PHASE III DRAINAGE REPORT
FOR
RIDGEGATE SOUTHWEST VILLAGE FILING 3

Prepared For:

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March 27, 2024

Engineer's Certification

I affirm that this report and plan for the drainage design of Ridgegate Southwest Village Filing 3 was prepared by me (or under my direct supervision) in accordance with the provisions of Douglas County Drainage Design and Technical Criteria for the owners thereof. I understand that City of Lone Tree does not and will not assume liability for drainage facilities designed by others.

SIGNATURE: _____
Registered Professional Engineer State
of Colorado No. _____

Shea Homes herby certifies that the drainage facilities for Ridgegate Southwest Village Filing 3 shall be constructed according to the design presented in this report. I understand that The City of Lone Tree does not and will not assume liability for the drainage facilities designed and/or certified by my engineer and that City of Lone Tree reviews drainage plans pursuant to city of Lone Tree Municipal Code, Chapter 15, Article 1; but cannot, on behalf of Ridgegate, guarantee that the final drainage design review will absolve Shea Homes and/or their successors and/or assigns of future liability for improper design. I further understand that approval of the final plat does not imply approval of my engineer's drainage design.

_____
Name of Developer

_____
Authorized Signature

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I. GENERAL LOCATION AND DESCRIPTION

A. Site Location

The proposed development henceforth referred to as "Ridgegate Southwest Village Filing 3" site is located in Sections 22 and 23, Township 6 South, Range 67 West of the 6th Principal Meridian. The site is located to the south of Ridgegate Parkway, east of Interstate Highway 25 (I-25), and north of the public service right-of-way. A vicinity map showing the project site is shown below and is presented in **Appendix A**.

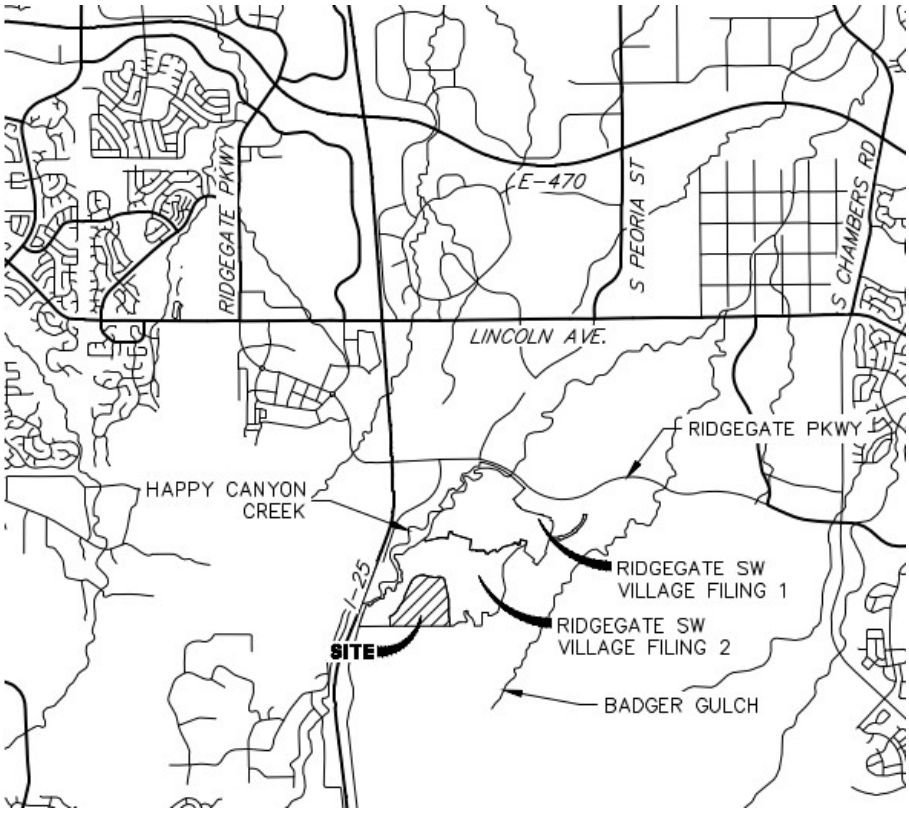


Figure 1: Vicinity Map

B. Description of Property

The proposed site plan of the Ridgegate Southwest Village Filing 3 development consists of approximately 44.72 acres of undeveloped land. The proposed development will consist of open space, public roadways, and 100 residential lots. A site plan has been provided in **Appendix A**. The site is currently unoccupied and undeveloped, and is vegetated with native grasses and shrubs. The majority of soil is classified by the Natural Resource Conservation Service (NRCS) as Hydrologic Group C and D with some areas containing Hydrologic Group B soils. Hydrologic Group B are described as "soils having a moderate infiltration rate when thoroughly wet and consist mainly of moderately deep, moderately well drained soils that have moderately fine texture to moderately coarse texture". 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 texture." 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 clay pan or clay layer at or near the surface and shallow soils over nearly impervious material."

The site slopes vary between 0-25%, with some areas up to 33%. The terrain is mountainous and relatively steep throughout. The historic drainage patterns for the entire Ridgegate Southwest Village Development are split in two directions. The western half of the development drains north and west to Happy Canyon Creek, while the eastern half of the development drains to the north and east to Badger Gulch. The Filing 3 improvements within this report will drain north and west, where it will be captured by storm sewer infrastructure installed with the Ridgegate Southwest Village Filing 2 improvements and conveyed to onsite EURV Ponds. The onsite EURV Ponds will provide water quality and outfall into Happy Canyon Creek.

