



July 25, 2022

Mr. Jacob James  
**City of Lone Tree Public Works**  
9220 Kimmer Drive  
Lone Tree, CO 80124

**Re: Ridgegate Filing 1A Octave Avenue Extension – Drainage Compliance Letter**

Dear Mr. James:

Please accept this letter as verification of drainage compliance for the Octave Avenue extension, located in a portion of Section 24, Township 6 South, Range 67 West of the Sixth Principal Meridian, City of Lone Tree, Douglas County, Colorado. A future single family RSV Condo-Commercial Site will generally bound the site to the north, and an undeveloped lot to the south. A vicinity map for the project is included in the Appendix to this letter.

This project consists of the extension of Octave Avenue from filing 1 temporary turn around point to High Note Avenue. Final design of Octave Avenue addition will include storm sewer, sanitary sewer and water line. The total area within the Octave Avenue R.O.W is 1.61 acres.

The purpose of this letter is to demonstrate that the proposed project conforms to the established drainage patterns and criteria set forth in the previously approved Phase III Drainage Report for Ridgegate Southwest Village Filing 1. The governing master report is the Approved *Phase III Drainage Report for Ridgegate Southwest Village Filing 1* by JR Engineering, LLC, Addendum #1 revised September 28, 2021. The referenced information from the governing master report is included in the Appendix of the report.

The site is tributary to the Happy Canyon floodplain as defined by the FEMA Flood Insurance Rate Maps, FIRM #08035C0063H and effective September 4, 2020, and is included in the Appendix. The site lies entirely within Zone X which is the flood insurance rate zone that corresponds to areas outside the one percent annual chance floodplain.

The Natural Resources Conservation Service Web Soil Survey in the approved drainage reports identify the soil on the property as Hydrologic Soils Group C and D. Hydrologic Group C soils are described as “soils that have low infiltration rates when thoroughly wetted and consist chiefly of soils with a layer that impedes downward movement of water and soils with moderately fine to fine structure.” Hydrologic Group D soils are described as “soils that have very low infiltration rates when thoroughly wetted and consist chiefly of clay soils with high swelling potential, soils with a permanent high water table, soils with a claypan or clay layer at or near the surface and shallow soils over nearly impervious material.” A soils map has been included in the Appendix.

Currently, the project site is vacant. The site generally slopes east and west from the high point near the center of the proposed Octave Avenue extension, with slopes ranging between 0.5% to 5%. The lots to the north and south of the Octave Avenue addition site generally slope to the north, with slopes ranging between 0.5% to 25%.

In the existing condition the site is located within Basin R3 (75.9% impervious, 0.79 acres), a very small portion of Basin R9 (85% impervious, 0.06 acres), Basin A54 (71% impervious, 0.38 acres) and Basin A55 (74% impervious, 0.38 acres) as defined in the Phase III Drainage Report for Ridgegate Southwest Village Filing 1, see Appendix D.

For the 1.61 acres within the Octave Avenue R.O.W, the total impervious area assumed by the Ridgeway Southwest Village Filing 1 is 1.20 acres. In the proposed condition, the site will consist of Octave Avenue extension and associated sidewalks along the road on each side. In the proposed condition, the site will consist of five basins. Basin A1 (0.38 acres, 75.5% impervious) will drain to the east and be conveyed through curb and gutter into a proposed type R inlet, which will be piped to DP 3.1. Basin A2 (0.35 acres, 80.1% impervious) will drain to the east and be conveyed through curb and gutter into a proposed type R inlet, which will be piped to DP 3.1. Basin A3 (0.06 acres, 75.3% impervious) will drain southeast onto Basin A2. Basin B1 (0.41 acres, 70.1% impervious) will drain to the west and be conveyed through curb and gutter into an existing 15 foot type R inlet, which will be piped to DP 13.1. Basin B2 (0.41 acres, 77.5% impervious) will drain to the west and be conveyed through curb and gutter into an existing 15 foot type R inlet, which will be piped to DP 13.1. For the 1.61 acres within the Octave Avenue R.O.W, total proposed impervious area onsite is 1.217 acres. Basin OA1 has nuisance flows that will be directed along a proposed swale at the toe of the 4:1 existing slope W of the project site. This swale carries the nuisance flows to a closed mesh grate type C inlet which drains into the proposed 10' type R inlet that collects the flows from basin A1.

Proposed improvements will not alter the drainage patterns described in the previously approved Filing 1 Phase III Drainage Report. In the proposed condition, runoff from Basins A1, A2 and A3, will be captured by two 10 foot type R Inlets in the east portion of the site, where it will be conveyed via storm sewer in High Note Avenue and Ridgeway Parkway to an existing quality pond on the north side of Ridgeway Parkway (described as pond R in the Filing 1 report) where water quality will be provided. Runoff from Basins B1 and B2 will be captured by two existing 15 foot type R inlets west of the site where it will be conveyed via storm sewer in Octave Avenue and Lyric Street to an existing Eurv pond in the regional park northwest of the Lyric/Octave intersection where water quality will be provided. 100-yr flood control volume will be provided by on-line metering ponds in Happy Canyon Creek.

**Table 1: Historic Imperviousness vs. Proposed Imperviousness**

**Historic Basins Per Previously Approved Drainage Report**

Basin ID	Percent Impervious	Area Onsite	Impervious Area
EX-Basin R3	75.9%	0.79 Acres	0.60 Acres
Ex-Basin R9	85%	0.06 Acres	0.05 Acres
EX-Basin A54	70.9%	0.38 Acres	0.27 Acres
EX-Basin A55	73.9%	0.38 Acres	0.28 Acres
Total	74.5%	1.61 Acres	1.20 Acres

**Proposed Basins Onsite**

Basin ID	Percent Impervious	Area	Impervious Area
A1	75.5%	0.38 Acres	0.287 Acres
A2	80.1%	0.35 Acres	0.28 Acres
A3	75.3%	0.06 Acres	0.045 Acres
B1	70.1%	0.41 Acres	0.287 Acres
B2	77.5%	0.41 Acres	0.318 Acres
Total	75.6%	1.61 Acres	1.217 Acres

As shown in Table 1, the historic impervious area assumed from the Phase III Drainage Report for Ridgeway Southwest Village Filing 1 is 1.2 acres and the proposed impervious area is 1.217 acres. As a result, the slight increase in imperviousness will result in a negligible increase in flow. Because runoff in the proposed condition will not increase substantially from the runoff assumed in the previously approved Filing 1 report, this project is in conformance with the Filing 1 Phase III Drainage Report and City of Lone Tree Drainage Criteria.

Sincerely,

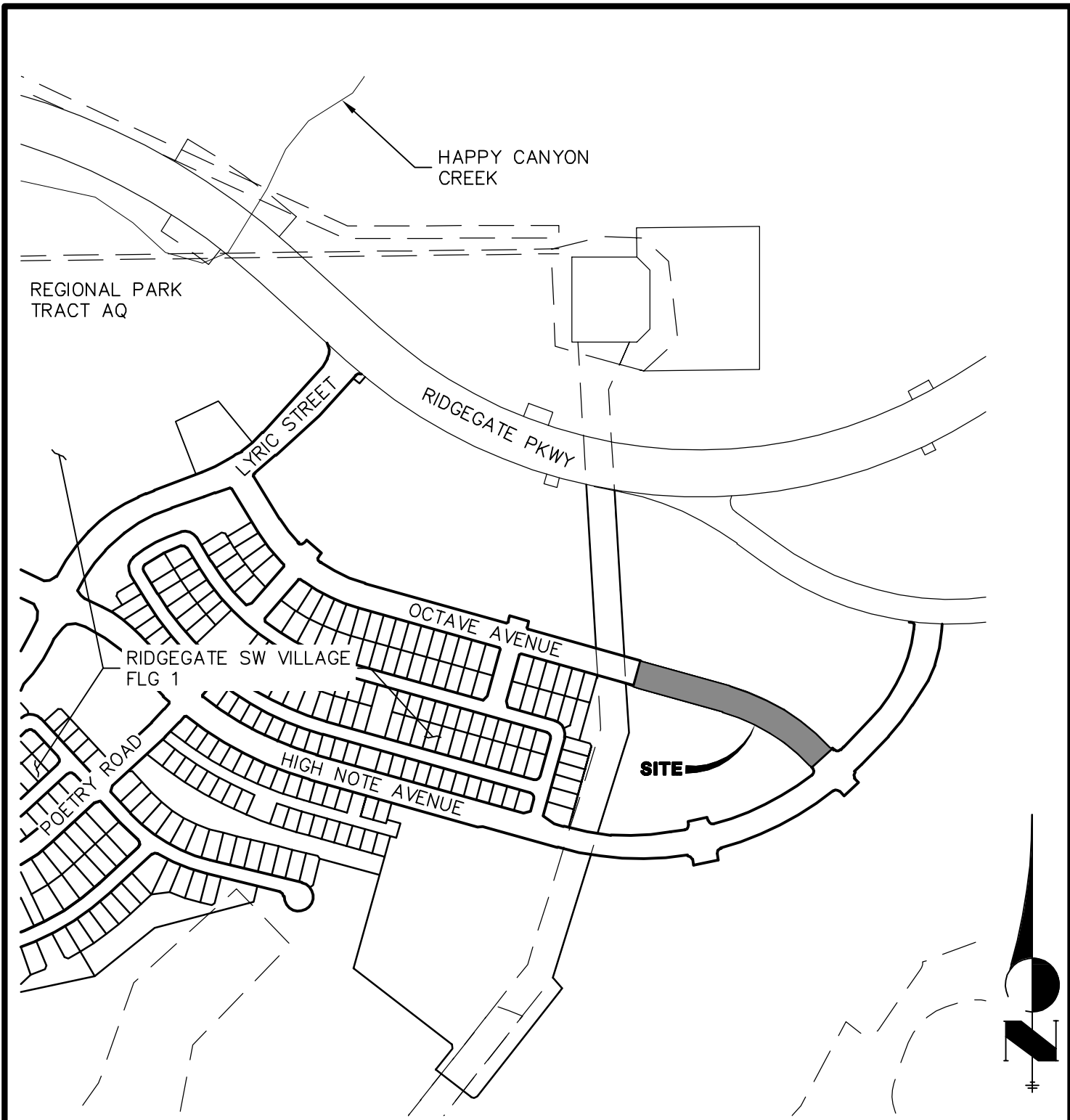
**JR ENGINEERING, LLC**

Aaron L. Clutter, P.E.

Attachments:

- Appendix A
  - Vicinity Map
  - NRCS Soils Map
  - FEMA Flood Insurance Rate Map
- Appendix B
  - Hydrologic Calculations
- Appendix C
  - Hydraulic Calculations
- Appendix D
  - References-Previously Approved Phase III Drainage Report, Addendum #1, Sheet 4
- Appendix E
  - Historic Drainage Map
  - Proposed Drainage Plan

## **Appendix A**



**VICINITY MAP**  
SCALE 1' = 500'

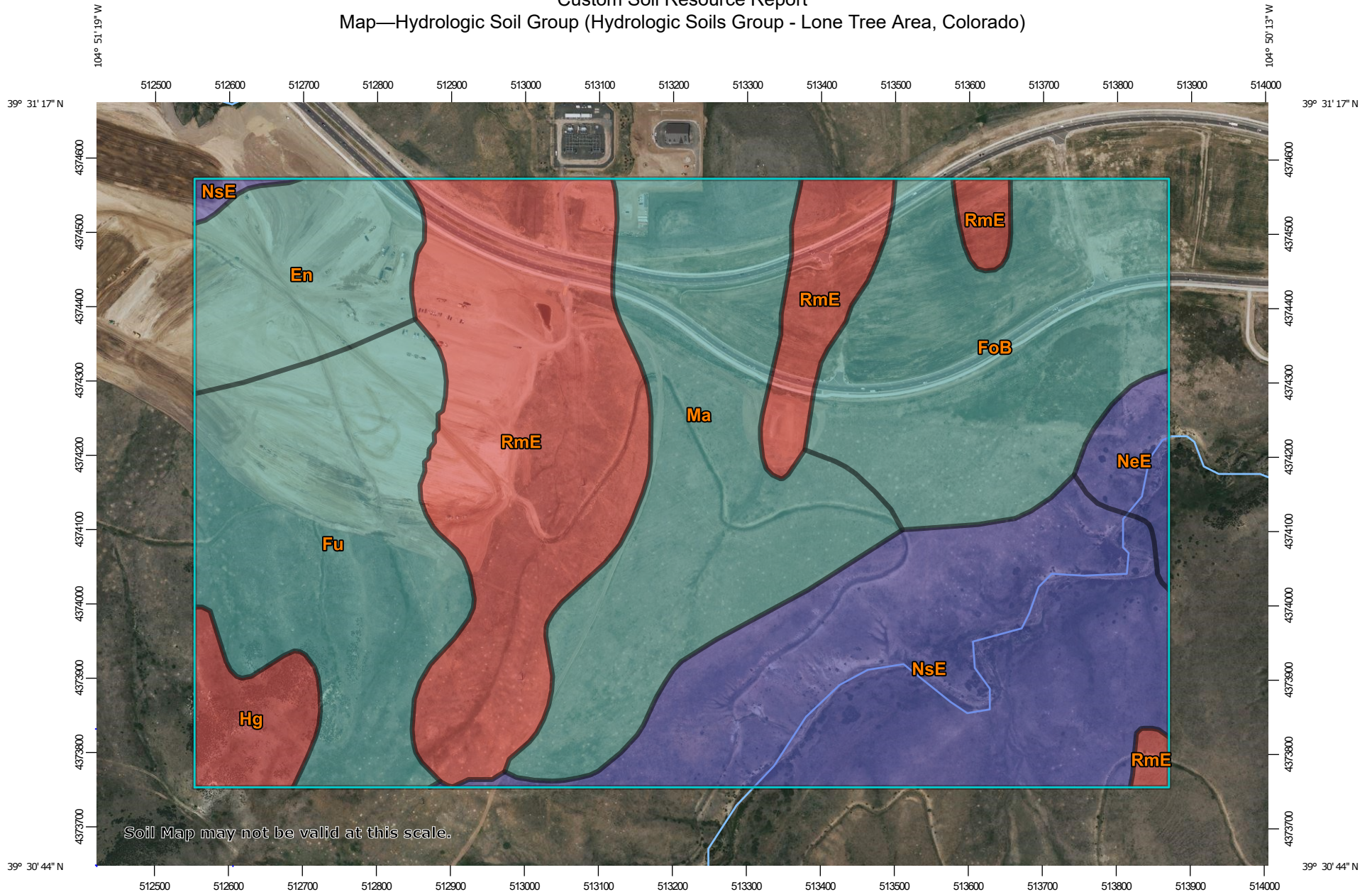
15950.03  
7/6/22  
SHEET 1 OF 1



Centennial 303-740-9393 • Colorado Springs 719-593-2593  
Fort Collins 970-491-9888 • [www.jrengineering.com](http://www.jrengineering.com)

# Custom Soil Resource Report

## Map—Hydrologic Soil Group (Hydrologic Soils Group - Lone Tree Area, Colorado)



Soil Map may not be valid at this scale.

Map Scale: 1:7,240 if printed on A landscape (11" x 8.5") sheet.


0 100 200 400 600 Meters

0 350 700 1400 2100 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84











### 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






**Soils**

-  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 1:20,000.

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: Castle Rock Area, Colorado  
 Survey Area Data: Version 14, Aug 31, 2021

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

Date(s) aerial images were photographed: Jun 9, 2021—Jun 12, 2021

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.

**Table—Hydrologic Soil Group (Hydrologic Soils Group - Lone Tree Area, Colorado)**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
En	Englewood clay loam	C	17.4	6.5%
FoB	Fondis clay loam, 1 to 3 percent slopes	C	41.6	15.5%
Fu	Fondis-Kutch association	C	39.9	14.9%
Hg	Hilly gravelly land	D	7.2	2.7%
Ma	Manzanola clay loam	C	44.9	16.8%
NeE	Newlin gravelly sandy loam, 8 to 30 percent slopes	B	4.9	1.8%
NsE	Newlin-Satanta complex, 5 to 20 percent slopes	B	54.4	20.3%
RmE	Renohill-Buick complex, 5 to 25 percent slopes	D	57.3	21.4%
<b>Totals for Area of Interest</b>			<b>267.7</b>	<b>100.0%</b>

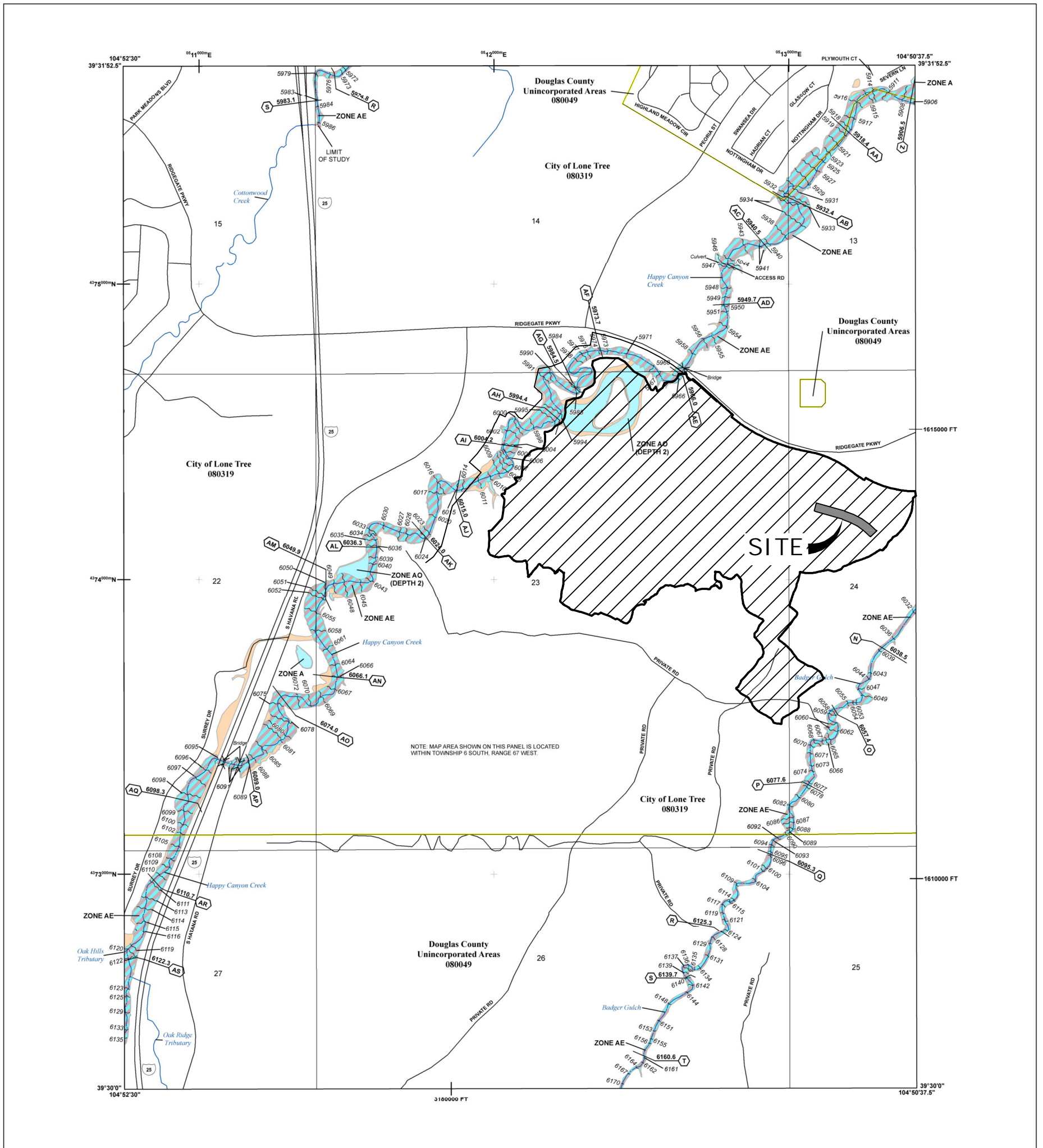
**Rating Options—Hydrologic Soil Group (Hydrologic Soils Group - Lone Tree Area, Colorado)**

*Aggregation Method: Dominant Condition*

*Component Percent Cutoff: None Specified*

*Tie-break Rule: Higher*





**FLOOD HAZARD INFORMATION**

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT. THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT [HTTPS://MSC.FEMA.GOV](https://MSC.FEMA.GOV)

	Without Base Flood Elevation (BFE) Zone A, AS
	With BFE or Depth Zone AE, AO, AH, VE, AR
	Regulatory Floodway
	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
	Future Conditions 1% Annual Chance Flood Hazard Zone X
	Area with Reduced Flood Risk due to Levee See Notes, Zone X
	NO SCREEN Areas of Minimal Flood Hazard Zone X
	Area of Undetermined Flood Hazard Zone D
	Channel, Culvert, or Storm Sewer Accredited or Provisionally Accredited
	Levee, Dike, or Floodwall
	Non-accredited Levee, Dike, or Floodwall
	Cross Sections with 1% Annual Chance Water Surface Elevation (BFE)
	Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary

**NOTES TO USERS**

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP), in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-358-2627) or visit the FEMA Flood Map Service Center website at <https://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 website.

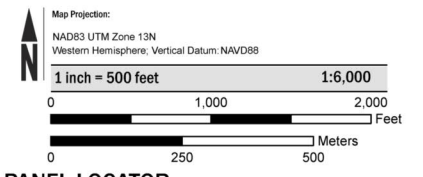
Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in the community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was provided by the Douglas County GIS Department and the Town of Castle Rock GIS Department. Additional input was provided by the City of Lone Tree and Town of Parker. These data are current as of 2010.

**SCALE**



**PANEL LOCATOR**



**FEMA**  
 National Flood Insurance Program

**NATIONAL FLOOD INSURANCE PROGRAM**  
 FLOOD INSURANCE RATE MAP

**DOUGLAS COUNTY, COLORADO**  
 And Incorporated Areas  
 PANEL 63 OF 495

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
DOUGLAS COUNTY	080049	0063	H
LONE TREE, CITY OF	080319	0063	H

VERSION NUMBER: 2.3.3.2  
 MAP NUMBER: 08035C0063H  
 MAP REVISED: SEPTEMBER 4, 2020

## **Appendix B**

## COMPOSITE % IMPERVIOUS CALCULATIONS

Subdivision: Ridgegate  
 Location: Douglas County - Zone 1

Project Name: Octave Avenue Addition  
 Project No.: 15950.03  
 Calculated By: RCB  
 Checked By: \_\_\_\_\_  
 Date: 7/12/22

Basin ID	Total Area (ac)	Single Family Residential/Commercial			Roads/Pond			Sidewalk			Open Space/Park			Basins Total
		% Imp.	Area (ac)	Weighted % Imp.	% Imp.	Area (ac)	Weighted % Imp.	% Imp.	Area (ac)	Weighted % Imp.	% Imp.	Area (ac)	Weighted % Imp.	Weighted % Imp.
A1	0.38	45%	0.00	0.0%	100%	0.24	63.2%	90.0%	0.05	11.8%	2%	0.09	0.5%	75.5%
A2	0.35	45%	0.00	0.0%	100%	0.27	77.1%	90.0%	0.01	2.6%	2%	0.07	0.4%	80.1%
A3	0.06	45%	0.00	0.0%	100%	0.00	0.0%	90.0%	0.05	75.0%	2%	0.01	0.3%	75.3%
B1	0.41	45%	0.00	0.0%	100%	0.24	58.5%	90.0%	0.05	11.0%	2%	0.12	0.6%	70.1%
B2	0.41	45%	0.00	0.0%	100%	0.28	68.3%	90.0%	0.04	8.8%	2%	0.09	0.4%	77.5%
OA1	1.49	75%	1.49	75.0%	100%	0.00	0.0%	90.0%	0.00	0.0%	2%	0.00	0.0%	75.0%
OA2	0.18	75%	0.00	0.0%	100%	0.14	77.8%	90.0%	0.02	10.0%	2%	0.02	0.2%	88.0%
OB1	3.04	*See Basin A53A from 15950.01 Ridgegate Phase III Filing 1 Drainage Report												75.0%
OB2	1.95	*See Basin A53 from 15950.01 Ridgegate Phase III Filing 1 Drainage Report												14.2%
OB3	1.17	*See Basin A54A from 15950.01 Ridgegate Phase III Filing 1 Drainage Report												46.0%
OB4	0.99	45%	0.00	0.0%	100%	0.51	51.5%	90.0%	0.12	10.9%	2%	0.36	0.7%	63.2%
OB5	0.52	45%	0.00	0.0%	100%	0.32	61.5%	90.0%	0.07	12.1%	2%	0.13	0.5%	74.2%
TOTAL	10.95													60.3%

## COMPOSITE RUNOFF COEFFICIENT CALCULATIONS

Subdivision: Ridgegate  
 Location: Douglas County - Zone 1

Project Name: Octave Avenue Addition  
 Project No.: 15950.03  
 Calculated By: RCB  
 Checked By: \_\_\_\_\_  
 Date: 7/12/22

Basin ID	Total Area (ac)	Basins Total Weighted % Imp.	Hydrologic Soil Group			Hydrologic Soil Group			Minor Coefficients			Major Coefficients			Basins Total Weighted C <sub>5</sub>	Basins Total Weighted C <sub>100</sub>
			Area A (ac)	Area B (ac)	Area C/D (ac)	% A (ac)	% B (ac)	% C/D (ac)	C <sub>5,A</sub>	C <sub>5,B</sub>	C <sub>5,C/D</sub>	C <sub>100,A</sub>	C <sub>100,B</sub>	C <sub>100,C/D</sub>		
A1	0.38	75.5%	0.00	0.00	0.38	0%	0%	100%	0.60	0.63	0.65	0.70	0.78	0.79	0.65	0.79
A2	0.35	80.1%	0.00	0.00	0.35	0%	0%	100%	0.65	0.68	0.69	0.74	0.80	0.81	0.69	0.81
A3	0.06	75.3%	0.00	0.00	0.06	0%	0%	100%	0.60	0.63	0.65	0.70	0.78	0.79	0.65	0.79
B1	0.41	70.1%	0.00	0.00	0.41	0%	0%	100%	0.55	0.58	0.61	0.66	0.75	0.77	0.61	0.77
B2	0.41	77.5%	0.00	0.00	0.41	0%	0%	100%	0.62	0.65	0.67	0.71	0.79	0.80	0.67	0.80
OA1	1.49	75.0%	0.00	0.00	1.49	0%	0%	100%	0.60	0.63	0.65	0.69	0.78	0.79	0.65	0.79
OA2	0.18	88.0%	0.00	0.00	0.18	0%	0%	100%	0.73	0.75	0.76	0.80	0.84	0.85	0.76	0.85
OB1	3.04	75.0%	0.00	0.00	3.04	0%	0%	100%	0.60	0.63	0.65	0.69	0.78	0.79	0.65	0.79
OB2	1.95	14.2%	0.00	0.00	1.95	0%	0%	100%	0.07	0.10	0.15	0.22	0.49	0.54	0.15	0.54
OB3	1.17	46.0%	0.00	0.00	1.17	0%	0%	100%	0.32	0.37	0.41	0.47	0.64	0.67	0.41	0.67
OB4	0.99	63.2%	0.00	0.00	0.99	0%	0%	100%	0.48	0.52	0.55	0.60	0.72	0.74	0.55	0.74
OB5	0.52	74.2%	0.00	0.00	0.52	0%	0%	100%	0.59	0.62	0.64	0.69	0.77	0.79	0.64	0.79
TOTAL	10.95	60.3%	0.00	0.00	10.95	0%	0%	100%	---	---	---	---	---	---	0.53	0.73

Table 6-4. Runoff coefficient equations based on NRCS soil group and storm return period

NRCS Soil Group	Storm Return Period						
	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year	500-Year
A	$C_A = 0.84i^{1.302}$	$C_A = 0.86i^{1.276}$	$C_A = 0.87i^{1.232}$	$C_A = 0.84i^{1.124}$	$C_A = 0.85i+0.025$	$C_A = 0.78i+0.110$	$C_A = 0.65i+0.254$
B	$C_B = 0.84i^{1.169}$	$C_B = 0.86i^{1.088}$	$C_B = 0.81i+0.057$	$C_B = 0.63i+0.249$	$C_B = 0.56i+0.328$	$C_B = 0.47i+0.426$	$C_B = 0.37i+0.536$
C/D	$C_{C/D} = 0.83i^{1.122}$	$C_{C/D} = 0.82i+0.035$	$C_{C/D} = 0.74i+0.132$	$C_{C/D} = 0.56i+0.319$	$C_{C/D} = 0.49i+0.393$	$C_{C/D} = 0.41i+0.484$	$C_{C/D} = 0.32i+0.588$

Where:

$i$  = % imperviousness (expressed as a decimal)

$C_A$  = Runoff coefficient for Natural Resources Conservation Service (NRCS) HSG A soils

$C_B$  = Runoff coefficient for NRCS HSG B soils

$C_{C/D}$  = Runoff coefficient for NRCS HSG C and D soils.

## STANDARD FORM SF-2 TIME OF CONCENTRATION

Subdivision: Ridgeway  
Location: Douglas County - Zone 1

Project Name: Octave Avenue Addition  
Project No.: 15950.03  
Calculated By: RCB  
Checked By: \_\_\_\_\_  
Date: 7/12/22

SUB-BASIN DATA						INITIAL/OVERLAND (T <sub>i</sub> )			TRAVEL TIME (T <sub>t</sub> )					t <sub>c</sub> CHECK (URBANIZED BASINS)			FINAL
BASIN ID	D.A. (ac)	Hydrologic Soils Group	Impervious (%)	C <sub>s</sub>	C <sub>100</sub>	L (ft)	S <sub>o</sub> (%)	t <sub>i</sub> (min)	L <sub>t</sub> (ft)	S <sub>t</sub> (%)	K	VEL. (ft/s)	t <sub>t</sub> (min)	COMP. t <sub>c</sub> (min)	TOTAL LENGTH (ft)	Urbanized t <sub>c</sub> (min)	t <sub>c</sub> (min)
A1	0.38	C	75%	0.65	0.79	20	2.2%	2.8	280	1.6%	20.0	2.5	1.8	4.6	300.0	15.1	5.0
A2	0.35	C	80%	0.69	0.81	20	2.2%	2.5	330	1.8%	20.0	2.7	2.0	4.6	350.0	14.4	5.0
A3	0.06	C	75%	0.65	0.79	10	5.0%	1.5	300	1.8%	20.0	2.7	1.9	3.4	310.0	15.1	5.0
B1	0.41	C	70%	0.61	0.77	20	2.2%	3.1	633	3.2%	15.0	2.7	3.9	7.0	653.0	17.2	7.0
B2	0.41	C	78%	0.67	0.80	20	2.2%	2.7	633	3.3%	15.0	2.7	3.9	6.5	653.0	15.7	6.5
OA1	1.49	C	75%	0.65	0.79	260	6.8%	7.0	172	1.2%	20.0	2.2	1.3	8.3	432.0	14.6	8.3
OA2	0.18	C	88%	0.76	0.85	100	4.0%	3.9	30	1.0%	20.0	2.0	0.3	4.2	130.0	11.3	5.0
OB1	3.04	C	75%	0.65	0.79	300	2.9%	9.9	400	6.2%	20.0	5.0	1.3	11.2	700.0	14.6	11.2
OB2	1.95	C	14%	0.15	0.54	115	3.3%	12.4	510	3.0%	15.0	2.6	3.3	15.7	625.0	28.1	15.7
OB3	1.17	C	46%	0.41	0.67	150	11.2%	6.9	111	1.8%	16.0	2.1	0.9	7.7	261.0	19.1	7.7
OB4	0.99	C	63%	0.55	0.74	20	2.0%	3.5	400	2.4%	20.0	3.1	2.2	5.7	420.0	17.7	5.7
OB5	0.52	C	74%	0.64	0.79	20	2.0%	2.9	230	3.7%	20.0	3.8	1.0	3.9	250.0	14.4	5.0

**NOTES:**

$$t_c = t_i + t_t$$

Where:

- t<sub>c</sub> = computed time of concentration (minutes)
- t<sub>i</sub> = overland (initial) flow time (minutes)
- t<sub>t</sub> = channelized flow time (minutes).

$$t_t = \frac{L_t}{60K\sqrt{S_o}} = \frac{L_t}{60V_t}$$

Where:

- t<sub>t</sub> = channelized flow time (travel time, min)
- L<sub>t</sub> = waterway length (ft)
- S<sub>o</sub> = waterway slope (ft/ft)
- V<sub>t</sub> = travel time velocity (ft/sec) = K√S<sub>o</sub>
- K = NRCS conveyance factor (see Table 6-2).

Equation 6-2 
$$t_i = \frac{0.395(1.1 - C_s)\sqrt{L}}{S_o^{0.333}}$$

Where:

- t<sub>i</sub> = overland (initial) flow time (minutes)
- C<sub>s</sub> = runoff coefficient for 5-year frequency (from Table 6-4)
- L = length of overland flow (ft)
- S<sub>o</sub> = average slope along the overland flow path (ft/ft).

Equation 6-4 
$$t_c = (26 - 17I) + \frac{L_c}{60(14I + 9)\sqrt{S_c}}$$

Where:

- t<sub>c</sub> = minimum time of concentration for first design point when less than t<sub>c</sub> from Equation 6-1.
- L<sub>c</sub> = length of channelized flow path (ft)
- I = imperviousness (expressed as a decimal)
- S<sub>c</sub> = slope of the channelized flow path (ft/ft).

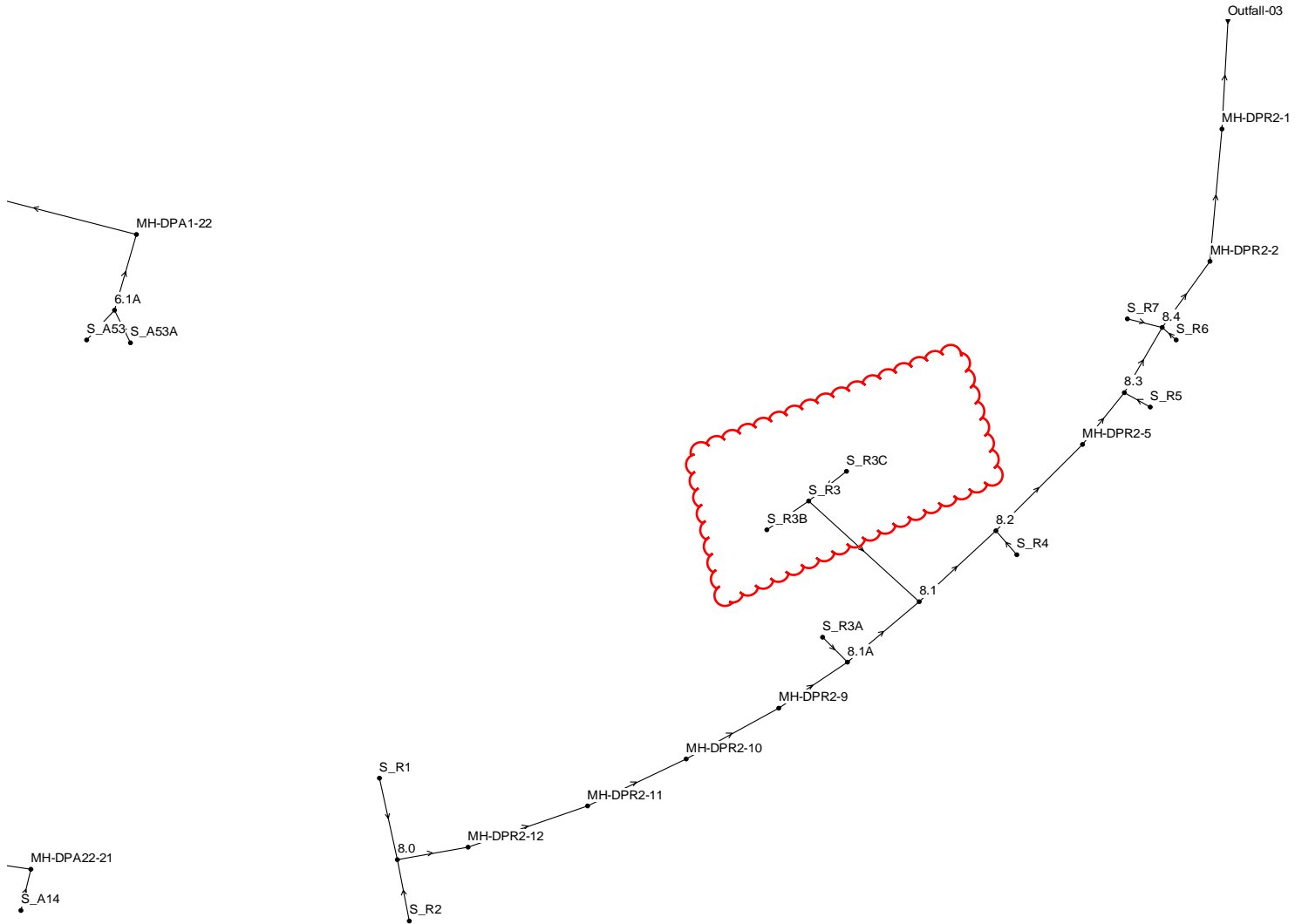
Equation 6-3

**Table 6-2. NRCS Conveyance factors, K**

Type of Land Surface	Conveyance Factor, K
Heavy meadow	2.5
Tillage/field	5
Short pasture and lawns	7
Nearly bare ground	10
Grassed waterway	15
Paved areas and shallow paved swales	20

Equation 6-5

Use a minimum t<sub>c</sub> value of 5 minutes for urbanized areas and a minimum t<sub>c</sub> value of 10 minutes for areas that are not considered urban. Use minimum values even when calculations result in a lesser time of concentration.





