Table:
Control Elevation: 992.30 ft	Ref Node:
Max Depth: 1.33 ft	Discharge Coefficients
	Weir Default: 3.200
	Weir Table:
	Orifice Default: 0.600
	Orifice Table:

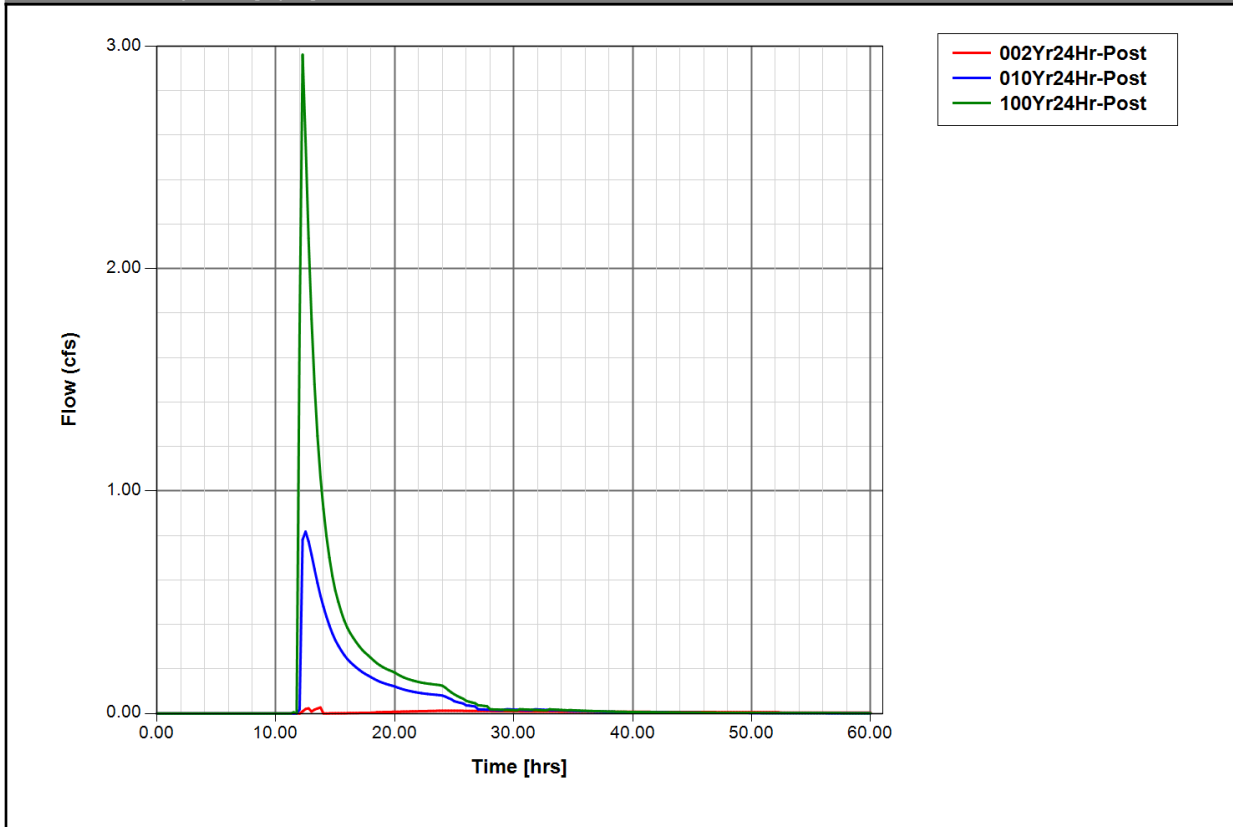
Weir Comment: A false system to analyze a portion of the contributing basins to Proposed Pond A for Flat Release Rate evaluation

Weir Component	
Weir: 2	Bottom Clip
Weir Count: 1	Default: 0.00 ft
Weir Flow Direction: Both	Op Table:
Damping: 0.0000 ft	Ref Node:
Weir Type: Sharp Crested Vertical	Top Clip
Geometry Type: Circular	Default: 0.00 ft
Invert: 997.00 ft	Op Table:
Control Elevation: 997.00 ft	Ref Node:
Max Depth: 1.25 ft	Discharge Coefficients
	Weir Default: 3.200
	Weir Table:
	Orifice Default: 0.600
	Orifice Table:

Weir Comment: A false system to analyze a portion of the contributing basins to Proposed Pond A for Flat Release Rate evaluation

Drop Structure Comment: A false system to analyze a portion of the contributing basins to Proposed Pond A for Flat Release Rate evaluation

Link Flow: Dummy DS-A [Icpr3]



Weir Link: EmOvflw

Scenario: Icpr3
 From Node: Pond A
 To Node: Boundary-Post
 Link Count: 1
 Flow Direction: Both
 Damping: 0.0000 ft
 Weir Type: Broad Crested Vertical
 Geometry Type: Trapezoidal
 Invert: 1000.00 ft
 Control Elevation: 1000.00 ft
 Max Depth: 9999.00 ft
 Extrapolation Method: Normal Projection
 Bottom Width: 200.00 ft
 Left Slope: 2.000 (h:v)
 Right Slope: 2.000 (h:v)

Bottom Clip

Default: 0.00 ft

Op Table:

Ref Node:

Top Clip

Default: 0.00 ft

Op Table:

Ref Node:

Discharge Coefficients

Weir Default: 2.800

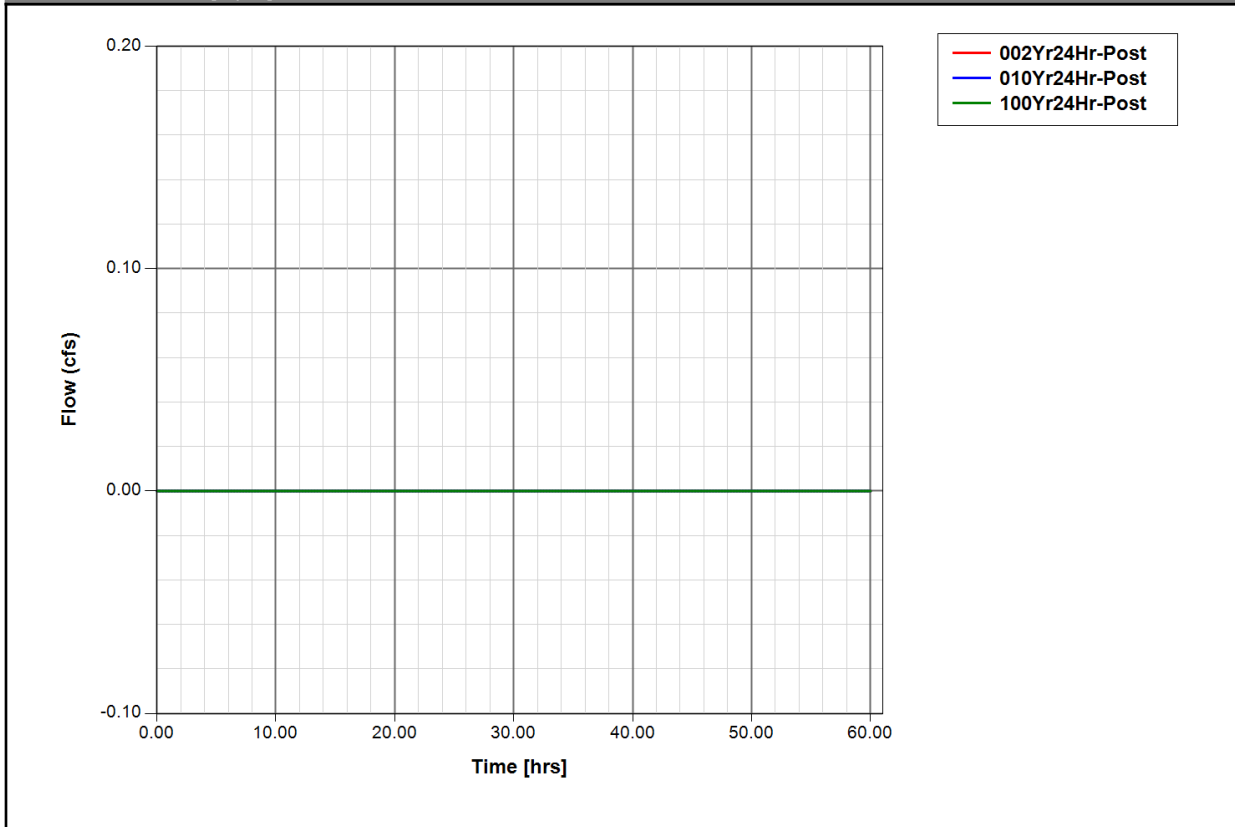
Weir Table:

Orifice Default: 0.600

Orifice Table:

Comment:

Link Flow: EmOvflw [Icpr3]



Simulation: 002Yr24Hr-Post

Scenario: Icpr3
 Run Date/Time: 3/21/2019 4:04:11 PM
 Program Version: ICPR4 4.03.02.00

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	60.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		60.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000
0	0	0	30.0000	20.0000
0	0	0	60.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	30.0000	15.0000
0	0	0	60.0000	20.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder: ICPR3

Unit Hydrograph ICPR3
Folder:

Lookup Tables

Boundary Stage Set:
 Extern Hydrograph Set:
 Curve Number Set: ICPR3

 Green-Ampt Set: ICPR3
 Vertical Layers Set:
 Impervious Set: ICPR3

Tolerances & Options

Time Marching: SAOR
 Max Iterations: 6
 Over-Relax Weight 0.5 dec
 Fact:
 dZ Tolerance: 0.0010 ft
 Max dZ: 1.0000 ft
 Link Optimizer Tol: 0.0001 ft

 Edge Length Option: Automatic

IA Recovery Time: 24.0000 hr

 Manual Basin Rain Opt: Global

 Rainfall Name: Scsii-24
 Rainfall Amount: 3.71 in
 Storm Duration: 24.0000 hr

 Dflt Damping (1D): 0.0050 ft
 Min Node Srf Area 113 ft2
 (1D):
 Energy Switch (1D): Energy

Comment:

Simulation: 010Yr24Hr-Post

Scenario: IcpR3
 Run Date/Time: 3/21/2019 4:04:36 PM
 Program Version: ICPR4 4.03.02.00

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	60.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		60.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000
0	0	0	30.0000	20.0000
0	0	0	60.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	30.0000	15.0000
0	0	0	60.0000	20.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder: ICPR3

Unit Hydrograph Folder:
ICPR3

Lookup Tables

Boundary Stage Set:
 Extern Hydrograph Set:
 Curve Number Set: ICPR3

 Green-Ampt Set: ICPR3
 Vertical Layers Set:
 Impervious Set: ICPR3

Tolerances & Options

Time Marching: SAOR	IA Recovery Time: 24.0000 hr
Max Iterations: 6	
Over-Relax Weight 0.5 dec	
Fact:	
dZ Tolerance: 0.0010 ft	Manual Basin Rain Opt: Global
Max dZ: 1.0000 ft	
Link Optimizer Tol: 0.0001 ft	Rainfall Name: Scsii-24
	Rainfall Amount: 5.66 in
Edge Length Option: Automatic	Storm Duration: 24.0000 hr
	Dflt Damping (1D): 0.0050 ft
	Min Node Srf Area 113 ft2
	(1D):
	Energy Switch (1D): Energy

Comment:

Simulation: 100Yr24Hr-Post

Scenario: Icp3
 Run Date/Time: 3/21/2019 4:04:58 PM
 Program Version: ICPR4 4.03.02.00

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	60.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		60.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000
0	0	0	30.0000	20.0000
0	0	0	60.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	30.0000	15.0000
0	0	0	60.0000	20.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder: ICPR3

Unit Hydrograph ICPR3
Folder:

Lookup Tables

Boundary Stage Set:

Extern Hydrograph Set:

Curve Number Set: ICPR3

Green-Ampt Set: ICPR3

Vertical Layers Set:

Impervious Set: ICPR3

Tolerances & Options

Time Marching: SAOR

Max Iterations: 6

Over-Relax Weight 0.5 dec

Fact:

dZ Tolerance: 0.0010 ft

Max dZ: 1.0000 ft

Link Optimizer Tol: 0.0001 ft

Edge Length Option: Automatic

IA Recovery Time: 24.0000 hr

Manual Basin Rain Opt: Global

Rainfall Name: Scsii-24

Rainfall Amount: 9.25 in

Storm Duration: 24.0000 hr

Dflt Damping (1D): 0.0050 ft

Min Node Srf Area 113 ft2

(1D):

Energy Switch (1D): Energy

Comment:

Scenario	Sim	Node Name	Relative Time [hrs]
lcpr3	002Yr24Hr-Post	Pond A	0.0000
lcpr3	002Yr24Hr-Post	Pond A	0.2511
lcpr3	002Yr24Hr-Post	Pond A	0.5050
lcpr3	002Yr24Hr-Post	Pond A	0.7556
lcpr3	002Yr24Hr-Post	Pond A	1.0021
lcpr3	002Yr24Hr-Post	Pond A	1.2546
lcpr3	002Yr24Hr-Post	Pond A	1.5105
lcpr3	002Yr24Hr-Post	Pond A	1.7531
lcpr3	002Yr24Hr-Post	Pond A	2.0062
lcpr3	002Yr24Hr-Post	Pond A	2.2515
lcpr3	002Yr24Hr-Post	Pond A	2.5017
lcpr3	002Yr24Hr-Post	Pond A	2.7514
lcpr3	002Yr24Hr-Post	Pond A	3.0001
lcpr3	002Yr24Hr-Post	Pond A	3.2510
lcpr3	002Yr24Hr-Post	Pond A	3.5032
lcpr3	002Yr24Hr-Post	Pond A	3.7542
lcpr3	002Yr24Hr-Post	Pond A	4.0030
lcpr3	002Yr24Hr-Post	Pond A	4.2523
lcpr3	002Yr24Hr-Post	Pond A	4.5018
lcpr3	002Yr24Hr-Post	Pond A	4.7517
lcpr3	002Yr24Hr-Post	Pond A	5.0007
lcpr3	002Yr24Hr-Post	Pond A	5.2541
lcpr3	002Yr24Hr-Post	Pond A	5.5037
lcpr3	002Yr24Hr-Post	Pond A	5.7530
lcpr3	002Yr24Hr-Post	Pond A	6.0035
lcpr3	002Yr24Hr-Post	Pond A	6.2527
lcpr3	002Yr24Hr-Post	Pond A	6.5005
lcpr3	002Yr24Hr-Post	Pond A	6.7526
lcpr3	002Yr24Hr-Post	Pond A	7.0017
lcpr3	002Yr24Hr-Post	Pond A	7.2504
lcpr3	002Yr24Hr-Post	Pond A	7.5041
lcpr3	002Yr24Hr-Post	Pond A	7.7514
lcpr3	002Yr24Hr-Post	Pond A	8.0022
lcpr3	002Yr24Hr-Post	Pond A	8.2521
lcpr3	002Yr24Hr-Post	Pond A	8.5008
lcpr3	002Yr24Hr-Post	Pond A	8.7531
lcpr3	002Yr24Hr-Post	Pond A	9.0018
lcpr3	002Yr24Hr-Post	Pond A	9.2519
lcpr3	002Yr24Hr-Post	Pond A	9.5002
lcpr3	002Yr24Hr-Post	Pond A	9.7517
lcpr3	002Yr24Hr-Post	Pond A	10.0025

Stage [ft]	Total Inflow Rate [cfs]
991.00	0.00
991.00	0.00
991.00	0.00
991.00	0.00
991.00	0.00
991.00	0.02
991.01	0.05
991.04	0.08
991.07	0.11
991.10	0.12
991.14	0.15
991.18	0.15
991.22	0.18
991.26	0.20
991.31	0.19
991.35	0.22
991.40	0.28
991.45	0.32
991.50	0.31
991.56	0.35
991.61	0.36
991.66	0.34
991.71	0.38
991.76	0.36
991.80	0.39
991.86	0.49
991.91	0.47
991.97	0.52
992.02	0.48
992.07	0.53
992.13	0.49
992.18	0.54
992.23	0.55
992.29	0.60
992.35	0.77
992.42	0.72
992.49	0.79
992.57	0.90
992.65	0.84
992.73	1.02
992.79	0.96

Scenario	Sim	Node Name	Relative Time [hrs]
lcpr3	002Yr24Hr-Post	Pond A	10.2554
lcpr3	002Yr24Hr-Post	Pond A	10.5044
lcpr3	002Yr24Hr-Post	Pond A	10.7523
lcpr3	002Yr24Hr-Post	Pond A	11.0014
lcpr3	002Yr24Hr-Post	Pond A	11.2529
lcpr3	002Yr24Hr-Post	Pond A	11.5014
lcpr3	002Yr24Hr-Post	Pond A	11.7502
lcpr3	002Yr24Hr-Post	Pond A	12.0000
lcpr3	002Yr24Hr-Post	Pond A	12.2505
lcpr3	002Yr24Hr-Post	Pond A	12.5006
lcpr3	002Yr24Hr-Post	Pond A	12.7505
lcpr3	002Yr24Hr-Post	Pond A	13.0000
lcpr3	002Yr24Hr-Post	Pond A	13.2503
lcpr3	002Yr24Hr-Post	Pond A	13.5007
lcpr3	002Yr24Hr-Post	Pond A	13.7507
lcpr3	002Yr24Hr-Post	Pond A	14.0004
lcpr3	002Yr24Hr-Post	Pond A	14.2507
lcpr3	002Yr24Hr-Post	Pond A	14.5005
lcpr3	002Yr24Hr-Post	Pond A	14.7519
lcpr3	002Yr24Hr-Post	Pond A	15.0006
lcpr3	002Yr24Hr-Post	Pond A	15.2527
lcpr3	002Yr24Hr-Post	Pond A	15.5006
lcpr3	002Yr24Hr-Post	Pond A	15.7558
lcpr3	002Yr24Hr-Post	Pond A	16.0074
lcpr3	002Yr24Hr-Post	Pond A	16.2557
lcpr3	002Yr24Hr-Post	Pond A	16.5052
lcpr3	002Yr24Hr-Post	Pond A	16.7581
lcpr3	002Yr24Hr-Post	Pond A	17.0055
lcpr3	002Yr24Hr-Post	Pond A	17.2527
lcpr3	002Yr24Hr-Post	Pond A	17.5043
lcpr3	002Yr24Hr-Post	Pond A	17.7542
lcpr3	002Yr24Hr-Post	Pond A	18.0042
lcpr3	002Yr24Hr-Post	Pond A	18.2542
lcpr3	002Yr24Hr-Post	Pond A	18.5042
lcpr3	002Yr24Hr-Post	Pond A	18.7542
lcpr3	002Yr24Hr-Post	Pond A	19.0042
lcpr3	002Yr24Hr-Post	Pond A	19.2542
lcpr3	002Yr24Hr-Post	Pond A	19.5042
lcpr3	002Yr24Hr-Post	Pond A	19.7542
lcpr3	002Yr24Hr-Post	Pond A	20.0042
lcpr3	002Yr24Hr-Post	Pond A	20.2542

Stage [ft]	Total Inflow Rate [cfs]
992.82	1.15
992.85	1.28
992.90	1.73
992.97	2.12
993.04	2.28
993.13	3.17
993.52	10.93
994.74	32.01
995.55	7.56
995.27	3.36
994.91	2.89
994.56	2.11
994.22	1.89
993.93	1.51
993.69	1.39
993.51	1.26
993.36	1.04
993.25	1.00
993.15	0.81
993.08	0.87
993.03	0.87
992.98	0.70
992.94	0.74
992.91	0.69
992.89	0.74
992.87	0.69
992.85	0.63
992.83	0.62
992.82	0.57
992.81	0.62
992.80	0.57
992.78	0.51
992.77	0.50
992.76	0.46
992.75	0.50
992.74	0.46
992.73	0.50
992.73	0.46
992.73	0.50
992.72	0.38
992.71	0.34