**5-YR SWMM**

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.012)

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NOTE: The summary statistics displayed in this report are based on results found at every computational time step, not just on results from each reporting time step.

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Analysis Options

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Flow Units ..... CFS  
Process Models:  
Rainfall/Runoff ..... NO  
RDII ..... NO  
Snowmelt ..... NO  
Groundwater ..... NO  
Flow Routing ..... YES  
Ponding Allowed ..... NO  
Water Quality ..... NO  
Flow Routing Method ..... DYNWAVE  
Starting Date ..... 01/01/2005 00:00:00  
Ending Date ..... 01/02/2005 12:00:00  
Antecedent Dry Days ..... 0.0  
Report Time Step ..... 00:01:00  
Routing Time Step ..... 15.00 sec  
Variable Time Step ..... YES  
Maximum Trials ..... 8  
Number of Threads ..... 1  
Head Tolerance ..... 0.005000 ft

	Volume	Volume
Flow Routing Continuity	acre-feet	10 <sup>6</sup> gal
Dry Weather Inflow .....	0.000	0.000
Wet Weather Inflow .....	0.000	0.000
Groundwater Inflow .....	0.000	0.000
RDII Inflow .....	0.000	0.000
External Inflow .....	288.671	94.068
External Outflow .....	285.640	93.080
Flooding Loss .....	0.000	0.000
Evaporation Loss .....	0.000	0.000
Exfiltration Loss .....	0.000	0.000
Initial Stored Volume ....	0.000	0.000
Final Stored Volume .....	3.042	0.991
Continuity Error (%) .....	-0.004	

\*\*\*\*\*

Time-Step Critical Elements

\*\*\*\*\*

Link Pipe-717 (87.42%)  
Link Pipe-662 (9.22%)  
Link Pipe-526 (2.40%)

\*\*\*\*\*



Highest Flow Instability Indexes

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Link Pipe-562 (1)

\*\*\*\*\*

Routing Time Step Summary

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Minimum Time Step : 0.50 sec  
 Average Time Step : 1.81 sec  
 Maximum Time Step : 5.99 sec  
 Percent in Steady State : 0.00  
 Average Iterations per Step : 2.00  
 Percent Not Converging : 0.02

\*\*\*\*\*

Node Depth Summary

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Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Time of Max Occurrence days hr:min	Reported Max Depth Feet
1.0	JUNCTION	0.02	0.21	6083.95	0 00:35	0.21
1.1	JUNCTION	0.03	0.42	6074.99	0 00:32	0.42
1.2	JUNCTION	0.06	0.60	6060.45	0 00:35	0.60
1.2A	JUNCTION	0.05	0.53	6067.54	0 00:35	0.53
1.3	JUNCTION	0.06	0.69	6058.54	0 00:34	0.69
1.4	JUNCTION	0.07	0.74	6049.11	0 00:34	0.74
1.4A	JUNCTION	0.06	0.72	6053.04	0 00:34	0.72
1.5	JUNCTION	0.08	0.84	6043.97	0 00:33	0.84
1.7	JUNCTION	0.09	0.93	6039.42	0 00:33	0.93
2.0	JUNCTION	0.10	0.98	6034.94	0 00:33	0.98
2.1	JUNCTION	0.07	0.76	6065.43	0 00:30	0.75
2.3	JUNCTION	0.12	1.26	6064.54	0 00:31	1.26
2.4	JUNCTION	0.08	0.79	6036.29	0 00:33	0.79
2.5	JUNCTION	0.12	1.23	6033.05	0 00:33	1.23
2.6	JUNCTION	0.12	1.27	6019.80	0 00:33	1.27
2.8	JUNCTION	0.05	0.52	6040.77	0 00:30	0.52
2.8A	JUNCTION	0.09	0.94	6033.95	0 00:32	0.94
2.9	JUNCTION	0.10	1.05	6032.35	0 00:31	1.05
3.0	JUNCTION	0.11	1.15	6025.44	0 00:31	1.15
3.1	JUNCTION	0.17	1.76	6015.37	0 00:32	1.76
3.2	JUNCTION	0.12	1.25	5994.11	0 00:31	1.25
4.0	JUNCTION	0.07	0.66	6080.94	0 00:32	0.66
4.1	JUNCTION	0.08	0.76	6079.28	0 00:31	0.76
4.2	JUNCTION	0.07	0.73	6065.64	0 00:32	0.73
4.3	JUNCTION	0.08	0.77	6063.90	0 00:32	0.77
4.3A	JUNCTION	0.09	0.90	6044.92	0 00:32	0.90
4.6	JUNCTION	0.09	1.07	6047.75	0 00:30	1.07
4.7	JUNCTION	0.09	1.12	6044.03	0 00:30	1.12
4.8	JUNCTION	0.08	0.89	6030.32	0 00:31	0.89
5.1	JUNCTION	0.03	0.27	6021.39	0 00:36	0.27
5.1A	JUNCTION	0.06	0.53	6017.79	0 00:35	0.53
5.2	JUNCTION	0.09	1.01	6014.91	0 00:31	1.01
5.4	JUNCTION	0.11	1.15	6008.25	0 00:31	1.15
5.4A	JUNCTION	0.11	1.15	6009.65	0 00:31	1.15
5.5	JUNCTION	0.06	0.70	6007.83	0 00:30	0.70
5.6	JUNCTION	0.15	1.56	6007.13	0 00:31	1.56

5.6A	JUNCTION	0.15	1.59	6006.54	0 00:32	1.59
5.6B	JUNCTION	0.20	2.09	6003.24	0 00:33	2.08
5.7	JUNCTION	0.24	2.53	5990.02	0 00:33	2.53
5.7A	JUNCTION	0.20	2.08	5998.13	0 00:33	2.08
6.0	JUNCTION	0.05	0.41	6043.93	0 00:33	0.41
6.1	JUNCTION	0.09	1.04	6035.31	0 00:30	1.04
6.1A	JUNCTION	0.06	0.69	6039.76	0 00:30	0.69
6.2	JUNCTION	0.11	1.21	6034.17	0 00:31	1.21
6.3	JUNCTION	0.07	0.71	6025.84	0 00:31	0.71
6.5	JUNCTION	0.07	0.77	6007.52	0 00:31	0.77
6.7	JUNCTION	0.05	0.52	6014.44	0 00:31	0.52
6.8	JUNCTION	0.10	1.07	6004.58	0 00:32	1.07
6.9	JUNCTION	0.05	0.42	6018.03	0 00:36	0.42
7.2	JUNCTION	0.12	1.22	5997.15	0 00:32	1.22
7.3	JUNCTION	0.12	1.24	5996.16	0 00:31	1.24
7.5	JUNCTION	0.63	2.60	5986.62	0 00:33	2.60
8.0	JUNCTION	0.06	0.69	6065.49	0 00:30	0.68
8.1	JUNCTION	0.06	0.72	6049.37	0 00:30	0.72
8.1A	JUNCTION	0.05	0.58	6053.61	0 00:31	0.58
8.2	JUNCTION	0.07	0.84	6046.03	0 00:30	0.83
8.3	JUNCTION	0.09	1.14	6041.92	0 00:30	1.14
8.4	JUNCTION	0.11	1.33	6041.55	0 00:31	1.33
9.4	JUNCTION	1.44	1.71	5976.14	0 00:00	1.45
9.5	JUNCTION	2.35	3.00	5958.90	0 01:23	3.00
Inlet-DPA18-7	JUNCTION	0.00	0.00	6036.33	0 00:00	0.00
Inlet-DPA31-2	JUNCTION	0.00	0.00	6021.32	0 00:00	0.00
Inlet-DPA42A-1	JUNCTION	0.00	0.00	6064.41	0 00:00	0.00
Inlet-DPA5-1	JUNCTION	0.07	0.71	5999.65	0 00:31	0.71
MH-DP33-11	JUNCTION	0.03	0.39	6063.23	0 00:32	0.39
MH-DP33-6	JUNCTION	0.07	0.75	6047.10	0 00:34	0.75
MH-DPA1-13	JUNCTION	0.11	1.11	6001.77	0 00:32	1.11
MH-DPA1-16	JUNCTION	0.07	0.71	6011.96	0 00:32	0.71
MH-DPA1-19	JUNCTION	0.07	0.75	6032.71	0 00:31	0.75
MH-DPA1-22	JUNCTION	0.06	0.63	6038.65	0 00:30	0.63
MH-DPA15-12	JUNCTION	0.09	1.01	6011.95	0 00:31	1.01
MH-DPA15-13	JUNCTION	0.09	1.01	6013.74	0 00:31	1.01
MH-DPA15-15	JUNCTION	0.08	0.92	6017.43	0 00:31	0.92
MH-DPA15-16	JUNCTION	0.08	0.90	6026.65	0 00:31	0.90
MH-DPA15-18	JUNCTION	0.07	0.85	6034.44	0 00:31	0.85
MH-DPA15-19	JUNCTION	0.07	0.85	6038.38	0 00:30	0.85
MH-DPA15-20	JUNCTION	0.07	0.87	6041.79	0 00:30	0.87
MH-DPA15-21	JUNCTION	0.09	1.12	6042.95	0 00:30	1.12
MH-DPA15-23	JUNCTION	0.09	1.07	6046.34	0 00:30	1.07
MH-DPA15-6	JUNCTION	0.15	1.59	6004.20	0 00:32	1.59
MH-DPA18-5	JUNCTION	0.02	0.18	6034.15	0 00:36	0.18
MH-DPA18B-1	JUNCTION	0.02	0.14	6023.54	0 00:41	0.14
MH-DPA22-11	JUNCTION	0.12	1.23	6029.29	0 00:33	1.23
MH-DPA22-14	JUNCTION	0.07	0.74	6045.29	0 00:33	0.74
MH-DPA22-15	JUNCTION	0.07	0.74	6054.34	0 00:33	0.74
MH-DPA22-16	JUNCTION	0.08	0.84	6060.49	0 00:32	0.84
MH-DPA22-17	JUNCTION	0.12	1.26	6062.61	0 00:32	1.26
MH-DPA22-18	JUNCTION	0.12	1.26	6063.77	0 00:31	1.26
MH-DPA22-21	JUNCTION	0.06	0.74	6067.42	0 00:30	0.74
MH-DPA22-5	JUNCTION	0.22	2.32	6010.00	0 00:33	2.31
MH-DPA22-9	JUNCTION	0.12	1.22	6024.49	0 00:33	1.22
MH-DPA24-11	JUNCTION	0.07	0.68	6074.72	0 00:32	0.68
MH-DPA24-15	JUNCTION	0.05	0.51	6087.07	0 00:32	0.51
MH-DPA24-16	JUNCTION	0.05	0.51	6092.05	0 00:32	0.51
MH-DPA24-3	JUNCTION	0.10	1.08	6030.76	0 00:31	1.08
MH-DPA24-6	JUNCTION	0.08	0.77	6049.20	0 00:32	0.77
MH-DPA24-7	JUNCTION	0.08	0.77	6054.30	0 00:32	0.77

MH-DPA24-8	JUNCTION	0.08	0.77	6059.37	0 00:32	0.77
MH-DPA33-12	JUNCTION	0.03	0.40	6067.38	0 00:32	0.40
MH-DPA33-13	JUNCTION	0.03	0.40	6070.68	0 00:32	0.40
MH-DPA33-16	JUNCTION	0.02	0.19	6086.33	0 00:35	0.19
MH-DPA33-3	JUNCTION	0.09	0.91	6035.98	0 00:33	0.91
MH-DPA33-9	JUNCTION	0.06	0.69	6055.71	0 00:34	0.69
MH-DPA38-1	JUNCTION	0.06	0.60	6059.52	0 00:35	0.60
MH-DPA38-4	JUNCTION	0.04	0.46	6074.57	0 00:36	0.46
MH-DPA38-5	JUNCTION	0.04	0.47	6082.20	0 00:36	0.47
MH-DPA38-6	JUNCTION	0.05	0.55	6083.58	0 00:36	0.55
MH-DPA40-1	JUNCTION	0.04	0.53	6076.46	0 00:31	0.53
MH-DPA40-2	JUNCTION	0.04	0.53	6076.98	0 00:31	0.53
MH-DPA5-5	JUNCTION	0.06	0.47	6006.27	0 00:36	0.47
MH-DPA5-6	JUNCTION	0.05	0.43	6009.32	0 00:36	0.43
MH-DPA5-7	JUNCTION	0.05	0.42	6012.65	0 00:36	0.42
MH-DPA5-8	JUNCTION	0.05	0.42	6015.31	0 00:36	0.42
MH-DPA8-2	JUNCTION	0.05	0.50	6016.87	0 00:32	0.50
MH-DPR2-1	JUNCTION	0.09	1.00	6039.44	0 00:31	1.00
MH-DPR2-10	JUNCTION	0.04	0.49	6060.54	0 00:30	0.49
MH-DPR2-11	JUNCTION	0.05	0.56	6063.01	0 00:30	0.56
MH-DPR2-12	JUNCTION	0.06	0.68	6064.59	0 00:30	0.68
MH-DPR2-2	JUNCTION	0.11	1.33	6040.93	0 00:31	1.33
MH-DPR2-5	JUNCTION	0.07	0.87	6043.40	0 00:30	0.87
MH-DPR2-9	JUNCTION	0.04	0.49	6056.63	0 00:31	0.49
MH-DPR8-1	JUNCTION	0.02	0.23	6006.91	0 00:36	0.23
Plug-DPA45-1	JUNCTION	0.00	0.00	6031.47	0 00:00	0.00
S_A1	JUNCTION	0.02	0.19	6092.86	0 00:35	0.19
S_A10	JUNCTION	0.02	0.17	6048.31	0 00:32	0.17
S_A11	JUNCTION	0.05	0.38	6041.07	0 00:40	0.38
S_A12	JUNCTION	0.05	0.40	6040.48	0 00:38	0.40
S_A13	JUNCTION	0.05	0.47	6036.81	0 00:31	0.47
S_A14	JUNCTION	0.06	0.74	6068.27	0 00:30	0.74
S_A15	JUNCTION	0.03	0.23	6066.47	0 00:42	0.23
S_A16	JUNCTION	0.05	0.59	6065.34	0 00:35	0.59
S_A17	JUNCTION	0.07	0.85	6064.55	0 00:31	0.85
S_A18	JUNCTION	0.02	0.22	6065.70	0 00:30	0.22
S_A19	JUNCTION	0.04	0.35	6039.16	0 00:33	0.35
S_A2	JUNCTION	0.01	0.13	6084.95	0 00:35	0.13
S_A20	JUNCTION	0.03	0.26	6039.43	0 00:35	0.26
S_A21	JUNCTION	0.04	0.43	6022.42	0 00:30	0.43
S_A23	JUNCTION	0.03	0.31	6048.29	0 00:30	0.31
S_A23A	JUNCTION	0.05	0.48	6043.03	0 00:30	0.48
S_A24	JUNCTION	0.05	0.51	6041.74	0 00:30	0.51
S_A25	JUNCTION	0.06	0.77	6033.99	0 00:30	0.77
S_A26	JUNCTION	0.03	0.26	6028.15	0 00:31	0.26
S_A26A	JUNCTION	0.04	0.41	6046.34	0 00:30	0.41
S_A27	JUNCTION	0.03	0.35	6028.77	0 00:30	0.35
S_A27A	JUNCTION	0.03	0.27	6047.47	0 00:31	0.27
S_A28	JUNCTION	0.02	0.22	6080.65	0 00:30	0.22
S_A28A	JUNCTION	0.52	0.67	6080.49	0 00:30	0.67
S_A29	JUNCTION	0.04	0.35	6067.16	0 00:31	0.35
S_A3	JUNCTION	0.03	0.37	6081.54	0 00:31	0.37
S_A30	JUNCTION	0.02	0.22	6067.65	0 00:31	0.22
S_A31	JUNCTION	0.03	0.31	6069.05	0 00:31	0.31
S_A32	JUNCTION	0.03	0.27	6048.12	0 00:31	0.27
S_A33	JUNCTION	0.08	1.04	6048.31	0 00:30	1.04
S_A34	JUNCTION	0.03	0.25	6046.89	0 00:31	0.25
S_A36	JUNCTION	0.04	0.34	6031.60	0 00:33	0.34
S_A37	JUNCTION	0.02	0.18	6035.09	0 00:36	0.18
S_A37A	JUNCTION	0.03	0.23	6028.81	0 00:36	0.23
S_A38	JUNCTION	0.03	0.23	6019.24	0 00:35	0.23

S_A38A	JUNCTION	0.02	0.12	6039.01	0 00:41	0.12
S_A39	JUNCTION	0.03	0.24	6018.37	0 00:33	0.24
S_A4	JUNCTION	0.05	0.55	6086.28	0 00:36	0.55
S_A40	JUNCTION	0.00	0.00	6010.51	0 00:00	0.00
S_A41	JUNCTION	0.06	0.74	6011.15	0 00:30	0.74
S_A42	JUNCTION	0.03	0.20	6010.93	0 00:40	0.20
S_A43	JUNCTION	0.00	0.00	6007.23	0 00:00	0.00
S_A44	JUNCTION	0.00	0.00	6007.23	0 00:00	0.00
S_A45	JUNCTION	0.00	0.00	5996.25	0 00:00	0.00
S_A45A	JUNCTION	0.00	0.00	6005.20	0 00:00	0.00
S_A46	JUNCTION	0.00	0.00	5980.00	0 00:00	0.00
S_A5	JUNCTION	0.03	0.30	6068.27	0 00:30	0.30
S_A51	JUNCTION	0.03	0.24	6046.09	0 00:31	0.24
S_A52	JUNCTION	0.04	0.38	6045.22	0 00:35	0.38
S_A53	JUNCTION	0.00	0.00	6039.17	0 00:00	0.00
S_A53A	JUNCTION	0.00	0.00	6039.17	0 00:00	0.00
S_A54	JUNCTION	0.05	0.57	6036.91	0 00:30	0.57
S_A54A	JUNCTION	0.03	0.37	6037.09	0 00:30	0.37
S_A55	JUNCTION	0.03	0.34	6036.51	0 00:30	0.34
S_A56	JUNCTION	0.03	0.36	6027.53	0 00:30	0.36
S_A57	JUNCTION	0.03	0.38	6010.66	0 00:30	0.38
S_A58	JUNCTION	0.04	0.44	6010.14	0 00:30	0.44
S_A59	JUNCTION	0.04	0.42	6022.28	0 00:32	0.42
S_A6	JUNCTION	0.02	0.24	6062.49	0 00:30	0.24
S_A60	JUNCTION	0.03	0.24	6023.40	0 00:34	0.24
S_A61	JUNCTION	0.03	0.30	6014.66	0 00:30	0.30
S_A62	JUNCTION	0.04	0.28	6018.96	0 00:37	0.28
S_A63	JUNCTION	0.05	0.41	6018.83	0 00:36	0.41
S_A64	JUNCTION	0.08	0.70	6005.58	0 00:31	0.70
S_A65	JUNCTION	0.08	0.73	6004.55	0 00:30	0.73
S_A66	JUNCTION	0.04	0.48	5999.60	0 00:30	0.48
S_A68	JUNCTION	0.02	0.20	5998.00	0 00:35	0.20
S_A69	JUNCTION	0.04	0.34	5997.37	0 00:31	0.34
S_A7	JUNCTION	0.03	0.30	6054.65	0 00:31	0.30
S_A70	JUNCTION	0.03	0.35	5986.84	0 00:30	0.35
S_A70A	JUNCTION	0.34	1.47	5985.88	0 01:23	1.47
S_A71	JUNCTION	0.69	2.13	5985.88	0 01:23	2.13
S_A8	JUNCTION	0.03	0.29	6051.83	0 00:31	0.29
S_A9	JUNCTION	0.04	0.42	6047.90	0 00:31	0.42
S_F1	JUNCTION	0.05	0.51	6094.08	0 00:32	0.51
S_F2	JUNCTION	0.06	0.61	6082.70	0 00:31	0.61
S_F3	JUNCTION	0.09	1.14	6049.22	0 00:30	1.14
S_F4	JUNCTION	0.08	0.84	6006.43	0 00:31	0.84
S_R1	JUNCTION	0.03	0.35	6066.50	0 00:30	0.35
S_R11	JUNCTION	0.02	0.20	6026.83	0 00:36	0.20
S_R2	JUNCTION	0.05	0.57	6066.46	0 00:30	0.57
S_R3	JUNCTION	0.06	0.69	6051.26	0 00:30	0.69
S_R3A	JUNCTION	0.03	0.35	6054.75	0 00:30	0.35
S_R4	JUNCTION	0.02	0.26	6046.92	0 00:25	0.26
S_R5	JUNCTION	0.02	0.23	6043.06	0 00:26	0.23
S_R6	JUNCTION	0.04	0.42	6042.26	0 00:31	0.42
S_R7	JUNCTION	0.02	0.26	6042.58	0 00:30	0.26
S_R3B	JUNCTION	0.06	0.74	6051.49	0 00:30	0.74
S_R3C	JUNCTION	0.03	0.48	6051.23	0 00:30	0.48
Outfall-01	OUTFALL	2.35	3.00	5958.68	0 01:23	3.00
Outfall-03	OUTFALL	0.00	0.00	6037.20	0 00:00	0.00
Outfall-02	OUTFALL	0.02	0.23	6006.31	0 00:36	0.23
PondA	STORAGE	6.67	8.38	5985.88	0 01:23	8.38

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Node Inflow Summary

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Node	Maximum Lateral Inflow Type	Maximum Total Inflow CFS	Maximum Time of Occurrence days	Maximum Inflow Occurrence hr:min	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent	
1.0	JUNCTION	0.00	0.97	0	00:35	0	0.0208	-0.030
1.1	JUNCTION	0.00	3.73	0	00:32	0	0.0627	0.010
1.2	JUNCTION	0.00	9.02	0	00:35	0	0.192	-0.000
1.2A	JUNCTION	0.00	7.85	0	00:35	0	0.162	-0.000
1.3	JUNCTION	0.00	12.71	0	00:34	0	0.254	-0.000
1.4	JUNCTION	0.00	16.18	0	00:34	0	0.344	-0.000
1.4A	JUNCTION	0.00	14.71	0	00:34	0	0.302	-0.000
1.5	JUNCTION	0.00	19.64	0	00:33	0	0.426	-0.001
1.7	JUNCTION	0.00	21.19	0	00:33	0	0.483	-0.001
2.0	JUNCTION	0.00	24.29	0	00:33	0	0.568	-0.000
2.1	JUNCTION	0.00	6.87	0	00:30	0	0.144	0.051
2.3	JUNCTION	0.00	14.75	0	00:31	0	0.317	-0.011
2.4	JUNCTION	0.00	17.45	0	00:33	0	0.4	-0.000
2.5	JUNCTION	0.00	41.72	0	00:33	0	0.968	-0.000
2.6	JUNCTION	0.00	44.31	0	00:33	0	1.03	-0.000
2.8	JUNCTION	0.00	5.32	0	00:30	0	0.115	-0.000
2.8A	JUNCTION	0.00	26.58	0	00:32	0	0.641	-0.000
2.9	JUNCTION	0.00	33.08	0	00:31	0	0.755	-0.000
3.0	JUNCTION	0.00	35.80	0	00:31	0	0.821	-0.000
3.1	JUNCTION	0.00	79.56	0	00:33	0	1.85	-0.000
3.2	JUNCTION	0.00	44.10	0	00:32	0	1.05	-0.000
4.0	JUNCTION	0.00	10.21	0	00:32	0	0.256	-0.000
4.1	JUNCTION	0.00	11.89	0	00:31	0	0.295	-0.000
4.2	JUNCTION	0.00	14.33	0	00:32	0	0.362	-0.000
4.3	JUNCTION	0.00	15.90	0	00:32	0	0.398	-0.000
4.3A	JUNCTION	0.00	21.40	0	00:32	0	0.526	-0.001
4.6	JUNCTION	0.00	17.52	0	00:30	0	0.312	-0.001
4.7	JUNCTION	0.00	18.98	0	00:30	0	0.35	-0.001
4.8	JUNCTION	0.00	20.66	0	00:31	0	0.397	-0.000
5.1	JUNCTION	0.00	1.46	0	00:36	0	0.0524	-0.000
5.1A	JUNCTION	0.00	3.91	0	00:35	0	0.129	-0.000
5.2	JUNCTION	0.00	24.47	0	00:31	0	0.526	-0.000
5.4	JUNCTION	0.00	30.39	0	00:31	0	0.669	-0.000
5.4A	JUNCTION	0.00	29.45	0	00:31	0	0.628	-0.000
5.5	JUNCTION	0.00	5.26	0	00:30	0	0.11	0.020
5.6	JUNCTION	0.00	35.58	0	00:31	0	0.779	-0.004
5.6A	JUNCTION	0.00	37.30	0	00:32	0	0.821	-0.008
5.6B	JUNCTION	0.00	116.84	0	00:33	0	2.67	-0.002
5.7	JUNCTION	0.00	162.33	0	00:33	0	3.77	-0.000
5.7A	JUNCTION	0.00	118.75	0	00:33	0	2.72	-0.003
6.0	JUNCTION	0.00	3.14	0	00:33	0	0.0935	-0.001
6.1	JUNCTION	0.00	10.49	0	00:30	0	0.218	-0.004
6.1A	JUNCTION	0.00	6.11	0	00:30	0	0.122	-0.001
6.2	JUNCTION	0.00	13.60	0	00:31	0	0.312	-0.003
6.3	JUNCTION	0.00	15.15	0	00:31	0	0.342	-0.001
6.5	JUNCTION	0.00	17.84	0	00:32	0	0.402	-0.000
6.7	JUNCTION	0.00	4.80	0	00:31	0	0.119	-0.004
6.8	JUNCTION	0.00	28.99	0	00:32	0	0.684	-0.000
6.9	JUNCTION	0.00	3.55	0	00:36	0	0.13	-0.000
7.2	JUNCTION	0.00	38.28	0	00:32	0	0.925	-0.000
7.3	JUNCTION	0.00	43.46	0	00:31	0	1.03	-0.000
7.5	JUNCTION	0.00	164.19	0	00:33	0	4.06	0.218

8.0	JUNCTION	0.00	4.47	0 00:30	0	0.085	-0.001
8.1	JUNCTION	0.00	10.72	0 00:30	0	0.203	-0.001
8.1A	JUNCTION	0.00	6.20	0 00:31	0	0.123	-0.000
8.2	JUNCTION	0.00	11.66	0 00:30	0	0.216	-0.001
8.3	JUNCTION	0.00	12.40	0 00:30	0	0.228	-0.001
8.4	JUNCTION	0.00	16.00	0 00:30	0	0.316	-0.001
9.4	JUNCTION	92.50	92.50	0 00:00	89.7	89.7	0.006
9.5	JUNCTION	0.00	149.21	0 01:23	0	92.7	0.002
Inlet-DPA18-7	JUNCTION	0.00	0.00	0 00:00	0	0	0.000 gal
Inlet-DPA31-2	JUNCTION	0.00	0.00	0 00:00	0	0	0.000 gal
Inlet-DPA42A-1	JUNCTION	0.00	0.00	0 00:00	0	0	0.000 gal
Inlet-DPA5-1	JUNCTION	0.00	9.34	0 00:31	0	0.241	-0.000
MH-DP33-11	JUNCTION	0.00	3.73	0 00:32	0	0.0626	-0.000
MH-DP33-6	JUNCTION	0.00	16.18	0 00:34	0	0.344	-0.000
MH-DPA1-13	JUNCTION	0.00	28.99	0 00:32	0	0.684	-0.001
MH-DPA1-16	JUNCTION	0.00	15.14	0 00:32	0	0.342	-0.000
MH-DPA1-19	JUNCTION	0.00	13.61	0 00:31	0	0.312	-0.001
MH-DPA1-22	JUNCTION	0.00	6.10	0 00:30	0	0.122	-0.002
MH-DPA15-12	JUNCTION	0.00	24.48	0 00:31	0	0.526	-0.000
MH-DPA15-13	JUNCTION	0.00	24.48	0 00:31	0	0.526	-0.000
MH-DPA15-15	JUNCTION	0.00	20.65	0 00:31	0	0.397	-0.000
MH-DPA15-16	JUNCTION	0.00	20.66	0 00:31	0	0.397	-0.001
MH-DPA15-18	JUNCTION	0.00	19.00	0 00:31	0	0.35	-0.001
MH-DPA15-19	JUNCTION	0.00	19.00	0 00:30	0	0.35	-0.001
MH-DPA15-20	JUNCTION	0.00	18.99	0 00:30	0	0.35	-0.001
MH-DPA15-21	JUNCTION	0.00	18.99	0 00:30	0	0.35	-0.001
MH-DPA15-23	JUNCTION	0.00	17.52	0 00:30	0	0.312	-0.002
MH-DPA15-6	JUNCTION	0.00	37.30	0 00:32	0	0.821	-0.001
MH-DPA18-5	JUNCTION	0.00	0.69	0 00:36	0	0.025	0.000
MH-DPA18B-1	JUNCTION	0.00	0.35	0 00:41	0	0.0135	0.000
MH-DPA22-11	JUNCTION	0.00	41.73	0 00:34	0	0.968	-0.001
MH-DPA22-14	JUNCTION	0.00	14.76	0 00:33	0	0.317	-0.001
MH-DPA22-15	JUNCTION	0.00	14.76	0 00:32	0	0.317	-0.001
MH-DPA22-16	JUNCTION	0.00	14.76	0 00:32	0	0.317	-0.001
MH-DPA22-17	JUNCTION	0.00	14.76	0 00:31	0	0.317	-0.005
MH-DPA22-18	JUNCTION	0.00	14.75	0 00:31	0	0.317	-0.003
MH-DPA22-21	JUNCTION	0.00	6.27	0 00:30	0	0.112	-0.001
MH-DPA22-5	JUNCTION	0.00	79.59	0 00:33	0	1.85	-0.001
MH-DPA22-9	JUNCTION	0.00	41.74	0 00:33	0	0.968	-0.001
MH-DPA24-11	JUNCTION	0.00	11.90	0 00:31	0	0.295	-0.001
MH-DPA24-15	JUNCTION	0.00	5.14	0 00:32	0	0.13	-0.000
MH-DPA24-16	JUNCTION	0.00	5.14	0 00:32	0	0.13	-0.000
MH-DPA24-3	JUNCTION	0.00	33.08	0 00:31	0	0.755	-0.000
MH-DPA24-6	JUNCTION	0.00	15.91	0 00:32	0	0.398	-0.000
MH-DPA24-7	JUNCTION	0.00	15.91	0 00:32	0	0.398	-0.000
MH-DPA24-8	JUNCTION	0.00	15.91	0 00:32	0	0.398	-0.000
MH-DPA33-12	JUNCTION	0.00	3.73	0 00:32	0	0.0626	-0.000
MH-DPA33-13	JUNCTION	0.00	3.73	0 00:32	0	0.0626	-0.000
MH-DPA33-16	JUNCTION	0.00	0.76	0 00:35	0	0.0168	0.000
MH-DPA33-3	JUNCTION	0.00	21.20	0 00:33	0	0.483	-0.000
MH-DPA33-9	JUNCTION	0.00	12.71	0 00:34	0	0.254	-0.000
MH-DPA38-1	JUNCTION	0.00	9.02	0 00:35	0	0.192	-0.000
MH-DPA38-4	JUNCTION	0.00	5.94	0 00:36	0	0.119	-0.001
MH-DPA38-5	JUNCTION	0.00	5.94	0 00:36	0	0.119	-0.001
MH-DPA38-6	JUNCTION	0.00	5.94	0 00:36	0	0.119	-0.000
MH-DPA40-1	JUNCTION	0.00	2.78	0 00:31	0	0.0418	-0.004
MH-DPA40-2	JUNCTION	0.00	2.78	0 00:31	0	0.0418	-0.001
MH-DPA5-5	JUNCTION	0.00	3.55	0 00:36	0	0.13	-0.013
MH-DPA5-6	JUNCTION	0.00	3.55	0 00:36	0	0.13	-0.000
MH-DPA5-7	JUNCTION	0.00	3.55	0 00:36	0	0.13	-0.000
MH-DPA5-8	JUNCTION	0.00	3.55	0 00:36	0	0.13	-0.000

MH-DPA8-2	JUNCTION	0.00	3.52	0 00:32	0	0.0956	-0.000
MH-DPR2-1	JUNCTION	0.00	16.01	0 00:31	0	0.316	-0.001
MH-DPR2-10	JUNCTION	0.00	4.47	0 00:30	0	0.085	-0.001
MH-DPR2-11	JUNCTION	0.00	4.47	0 00:30	0	0.085	-0.001
MH-DPR2-12	JUNCTION	0.00	4.47	0 00:30	0	0.085	-0.002
MH-DPR2-2	JUNCTION	0.00	16.01	0 00:31	0	0.316	-0.002
MH-DPR2-5	JUNCTION	0.00	11.66	0 00:30	0	0.216	-0.000
MH-DPR2-9	JUNCTION	0.00	4.47	0 00:31	0	0.085	-0.000
MH-DPR8-1	JUNCTION	0.00	0.98	0 00:36	0	0.0254	0.002
Plug-DPA45-1	JUNCTION	0.00	0.00	0 00:00	0	0	0.000 gal
S_A1	JUNCTION	0.77	0.77	0 00:35	0.0168	0.0168	0.001
S_A10	JUNCTION	0.49	0.49	0 00:32	0.0145	0.0145	0.001
S_A11	JUNCTION	1.46	1.46	0 00:40	0.0539	0.0539	0.000
S_A12	JUNCTION	0.18	1.60	0 00:38	0.0035	0.0574	0.000
S_A13	JUNCTION	3.11	3.11	0 00:32	0.0848	0.0848	0.000
S_A14	JUNCTION	6.27	6.27	0 00:30	0.112	0.112	-0.001
S_A15	JUNCTION	0.74	0.74	0 00:42	0.032	0.032	-0.077
S_A16	JUNCTION	6.11	6.11	0 00:35	0.131	0.131	0.000
S_A17	JUNCTION	1.38	7.36	0 00:34	0.0278	0.159	-0.001
S_A18	JUNCTION	0.67	0.67	0 00:30	0.015	0.015	0.000
S_A19	JUNCTION	1.77	1.77	0 00:33	0.0521	0.0521	0.000
S_A2	JUNCTION	0.20	0.20	0 00:35	0.00404	0.00404	0.003
S_A20	JUNCTION	0.93	0.93	0 00:35	0.0311	0.0311	0.000
S_A21	JUNCTION	2.68	2.68	0 00:30	0.0591	0.0591	-0.000
S_A23	JUNCTION	2.09	2.09	0 00:30	0.0482	0.0482	-0.000
S_A23A	JUNCTION	1.91	4.00	0 00:30	0.0424	0.0906	-0.000
S_A24	JUNCTION	1.33	5.31	0 00:30	0.024	0.115	-0.000
S_A25	JUNCTION	7.00	7.00	0 00:30	0.115	0.115	-0.001
S_A26	JUNCTION	1.00	1.00	0 00:31	0.0266	0.0266	0.000
S_A26A	JUNCTION	3.94	3.94	0 00:30	0.0866	0.0866	-0.000
S_A27	JUNCTION	1.72	1.72	0 00:30	0.0393	0.0393	-0.000
S_A27A	JUNCTION	1.67	1.67	0 00:31	0.0414	0.0414	0.000
S_A28	JUNCTION	0.68	0.68	0 00:30	0.0147	0.0147	0.000
S_A28A	JUNCTION	1.04	1.04	0 00:30	0.0249	0.0249	0.189
S_A29	JUNCTION	1.75	1.75	0 00:31	0.0471	0.0471	0.000
S_A3	JUNCTION	2.78	2.78	0 00:31	0.0418	0.0418	-0.001
S_A30	JUNCTION	0.68	0.68	0 00:31	0.0192	0.0192	0.000
S_A31	JUNCTION	1.58	1.58	0 00:31	0.0365	0.0365	-0.001
S_A32	JUNCTION	1.03	1.03	0 00:31	0.027	0.027	0.000
S_A33	JUNCTION	0.91	16.50	0 00:30	0.0241	0.285	-0.000
S_A34	JUNCTION	1.47	1.47	0 00:31	0.038	0.038	0.000
S_A36	JUNCTION	1.66	1.66	0 00:33	0.0477	0.0477	0.000
S_A37	JUNCTION	0.69	0.69	0 00:36	0.025	0.025	0.001
S_A37A	JUNCTION	0.43	1.12	0 00:35	0.0139	0.0389	0.000
S_A38	JUNCTION	1.16	1.16	0 00:35	0.0374	0.0374	0.001
S_A38A	JUNCTION	0.35	0.35	0 00:40	0.0135	0.0135	0.002
S_A39	JUNCTION	1.31	1.31	0 00:33	0.0388	0.0388	0.000
S_A4	JUNCTION	5.94	5.94	0 00:36	0.119	0.119	-0.000
S_A40	JUNCTION	3.21	3.21	0 00:30	0.0553	0.0553	0.000
S_A41	JUNCTION	1.93	5.13	0 00:30	0.0471	0.102	-0.000
S_A42	JUNCTION	1.01	1.01	0 00:40	0.0413	0.0413	0.001
S_A43	JUNCTION	3.03	3.03	0 00:30	0.0601	0.0601	0.000
S_A44	JUNCTION	2.23	2.23	0 00:30	0.0495	0.0495	0.000
S_A45	JUNCTION	1.90	1.90	0 00:31	0.0496	0.0496	0.000
S_A45A	JUNCTION	1.74	1.74	0 00:30	0.0419	0.0419	0.000
S_A46	JUNCTION	12.18	12.18	0 00:30	0.158	0.158	0.000
S_A5	JUNCTION	2.05	2.05	0 00:30	0.0428	0.0428	-0.000
S_A51	JUNCTION	1.08	1.08	0 00:31	0.0282	0.0282	0.000
S_A52	JUNCTION	2.08	2.08	0 00:35	0.0653	0.0653	0.000
S_A53	JUNCTION	0.80	0.80	0 00:38	0.0252	0.0252	0.000
S_A53A	JUNCTION	5.39	5.39	0 00:30	0.0973	0.0973	0.000