Scenario	Sim	Node Name	Relative Time [hrs]
lcpr3	002Yr24Hr-Post	Pond A	20.5042
lcpr3	002Yr24Hr-Post	Pond A	20.7542
lcpr3	002Yr24Hr-Post	Pond A	21.0042
lcpr3	002Yr24Hr-Post	Pond A	21.2542
lcpr3	002Yr24Hr-Post	Pond A	21.5042
lcpr3	002Yr24Hr-Post	Pond A	21.7542
lcpr3	002Yr24Hr-Post	Pond A	22.0042
lcpr3	002Yr24Hr-Post	Pond A	22.2542
lcpr3	002Yr24Hr-Post	Pond A	22.5042
lcpr3	002Yr24Hr-Post	Pond A	22.7542
lcpr3	002Yr24Hr-Post	Pond A	23.0042
lcpr3	002Yr24Hr-Post	Pond A	23.2542
lcpr3	002Yr24Hr-Post	Pond A	23.5042
lcpr3	002Yr24Hr-Post	Pond A	23.7542
lcpr3	002Yr24Hr-Post	Pond A	24.0042
lcpr3	002Yr24Hr-Post	Pond A	24.2576
lcpr3	002Yr24Hr-Post	Pond A	24.5007
lcpr3	002Yr24Hr-Post	Pond A	24.7576
lcpr3	002Yr24Hr-Post	Pond A	25.0041
lcpr3	002Yr24Hr-Post	Pond A	25.2595
lcpr3	002Yr24Hr-Post	Pond A	25.5021
lcpr3	002Yr24Hr-Post	Pond A	25.7591
lcpr3	002Yr24Hr-Post	Pond A	26.0091
lcpr3	002Yr24Hr-Post	Pond A	26.2591
lcpr3	002Yr24Hr-Post	Pond A	26.5091
lcpr3	002Yr24Hr-Post	Pond A	26.7591
lcpr3	002Yr24Hr-Post	Pond A	27.0091
lcpr3	002Yr24Hr-Post	Pond A	27.2591
lcpr3	002Yr24Hr-Post	Pond A	27.5091
lcpr3	002Yr24Hr-Post	Pond A	27.7591
lcpr3	002Yr24Hr-Post	Pond A	28.0091
lcpr3	002Yr24Hr-Post	Pond A	28.2591
lcpr3	002Yr24Hr-Post	Pond A	28.5091
lcpr3	002Yr24Hr-Post	Pond A	28.7591
lcpr3	002Yr24Hr-Post	Pond A	29.0091
lcpr3	002Yr24Hr-Post	Pond A	29.2591
lcpr3	002Yr24Hr-Post	Pond A	29.5091
lcpr3	002Yr24Hr-Post	Pond A	29.7591
lcpr3	002Yr24Hr-Post	Pond A	30.0091
lcpr3	002Yr24Hr-Post	Pond A	30.2591
lcpr3	002Yr24Hr-Post	Pond A	30.5091

Stage [ft]	Total Inflow Rate [cfs]
992.70	0.37
992.69	0.34
992.68	0.37
992.68	0.37
992.67	0.34
992.67	0.37
992.67	0.34
992.66	0.37
992.66	0.34
992.66	0.37
992.66	0.38
992.66	0.34
992.66	0.37
992.66	0.34
992.65	0.26
992.63	0.02
992.60	0.00
992.58	0.00
992.56	0.00
992.54	0.00
992.53	0.00
992.52	0.00
992.50	0.00
992.49	0.00
992.48	0.00
992.47	0.00
992.47	0.00
992.46	0.00
992.45	0.00
992.44	0.00
992.44	0.00
992.43	0.00
992.43	0.00
992.43	0.00
992.42	0.00
992.42	0.00
992.42	0.00
992.41	0.00
992.41	0.00
992.41	0.00
992.41	0.00

Scenario	Sim	Node Name	Relative Time [hrs]
lcpr3	002Yr24Hr-Post	Pond A	30.7591
lcpr3	002Yr24Hr-Post	Pond A	31.0091
lcpr3	002Yr24Hr-Post	Pond A	31.2591
lcpr3	002Yr24Hr-Post	Pond A	31.5091
lcpr3	002Yr24Hr-Post	Pond A	31.7591
lcpr3	002Yr24Hr-Post	Pond A	32.0091
lcpr3	002Yr24Hr-Post	Pond A	32.2591
lcpr3	002Yr24Hr-Post	Pond A	32.5091
lcpr3	002Yr24Hr-Post	Pond A	32.7591
lcpr3	002Yr24Hr-Post	Pond A	33.0091
lcpr3	002Yr24Hr-Post	Pond A	33.2591
lcpr3	002Yr24Hr-Post	Pond A	33.5091
lcpr3	002Yr24Hr-Post	Pond A	33.7591
lcpr3	002Yr24Hr-Post	Pond A	34.0091
lcpr3	002Yr24Hr-Post	Pond A	34.2591
lcpr3	002Yr24Hr-Post	Pond A	34.5091
lcpr3	002Yr24Hr-Post	Pond A	34.7591
lcpr3	002Yr24Hr-Post	Pond A	35.0091
lcpr3	002Yr24Hr-Post	Pond A	35.2591
lcpr3	002Yr24Hr-Post	Pond A	35.5091
lcpr3	002Yr24Hr-Post	Pond A	35.7591
lcpr3	002Yr24Hr-Post	Pond A	36.0091
lcpr3	002Yr24Hr-Post	Pond A	36.2591
lcpr3	002Yr24Hr-Post	Pond A	36.5091
lcpr3	002Yr24Hr-Post	Pond A	36.7591
lcpr3	002Yr24Hr-Post	Pond A	37.0091
lcpr3	002Yr24Hr-Post	Pond A	37.2591
lcpr3	002Yr24Hr-Post	Pond A	37.5091
lcpr3	002Yr24Hr-Post	Pond A	37.7591
lcpr3	002Yr24Hr-Post	Pond A	38.0091
lcpr3	002Yr24Hr-Post	Pond A	38.2591
lcpr3	002Yr24Hr-Post	Pond A	38.5091
lcpr3	002Yr24Hr-Post	Pond A	38.7591
lcpr3	002Yr24Hr-Post	Pond A	39.0091
lcpr3	002Yr24Hr-Post	Pond A	39.2591
lcpr3	002Yr24Hr-Post	Pond A	39.5091
lcpr3	002Yr24Hr-Post	Pond A	39.7591
lcpr3	002Yr24Hr-Post	Pond A	40.0091
lcpr3	002Yr24Hr-Post	Pond A	40.2591
lcpr3	002Yr24Hr-Post	Pond A	40.5091
lcpr3	002Yr24Hr-Post	Pond A	40.7591

Stage [ft]	Total Inflow Rate [cfs]
992.40	0.00
992.40	0.00
992.40	0.00
992.40	0.00
992.40	0.00
992.40	0.00
992.40	0.00
992.40	0.00
992.39	0.00
992.39	0.00
992.39	0.00
992.39	0.00
992.39	0.00
992.39	0.00
992.38	0.00
992.38	0.00
992.38	0.00
992.38	0.00
992.38	0.00
992.38	0.00
992.38	0.00
992.37	0.00
992.37	0.00
992.37	0.00
992.37	0.00
992.37	0.00
992.37	0.00
992.37	0.00
992.37	0.00
992.36	0.00
992.36	0.00
992.36	0.00
992.36	0.00
992.36	0.00
992.36	0.00
992.36	0.00
992.36	0.00
992.36	0.00
992.35	0.00
992.35	0.00
992.35	0.00
992.35	0.00
992.35	0.00
992.35	0.00

Scenario	Sim	Node Name	Relative Time [hrs]
lcpr3	002Yr24Hr-Post	Pond A	41.0091
lcpr3	002Yr24Hr-Post	Pond A	41.2591
lcpr3	002Yr24Hr-Post	Pond A	41.5091
lcpr3	002Yr24Hr-Post	Pond A	41.7591
lcpr3	002Yr24Hr-Post	Pond A	42.0091
lcpr3	002Yr24Hr-Post	Pond A	42.2591
lcpr3	002Yr24Hr-Post	Pond A	42.5091
lcpr3	002Yr24Hr-Post	Pond A	42.7591
lcpr3	002Yr24Hr-Post	Pond A	43.0091
lcpr3	002Yr24Hr-Post	Pond A	43.2591
lcpr3	002Yr24Hr-Post	Pond A	43.5091
lcpr3	002Yr24Hr-Post	Pond A	43.7591
lcpr3	002Yr24Hr-Post	Pond A	44.0091
lcpr3	002Yr24Hr-Post	Pond A	44.2591
lcpr3	002Yr24Hr-Post	Pond A	44.5091
lcpr3	002Yr24Hr-Post	Pond A	44.7591
lcpr3	002Yr24Hr-Post	Pond A	45.0091
lcpr3	002Yr24Hr-Post	Pond A	45.2591
lcpr3	002Yr24Hr-Post	Pond A	45.5091
lcpr3	002Yr24Hr-Post	Pond A	45.7591
lcpr3	002Yr24Hr-Post	Pond A	46.0091
lcpr3	002Yr24Hr-Post	Pond A	46.2591
lcpr3	002Yr24Hr-Post	Pond A	46.5091
lcpr3	002Yr24Hr-Post	Pond A	46.7591
lcpr3	002Yr24Hr-Post	Pond A	47.0091
lcpr3	002Yr24Hr-Post	Pond A	47.2591
lcpr3	002Yr24Hr-Post	Pond A	47.5091
lcpr3	002Yr24Hr-Post	Pond A	47.7591
lcpr3	002Yr24Hr-Post	Pond A	48.0091
lcpr3	002Yr24Hr-Post	Pond A	48.2591
lcpr3	002Yr24Hr-Post	Pond A	48.5091
lcpr3	002Yr24Hr-Post	Pond A	48.7591
lcpr3	002Yr24Hr-Post	Pond A	49.0091
lcpr3	002Yr24Hr-Post	Pond A	49.2591
lcpr3	002Yr24Hr-Post	Pond A	49.5091
lcpr3	002Yr24Hr-Post	Pond A	49.7591
lcpr3	002Yr24Hr-Post	Pond A	50.0091
lcpr3	002Yr24Hr-Post	Pond A	50.2591
lcpr3	002Yr24Hr-Post	Pond A	50.5091
lcpr3	002Yr24Hr-Post	Pond A	50.7591
lcpr3	002Yr24Hr-Post	Pond A	51.0091

Lees Summit Medical Center - MOB	3/21/2019 16:17
2019-03-21	
527116043	

Scenario	Sim	Node Name	Relative Time [hrs]
lcpr3	002Yr24Hr-Post	Pond A	51.2591
lcpr3	002Yr24Hr-Post	Pond A	51.5091
lcpr3	002Yr24Hr-Post	Pond A	51.7591
lcpr3	002Yr24Hr-Post	Pond A	52.0091
lcpr3	002Yr24Hr-Post	Pond A	52.2591
lcpr3	002Yr24Hr-Post	Pond A	52.5091
lcpr3	002Yr24Hr-Post	Pond A	52.7591
lcpr3	002Yr24Hr-Post	Pond A	53.0091
lcpr3	002Yr24Hr-Post	Pond A	53.2591
lcpr3	002Yr24Hr-Post	Pond A	53.5091
lcpr3	002Yr24Hr-Post	Pond A	53.7591
lcpr3	002Yr24Hr-Post	Pond A	54.0091
lcpr3	002Yr24Hr-Post	Pond A	54.2591
lcpr3	002Yr24Hr-Post	Pond A	54.5091
lcpr3	002Yr24Hr-Post	Pond A	54.7591
lcpr3	002Yr24Hr-Post	Pond A	55.0091
lcpr3	002Yr24Hr-Post	Pond A	55.2591
lcpr3	002Yr24Hr-Post	Pond A	55.5091
lcpr3	002Yr24Hr-Post	Pond A	55.7591
lcpr3	002Yr24Hr-Post	Pond A	56.0091
lcpr3	002Yr24Hr-Post	Pond A	56.2591
lcpr3	002Yr24Hr-Post	Pond A	56.5091
lcpr3	002Yr24Hr-Post	Pond A	56.7591
lcpr3	002Yr24Hr-Post	Pond A	57.0091
lcpr3	002Yr24Hr-Post	Pond A	57.2591
lcpr3	002Yr24Hr-Post	Pond A	57.5091
lcpr3	002Yr24Hr-Post	Pond A	57.7591
lcpr3	002Yr24Hr-Post	Pond A	58.0091
lcpr3	002Yr24Hr-Post	Pond A	58.2591
lcpr3	002Yr24Hr-Post	Pond A	58.5091
lcpr3	002Yr24Hr-Post	Pond A	58.7591
lcpr3	002Yr24Hr-Post	Pond A	59.0091
lcpr3	002Yr24Hr-Post	Pond A	59.2591
lcpr3	002Yr24Hr-Post	Pond A	59.5091
lcpr3	002Yr24Hr-Post	Pond A	59.7591
lcpr3	010Yr24Hr-Post	Pond A	0.0000
lcpr3	010Yr24Hr-Post	Pond A	0.2511
lcpr3	010Yr24Hr-Post	Pond A	0.5050
lcpr3	010Yr24Hr-Post	Pond A	0.7556
lcpr3	010Yr24Hr-Post	Pond A	1.0021
lcpr3	010Yr24Hr-Post	Pond A	1.2534

[illegible]

Scenario	Sim	Node Name	Relative Time [hrs]
lcpr3	010Yr24Hr-Post	Pond A	1.5021
lcpr3	010Yr24Hr-Post	Pond A	1.7501
lcpr3	010Yr24Hr-Post	Pond A	2.0032
lcpr3	010Yr24Hr-Post	Pond A	2.2535
lcpr3	010Yr24Hr-Post	Pond A	2.5025
lcpr3	010Yr24Hr-Post	Pond A	2.7507
lcpr3	010Yr24Hr-Post	Pond A	3.0016
lcpr3	010Yr24Hr-Post	Pond A	3.2511
lcpr3	010Yr24Hr-Post	Pond A	3.5011
lcpr3	010Yr24Hr-Post	Pond A	3.7524
lcpr3	010Yr24Hr-Post	Pond A	4.0029
lcpr3	010Yr24Hr-Post	Pond A	4.2527
lcpr3	010Yr24Hr-Post	Pond A	4.5015
lcpr3	010Yr24Hr-Post	Pond A	4.7527
lcpr3	010Yr24Hr-Post	Pond A	5.0019
lcpr3	010Yr24Hr-Post	Pond A	5.2515
lcpr3	010Yr24Hr-Post	Pond A	5.5025
lcpr3	010Yr24Hr-Post	Pond A	5.7511
lcpr3	010Yr24Hr-Post	Pond A	6.0023
lcpr3	010Yr24Hr-Post	Pond A	6.2505
lcpr3	010Yr24Hr-Post	Pond A	6.5017
lcpr3	010Yr24Hr-Post	Pond A	6.7502
lcpr3	010Yr24Hr-Post	Pond A	7.0011
lcpr3	010Yr24Hr-Post	Pond A	7.2508
lcpr3	010Yr24Hr-Post	Pond A	7.5015
lcpr3	010Yr24Hr-Post	Pond A	7.7507
lcpr3	010Yr24Hr-Post	Pond A	8.0033
lcpr3	010Yr24Hr-Post	Pond A	8.2527
lcpr3	010Yr24Hr-Post	Pond A	8.5013
lcpr3	010Yr24Hr-Post	Pond A	8.7566
lcpr3	010Yr24Hr-Post	Pond A	9.0037
lcpr3	010Yr24Hr-Post	Pond A	9.2528
lcpr3	010Yr24Hr-Post	Pond A	9.5077
lcpr3	010Yr24Hr-Post	Pond A	9.7558
lcpr3	010Yr24Hr-Post	Pond A	10.0036
lcpr3	010Yr24Hr-Post	Pond A	10.2537
lcpr3	010Yr24Hr-Post	Pond A	10.5054
lcpr3	010Yr24Hr-Post	Pond A	10.7500
lcpr3	010Yr24Hr-Post	Pond A	11.0009
lcpr3	010Yr24Hr-Post	Pond A	11.2525
lcpr3	010Yr24Hr-Post	Pond A	11.5006

Stage [ft]	Total Inflow Rate [cfs]
991.09	0.00
991.15	0.00
991.21	0.00
991.28	0.00
991.34	0.00
991.40	0.00
991.46	0.00
991.53	0.00
991.59	0.00
991.65	0.00
991.71	0.00
991.78	0.00
991.85	0.00
991.92	0.00
991.99	0.00
992.05	0.00
992.12	0.00
992.18	0.00
992.25	0.00
992.32	0.00
992.40	0.00
992.47	0.00
992.54	0.00
992.62	0.00
992.69	0.00
992.77	0.00
992.79	0.00
992.81	0.00
992.84	0.00
992.87	0.00
992.89	0.00
992.92	0.00
992.94	0.00
992.97	0.00
992.99	0.00
993.02	0.00
993.06	0.00
993.12	0.00
993.21	0.00
993.30	0.00
993.42	0.00

Scenario	Sim	Node Name	Relative Time [hrs]
lcpr3	010Yr24Hr-Post	Pond A	11.7502
lcpr3	010Yr24Hr-Post	Pond A	12.0000
lcpr3	010Yr24Hr-Post	Pond A	12.2504
lcpr3	010Yr24Hr-Post	Pond A	12.5004
lcpr3	010Yr24Hr-Post	Pond A	12.7502
lcpr3	010Yr24Hr-Post	Pond A	13.0003
lcpr3	010Yr24Hr-Post	Pond A	13.2500
lcpr3	010Yr24Hr-Post	Pond A	13.5004
lcpr3	010Yr24Hr-Post	Pond A	13.7501
lcpr3	010Yr24Hr-Post	Pond A	14.0001
lcpr3	010Yr24Hr-Post	Pond A	14.2505
lcpr3	010Yr24Hr-Post	Pond A	14.5002
lcpr3	010Yr24Hr-Post	Pond A	14.7504
lcpr3	010Yr24Hr-Post	Pond A	15.0012
lcpr3	010Yr24Hr-Post	Pond A	15.2516
lcpr3	010Yr24Hr-Post	Pond A	15.5012
lcpr3	010Yr24Hr-Post	Pond A	15.7527
lcpr3	010Yr24Hr-Post	Pond A	16.0046
lcpr3	010Yr24Hr-Post	Pond A	16.2533
lcpr3	010Yr24Hr-Post	Pond A	16.5080
lcpr3	010Yr24Hr-Post	Pond A	16.7534
lcpr3	010Yr24Hr-Post	Pond A	17.0028
lcpr3	010Yr24Hr-Post	Pond A	17.2545
lcpr3	010Yr24Hr-Post	Pond A	17.5048
lcpr3	010Yr24Hr-Post	Pond A	17.7581
lcpr3	010Yr24Hr-Post	Pond A	18.0042
lcpr3	010Yr24Hr-Post	Pond A	18.2599
lcpr3	010Yr24Hr-Post	Pond A	18.5103
lcpr3	010Yr24Hr-Post	Pond A	18.7510
lcpr3	010Yr24Hr-Post	Pond A	19.0001
lcpr3	010Yr24Hr-Post	Pond A	19.2501
lcpr3	010Yr24Hr-Post	Pond A	19.5001
lcpr3	010Yr24Hr-Post	Pond A	19.7501
lcpr3	010Yr24Hr-Post	Pond A	20.0001
lcpr3	010Yr24Hr-Post	Pond A	20.2601
lcpr3	010Yr24Hr-Post	Pond A	20.5001
lcpr3	010Yr24Hr-Post	Pond A	20.7501
lcpr3	010Yr24Hr-Post	Pond A	21.0001
lcpr3	010Yr24Hr-Post	Pond A	21.2501
lcpr3	010Yr24Hr-Post	Pond A	21.5001
lcpr3	010Yr24Hr-Post	Pond A	21.7501

Stage [ft]	Total Inflow Rate [cfs]
993.99	0.00
995.86	0.00
997.16	0.00
996.87	0.00
996.44	0.00
995.99	0.00
995.54	0.00
995.12	0.00
994.72	0.00
994.36	0.00
994.05	0.00
993.78	0.00
993.58	0.00
993.43	0.00
993.31	0.00
993.22	0.00
993.15	0.00
993.09	0.00
993.05	0.00
993.02	0.00
993.00	0.00
992.97	0.00
992.95	0.00
992.93	0.00
992.92	0.00
992.90	0.00
992.88	0.00
992.87	0.00
992.85	0.00
992.84	0.00
992.84	0.00
992.83	0.00
992.83	0.00
992.82	0.00
992.80	0.00
992.79	0.00
992.78	0.00
992.77	0.00
992.77	0.00
992.76	0.00
992.76	0.00

Scenario	Sim	Node Name	Relative Time [hrs]
lcpr3	010Yr24Hr-Post	Pond A	22.0001
lcpr3	010Yr24Hr-Post	Pond A	22.2501
lcpr3	010Yr24Hr-Post	Pond A	22.5001
lcpr3	010Yr24Hr-Post	Pond A	22.7501
lcpr3	010Yr24Hr-Post	Pond A	23.0001
lcpr3	010Yr24Hr-Post	Pond A	23.2501
lcpr3	010Yr24Hr-Post	Pond A	23.5001
lcpr3	010Yr24Hr-Post	Pond A	23.7501
lcpr3	010Yr24Hr-Post	Pond A	24.0001
lcpr3	010Yr24Hr-Post	Pond A	24.2514
lcpr3	010Yr24Hr-Post	Pond A	24.5057
lcpr3	010Yr24Hr-Post	Pond A	24.7534
lcpr3	010Yr24Hr-Post	Pond A	25.0091
lcpr3	010Yr24Hr-Post	Pond A	25.2506
lcpr3	010Yr24Hr-Post	Pond A	25.5050
lcpr3	010Yr24Hr-Post	Pond A	25.7550
lcpr3	010Yr24Hr-Post	Pond A	26.0064
lcpr3	010Yr24Hr-Post	Pond A	26.2564
lcpr3	010Yr24Hr-Post	Pond A	26.5064
lcpr3	010Yr24Hr-Post	Pond A	26.7564
lcpr3	010Yr24Hr-Post	Pond A	27.0064
lcpr3	010Yr24Hr-Post	Pond A	27.2564
lcpr3	010Yr24Hr-Post	Pond A	27.5064
lcpr3	010Yr24Hr-Post	Pond A	27.7564
lcpr3	010Yr24Hr-Post	Pond A	28.0064
lcpr3	010Yr24Hr-Post	Pond A	28.2564
lcpr3	010Yr24Hr-Post	Pond A	28.5064
lcpr3	010Yr24Hr-Post	Pond A	28.7564
lcpr3	010Yr24Hr-Post	Pond A	29.0064
lcpr3	010Yr24Hr-Post	Pond A	29.2564
lcpr3	010Yr24Hr-Post	Pond A	29.5064
lcpr3	010Yr24Hr-Post	Pond A	29.7564
lcpr3	010Yr24Hr-Post	Pond A	30.0064
lcpr3	010Yr24Hr-Post	Pond A	30.2564
lcpr3	010Yr24Hr-Post	Pond A	30.5064
lcpr3	010Yr24Hr-Post	Pond A	30.7564
lcpr3	010Yr24Hr-Post	Pond A	31.0064
lcpr3	010Yr24Hr-Post	Pond A	31.2564
lcpr3	010Yr24Hr-Post	Pond A	31.5064
lcpr3	010Yr24Hr-Post	Pond A	31.7564
lcpr3	010Yr24Hr-Post	Pond A	32.0064

Stage [ft]	Total Inflow Rate [cfs]
992.75	0.00
992.75	0.00
992.75	0.00
992.74	0.00
992.75	0.00
992.74	0.00
992.74	0.00
992.74	0.00
992.73	0.00
992.71	0.00
992.67	0.00
992.64	0.00
992.61	0.00
992.59	0.00
992.56	0.00
992.55	0.00
992.53	0.00
992.52	0.00
992.51	0.00
992.49	0.00
992.48	0.00
992.48	0.00
992.47	0.00
992.46	0.00
992.45	0.00
992.45	0.00
992.44	0.00
992.44	0.00
992.43	0.00
992.43	0.00
992.42	0.00
992.42	0.00
992.42	0.00
992.41	0.00
992.41	0.00
992.41	0.00
992.41	0.00
992.41	0.00
992.41	0.00
992.41	0.00
992.41	0.00
992.40	0.00
992.40	0.00
992.40	0.00

Scenario	Sim	Node Name	Relative Time [hrs]
lcpr3	010Yr24Hr-Post	Pond A	32.2564
lcpr3	010Yr24Hr-Post	Pond A	32.5064
lcpr3	010Yr24Hr-Post	Pond A	32.7564
lcpr3	010Yr24Hr-Post	Pond A	33.0064
lcpr3	010Yr24Hr-Post	Pond A	33.2564
lcpr3	010Yr24Hr-Post	Pond A	33.5064
lcpr3	010Yr24Hr-Post	Pond A	33.7564
lcpr3	010Yr24Hr-Post	Pond A	34.0064
lcpr3	010Yr24Hr-Post	Pond A	34.2564
lcpr3	010Yr24Hr-Post	Pond A	34.5064
lcpr3	010Yr24Hr-Post	Pond A	34.7564
lcpr3	010Yr24Hr-Post	Pond A	35.0064
lcpr3	010Yr24Hr-Post	Pond A	35.2564
lcpr3	010Yr24Hr-Post	Pond A	35.5064
lcpr3	010Yr24Hr-Post	Pond A	35.7564
lcpr3	010Yr24Hr-Post	Pond A	36.0064
lcpr3	010Yr24Hr-Post	Pond A	36.2564
lcpr3	010Yr24Hr-Post	Pond A	36.5064
lcpr3	010Yr24Hr-Post	Pond A	36.7564
lcpr3	010Yr24Hr-Post	Pond A	37.0064
lcpr3	010Yr24Hr-Post	Pond A	37.2564
lcpr3	010Yr24Hr-Post	Pond A	37.5064
lcpr3	010Yr24Hr-Post	Pond A	37.7564
lcpr3	010Yr24Hr-Post	Pond A	38.0064
lcpr3	010Yr24Hr-Post	Pond A	38.2564
lcpr3	010Yr24Hr-Post	Pond A	38.5064
lcpr3	010Yr24Hr-Post	Pond A	38.7564
lcpr3	010Yr24Hr-Post	Pond A	39.0064
lcpr3	010Yr24Hr-Post	Pond A	39.2564
lcpr3	010Yr24Hr-Post	Pond A	39.5064
lcpr3	010Yr24Hr-Post	Pond A	39.7564
lcpr3	010Yr24Hr-Post	Pond A	40.0064
lcpr3	010Yr24Hr-Post	Pond A	40.2564
lcpr3	010Yr24Hr-Post	Pond A	40.5064
lcpr3	010Yr24Hr-Post	Pond A	40.7564
lcpr3	010Yr24Hr-Post	Pond A	41.0064
lcpr3	010Yr24Hr-Post	Pond A	41.2564
lcpr3	010Yr24Hr-Post	Pond A	41.5064
lcpr3	010Yr24Hr-Post	Pond A	41.7564
lcpr3	010Yr24Hr-Post	Pond A	42.0064
lcpr3	010Yr24Hr-Post	Pond A	42.2564

Stage [ft]	Total Inflow Rate [cfs]
992.40	0.00
992.40	0.00
992.40	0.00
992.39	0.00
992.39	0.00
992.39	0.00
992.39	0.00
992.39	0.00
992.39	0.00
992.39	0.00
992.38	0.00
992.38	0.00
992.38	0.00
992.38	0.00
992.38	0.00
992.38	0.00
992.38	0.00
992.38	0.00
992.38	0.00
992.37	0.00
992.37	0.00
992.37	0.00
992.37	0.00
992.37	0.00
992.37	0.00
992.37	0.00
992.37	0.00
992.37	0.00
992.37	0.00
992.36	0.00
992.36	0.00
992.36	0.00
992.36	0.00
992.36	0.00
992.36	0.00
992.36	0.00
992.36	0.00
992.36	0.00
992.36	0.00
992.36	0.00
992.36	0.00
992.36	0.00
992.36	0.00
992.35	0.00
992.35	0.00
992.35	0.00
992.35	0.00
992.35	0.00
992.35	0.00
992.35	0.00
992.35	0.00
992.35	0.00
992.35	0.00
992.35	0.00
992.35	0.00

Scenario	Sim	Node Name	Relative Time [hrs]
lcpr3	010Yr24Hr-Post	Pond A	42.5064
lcpr3	010Yr24Hr-Post	Pond A	42.7564
lcpr3	010Yr24Hr-Post	Pond A	43.0064
lcpr3	010Yr24Hr-Post	Pond A	43.2564
lcpr3	010Yr24Hr-Post	Pond A	43.5064
lcpr3	010Yr24Hr-Post	Pond A	43.7564
lcpr3	010Yr24Hr-Post	Pond A	44.0064
lcpr3	010Yr24Hr-Post	Pond A	44.2564
lcpr3	010Yr24Hr-Post	Pond A	44.5064
lcpr3	010Yr24Hr-Post	Pond A	44.7564
lcpr3	010Yr24Hr-Post	Pond A	45.0064
lcpr3	010Yr24Hr-Post	Pond A	45.2564
lcpr3	010Yr24Hr-Post	Pond A	45.5064
lcpr3	010Yr24Hr-Post	Pond A	45.7564
lcpr3	010Yr24Hr-Post	Pond A	46.0064
lcpr3	010Yr24Hr-Post	Pond A	46.2564
lcpr3	010Yr24Hr-Post	Pond A	46.5064
lcpr3	010Yr24Hr-Post	Pond A	46.7564
lcpr3	010Yr24Hr-Post	Pond A	47.0064
lcpr3	010Yr24Hr-Post	Pond A	47.2564
lcpr3	010Yr24Hr-Post	Pond A	47.5064
lcpr3	010Yr24Hr-Post	Pond A	47.7564
lcpr3	010Yr24Hr-Post	Pond A	48.0064
lcpr3	010Yr24Hr-Post	Pond A	48.2564
lcpr3	010Yr24Hr-Post	Pond A	48.5064
lcpr3	010Yr24Hr-Post	Pond A	48.7564
lcpr3	010Yr24Hr-Post	Pond A	49.0064
lcpr3	010Yr24Hr-Post	Pond A	49.2564
lcpr3	010Yr24Hr-Post	Pond A	49.5064
lcpr3	010Yr24Hr-Post	Pond A	49.7564
lcpr3	010Yr24Hr-Post	Pond A	50.0064
lcpr3	010Yr24Hr-Post	Pond A	50.2564
lcpr3	010Yr24Hr-Post	Pond A	50.5064
lcpr3	010Yr24Hr-Post	Pond A	50.7564
lcpr3	010Yr24Hr-Post	Pond A	51.0064
lcpr3	010Yr24Hr-Post	Pond A	51.2564
lcpr3	010Yr24Hr-Post	Pond A	51.5064
lcpr3	010Yr24Hr-Post	Pond A	51.7564
lcpr3	010Yr24Hr-Post	Pond A	52.0064
lcpr3	010Yr24Hr-Post	Pond A	52.2564
lcpr3	010Yr24Hr-Post	Pond A	52.5064

[illegible]

Scenario	Sim	Node Name	Relative Time [hrs]
lcpr3	010Yr24Hr-Post	Pond A	52.7564
lcpr3	010Yr24Hr-Post	Pond A	53.0064
lcpr3	010Yr24Hr-Post	Pond A	53.2564
lcpr3	010Yr24Hr-Post	Pond A	53.5064
lcpr3	010Yr24Hr-Post	Pond A	53.7564
lcpr3	010Yr24Hr-Post	Pond A	54.0064
lcpr3	010Yr24Hr-Post	Pond A	54.2564
lcpr3	010Yr24Hr-Post	Pond A	54.5064
lcpr3	010Yr24Hr-Post	Pond A	54.7564
lcpr3	010Yr24Hr-Post	Pond A	55.0064
lcpr3	010Yr24Hr-Post	Pond A	55.2564
lcpr3	010Yr24Hr-Post	Pond A	55.5064
lcpr3	010Yr24Hr-Post	Pond A	55.7564
lcpr3	010Yr24Hr-Post	Pond A	56.0064
lcpr3	010Yr24Hr-Post	Pond A	56.2564
lcpr3	010Yr24Hr-Post	Pond A	56.5064
lcpr3	010Yr24Hr-Post	Pond A	56.7564
lcpr3	010Yr24Hr-Post	Pond A	57.0064
lcpr3	010Yr24Hr-Post	Pond A	57.2564
lcpr3	010Yr24Hr-Post	Pond A	57.5064
lcpr3	010Yr24Hr-Post	Pond A	57.7564
lcpr3	010Yr24Hr-Post	Pond A	58.0064
lcpr3	010Yr24Hr-Post	Pond A	58.2564
lcpr3	010Yr24Hr-Post	Pond A	58.5064
lcpr3	010Yr24Hr-Post	Pond A	58.7564
lcpr3	010Yr24Hr-Post	Pond A	59.0064
lcpr3	010Yr24Hr-Post	Pond A	59.2564
lcpr3	010Yr24Hr-Post	Pond A	59.5064
lcpr3	010Yr24Hr-Post	Pond A	59.7564
lcpr3	100Yr24Hr-Post	Pond A	0.0000
lcpr3	100Yr24Hr-Post	Pond A	0.2511
lcpr3	100Yr24Hr-Post	Pond A	0.5050
lcpr3	100Yr24Hr-Post	Pond A	0.7534
lcpr3	100Yr24Hr-Post	Pond A	1.0014
lcpr3	100Yr24Hr-Post	Pond A	1.2506
lcpr3	100Yr24Hr-Post	Pond A	1.5006
lcpr3	100Yr24Hr-Post	Pond A	1.7516
lcpr3	100Yr24Hr-Post	Pond A	2.0009
lcpr3	100Yr24Hr-Post	Pond A	2.2506
lcpr3	100Yr24Hr-Post	Pond A	2.5004
lcpr3	100Yr24Hr-Post	Pond A	2.7517

[illegible]

Scenario	Sim	Node Name	Relative Time [hrs]
lcpr3	100Yr24Hr-Post	Pond A	3.0019
lcpr3	100Yr24Hr-Post	Pond A	3.2521
lcpr3	100Yr24Hr-Post	Pond A	3.5025
lcpr3	100Yr24Hr-Post	Pond A	3.7524
lcpr3	100Yr24Hr-Post	Pond A	4.0006
lcpr3	100Yr24Hr-Post	Pond A	4.2521
lcpr3	100Yr24Hr-Post	Pond A	4.5004
lcpr3	100Yr24Hr-Post	Pond A	4.7510
lcpr3	100Yr24Hr-Post	Pond A	5.0017
lcpr3	100Yr24Hr-Post	Pond A	5.2521
lcpr3	100Yr24Hr-Post	Pond A	5.5018
lcpr3	100Yr24Hr-Post	Pond A	5.7557
lcpr3	100Yr24Hr-Post	Pond A	6.0072
lcpr3	100Yr24Hr-Post	Pond A	6.2516
lcpr3	100Yr24Hr-Post	Pond A	6.5008
lcpr3	100Yr24Hr-Post	Pond A	6.7548
lcpr3	100Yr24Hr-Post	Pond A	7.0031
lcpr3	100Yr24Hr-Post	Pond A	7.2557
lcpr3	100Yr24Hr-Post	Pond A	7.5088
lcpr3	100Yr24Hr-Post	Pond A	7.7563
lcpr3	100Yr24Hr-Post	Pond A	8.0046
lcpr3	100Yr24Hr-Post	Pond A	8.2502
lcpr3	100Yr24Hr-Post	Pond A	8.5034
lcpr3	100Yr24Hr-Post	Pond A	8.7547
lcpr3	100Yr24Hr-Post	Pond A	9.0008
lcpr3	100Yr24Hr-Post	Pond A	9.2526
lcpr3	100Yr24Hr-Post	Pond A	9.5062
lcpr3	100Yr24Hr-Post	Pond A	9.7532
lcpr3	100Yr24Hr-Post	Pond A	10.0029
lcpr3	100Yr24Hr-Post	Pond A	10.2501
lcpr3	100Yr24Hr-Post	Pond A	10.5025
lcpr3	100Yr24Hr-Post	Pond A	10.7510
lcpr3	100Yr24Hr-Post	Pond A	11.0007
lcpr3	100Yr24Hr-Post	Pond A	11.2506
lcpr3	100Yr24Hr-Post	Pond A	11.5009
lcpr3	100Yr24Hr-Post	Pond A	11.7500
lcpr3	100Yr24Hr-Post	Pond A	12.0000
lcpr3	100Yr24Hr-Post	Pond A	12.2503
lcpr3	100Yr24Hr-Post	Pond A	12.5003
lcpr3	100Yr24Hr-Post	Pond A	12.7503
lcpr3	100Yr24Hr-Post	Pond A	13.0003

Stage [ft]	Total Inflow Rate [cfs]
991.87	0.00
991.95	0.00
992.03	0.00
992.11	0.00
992.20	0.00
992.30	0.00
992.40	0.00
992.50	0.00
992.60	0.00
992.70	0.00
992.79	0.00
992.82	0.00
992.85	0.00
992.88	0.00
992.92	0.00
992.94	0.00
992.96	0.00
992.98	0.00
992.99	0.00
993.00	0.00
993.01	0.00
993.03	0.00
993.06	0.00
993.09	0.00
993.12	0.00
993.16	0.00
993.19	0.00
993.22	0.00
993.25	0.00
993.29	0.00
993.34	0.00
993.43	0.00
993.57	0.00
993.72	0.00
993.90	0.00
994.83	0.00
997.84	0.00
999.61	0.00
999.02	0.00
998.31	0.00
997.70	0.00

Scenario	Sim	Node Name	Relative Time [hrs]
lcpr3	100Yr24Hr-Post	Pond A	13.2504
lcpr3	100Yr24Hr-Post	Pond A	13.5000
lcpr3	100Yr24Hr-Post	Pond A	13.7503
lcpr3	100Yr24Hr-Post	Pond A	14.0000
lcpr3	100Yr24Hr-Post	Pond A	14.2501
lcpr3	100Yr24Hr-Post	Pond A	14.5004
lcpr3	100Yr24Hr-Post	Pond A	14.7502
lcpr3	100Yr24Hr-Post	Pond A	15.0005
lcpr3	100Yr24Hr-Post	Pond A	15.2502
lcpr3	100Yr24Hr-Post	Pond A	15.5010
lcpr3	100Yr24Hr-Post	Pond A	15.7513
lcpr3	100Yr24Hr-Post	Pond A	16.0005
lcpr3	100Yr24Hr-Post	Pond A	16.2530
lcpr3	100Yr24Hr-Post	Pond A	16.5024
lcpr3	100Yr24Hr-Post	Pond A	16.7520
lcpr3	100Yr24Hr-Post	Pond A	17.0052
lcpr3	100Yr24Hr-Post	Pond A	17.2552
lcpr3	100Yr24Hr-Post	Pond A	17.5039
lcpr3	100Yr24Hr-Post	Pond A	17.7518
lcpr3	100Yr24Hr-Post	Pond A	18.0036
lcpr3	100Yr24Hr-Post	Pond A	18.2508
lcpr3	100Yr24Hr-Post	Pond A	18.5019
lcpr3	100Yr24Hr-Post	Pond A	18.7509
lcpr3	100Yr24Hr-Post	Pond A	19.0113
lcpr3	100Yr24Hr-Post	Pond A	19.2551
lcpr3	100Yr24Hr-Post	Pond A	19.5051
lcpr3	100Yr24Hr-Post	Pond A	19.7551
lcpr3	100Yr24Hr-Post	Pond A	20.0058
lcpr3	100Yr24Hr-Post	Pond A	20.2503
lcpr3	100Yr24Hr-Post	Pond A	20.5112
lcpr3	100Yr24Hr-Post	Pond A	20.7611
lcpr3	100Yr24Hr-Post	Pond A	21.0045
lcpr3	100Yr24Hr-Post	Pond A	21.2545
lcpr3	100Yr24Hr-Post	Pond A	21.5045
lcpr3	100Yr24Hr-Post	Pond A	21.7545
lcpr3	100Yr24Hr-Post	Pond A	22.0045
lcpr3	100Yr24Hr-Post	Pond A	22.2545
lcpr3	100Yr24Hr-Post	Pond A	22.5045
lcpr3	100Yr24Hr-Post	Pond A	22.7545
lcpr3	100Yr24Hr-Post	Pond A	23.0045
lcpr3	100Yr24Hr-Post	Pond A	23.2545

Stage [ft]	Total Inflow Rate [cfs]
997.18	0.00
996.69	0.00
996.21	0.00
995.75	0.00
995.32	0.00
994.92	0.00
994.55	0.00
994.23	0.00
993.97	0.00
993.75	0.00
993.59	0.00
993.47	0.00
993.37	0.00
993.31	0.00
993.25	0.00
993.20	0.00
993.16	0.00
993.13	0.00
993.11	0.00
993.08	0.00
993.06	0.00
993.03	0.00
993.02	0.00
993.00	0.00
992.99	0.00
992.98	0.00
992.98	0.00
992.97	0.00
992.95	0.00
992.93	0.00
992.91	0.00
992.90	0.00
992.90	0.00
992.89	0.00
992.89	0.00
992.88	0.00
992.88	0.00
992.88	0.00
992.87	0.00
992.88	0.00
992.87	0.00