S_A54	JUNCTION	1.80	3.19	0 00:30	0.0403	0.067	-0.000
S_A54A	JUNCTION	1.39	1.39	0 00:30	0.0267	0.0267	-0.000
S_A55	JUNCTION	1.23	1.23	0 00:30	0.029	0.029	0.000
S_A56	JUNCTION	1.58	1.58	0 00:30	0.0302	0.0302	-0.000
S_A57	JUNCTION	2.09	2.09	0 00:30	0.0378	0.0378	-0.000
S_A58	JUNCTION	0.69	2.77	0 00:30	0.022	0.0598	0.000
S_A59	JUNCTION	2.58	3.52	0 00:32	0.066	0.0956	-0.000
S_A6	JUNCTION	1.22	1.22	0 00:30	0.0298	0.0298	0.000
S_A60	JUNCTION	0.95	0.95	0 00:34	0.0296	0.0296	0.000
S_A61	JUNCTION	1.31	1.31	0 00:30	0.0234	0.0234	0.024
S_A62	JUNCTION	1.15	1.15	0 00:37	0.0472	0.0472	0.000
S_A63	JUNCTION	2.40	2.40	0 00:36	0.0832	0.0832	0.000
S_A64	JUNCTION	2.34	5.69	0 00:31	0.0428	0.173	0.009
S_A65	JUNCTION	3.78	9.34	0 00:30	0.0679	0.241	-0.001
S_A66	JUNCTION	5.32	5.32	0 00:30	0.105	0.105	-0.000
S_A68	JUNCTION	0.64	0.64	0 00:35	0.0217	0.0217	0.000
S_A69	JUNCTION	1.86	1.86	0 00:32	0.0513	0.0513	-0.000
S_A7	JUNCTION	2.05	2.05	0 00:31	0.0474	0.0474	0.000
S_A70	JUNCTION	1.95	1.95	0 00:30	0.0376	0.0376	0.056
S_A70A	JUNCTION	0.50	3.60	0 01:02	0.0119	0.0512	0.125
S_A71	JUNCTION	0.96	4.72	0 01:01	0.0205	0.0719	0.066
S_A8	JUNCTION	1.48	1.48	0 00:31	0.0421	0.0421	0.000
S_A9	JUNCTION	3.04	3.04	0 00:31	0.0673	0.0673	-0.000
S_F1	JUNCTION	5.14	5.14	0 00:32	0.13	0.13	0.000
S_F2	JUNCTION	5.08	5.08	0 00:31	0.126	0.126	-0.000
S_F3	JUNCTION	15.59	15.59	0 00:30	0.26	0.26	-0.000
S_F4	JUNCTION	6.36	6.36	0 00:31	0.163	0.163	-0.000
S_R1	JUNCTION	1.23	1.23	0 00:30	0.0276	0.0276	-0.001
S_R11	JUNCTION	0.98	0.98	0 00:36	0.0254	0.0254	0.001
S_R2	JUNCTION	3.25	3.25	0 00:30	0.0574	0.0574	-0.001
S_R3	JUNCTION	0.00	4.56	0 00:30	0	0.0798	0.003
S_R3A	JUNCTION	1.75	1.75	0 00:30	0.0379	0.0379	-0.000
S_R4	JUNCTION	0.99	0.99	0 00:26	0.0138	0.0138	-0.001
S_R5	JUNCTION	0.78	0.78	0 00:26	0.0113	0.0113	-0.001
S_R6	JUNCTION	2.68	2.68	0 00:32	0.0705	0.0705	0.000
S_R7	JUNCTION	0.95	0.95	0 00:30	0.0172	0.0172	-0.000
S_R3B	JUNCTION	3.33	3.33	0 00:30	0.0599	0.0599	-0.004
S_R3C	JUNCTION	1.23	1.23	0 00:30	0.0199	0.0199	-0.008
Outfall-01	OUTFALL	0.00	149.21	0 01:23	0	92.7	0.000
Outfall-03	OUTFALL	0.00	16.02	0 00:31	0	0.316	0.000
Outfall-02	OUTFALL	0.00	0.98	0 00:36	0	0.0254	0.000
PondA	STORAGE	0.00	177.47	0 00:33	0	4.28	-0.157

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#### Node Surge Summary

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Surcharging occurs when water rises above the top of the highest conduit.

Node	Type	Max. Height Min. Depth		
		Hours Surcharged	Above Crown Feet	Below Rim Feet
S_A40	JUNCTION	36.00	0.000	0.000
S_A43	JUNCTION	36.00	0.000	0.000
S_A44	JUNCTION	36.00	0.000	0.000
S_A45	JUNCTION	36.00	0.000	0.000
S_A45A	JUNCTION	36.00	0.000	0.000
S_A46	JUNCTION	36.00	0.000	0.000
S_A53	JUNCTION	36.00	0.000	0.000



S_A53A	JUNCTION	36.00	0.000	0.000
S_A71	JUNCTION	0.78	0.131	6.059

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Node Flooding Summary  
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No nodes were flooded.

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Storage Volume Summary  
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Storage Unit	Average Volume 1000 ft3	Avg Evap Pcnt Full	Exfil Pcnt Loss	Maximum Volume 1000 ft3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maximum Outflow CFS
PondA	230.335	51	0 0	366.351	81	0 01:23	56.71

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Outfall Loading Summary  
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Outfall Node	Flow Freq Pcnt	Avg Flow CFS	Max Flow CFS	Total Volume 10^6 gal
Outfall-01	100.00	96.75	149.21	92.732
Outfall-03	17.21	5.63	16.02	0.316
Outfall-02	16.71	0.45	0.98	0.025
System	44.64	102.83	153.44	93.073

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Link Flow Summary  
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Link	Type	Maximum  Flow  CFS	Time of Max Occurrence days hr:min	Maximum  Veloc  ft/sec	Maximum Full Flow	Max/ Full Flow	Max/ Full Depth
Pipe-105	CONDUIT	16.50	0 00:30	8.55	0.36	0.42	
Pipe-106	CONDUIT	17.52	0 00:30	8.73	0.38	0.43	
Pipe-109	CONDUIT	17.51	0 00:30	8.72	0.38	0.43	
Pipe-110	CONDUIT	18.99	0 00:30	8.91	0.41	0.45	
Pipe-110-2-1	CONDUIT	18.99	0 00:30	8.89	0.42	0.45	
Pipe-111	CONDUIT	19.00	0 00:30	12.57	0.26	0.35	
Pipe-112	CONDUIT	19.00	0 00:31	12.97	0.25	0.34	
Pipe-113	CONDUIT	19.00	0 00:31	12.97	0.25	0.34	
Pipe-114	CONDUIT	20.66	0 00:31	13.27	0.27	0.35	
Pipe-116	CONDUIT	20.65	0 00:31	12.90	0.28	0.36	
Pipe-117	CONDUIT	20.66	0 00:31	12.55	0.29	0.37	
Pipe-119	CONDUIT	24.48	0 00:31	13.13	0.34	0.40	
Pipe-120	CONDUIT	24.48	0 00:31	13.13	0.34	0.41	

Pipe-121	CONDUIT	24.49	0	00:31	13.13	0.34	0.41
Pipe-122	CONDUIT	29.45	0	00:31	11.81	0.31	0.38
Pipe-122-1-1	CONDUIT	30.40	0	00:31	11.01	0.23	0.33
Pipe-123	CONDUIT	1.12	0	00:36	6.58	0.05	0.15
Pipe-125-1	CONDUIT	3.91	0	00:35	6.94	0.27	0.36
Pipe-125-2	CONDUIT	1.46	0	00:36	6.77	0.07	0.18
Pipe-126	CONDUIT	0.67	0	00:30	4.24	0.05	0.14
Pipe-127	CONDUIT	7.36	0	00:34	4.68	0.13	0.38
Pipe-142	CONDUIT	14.75	0	00:31	5.93	0.51	0.51
Pipe-142-1	CONDUIT	14.76	0	00:31	5.95	0.51	0.50
Pipe-143	CONDUIT	14.76	0	00:32	5.94	0.51	0.51
Pipe-144	CONDUIT	14.76	0	00:32	10.17	0.24	0.34
Pipe-146-1	CONDUIT	14.76	0	00:33	12.07	0.19	0.30
Pipe-147	CONDUIT	14.76	0	00:33	12.07	0.19	0.30
Pipe-148	CONDUIT	17.45	0	00:33	13.02	0.22	0.32
Pipe-149	CONDUIT	41.73	0	00:34	13.81	0.27	0.35
Pipe-152	CONDUIT	41.74	0	00:33	13.83	0.26	0.35
Pipe-154	CONDUIT	41.76	0	00:33	13.93	0.26	0.35
Pipe-156	CONDUIT	44.34	0	00:33	12.93	0.22	0.32
Pipe-169	CONDUIT	5.32	0	00:30	9.94	0.25	0.34
Pipe-169-3-1	CONDUIT	5.31	0	00:30	9.68	0.26	0.35
Pipe-170	CONDUIT	33.09	0	00:31	14.52	0.28	0.36
Pipe-173	CONDUIT	35.81	0	00:31	14.34	0.31	0.38
Pipe-174-1	CONDUIT	1.00	0	00:31	4.81	0.07	0.18
Pipe-175	CONDUIT	0.00	0	00:00	0.00	0.00	0.00
Pipe-176	CONDUIT	2.68	0	00:30	6.32	0.18	0.29
Pipe-177	CONDUIT	5.94	0	00:36	8.43	0.17	0.28
Pipe-178	CONDUIT	5.94	0	00:36	8.44	0.17	0.28
Pipe-178-1-3-1	CONDUIT	5.94	0	00:36	10.79	0.12	0.23
Pipe-178-1-3-1-2	CONDUIT	7.85	0	00:35	11.69	0.16	0.27
Pipe-178-1-4	CONDUIT	5.94	0	00:36	10.40	0.12	0.24
Pipe-182	CONDUIT	16.18	0	00:34	13.18	0.19	0.30
Pipe-183	CONDUIT	19.64	0	00:33	12.19	0.17	0.28
Pipe-184	CONDUIT	21.20	0	00:33	11.42	0.21	0.31
Pipe-184-1	CONDUIT	21.20	0	00:33	11.71	0.20	0.30
Pipe-185-1	CONDUIT	24.30	0	00:33	12.11	0.23	0.33
Pipe-186	CONDUIT	2.78	0	00:31	8.25	0.13	0.25
Pipe-187	CONDUIT	2.78	0	00:31	5.01	0.27	0.35
Pipe-188	CONDUIT	2.78	0	00:31	5.02	0.27	0.35
Pipe-190	CONDUIT	0.76	0	00:35	5.85	0.03	0.13
Pipe-190-1-1	CONDUIT	3.73	0	00:32	9.32	0.17	0.28
Pipe-190-2	CONDUIT	0.97	0	00:35	6.49	0.04	0.14
Pipe-191-1	CONDUIT	3.73	0	00:32	9.71	0.16	0.27
Pipe-192-1	CONDUIT	3.73	0	00:32	10.02	0.15	0.26
Pipe-193-1	CONDUIT	3.73	0	00:33	10.37	0.14	0.26
Pipe-194	CONDUIT	12.71	0	00:34	11.57	0.17	0.28
Pipe-195	CONDUIT	12.71	0	00:35	11.56	0.17	0.28
Pipe-195-1	CONDUIT	14.71	0	00:34	12.64	0.18	0.29
Pipe-195-1-1-1	CONDUIT	16.18	0	00:34	13.29	0.19	0.30
Pipe-196	CONDUIT	1.23	0	00:30	4.01	0.12	0.23
Pipe-197	CONDUIT	3.19	0	00:30	5.23	0.30	0.38
Pipe-198	CONDUIT	10.49	0	00:31	5.44	0.36	0.42
Pipe-198-1	CONDUIT	13.61	0	00:31	5.81	0.47	0.48
Pipe-199-1	CONDUIT	13.61	0	00:31	10.92	0.20	0.30
Pipe-203	CONDUIT	15.14	0	00:32	13.29	0.17	0.28
Pipe-205	CONDUIT	17.84	0	00:32	13.94	0.20	0.31
Pipe-205-1	CONDUIT	28.99	0	00:32	12.73	0.27	0.36
Pipe-209	CONDUIT	38.28	0	00:32	11.81	0.20	0.30
Pipe-214	CONDUIT	28.99	0	00:32	12.26	0.29	0.37
Pipe-215	CONDUIT	43.47	0	00:32	12.13	0.17	0.28
Pipe-216	CONDUIT	44.12	0	00:32	12.20	0.17	0.28

Pipe-225	CONDUIT	9.34	0	00:31	8.99	0.28	0.37
Pipe-225-1-1-1	CONDUIT	9.34	0	00:31	9.30	0.27	0.36
Pipe-227	CONDUIT	5.32	0	00:30	10.77	0.23	0.32
Pipe-229	CONDUIT	1.23	0	00:30	3.98	0.12	0.23
Pipe-229-1	CONDUIT	3.24	0	00:30	5.23	0.31	0.38
Pipe-236	CONDUIT	4.55	0	00:30	5.73	0.43	0.46
Pipe-237	CONDUIT	10.72	0	00:30	10.59	0.27	0.36
Pipe-239	CONDUIT	11.66	0	00:30	9.38	0.36	0.42
Pipe-240	CONDUIT	11.66	0	00:30	8.94	0.39	0.43
Pipe-241	CONDUIT	12.41	0	00:30	5.71	0.42	0.45
Pipe-243	CONDUIT	16.01	0	00:31	6.03	0.55	0.53
Pipe-244-1	CONDUIT	16.01	0	00:31	6.06	0.55	0.53
Pipe-246	CONDUIT	2.68	0	00:32	6.66	0.17	0.28
Pipe-247	CONDUIT	0.95	0	00:30	4.71	0.06	0.17
Pipe-262	CONDUIT	1.95	0	00:30	6.28	0.12	0.28
Pipe-262-1-1	CONDUIT	4.27	0	01:01	6.22	0.29	0.99
Pipe-337	CONDUIT	5.24	0	00:30	3.62	0.17	0.35
Pipe-344	CONDUIT	1.47	0	00:31	7.42	0.06	0.17
Pipe-362	CONDUIT	6.27	0	00:30	7.23	0.49	0.49
Pipe-363	CONDUIT	6.27	0	00:30	7.24	0.49	0.49
Pipe-363-1	CONDUIT	6.87	0	00:30	6.30	0.30	0.38
Pipe-364	CONDUIT	6.11	0	00:35	7.83	0.19	0.30
Pipe-365	CONDUIT	4.47	0	00:30	5.69	0.43	0.46
Pipe-366	CONDUIT	4.47	0	00:30	5.71	0.43	0.46
Pipe-367-1	CONDUIT	4.47	0	00:30	7.36	0.30	0.38
Pipe-367-1-1	CONDUIT	4.47	0	00:31	9.00	0.23	0.32
Pipe-368-1	CONDUIT	4.47	0	00:31	9.00	0.23	0.32
Pipe-368-1-1	CONDUIT	6.20	0	00:31	9.85	0.32	0.39
Pipe-369	CONDUIT	1.01	0	00:40	7.45	0.04	0.13
Pipe-370	CONDUIT	5.13	0	00:30	5.90	0.49	0.49
Pipe-371-1	CONDUIT	14.33	0	00:32	11.96	0.19	0.29
Pipe-371-2-1	CONDUIT	11.89	0	00:32	11.05	0.16	0.27
Pipe-374	CONDUIT	1.72	0	00:30	5.60	0.12	0.23
Pipe-375	CONDUIT	0.49	0	00:32	4.44	0.03	0.11
Pipe-376	CONDUIT	3.04	0	00:31	7.64	0.17	0.28
Pipe-377	CONDUIT	1.04	0	00:30	9.06	0.03	0.12
Pipe-378	CONDUIT	0.68	0	00:30	4.26	0.05	0.15
Pipe-411	CONDUIT	0.00	0	00:00	0.00	0.00	0.00
Pipe-412	CONDUIT	0.69	0	00:36	5.91	0.03	0.12
Pipe-413	CONDUIT	0.69	0	00:36	5.81	0.03	0.12
Pipe-414	CONDUIT	3.55	0	00:36	8.64	0.17	0.28
Pipe-415	CONDUIT	3.55	0	00:36	8.64	0.17	0.28
Pipe-416	CONDUIT	3.55	0	00:36	8.64	0.17	0.28
Pipe-417	CONDUIT	3.55	0	00:36	8.43	0.18	0.29
Pipe-418-1	CONDUIT	3.55	0	00:36	7.49	0.21	0.32
Pipe-419	CONDUIT	1.15	0	00:37	5.00	0.08	0.19
Pipe-420	CONDUIT	2.40	0	00:36	6.18	0.16	0.27
Pipe-421	CONDUIT	1.31	0	00:30	5.06	0.09	0.21
Pipe-422	CONDUIT	4.79	0	00:31	8.79	0.26	0.35
Pipe-424	CONDUIT	3.52	0	00:32	8.83	0.17	0.28
Pipe-425-1	CONDUIT	3.52	0	00:32	6.88	0.24	0.33
Pipe-426	CONDUIT	2.07	0	00:35	5.91	0.14	0.25
Pipe-426-1-1	CONDUIT	3.14	0	00:33	8.14	0.16	0.27
Pipe-430-1	CONDUIT	1.60	0	00:38	4.27	0.15	0.27
Pipe-430-2	CONDUIT	1.46	0	00:40	4.17	0.14	0.25
Pipe-431	CONDUIT	1.22	0	00:30	6.76	0.05	0.16
Pipe-432	CONDUIT	2.05	0	00:30	8.18	0.09	0.20
Pipe-433	CONDUIT	9.02	0	00:35	9.90	0.13	0.24
Pipe-434	CONDUIT	9.02	0	00:35	9.93	0.13	0.24
Pipe-435	CONDUIT	10.21	0	00:32	11.36	0.23	0.33
Pipe-436	CONDUIT	5.14	0	00:32	9.82	0.24	0.34

Pipe-437	CONDUIT	5.14	0 00:32	9.83	0.24	0.34
Pipe-439	CONDUIT	5.14	0 00:32	9.83	0.24	0.34
Pipe-444	CONDUIT	5.08	0 00:31	7.61	0.34	0.40
Pipe-448	CONDUIT	0.78	0 00:26	4.44	0.05	0.16
Pipe-449	CONDUIT	0.99	0 00:25	4.78	0.07	0.18
Pipe-516	CONDUIT	4.00	0 00:30	8.25	0.22	0.32
Pipe-517	CONDUIT	0.68	0 00:31	4.27	0.05	0.15
Pipe-518	CONDUIT	1.75	0 00:31	5.69	0.12	0.23
Pipe-520	CONDUIT	1.58	0 00:31	5.93	0.10	0.21
Pipe-521	CONDUIT	1.48	0 00:31	6.19	0.08	0.19
Pipe-522	CONDUIT	2.05	0 00:31	8.18	0.09	0.20
Pipe-524	CONDUIT	0.76	0 00:35	6.11	0.03	0.12
Pipe-526	CONDUIT	3.11	0 00:32	6.60	0.21	0.31
Pipe-527	CONDUIT	1.77	0 00:33	5.63	0.12	0.23
Pipe-528	CONDUIT	0.93	0 00:35	4.68	0.06	0.17
Pipe-529	CONDUIT	0.95	0 00:34	5.27	0.05	0.16
Pipe-530	CONDUIT	5.69	0 00:31	7.05	0.44	0.47
Pipe-532	CONDUIT	1.08	0 00:31	5.96	0.05	0.16
Pipe-533	CONDUIT	2.77	0 00:30	6.43	0.19	0.29
Pipe-538	CONDUIT	6.36	0 00:31	6.24	0.60	0.56
Pipe-539	CONDUIT	16.02	0 00:31	7.77	0.24	0.33
Pipe-542	CONDUIT	1.03	0 00:31	4.76	0.07	0.18
Pipe-544	CONDUIT	1.66	0 00:33	5.57	0.11	0.23
Pipe-545	CONDUIT	2.09	0 00:30	8.07	0.09	0.20
Pipe-546	CONDUIT	0.20	0 00:35	2.69	0.02	0.09
Pipe-547	CONDUIT	2.09	0 00:30	5.94	0.14	0.25
Pipe-549	CONDUIT	6.10	0 00:30	6.37	0.26	0.34
Pipe-551	CONDUIT	1.86	0 00:31	6.21	0.11	0.23
Pipe-552	CONDUIT	1.58	0 00:30	4.94	0.12	0.24
Pipe-553	CONDUIT	6.09	0 00:30	7.15	0.22	0.32
Pipe-555	CONDUIT	0.74	0 00:42	4.38	0.05	0.15
Pipe-556	CONDUIT	35.59	0 00:32	7.29	0.26	0.35
Pipe-559	CONDUIT	37.30	0 00:32	7.41	0.27	0.35
Pipe-559-1	CONDUIT	37.32	0 00:32	7.40	0.27	0.35
Pipe-560-1	CONDUIT	116.88	0 00:33	14.16	0.31	0.38
Pipe-560-1-1	CONDUIT	162.34	0 00:33	15.23	0.43	0.46
Pipe-562	CONDUIT	164.29	0 00:33	13.96	0.39	0.53
Pipe-560-1-3	CONDUIT	118.80	0 00:33	14.42	0.30	0.38
Pipe-561	CONDUIT	79.59	0 00:33	14.90	0.40	0.44
Pipe-563	CONDUIT	79.64	0 00:33	9.66	0.52	0.51
Pipe-567	CONDUIT	0.64	0 00:35	4.52	0.04	0.13
Pipe-568	CONDUIT	1.39	0 00:30	4.10	0.13	0.25
Pipe-569	CONDUIT	15.91	0 00:32	12.33	0.21	0.31
Pipe-570	CONDUIT	15.91	0 00:32	12.32	0.21	0.31
Pipe-571	CONDUIT	15.91	0 00:32	12.33	0.21	0.31
Pipe-572	CONDUIT	15.91	0 00:32	12.33	0.21	0.31
Pipe-573	CONDUIT	21.40	0 00:32	13.39	0.28	0.36
Pipe-573-1	CONDUIT	26.58	0 00:32	14.02	0.21	0.31
Pipe-573-1-1	CONDUIT	33.08	0 00:31	14.92	0.26	0.35
Pipe-579	CONDUIT	0.98	0 00:36	6.99	0.04	0.13
Pipe-580	CONDUIT	0.98	0 00:36	3.91	0.01	0.08
Pipe-618	CONDUIT	15.59	0 00:30	8.44	0.62	0.57
Pipe-619	CONDUIT	1.16	0 00:35	6.59	0.05	0.16
Pipe-620	CONDUIT	1.31	0 00:33	7.32	0.05	0.16
Pipe-623	CONDUIT	0.35	0 00:41	5.14	0.01	0.08
Pipe-624	CONDUIT	0.35	0 00:41	4.29	0.02	0.09
Pipe-625	CONDUIT	7.00	0 00:30	6.32	0.31	0.38
Pipe-642	CONDUIT	1.67	0 00:31	7.69	0.07	0.18
Pipe-645	CONDUIT	1.75	0 00:30	5.62	0.12	0.23
Pipe-646	CONDUIT	0.00	0 00:00	0.00	0.00	0.02
Pipe-662	CONDUIT	3.94	0 00:30	9.90	0.17	0.28

Pipe-712	CONDUIT	0.00	0	00:00	0.00	0.00	0.00	
Pipe-96-2	CONDUIT	11.90	0	00:31	10.94	0.30	0.38	
Pipe-Dummy01	DUMMY	3.21	0	00:30				
Pipe-Dummy02	DUMMY	3.03	0	00:30				
Pipe-Dummy03	DUMMY	2.23	0	00:30				
Pipe-Dummy04	DUMMY	1.74	0	00:30				
Pipe-Dummy05	DUMMY	1.90	0	00:31				
Pipe-Dummy06	DUMMY	5.39	0	00:30				
Pipe-Dummy07	DUMMY	0.80	0	00:38				
Pipe-264-1	CONDUIT	3.40	0	00:30	6.95	0.10	1.00	
Pipe-576	CONDUIT	107.49	0	00:00	29.06	0.54	0.54	
Pipe-717	CONDUIT	149.21	0	01:23	10.56	0.50	0.50	
Pipe-Dummy08	DUMMY	12.18	0	00:30				
Pipe-201-3	CONDUIT	15.14	0	00:32	13.31	0.17	0.28	
Pipe-4	CONDUIT	3.33	0	00:30	4.01	0.53	0.48	
Pipe-3	CONDUIT	1.23	0	00:30	2.08	0.12	0.39	
OS1	DUMMY	56.71	0	01:23				

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Flow Classification Summary

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Conduit	Adjusted Length	----- Fraction of Time in Flow Class -----									
		Up Dry	Down Dry	Sub Dry	Sup Crit	Up Crit	Down Crit	Norm Crit	Inlet Ltd	Ctrl	
Pipe-105	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-106	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-109	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-110	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-110-2-1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-111	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-112	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-113	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-114	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-116	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-117	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-119	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-120	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-121	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-122	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-122-1-1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-123	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-125-1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-125-2	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-126	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-127	1.00	0.00	0.00	0.00	0.04	0.09	0.00	0.87	0.00	0.00	0.00
Pipe-142	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-142-1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-143	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-144	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00	0.00
Pipe-146-1	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00	0.00
Pipe-147	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00	0.00
Pipe-148	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-149	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-152	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-154	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-156	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-169	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00





Pipe-539	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-542	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-544	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-545	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-546	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-547	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-549	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-551	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-552	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-553	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-555	1.00	0.00	0.00	0.00	0.00	0.02	0.00	0.98	0.01	0.00
Pipe-556	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-559	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-559-1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-560-1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-560-1-1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-562	1.00	0.00	0.37	0.00	0.56	0.02	0.00	0.05	0.45	0.00
Pipe-560-1-3	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-561	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-563	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-567	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-568	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-569	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-570	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-571	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-572	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-573	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-573-1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-573-1-1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-579	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-580	1.00	0.00	0.00	0.00	0.82	0.18	0.00	0.00	0.05	0.00
Pipe-618	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-619	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-620	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-623	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-624	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-625	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-642	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-645	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-646	1.00	0.99	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pipe-662	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-712	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pipe-96-2	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-264-1	1.00	0.00	0.29	0.00	0.68	0.00	0.00	0.02	0.34	0.00
Pipe-576	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-717	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.03	0.00
Pipe-201-3	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-4	1.00	0.00	0.00	0.00	0.97	0.02	0.00	0.00	0.93	0.00
Pipe-3	1.00	0.00	0.84	0.00	0.15	0.00	0.00	0.00	0.98	0.00

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Conduit Surcharge Summary

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Conduit	Hours		Hours		Capacity
	----- Hours Full	-----	Above Full	-----	
	Both Ends	Upstream	Dnstream	Normal Flow	Limited
Pipe-262-1-1	0.01	0.01	3.64	0.01	0.01



Pipe-264-1      0.78   0.78   35.30   0.01   0.01

Analysis begun on: Mon Jul 25 11:00:26 2022

Analysis ended on: Mon Jul 25 11:00:40 2022

Total elapsed time: 00:00:14

# 100-YR SWMM

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.012)

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NOTE: The summary statistics displayed in this report are based on results found at every computational time step, not just on results from each reporting time step.

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## Analysis Options

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Flow Units ..... CFS  
Process Models:  
Rainfall/Runoff ..... NO  
RDII ..... NO  
Snowmelt ..... NO  
Groundwater ..... NO  
Flow Routing ..... YES  
Ponding Allowed ..... NO  
Water Quality ..... NO  
Flow Routing Method ..... DYNWAVE  
Starting Date ..... 01/01/2005 00:00:00  
Ending Date ..... 01/02/2005 12:00:00  
Antecedent Dry Days ..... 0.0  
Report Time Step ..... 00:01:00  
Routing Time Step ..... 15.00 sec  
Variable Time Step ..... YES  
Maximum Trials ..... 8  
Number of Threads ..... 1  
Head Tolerance ..... 0.005000 ft

	Volume	Volume
Flow Routing Continuity	acre-feet	10 <sup>6</sup> gal
Dry Weather Inflow .....	0.000	0.000
Wet Weather Inflow .....	0.000	0.000
Groundwater Inflow .....	0.000	0.000
RDII Inflow .....	0.000	0.000
External Inflow .....	308.287	100.460
External Outflow .....	305.218	99.460
Flooding Loss .....	0.000	0.000
Evaporation Loss .....	0.000	0.000
Exfiltration Loss .....	0.000	0.000
Initial Stored Volume ....	0.000	0.000
Final Stored Volume .....	3.077	1.003
Continuity Error (%) .....	-0.003	

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## Time-Step Critical Elements

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Link Pipe-717 (80.64%)  
Link Pipe-662 (7.04%)  
Link Pipe-430-1 (5.29%)  
Link Pipe-377 (3.57%)  
Link Pipe-369 (2.90%)

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Highest Flow Instability Indexes

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Link Pipe-562 (1)

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Routing Time Step Summary

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Minimum Time Step : 0.50 sec  
 Average Time Step : 1.72 sec  
 Maximum Time Step : 5.99 sec  
 Percent in Steady State : 0.00  
 Average Iterations per Step : 2.01  
 Percent Not Converging : 0.12

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Node Depth Summary

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Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Time of Max Occurrence days hr:min	Reported Max Depth Feet
1.0	JUNCTION	0.04	0.38	6084.12	0 00:40	0.38
1.1	JUNCTION	0.08	0.84	6075.41	0 00:39	0.84
1.2	JUNCTION	0.12	1.14	6060.99	0 00:40	1.14
1.2A	JUNCTION	0.11	1.05	6068.06	0 00:40	1.05
1.3	JUNCTION	0.14	1.35	6059.20	0 00:40	1.35
1.4	JUNCTION	0.15	1.41	6049.78	0 00:40	1.41
1.4A	JUNCTION	0.14	1.39	6053.71	0 00:40	1.39
1.5	JUNCTION	0.16	1.54	6044.67	0 00:40	1.54
1.7	JUNCTION	0.19	1.74	6040.23	0 00:40	1.74
2.0	JUNCTION	0.20	1.83	6035.79	0 00:40	1.83
2.1	JUNCTION	0.17	4.63	6069.30	0 00:35	4.00
2.3	JUNCTION	0.29	5.37	6068.65	0 00:36	4.86
2.4	JUNCTION	0.15	1.36	6036.86	0 00:37	1.36
2.5	JUNCTION	0.25	2.26	6034.08	0 00:38	2.25
2.6	JUNCTION	0.25	2.26	6020.79	0 00:37	2.24
2.8	JUNCTION	0.08	0.83	6041.08	0 00:35	0.83
2.8A	JUNCTION	0.16	1.50	6034.51	0 00:37	1.50
2.9	JUNCTION	0.18	1.69	6032.99	0 00:36	1.69
3.0	JUNCTION	0.19	1.88	6026.17	0 00:36	1.88
3.1	JUNCTION	0.35	4.22	6017.83	0 00:37	4.10
3.2	JUNCTION	0.22	1.94	5994.80	0 00:37	1.94
4.0	JUNCTION	0.12	1.10	6081.38	0 00:40	1.10
4.1	JUNCTION	0.14	1.29	6079.81	0 00:39	1.29
4.2	JUNCTION	0.13	1.18	6066.09	0 00:39	1.18
4.3	JUNCTION	0.14	1.26	6064.39	0 00:39	1.26
4.3A	JUNCTION	0.16	1.49	6045.51	0 00:38	1.49
4.6	JUNCTION	0.15	1.69	6048.37	0 00:35	1.69
4.7	JUNCTION	0.16	1.82	6044.73	0 00:35	1.81
4.8	JUNCTION	0.13	1.36	6030.79	0 00:36	1.36
5.1	JUNCTION	0.07	0.45	6021.57	0 00:45	0.45
5.1A	JUNCTION	0.12	0.92	6018.18	0 00:42	0.92
5.2	JUNCTION	0.17	1.63	6015.53	0 00:36	1.62
5.4	JUNCTION	0.19	1.84	6008.94	0 00:36	1.83
5.4A	JUNCTION	0.19	1.83	6010.33	0 00:36	1.82

5.5	JUNCTION	0.11	1.10	6008.23	0 00:35	1.10
5.6	JUNCTION	0.26	2.45	6008.02	0 00:36	2.45
5.6A	JUNCTION	0.27	2.51	6007.46	0 00:37	2.51
5.6B	JUNCTION	0.38	3.60	6004.75	0 00:37	3.60
5.7	JUNCTION	0.47	5.13	5992.62	0 00:36	5.11
5.7A	JUNCTION	0.38	3.58	5999.63	0 00:38	3.55
6.0	JUNCTION	0.08	0.63	6044.15	0 00:40	0.63
6.1	JUNCTION	0.17	1.73	6036.00	0 00:35	1.72
6.1A	JUNCTION	0.11	1.08	6040.15	0 00:35	1.08
6.2	JUNCTION	0.21	2.04	6035.00	0 00:36	2.04
6.3	JUNCTION	0.12	1.09	6026.22	0 00:36	1.09
6.5	JUNCTION	0.13	1.20	6007.95	0 00:37	1.20
6.7	JUNCTION	0.10	0.87	6014.79	0 00:38	0.87
6.8	JUNCTION	0.19	1.73	6005.24	0 00:37	1.73
6.9	JUNCTION	0.09	0.67	6018.28	0 00:45	0.67
7.2	JUNCTION	0.21	1.91	5997.84	0 00:37	1.91
7.3	JUNCTION	0.21	1.93	5996.85	0 00:37	1.93
7.5	JUNCTION	0.87	4.67	5988.69	0 00:38	4.67
8.0	JUNCTION	0.10	1.10	6065.90	0 00:35	1.10
8.1	JUNCTION	0.10	1.08	6049.73	0 00:35	1.08
8.1A	JUNCTION	0.08	0.89	6053.92	0 00:36	0.89
8.2	JUNCTION	0.12	1.30	6046.49	0 00:35	1.30
8.3	JUNCTION	0.16	1.92	6042.70	0 00:36	1.92
8.4	JUNCTION	0.20	2.19	6042.41	0 00:36	2.19
9.4	JUNCTION	1.44	1.71	5976.14	0 00:00	1.45
9.5	JUNCTION	2.57	5.69	5961.59	0 00:53	5.69
Inlet-DPA18-7	JUNCTION	0.00	0.00	6036.33	0 00:00	0.00
Inlet-DPA31-2	JUNCTION	0.00	0.00	6021.32	0 00:00	0.00
Inlet-DPA42A-1	JUNCTION	0.05	3.23	6067.64	0 00:36	2.45
Inlet-DPA5-1	JUNCTION	0.13	1.13	6000.07	0 00:36	1.13
MH-DP33-11	JUNCTION	0.07	0.77	6063.61	0 00:39	0.77
MH-DP33-6	JUNCTION	0.15	1.43	6047.78	0 00:40	1.43
MH-DPA1-13	JUNCTION	0.19	1.79	6002.45	0 00:37	1.79
MH-DPA1-16	JUNCTION	0.12	1.09	6012.34	0 00:36	1.09
MH-DPA1-19	JUNCTION	0.13	1.17	6033.13	0 00:36	1.17
MH-DPA1-22	JUNCTION	0.10	0.98	6039.00	0 00:35	0.98
MH-DPA15-12	JUNCTION	0.17	1.63	6012.57	0 00:36	1.62
MH-DPA15-13	JUNCTION	0.17	1.63	6014.36	0 00:36	1.62
MH-DPA15-15	JUNCTION	0.14	1.43	6017.94	0 00:36	1.42
MH-DPA15-16	JUNCTION	0.13	1.39	6027.14	0 00:36	1.39
MH-DPA15-18	JUNCTION	0.12	1.29	6034.88	0 00:36	1.29
MH-DPA15-19	JUNCTION	0.12	1.29	6038.82	0 00:35	1.29
MH-DPA15-20	JUNCTION	0.12	1.32	6042.24	0 00:35	1.32
MH-DPA15-21	JUNCTION	0.16	1.82	6043.65	0 00:35	1.81
MH-DPA15-23	JUNCTION	0.15	1.69	6046.96	0 00:35	1.69
MH-DPA15-6	JUNCTION	0.27	2.58	6005.19	0 00:38	2.58
MH-DPA18-5	JUNCTION	0.04	0.28	6034.25	0 00:45	0.28
MH-DPA18B-1	JUNCTION	0.04	0.26	6023.66	0 00:50	0.26
MH-DPA22-11	JUNCTION	0.25	2.26	6030.32	0 00:37	2.26
MH-DPA22-14	JUNCTION	0.14	1.27	6045.82	0 00:36	1.27
MH-DPA22-15	JUNCTION	0.14	1.27	6054.87	0 00:36	1.27
MH-DPA22-16	JUNCTION	0.16	1.47	6061.12	0 00:36	1.46
MH-DPA22-17	JUNCTION	0.27	4.75	6066.10	0 00:36	3.32
MH-DPA22-18	JUNCTION	0.28	5.06	6067.57	0 00:36	4.32
MH-DPA22-21	JUNCTION	0.12	5.79	6072.47	0 00:35	3.67
MH-DPA22-5	JUNCTION	0.46	4.79	6012.47	0 00:37	4.62
MH-DPA22-9	JUNCTION	0.25	2.25	6025.52	0 00:37	2.24
MH-DPA24-11	JUNCTION	0.12	1.09	6075.13	0 00:39	1.09
MH-DPA24-15	JUNCTION	0.10	0.87	6087.43	0 00:40	0.87
MH-DPA24-16	JUNCTION	0.10	0.87	6092.41	0 00:40	0.87
MH-DPA24-3	JUNCTION	0.18	1.73	6031.41	0 00:36	1.73