Scenario	Sim	Node Name	Relative Time [hrs]
lcpr3	100Yr24Hr-Post	Pond A	23.5045
lcpr3	100Yr24Hr-Post	Pond A	23.7545
lcpr3	100Yr24Hr-Post	Pond A	24.0058
lcpr3	100Yr24Hr-Post	Pond A	24.2511
lcpr3	100Yr24Hr-Post	Pond A	24.5017
lcpr3	100Yr24Hr-Post	Pond A	24.7542
lcpr3	100Yr24Hr-Post	Pond A	25.0041
lcpr3	100Yr24Hr-Post	Pond A	25.2541
lcpr3	100Yr24Hr-Post	Pond A	25.5007
lcpr3	100Yr24Hr-Post	Pond A	25.7524
lcpr3	100Yr24Hr-Post	Pond A	26.0014
lcpr3	100Yr24Hr-Post	Pond A	26.2502
lcpr3	100Yr24Hr-Post	Pond A	26.5006
lcpr3	100Yr24Hr-Post	Pond A	26.7619
lcpr3	100Yr24Hr-Post	Pond A	27.0119
lcpr3	100Yr24Hr-Post	Pond A	27.2619
lcpr3	100Yr24Hr-Post	Pond A	27.5119
lcpr3	100Yr24Hr-Post	Pond A	27.7619
lcpr3	100Yr24Hr-Post	Pond A	28.0119
lcpr3	100Yr24Hr-Post	Pond A	28.2619
lcpr3	100Yr24Hr-Post	Pond A	28.5119
lcpr3	100Yr24Hr-Post	Pond A	28.7619
lcpr3	100Yr24Hr-Post	Pond A	29.0119
lcpr3	100Yr24Hr-Post	Pond A	29.2619
lcpr3	100Yr24Hr-Post	Pond A	29.5119
lcpr3	100Yr24Hr-Post	Pond A	29.7619
lcpr3	100Yr24Hr-Post	Pond A	30.0119
lcpr3	100Yr24Hr-Post	Pond A	30.2619
lcpr3	100Yr24Hr-Post	Pond A	30.5119
lcpr3	100Yr24Hr-Post	Pond A	30.7619
lcpr3	100Yr24Hr-Post	Pond A	31.0119
lcpr3	100Yr24Hr-Post	Pond A	31.2619
lcpr3	100Yr24Hr-Post	Pond A	31.5119
lcpr3	100Yr24Hr-Post	Pond A	31.7619
lcpr3	100Yr24Hr-Post	Pond A	32.0119
lcpr3	100Yr24Hr-Post	Pond A	32.2619
lcpr3	100Yr24Hr-Post	Pond A	32.5119
lcpr3	100Yr24Hr-Post	Pond A	32.7619
lcpr3	100Yr24Hr-Post	Pond A	33.0119
lcpr3	100Yr24Hr-Post	Pond A	33.2619
lcpr3	100Yr24Hr-Post	Pond A	33.5119

Stage [ft]	Total Inflow Rate [cfs]
992.87	0.00
992.87	0.00
992.86	0.00
992.82	0.00
992.76	0.00
992.71	0.00
992.67	0.00
992.64	0.00
992.61	0.00
992.59	0.00
992.57	0.00
992.55	0.00
992.53	0.00
992.52	0.00
992.51	0.00
992.50	0.00
992.49	0.00
992.48	0.00
992.47	0.00
992.46	0.00
992.45	0.00
992.45	0.00
992.44	0.00
992.44	0.00
992.43	0.00
992.43	0.00
992.42	0.00
992.42	0.00
992.42	0.00
992.41	0.00
992.41	0.00
992.41	0.00
992.41	0.00
992.41	0.00
992.41	0.00
992.40	0.00
992.40	0.00
992.40	0.00
992.40	0.00
992.40	0.00
992.40	0.00
992.40	0.00
992.39	0.00

Scenario	Sim	Node Name	Relative Time [hrs]
lcpr3	100Yr24Hr-Post	Pond A	33.7619
lcpr3	100Yr24Hr-Post	Pond A	34.0119
lcpr3	100Yr24Hr-Post	Pond A	34.2619
lcpr3	100Yr24Hr-Post	Pond A	34.5119
lcpr3	100Yr24Hr-Post	Pond A	34.7619
lcpr3	100Yr24Hr-Post	Pond A	35.0119
lcpr3	100Yr24Hr-Post	Pond A	35.2619
lcpr3	100Yr24Hr-Post	Pond A	35.5119
lcpr3	100Yr24Hr-Post	Pond A	35.7619
lcpr3	100Yr24Hr-Post	Pond A	36.0119
lcpr3	100Yr24Hr-Post	Pond A	36.2619
lcpr3	100Yr24Hr-Post	Pond A	36.5119
lcpr3	100Yr24Hr-Post	Pond A	36.7619
lcpr3	100Yr24Hr-Post	Pond A	37.0119
lcpr3	100Yr24Hr-Post	Pond A	37.2619
lcpr3	100Yr24Hr-Post	Pond A	37.5119
lcpr3	100Yr24Hr-Post	Pond A	37.7619
lcpr3	100Yr24Hr-Post	Pond A	38.0119
lcpr3	100Yr24Hr-Post	Pond A	38.2619
lcpr3	100Yr24Hr-Post	Pond A	38.5119
lcpr3	100Yr24Hr-Post	Pond A	38.7619
lcpr3	100Yr24Hr-Post	Pond A	39.0119
lcpr3	100Yr24Hr-Post	Pond A	39.2619
lcpr3	100Yr24Hr-Post	Pond A	39.5119
lcpr3	100Yr24Hr-Post	Pond A	39.7619
lcpr3	100Yr24Hr-Post	Pond A	40.0119
lcpr3	100Yr24Hr-Post	Pond A	40.2619
lcpr3	100Yr24Hr-Post	Pond A	40.5119
lcpr3	100Yr24Hr-Post	Pond A	40.7619
lcpr3	100Yr24Hr-Post	Pond A	41.0119
lcpr3	100Yr24Hr-Post	Pond A	41.2619
lcpr3	100Yr24Hr-Post	Pond A	41.5119
lcpr3	100Yr24Hr-Post	Pond A	41.7619
lcpr3	100Yr24Hr-Post	Pond A	42.0119
lcpr3	100Yr24Hr-Post	Pond A	42.2619
lcpr3	100Yr24Hr-Post	Pond A	42.5119
lcpr3	100Yr24Hr-Post	Pond A	42.7619
lcpr3	100Yr24Hr-Post	Pond A	43.0119
lcpr3	100Yr24Hr-Post	Pond A	43.2619
lcpr3	100Yr24Hr-Post	Pond A	43.5119
lcpr3	100Yr24Hr-Post	Pond A	43.7619

[illegible]

Scenario	Sim	Node Name	Relative Time [hrs]
lcpr3	100Yr24Hr-Post	Pond A	44.0119
lcpr3	100Yr24Hr-Post	Pond A	44.2619
lcpr3	100Yr24Hr-Post	Pond A	44.5119
lcpr3	100Yr24Hr-Post	Pond A	44.7619
lcpr3	100Yr24Hr-Post	Pond A	45.0119
lcpr3	100Yr24Hr-Post	Pond A	45.2619
lcpr3	100Yr24Hr-Post	Pond A	45.5119
lcpr3	100Yr24Hr-Post	Pond A	45.7619
lcpr3	100Yr24Hr-Post	Pond A	46.0119
lcpr3	100Yr24Hr-Post	Pond A	46.2619
lcpr3	100Yr24Hr-Post	Pond A	46.5119
lcpr3	100Yr24Hr-Post	Pond A	46.7619
lcpr3	100Yr24Hr-Post	Pond A	47.0119
lcpr3	100Yr24Hr-Post	Pond A	47.2619
lcpr3	100Yr24Hr-Post	Pond A	47.5119
lcpr3	100Yr24Hr-Post	Pond A	47.7619
lcpr3	100Yr24Hr-Post	Pond A	48.0119
lcpr3	100Yr24Hr-Post	Pond A	48.2619
lcpr3	100Yr24Hr-Post	Pond A	48.5119
lcpr3	100Yr24Hr-Post	Pond A	48.7619
lcpr3	100Yr24Hr-Post	Pond A	49.0119
lcpr3	100Yr24Hr-Post	Pond A	49.2619
lcpr3	100Yr24Hr-Post	Pond A	49.5119
lcpr3	100Yr24Hr-Post	Pond A	49.7619
lcpr3	100Yr24Hr-Post	Pond A	50.0119
lcpr3	100Yr24Hr-Post	Pond A	50.2619
lcpr3	100Yr24Hr-Post	Pond A	50.5119
lcpr3	100Yr24Hr-Post	Pond A	50.7619
lcpr3	100Yr24Hr-Post	Pond A	51.0119
lcpr3	100Yr24Hr-Post	Pond A	51.2619
lcpr3	100Yr24Hr-Post	Pond A	51.5119
lcpr3	100Yr24Hr-Post	Pond A	51.7619
lcpr3	100Yr24Hr-Post	Pond A	52.0119
lcpr3	100Yr24Hr-Post	Pond A	52.2619
lcpr3	100Yr24Hr-Post	Pond A	52.5119
lcpr3	100Yr24Hr-Post	Pond A	52.7619
lcpr3	100Yr24Hr-Post	Pond A	53.0119
lcpr3	100Yr24Hr-Post	Pond A	53.2619
lcpr3	100Yr24Hr-Post	Pond A	53.5119
lcpr3	100Yr24Hr-Post	Pond A	53.7619
lcpr3	100Yr24Hr-Post	Pond A	54.0119

[illegible]

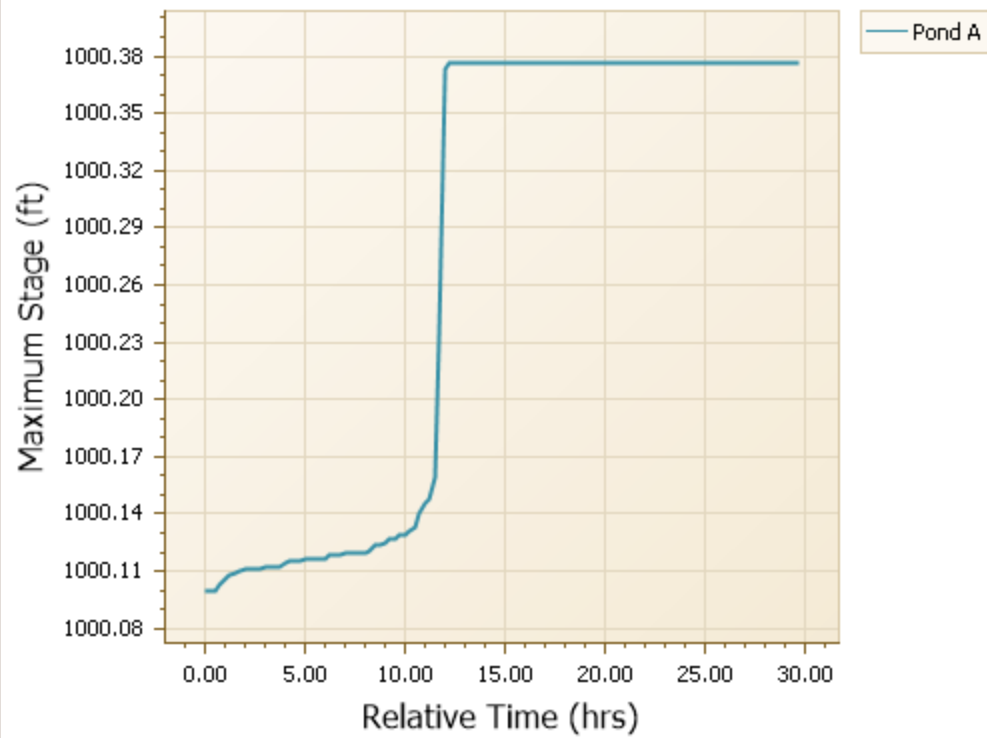
Scenario	Sim	Node Name	Relative Time [hrs]
lcpr3	100Yr24Hr-Post	Pond A	54.2619
lcpr3	100Yr24Hr-Post	Pond A	54.5119
lcpr3	100Yr24Hr-Post	Pond A	54.7619
lcpr3	100Yr24Hr-Post	Pond A	55.0119
lcpr3	100Yr24Hr-Post	Pond A	55.2619
lcpr3	100Yr24Hr-Post	Pond A	55.5119
lcpr3	100Yr24Hr-Post	Pond A	55.7619
lcpr3	100Yr24Hr-Post	Pond A	56.0119
lcpr3	100Yr24Hr-Post	Pond A	56.2619
lcpr3	100Yr24Hr-Post	Pond A	56.5119
lcpr3	100Yr24Hr-Post	Pond A	56.7619
lcpr3	100Yr24Hr-Post	Pond A	57.0119
lcpr3	100Yr24Hr-Post	Pond A	57.2619
lcpr3	100Yr24Hr-Post	Pond A	57.5119
lcpr3	100Yr24Hr-Post	Pond A	57.7619
lcpr3	100Yr24Hr-Post	Pond A	58.0119
lcpr3	100Yr24Hr-Post	Pond A	58.2619
lcpr3	100Yr24Hr-Post	Pond A	58.5119
lcpr3	100Yr24Hr-Post	Pond A	58.7619
lcpr3	100Yr24Hr-Post	Pond A	59.0119
lcpr3	100Yr24Hr-Post	Pond A	59.2619
lcpr3	100Yr24Hr-Post	Pond A	59.5119
lcpr3	100Yr24Hr-Post	Pond A	59.7619

Stage [ft]	Total Inflow Rate [cfs]
992.33	0.00
992.33	0.00
992.33	0.00
992.33	0.00
992.33	0.00
992.33	0.00
992.33	0.00
992.33	0.00
992.33	0.00
992.33	0.00
992.33	0.00
992.33	0.00
992.33	0.00
992.33	0.00
992.33	0.00
992.33	0.00
992.33	0.00
992.33	0.00
992.33	0.00
992.33	0.00
992.32	0.00
992.32	0.00
992.32	0.00
992.32	0.00
992.32	0.00

Overflow Weir Design Modeling

Sim	Node Name	Relative Time [hrs]	Warning Stage [ft]	Maximum Stage [ft]	Time to Maximum Stage [hrs]
100Yr24Hr-Post	Pond A	29.7553	1001.10	1000.38	12.0247

Sim: 100Yr24Hr-Post



Manual Basin: Basin A-1

Scenario: Icpr3
 Node: Pond A
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 999999.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH484
 Peaking Factor: 484.0

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.1900	Impervious	C	
0.1400	Open Space-Good Cond.	C	

Comment:

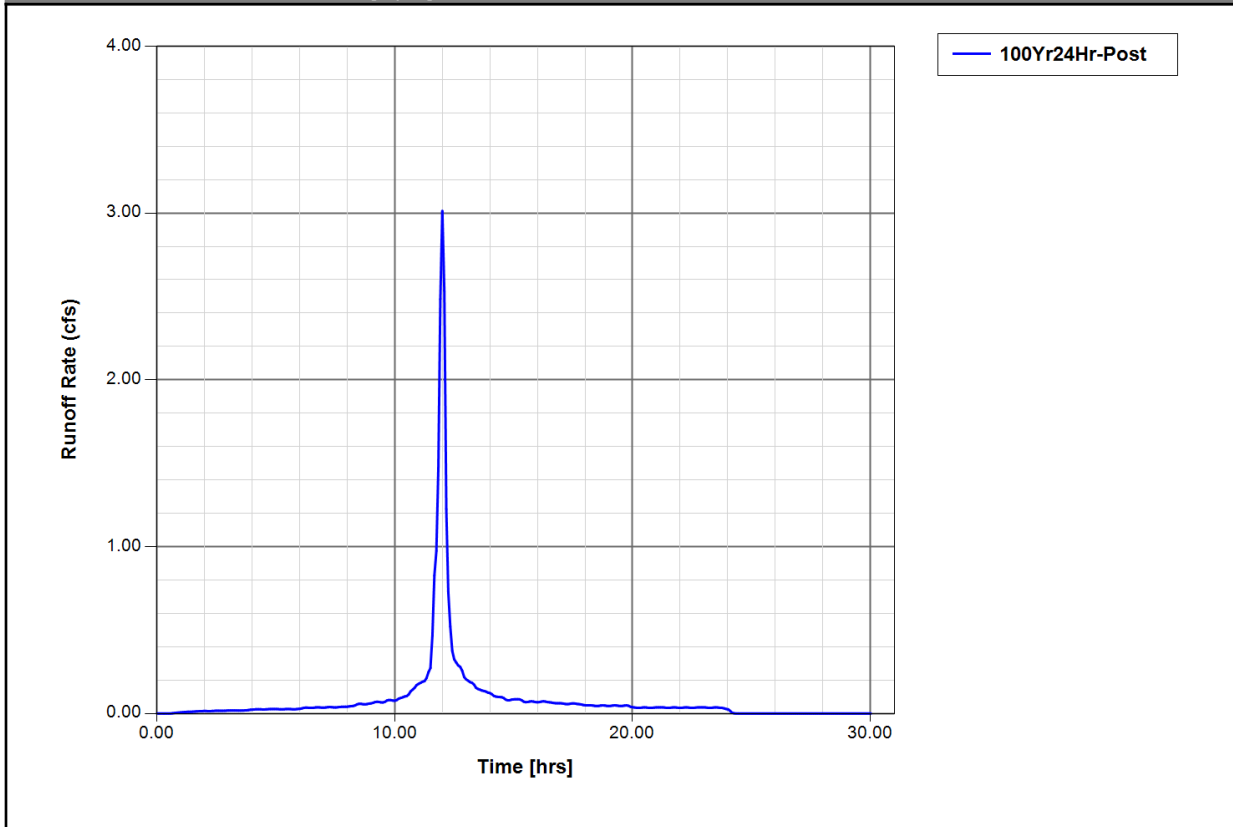
Manual Basin Runoff Summary [Icpr3]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
Basin A-1	100Yr24Hr-Post	3.05	12.0167	9.25	7.78	0.3300	87.7	0.00	0.00

Manual Basin Mass Balance Summary [Icpr3]

Basin Name	Sim Name	Total Rainfall	Total Irrigation	Total Runoff	Total ET	Total Initial Abst	Total Recharge	Change Soil Storage
Basin A-1 [in]	100Yr24Hr-Post	9.25	0.00	7.78	0.00	0.00	0.00	1.47
Basin A-1 [ft3]	100Yr24Hr-Post	11081	0	9315	0	0	0	1766
Basin A-1 [ac-ft]	100Yr24Hr-Post	0.25	0.00	0.21	0.00	0.00	0.00	0.04

Manual Basin Runoff Rate: Basin A-1 [Icpr3]



Manual Basin: Basin A-2

Scenario: Icpr3
 Node: Pond A
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 999999.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH484
 Peaking Factor: 484.0

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
0.6550	Impervious	C	

Comment:

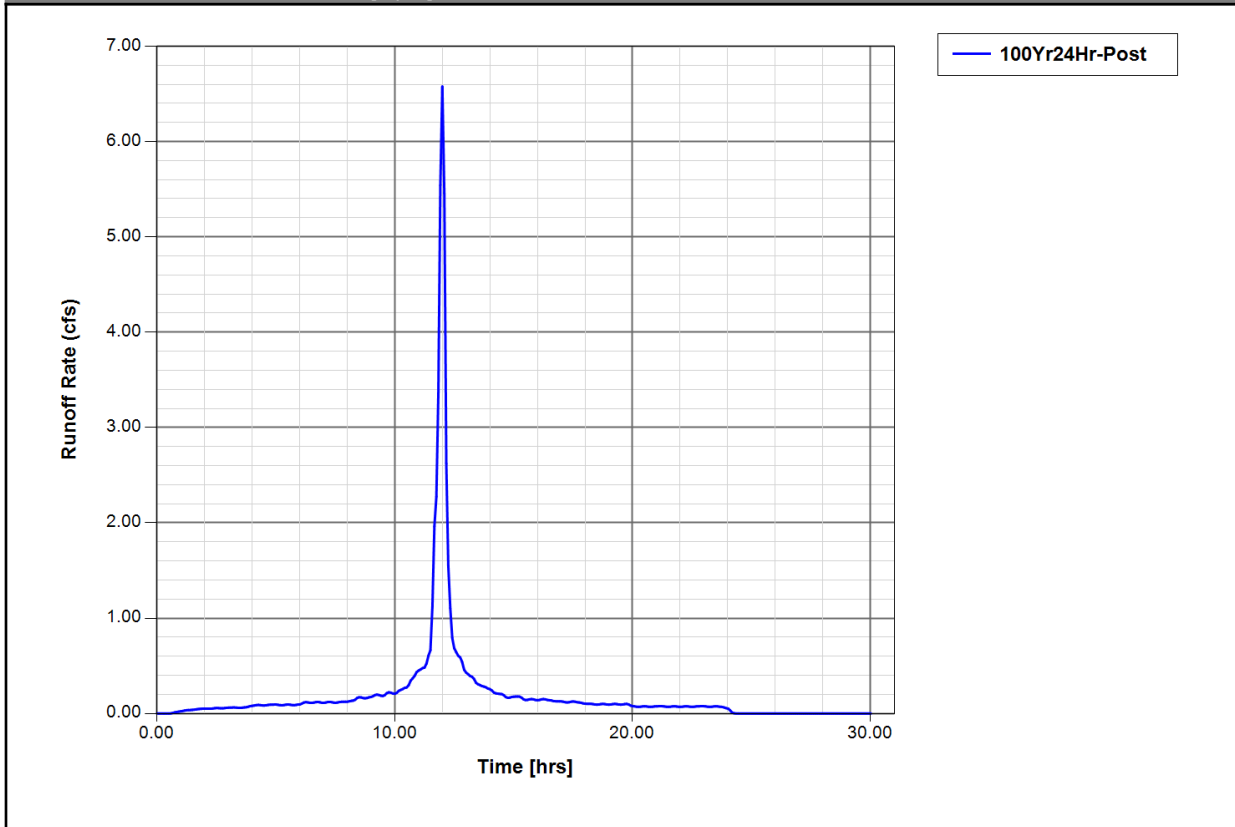
Manual Basin Runoff Summary [Icpr3]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
Basin A-2	100Yr24Hr-Post	6.63	12.0167	9.25	9.03	0.6550	98.0	0.00	0.00