MH-DPA24-6	JUNCTION	0.14	1.26	6049.69	0 00:39	1.26
MH-DPA24-7	JUNCTION	0.14	1.26	6054.79	0 00:39	1.26
MH-DPA24-8	JUNCTION	0.14	1.26	6059.86	0 00:39	1.26
MH-DPA33-12	JUNCTION	0.08	0.79	6067.77	0 00:39	0.79
MH-DPA33-13	JUNCTION	0.08	0.81	6071.09	0 00:39	0.81
MH-DPA33-16	JUNCTION	0.04	0.35	6086.49	0 00:40	0.35
MH-DPA33-3	JUNCTION	0.19	1.70	6036.77	0 00:40	1.70
MH-DPA33-9	JUNCTION	0.14	1.35	6056.37	0 00:40	1.35
MH-DPA38-1	JUNCTION	0.12	1.14	6060.06	0 00:40	1.14
MH-DPA38-4	JUNCTION	0.10	0.93	6075.04	0 00:41	0.93
MH-DPA38-5	JUNCTION	0.10	0.96	6082.69	0 00:41	0.96
MH-DPA38-6	JUNCTION	0.12	1.15	6084.18	0 00:41	1.15
MH-DPA40-1	JUNCTION	0.10	1.18	6077.11	0 00:36	1.18
MH-DPA40-2	JUNCTION	0.10	1.19	6077.64	0 00:36	1.19
MH-DPA5-5	JUNCTION	0.11	0.83	6006.63	0 00:41	0.83
MH-DPA5-6	JUNCTION	0.10	0.68	6009.57	0 00:45	0.68
MH-DPA5-7	JUNCTION	0.09	0.67	6012.90	0 00:45	0.67
MH-DPA5-8	JUNCTION	0.09	0.67	6015.56	0 00:45	0.67
MH-DPA8-2	JUNCTION	0.09	0.82	6017.19	0 00:40	0.82
MH-DPR2-1	JUNCTION	0.15	1.52	6039.96	0 00:36	1.52
MH-DPR2-10	JUNCTION	0.07	0.73	6060.78	0 00:35	0.73
MH-DPR2-11	JUNCTION	0.08	0.86	6063.31	0 00:35	0.86
MH-DPR2-12	JUNCTION	0.10	1.10	6065.01	0 00:35	1.09
MH-DPR2-2	JUNCTION	0.20	2.23	6041.83	0 00:36	2.22
MH-DPR2-5	JUNCTION	0.12	1.37	6043.90	0 00:35	1.37
MH-DPR2-9	JUNCTION	0.07	0.73	6056.87	0 00:36	0.73
MH-DPR8-1	JUNCTION	0.05	0.42	6007.10	0 00:43	0.42
Plug-DPA45-1	JUNCTION	0.00	0.00	6031.47	0 00:00	0.00
S_A1	JUNCTION	0.04	0.34	6093.01	0 00:40	0.34
S_A10	JUNCTION	0.03	0.25	6048.39	0 00:40	0.25
S_A11	JUNCTION	0.10	0.72	6041.41	0 00:48	0.72
S_A12	JUNCTION	0.11	0.75	6040.83	0 00:46	0.75
S_A13	JUNCTION	0.09	0.74	6037.08	0 00:40	0.74
S_A14	JUNCTION	0.11	5.26	6072.79	0 00:35	3.51
S_A15	JUNCTION	0.09	5.30	6071.54	0 00:35	2.44
S_A16	JUNCTION	0.16	4.16	6068.91	0 00:36	3.65
S_A17	JUNCTION	0.21	4.99	6068.69	0 00:36	4.48
S_A18	JUNCTION	0.06	3.18	6068.66	0 00:36	2.72
S_A19	JUNCTION	0.07	0.55	6039.36	0 00:40	0.55
S_A2	JUNCTION	0.03	0.25	6085.07	0 00:40	0.25
S_A20	JUNCTION	0.05	0.38	6039.55	0 00:41	0.38
S_A21	JUNCTION	0.07	0.65	6022.64	0 00:35	0.65
S_A23	JUNCTION	0.05	0.46	6048.44	0 00:36	0.46
S_A23A	JUNCTION	0.08	0.75	6043.30	0 00:36	0.75
S_A24	JUNCTION	0.08	0.81	6042.04	0 00:35	0.81
S_A25	JUNCTION	0.10	1.15	6034.37	0 00:35	1.15
S_A26	JUNCTION	0.05	0.40	6028.29	0 00:40	0.40
S_A26A	JUNCTION	0.06	0.62	6046.55	0 00:36	0.62
S_A27	JUNCTION	0.06	0.53	6028.95	0 00:36	0.53
S_A27A	JUNCTION	0.05	0.41	6047.61	0 00:37	0.41
S_A28	JUNCTION	0.03	0.32	6080.75	0 00:35	0.32
S_A28A	JUNCTION	0.53	0.75	6080.57	0 00:35	0.75
S_A29	JUNCTION	0.06	0.54	6067.35	0 00:40	0.54
S_A3	JUNCTION	0.07	0.73	6081.90	0 00:37	0.73
S_A30	JUNCTION	0.04	0.32	6067.75	0 00:40	0.32
S_A31	JUNCTION	0.05	0.49	6069.23	0 00:36	0.49
S_A32	JUNCTION	0.05	0.54	6048.39	0 00:35	0.54
S_A33	JUNCTION	0.14	1.62	6048.89	0 00:35	1.62
S_A34	JUNCTION	0.05	0.40	6047.04	0 00:40	0.40
S_A36	JUNCTION	0.07	0.53	6031.79	0 00:40	0.53
S_A37	JUNCTION	0.04	0.27	6035.18	0 00:45	0.27

S_A37A	JUNCTION	0.05	0.36	6028.94	0 00:45	0.36
S_A38	JUNCTION	0.05	0.37	6019.38	0 00:41	0.37
S_A38A	JUNCTION	0.04	0.22	6039.11	0 00:50	0.22
S_A39	JUNCTION	0.05	0.37	6018.50	0 00:40	0.37
S_A4	JUNCTION	0.12	1.15	6086.88	0 00:41	1.15
S_A40	JUNCTION	0.00	0.00	6010.51	0 00:00	0.00
S_A41	JUNCTION	0.12	1.30	6011.71	0 00:35	1.30
S_A42	JUNCTION	0.05	0.33	6011.06	0 00:47	0.33
S_A43	JUNCTION	0.00	0.00	6007.23	0 00:00	0.00
S_A44	JUNCTION	0.00	0.00	6007.23	0 00:00	0.00
S_A45	JUNCTION	0.00	0.00	5996.25	0 00:00	0.00
S_A45A	JUNCTION	0.00	0.00	6005.20	0 00:00	0.00
S_A46	JUNCTION	0.00	0.00	5980.00	0 00:00	0.00
S_A5	JUNCTION	0.05	0.48	6068.45	0 00:37	0.48
S_A51	JUNCTION	0.04	0.36	6046.21	0 00:39	0.36
S_A52	JUNCTION	0.08	0.59	6045.43	0 00:41	0.59
S_A53	JUNCTION	0.00	0.00	6039.17	0 00:00	0.00
S_A53A	JUNCTION	0.00	0.00	6039.17	0 00:00	0.00
S_A54	JUNCTION	0.09	0.93	6037.27	0 00:35	0.92
S_A54A	JUNCTION	0.06	0.66	6037.38	0 00:35	0.66
S_A55	JUNCTION	0.06	0.50	6036.67	0 00:35	0.50
S_A56	JUNCTION	0.05	0.55	6027.72	0 00:35	0.55
S_A57	JUNCTION	0.06	0.60	6010.88	0 00:35	0.60
S_A58	JUNCTION	0.07	0.69	6010.39	0 00:35	0.69
S_A59	JUNCTION	0.08	0.67	6022.53	0 00:40	0.67
S_A6	JUNCTION	0.04	0.36	6062.61	0 00:36	0.36
S_A60	JUNCTION	0.05	0.36	6023.52	0 00:40	0.36
S_A61	JUNCTION	0.05	0.55	6014.91	0 00:36	0.55
S_A62	JUNCTION	0.06	0.43	6019.11	0 00:46	0.43
S_A63	JUNCTION	0.09	0.65	6019.07	0 00:43	0.65
S_A64	JUNCTION	0.15	1.35	6006.23	0 00:40	1.35
S_A65	JUNCTION	0.13	1.17	6004.99	0 00:36	1.17
S_A66	JUNCTION	0.07	0.76	5999.88	0 00:35	0.76
S_A68	JUNCTION	0.04	0.29	5998.09	0 00:41	0.29
S_A69	JUNCTION	0.06	0.52	5997.55	0 00:40	0.52
S_A7	JUNCTION	0.05	0.47	6054.82	0 00:36	0.47
S_A70	JUNCTION	0.05	0.56	5987.05	0 00:35	0.56
S_A70A	JUNCTION	0.50	2.42	5986.83	0 00:52	2.41
S_A71	JUNCTION	0.88	3.04	5986.79	0 00:52	3.03
S_A8	JUNCTION	0.05	0.43	6051.97	0 00:40	0.43
S_A9	JUNCTION	0.07	0.67	6048.15	0 00:36	0.67
S_F1	JUNCTION	0.10	0.87	6094.44	0 00:40	0.87
S_F2	JUNCTION	0.11	1.03	6083.12	0 00:38	1.03
S_F3	JUNCTION	0.15	2.09	6050.17	0 00:35	2.09
S_F4	JUNCTION	0.16	1.83	6007.42	0 00:37	1.83
S_R1	JUNCTION	0.05	0.49	6066.64	0 00:35	0.49
S_R11	JUNCTION	0.05	0.37	6027.00	0 00:43	0.37
S_R2	JUNCTION	0.08	0.89	6066.78	0 00:35	0.89
S_R3	JUNCTION	0.09	1.11	6051.68	0 00:35	1.11
S_R3A	JUNCTION	0.05	0.51	6054.91	0 00:35	0.51
S_R4	JUNCTION	0.03	0.38	6047.04	0 00:30	0.38
S_R5	JUNCTION	0.03	0.33	6043.16	0 00:31	0.33
S_R6	JUNCTION	0.08	0.73	6042.57	0 00:36	0.73
S_R7	JUNCTION	0.04	0.37	6042.69	0 00:32	0.37
S_R3B	JUNCTION	0.10	1.20	6051.95	0 00:35	1.20
S_R3C	JUNCTION	0.06	0.92	6051.67	0 00:35	0.92
Outfall-01	OUTFALL	2.57	5.48	5961.16	0 00:53	5.48
Outfall-03	OUTFALL	0.00	0.00	6037.20	0 00:00	0.00
Outfall-02	OUTFALL	0.05	0.42	6006.50	0 00:43	0.42
PondA	STORAGE	6.89	9.22	5986.72	0 00:53	9.22

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Node Inflow Summary

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Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Time of Max Occurrence days hr:min	Lateral Inflow Volume 10 <sup>6</sup> gal	Total Inflow Volume 10 <sup>6</sup> gal	Flow Balance Error Percent
1.0	JUNCTION	0.00	3.38	0 00:40	0	0.0856	-0.047
1.1	JUNCTION	0.00	13.44	0 00:39	0	0.281	-0.004
1.2	JUNCTION	0.00	30.19	0 00:40	0	0.734	-0.000
1.2A	JUNCTION	0.00	27.47	0 00:40	0	0.667	-0.001
1.3	JUNCTION	0.00	43.63	0 00:40	0	1.01	-0.000
1.4	JUNCTION	0.00	51.90	0 00:40	0	1.22	-0.000
1.4A	JUNCTION	0.00	48.64	0 00:40	0	1.13	-0.000
1.5	JUNCTION	0.00	60.26	0 00:40	0	1.42	0.005
1.7	JUNCTION	0.00	65.23	0 00:40	0	1.61	-0.005
2.0	JUNCTION	0.00	72.46	0 00:40	0	1.81	-0.000
2.1	JUNCTION	0.00	15.50	0 00:36	0	0.362	0.020
2.3	JUNCTION	0.00	39.38	0 00:36	0	0.947	-0.013
2.4	JUNCTION	0.00	45.65	0 00:37	0	1.13	-0.000
2.5	JUNCTION	0.00	117.49	0 00:40	0	2.94	-0.000
2.6	JUNCTION	0.00	123.29	0 00:37	0	3.06	-0.000
2.8	JUNCTION	0.00	11.95	0 00:35	0	0.259	-0.000
2.8A	JUNCTION	0.00	62.60	0 00:37	0	1.5	-0.000
2.9	JUNCTION	0.00	75.77	0 00:36	0	1.74	-0.000
3.0	JUNCTION	0.00	82.04	0 00:36	0	1.89	-0.000
3.1	JUNCTION	0.00	205.63	0 00:37	0	4.95	-0.000
3.2	JUNCTION	0.00	100.62	0 00:37	0	2.4	-0.000
4.0	JUNCTION	0.00	25.58	0 00:40	0	0.641	-0.000
4.1	JUNCTION	0.00	29.22	0 00:39	0	0.726	-0.000
4.2	JUNCTION	0.00	34.83	0 00:40	0	0.875	-0.000
4.3	JUNCTION	0.00	38.70	0 00:39	0	0.966	-0.000
4.3A	JUNCTION	0.00	50.82	0 00:38	0	1.25	0.011
4.6	JUNCTION	0.00	36.66	0 00:35	0	0.658	0.000
4.7	JUNCTION	0.00	40.20	0 00:35	0	0.75	-0.000
4.8	JUNCTION	0.00	44.18	0 00:36	0	0.862	-0.000
5.1	JUNCTION	0.00	4.10	0 00:45	0	0.147	-0.016
5.1A	JUNCTION	0.00	10.04	0 00:42	0	0.328	0.005
5.2	JUNCTION	0.00	53.75	0 00:36	0	1.19	-0.000
5.4	JUNCTION	0.00	67.43	0 00:36	0	1.53	0.001
5.4A	JUNCTION	0.00	64.81	0 00:36	0	1.42	-0.000
5.5	JUNCTION	0.00	12.12	0 00:35	0	0.254	0.080
5.6	JUNCTION	0.00	79.49	0 00:36	0	1.79	-0.013
5.6A	JUNCTION	0.00	83.13	0 00:37	0	1.87	-0.004
5.6B	JUNCTION	0.00	291.93	0 00:37	0	6.82	-0.008
5.7	JUNCTION	0.00	393.99	0 00:38	0	9.33	-0.000
5.7A	JUNCTION	0.00	293.88	0 00:38	0	6.93	-0.001
6.0	JUNCTION	0.00	7.28	0 00:40	0	0.209	-0.000
6.1	JUNCTION	0.00	23.54	0 00:35	0	0.512	0.256
6.1A	JUNCTION	0.00	13.60	0 00:35	0	0.296	-0.001
6.2	JUNCTION	0.00	30.58	0 00:35	0	0.72	-0.154
6.3	JUNCTION	0.00	34.24	0 00:36	0	0.793	-0.000
6.5	JUNCTION	0.00	40.61	0 00:37	0	0.933	0.002
6.7	JUNCTION	0.00	11.71	0 00:37	0	0.289	-0.007
6.8	JUNCTION	0.00	66.46	0 00:37	0	1.58	-0.001
6.9	JUNCTION	0.00	8.40	0 00:45	0	0.293	-0.000
7.2	JUNCTION	0.00	87.54	0 00:37	0	2.12	-0.000

7.3	JUNCTION	0.00	99.25	0 00:37	0	2.36	-0.000
7.5	JUNCTION	0.00	398.40	0 00:38	0	9.7	0.205
8.0	JUNCTION	0.00	9.31	0 00:35	0	0.176	0.004
8.1	JUNCTION	0.00	22.29	0 00:35	0	0.421	-0.000
8.1A	JUNCTION	0.00	12.98	0 00:36	0	0.256	-0.000
8.2	JUNCTION	0.00	24.23	0 00:35	0	0.449	-0.002
8.3	JUNCTION	0.00	25.77	0 00:35	0	0.473	0.074
8.4	JUNCTION	0.00	34.17	0 00:35	0	0.68	-0.043
9.4	JUNCTION	92.50	92.50	0 00:00	89.7	89.7	0.006
9.5	JUNCTION	0.00	436.33	0 00:53	0	98.7	0.002
Inlet-DPA18-7	JUNCTION	0.00	0.00	0 00:00	0	0	0.000 gal
Inlet-DPA31-2	JUNCTION	0.00	0.00	0 00:00	0	0	0.000 gal
Inlet-DPA42A-1	JUNCTION	0.00	0.69	0 00:35	0	0.000392	-3.511
Inlet-DPA5-1	JUNCTION	0.00	21.08	0 00:36	0	0.541	-0.000
MH-DP33-11	JUNCTION	0.00	13.44	0 00:39	0	0.281	-0.000
MH-DP33-6	JUNCTION	0.00	51.90	0 00:41	0	1.22	-0.000
MH-DPA1-13	JUNCTION	0.00	66.47	0 00:37	0	1.58	-0.000
MH-DPA1-16	JUNCTION	0.00	34.24	0 00:37	0	0.793	-0.000
MH-DPA1-19	JUNCTION	0.00	30.57	0 00:36	0	0.721	-0.001
MH-DPA1-22	JUNCTION	0.00	13.60	0 00:35	0	0.296	0.040
MH-DPA15-12	JUNCTION	0.00	53.77	0 00:36	0	1.19	-0.000
MH-DPA15-13	JUNCTION	0.00	53.75	0 00:36	0	1.19	-0.000
MH-DPA15-15	JUNCTION	0.00	44.19	0 00:36	0	0.863	-0.000
MH-DPA15-16	JUNCTION	0.00	44.20	0 00:36	0	0.862	-0.001
MH-DPA15-18	JUNCTION	0.00	40.24	0 00:35	0	0.75	-0.000
MH-DPA15-19	JUNCTION	0.00	40.23	0 00:35	0	0.75	-0.000
MH-DPA15-20	JUNCTION	0.00	40.22	0 00:35	0	0.75	-0.000
MH-DPA15-21	JUNCTION	0.00	40.21	0 00:35	0	0.75	-0.000
MH-DPA15-23	JUNCTION	0.00	36.66	0 00:35	0	0.658	-0.001
MH-DPA15-6	JUNCTION	0.00	83.14	0 00:37	0	1.87	0.032
MH-DPA18-5	JUNCTION	0.00	1.72	0 00:45	0	0.0598	0.000
MH-DPA18B-1	JUNCTION	0.00	1.25	0 00:50	0	0.0507	0.000
MH-DPA22-11	JUNCTION	0.00	117.52	0 00:40	0	2.94	-0.000
MH-DPA22-14	JUNCTION	0.00	39.35	0 00:36	0	0.947	-0.000
MH-DPA22-15	JUNCTION	0.00	39.21	0 00:36	0	0.947	-0.000
MH-DPA22-16	JUNCTION	0.00	39.65	0 00:36	0	0.947	-0.001
MH-DPA22-17	JUNCTION	0.00	39.64	0 00:36	0	0.947	-0.026
MH-DPA22-18	JUNCTION	0.00	39.61	0 00:36	0	0.948	0.026
MH-DPA22-21	JUNCTION	0.00	13.09	0 00:35	0	0.234	0.065
MH-DPA22-5	JUNCTION	0.00	207.49	0 00:37	0	4.95	0.000
MH-DPA22-9	JUNCTION	0.00	117.58	0 00:40	0	2.94	-0.000
MH-DPA24-11	JUNCTION	0.00	29.22	0 00:39	0	0.726	-0.001
MH-DPA24-15	JUNCTION	0.00	13.43	0 00:40	0	0.34	-0.000
MH-DPA24-16	JUNCTION	0.00	13.43	0 00:40	0	0.34	-0.000
MH-DPA24-3	JUNCTION	0.00	75.77	0 00:36	0	1.74	-0.000
MH-DPA24-6	JUNCTION	0.00	38.70	0 00:39	0	0.966	-0.014
MH-DPA24-7	JUNCTION	0.00	38.70	0 00:39	0	0.966	-0.000
MH-DPA24-8	JUNCTION	0.00	38.70	0 00:39	0	0.966	-0.000
MH-DPA33-12	JUNCTION	0.00	13.44	0 00:39	0	0.281	-0.000
MH-DPA33-13	JUNCTION	0.00	13.44	0 00:39	0	0.281	-0.000
MH-DPA33-16	JUNCTION	0.00	2.62	0 00:40	0	0.0667	0.000
MH-DPA33-3	JUNCTION	0.00	65.24	0 00:40	0	1.61	-0.000
MH-DPA33-9	JUNCTION	0.00	43.64	0 00:40	0	1.01	-0.000
MH-DPA38-1	JUNCTION	0.00	30.19	0 00:40	0	0.734	-0.000
MH-DPA38-4	JUNCTION	0.00	22.50	0 00:41	0	0.557	-0.000
MH-DPA38-5	JUNCTION	0.00	22.50	0 00:41	0	0.557	-0.000
MH-DPA38-6	JUNCTION	0.00	22.49	0 00:41	0	0.557	-0.000
MH-DPA40-1	JUNCTION	0.00	10.11	0 00:36	0	0.196	-0.001
MH-DPA40-2	JUNCTION	0.00	10.11	0 00:37	0	0.196	-0.001
MH-DPA5-5	JUNCTION	0.00	8.40	0 00:45	0	0.293	-0.014
MH-DPA5-6	JUNCTION	0.00	8.40	0 00:45	0	0.293	-0.000



MH-DPA5-7	JUNCTION	0.00	8.40	0 00:45	0	0.293	-0.000
MH-DPA5-8	JUNCTION	0.00	8.40	0 00:45	0	0.293	-0.000
MH-DPA8-2	JUNCTION	0.00	8.56	0 00:40	0	0.228	-0.000
MH-DPR2-1	JUNCTION	0.00	34.14	0 00:36	0	0.68	-0.001
MH-DPR2-10	JUNCTION	0.00	9.30	0 00:35	0	0.176	-0.000
MH-DPR2-11	JUNCTION	0.00	9.29	0 00:35	0	0.176	-0.000
MH-DPR2-12	JUNCTION	0.00	9.30	0 00:35	0	0.176	-0.001
MH-DPR2-2	JUNCTION	0.00	34.15	0 00:36	0	0.68	-0.001
MH-DPR2-5	JUNCTION	0.00	24.23	0 00:35	0	0.449	0.002
MH-DPR2-9	JUNCTION	0.00	9.30	0 00:36	0	0.176	-0.000
MH-DPR8-1	JUNCTION	0.00	3.43	0 00:43	0	0.101	0.001
Plug-DPA45-1	JUNCTION	0.00	0.00	0 00:00	0	0	0.000 gal
S_A1	JUNCTION	2.62	2.62	0 00:40	0.0667	0.0667	0.000
S_A10	JUNCTION	1.08	1.08	0 00:40	0.0312	0.0312	0.000
S_A11	JUNCTION	4.83	4.83	0 00:48	0.185	0.185	0.000
S_A12	JUNCTION	0.41	5.17	0 00:46	0.00797	0.193	0.000
S_A13	JUNCTION	7.23	7.23	0 00:40	0.193	0.193	-0.000
S_A14	JUNCTION	13.08	13.08	0 00:35	0.234	0.234	0.022
S_A15	JUNCTION	2.81	2.81	0 00:52	0.129	0.129	-0.060
S_A16	JUNCTION	20.27	20.27	0 00:40	0.496	0.496	-0.012
S_A17	JUNCTION	2.87	22.98	0 00:40	0.0577	0.554	0.003
S_A18	JUNCTION	1.40	1.40	0 00:35	0.0313	0.0313	-0.016
S_A19	JUNCTION	4.18	4.18	0 00:40	0.12	0.12	-0.000
S_A2	JUNCTION	0.76	0.76	0 00:40	0.0189	0.0189	0.000
S_A20	JUNCTION	2.11	2.11	0 00:41	0.0673	0.0673	0.000
S_A21	JUNCTION	5.66	5.66	0 00:35	0.124	0.124	-0.000
S_A23	JUNCTION	4.66	4.66	0 00:36	0.107	0.107	-0.000
S_A23A	JUNCTION	4.53	9.18	0 00:36	0.101	0.208	0.000
S_A24	JUNCTION	2.79	11.95	0 00:35	0.0506	0.259	-0.000
S_A25	JUNCTION	14.07	14.07	0 00:35	0.232	0.232	-0.001
S_A26	JUNCTION	2.29	2.29	0 00:40	0.06	0.06	-0.000
S_A26A	JUNCTION	8.47	8.47	0 00:36	0.185	0.185	-0.000
S_A27	JUNCTION	3.97	3.97	0 00:36	0.0907	0.0907	-0.000
S_A27A	JUNCTION	3.83	3.83	0 00:37	0.0946	0.0946	-0.000
S_A28	JUNCTION	1.48	1.48	0 00:35	0.0321	0.0321	-0.000
S_A28A	JUNCTION	2.24	2.24	0 00:36	0.053	0.053	0.088
S_A29	JUNCTION	4.16	4.16	0 00:40	0.11	0.11	-0.000
S_A3	JUNCTION	10.11	10.11	0 00:37	0.196	0.196	0.003
S_A30	JUNCTION	1.45	1.45	0 00:40	0.0397	0.0397	-0.000
S_A31	JUNCTION	3.89	3.89	0 00:36	0.0906	0.0906	-0.001
S_A32	JUNCTION	2.42	2.42	0 00:40	0.0627	0.0627	-0.006
S_A33	JUNCTION	1.98	34.28	0 00:35	0.0516	0.595	-0.000
S_A34	JUNCTION	3.61	3.61	0 00:40	0.0921	0.0921	-0.000
S_A36	JUNCTION	4.03	4.03	0 00:40	0.113	0.113	-0.000
S_A37	JUNCTION	1.72	1.72	0 00:45	0.0598	0.0598	0.000
S_A37A	JUNCTION	1.16	2.88	0 00:45	0.0368	0.0965	-0.000
S_A38	JUNCTION	2.97	2.97	0 00:41	0.0933	0.0933	0.003
S_A38A	JUNCTION	1.25	1.25	0 00:50	0.0506	0.0507	0.001
S_A39	JUNCTION	3.04	3.04	0 00:40	0.0871	0.0871	0.003
S_A4	JUNCTION	22.49	22.49	0 00:41	0.557	0.557	-0.000
S_A40	JUNCTION	6.66	6.66	0 00:35	0.115	0.115	0.000
S_A41	JUNCTION	4.61	11.23	0 00:35	0.112	0.228	-0.000
S_A42	JUNCTION	2.92	2.92	0 00:47	0.115	0.115	0.000
S_A43	JUNCTION	7.28	7.28	0 00:35	0.147	0.147	0.000
S_A44	JUNCTION	4.84	4.84	0 00:35	0.107	0.107	0.000
S_A45	JUNCTION	4.15	4.15	0 00:37	0.106	0.106	0.000
S_A45A	JUNCTION	3.65	3.65	0 00:36	0.0867	0.0867	0.000
S_A46	JUNCTION	28.44	28.44	0 00:32	0.387	0.387	0.000
S_A5	JUNCTION	5.16	5.16	0 00:36	0.11	0.11	0.005
S_A51	JUNCTION	2.47	2.47	0 00:39	0.0636	0.0636	-0.000
S_A52	JUNCTION	4.82	4.82	0 00:41	0.146	0.146	-0.000

S_A53	JUNCTION	2.73	2.73	0 00:45	0.0929	0.0929	0.000
S_A53A	JUNCTION	11.23	11.23	0 00:35	0.203	0.203	0.000
S_A54	JUNCTION	3.97	7.38	0 00:35	0.0888	0.156	-0.001
S_A54A	JUNCTION	3.41	3.41	0 00:35	0.0673	0.0673	0.003
S_A55	JUNCTION	2.58	2.58	0 00:35	0.0603	0.0603	-0.000
S_A56	JUNCTION	3.72	3.72	0 00:35	0.0721	0.0721	-0.000
S_A57	JUNCTION	4.94	4.94	0 00:35	0.0912	0.0912	-0.000
S_A58	JUNCTION	1.58	6.44	0 00:35	0.0484	0.14	-0.000
S_A59	JUNCTION	6.39	8.56	0 00:40	0.163	0.228	0.001
S_A6	JUNCTION	2.76	2.76	0 00:36	0.0666	0.0666	-0.000
S_A60	JUNCTION	2.17	2.17	0 00:40	0.065	0.065	-0.007
S_A61	JUNCTION	3.30	3.30	0 00:35	0.0615	0.0615	0.019
S_A62	JUNCTION	2.66	2.66	0 00:46	0.102	0.102	0.000
S_A63	JUNCTION	5.74	5.74	0 00:43	0.191	0.191	0.000
S_A64	JUNCTION	5.58	13.50	0 00:40	0.105	0.397	0.003
S_A65	JUNCTION	7.97	21.08	0 00:36	0.144	0.541	-0.001
S_A66	JUNCTION	11.89	11.89	0 00:35	0.236	0.236	-0.000
S_A68	JUNCTION	1.38	1.38	0 00:41	0.0447	0.0447	-0.000
S_A69	JUNCTION	4.33	4.33	0 00:40	0.117	0.117	-0.000
S_A7	JUNCTION	5.06	5.06	0 00:37	0.119	0.119	-0.000
S_A70	JUNCTION	4.86	4.86	0 00:35	0.0969	0.0969	0.096
S_A70A	JUNCTION	1.00	5.86	0 00:35	0.0234	0.12	-0.067
S_A71	JUNCTION	2.19	8.05	0 00:35	0.0472	0.168	0.085
S_A8	JUNCTION	3.27	3.27	0 00:40	0.09	0.09	-0.000
S_A9	JUNCTION	7.40	7.40	0 00:36	0.166	0.166	-0.000
S_F1	JUNCTION	13.43	13.43	0 00:40	0.34	0.34	-0.000
S_F2	JUNCTION	12.16	12.16	0 00:38	0.301	0.301	-0.000
S_F3	JUNCTION	32.31	32.31	0 00:35	0.543	0.543	0.000
S_F4	JUNCTION	14.15	14.15	0 00:38	0.357	0.357	0.000
S_R1	JUNCTION	2.43	2.43	0 00:35	0.0537	0.0537	-0.025
S_R11	JUNCTION	3.43	3.43	0 00:43	0.101	0.101	-0.000
S_R2	JUNCTION	6.88	6.88	0 00:35	0.122	0.122	-0.001
S_R3	JUNCTION	0.00	9.40	0 00:35	0	0.165	0.002
S_R3A	JUNCTION	3.70	3.70	0 00:35	0.0796	0.0796	-0.000
S_R4	JUNCTION	2.05	2.05	0 00:30	0.0288	0.0288	0.054
S_R5	JUNCTION	1.60	1.60	0 00:31	0.0236	0.0236	0.037
S_R6	JUNCTION	6.58	6.58	0 00:40	0.171	0.171	-0.002
S_R7	JUNCTION	1.99	1.99	0 00:35	0.0362	0.0362	0.016
S_R3B	JUNCTION	6.94	6.94	0 00:35	0.125	0.125	-0.002
S_R3C	JUNCTION	2.47	2.47	0 00:35	0.0401	0.0401	-0.005
Outfall-01	OUTFALL	0.00	436.34	0 00:53	0	98.7	0.000
Outfall-03	OUTFALL	0.00	34.16	0 00:36	0	0.68	0.000
Outfall-02	OUTFALL	0.00	3.43	0 00:43	0	0.101	0.000
PondA	STORAGE	0.00	429.02	0 00:39	0	10.2	-0.169

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Node Surcharge Summary  
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Surcharging occurs when water rises above the top of the highest conduit.

Node	Type	Max. Height		Min. Depth	
		Hours	Above Crown	Feet	Below Rim
2.1	JUNCTION	0.21	2.630	2.680	
2.3	JUNCTION	0.23	2.365	2.465	
Inlet-DPA42A-1	JUNCTION	0.15	1.728	4.442	
MH-DPA22-17	JUNCTION	0.24	2.046	11.374	
MH-DPA22-18	JUNCTION	0.28	2.361	4.699	

MH-DPA22-21	JUNCTION	0.13	4.087	2.383
S_A14	JUNCTION	0.11	3.765	3.735
S_A15	JUNCTION	0.04	3.800	0.800
S_A16	JUNCTION	0.20	2.165	2.835
S_A17	JUNCTION	0.25	2.491	2.269
S_A18	JUNCTION	0.13	1.681	2.509
S_A40	JUNCTION	36.00	0.000	0.000
S_A43	JUNCTION	36.00	0.000	0.000
S_A44	JUNCTION	36.00	0.000	0.000
S_A45	JUNCTION	36.00	0.000	0.000
S_A45A	JUNCTION	36.00	0.000	0.000
S_A46	JUNCTION	36.00	0.000	0.000
S_A53	JUNCTION	36.00	0.000	0.000
S_A53A	JUNCTION	36.00	0.000	0.000
S_A70A	JUNCTION	0.22	0.105	4.605
S_A71	JUNCTION	1.63	1.035	5.155
S_F3	JUNCTION	0.13	0.094	2.906
S_F4	JUNCTION	0.35	0.334	3.666

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Node Flooding Summary  
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No nodes were flooded.