Manual Basin Mass Balance Summary [Icpr3]

Basin Name	Sim Name	Total Rainfall	Total Irrigation	Total Runoff	Total ET	Total Initial Abst	Total Recharge	Change Soil Storage
Basin A-2 [in]	100Yr24Hr-Post	9.25	0.00	9.03	0.00	0.00	0.00	0.22
Basin A-2 [ft3]	100Yr24Hr-Post	21993	0	21474	0	0	0	520
Basin A-2 [ac-ft]	100Yr24Hr-Post	0.50	0.00	0.49	0.00	0.00	0.00	0.01

Manual Basin Runoff Rate: Basin A-2 [Icpr3]



Manual Basin: Basin A-Mod

Scenario: Icpr3
 Node: Pond A
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 999999.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: Uh484
 Peaking Factor: 484.0

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
1.2050	Impervious	D	

Comment:

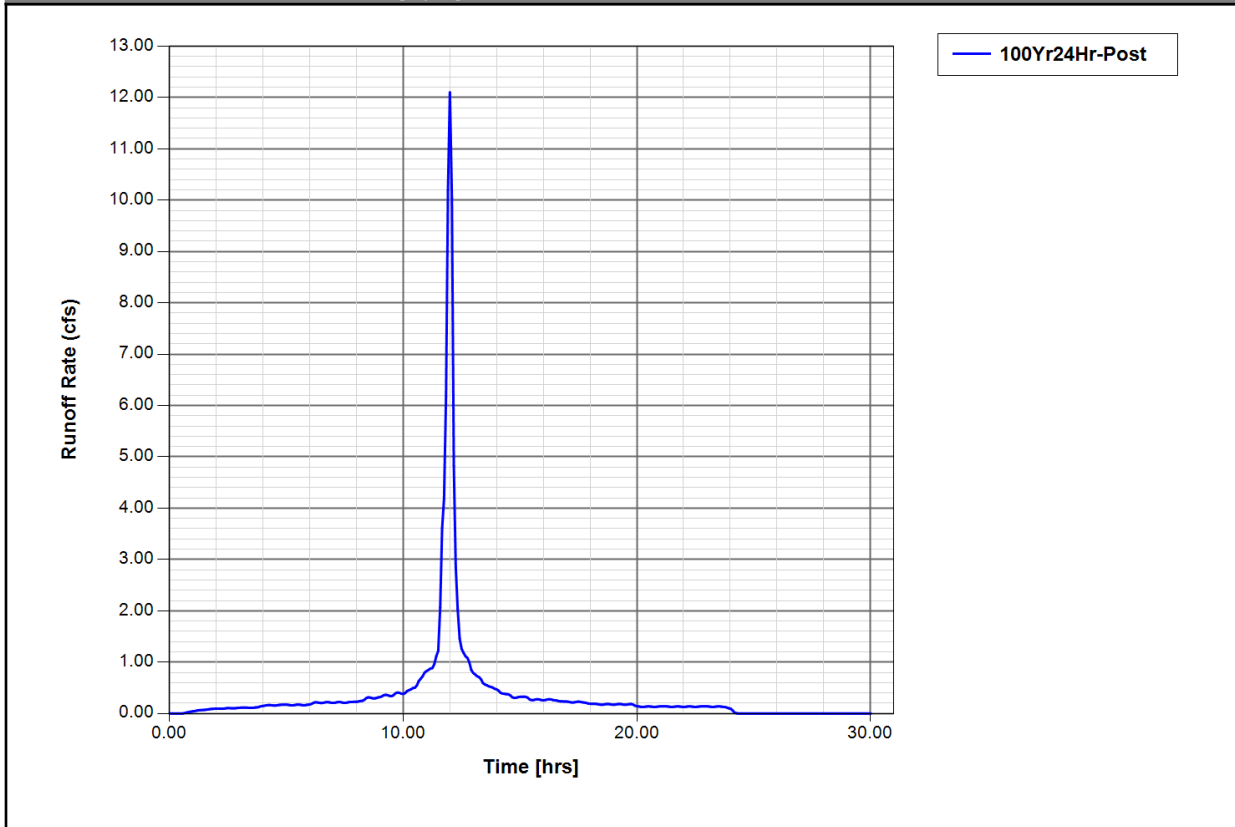
Manual Basin Runoff Summary [Icpr3]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
Basin A-Mod	100Yr24Hr-Post	12.20	12.0167	9.25	9.03	1.2050	98.0	0.00	0.00

Manual Basin Mass Balance Summary [Icpr3]

Basin Name	Sim Name	Total Rainfall	Total Irrigation	Total Runoff	Total ET	Total Initial Abst	Total Recharge	Change Soil Storage
Basin A-Mod [in]	100Yr24Hr-Post	9.25	0.00	9.03	0.00	0.00	0.00	0.22
Basin A-Mod [ft3]	100Yr24Hr-Post	40461	0	39505	0	0	0	956
Basin A-Mod [ac-ft]	100Yr24Hr-Post	0.93	0.00	0.91	0.00	0.00	0.00	0.02

Manual Basin Runoff Rate: Basin A-Mod [Icpr3]



Manual Basin: Basin A-Remaining

Scenario: Icpr3
 Node: Pond A
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 999999.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: UH484
 Peaking Factor: 484.0

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name
4.1000	Impervious	D	
0.9600	Impervious	D	
0.8400	Impervious	C	

Comment:

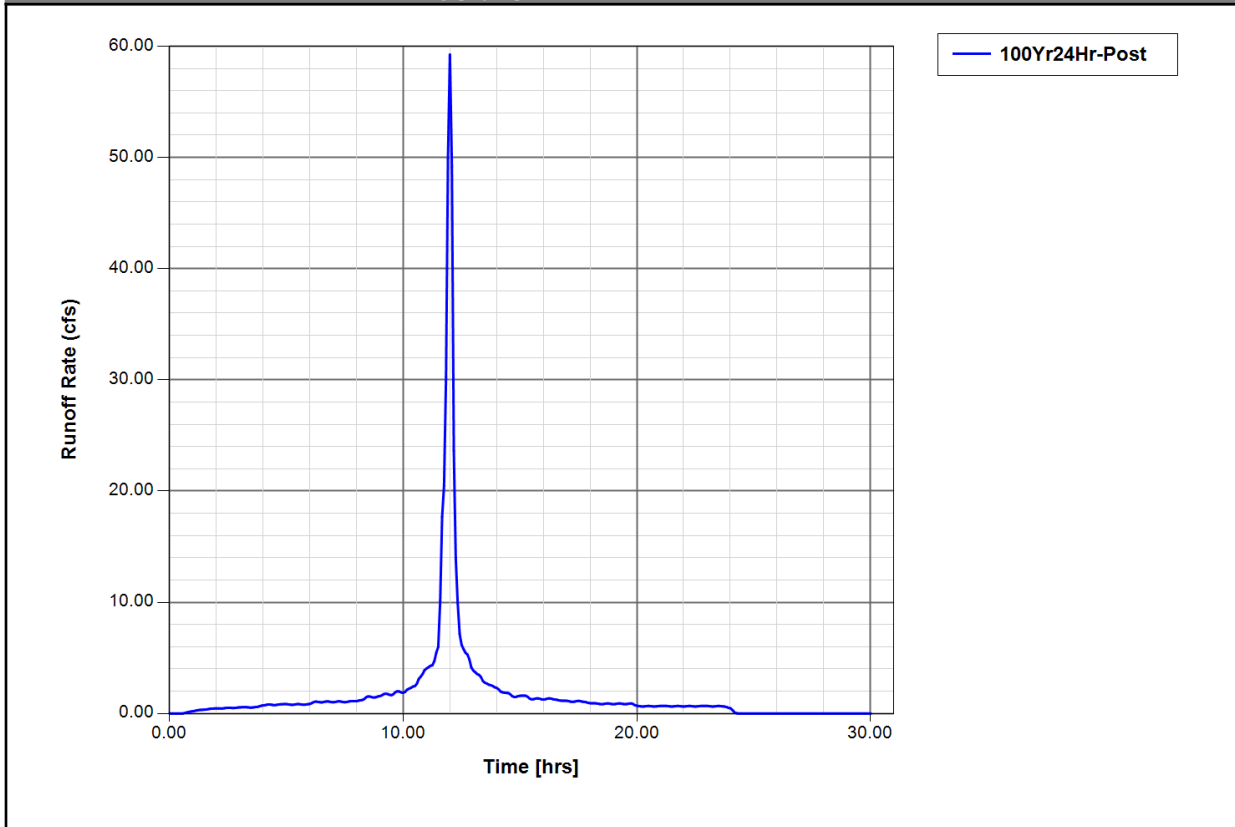
Manual Basin Runoff Summary [Icpr3]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
Basin A-Remaining	100Yr24Hr-Post	59.76	12.0167	9.25	9.03	5.9000	98.0	0.00	0.00

Manual Basin Mass Balance Summary [Icpr3]

Basin Name	Sim Name	Total Rainfall	Total Irrigation	Total Runoff	Total ET	Total Initial Abst	Total Recharge	Change Soil Storage
Basin A-Remaining [in]	100Yr24Hr-Post	9.25	0.00	9.03	0.00	0.00	0.00	0.22
Basin A-Remaining [ft3]	100Yr24Hr-Post	198107	0	193427	0	0	0	4680
Basin A-Remaining [ac-ft]	100Yr24Hr-Post	4.55	0.00	4.44	0.00	0.00	0.00	0.11

Manual Basin Runoff Rate: Basin A-Remaining [Icpr3]



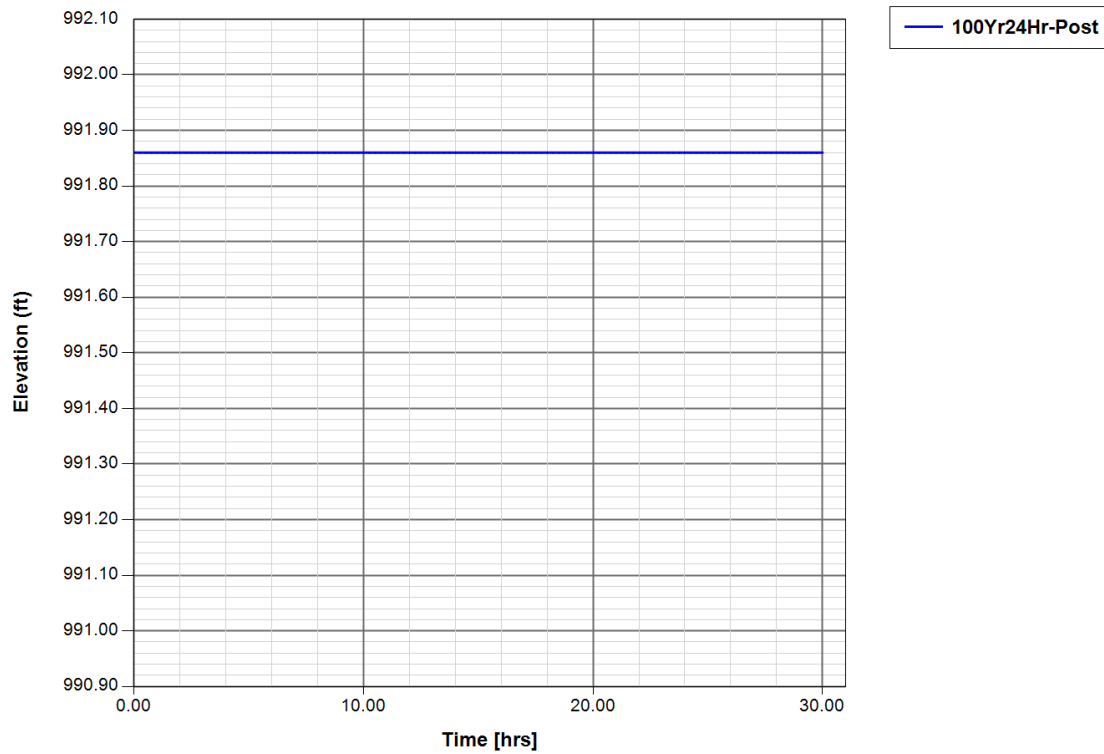
Node: Boundary-Post

Scenario: Icpr3
 Type: Time/Stage
 Base Flow: 0.00 cfs
 Initial Stage: 991.86 ft
 Warning Stage: 991.86 ft
 Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	991.86
0	0	0	999.0000	991.86

Comment:

Node Stage: Boundary-Post [Icpr3]



Node: Pond A

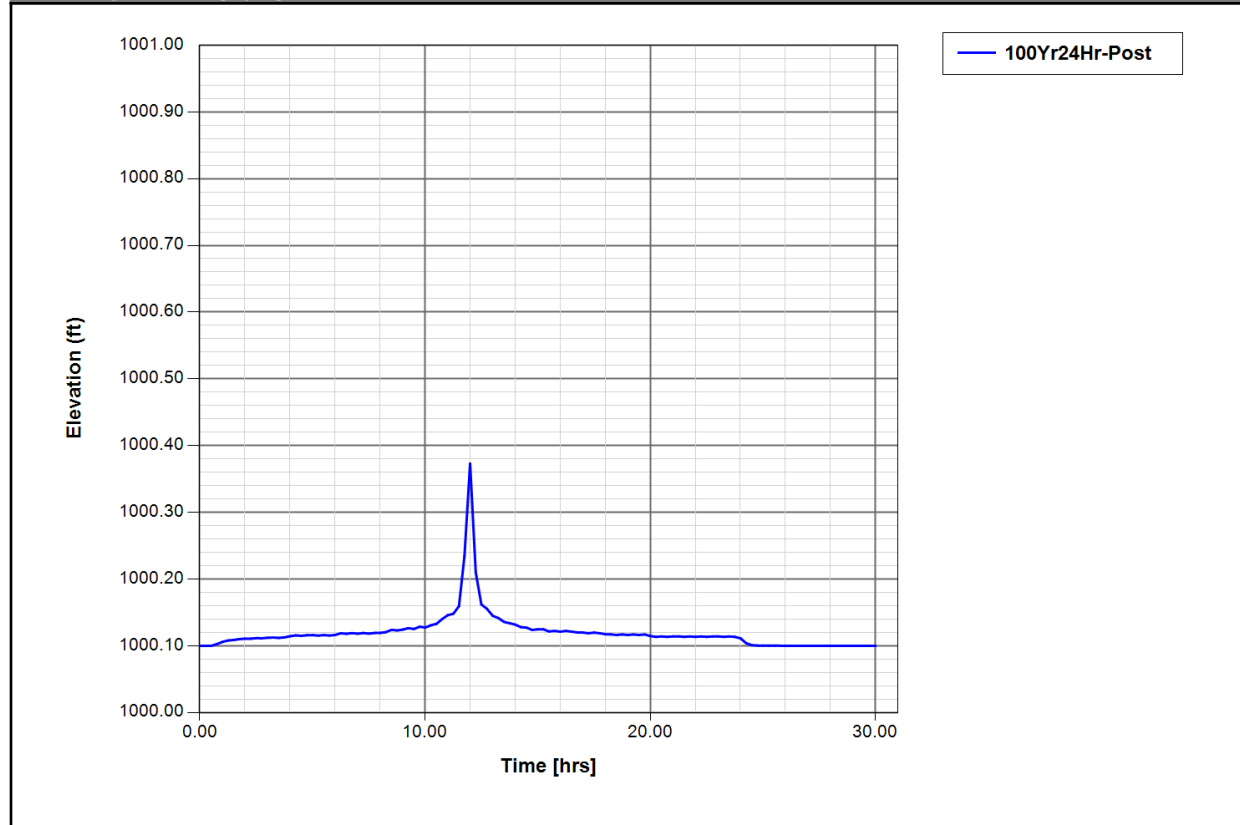
Scenario: Icpr3
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 1000.10 ft
 Warning Stage: 1001.10 ft

Stage [ft]	Area [ac]	Area [ft2]
991.00	0.0567	2470
992.00	0.1952	8503
993.00	0.2540	11064
994.00	0.2732	11901
995.00	0.2863	12471
996.00	0.3000	13068
997.00	0.3142	13687
998.00	0.3289	14327
999.00	0.3440	14985
1000.00	0.3588	15629

Stage [ft]	Area [ac]	Area [ft2]
1000.50	0.3661	15947

Comment:

Node Stage: Pond A [Icpr3]



Weir Link: EmOvflw

Scenario: Icpr3
 From Node: Pond A
 To Node: Boundary-Post
 Link Count: 1
 Flow Direction: Both
 Damping: 0.0000 ft
 Weir Type: Broad Crested Vertical
 Geometry Type: Trapezoidal
 Invert: 1000.10 ft

Bottom Clip

Default: 0.00 ft
 Op Table:
 Ref Node:

Top Clip

Default: 0.00 ft
 Op Table:
 Ref Node:

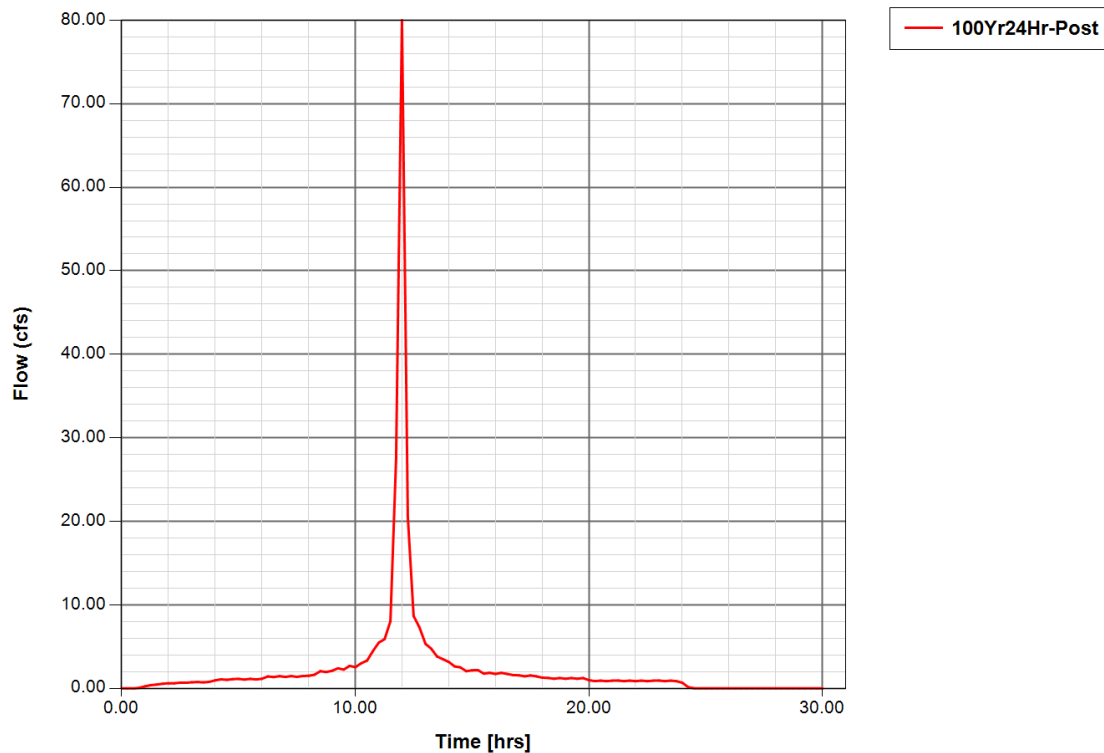
Discharge Coefficients

Control Elevation: 1000.10 ft
Max Depth: 9999.00 ft
Extrapolation Method: Normal Projection
Bottom Width: 200.00 ft
Left Slope: 2.000 (h:v)
Right Slope: 2.000 (h:v)

Weir Default: 2.800
Weir Table:
Orifice Default: 0.600
Orifice Table:

Comment:

Link Flow: EmOvflw [Icpr3]



Simulation: 100Yr24Hr-Post

Scenario: Icpr3
Run Date/Time: 3/22/2019 4:08:39 PM
Program Version: ICPR4 4.03.02.00

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	30.0000
	Hydrology [sec]	Surface Hydraulics [sec]		
Min Calculation Time:	60.0000	0.1000		
Max Calculation Time:		60.0000		

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder: ICPR3

Unit Hydrograph
Folder: ICPR3

Lookup Tables

Boundary Stage Set:

Extern Hydrograph Set:

Curve Number Set: ICPR3

Green-Ampt Set: ICPR3

Vertical Layers Set:

Impervious Set: ICPR3

Tolerances & Options

Time Marching: SAOR

Max Iterations: 6

Over-Relax Weight 0.5 dec

Fact:

dZ Tolerance: 0.0010 ft

Max dZ: 1.0000 ft

Link Optimizer Tol: 0.0001 ft

Edge Length Option: Automatic

IA Recovery Time: 24.0000 hr

Manual Basin Rain Opt: Global

Rainfall Name: Scsii-24

Rainfall Amount: 9.25 in

Storm Duration: 24.0000 hr

Dflt Damping (1D): 0.0050 ft
Min Node Srf Area 113 ft2
(1D):
Energy Switch (1D): Energy

Comment:

Appendix VII – Support Material

PONDS
Side/Bottom Drain Analysis For Filtration System
Version 3.3.0033
Copyright 2008
Devo Seereeram, Ph.D., P.E.

Job Information

Job Name: LEES SUMMIT EXPANSION
Engineer: CSG
Date: 04-09-2019

Input Data

Surface area at high water stage, [Atop]:	9273 ft ²
Surface area at low water stage, [Abot]:	8505 ft ²
Permeability of filter sand, [k]:	7.5 ft/day
Driving head at high water stage, [Htop]:	.33 ft
Driving head at low water stage, [Hbot]:	.165 ft
Drawdown time, [t]:	3 days
Average flow path length, [Xo]:	1.835 ft
Exposed underdrain width, [Lo]:	6 ft
Slope of underdrain face, [S]:	999 ?H : 1V
Factor of safety for analysis, [FS]:	1.5
Percent drawdown for analysis, [P]:	95 %
Background seepage rate, [Q]:	0 gpm

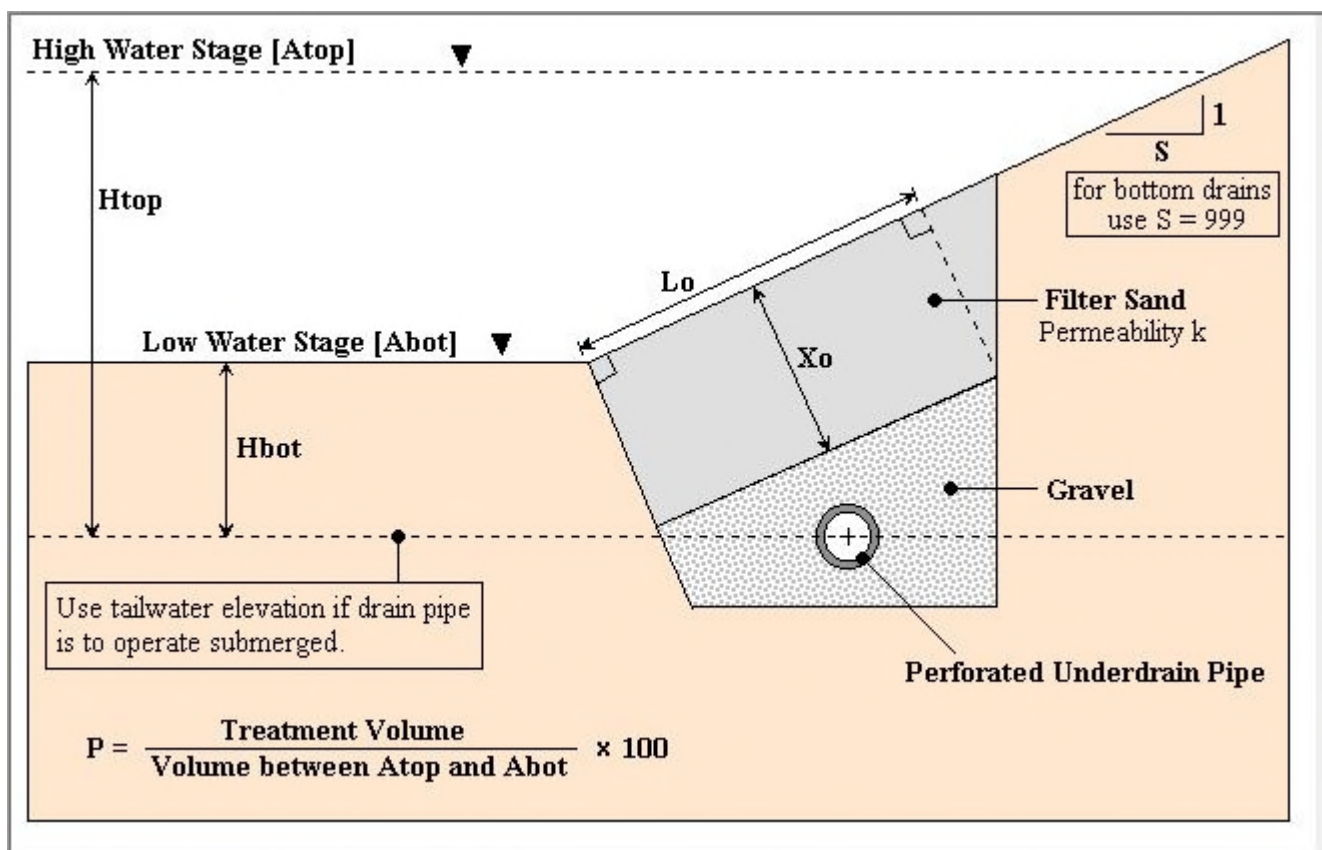
Results

Total length of side/bottom drain filter required:	116.1685 ft
Total length of side/bottom drain filter required to recover treatment volume only:	116.1685 ft
Total length of side/bottom drain filter required to accomodate background seepage:	0 ft
Maximum flow rate through filter:	4.204128E-02 gpm / lin ft
Average flow rate through filter:	2.102064E-02 gpm / lin ft
Volume of water between Atop and Abot:	10972.27 gallons
Recovery (or treatment) volume:	10423.66 gallons
Recovery (or treatment) volume:	3.198693E-02 acre-ft

Note

Drain pipe diameter should be checked to insure that peak flow can be accomodated.

PONDS Side Drain Model Reference Diagram



Biofiltration Bed Calculations

Basin	Acres	Pre Impervious (acres)	Post Impervious (acres)	
Watershed A	7.11	5.12	6.27	Disturbed Area (ac)
Watershed A-1	0.33	0	0.19	6.16
Watershed A-2	0.66	0	0.45	Added Impervious (ac)
Total	8.10	5.12	6.91	1.79

Required Treatment Area (ac): 1.04
 Proposed % Impervious (I): 1.72% ==> ==> Resulting LS (per Table 4.3): 3.2
VR: 3.33

$$WQ_v = P \times R_v$$

P (in): 1.37

Weighted $R_v = 0.42$

WQ_v (in): 0.570

Procedure from APWA/ MARC BMP Manual, 8-30

Planting bed soil depth, d_f (ft) = 3.0

Coefficient of permeability, K_{sat} (ft/day) = 0.03 (Clayey soil sub-base)

Max. ponding Depth, h_{max} (ft) = 7.4

Avg Height of water above bed, h_{avg} (ft) = 3.7

Time WQv to filter thru bed, t_s (days) = 1.7

$$A_f = \frac{(WQ_v \times d_f)}{[k \times t_f \times (h_{avg} + d_f)]}$$

Required Filter Bed Surface Area, A_f (ft²) = **1.698** (Required)

Ponding Area, A_{bed} (ft²) = 1,250 (Required)

Ponding Area, A_{bed} (ft²) = 2,467 (Provided)



NOAA Atlas 14, Volume 8, Version 2
Location name: Lees Summit, Missouri, USA*
Latitude: 38.9025°, Longitude: -94.3332°
Elevation: 1014.77 ft**
* source: ESRI Maps
** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffrey Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aerals](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.415 (0.324-0.529)	0.484 (0.378-0.618)	0.599 (0.466-0.767)	0.696 (0.539-0.894)	0.832 (0.625-1.10)	0.938 (0.691-1.25)	1.05 (0.748-1.43)	1.16 (0.798-1.62)	1.31 (0.871-1.87)	1.42 (0.926-2.07)
10-min	0.607 (0.474-0.775)	0.709 (0.553-0.905)	0.877 (0.682-1.12)	1.02 (0.789-1.31)	1.22 (0.916-1.61)	1.37 (1.01-1.84)	1.53 (1.10-2.09)	1.70 (1.17-2.37)	1.92 (1.27-2.75)	2.08 (1.36-3.03)
15-min	0.740 (0.578-0.945)	0.864 (0.674-1.10)	1.07 (0.832-1.37)	1.24 (0.962-1.60)	1.49 (1.12-1.96)	1.68 (1.23-2.24)	1.87 (1.34-2.55)	2.07 (1.43-2.89)	2.34 (1.56-3.35)	2.54 (1.65-3.69)
30-min	1.02 (0.800-1.31)	1.20 (0.939-1.54)	1.50 (1.17-1.92)	1.75 (1.35-2.24)	2.09 (1.57-2.76)	2.36 (1.74-3.15)	2.63 (1.88-3.59)	2.91 (2.00-4.07)	3.28 (2.18-4.70)	3.57 (2.32-5.18)
60-min	1.34 (1.05-1.71)	1.57 (1.23-2.01)	1.97 (1.53-2.52)	2.30 (1.78-2.95)	2.76 (2.08-3.66)	3.13 (2.31-4.20)	3.51 (2.51-4.80)	3.90 (2.69-5.46)	4.43 (2.95-6.35)	4.83 (3.14-7.02)
2-hr	1.66 (1.30-2.10)	1.95 (1.53-2.47)	2.43 (1.91-3.09)	2.85 (2.22-3.63)	3.44 (2.61-4.53)	3.91 (2.90-5.20)	4.39 (3.16-5.97)	4.89 (3.40-6.81)	5.57 (3.74-7.94)	6.10 (4.00-8.80)
3-hr	1.87 (1.48-2.36)	2.20 (1.74-2.78)	2.76 (2.17-3.49)	3.24 (2.54-4.11)	3.93 (3.00-5.16)	4.48 (3.35-5.95)	5.06 (3.67-6.86)	5.66 (3.95-7.85)	6.48 (4.38-9.22)	7.13 (4.70-10.3)
6-hr	2.26 (1.80-2.82)	2.66 (2.12-3.34)	3.37 (2.67-4.22)	3.98 (3.14-5.01)	4.88 (3.76-6.37)	5.60 (4.22-7.39)	6.36 (4.65-8.57)	7.16 (5.05-9.89)	8.27 (5.63-11.7)	9.15 (6.07-13.1)
12-hr	2.66 (2.13-3.30)	3.16 (2.54-3.93)	4.04 (3.23-5.03)	4.81 (3.83-6.02)	5.94 (4.62-7.72)	6.86 (5.21-9.00)	7.83 (5.77-10.5)	8.86 (6.30-12.2)	10.3 (7.06-14.5)	11.4 (7.64-16.2)
24-hr	3.11 (2.51-3.82)	3.71 (2.99-4.57)	4.74 (3.82-5.86)	5.66 (4.54-7.02)	7.00 (5.48-9.03)	8.10 (6.20-10.5)	9.25 (6.88-12.3)	10.5 (7.51-14.3)	12.2 (8.44-17.0)	13.5 (9.14-19.1)
2-day	3.66 (2.98-4.47)	4.31 (3.50-5.26)	5.43 (4.41-6.66)	6.43 (5.19-7.91)	7.90 (6.24-10.1)	9.10 (7.03-11.8)	10.4 (7.77-13.7)	11.7 (8.47-15.9)	13.6 (9.50-18.9)	15.1 (10.3-21.2)
3-day	4.06 (3.33-4.94)	4.71 (3.85-5.73)	5.84 (4.76-7.12)	6.85 (5.55-8.38)	8.33 (6.61-10.6)	9.55 (7.41-12.3)	10.8 (8.16-14.3)	12.2 (8.87-16.5)	14.1 (9.92-19.5)	15.7 (10.7-21.9)
4-day	4.40 (3.61-5.33)	5.05 (4.14-6.12)	6.17 (5.05-7.50)	7.18 (5.84-8.76)	8.65 (6.89-11.0)	9.87 (7.68-12.7)	11.1 (8.42-14.6)	12.5 (9.12-16.8)	14.4 (10.2-19.9)	16.0 (10.9-22.2)
7-day	5.21 (4.30-6.27)	5.89 (4.86-7.10)	7.07 (5.82-8.53)	8.09 (6.62-9.80)	9.56 (7.64-12.0)	10.8 (8.41-13.7)	12.0 (9.11-15.6)	13.3 (9.74-17.7)	15.1 (10.7-20.6)	16.5 (11.4-22.9)
10-day	5.90 (4.89-7.07)	6.66 (5.52-7.99)	7.93 (6.55-9.53)	9.00 (7.40-10.9)	10.5 (8.43-13.1)	11.7 (9.20-14.8)	13.0 (9.87-16.7)	14.2 (10.5-18.9)	16.0 (11.3-21.7)	17.3 (12.0-23.9)
20-day	7.87 (6.58-9.35)	8.89 (7.43-10.6)	10.5 (8.78-12.6)	11.9 (9.85-14.2)	13.7 (11.0-16.8)	15.1 (11.9-18.7)	16.4 (12.5-20.9)	17.7 (13.1-23.2)	19.4 (13.9-26.1)	20.7 (14.5-28.3)
30-day	9.51 (7.99-11.3)	10.8 (9.03-12.7)	12.7 (10.7-15.1)	14.3 (11.9-17.1)	16.4 (13.2-19.9)	17.9 (14.1-22.1)	19.3 (14.9-24.5)	20.8 (15.4-27.0)	22.5 (16.1-30.1)	23.7 (16.7-32.4)
45-day	11.6 (9.80-13.7)	13.1 (11.1-15.5)	15.5 (13.0-18.3)	17.3 (14.5-20.6)	19.7 (15.9-23.8)	21.4 (17.0-26.3)	23.0 (17.7-28.9)	24.5 (18.2-31.6)	26.3 (18.9-34.9)	27.5 (19.4-37.3)
60-day	13.4 (11.4-15.7)	15.1 (12.8-17.8)	17.8 (15.0-21.0)	19.9 (16.7-23.5)	22.5 (18.2-27.0)	24.3 (19.3-29.7)	26.0 (20.1-32.5)	27.5 (20.5-35.4)	29.3 (21.1-38.7)	30.5 (21.6-41.3)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

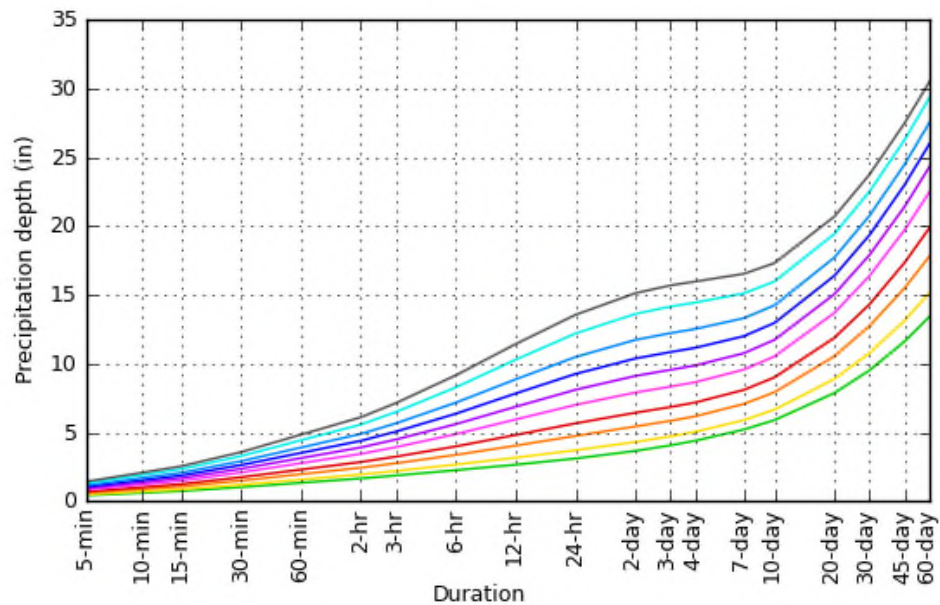
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

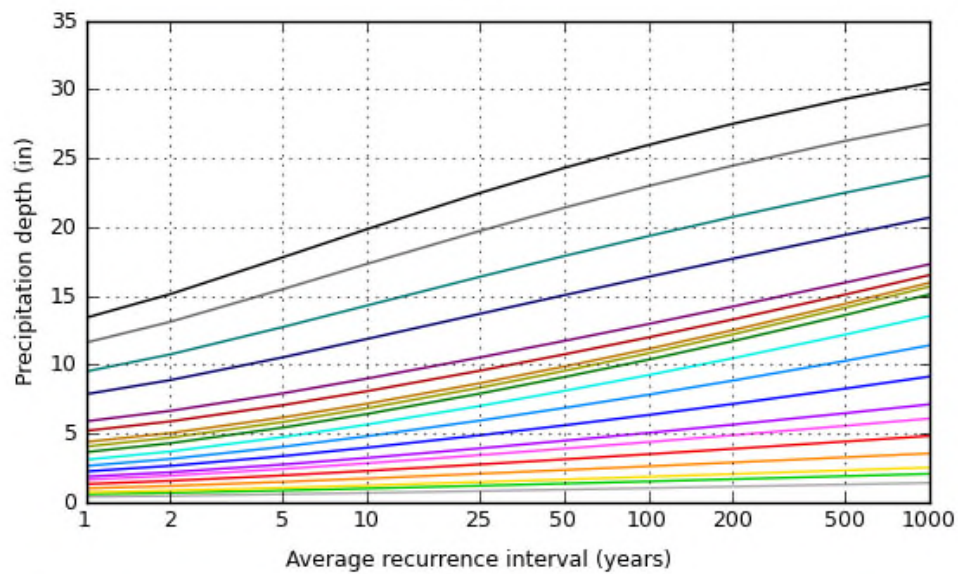
[Back to Top](#)

PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 38.9025°, Longitude: -94.3332°



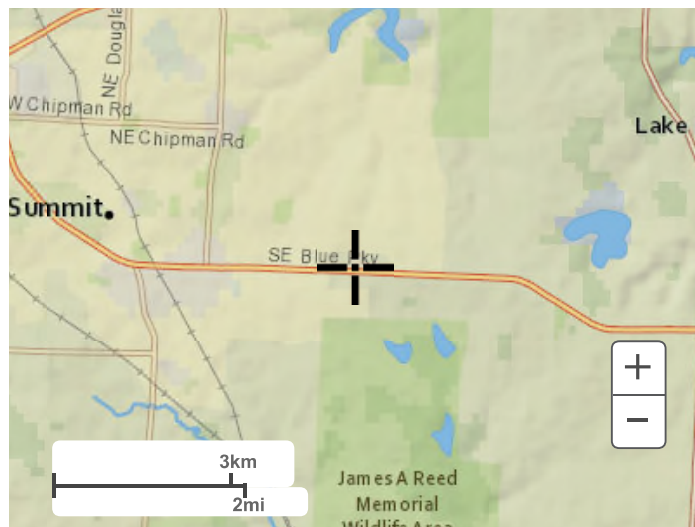
Average recurrence interval (years)
1
2
5
10
25
50
100
200
500
1000