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Storage Volume Summary  
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Storage Unit	Average Volume	Avg Evap Pcnt	Exfil Pcnt	Loss Pcnt	Maximum Volume	Max Pcnt	Time of Max Occurrence	Maximum Outflow
	1000 ft3	Full	Loss	Loss	1000 ft3	Full	days hr:min	CFS
PondA	248.350	55	0	0	441.826	98	0 00:53	343.83

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Outfall Loading Summary  
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Outfall Node	Flow Freq	Avg Flow Pcnt	Max Flow CFS	Total Volume CFS	Total Volume 10^6 gal
Outfall-01	100.00	117.45	436.34	98.671	
Outfall-03	21.19	10.84	34.16	0.680	
Outfall-02	21.37	1.53	3.43	0.101	
System	47.52	129.82	462.80	99.453	

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Link Flow Summary  
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Maximum Time of Max Maximum Max/ Max/

Link	Type	Flow  CFS	Occurrence days	Veloc  hr:min	Full ft/sec	Full Flow	Full Depth
Pipe-105	CONDUIT	34.28	0	00:35	10.21	0.75	0.65
Pipe-106	CONDUIT	36.66	0	00:35	10.40	0.80	0.68
Pipe-109	CONDUIT	36.65	0	00:35	10.38	0.80	0.68
Pipe-110	CONDUIT	40.21	0	00:35	10.54	0.88	0.73
Pipe-110-2-1	CONDUIT	40.22	0	00:35	10.51	0.88	0.73
Pipe-111	CONDUIT	40.23	0	00:35	15.32	0.55	0.53
Pipe-112	CONDUIT	40.24	0	00:35	15.82	0.52	0.51
Pipe-113	CONDUIT	40.25	0	00:36	15.83	0.52	0.51
Pipe-114	CONDUIT	44.20	0	00:36	16.19	0.58	0.54
Pipe-116	CONDUIT	44.19	0	00:36	15.71	0.60	0.56
Pipe-117	CONDUIT	44.20	0	00:36	15.27	0.62	0.57
Pipe-119	CONDUIT	53.75	0	00:36	15.91	0.76	0.65
Pipe-120	CONDUIT	53.77	0	00:36	15.91	0.76	0.65
Pipe-121	CONDUIT	53.78	0	00:36	15.91	0.76	0.65
Pipe-122	CONDUIT	64.82	0	00:36	14.40	0.69	0.61
Pipe-122-1-1	CONDUIT	67.44	0	00:36	12.72	0.52	0.54
Pipe-123	CONDUIT	2.88	0	00:45	8.69	0.13	0.24
Pipe-125-1	CONDUIT	10.04	0	00:42	8.83	0.69	0.61
Pipe-125-2	CONDUIT	4.10	0	00:45	8.71	0.20	0.33
Pipe-126	CONDUIT	1.57	0	00:34	4.88	0.11	1.00
Pipe-127	CONDUIT	22.98	0	00:40	5.54	0.40	1.00
Pipe-142	CONDUIT	39.58	0	00:36	8.06	1.37	1.00
Pipe-142-1	CONDUIT	39.64	0	00:36	8.08	1.36	1.00
Pipe-143	CONDUIT	39.65	0	00:36	8.37	1.37	0.92
Pipe-144	CONDUIT	39.21	0	00:36	13.11	0.65	0.59
Pipe-146-1	CONDUIT	39.35	0	00:36	15.74	0.51	0.51
Pipe-147	CONDUIT	39.47	0	00:37	15.76	0.51	0.51
Pipe-148	CONDUIT	45.73	0	00:37	16.83	0.57	0.54
Pipe-149	CONDUIT	117.52	0	00:40	17.93	0.75	0.64
Pipe-152	CONDUIT	117.58	0	00:40	17.97	0.75	0.64
Pipe-154	CONDUIT	117.70	0	00:37	18.12	0.74	0.64
Pipe-156	CONDUIT	123.73	0	00:37	16.97	0.61	0.56
Pipe-169	CONDUIT	11.95	0	00:35	12.29	0.57	0.54
Pipe-169-3-1	CONDUIT	11.95	0	00:35	11.97	0.59	0.55
Pipe-170	CONDUIT	75.79	0	00:36	17.97	0.63	0.58
Pipe-173	CONDUIT	82.05	0	00:36	17.63	0.72	0.63
Pipe-174-1	CONDUIT	2.29	0	00:40	6.12	0.15	0.26
Pipe-175	CONDUIT	0.00	0	00:00	0.00	0.00	0.00
Pipe-176	CONDUIT	5.66	0	00:35	7.77	0.39	0.43
Pipe-177	CONDUIT	22.49	0	00:41	12.03	0.63	0.58
Pipe-178	CONDUIT	22.50	0	00:41	12.05	0.63	0.57
Pipe-178-1-3-1	CONDUIT	22.50	0	00:41	15.63	0.44	0.47
Pipe-178-1-3-1-2	CONDUIT	27.48	0	00:40	16.43	0.54	0.53
Pipe-178-1-4	CONDUIT	22.50	0	00:41	15.03	0.47	0.48
Pipe-182	CONDUIT	51.90	0	00:40	17.94	0.62	0.57
Pipe-183	CONDUIT	60.28	0	00:40	16.51	0.52	0.51
Pipe-184	CONDUIT	65.24	0	00:40	15.35	0.64	0.58
Pipe-184-1	CONDUIT	65.25	0	00:40	15.76	0.62	0.57
Pipe-185-1	CONDUIT	72.47	0	00:40	16.06	0.69	0.61
Pipe-186	CONDUIT	10.11	0	00:37	9.74	0.48	0.57
Pipe-187	CONDUIT	10.11	0	00:36	6.75	0.97	0.79
Pipe-188	CONDUIT	10.11	0	00:37	6.76	0.96	0.79
Pipe-190	CONDUIT	2.62	0	00:40	8.41	0.12	0.23
Pipe-190-1-1	CONDUIT	13.44	0	00:39	13.14	0.61	0.56
Pipe-190-2	CONDUIT	3.38	0	00:40	7.52	0.14	0.34
Pipe-191-1	CONDUIT	13.44	0	00:39	13.74	0.57	0.54
Pipe-192-1	CONDUIT	13.44	0	00:39	14.19	0.55	0.53
Pipe-193-1	CONDUIT	13.44	0	00:39	14.73	0.52	0.51

Pipe-194	CONDUIT	43.64	0 00:40	16.13	0.57	0.54
Pipe-195	CONDUIT	43.64	0 00:40	16.12	0.57	0.54
Pipe-195-1	CONDUIT	48.64	0 00:40	17.41	0.59	0.55
Pipe-195-1-1-1	CONDUIT	51.90	0 00:41	18.12	0.61	0.57
Pipe-196	CONDUIT	2.58	0 00:35	4.96	0.24	0.34
Pipe-197	CONDUIT	7.38	0 00:35	6.46	0.70	0.62
Pipe-198	CONDUIT	23.54	0 00:35	6.29	0.81	0.71
Pipe-198-1	CONDUIT	30.57	0 00:36	7.39	1.06	0.79
Pipe-199-1	CONDUIT	30.58	0 00:36	13.62	0.44	0.47
Pipe-203	CONDUIT	34.24	0 00:37	16.65	0.39	0.44
Pipe-205	CONDUIT	40.61	0 00:37	17.18	0.47	0.49
Pipe-205-1	CONDUIT	66.47	0 00:37	15.77	0.63	0.58
Pipe-209	CONDUIT	87.55	0 00:37	14.78	0.46	0.48
Pipe-214	CONDUIT	66.48	0 00:37	15.14	0.66	0.60
Pipe-215	CONDUIT	99.27	0 00:37	15.25	0.38	0.43
Pipe-216	CONDUIT	100.64	0 00:37	15.33	0.39	0.43
Pipe-225	CONDUIT	21.08	0 00:36	11.08	0.64	0.58
Pipe-225-1-1-1	CONDUIT	21.08	0 00:36	11.48	0.61	0.57
Pipe-227	CONDUIT	11.90	0 00:35	13.36	0.51	0.50
Pipe-229	CONDUIT	2.43	0 00:35	4.69	0.23	0.36
Pipe-229-1	CONDUIT	6.88	0 00:35	6.32	0.66	0.59
Pipe-236	CONDUIT	9.38	0 00:35	6.72	0.89	0.74
Pipe-237	CONDUIT	22.30	0 00:35	12.82	0.57	0.54
Pipe-239	CONDUIT	24.23	0 00:35	11.20	0.76	0.65
Pipe-240	CONDUIT	24.24	0 00:35	10.50	0.81	0.70
Pipe-241	CONDUIT	25.74	0 00:35	6.36	0.88	0.78
Pipe-243	CONDUIT	34.15	0 00:36	7.75	1.18	0.84
Pipe-244-1	CONDUIT	34.14	0 00:36	7.74	1.18	0.84
Pipe-246	CONDUIT	6.58	0 00:40	8.54	0.42	0.50
Pipe-247	CONDUIT	1.99	0 00:35	5.48	0.13	0.38
Pipe-262	CONDUIT	4.86	0 00:35	8.15	0.29	0.67
Pipe-262-1-1	CONDUIT	5.86	0 00:35	7.92	0.39	1.00
Pipe-337	CONDUIT	12.11	0 00:35	3.90	0.40	0.61
Pipe-344	CONDUIT	3.61	0 00:40	9.63	0.15	0.26
Pipe-362	CONDUIT	13.09	0 00:35	8.28	1.02	1.00
Pipe-363	CONDUIT	13.21	0 00:35	8.31	1.02	1.00
Pipe-363-1	CONDUIT	15.50	0 00:36	6.40	0.68	1.00
Pipe-364	CONDUIT	20.28	0 00:40	10.33	0.64	1.00
Pipe-365	CONDUIT	9.30	0 00:35	6.69	0.89	0.73
Pipe-366	CONDUIT	9.29	0 00:35	6.71	0.88	0.73
Pipe-367-1	CONDUIT	9.30	0 00:35	8.88	0.63	0.57
Pipe-367-1-1	CONDUIT	9.30	0 00:36	10.96	0.47	0.48
Pipe-368-1	CONDUIT	9.30	0 00:36	10.97	0.47	0.48
Pipe-368-1-1	CONDUIT	12.98	0 00:36	11.88	0.66	0.59
Pipe-369	CONDUIT	2.92	0 00:47	10.21	0.11	0.22
Pipe-370	CONDUIT	11.23	0 00:35	6.95	1.07	0.86
Pipe-371-1	CONDUIT	34.83	0 00:40	15.25	0.45	0.47
Pipe-371-2-1	CONDUIT	29.22	0 00:39	14.18	0.40	0.44
Pipe-374	CONDUIT	3.97	0 00:36	7.11	0.27	0.35
Pipe-375	CONDUIT	1.08	0 00:40	5.66	0.06	0.17
Pipe-376	CONDUIT	7.40	0 00:36	9.77	0.41	0.44
Pipe-377	CONDUIT	2.24	0 00:36	11.38	0.06	0.17
Pipe-378	CONDUIT	1.48	0 00:35	5.36	0.10	0.21
Pipe-411	CONDUIT	0.00	0 00:00	0.00	0.00	0.02
Pipe-412	CONDUIT	1.72	0 00:45	7.76	0.07	0.18
Pipe-413	CONDUIT	1.72	0 00:45	7.62	0.07	0.19
Pipe-414	CONDUIT	8.40	0 00:45	10.96	0.41	0.45
Pipe-415	CONDUIT	8.40	0 00:45	10.96	0.41	0.45
Pipe-416	CONDUIT	8.40	0 00:45	10.95	0.41	0.45
Pipe-417	CONDUIT	8.40	0 00:45	10.69	0.43	0.46
Pipe-418-1	CONDUIT	8.40	0 00:45	8.73	0.50	0.66

Pipe-419	CONDUIT	2.66	0 00:46	6.36	0.18	0.29
Pipe-420	CONDUIT	5.74	0 00:43	7.87	0.39	0.43
Pipe-421	CONDUIT	3.30	0 00:35	5.68	0.22	0.41
Pipe-422	CONDUIT	11.71	0 00:38	11.07	0.63	0.58
Pipe-424	CONDUIT	8.56	0 00:40	11.28	0.41	0.44
Pipe-425-1	CONDUIT	8.56	0 00:40	8.69	0.58	0.54
Pipe-426	CONDUIT	4.82	0 00:41	7.49	0.32	0.39
Pipe-426-1-1	CONDUIT	7.28	0 00:40	10.29	0.37	0.42
Pipe-430-1	CONDUIT	5.17	0 00:46	5.88	0.50	0.50
Pipe-430-2	CONDUIT	4.83	0 00:48	5.80	0.46	0.48
Pipe-431	CONDUIT	2.76	0 00:36	8.58	0.12	0.24
Pipe-432	CONDUIT	5.16	0 00:36	10.59	0.22	0.34
Pipe-433	CONDUIT	30.20	0 00:40	13.84	0.43	0.46
Pipe-434	CONDUIT	30.19	0 00:40	13.89	0.42	0.46
Pipe-435	CONDUIT	25.58	0 00:40	14.47	0.58	0.55
Pipe-436	CONDUIT	13.43	0 00:40	12.61	0.64	0.58
Pipe-437	CONDUIT	13.43	0 00:40	12.61	0.64	0.58
Pipe-439	CONDUIT	13.43	0 00:40	12.61	0.64	0.58
Pipe-444	CONDUIT	12.16	0 00:38	9.37	0.82	0.69
Pipe-448	CONDUIT	1.60	0 00:31	5.50	0.11	0.28
Pipe-449	CONDUIT	2.05	0 00:30	5.91	0.14	0.28
Pipe-516	CONDUIT	9.18	0 00:36	10.31	0.51	0.50
Pipe-517	CONDUIT	1.45	0 00:40	5.33	0.10	0.21
Pipe-518	CONDUIT	4.16	0 00:40	7.27	0.28	0.36
Pipe-520	CONDUIT	3.89	0 00:36	7.67	0.23	0.33
Pipe-521	CONDUIT	3.27	0 00:40	7.78	0.18	0.29
Pipe-522	CONDUIT	5.06	0 00:37	10.61	0.22	0.32
Pipe-524	CONDUIT	2.62	0 00:40	8.78	0.11	0.23
Pipe-526	CONDUIT	7.23	0 00:40	8.29	0.49	0.49
Pipe-527	CONDUIT	4.18	0 00:40	7.19	0.28	0.36
Pipe-528	CONDUIT	2.11	0 00:41	5.94	0.14	0.26
Pipe-529	CONDUIT	2.17	0 00:40	5.90	0.12	0.27
Pipe-530	CONDUIT	13.50	0 00:40	8.30	1.05	0.90
Pipe-532	CONDUIT	2.47	0 00:39	7.60	0.13	0.24
Pipe-533	CONDUIT	6.45	0 00:35	8.11	0.43	0.46
Pipe-538	CONDUIT	14.15	0 00:38	8.11	1.34	0.96
Pipe-539	CONDUIT	34.16	0 00:36	9.51	0.51	0.51
Pipe-542	CONDUIT	2.43	0 00:38	6.03	0.17	0.41
Pipe-544	CONDUIT	4.03	0 00:40	7.17	0.27	0.35
Pipe-545	CONDUIT	4.65	0 00:36	8.86	0.20	0.34
Pipe-546	CONDUIT	0.76	0 00:40	4.01	0.06	0.16
Pipe-547	CONDUIT	4.94	0 00:35	7.55	0.33	0.40
Pipe-549	CONDUIT	13.60	0 00:35	7.86	0.57	0.54
Pipe-551	CONDUIT	4.33	0 00:40	7.90	0.26	0.35
Pipe-552	CONDUIT	3.72	0 00:35	6.29	0.29	0.37
Pipe-553	CONDUIT	13.59	0 00:35	7.99	0.48	0.55
Pipe-555	CONDUIT	2.97	0 00:47	6.45	0.20	1.00
Pipe-556	CONDUIT	79.49	0 00:37	9.00	0.58	0.54
Pipe-559	CONDUIT	83.14	0 00:37	9.13	0.60	0.56
Pipe-559-1	CONDUIT	83.63	0 00:38	9.10	0.60	0.58
Pipe-560-1	CONDUIT	289.73	0 00:38	17.76	0.76	0.65
Pipe-560-1-1	CONDUIT	394.08	0 00:38	18.06	1.05	0.93
Pipe-562	CONDUIT	399.14	0 00:39	16.97	0.95	0.79
Pipe-560-1-3	CONDUIT	293.94	0 00:38	18.08	0.75	0.65
Pipe-561	CONDUIT	207.49	0 00:37	18.05	1.05	1.00
Pipe-563	CONDUIT	209.46	0 00:37	13.39	1.38	0.95
Pipe-567	CONDUIT	1.38	0 00:41	5.69	0.08	0.19
Pipe-568	CONDUIT	3.41	0 00:35	4.32	0.33	0.46
Pipe-569	CONDUIT	38.70	0 00:39	15.67	0.50	0.50
Pipe-570	CONDUIT	38.70	0 00:39	15.66	0.50	0.50
Pipe-571	CONDUIT	38.70	0 00:39	15.66	0.50	0.50

Pipe-572	CONDUIT	38.70	0	00:39	15.45	0.50	0.51			
Pipe-573	CONDUIT	50.81	0	00:38	16.71	0.66	0.59			
Pipe-573-1	CONDUIT	62.60	0	00:37	17.66	0.50	0.50			
Pipe-573-1-1	CONDUIT	75.77	0	00:36	18.50	0.61	0.56			
Pipe-579	CONDUIT	3.43	0	00:43	10.13	0.13	0.25			
Pipe-580	CONDUIT	3.43	0	00:43	5.71	0.04	0.14			
Pipe-618	CONDUIT	32.31	0	00:35	10.37	1.28	0.97			
Pipe-619	CONDUIT	2.97	0	00:41	7.53	0.13	0.30			
Pipe-620	CONDUIT	3.04	0	00:40	8.38	0.12	0.30			
Pipe-623	CONDUIT	1.25	0	00:50	7.52	0.05	0.15			
Pipe-624	CONDUIT	1.25	0	00:50	6.25	0.06	0.17			
Pipe-625	CONDUIT	14.07	0	00:35	7.55	0.63	0.57			
Pipe-642	CONDUIT	3.83	0	00:37	9.80	0.16	0.27			
Pipe-645	CONDUIT	3.70	0	00:35	6.96	0.25	0.34			
Pipe-646	CONDUIT	0.69	0	00:35	0.40	0.05	1.00			
Pipe-662	CONDUIT	8.47	0	00:36	12.24	0.36	0.41			
Pipe-712	CONDUIT	0.00	0	00:00	0.00	0.00	0.00			
Pipe-96-2	CONDUIT	29.22	0	00:39	13.67	0.75	0.64			
Pipe-Dummy01	DUMMY	6.66	0	00:35						
Pipe-Dummy02	DUMMY	7.28	0	00:35						
Pipe-Dummy03	DUMMY	4.84	0	00:35						
Pipe-Dummy04	DUMMY	3.65	0	00:36						
Pipe-Dummy05	DUMMY	4.15	0	00:37						
Pipe-Dummy06	DUMMY	11.23	0	00:35						
Pipe-Dummy07	DUMMY	2.73	0	00:45						
Pipe-264-1	CONDUIT	8.05	0	00:35	8.49	0.24	1.00			
Pipe-576	CONDUIT	107.49	0	00:00	29.06	0.54	0.74			
Pipe-717	CONDUIT	436.34	0	00:53	15.92	1.46	0.93			
Pipe-Dummy08	DUMMY	28.44	0	00:32						
Pipe-201-3	CONDUIT	34.24	0	00:37	16.67	0.39	0.44			
Pipe-4	CONDUIT	6.93	0	00:35	4.77	1.11	0.77			
Pipe-3	CONDUIT	2.46	0	00:35	2.13	0.23	0.67			
OS1	DUMMY	343.83	0	00:53						

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Flow Classification Summary

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Conduit	Adjusted ----- Fraction of Time in Flow Class -----										
	/Actual Length	Up Dry	Down Dry	Sub Dry	Sup Crit	Up Crit	Down Crit	Norm Crit	Inlet Ltd	Ctrl	
Pipe-105	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe-106	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe-109	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe-110	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe-110-2-1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe-111	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe-112	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe-113	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe-114	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe-116	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe-117	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe-119	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe-120	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe-121	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe-122	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe-122-1-1	1.00	0.00	0.00	0.00	0.00	0.05	0.00	0.95	0.00	0.00	
Pipe-123	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	









Pipe-717	1.00	0.00	0.00	0.00	0.06	0.94	0.00	0.00	0.04	0.00
Pipe-201-3	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
Pipe-4	1.00	0.00	0.79	0.00	0.17	0.03	0.00	0.00	0.93	0.00
Pipe-3	1.00	0.00	0.80	0.00	0.19	0.00	0.00	0.00	0.97	0.00

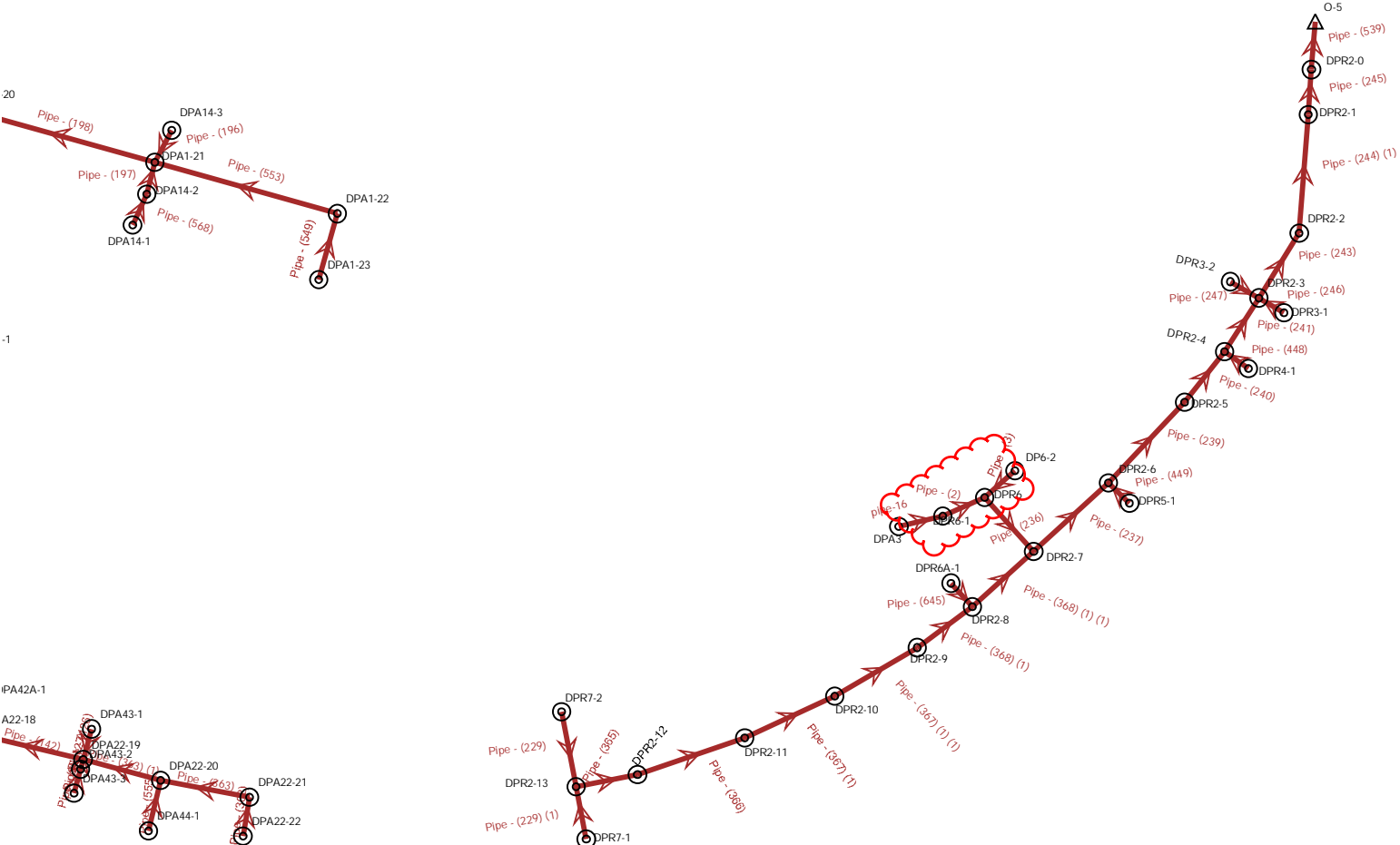
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 Conduit Surcharge Summary  
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Conduit	Hours		Hours		Capacity
	----- Hours Full	-----	Above Full	Dnstream	
	Both Ends	Upstream			Normal Flow
					Limited
Pipe-126	0.13	0.13	0.23	0.01	0.01
Pipe-127	0.25	0.25	0.29	0.01	0.01
Pipe-142	0.28	0.32	0.28	0.46	0.28
Pipe-142-1	0.24	0.33	0.24	0.46	0.24
Pipe-143	0.01	0.32	0.01	0.46	0.01
Pipe-198-1	0.01	0.01	0.01	0.15	0.01
Pipe-243	0.01	0.01	0.01	0.24	0.01
Pipe-244-1	0.01	0.01	0.01	0.24	0.01
Pipe-262	0.01	0.01	0.22	0.01	0.01
Pipe-262-1-1	1.32	1.32	4.39	0.01	0.01
Pipe-362	0.11	0.11	0.13	0.03	0.01
Pipe-363	0.15	0.15	0.21	0.01	0.01
Pipe-363-1	0.21	0.21	0.32	0.01	0.01
Pipe-364	0.20	0.20	0.25	0.01	0.01
Pipe-370	0.01	0.01	0.01	0.14	0.01
Pipe-530	0.01	0.01	0.01	0.21	0.01
Pipe-538	0.01	0.35	0.01	0.52	0.01
Pipe-555	0.04	0.04	0.21	0.01	0.01
Pipe-560-1-1	0.01	0.01	0.01	0.14	0.01
Pipe-561	0.10	0.10	0.13	0.13	0.10
Pipe-563	0.01	0.14	0.01	0.48	0.01
Pipe-618	0.01	0.13	0.01	0.26	0.01
Pipe-646	0.15	0.15	0.28	0.01	0.01
Pipe-264-1	1.63	1.63	35.41	0.01	0.01
Pipe-576	0.01	0.01	0.40	0.01	0.01
Pipe-717	0.01	0.01	0.01	0.56	0.01
Pipe-4	0.01	0.01	0.01	0.17	0.01

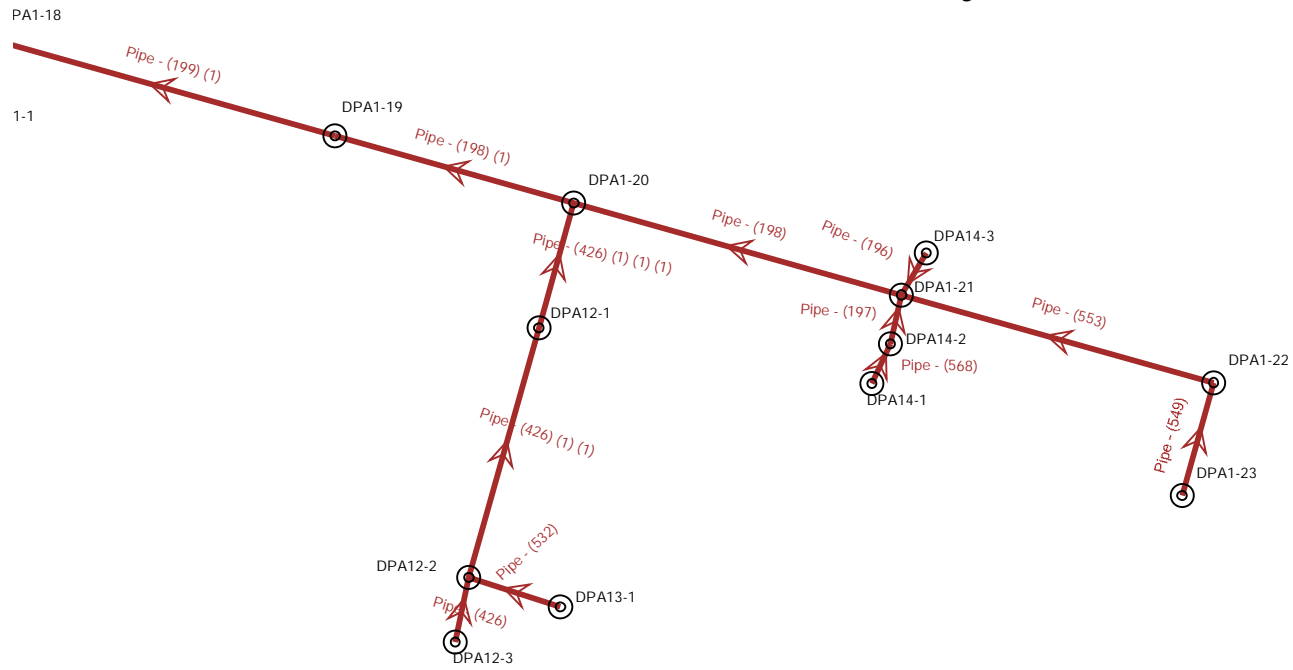
Analysis begun on: Mon Jul 25 10:28:58 2022  
 Analysis ended on: Mon Jul 25 10:29:13 2022  
 Total elapsed time: 00:00:15