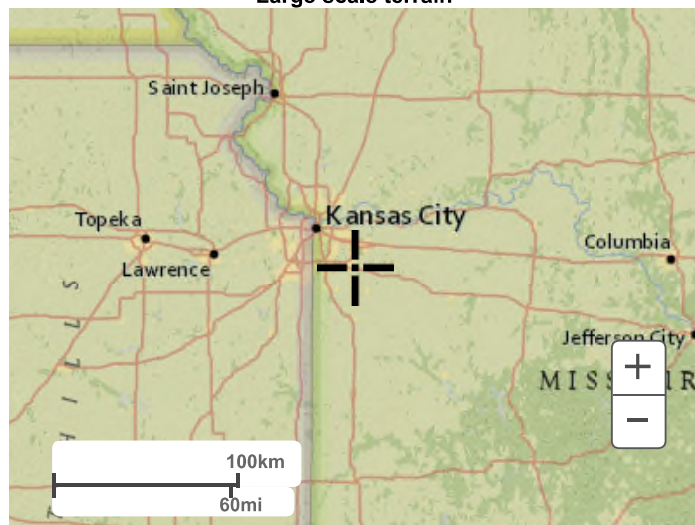
Duration	
5-min	2-day
10-min	3-day
15-min	4-day
30-min	7-day
60-min	10-day
2-hr	20-day
3-hr	30-day
6-hr	45-day
12-hr	60-day
24-hr	

Maps & aerials

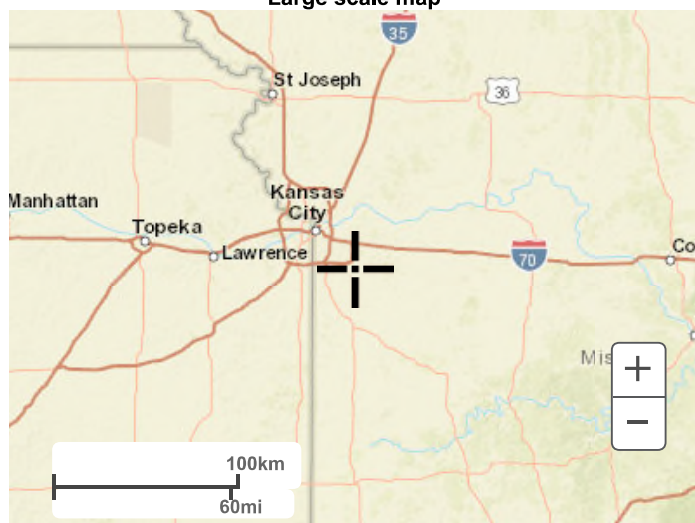
Small scale terrain



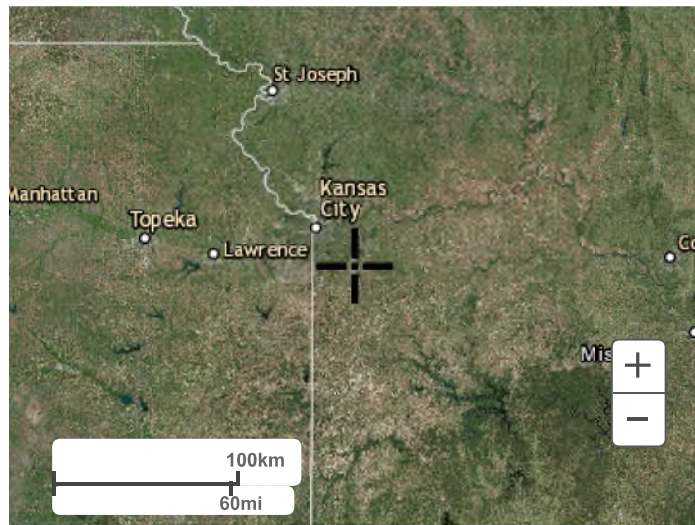
Large scale terrain



Large scale map



Large scale aerial



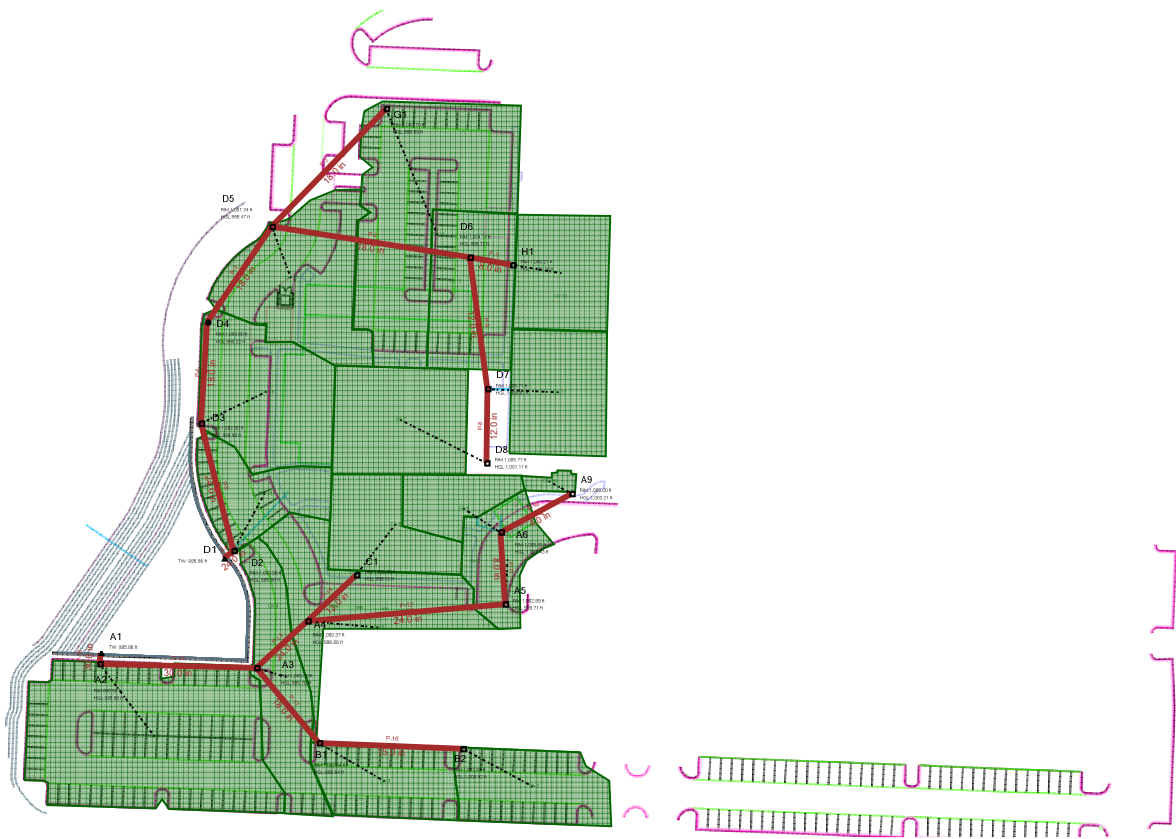
[Back to Top](#)

[US Department of Commerce](#)
[National Oceanic and Atmospheric Administration](#)
[National Weather Service](#)
[National Water Center](#)
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

[Disclaimer](#)

Appendix VIII – StormCAD Hydraulic Model

Scenario: Base



FlexTable: Conduit Table

Label	Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Diameter (in)	Manning's n	Flow (cfs)	Velocity (ft/s)
P-5	D3	995.83	D2	992.60	109.3	0.030	24.0	0.013	8.69	9.97
P-14	A3	994.89	A2	992.27	130.3	0.020	30.0	0.013	5.91	7.61
P-1	H1	1,000.69	D6	998.91	35.7	0.050	8.0	0.012	1.00	7.58
P-17	B1	998.14	A3	994.89	81.5	0.040	18.0	0.013	1.78	7.24
P-18	C1	998.73	A4	996.03	55.7	0.048	12.0	0.012	0.87	6.96
P-13	A4	996.03	A3	994.89	57.7	0.020	24.0	0.013	3.22	6.50
P-4	D4	996.66	D3	995.83	84.1	0.010	18.0	0.013	7.60	6.44
P-2	D6	998.91	D5	997.24	166.7	0.010	18.0	0.013	4.43	5.69
P-11	A6	1,001.07	A5	999.33	59.9	0.029	8.0	0.012	0.59	5.39
P-3	D5	997.24	D4	996.66	95.8	0.006	18.0	0.013	7.69	5.26
P-9	D7	1,000.01	D6	998.91	110.2	0.010	12.0	0.012	2.41	5.18
P-12	A5	999.33	A4	996.03	164.7	0.020	24.0	0.013	1.19	4.86
P-16	B2	1,000.54	B1	998.14	119.4	0.020	15.0	0.013	0.94	4.81
P-8	D8	1,000.62	D7	1,000.01	61.5	0.010	12.0	0.012	1.32	4.43
P-10	A9	1,003.05	A6	1,001.07	67.0	0.030	4.0	0.012	0.08	3.32
P-7	G1	997.65	D5	997.24	136.4	0.003	18.0	0.013	2.29	3.07
P-6	D2	992.60	D1	992.00	10.3	0.059	24.0	0.013	9.24	2.94
P-15	A2	992.27	A1	992.00	9.5	0.028	30.0	0.013	8.62	1.76

FlexTable: Catch Basin Table

Label	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Hydraulic Grade Line (In) (ft)	Depth (Out) (ft)	Headloss Method	Headloss Coefficient (Standard)	Flow (Total Out) (cfs)
H1	1,005.21	1,000.69	1,001.38	0.47	Standard	1.000	1.00
G1	1,000.70	997.65	998.87	1.18	Standard	1.000	2.29
D8	1,005.77	1,000.62	1,001.29	0.49	Standard	1.000	1.32
D7	1,005.71	1,000.01	1,000.82	0.66	Standard	0.500	2.41
D6	1,004.17	998.91	999.98	0.81	Standard	0.800	4.43
D5	1,001.34	997.24	998.78	1.23	Standard	0.800	7.69
D3	1,002.80	995.83	997.18	1.05	Standard	0.700	8.69
D2	1,002.08	992.60	995.97	3.28	Standard	0.700	9.24
C1	1,002.89	998.73	999.27	0.39	Standard	1.000	0.87
B2	1,003.89	1,000.54	1,001.06	0.38	Standard	1.000	0.94
B1	1,002.64	998.14	998.77	0.50	Standard	0.700	1.78
A9	1,006.00	1,003.05	1,003.27	0.16	Standard	1.000	0.08
A6	1,005.85	1,001.07	1,001.53	0.36	Standard	0.700	0.59
A5	1,002.89	999.33	999.80	0.38	Standard	0.700	1.19
A4	1,000.37	996.03	996.86	0.63	Standard	0.900	3.22
A3	1,000.80	994.89	995.96	0.81	Standard	0.900	5.91
A2	999.55	992.27	995.90	3.59	Standard	0.800	8.62

FlexTable: Manhole Table

Label	Elevation (Rim) (ft)	Elevation (Invert Out) (ft)	Hydraulic Grade Line (In) (ft)	Depth (Out) (ft)	Headloss Method	Headloss Coefficient (Standard)
D4	1,003.60	996.66	998.08	1.07	Standard	0.700

FlexTable: Outfall Table

Label	Elevation (Ground) (ft)	Elevation (Invert) (ft)	Boundary Condition Type	Elevation (User Defined Tailwater) (ft)	Flow (Total Out) (cfs)
D1	992.00	992.00	User Defined Tailwater	995.86	9.22
A1	992.00	992.00	User Defined Tailwater	995.86	8.59

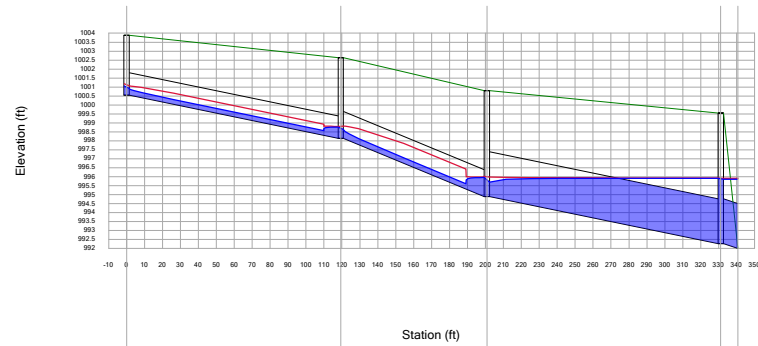
FlexTable: Catchment Table

Label	Outflow Element	Scaled Area (acres)	Runoff Coefficient (Rational)	Time of Concentration (min)	Flow (Total Out) (cfs)	Use Scaled Area?
CA-1	A2	0.531	0.900	10.000	2.94	True
CA-2	B2	0.170	0.900	10.000	0.94	True
CA-3	B1	0.157	0.900	10.000	0.87	True
CA-4	A3	0.184	0.900	10.000	1.02	True
CA-5	A4	0.245	0.850	10.000	1.28	True
CA-6	A5	0.118	0.850	10.000	0.62	True
CA-7	D8	0.225	0.950	10.000	1.32	True
CA-8	C1	0.148	0.950	10.000	0.87	True
CA-9	A6	0.088	0.950	10.000	0.51	True
CA-10	A9	0.014	0.950	10.000	0.08	True
CA-11	D7	0.189	0.950	10.000	1.11	True
CA-12	H1	0.171	0.950	10.000	1.00	True
CA-13	D6	0.210	0.850	10.000	1.10	True
CA-16	G1	0.438	0.850	10.000	2.29	True
CA-17	D5	0.278	0.700	10.000	1.20	True
CA-18	D3	0.266	0.750	10.000	1.23	True
CA-19	D2	0.142	0.750	10.000	0.66	True

Profile Report

Profile: Profile - A1-B2

Profile - A1-B2 - Base

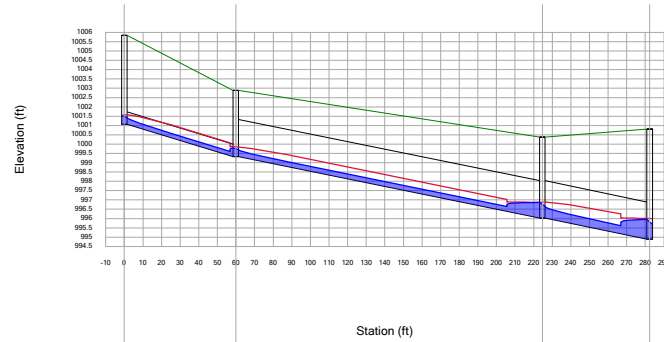


ID\Label	1022 \ P-16	1023 \ P-17	1017 \ P-14	1019 \ P-15
Link Length (ft)	119.4	81.5	130.3	9.5
Rise (in)\Material	15.0 \ Concrete (centrif. spun)	18.0 \ Concrete (centrif. spun)	20.0 \ Concrete (centrif. spun)	20.0 \ Concrete (centrif. spun)
Flow (cfs)	0.94	1.78	5.91	8.62
Slope (ft/ft)	0.020	0.040	0.020	0.028
ID\Label	1020 \ B2	1021 \ B1	1014 \ A3	1016 \ A2
Ground (ft)	1003.89	1002.64	1000.80	999.500
Invert (ft)	1000.54	998.14	994.89	993.2700
Station (ft)	0.0	119.4	200.9	333.407

Profile Report

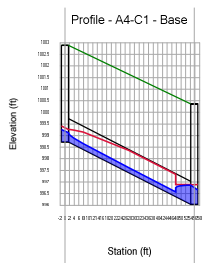
Profile: Profile - A3-A6

Profile - A3-A6 - Base



ID\Label	1011 \ P-11		1013 \ P-12		1015 \ P-13	
Link Length (ft)	59.9		164.7		57.7	
Rise (in)\Material	8.0 \ PVC		24.0 \ Concrete (centrif. spun)		24.0 \ Concrete (centrif. spun)	
Flow (cfs)	0.59		1.19		3.22	
Slope (ft/ft)	0.029		0.020		0.020	
ID\Label	1008 \ A6	1010 \ A5		1012 \ A4	1014 \ A3	
Ground (ft)	1005.85	1002.89		1000.37	1000.80	
Invert (ft)	1001.07	999.33		996.03	994.89	
Station (ft)	0.0	59.9		224.6	282.3	

Profile Report **Profile: Profile - A4-C1**

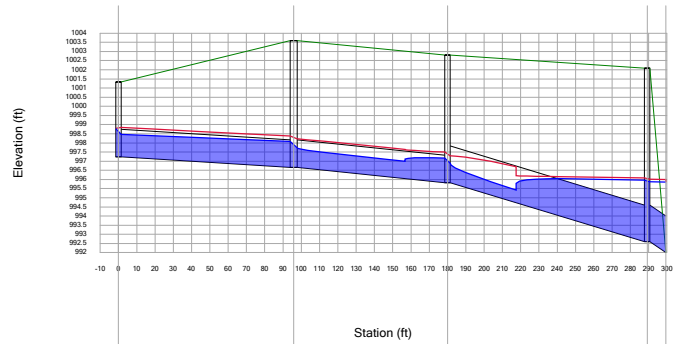


ID\Label	1025 \ P-18	
Link Length (ft)	55.7	
Rise (in)\Material	12.0 \ PVC	
Flow (cfs)	0.87	
Slope (ft/ft)	0.048	
ID\Label	1024 \ C1	1012 \ A4
Ground (ft)	1002.89	1000.37
Invert (ft)	998.73	996.03
Station (ft)	0.0	55.7

Profile Report

Profile: Profile - D1-D5

Profile - D1-D5 - Base

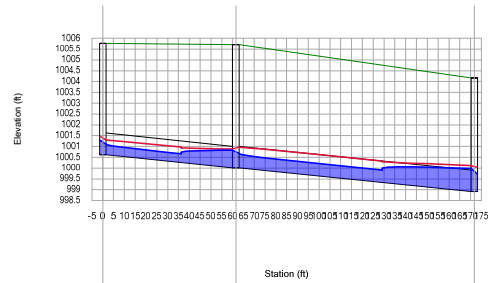


ID\Label	994 \ P-3	996 \ P-4	998 \ P-5	1000 \ P-6
Link Length (ft)	95.8	84.1	109.3	10.3
Rise (in)\Material	18.0 \ Concrete (centrif. spun)	18.0 \ Concrete (centrif. spun)	18.0 \ Concrete (centrif. spun)	18.0 \ Concrete (centrif. spun)
Flow (cfs)	7.69	7.60	8.69	9.24
Slope (ft/ft)	0.006	0.010	0.030	0.059
ID\Label	991 \ D5	993 \ D4	995 \ D3	999 \ D1
Ground (ft)	1001.34	1003.60	1002.80	1002.80
Invert (ft)	997.24	996.66	995.83	992.80
Station (ft)	0.0	95.8	180.0	289.5

Profile Report

Profile: Profile - D6-D8

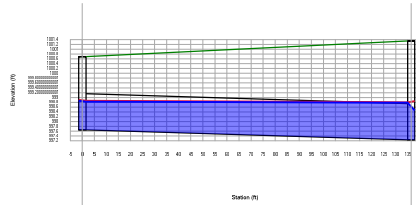
Profile - D6-D8 - Base



ID\Label	1005 \ P-8	1006 \ P-9	
Link Length (ft)	61.5	110.2	
Rise (in)\Material	12.0 \ PVC	12.0 \ PVC	
Flow (cfs)	1.32	2.41	
Slope (ft/ft)	0.010	0.010	
ID\Label	1003 \ D8	1004 \ D7	989 \ D6
Ground (ft)	1005.77	1005.71	1004.17
Invert (ft)	1000.62	1000.01	998.91
Station (ft)	0.0	61.5	171.7

Profile Report **Profile: Profile - D5-G1**

Profile - D5-G1 - Base

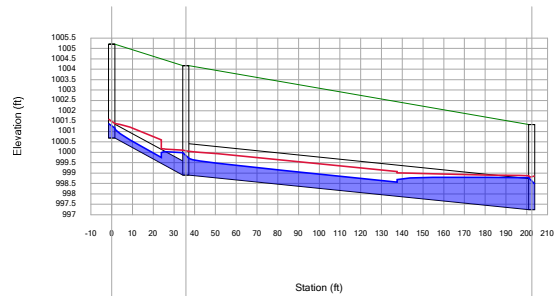


ID\Label	1002 \ P-7	
Link Length (ft)	136.4	
Rise (in)\Material	18.0 \ Concrete (centrif. spun)	
Flow (cfs)	2.29	
Slope (ft/ft)	0.003	
ID\Label	1001 \ G1	991 \ D5
Ground (ft)	1000.70	1001.34
Invert (ft)	997.65	997.24
Station (ft)	0.0	136.4