## **Appendix C**

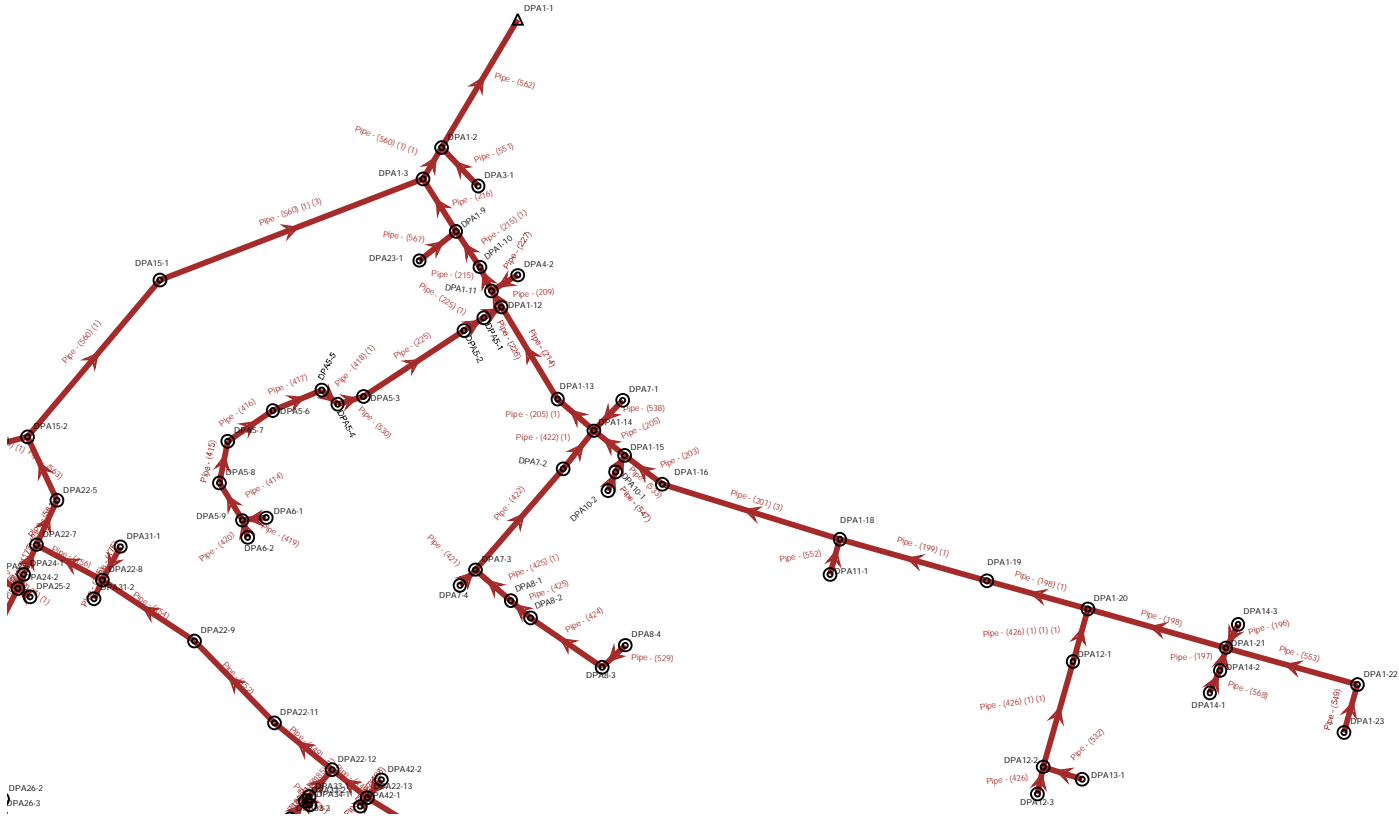
Scenario: 5yr



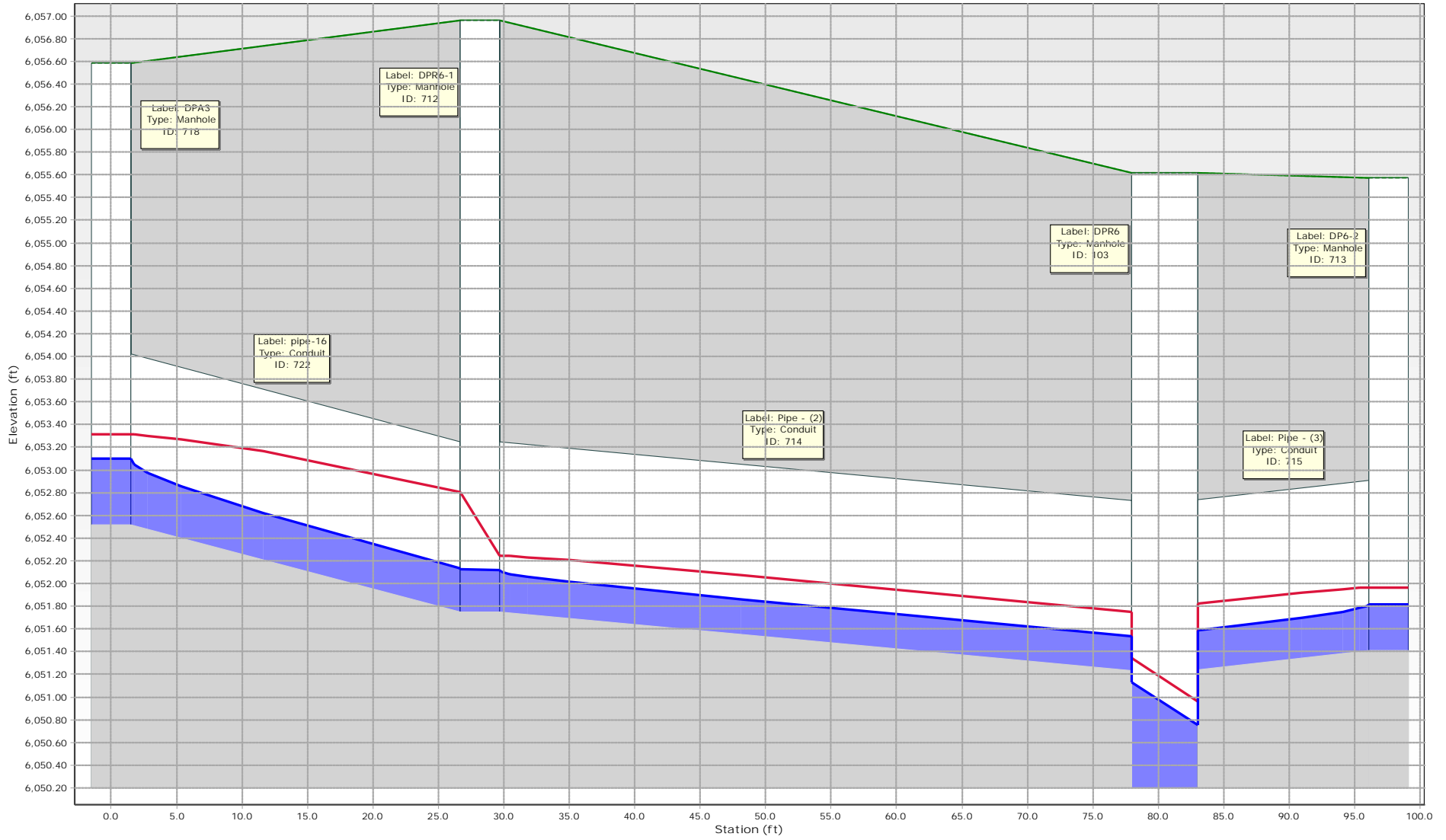
# Scenario: 5yr



# Scenario: 5yr



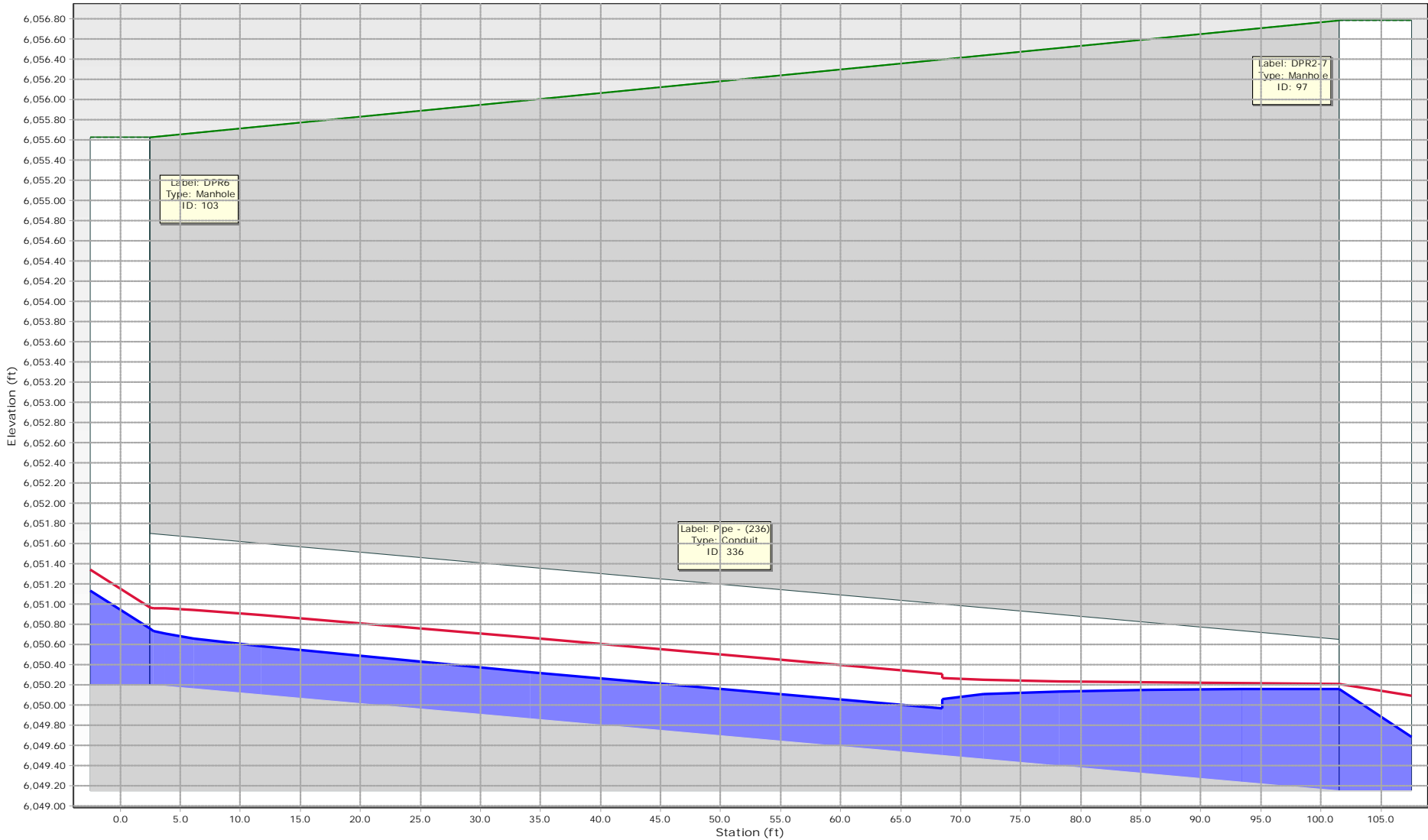
DPR6 - 1 - 5yr



EGL  
HGL

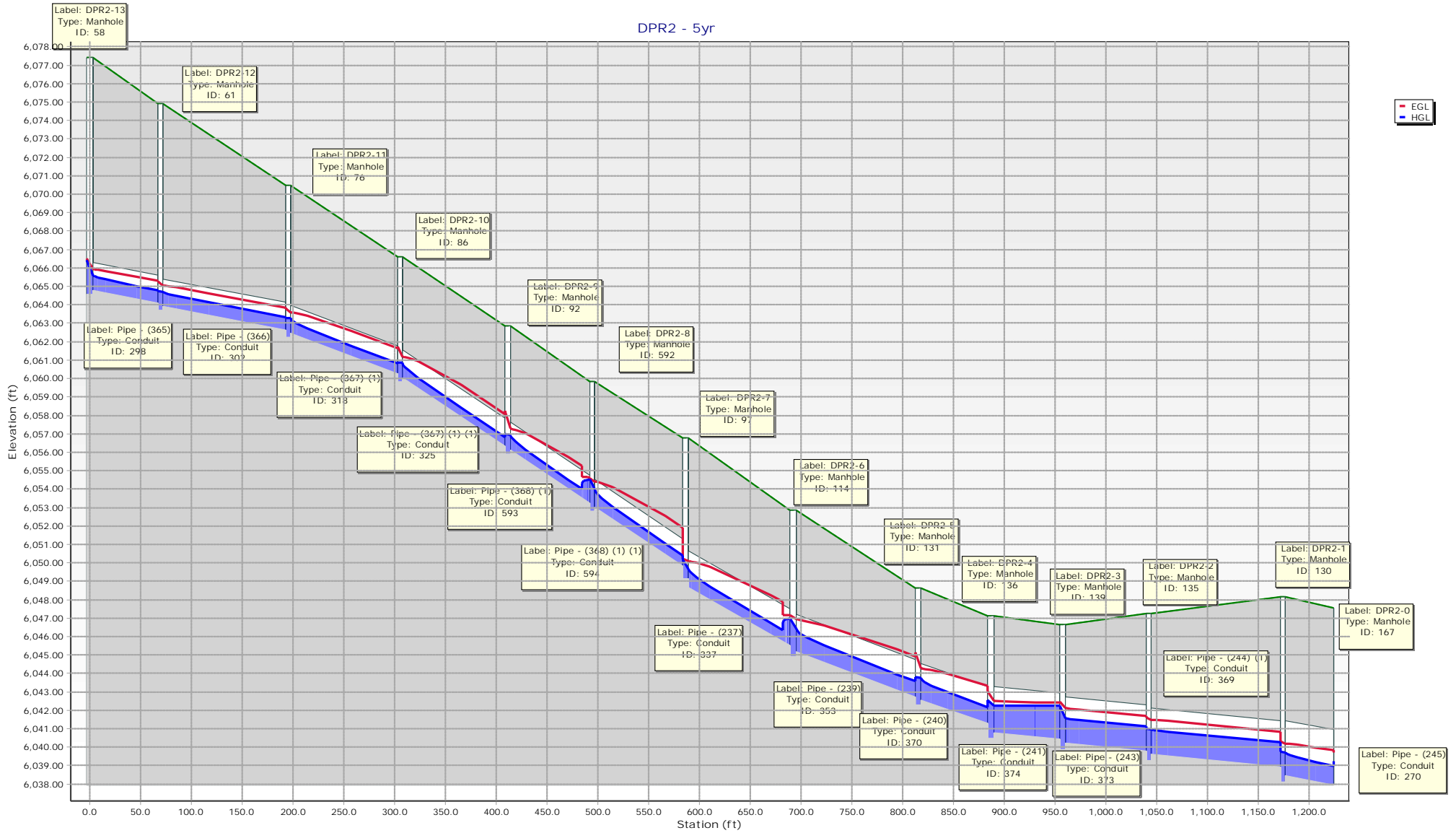


DPR6 - 5yr

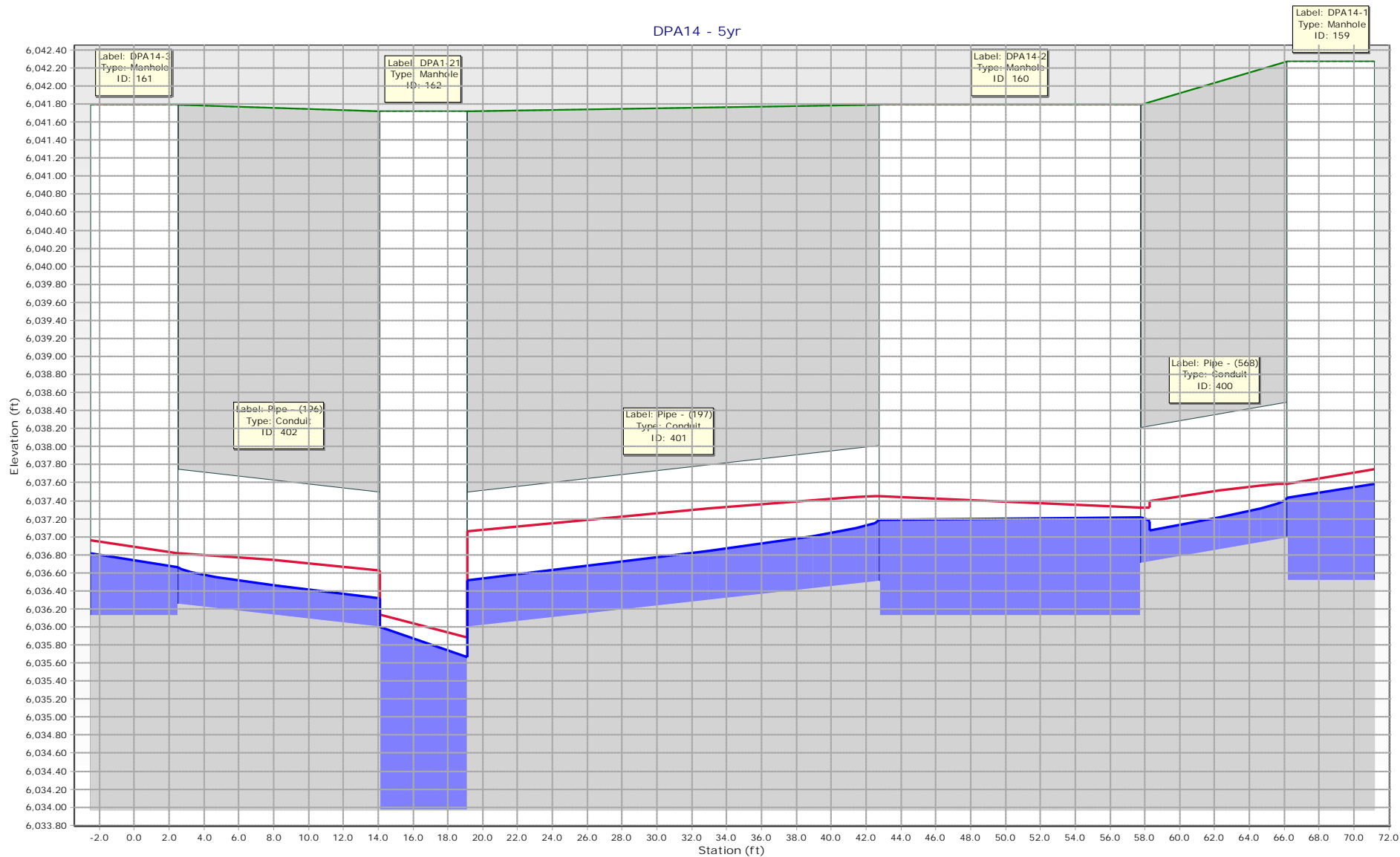


EGL  
HGL

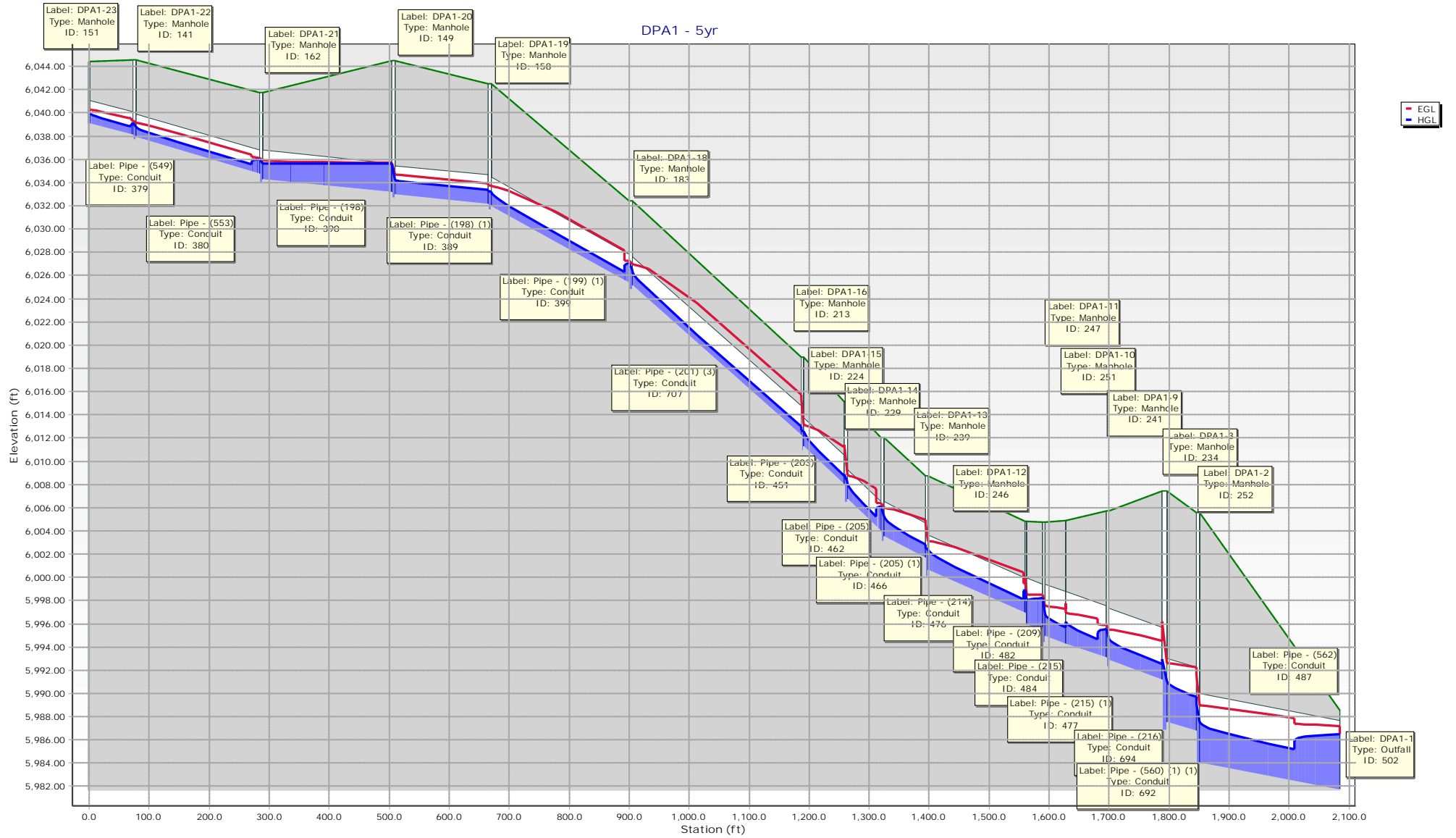
DPR2 - 5yr



DPA14 - 5yr



EGL  
HGL







Scenario: 5yr  
Current Time Step: 0.000 h  
FlexTable: Manhole Table

Label	Flow (Known) (cfs)	Elevation (Ground) (ft)	Elevation (Invert) (ft)	Flow (Total Out) (cfs)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Energy Grade Line (In) (ft)	Energy Grade Line (Out) (ft)	Headloss Coefficient (Standard)
DPA6-2	1.20	6,055.57	6,051.41	1.20	6,051.82	6,051.82	6,051.97	6,051.97	0.000
DPA1-10	0.00	6,004.87	5,994.28	43.64	5,996.19	5,996.19	5,997.73	5,996.91	0.000
DPA1-11	43.64	6,004.77	5,994.36	43.64	5,998.23	5,996.83	5,998.49	5,997.55	1.944
DPA1-12	38.45	6,004.83	5,995.07	38.45	5,998.95	5,997.99	6,000.06	5,998.53	1.770
DPA1-13	0.00	6,008.75	6,000.06	29.14	6,002.47	6,002.41	6,004.59	6,003.13	0.090
DPA1-14	29.14	6,012.05	6,003.09	29.14	6,006.12	6,005.26	6,006.38	6,005.98	1.189
DPA1-15	18.00	6,015.13	6,006.45	18.00	6,008.90	6,008.19	6,011.39	6,008.78	1.212
DPA1-16	0.00	6,018.97	6,010.96	15.30	6,012.62	6,012.57	6,015.38	6,013.10	0.094
DPA1-18	15.30	6,032.43	6,024.79	15.30	6,027.05	6,026.45	6,027.28	6,026.98	1.143
DPA1-19	0.00	6,042.47	6,031.63	13.75	6,033.23	6,033.21	6,033.76	6,033.70	0.050
DPA1-2	164.46	6,005.58	5,983.46	164.46	5,989.13	5,987.51	5,991.68	5,988.95	1.120
DPA1-20	13.75	6,044.49	6,032.67	13.75	6,035.61	6,034.21	6,035.73	6,034.70	2.857
DPA1-21	0.00	6,041.72	6,033.97	10.53	6,036.00	6,035.66	6,036.14	6,035.88	1.542
DPA1-22	0.00	6,044.56	6,037.67	6.11	6,039.13	6,038.79	6,039.36	6,039.13	1.010
DPA1-23	6.11	6,044.45	6,039.07	6.11	6,039.94	6,039.94	6,040.28	6,040.28	0.000
DPA1-3	162.60	6,007.42	5,986.84	162.60	5,992.94	5,991.05	5,996.17	5,992.60	1.216
DPA1-9	44.31	6,005.71	5,992.30	44.31	5,995.55	5,994.78	5,995.91	5,995.51	1.060
DPA3	2.33	6,056.58	6,052.52	2.33	6,053.10	6,053.10	6,053.31	6,053.31	-
DPA3-1	1.86	6,003.28	5,996.83	1.86	5,997.73	5,997.54	5,997.92	5,997.73	1.000
DPA4-2	5.32	6,004.68	5,998.91	5.32	6,000.38	6,000.01	6,000.75	6,000.38	1.000
DPA5-1	0.00	6,006.00	5,998.65	9.35	6,000.50	6,000.03	6,000.76	6,000.47	1.050
DPA5-2	0.00	6,005.74	5,999.34	9.35	6,000.91	6,000.91	6,002.17	6,001.35	0.000
DPA5-3	9.35	6,011.20	6,003.53	9.35	6,005.38	6,004.91	6,005.66	6,005.35	1.061
DPA5-4	5.70	6,011.57	6,004.63	5.70	6,006.41	6,005.80	6,006.48	6,006.19	1.568
DPA5-5	0.00	6,012.14	6,005.59	3.55	6,006.66	6,006.52	6,007.77	6,006.80	0.515
DPA5-6	0.00	6,014.82	6,008.68	3.55	6,009.63	6,009.61	6,010.79	6,009.89	0.074
DPA5-7	0.00	6,017.90	6,012.03	3.55	6,013.03	6,012.95	6,014.19	6,013.23	0.280
DPA5-8	0.00	6,020.33	6,014.69	3.55	6,015.68	6,015.61	6,016.84	6,015.89	0.264
DPA5-9	3.55	6,023.03	6,017.40	3.55	6,018.64	6,018.33	6,018.68	6,018.61	1.119
DPA6-1	1.15	6,023.90	6,018.47	1.15	6,019.08	6,019.08	6,019.22	6,019.22	0.000
DPA6-2	2.40	6,024.39	6,018.21	2.40	6,019.02	6,019.02	6,019.24	6,019.24	0.000
DPA7-1	6.36	6,012.78	6,005.29	6.36	6,006.57	6,006.57	6,006.99	6,006.99	0.000
DPA7-2	0.00	6,013.09	6,007.33	4.80	6,008.38	6,008.38	6,009.58	6,008.73	0.000
DPA7-3	4.80	6,019.15	6,013.71	4.80	6,015.16	6,014.76	6,015.18	6,015.11	1.166
DPA7-4	1.31	6,019.17	6,014.16	1.31	6,015.18	6,015.13	6,015.24	6,015.18	1.000
DPA8-1	0.00	6,021.19	6,015.58	3.52	6,016.29	6,016.29	6,016.99	6,016.56	0.000
DPA8-2	0.00	6,022.31	6,016.13	3.52	6,017.11	6,017.09	6,018.32	6,017.36	0.070
DPA8-3	3.52	6,028.81	6,021.65	3.52	6,022.94	6,022.58	6,022.95	6,022.85	1.296
DPA8-4	0.95	6,029.59	6,022.95	0.95	6,023.65	6,023.52	6,023.78	6,023.65	1.000
DPA10-1	2.77	6,015.32	6,009.33	2.77	6,010.35	6,010.33	6,010.84	6,010.57	0.088
DPA10-2	2.09	6,015.66	6,009.91	2.09	6,010.83	6,010.83	6,011.03	6,011.03	0.000
DPA11-1	1.58	6,033.02	6,026.97	1.58	6,027.66	6,027.66	6,027.83	6,027.83	0.000
DPA12-1	0.00	6,045.42	6,037.46	3.14	6,038.31	6,038.31	6,039.35	6,038.57	0.000
DPA12-2	3.14	6,049.83	6,043.51	3.14	6,044.54	6,044.19	6,044.68	6,044.45	1.349
DPA12-3	2.08	6,050.23	6,044.64	2.08	6,045.38	6,045.38	6,045.59	6,045.59	0.000
DPA13-1	1.08	6,051.96	6,045.64	1.08	6,046.24	6,046.24	6,046.38	6,046.38	0.000
DPA14-1	1.39	6,042.27	6,036.52	1.39	6,037.59	6,037.43	6,037.75	6,037.59	1.000
DPA14-2	3.19	6,041.79	6,036.13	3.19	6,037.21	6,037.19	6,037.32	6,037.45	0.078
DPA14-3	1.23	6,041.79	6,036.13	1.23	6,036.81	6,036.67	6,036.96	6,036.81	1.000
DPA15-1	118.83	6,015.67	5,995.73	118.83	5,999.26	5,999.08	6,002.33	6,000.30	0.152
DPA15-10	30.40	6,017.56	6,006.57	30.40	6,009.55	6,008.80	6,009.63	6,009.47	1.128
DPA15-11	29.46	6,018.70	6,008.16	29.46	6,011.53	6,010.48	6,012.40	6,011.21	1.444
DPA15-12	0.00	6,020.86	6,010.65	36.70	6,013.08	6,012.99	6,015.53	6,014.12	0.074
DPA15-13	36.70	6,021.87	6,012.44	36.70	6,014.86	6,014.78	6,015.45	6,015.91	0.068
DPA15-14	24.48	6,022.52	6,013.61	24.48	6,016.53	6,015.59	6,016.82	6,016.34	1.253
DPA15-15	0.00	6,024.11	6,016.21	20.66	6,018.11	6,018.05	6,020.69	6,018.71	0.079
DPA15-16	0.00	6,032.79	6,025.46	20.66	6,027.34	6,027.29	6,029.89	6,027.95	0.070
DPA15-17	20.66	6,037.09	6,029.14	20.66	6,031.68	6,030.97	6,031.71	6,031.63	1.084
DPA15-18	0.00	6,041.96	6,033.25	18.98	6,035.11	6,035.07	6,037.61	6,035.68	0.072
DPA15-19	0.00	6,046.56	6,037.19	18.98	6,039.05	6,039.01	6,041.36	6,039.62	0.072
DPA15-2	116.92	6,027.78	6,000.54	116.92	6,005.83	6,004.15	6,005.94	6,005.36	1.389
DPA15-20	0.00	6,050.15	6,040.63	18.98	6,042.44	6,042.40	6,043.56	6,043.01	0.070
DPA15-21	0.00	6,051.37	6,041.54	18.98	6,043.35	6,043.31	6,044.50	6,043.92	0.063
DPA15-22	18.98	6,052.75	6,042.62	18.98	6,045.41	6,044.39	6,046.26	6,045.00	1.662
DPA15-23	0.00	6,054.05	6,044.94	17.52	6,047.27	6,046.69	6,047.60	6,047.27	1.010
DPA15-24	17.52	6,053.05	6,046.34	17.52	6,049.20	6,048.10	6,049.21	6,048.68	1.907
DPA15-25	16.50	6,053.32	6,046.94	16.50	6,049.19	6,049.18	6,049.65	6,049.44	0.050
DPA15-26	15.59	6,055.34	6,047.08	15.59	6,049.41	6,049.41	6,049.95	6,049.95	0.000
DPA15-3	0.00	6,027.30	6,002.09	37.31	6,005.87	6,005.83	6,006.03	6,005.98	0.216
DPA15-7	37.31	6,016.33	6,004.43	37.31	6,007.36	6,006.71	6,007.68	6,007.36	0.992
DPA15-8	35.59	6,016.01	6,004.92	35.59	6,008.01	6,007.28	6,008.04	6,007.92	1.147
DPA15-9	0.00	6,017.00	6,006.86	30.40	6,008.53	6,008.53	6,009.68	6,009.20	0.000
DPA16-1	5.26	6,012.66	6,006.88	5.26	6,008.18	6,007.98	6,008.38	6,008.18	1.000
DPA17-1	1.01	6,017.82	6,009.34	1.01	6,010.06	6,009.92	6,010.19	6,010.06	1.000
DPA17A-1	5.13	6,019.29	6,009.58	5.13	6,011.73	6,011.60	6,011.87	6,011.73	1.000
DPA18-1	0.00	6,023.16	6,016.18	3.91	6,017.12	6,017.12	6,017.88	6,017.41	0.000
DPA18-2	3.91	6,024.66	6,017.25	3.91	6,018.46	6,018.14	6,018.51	6,018.43	1.075
DPA18-3	1.46	6,027.73	6,020.80	1.46	6,021.73	6,021.57	6,022.01	6,021.74	0.959
DPA18-4	1.12	6,039.47	6,028.33	1.12	6,029.13	6,028.98	6,029.20	6,029.12	1.068
DPA18-5	0.00	6,040.04	6,033.76	0.69	6,034.30	6,034.28	6,034.81	6,034.39	0.176
DPA18-6	0.00	6,040.90	6,034.70	0.69	6,035.33	6,035.22	6,035.87	6,035.33	1.000
DPA18-7	0.69	6,040.87	6,036.12	0.69	6,036.75	6,036.64	6,036.85	6,036.75	1.000

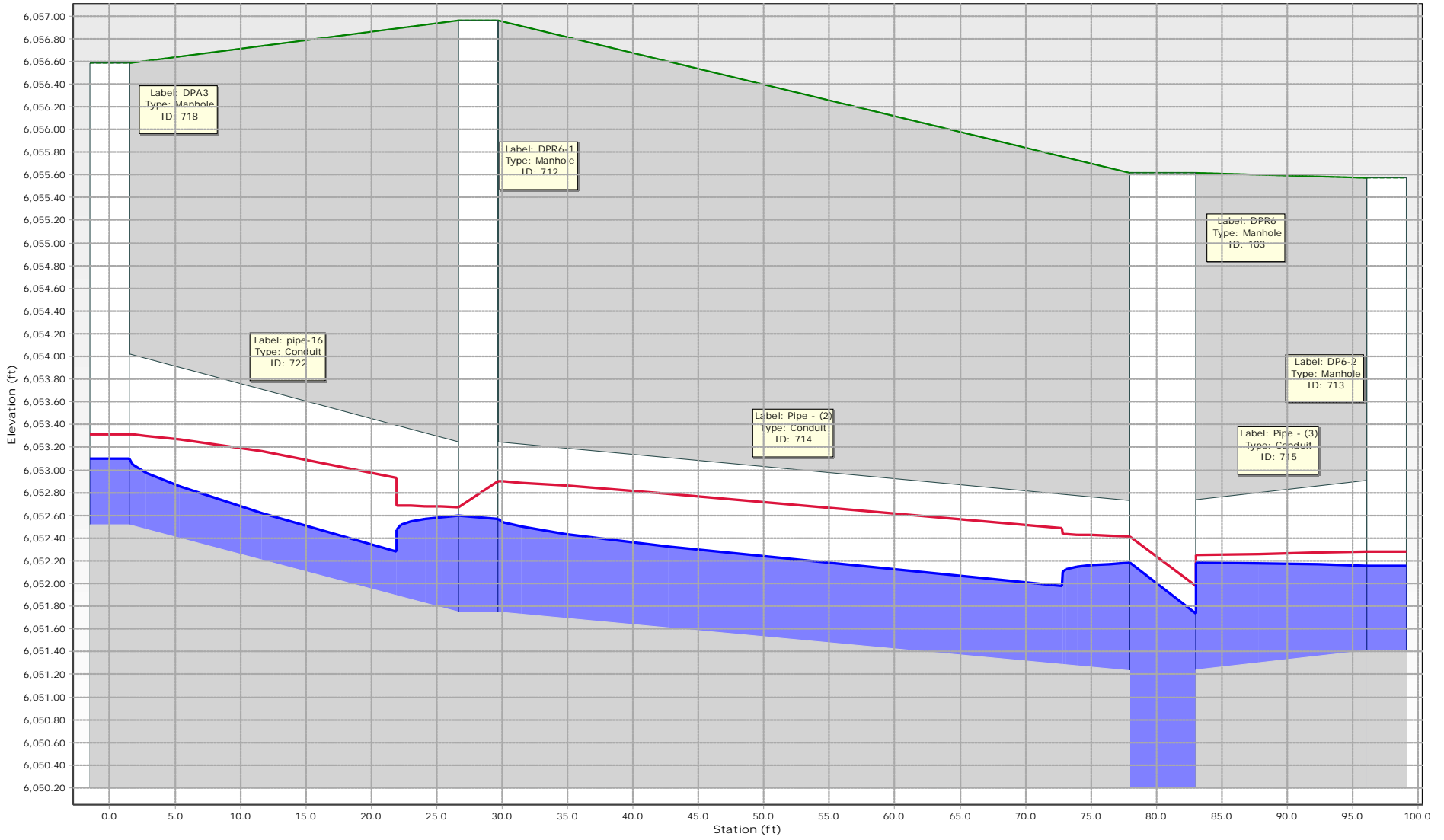
DPA18A-1	1.16	6,024.66	6,018.80	1.16	6,019.41	6,019.41	6,019.56	6,019.56	-
DPA18A-2	1.31	6,024.82	6,017.92	1.31	6,018.56	6,018.56	6,018.71	6,018.71	-
DPA18B-1	0.00	6,029.50	6,023.40	0.35	6,023.67	6,023.62	6,024.08	6,023.69	0.710
DPA18B-2	0.35	6,045.35	6,038.89	0.35	6,039.18	6,039.11	6,039.26	6,039.18	1.000
DPA19-1	1.66	6,037.42	6,031.05	1.66	6,031.74	6,031.74	6,031.92	6,031.92	0.000
DPA20-1	1.03	6,053.28	6,047.85	1.03	6,049.21	6,049.20	6,049.22	6,049.21	1.000
DPA21-1	1.47	6,053.01	6,046.49	1.47	6,047.09	6,047.09	6,047.26	6,047.26	0.000
DPA22-11	0.00	6,038.47	6,027.77	41.74	6,030.12	6,030.07	6,032.73	6,030.90	0.057
DPA22-12	41.74	6,042.81	6,031.36	41.74	6,034.86	6,033.83	6,035.13	6,034.66	1.247
DPA22-13	17.48	6,045.58	6,035.17	17.48	6,037.63	6,036.92	6,039.89	6,037.49	1.239
DPA22-14	0.00	6,054.27	6,044.26	14.75	6,045.88	6,045.84	6,048.14	6,046.36	0.072
DPA22-15	0.00	6,062.96	6,053.31	14.75	6,054.93	6,054.89	6,056.53	6,055.41	0.061
DPA22-16	0.00	6,073.48	6,059.36	14.75	6,060.97	6,060.94	6,061.52	6,061.46	0.050
DPA22-17	0.00	6,077.15	6,061.02	14.75	6,062.67	6,062.64	6,063.22	6,063.16	0.050
DPA22-18	0.00	6,071.97	6,062.22	14.75	6,063.83	6,063.80	6,064.38	6,064.32	0.050
DPA22-19	14.75	6,070.79	6,062.95	14.75	6,065.43	6,064.57	6,065.52	6,065.09	1.660
DPA22-20	6.86	6,071.70	6,064.42	6.86	6,066.03	6,065.60	6,066.84	6,065.96	1.201
DPA22-21	0.00	6,074.61	6,066.43	6.27	6,068.06	6,067.65	6,068.34	6,068.07	0.992
DPA22-22	6.27	6,078.66	6,067.52	6.27	6,068.50	6,068.50	6,068.92	6,068.92	0.000
DPA22-5	0.00	6,028.37	6,007.16	79.64	6,010.66	6,010.29	6,013.29	6,011.37	0.347
DPA22-7	79.64	6,030.48	6,013.27	79.64	6,018.17	6,016.31	6,020.48	6,017.52	1.539
DPA22-8	44.35	6,029.17	6,017.97	44.35	6,021.45	6,020.52	6,021.99	6,021.30	1.190
DPA22-9	0.00	6,031.66	6,022.90	41.74	6,025.34	6,025.28	6,028.24	6,026.11	0.074
DPA23-1	0.64	6,008.80	5,997.60	0.64	5,998.65	5,998.55	5,998.75	5,998.65	1.000
DPA24-1	0.00	6,032.69	6,021.07	35.82	6,025.03	6,025.03	6,027.18	6,025.87	0.000
DPA24-10	14.33	6,072.60	6,064.58	14.33	6,066.74	6,066.19	6,067.22	6,066.69	1.107
DPA24-11	0.00	6,082.22	6,073.33	18.80	6,076.13	6,075.51	6,076.90	6,076.12	1.010
DPA24-12	18.80	6,083.06	6,075.22	18.80	6,077.61	6,077.61	6,077.93	6,078.40	0.000
DPA24-13	11.90	6,085.80	6,077.88	11.90	6,080.31	6,079.76	6,080.33	6,080.29	1.056
DPA24-14	10.21	6,087.39	6,079.99	10.21	6,082.22	6,081.42	6,082.35	6,081.89	1.690
DPA24-15	0.00	6,093.55	6,086.35	5.14	6,087.46	6,087.43	6,088.96	6,087.79	0.072
DPA24-16	0.00	6,098.22	6,091.35	5.14	6,092.78	6,092.41	6,093.02	6,092.77	1.010
DPA24-17	5.14	6,099.28	6,093.49	5.14	6,094.44	6,094.44	6,094.80	6,094.80	0.000
DPA24-2	35.82	6,034.23	6,023.95	35.82	6,027.13	6,026.24	6,027.83	6,027.08	1.056
DPA24-3	0.00	6,038.99	6,029.35	33.10	6,031.62	6,031.55	6,033.91	6,032.34	0.086
DPA24-3A	33.10	6,040.55	6,030.70	33.10	6,034.10	6,033.17	6,034.95	6,033.96	1.175
DPA24-4	26.59	6,041.63	6,032.05	26.59	6,035.25	6,034.38	6,035.64	6,035.05	1.291
DPA24-5	21.40	6,052.39	6,043.67	21.40	6,046.36	6,045.59	6,046.56	6,046.27	1.139
DPA24-6	0.00	6,056.61	6,048.09	15.90	6,049.81	6,049.78	6,052.17	6,050.32	0.063
DPA24-7	0.00	6,061.61	6,053.21	15.90	6,054.92	6,054.88	6,057.28	6,055.42	0.077
DPA24-8	0.00	6,066.57	6,058.28	15.90	6,059.99	6,059.95	6,062.35	6,060.49	0.079
DPA24-9	15.90	6,070.88	6,062.79	15.90	6,065.14	6,064.48	6,065.69	6,065.02	1.229
DPA25-1	1.72	6,034.40	6,028.22	1.72	6,029.10	6,028.92	6,029.28	6,029.10	1.000
DPA25-2	1.00	6,034.78	6,027.68	1.00	6,028.56	6,028.42	6,028.69	6,028.56	1.000
DPA26-1	0.00	6,042.26	6,035.63	5.32	6,036.63	6,036.63	6,038.02	6,036.94	0.000
DPA26-2	0.00	6,050.38	6,040.04	5.32	6,041.21	6,041.06	6,042.05	6,041.37	0.480
DPA26-3	5.32	6,051.43	6,041.02	5.32	6,042.55	6,042.12	6,042.67	6,042.49	1.160
DPA26-4	4.00	6,051.65	6,042.34	4.00	6,043.62	6,043.32	6,043.68	6,043.62	1.010
DPA26-5	2.09	6,053.24	6,047.77	2.09	6,048.73	6,048.53	6,048.93	6,048.73	1.000
DPA26A-1	1.67	6,052.99	6,046.99	1.67	6,047.86	6,047.69	6,048.04	6,047.86	1.000
DPA26A-2	3.94	6,052.52	6,045.72	3.94	6,046.99	6,046.69	6,047.29	6,046.99	1.000
DPA27-1	1.58	6,074.83	6,068.53	1.58	6,069.38	6,069.21	6,069.55	6,069.38	1.000
DPA28-1	1.75	6,072.82	6,066.60	1.75	6,067.50	6,067.31	6,067.68	6,067.50	1.000
DPA28-2	0.68	6,072.88	6,067.23	0.68	6,067.86	6,067.75	6,067.97	6,067.86	1.000
DPA29-1	0.68	6,086.37	6,080.22	0.68	6,080.84	6,080.74	6,080.95	6,080.84	1.000
DPA29-2	1.04	6,085.84	6,079.61	1.04	6,080.36	6,080.28	6,080.44	6,080.36	1.000
DPA30-1	5.08	6,087.88	6,082.01	5.08	6,082.96	6,082.96	6,083.31	6,083.31	0.000
DPA31-1	2.68	6,028.48	6,021.80	2.68	6,022.86	6,022.63	6,023.10	6,022.86	1.000
DPA31-2	0.00	6,031.02	6,021.32	0.00	6,021.45	6,021.45	6,021.45	6,021.45	1.000
DPA32-1	14.07	6,040.60	6,032.79	14.07	6,034.57	6,034.57	6,035.17	6,035.17	-
DPA33-1	0.00	6,042.87	6,033.17	24.30	6,035.33	6,035.33	6,036.42	6,035.96	0.000
DPA33-10	12.71	6,067.16	6,057.56	12.71	6,059.59	6,059.05	6,059.80	6,059.51	1.159
DPA33-11	0.00	6,070.02	6,062.63	3.73	6,063.60	6,063.58	6,065.15	6,063.87	0.063
DPA33-12	0.00	6,073.55	6,066.77	3.73	6,067.74	6,067.72	6,069.20	6,068.01	0.066
DPA33-13	0.00	6,076.62	6,070.07	3.73	6,071.04	6,071.02	6,072.38	6,071.31	0.061
DPA33-14	3.73	6,081.20	6,074.36	3.73	6,075.65	6,075.31	6,075.66	6,075.60	1.170
DPA33-15	0.97	6,090.04	6,083.54	0.97	6,084.26	6,084.11	6,084.79	6,084.24	1.176
DPA33-16	0.00	6,092.09	6,085.94	0.77	6,086.53	6,086.47	6,087.11	6,086.58	0.533
DPA33-17	0.77	6,098.75	6,092.46	0.77	6,093.11	6,093.00	6,093.23	6,093.11	1.000
DPA33-2	24.30	6,043.61	6,033.63	24.30	6,036.28	6,035.55	6,036.53	6,036.18	1.158
DPA33-3	0.00	6,044.26	6,034.73	21.20	6,036.59	6,036.55	6,038.60	6,037.13	0.066
DPA33-4	21.20	6,048.59	6,038.16	21.20	6,040.70	6,039.97	6,040.76	6,040.55	1.260
DPA33-5	19.64	6,054.21	6,042.79	19.64	6,045.26	6,044.55	6,045.65	6,045.10	1.292
DPA33-6	0.00	6,056.59	6,046.05	16.18	6,048.26	6,047.71	6,048.58	6,048.26	1.010
DPA33-7	16.18	6,057.47	6,048.07	16.18	6,050.36	6,049.73	6,050.60	6,050.28	1.159
DPA33-8	14.71	6,060.35	6,052.03	14.71	6,054.14	6,053.61	6,054.39	6,054.13	1.035
DPA33-9	0.00	6,063.48	6,054.73	12.71	6,056.25	6,056.22	6,058.19	6,056.68	0.066
DPA34-1	3.11	6,044.13	6,036.13	3.11	6,037.27	6,037.01	6,037.52	6,037.27	1.000
DPA35-1	1.60	6,048.85	6,039.87	1.60	6,040.78	6,040.68	6,040.90	6,040.77	1.099
DPA35-2	1.46	6,043.48	6,040.48	1.46	6,041.31	6,041.14	6,041.47	6,041.31	1.000
DPA36-1	3.04	6,054.45	6,047.27	3.04	6,048.40	6,048.14	6,048.65	6,048.40	1.000
DPA36-2	0.49	6,054.47	6,047.93	0.49	6,048.49	6,048.40	6,048.58	6,048.49	1.000
DPA37-1	1.48	6,056.44	6,051.34	1.48	6,052.48	6,052.32	6,052.65	6,052.48	1.000
DPA37A-1	2.05	6,060.53	6,054.14	2.05	6,055.09	6,054.89	6,055.29	6,055.09	1.000
DPA38-1	0.00	6,067.07	6,058.63	9.02	6,059.94	6,059.92	6,061.05	6,060.30	0.063
DPA38-2	9.02	6,067.86	6,059.56	9.02	6,061.36	6,060.85	6,061.74	6,061.23	1.362
DPA38-3	7.85	6,073.00	6,067.01	7.85	6,068.54	6,068.01	6,068.58	6,068.40	1.365
DPA38-4	0.00	6,080.31	6,073.86	5.94	6,075.00	6,074.97	6,076.67	6,075.30	0.072
DPA38-5	0.00	6,089.37	6,081.48	5.94	6,082.62	6,082.59	6,083.63	6,082.92	0.074
DPA38-6	0.00	6,091.82	6,082.78	5.94	6,084.22	6,083.89	6,084.45	6,084.22	1.010
DPA38-7	5.94	6,091.38	6,085.73	5.94	6,086.92	6,086.59	6,087.25	6,086.92	1.000
DPA39-1	1.22	6,066.51	6,062.04	1.22	6,062.81	6,062.66	6,062.96	6,062.81	1.000
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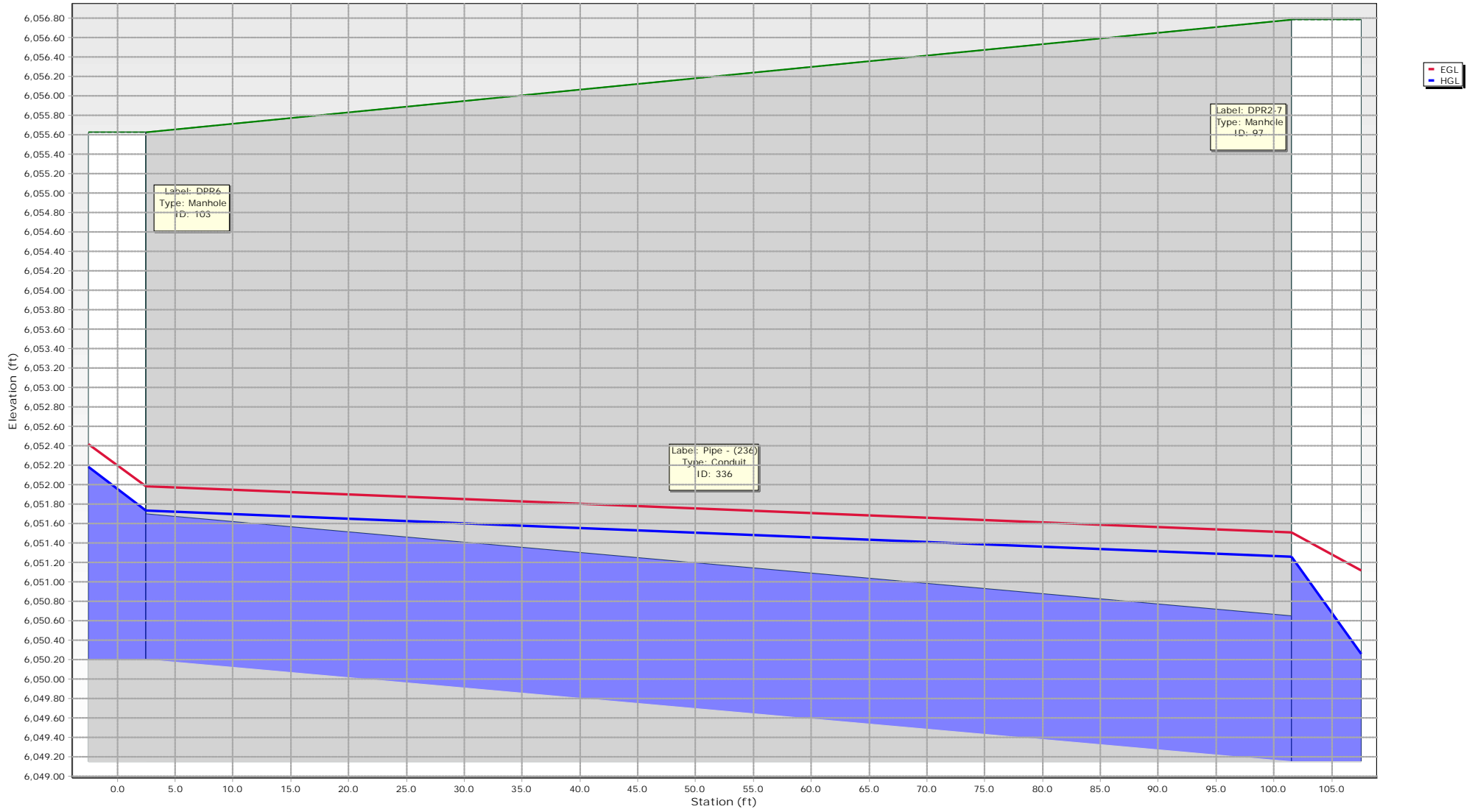
	0.00	6,082.92	6,075.72	2.78	6,076.69	6,076.56	6,077.07	6,076.80	0.515
DPA40-2	0.00	6,081.89	6,076.24	2.78	6,077.10	6,077.08	6,078.16	6,077.32	0.088
DPA40-3	2.78	6,085.03	6,080.97	2.78	6,082.04	6,081.80	6,082.28	6,082.04	1.000
DPA41-1	0.20	6,088.51	6,084.61	0.20	6,085.04	6,084.98	6,085.10	6,085.04	1.000
DPA42-1	1.77	6,045.62	6,038.61	1.77	6,039.49	6,039.31	6,039.68	6,039.49	1.000
DPA42-2	0.93	6,045.68	6,038.97	0.93	6,039.75	6,039.62	6,039.87	6,039.75	1.000
DPA42A-1	0.00	6,072.12	6,064.41	0.00	6,064.92	6,064.92	6,064.92	6,064.92	-
DPA43-1	0.67	6,070.97	6,065.28	0.67	6,065.89	6,065.78	6,066.00	6,065.89	1.000
DPA43-2	7.36	6,070.88	6,063.71	7.36	6,065.48	6,065.42	6,065.61	6,065.48	1.050
DPA43-3	6.11	6,073.59	6,064.67	6.11	6,065.62	6,065.62	6,065.96	6,065.96	0.000
DPA44-1	0.74	6,072.13	6,066.03	0.74	6,066.93	6,066.82	6,067.04	6,066.93	1.000
DPR2-0	0.00	6,047.56	6,037.95	15.99	6,039.23	6,039.23	6,039.70	6,039.71	0.000
DPR2-1	0.00	6,048.15	6,038.11	15.99	6,039.74	6,039.72	6,040.31	6,040.20	0.050
DPR2-10	0.00	6,066.60	6,059.84	4.47	6,060.88	6,060.86	6,061.72	6,061.19	0.058
DPR2-11	0.00	6,070.48	6,062.24	4.47	6,063.28	6,063.26	6,063.79	6,063.59	0.058
DPR2-12	0.00	6,074.91	6,063.70	4.47	6,064.74	6,064.72	6,065.24	6,065.05	0.061
DPR2-13	4.47	6,077.41	6,064.59	4.47	6,066.42	6,065.61	6,066.50	6,065.94	2.466
DPR2-2	0.00	6,047.25	6,039.27	15.99	6,041.02	6,040.95	6,041.59	6,041.49	0.129
DPR2-3	15.99	6,046.63	6,039.89	15.99	6,042.25	6,041.57	6,042.47	6,042.11	1.244
DPR2-4	12.40	6,047.13	6,040.49	12.40	6,042.56	6,042.26	6,043.03	6,042.52	1.153
DPR2-5	0.00	6,048.61	6,042.28	11.65	6,043.79	6,043.76	6,045.15	6,044.27	0.057
DPR2-6	11.65	6,052.84	6,044.94	11.65	6,046.98	6,046.42	6,047.16	6,046.93	1.083
DPR2-7	0.00	6,056.78	6,049.15	8.37	6,050.16	6,049.68	6,050.21	6,050.09	1.174
DPR2-8	6.20	6,059.83	6,052.82	6.20	6,054.52	6,053.99	6,054.57	6,054.41	1.263
DPR2-9	0.00	6,062.85	6,055.93	4.47	6,056.97	6,056.95	6,058.23	6,057.28	0.059
DPR3-1	2.68	6,046.82	6,041.63	2.68	6,042.46	6,042.46	6,042.69	6,042.69	0.000
DPR3-2	0.95	6,046.80	6,042.30	0.95	6,043.00	6,042.87	6,043.13	6,043.00	1.000
DPR4-1	0.78	6,048.90	6,042.84	0.78	6,043.32	6,043.32	6,043.43	6,043.43	0.000
DPR5-1	0.99	6,054.57	6,046.66	0.99	6,047.03	6,047.03	6,047.16	6,047.16	0.000
DPR6	0.00	6,055.62	6,050.20	2.17	6,051.13	6,050.76	6,051.34	6,050.96	1.808
DPR6-1	0.97	6,056.96	6,051.75	0.97	6,052.13	6,052.12	6,052.80	6,052.25	0.075
DPR6A-1	1.75	6,059.44	6,054.64	1.75	6,055.32	6,055.14	6,055.50	6,055.32	1.000
DPR7-1	3.25	6,077.07	6,065.50	3.25	6,066.58	6,066.58	6,066.84	6,066.84	0.000
DPR7-2	1.23	6,077.42	6,066.16	1.23	6,066.56	6,066.56	6,066.71	6,066.71	0.000

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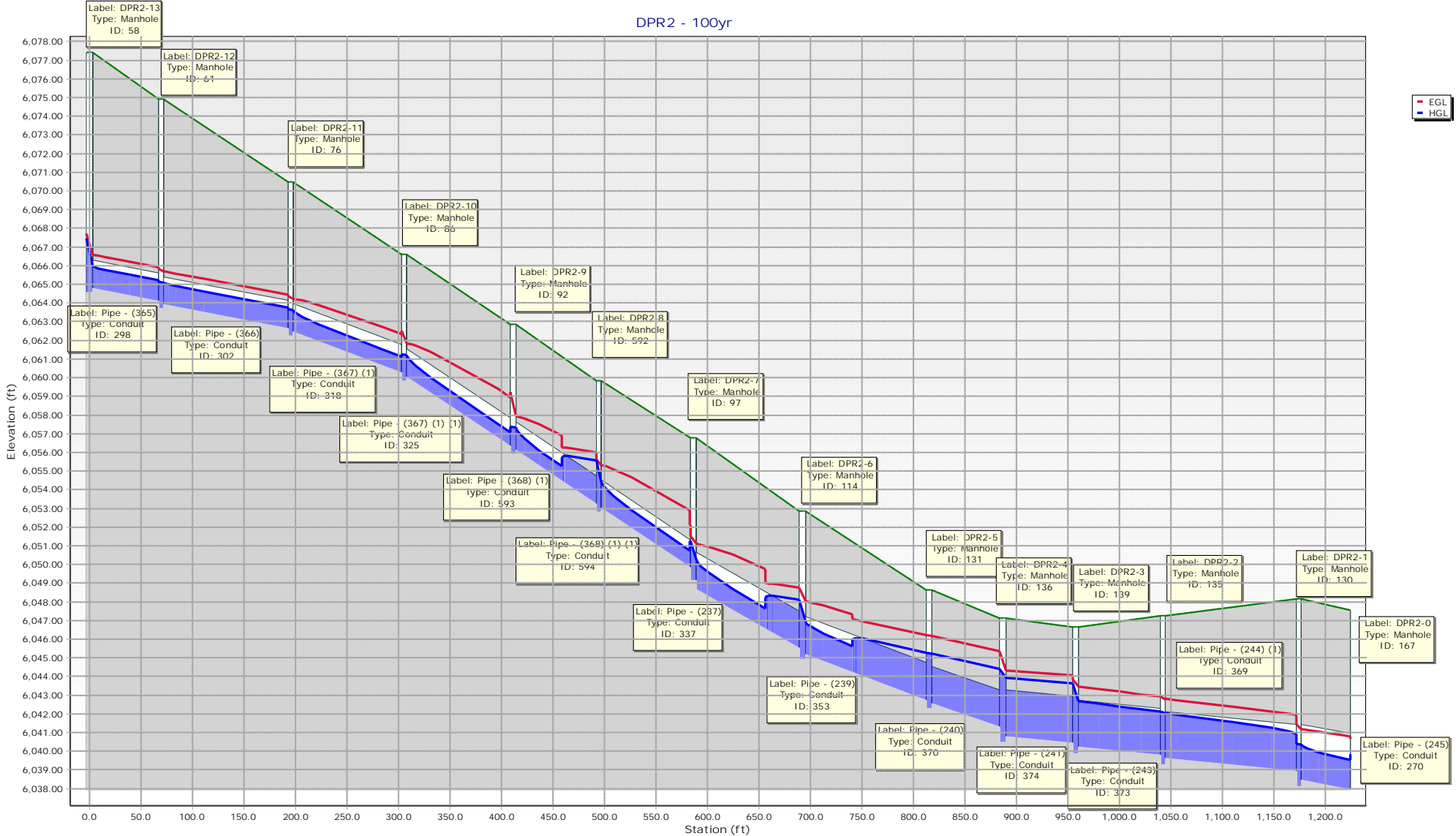
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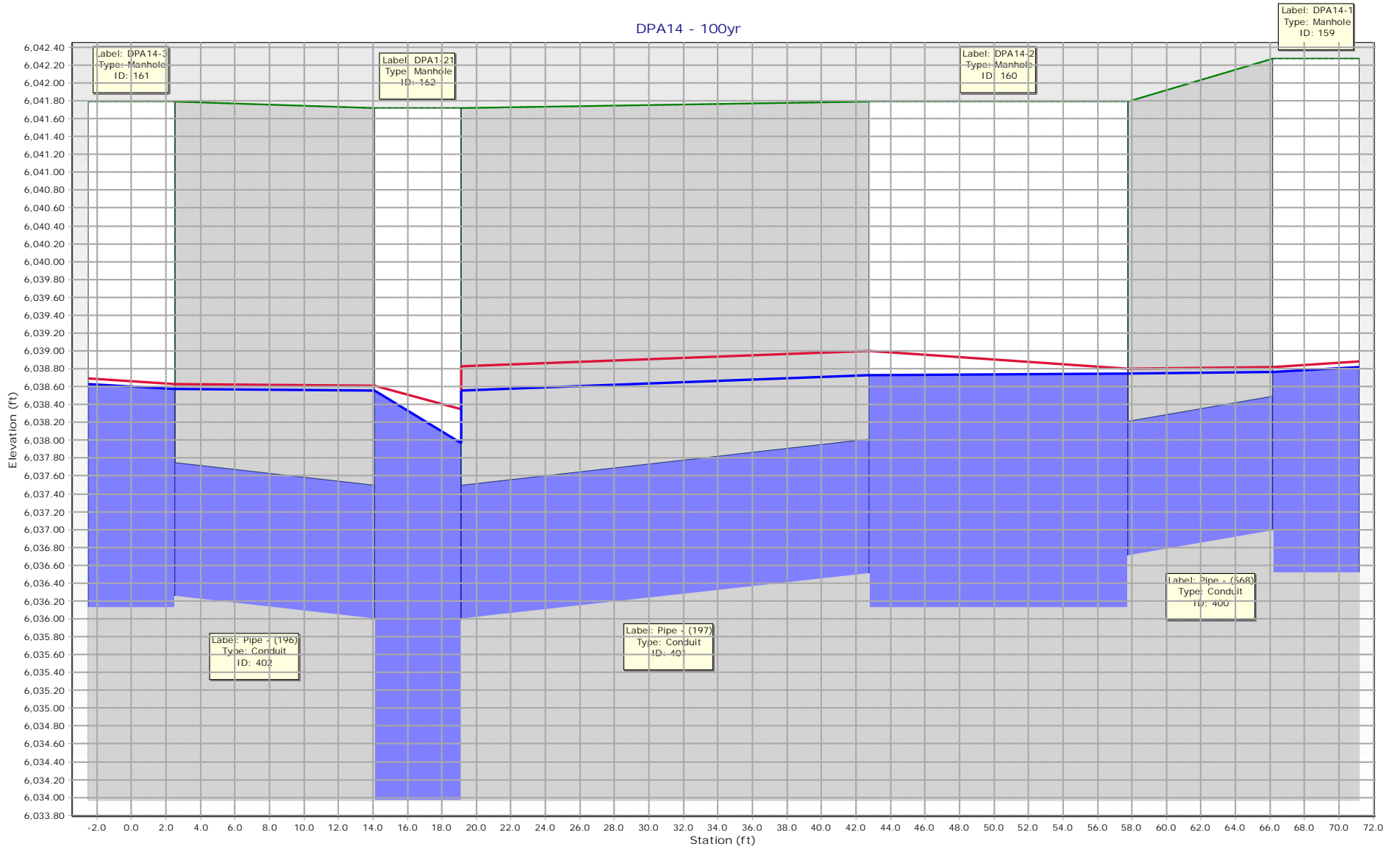
DPR6 - 100yr

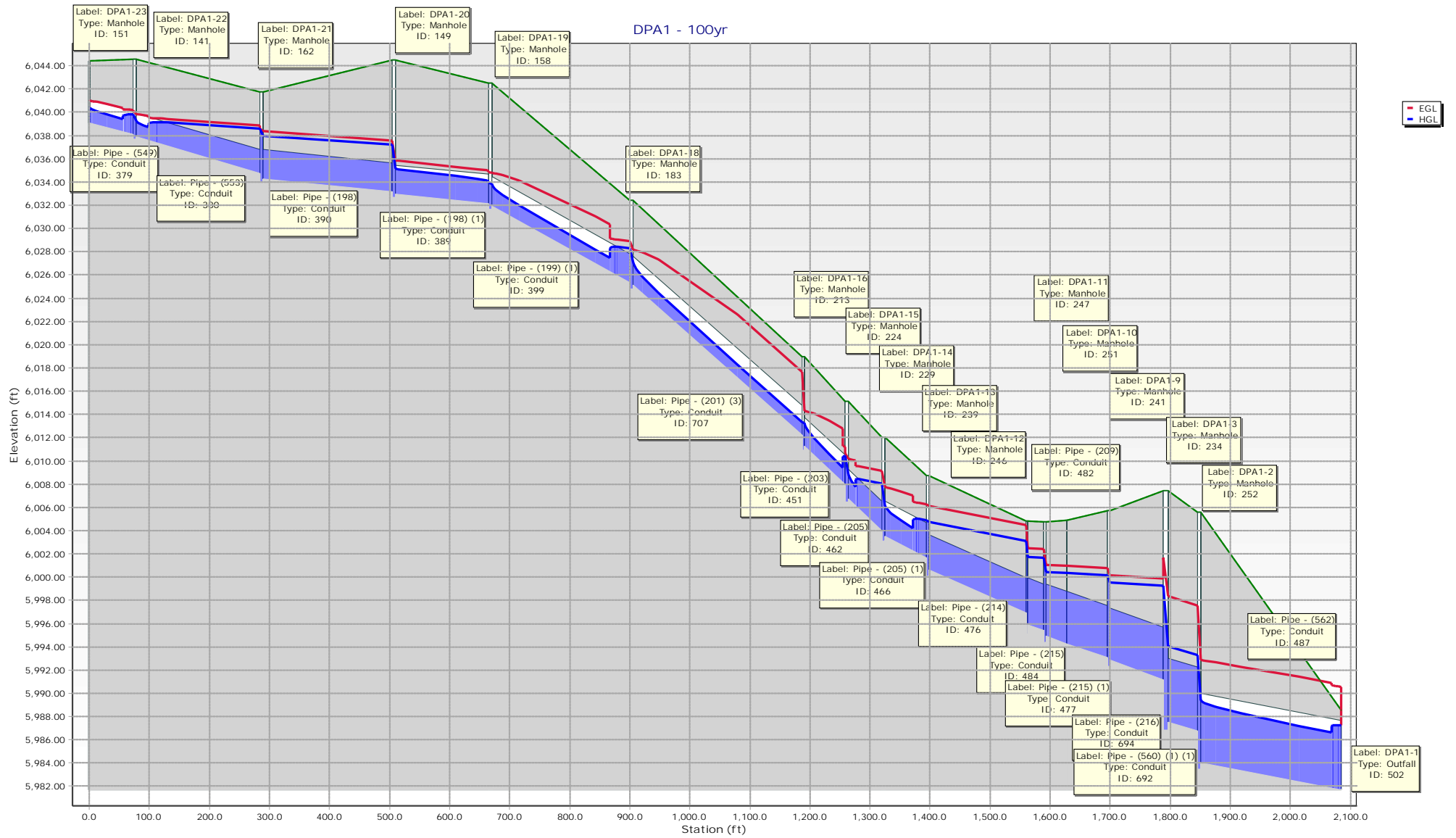


DPR2 - 100yr



DPA14 - 100yr















	0.00	6,082.92	6,075.72	10.11	6,078.43	6,078.16	6,078.93	6,078.67	0.515
DPA40-2	0.00	6,081.89	6,076.24	10.11	6,078.77	6,078.72	6,079.28	6,079.23	0.088
DPA40-3	10.11	6,085.03	6,080.97	10.11	6,083.06	6,082.39	6,083.73	6,083.06	1.000
DPA41-1	0.76	6,088.51	6,084.61	0.76	6,085.26	6,085.14	6,085.37	6,085.26	1.000
DPA42-1	4.18	6,045.62	6,038.61	4.18	6,040.79	6,040.70	6,040.88	6,040.79	1.000
DPA42-2	2.11	6,045.68	6,038.97	2.11	6,040.71	6,040.69	6,040.74	6,040.71	1.000
DPA42A-1	0.00	6,072.12	6,064.41	0.00	6,066.77	6,066.77	6,066.77	6,066.77	-
DPA43-1	1.41	6,070.97	6,065.28	1.41	6,069.50	6,069.49	6,069.51	6,069.50	1.000
DPA43-2	22.97	6,070.88	6,063.71	22.97	6,069.87	6,069.52	6,070.52	6,069.86	1.050
DPA43-3	20.27	6,073.59	6,064.67	20.27	6,070.10	6,070.10	6,070.74	6,070.74	0.000
DPA44-1	2.81	6,072.13	6,066.03	2.81	6,070.46	6,070.42	6,070.50	6,070.46	1.000
DPR2-0	0.00	6,047.56	6,037.95	34.26	6,039.85	6,039.85	6,040.66	6,040.67	0.000
DPR2-1	0.00	6,048.15	6,038.11	34.26	6,040.38	6,040.34	6,041.42	6,041.16	0.050
DPR2-10	0.00	6,066.60	6,059.84	9.31	6,061.26	6,061.23	6,062.49	6,061.84	0.058
DPR2-11	0.00	6,070.48	6,062.24	9.31	6,063.67	6,063.63	6,064.37	6,064.24	0.058
DPR2-12	0.00	6,074.91	6,063.70	9.31	6,065.13	6,065.09	6,065.82	6,065.70	0.061
DPR2-13	9.31	6,077.41	6,064.59	9.31	6,067.47	6,065.98	6,067.71	6,066.59	2.466
DPR2-2	0.00	6,047.25	6,039.27	34.26	6,042.11	6,042.01	6,042.93	6,042.79	0.129
DPR2-3	34.26	6,046.63	6,039.89	34.26	6,043.63	6,042.68	6,043.84	6,043.44	1.244
DPR2-4	25.82	6,047.13	6,040.49	25.82	6,044.40	6,043.91	6,045.33	6,044.34	1.153
DPR2-5	0.00	6,048.61	6,042.28	24.27	6,045.28	6,045.23	6,046.21	6,046.15	0.057
DPR2-6	24.27	6,052.84	6,044.94	24.27	6,048.11	6,046.93	6,048.74	6,048.02	1.083
DPR2-7	0.00	6,056.78	6,049.15	20.07	6,051.26	6,050.26	6,051.51	6,051.11	1.174
DPR2-8	13.00	6,059.83	6,052.82	13.00	6,055.56	6,054.38	6,055.63	6,055.32	1.263
DPR2-9	0.00	6,062.85	6,055.93	9.31	6,057.36	6,057.32	6,059.23	6,057.93	0.059
DPR3-1	6.58	6,046.82	6,041.63	6.58	6,043.67	6,043.67	6,043.88	6,043.88	0.000
DPR3-2	1.99	6,046.80	6,042.30	1.99	6,043.66	6,043.63	6,043.69	6,043.66	1.000
DPR4-1	1.60	6,048.90	6,042.84	1.60	6,044.41	6,044.41	6,044.42	6,044.42	0.000
DPR5-1	2.05	6,054.57	6,046.66	2.05	6,048.12	6,048.12	6,048.14	6,048.14	0.000
DPR6	0.00	6,055.62	6,050.20	7.07	6,052.18	6,051.73	6,052.41	6,051.98	1.808
DPR6-1	4.57	6,056.96	6,051.75	4.57	6,052.60	6,052.57	6,052.68	6,052.90	0.075
DPR6A-1	3.70	6,059.44	6,054.64	3.70	6,055.69	6,055.50	6,055.89	6,055.70	1.000
DPR7-1	6.88	6,077.07	6,065.50	6.88	6,067.73	6,067.73	6,067.96	6,067.96	0.000
DPR7-2	2.43	6,077.42	6,066.16	2.43	6,067.52	6,067.52	6,067.55	6,067.55	0.000

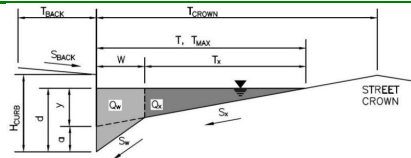
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## ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: 15950.03 Octave Avenue Extension

Inlet ID: DP-1



**Gutter Geometry:**

Maximum Allowable Width for Spread Behind Curb  
 Side Slope Behind Curb (leave blank for no conveyance credit behind curb)  
 Manning's Roughness Behind Curb (typically between 0.012 and 0.020)

$T_{BACK}$ =	18.0	ft
$S_{BACK}$ =	0.020	ft/ft
$n_{BACK}$ =	0.016	

Height of Curb at Gutter Flow Line  
 Distance from Curb Face to Street Crown  
 Gutter Width  
 Street Transverse Slope  
 Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)  
 Street Longitudinal Slope - Enter 0 for sump condition  
 Manning's Roughness for Street Section (typically between 0.012 and 0.020)

$H_{CURB}$ =	6.00	inches
$T_{CROWN}$ =	32.5	ft
$W$ =	2.00	ft
$S_x$ =	0.020	ft/ft
$S_w$ =	0.083	ft/ft
$S_o$ =	0.000	ft/ft
$n_{STREET}$ =	0.016	

Max. Allowable Spread for Minor & Major Storm  
 Max. Allowable Depth at Gutter Flowline for Minor & Major Storm  
 Check boxes are not applicable in SUMP conditions

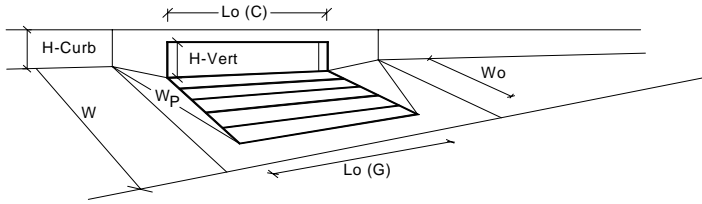
	Minor Storm	Major Storm	
$T_{MAX}$ =	27.5	32.5	ft
$d_{MAX}$ =	6.0	12.0	inches
	<input type="checkbox"/>	<input type="checkbox"/>	

[MINOR STORM Allowable Capacity is based on Depth Criterion](#)  
[MAJOR STORM Allowable Capacity is based on Depth Criterion](#)

	Minor Storm	Major Storm	
$Q_{allow}$ =	SUMP	SUMP	cfs

# INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.01 (April 2021)

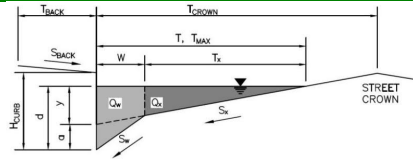


Design Information (Input)	MINOR	MAJOR	
Type of Inlet	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	3.00	3.00	inches
Number of Unit Inlets (Grate or Curb Opening)	1	1	
Water Depth at Flowline (outside of local depression)	6.0	9.3	inches
<b>Grate Information</b>			
Length of a Unit Grate	N/A	N/A	feet
Width of a Unit Grate	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	N/A	N/A	
<b>Curb Opening Information</b>			
Length of a Unit Curb Opening	10.00	10.00	feet
Height of Vertical Curb Opening in Inches	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	0.67	0.67	
<b>Low Head Performance Reduction (Calculated)</b>			
Depth for Grate Midwidth	N/A	N/A	ft
Depth for Curb Opening Weir Equation	0.33	0.61	ft
Combination Inlet Performance Reduction Factor for Long Inlets	0.57	0.88	
Curb Opening Performance Reduction Factor for Long Inlets	0.93	1.00	
Grated Inlet Performance Reduction Factor for Long Inlets	N/A	N/A	
<b>Total Inlet Interception Capacity (assumes clogged condition)</b>			
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	8.3	20.7	cfs
Q PEAK REQUIRED =	3.3	6.9	cfs

**ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)**

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

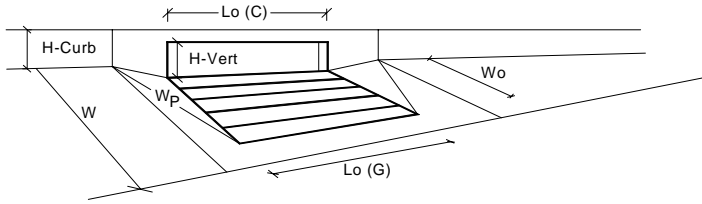
Project: 15950.03 Octave Avenue Extension  
 Inlet ID: DP-2



<b>Gutter Geometry:</b>	
Maximum Allowable Width for Spread Behind Curb	$T_{BACK} = 18.0$ ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	$S_{BACK} = 0.020$ ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	$n_{BACK} = 0.016$
Height of Curb at Gutter Flow Line	$H_{CURB} = 6.00$ inches
Distance from Curb Face to Street Crown	$T_{CROWN} = 32.5$ ft
Gutter Width	$W = 2.00$ ft
Street Transverse Slope	$S_x = 0.020$ ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	$S_w = 0.083$ ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	$S_o = 0.000$ ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	$n_{STREET} = 0.016$
Max. Allowable Spread for Minor & Major Storm	$T_{MAX} = \begin{matrix} \text{Minor Storm} & \text{Major Storm} \\ 27.5 & 32.5 \end{matrix}$ ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	$d_{MAX} = \begin{matrix} \text{Minor Storm} & \text{Major Storm} \\ 6.0 & 12.0 \end{matrix}$ inches
Check boxes are not applicable in SUMP conditions	<input type="checkbox"/> <input type="checkbox"/>
<a href="#">MINOR STORM Allowable Capacity is based on Depth Criterion</a>	
<a href="#">MAJOR STORM Allowable Capacity is based on Depth Criterion</a>	
Allowable Capacity	$Q_{allow} = \begin{matrix} \text{Minor Storm} & \text{Major Storm} \\ \text{SUMP} & \text{SUMP} \end{matrix}$ cfs

# INLET IN A SUMP OR SAG LOCATION

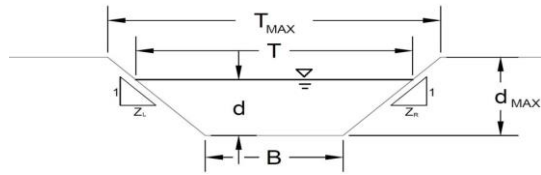
MHFD-Inlet, Version 5.01 (April 2021)



<b>Design Information (Input)</b>		<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Type of Inlet</td> <td style="padding: 2px;">CDOT Type R Curb Opening</td> </tr> </table>		Type of Inlet	CDOT Type R Curb Opening
Type of Inlet	CDOT Type R Curb Opening				
Type of Inlet		Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)		$a_{local}$ =	3.00 inches		
Number of Unit Inlets (Grate or Curb Opening)		No =	1		
Water Depth at Flowline (outside of local depression)		Ponding Depth =	6.0 inches		
<b>Grate Information</b>					
Length of a Unit Grate		$L_o$ (G) =	N/A feet		
Width of a Unit Grate		$W_o$ =	N/A feet		
Area Opening Ratio for a Grate (typical values 0.15-0.90)		$A_{ratio}$ =	N/A		
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)		$C_r$ (G) =	N/A		
Grate Weir Coefficient (typical value 2.15 - 3.60)		$C_w$ (G) =	N/A		
Grate Orifice Coefficient (typical value 0.60 - 0.80)		$C_o$ (G) =	N/A		
<b>Curb Opening Information</b>					
Length of a Unit Curb Opening		$L_o$ (C) =	10.00 feet		
Height of Vertical Curb Opening in Inches		$H_{vert}$ =	6.00 inches		
Height of Curb Orifice Throat in Inches		$H_{throat}$ =	6.00 inches		
Angle of Throat (see USDCM Figure ST-5)		Theta =	63.40 degrees		
Side Width for Depression Pan (typically the gutter width of 2 feet)		$W_p$ =	2.00 feet		
Clogging Factor for a Single Curb Opening (typical value 0.10)		$C_r$ (C) =	0.10		
Curb Opening Weir Coefficient (typical value 2.3-3.7)		$C_w$ (C) =	3.60		
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)		$C_o$ (C) =	0.67		
<b>Low Head Performance Reduction (Calculated)</b>					
Depth for Grate Midwidth		$d_{Grate}$ =	N/A ft		
Depth for Curb Opening Weir Equation		$d_{Curb}$ =	0.33 ft		
Combination Inlet Performance Reduction Factor for Long Inlets		$RF_{Combination}$ =	0.57		
Curb Opening Performance Reduction Factor for Long Inlets		$RF_{Curb}$ =	0.93		
Grated Inlet Performance Reduction Factor for Long Inlets		$RF_{Grate}$ =	N/A		
<b>Total Inlet Interception Capacity (assumes clogged condition)</b>					
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)		$Q_{in}$ =	8.3 cfs		
		$Q_{PEAK REQUIRED}$ =	1.2 cfs		

MHFD-Inlet, Version 5.01 (April 2021)  
**AREA INLET IN A SWALE**

15950.03 Octave Avenue Extension  
 DPA3



This worksheet uses the NRCS vegetal retardance method to determine Manning's n.  
 For more information see Section 7.2.3 of the USDCM.