Profile Report

Profile: Profile - D5-H1

Profile - D5-H1 - Base



ID\Label	990 \ P-1	992 \ P-2	
Link Length (ft)	35.7	166.7	
Rise (in)\Material	8.0 \ PVC	18.0 \ Concrete (centrif. spun)	
Flow (cfs)	1.00	4.43	
Slope (ft/ft)	0.050	0.010	
ID\Label	988 \ H1	989 \ D6	991 \ D5
Ground (ft)	1005.21	1004.17	1001.34
Invert (ft)	1000.69	998.91	997.24
Station (ft)	0.0	35.7	202.4

Storm Data Detailed Report: LeesSummit

Element Details		
ID	987	Notes
Label	LeesSummit	

Duration (min)	1 Year (in/h)	2 Year (in/h)	5 Year (in/h)	10 Year (in/h)	25 Year (in/h)	50 Year (in/h)
5.000	4.980	5.810	7.190	8.340	9.970	11.300
10.000	3.640	4.250	5.260	6.110	7.300	8.240
15.000	2.960	3.460	4.280	4.970	5.940	6.700
30.000	2.050	2.410	2.990	3.490	4.180	4.720
60.000	1.340	1.580	1.970	2.300	2.770	3.140
120.000	0.828	0.973	1.220	1.430	1.720	1.960
180.000	0.623	0.733	0.919	1.080	1.310	1.500
360.000	0.377	0.445	0.563	0.666	0.815	0.937
720.000	0.220	0.263	0.336	0.400	0.494	0.570
1,440.000	0.129	0.155	0.198	0.236	0.292	0.338
2,880.000	0.076	0.090	0.113	0.134	0.165	0.190
4,320.000	0.056	0.065	0.081	0.095	0.116	0.133
10,080.000	0.046	0.053	0.064	0.075	0.090	0.103
14,400.000	0.031	0.035	0.042	0.048	0.057	0.064

100 Year (in/h)
12.600
9.200
7.480
5.260
3.510
2.200
1.690
1.060
0.651
0.386
0.216
0.151
0.116
0.071

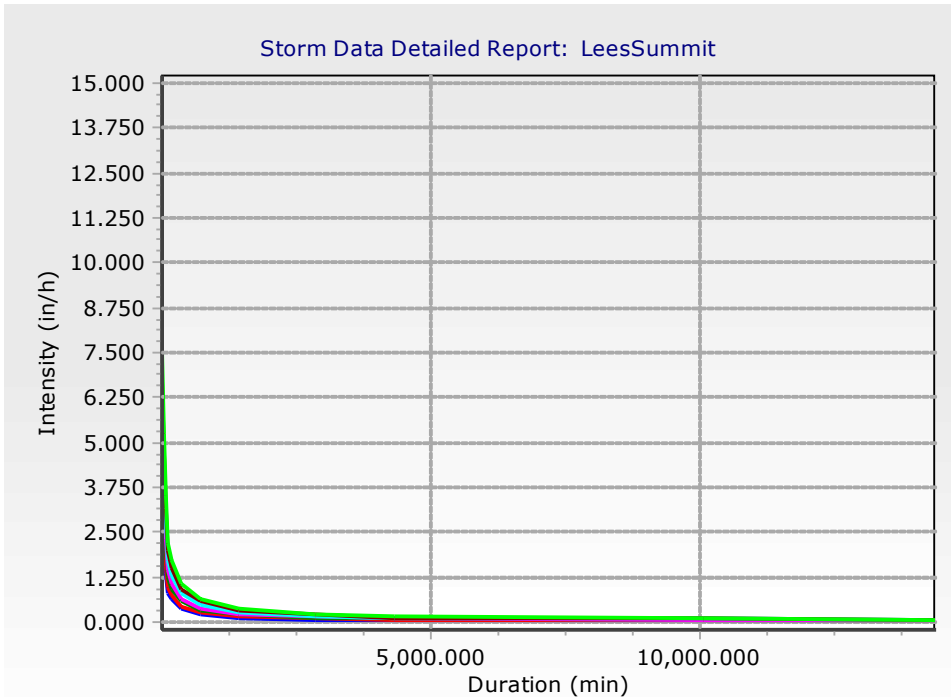
Library Status Summary

Synchronization Details	
ID	987
Label	LeesSummit

Storm Data Detailed Report: LeesSummit

Library Status Summary

Synchronization Details	
Modified Date	1/5/2018 4:02:09 PM
Library Source	Orphan (local)
Library Modified Date	Orphan (local)
Synchronization Status	Orphan (local)
Engineering Reference Guid	Orphan (local)





NOAA Atlas 14, Volume 8, Version 2
 Location name: Lees Summit, Missouri, USA*
 Latitude: 38.9042°, Longitude: -94.333°
 Elevation: 1003.25 ft**

* source: ESRI Maps
 ** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffrey Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps & aerals](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	4.98 (3.89-6.34)	5.81 (4.54-7.40)	7.19 (5.59-9.18)	8.34 (6.47-10.7)	9.97 (7.51-13.2)	11.3 (8.30-15.0)	12.6 (8.99-17.1)	13.9 (9.60-19.4)	15.7 (10.5-22.5)	17.1 (11.1-24.8)
10-min	3.64 (2.85-4.64)	4.25 (3.32-5.42)	5.26 (4.10-6.72)	6.11 (4.73-7.84)	7.30 (5.50-9.64)	8.24 (6.08-11.0)	9.20 (6.58-12.5)	10.2 (7.03-14.2)	11.5 (7.67-16.5)	12.5 (8.15-18.2)
15-min	2.96 (2.32-3.78)	3.46 (2.70-4.40)	4.28 (3.33-5.46)	4.97 (3.85-6.37)	5.94 (4.47-7.84)	6.70 (4.94-8.95)	7.48 (5.35-10.2)	8.28 (5.71-11.6)	9.35 (6.24-13.4)	10.2 (6.63-14.8)
30-min	2.05 (1.60-2.61)	2.41 (1.88-3.07)	2.99 (2.33-3.83)	3.49 (2.70-4.47)	4.18 (3.14-5.51)	4.72 (3.48-6.29)	5.26 (3.76-7.17)	5.82 (4.01-8.12)	6.57 (4.38-9.40)	7.14 (4.65-10.4)
60-min	1.34 (1.05-1.71)	1.58 (1.23-2.01)	1.97 (1.53-2.51)	2.30 (1.78-2.95)	2.77 (2.08-3.66)	3.14 (2.31-4.19)	3.51 (2.52-4.80)	3.90 (2.69-5.46)	4.43 (2.96-6.35)	4.84 (3.15-7.02)
2-hr	0.828 (0.652-1.05)	0.973 (0.766-1.23)	1.22 (0.955-1.54)	1.43 (1.11-1.81)	1.72 (1.31-2.26)	1.96 (1.46-2.60)	2.20 (1.59-2.98)	2.45 (1.70-3.40)	2.79 (1.88-3.97)	3.06 (2.01-4.40)
3-hr	0.623 (0.493-0.784)	0.733 (0.579-0.923)	0.919 (0.724-1.16)	1.08 (0.847-1.37)	1.31 (1.00-1.72)	1.50 (1.12-1.98)	1.69 (1.22-2.28)	1.89 (1.32-2.62)	2.16 (1.46-3.07)	2.38 (1.57-3.42)
6-hr	0.377 (0.300-0.470)	0.445 (0.355-0.556)	0.563 (0.447-0.705)	0.666 (0.526-0.837)	0.815 (0.629-1.06)	0.937 (0.707-1.23)	1.06 (0.778-1.43)	1.20 (0.845-1.65)	1.38 (0.943-1.95)	1.53 (1.02-2.18)
12-hr	0.220 (0.177-0.273)	0.263 (0.211-0.326)	0.336 (0.269-0.417)	0.400 (0.318-0.499)	0.494 (0.384-0.640)	0.570 (0.434-0.747)	0.651 (0.480-0.871)	0.736 (0.524-1.01)	0.854 (0.587-1.20)	0.949 (0.635-1.34)
24-hr	0.129 (0.105-0.159)	0.155 (0.125-0.190)	0.198 (0.159-0.244)	0.236 (0.189-0.292)	0.292 (0.229-0.376)	0.338 (0.259-0.439)	0.386 (0.287-0.513)	0.437 (0.313-0.595)	0.508 (0.352-0.709)	0.565 (0.381-0.795)
2-day	0.076 (0.062-0.093)	0.090 (0.073-0.110)	0.113 (0.092-0.139)	0.134 (0.108-0.165)	0.165 (0.130-0.210)	0.190 (0.147-0.245)	0.216 (0.162-0.285)	0.244 (0.177-0.330)	0.284 (0.198-0.393)	0.315 (0.214-0.440)
3-day	0.056 (0.046-0.069)	0.065 (0.054-0.080)	0.081 (0.066-0.099)	0.095 (0.077-0.116)	0.116 (0.092-0.147)	0.133 (0.103-0.171)	0.151 (0.113-0.198)	0.170 (0.123-0.229)	0.197 (0.138-0.271)	0.218 (0.149-0.303)
4-day	0.046 (0.038-0.055)	0.053 (0.043-0.064)	0.064 (0.053-0.078)	0.075 (0.061-0.091)	0.090 (0.072-0.114)	0.103 (0.080-0.132)	0.116 (0.088-0.152)	0.130 (0.095-0.175)	0.150 (0.106-0.207)	0.166 (0.114-0.231)
7-day	0.031 (0.026-0.037)	0.035 (0.029-0.042)	0.042 (0.035-0.051)	0.048 (0.039-0.058)	0.057 (0.045-0.071)	0.064 (0.050-0.081)	0.071 (0.054-0.093)	0.079 (0.058-0.105)	0.090 (0.064-0.123)	0.098 (0.068-0.136)
10-day	0.025 (0.020-0.029)	0.028 (0.023-0.033)	0.033 (0.027-0.040)	0.038 (0.031-0.045)	0.044 (0.035-0.055)	0.049 (0.038-0.062)	0.054 (0.041-0.070)	0.059 (0.044-0.078)	0.067 (0.047-0.090)	0.072 (0.050-0.099)
20-day	0.016 (0.014-0.019)	0.019 (0.015-0.022)	0.022 (0.018-0.026)	0.025 (0.021-0.030)	0.029 (0.023-0.035)	0.031 (0.025-0.039)	0.034 (0.026-0.043)	0.037 (0.027-0.048)	0.040 (0.029-0.054)	0.043 (0.030-0.059)
30-day	0.013 (0.011-0.016)	0.015 (0.013-0.018)	0.018 (0.015-0.021)	0.020 (0.017-0.024)	0.023 (0.018-0.028)	0.025 (0.020-0.031)	0.027 (0.021-0.034)	0.029 (0.021-0.037)	0.031 (0.022-0.042)	0.033 (0.023-0.045)
45-day	0.011 (0.009-0.013)	0.012 (0.010-0.014)	0.014 (0.012-0.017)	0.016 (0.013-0.019)	0.018 (0.015-0.022)	0.020 (0.016-0.024)	0.021 (0.016-0.027)	0.023 (0.017-0.029)	0.024 (0.017-0.032)	0.025 (0.018-0.034)
60-day	0.009 (0.008-0.011)	0.011 (0.009-0.012)	0.012 (0.010-0.015)	0.014 (0.012-0.016)	0.016 (0.013-0.019)	0.017 (0.013-0.021)	0.018 (0.014-0.023)	0.019 (0.014-0.025)	0.020 (0.015-0.027)	0.021 (0.015-0.029)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

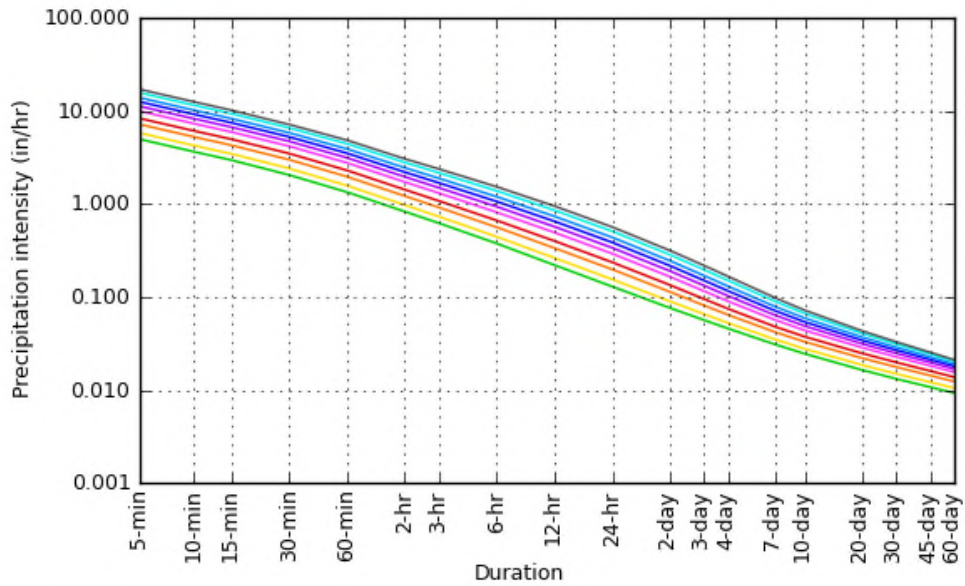
Please refer to NOAA Atlas 14 document for more information.

[Back to Top](#)

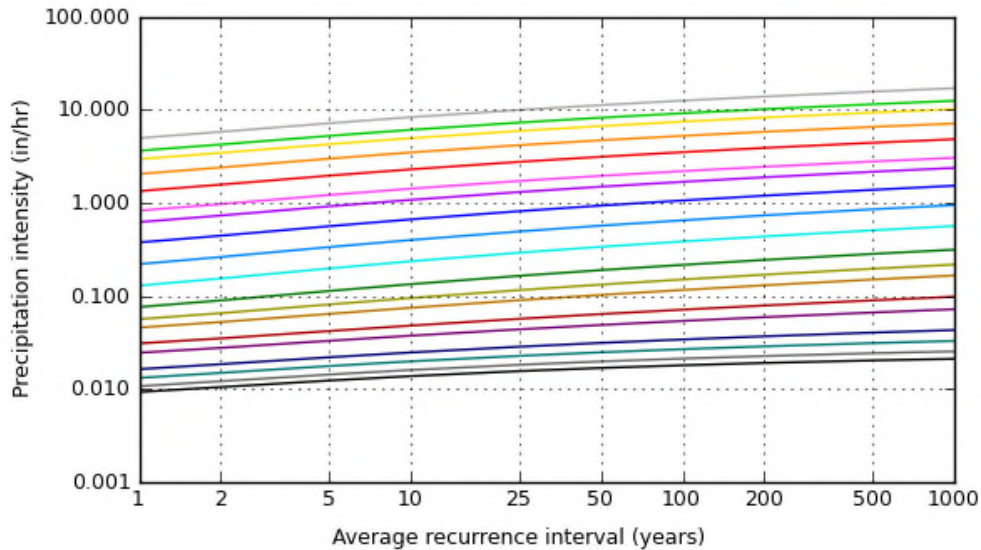
PF graphical

PDS-based intensity-duration-frequency (IDF) curves

Latitude: 38.9042°, Longitude: -94.3330°



Average recurrence interval (years)
1
2
5
10
25
50
100
200
500
1000



Duration	
5-min	2-day
10-min	3-day
15-min	4-day
30-min	7-day
60-min	10-day
2-hr	20-day
3-hr	30-day
6-hr	45-day
12-hr	60-day
24-hr	

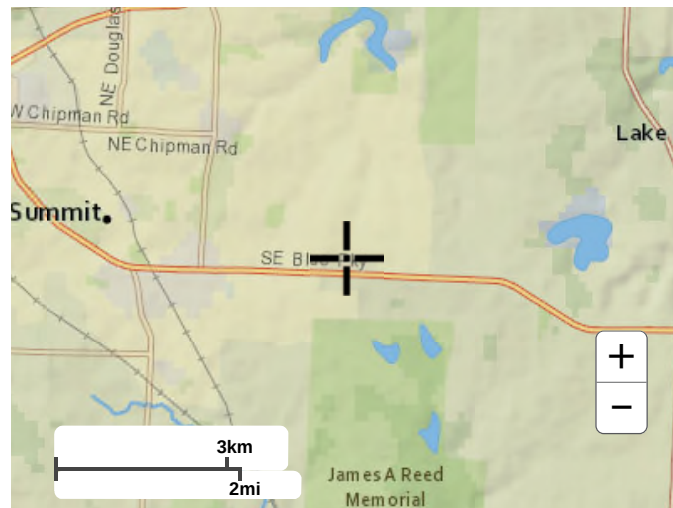
NOAA Atlas 14, Volume 8, Version 2

Created (GMT): Fri Jan 5 18:53:46 2018

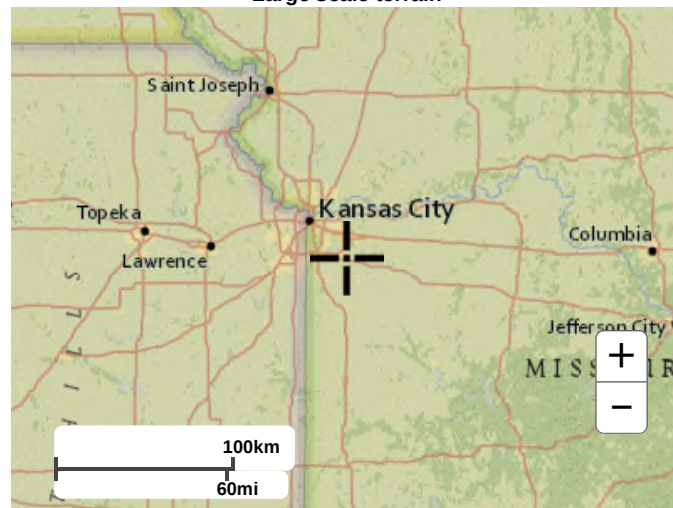
[Back to Top](#)

Maps & aeriels

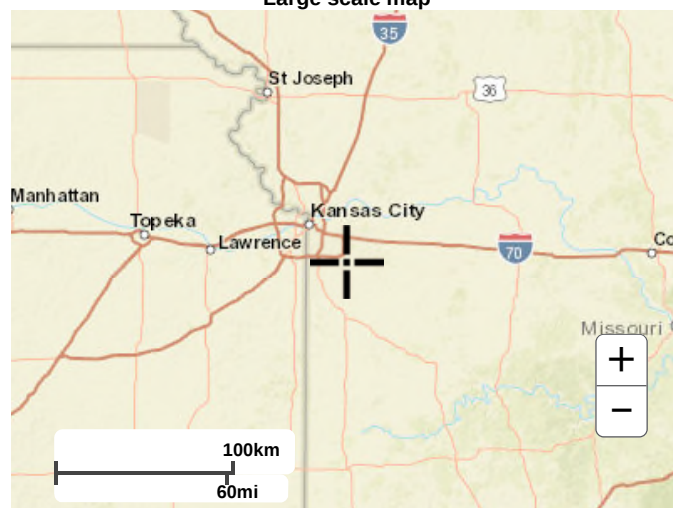
Small scale terrain



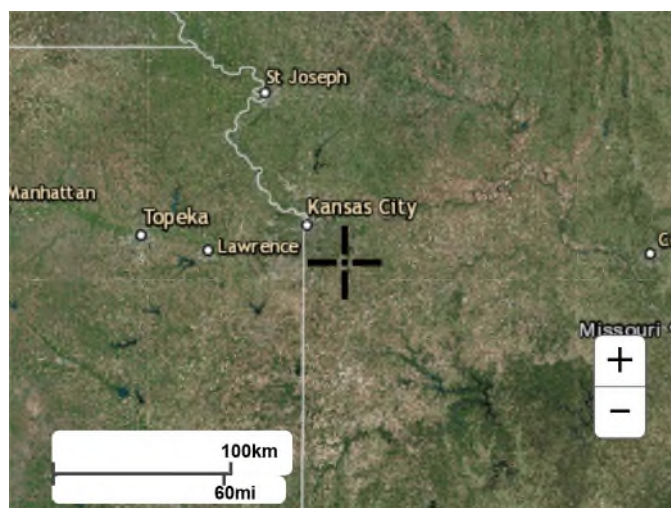
Large scale terrain



Large scale map



Large scale aerial

[Back to Top](#)

[US Department of Commerce](#)
[National Oceanic and Atmospheric Administration](#)
[National Weather Service](#)
[National Water Center](#)
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

[Disclaimer](#)