**Analysis of Trapezoidal Grass-Lined Channel Using SCS Method**

NRCS Vegetal Retardance (A, B, C, D, or E)  
 Manning's n (Leave cell D16 blank to manually enter an n value)  
 Channel Invert Slope  
 Bottom Width  
 Left Side Slope  
 Right Side Slope

Check one of the following soil types:

Soil Type:	Max. Velocity (V <sub>MAX</sub> )	Max Froude No. (F <sub>MAX</sub> )
Non-Cohesive	5.0 fps	0.60
Cohesive	7.0 fps	0.80
Paved	N/A	N/A

A, B, C, D, or E =  
 n = 0.035  
 S<sub>0</sub> = 0.0200 ft/ft  
 B = 0.00 ft  
 Z1 = 4.00 ft/ft  
 Z2 = 4.00 ft/ft

Choose One:  
 Non-Cohesive  
 Cohesive  
 Paved

Maximum Allowable Top Width of Channel for Minor & Major Storm  
 Maximum Allowable Water Depth in Channel for Minor & Major Storm

	Minor Storm	Major Storm	
T <sub>MAX</sub> =	4.00	4.00	ft
d <sub>MAX</sub> =	0.50	0.50	ft

**Maximum Channel Capacity Based On Allowable Top Width**

Maximum Allowable Top Width  
 Water Depth  
 Flow Area  
 Wetted Perimeter  
 Hydraulic Radius  
 Manning's n  
 Flow Velocity  
 Velocity-Depth Product  
 Hydraulic Depth  
 Froude Number  
 Maximum Flow Based on Allowable Water Depth

	Minor Storm	Major Storm	
T <sub>MAX</sub> =	4.00	4.00	ft
d =	0.50	0.50	ft
A =	1.00	1.00	sq ft
P =	4.12	4.12	ft
R =	0.24	0.24	ft
n =	0.035	0.035	
V =	2.34	2.34	fps
VR =	0.57	0.57	ft <sup>2</sup> /s
D =	0.25	0.25	ft
Fr =	0.83	0.83	
Q <sub>T</sub> =	2.3	2.3	cfs

**Maximum Channel Capacity Based On Allowable Water Depth**

Maximum Allowable Water Depth  
 Top Width  
 Flow Area  
 Wetted Perimeter  
 Hydraulic Radius  
 Manning's n  
 Flow Velocity  
 Velocity-Depth Product  
 Hydraulic Depth  
 Froude Number  
 Maximum Flow Based on Allowable Water Depth

	Minor Storm	Major Storm	
d <sub>MAX</sub> =	0.50	0.50	ft
T =	4.00	4.00	ft
A =	1.00	1.00	sq ft
P =	4.12	4.12	ft
R =	0.24	0.24	ft
n =	0.035	0.035	
V =	2.34	2.34	fps
VR =	0.57	0.57	ft <sup>2</sup> /s
D =	0.25	0.25	ft
Fr =	0.83	0.83	
Q <sub>d</sub> =	2.3	2.3	cfs

**Allowable Channel Capacity Based On Channel Geometry**

MINOR STORM Allowable Capacity is based on Depth Criterion  
 MAJOR STORM Allowable Capacity is based on Depth Criterion

	Minor Storm	Major Storm	
Q <sub>allow</sub> =	2.3	2.3	cfs
d <sub>allow</sub> =	0.50	0.50	ft

**Water Depth in Channel Based On Design Peak Flow**

Design Peak Flow  
 Water Depth  
 Top Width  
 Flow Area  
 Wetted Perimeter  
 Hydraulic Radius  
 Manning's n  
 Flow Velocity  
 Velocity-Depth Product  
 Hydraulic Depth  
 Froude Number

	Minor Storm	Major Storm	
Q <sub>o</sub> =	2.2	2.2	cfs
d =	0.49	0.49	ft
T =	3.91	3.91	ft
A =	0.95	0.95	sq ft
P =	4.03	4.03	ft
R =	0.24	0.24	ft
n =	0.035	0.035	
V =	2.31	2.31	fps
VR =	0.55	0.55	ft <sup>2</sup> /s
D =	0.24	0.24	ft
Fr =	0.82	0.82	

Warning 04

Minor storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'  
 Major storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'



MHFD-Inlet, Version 5.01 (April 2021)  
**AREA INLET IN A SWALE**

15950.03 Octave Avenue Extension  
 DPA3

Inlet Design Information (Input)							
Type of Inlet	CDOT Type C						
Inlet Type =	CDOT Type C						
Angle of Inclined Grate (must be $\leq 30$ degrees)	$\theta = 0.00$ degrees						
Width of Grate	$W = 3.00$ ft						
Length of Grate	$L = 3.00$ ft						
Open Area Ratio	$A_{RATIO} = 0.70$						
Height of Inclined Grate	$H_B = 0.00$ ft						
Clogging Factor	$C_f = 0.50$						
Grate Discharge Coefficient	$C_d = 0.96$						
Orifice Coefficient	$C_o = 0.64$						
Weir Coefficient	$C_w = 2.05$						
Water Depth at Inlet (for depressed inlets, 1 foot is added for depression)	<table border="1"> <thead> <tr> <th></th> <th>MINOR</th> <th>MAJOR</th> </tr> </thead> <tbody> <tr> <td><math>d =</math></td> <td>0.49</td> <td>0.49</td> </tr> </tbody> </table>		MINOR	MAJOR	$d =$	0.49	0.49
	MINOR	MAJOR					
$d =$	0.49	0.49					
<b>Grate Capacity as a Weir</b>							
Submerged Side Weir Length	$X = 3.00$ ft						
Inclined Side Weir Flow	$Q_{ws} = 3.7$ cfs						
Base Weir Flow	$Q_{wb} = 5.3$ cfs						
Interception Without Clogging	$Q_{wi} = 12.6$ cfs						
Interception With Clogging	$Q_{wa} = 6.3$ cfs						
<b>Grate Capacity as an Orifice</b>							
Interception Without Clogging	$Q_{oi} = 22.6$ cfs						
Interception With Clogging	$Q_{oa} = 11.3$ cfs						
Total Inlet Interception Capacity (assumes clogged condition)	$Q_a = 6.3$ cfs						
Bypassed Flow	$Q_b = 0.0$ cfs						
Capture Percentage = $Q_a/Q_o$	$C\% = 100$ %						

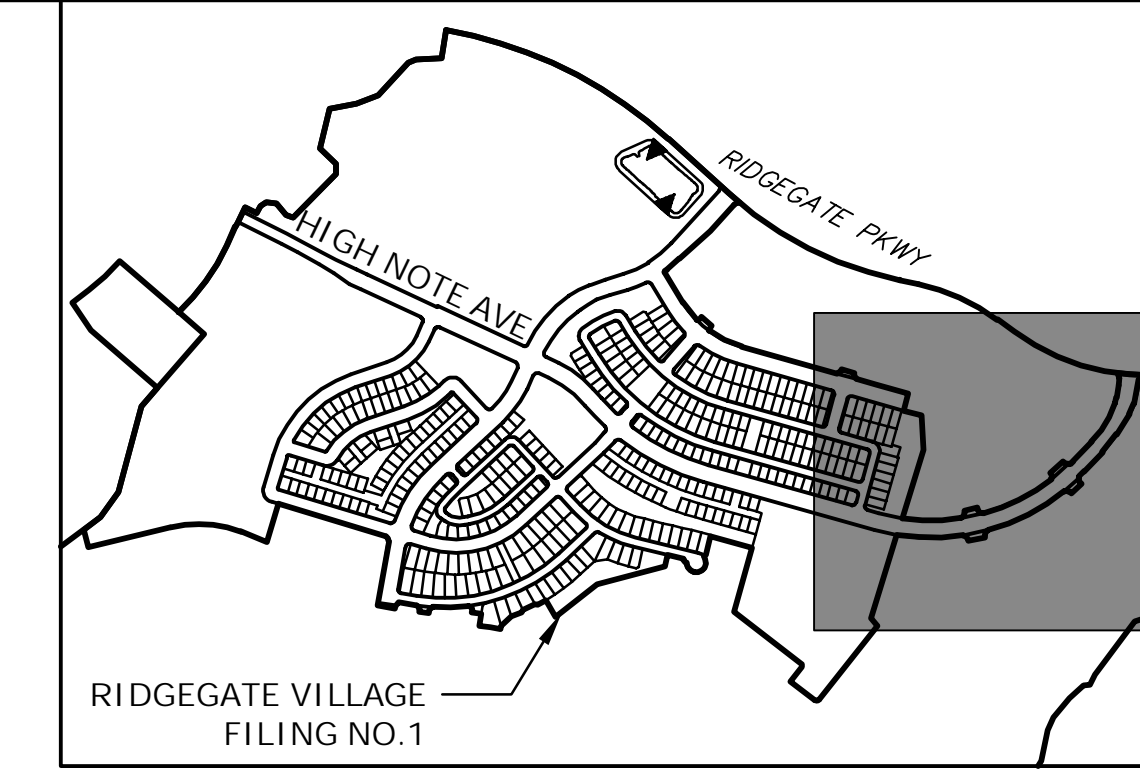
**Warning 04: Froude No. exceeds USDCM Volume I recommendation.**

## **Appendix D**

# RIDGEGATE FILING 1 DEVELOPMENT

## PHASE III DRAINAGE REPORT - ADDENDUM #1

SEE SHEET 6

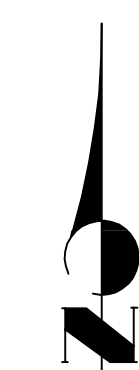


**KEYMAP**  
SCALE: 1"=1000'

**BASIN SUMMARY TABLE**

Tributary Sub-basin	Area (acres)	Percent Impervious	C <sub>s</sub>	C <sub>100</sub>	t <sub>c</sub> (min)	Q <sub>s</sub> (cfs)	Q <sub>100</sub> (cfs)
R3	2.46	76%	0.66	0.80	10.3	6.3	6.1
A53A	3.04	75%	0.65	0.79	11.2	7.4	16.1
A53	1.95	14%	0.15	0.54	15.7	1.0	6.1
A54A	1.17	46%	0.41	0.67	7.7	2.1	6.1
A54	1.37	71%	0.62	0.77	6.3	3.9	8.7
A55	0.90	74%	0.64	0.79	5.6	2.8	6.1

**OCTAVE AVE LEGEND**



80 40 0 80 160  
ORIGINAL SCALE: 1" = 80'

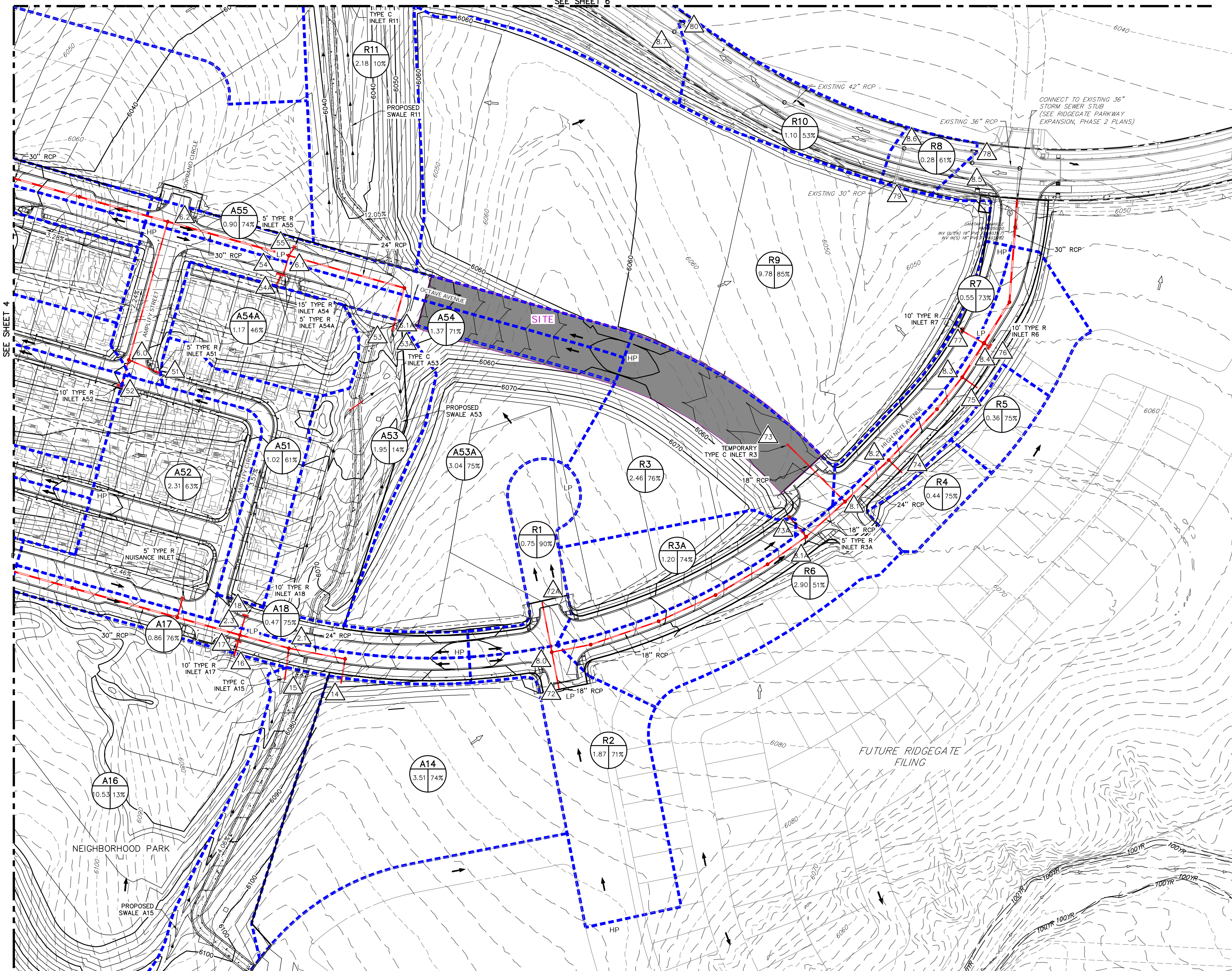
**LEGEND:**

- PROPOSED STORM SEWER
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- DRAINAGE BASIN
- A = BASIN DESIGNATION  
B = AREA IN ACRES  
C = PERCENT IMPERVIOUS
- DESIGN POINT
- HIGH POINT
- LOW POINT
- DRAINAGE ARROW
- EXISTING DRAINAGE ARROW
- PROPOSED DRAINAGE SWALE

PHASE III DRAINAGE MAP  
RIDGEGATE DEVELOPMENT  
JOB NO. 15950.01  
6/4/21 REV. 9/17/21  
SHEET 5 OF 7



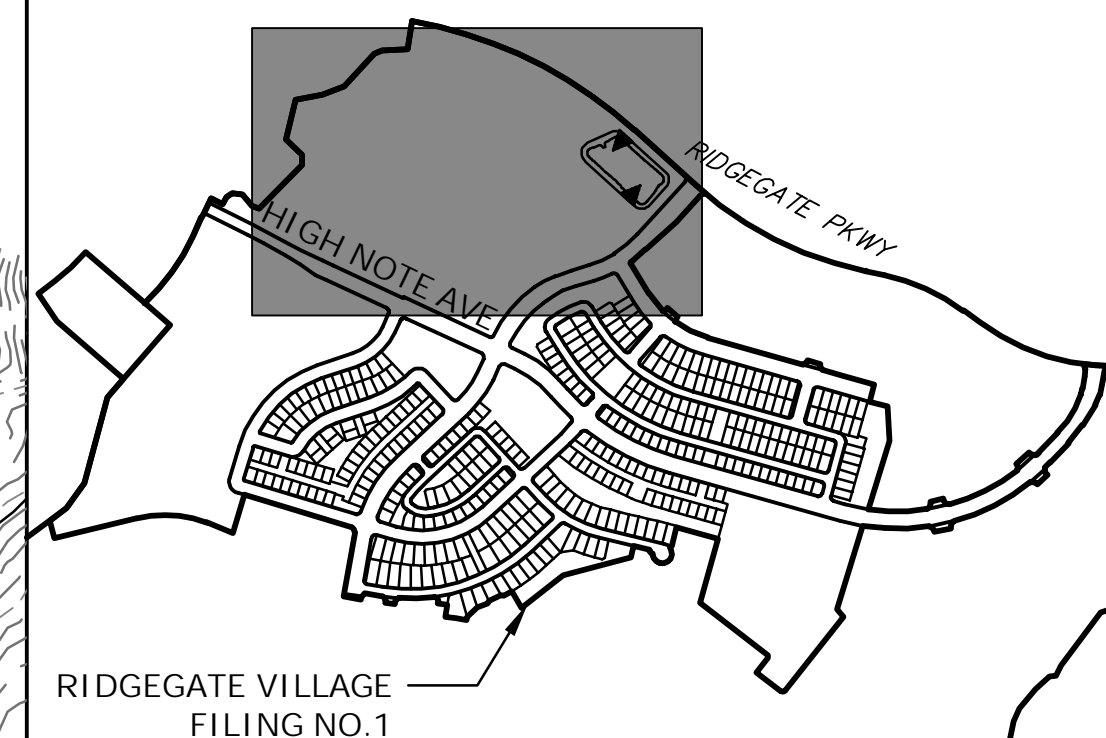
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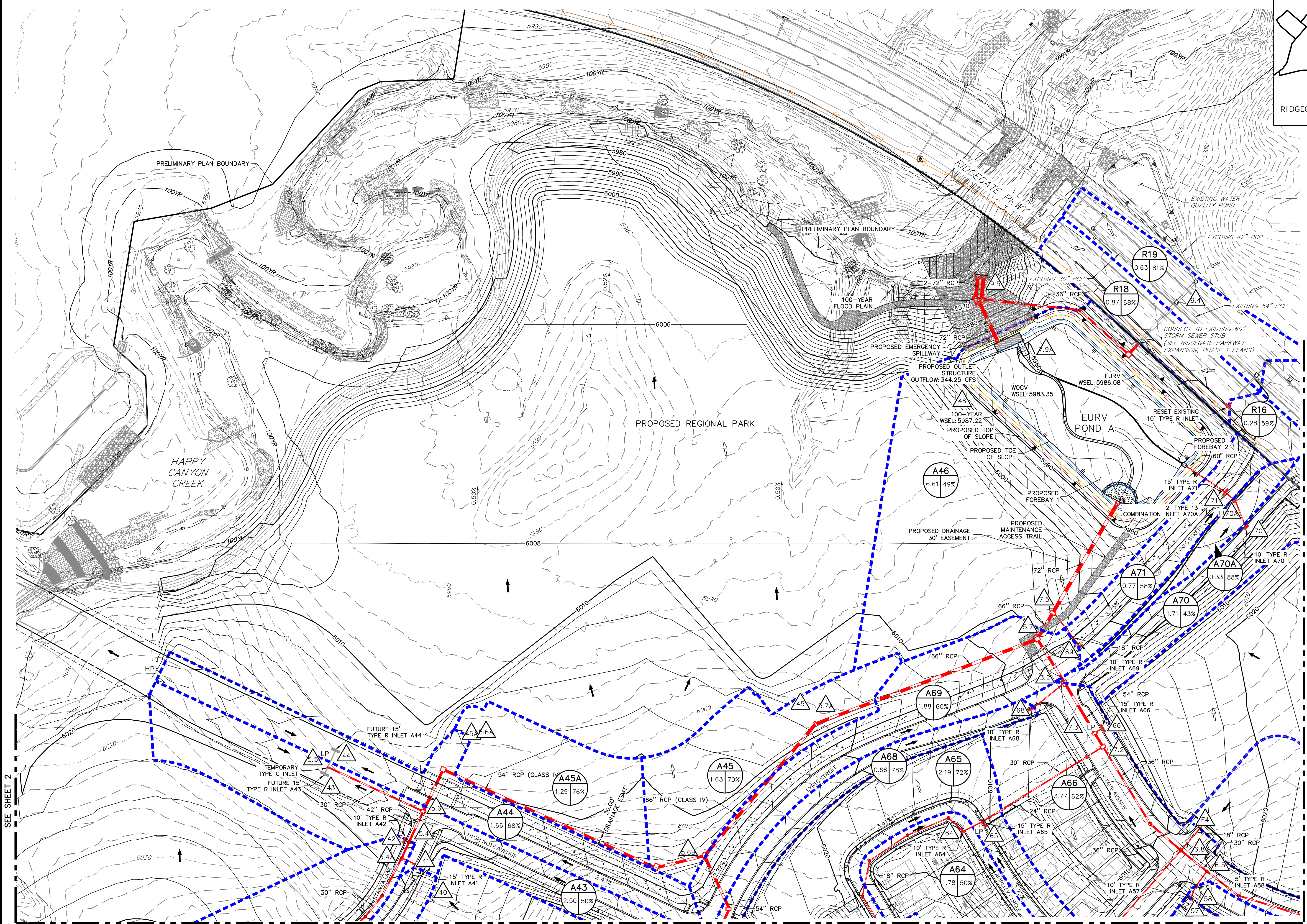
SEE SHEET 4

# RIDGEGATE FILING 1 DEVELOPMENT

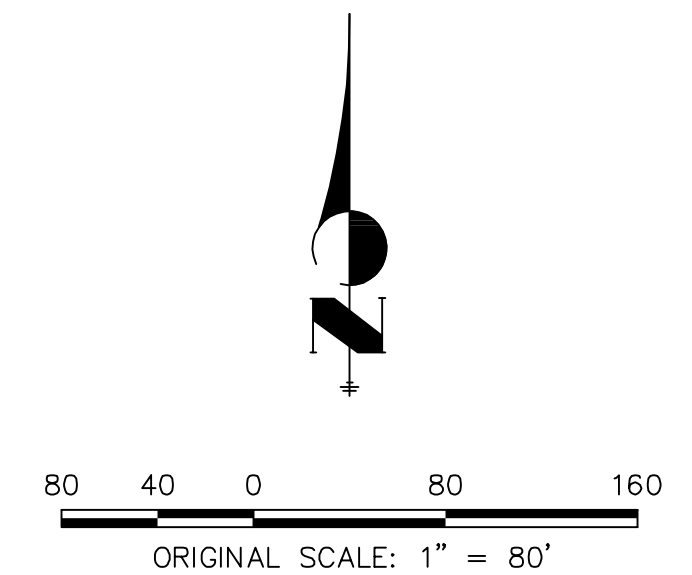
## PHASE III DRAINAGE REPORT - ADDENDUM #1



**KEYMAP**  
SCALE: 1"=1000'



EURV POND A	
Tributary Area:	171.50 AC
Percent Impervious:	48.30 %
WQCV:	2.892 AC-FT
WQCV WSEL:	5983.35 FT
EURV:	7.815 AC-FT
EURV WSEL:	5986.08 FT
100-YR VOLUME:	10.145 AC-FT
100-YR WSEL:	5987.22 FT
INFLOW:	430.84 CFS
OUTFLOW:	344.25 CFS



- LEGEND:**
- PROPOSED STORM SEWER
  - 6000 PROPOSED MAJOR CONTOUR
  - 6000 PROPOSED MAJOR CONTOUR
  - 6000 EXISTING MAJOR CONTOUR
  - EXISTING MINOR CONTOUR
  - - - DRAINAGE BASIN
  - |   |
|---|
| A |
| B |
| C |

 A = BASIN DESIGNATION  
B = AREA IN ACRES  
C = PERCENT IMPERVIOUS
  - DESIGN POINT
  - HIGH POINT
  - LOW POINT
  - DRAINAGE ARROW
  - EXISTING DRAINAGE ARROW
  - PROPOSED DRAINAGE SWALE

PHASE III DRAINAGE MAP  
RIDGEGATE DEVELOPMENT  
JOB NO. 15950.01  
6/4/21 REV. 9/17/21  
SHEET 7 OF 7



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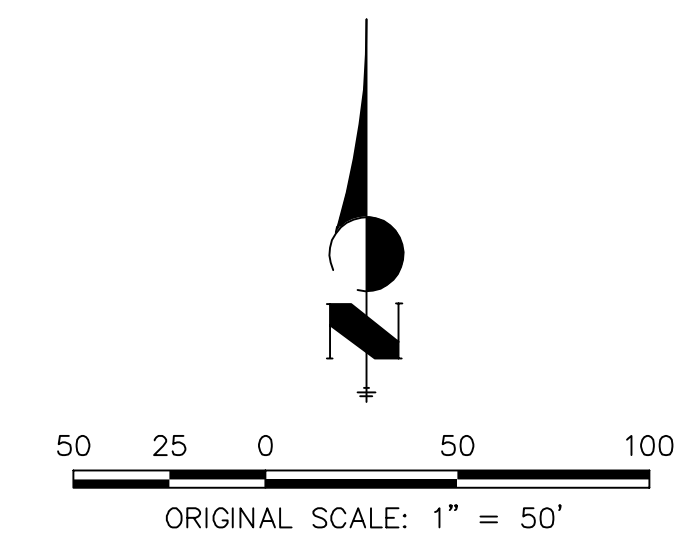
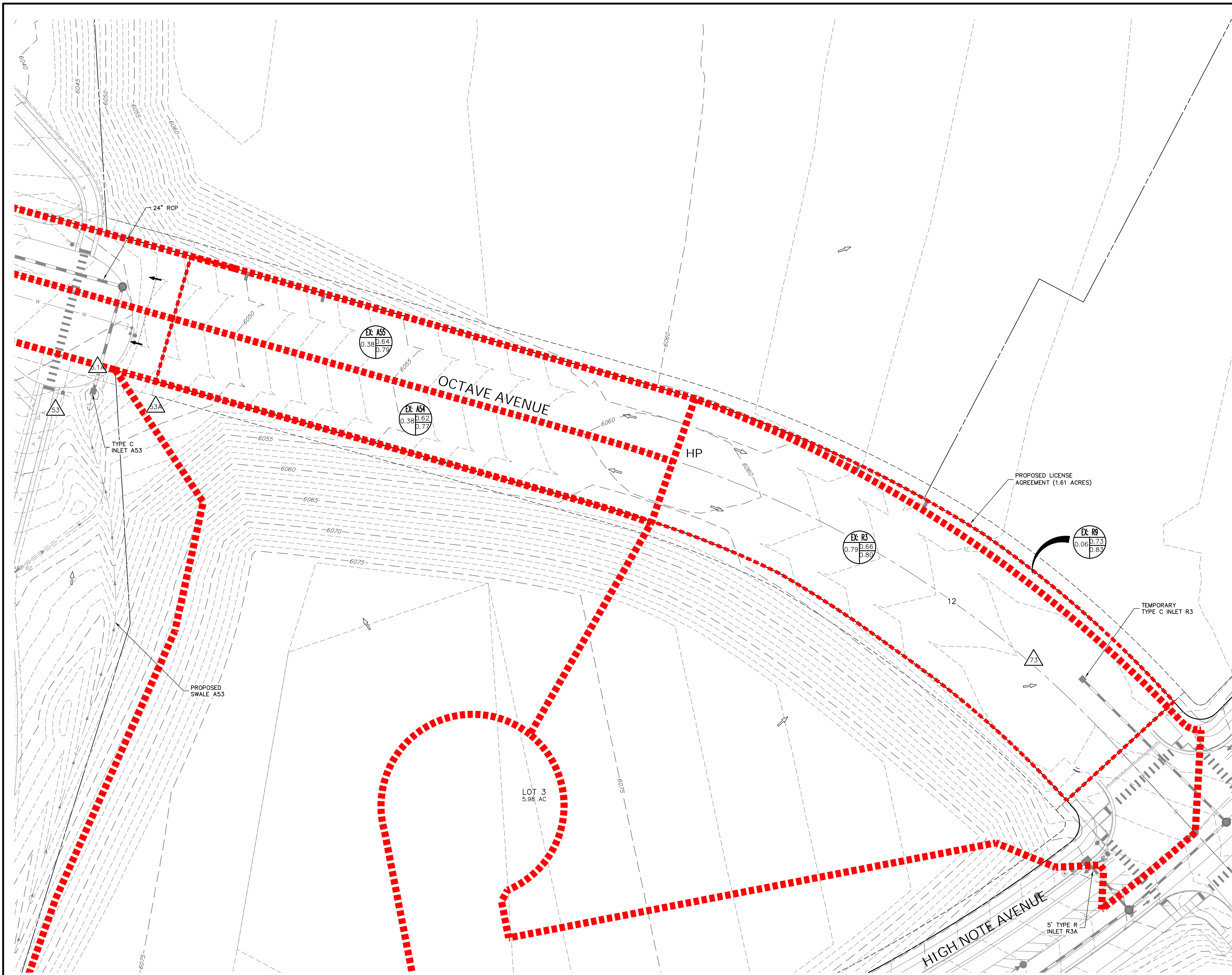
SEE SHEET 2

SEE SHEET 2

SEE SHEET 3

SEE SHEET 6

## **Appendix E**



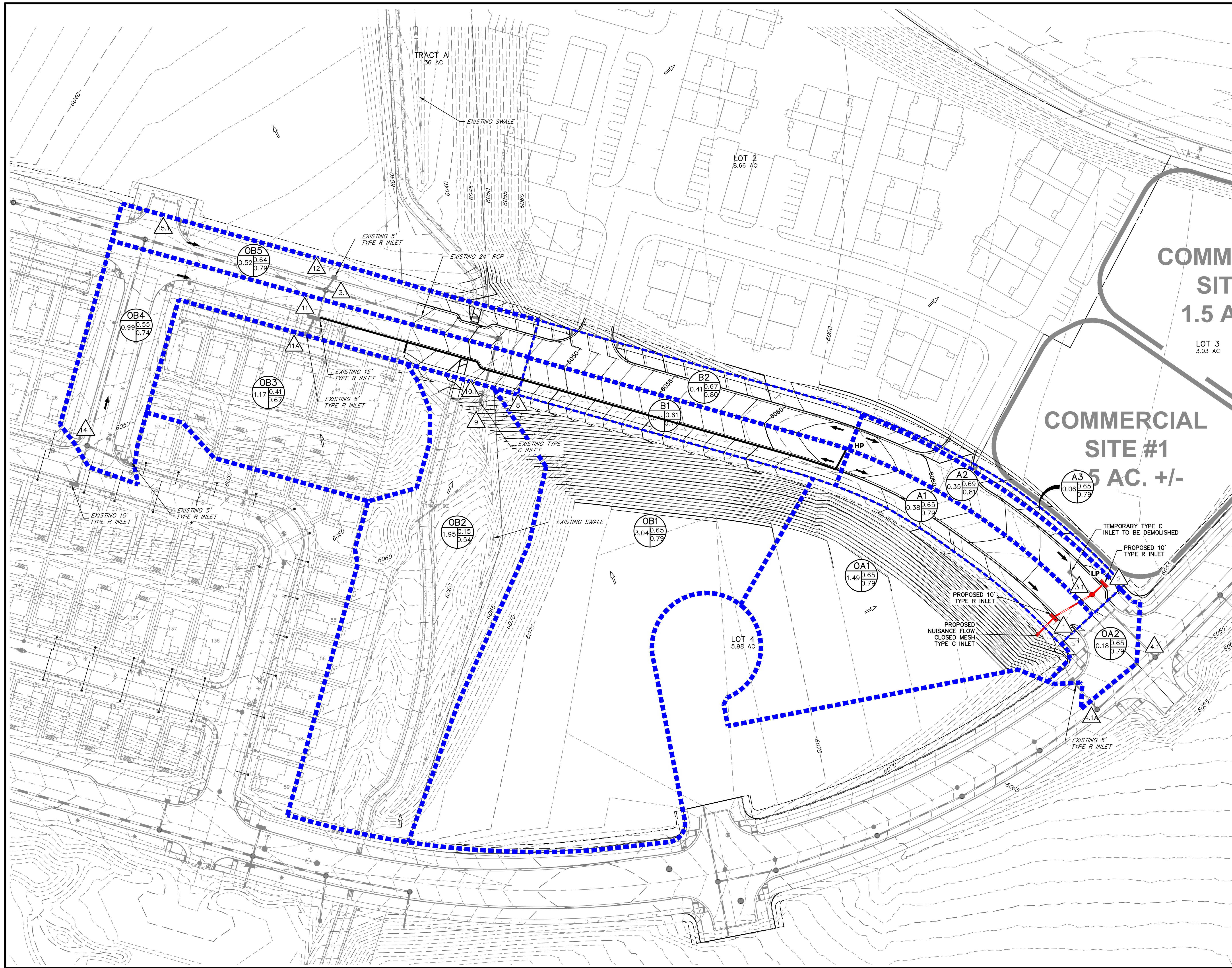
**LEGEND:**

	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	EXISTING DRAINAGE BASIN
	A = BASIN DESIGNATION B = AREA IN ACRES C = 5-YR RUNOFF COEFFICIENT D = 100-YR RUNOFF COEFFICIENT
	DESIGN POINT
	HIGH POINT
	LOW POINT
	DRAINAGE ARROW
	EXISTING DRAINAGE ARROW
	PROPOSED DRAINAGE SWALE

OCTAVE AVENUE HISTORIC  
DRAINAGE MAP  
RIDGEGATE SW VILLAGE  
JOB NO. 159003  
7/22/22  
SHEET 1 OF 1

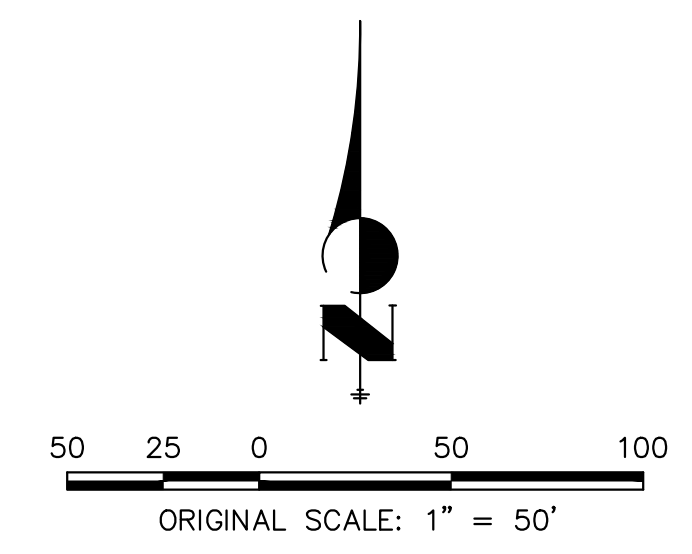


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**BASIN SUMMARY TABLE**

Tributary Sub-basin	Area (acres)	Percent Impervious	C <sub>s</sub>	C <sub>100</sub>	t <sub>c</sub> (min)	Q <sub>s</sub> (cfs)	Q <sub>100</sub> (cfs)
A1	0.38	75%	0.65	0.79	5.0	1.2	8.9
A2	0.35	80%	0.69	0.81	5.0	1.2	2.5
A3	0.06	75%	0.65	0.79	5.0	0.2	0.4
B1	0.41	70%	0.61	0.77	7.0	1.1	2.5
B2	0.41	78%	0.67	0.80	6.5	1.3	2.7
OA1	1.49	75%	0.65	0.79	8.3	4.1	8.9
OA2	0.18	88%	0.76	0.85	5.0	0.7	1.3
OB1	3.04	75%	0.65	0.79	11.2	7.4	16.1
OB2	1.95	14%	0.15	0.54	15.7	1.0	6.1
OB3	1.17	46%	0.41	0.67	7.7	2.1	6.1
OB4	0.99	63%	0.55	0.74	5.7	2.6	6.3
OB5	0.52	74%	0.64	0.79	5.0	1.7	3.6



- LEGEND:**
- PROPOSED STORM SEWER
  - PROPOSED MAJOR CONTOUR
  - PROPOSED MINOR CONTOUR
  - EXISTING MAJOR CONTOUR
  - EXISTING MINOR CONTOUR
  - PROPOSED DRAINAGE BASIN
- A  
B C  
D A = BASIN DESIGNATION  
 B = AREA IN ACRES  
 C = 5-YR RUNOFF COEFFICIENT  
 D = 100-YR RUNOFF COEFFICIENT
- 1 DESIGN POINT
  - HP** HIGH POINT
  - LP** LOW POINT
  - DRAINAGE ARROW
  - EXISTING DRAINAGE ARROW
  - PROPOSED DRAINAGE SWALE

OCTAVE AVENUE DRAINAGE PLAN  
 RIDGEGATE SW VILLAGE  
 JOB NO. 159003  
 7/22/22  
 SHEET 1 OF 1



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X:\159000\all\159000\Drawings\Sheet\Drainage\Map\Map - PROPOSED DRAINAGE MAP - 10/13/2022, 11:25:51 PM - pswp