The site is shown on the Federal Emergency Management Agency (FEMA), Flood Insurance Rate Map (FIRM) Community Panel No. 08035C0063H, September 4, 2020. The site lies within Zone X, which is the flood insurance rate zone that corresponds to areas outside the one percent annual chance floodplain. See the FIRM Map located in **Appendix A**.

There is a major drainage way located adjacent to the site: Happy Canyon Creek. Happy Canyon Creek is located on the western edge of the site and shall be the ultimate outfall for the Filing 3 improvements. Happy Canyon Creek lies within a 100-year floodplain identified as Zone A in the FEMA FIRM Panel No. 08035C0063H.

There are no active irrigation ditch facilities located within the site. There are no significant geologic features within the area to be developed, and areas of higher topography within the site will remain undeveloped under a conservation easement.

II. DRAINAGE BASINS AND SUB-BASINS

A. Major Drainage Basins

The Ridgegate Southwest Village Filing 3 site lies within the Happy Canyon Creek basin, which is a left bank tributary of Cherry Creek. This report has been prepared in conformance with the "Phase II Drainage Report for Ridgegate Southwest Village", by JR Engineering, prepared October 2020 and the Phase III Drainage Report for Ridgegate Southwest Village Filing 2, by JR Engineering, February 15, 2023.

In the existing condition, storm runoff from the undeveloped site drains into Happy Canyon Creek via overland sheet flow, natural drainage channels and the use of Filing 2 storm sewer. The historic drainage basin map can be referenced in the "Master Drainage Plan for Ridgegate – Happy Canyon Creek and Badger Gulch Drainage Basins", by Merrick & Company, revised May 2017, and is included in **Appendix D**.

The proposed Filing 3 development will utilize two existing EURV ponds that were constructed with the Filing 2 improvements. These two ponds are referenced in the Filing 2 Phase III drainage report as Pond B and Pond C.

Pond B will provide some inadvertent 100-year detention of the developed runoff, as these developed flows are routed through the outlet structure. The design 100-year discharge for EURV ponds B & C have been established in coordination with Merrick & Company in order to minimize the adverse effects of the peak discharge from the site coinciding with the peak discharge in the receiving drainage way. Online regional detention is proposed in Happy Canyon Creek (by others). The inflows into Happy Canyon Creek will be analyzed in a separate drainage report by Merrick & Company. Per the "Master Drainage Plan for Ridgegate – Happy Canyon Creek and Badger Gulch Drainage Basins", by Merrick & Company, revised May 2017, creek stabilization improvements are proposed (by others) within the channels to stabilize the drainage ways and protect against the effects of urbanization in the watersheds.

B. Proposed Drainage Basins

The proposed Ridgegate Filing 3 development was analyzed with the previously-approved Phase III Drainage Study for Ridgegate Filing 2. The approved Filing 2 study had divided the Filing 3 site into six future onsite basins (designated as F3-1 through F3-6) and several offsite basins. Drainage maps from the previously-approved Filing 2 drainage study have been provided in **Appendix D**.

With this Filing 3 drainage study, the site has been further divided into 27 onsite basins and several offsite basins, further described below (refer to the proposed drainage map located in **Appendix E**). Basins designated as B- Basins are tributary to EURV Pond B, and basins designated as C- Basins are tributary to EURV Pond C.

A Hydrologic Soil Group study by NRCS has been utilized in determining the average soil types for each basin. The NRCS soil grouping map was overlaid over the proposed basin map to obtain weighted average soil types for each basin. The average weighted soil grouping was then used in CUHP in determining the initial and final rates of infiltration along with the decay coefficient. The overall soil map from NCRS is attached in **Appendix A.**

No changes to historic drainage patterns or previously-approved drainage concepts or patterns are proposed. Runoff from the Filing 3 site will be captured by onsite inlets and will be conveyed to EURV pond B or C via storm sewer that was installed with the Filing 2 improvements, which is in conformance with the drainage concept described in the previously-approved Filing 2 study and Ponds B and C conformance letter.

Basin B15 Consists of existing roadway, curb and gutter, concrete sidewalks, and landscaped area. This basin will sheet flow southeast to existing curb and gutter where it is conveyed north to existing sump inlet at design point 115. From there it is conveyed via existing storm sewer infrastructure to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B17 Consists of public open space and proposed single-family homes, curb and gutter, concrete sidewalks, local roads and landscape area. This basin basin will sheet flow northeast to existing curb and gutter where it is conveyed north to existing on-grade inlet at design point 117. From there it is conveyed via proposed/existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B28 Consists of proposed single-family homes and landscape area. This basin is currently partially developed with existing curb and gutter, concrete sidewalks, and roads. Runoff from this basin sheet flows northeast to existing curb and gutter where it is conveyed east to existing sump inlet at design point 128. From there it is conveyed via existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B50 Consists of proposed single-family homes and landscape area. This basin is currently partially developed with existing single-family homes, concrete sidewalks, and landscape areas. Runoff from this basin sheet flows to an existing swale where it is conveyed north to existing area inlet at design point 150. From there it is conveyed via existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B51 Consists of existing local road, curb and gutter, concrete sidewalks, and landscape area. This basin is currently developed and runoff from this basin sheet flows north to existing curb and gutter where it is conveyed to existing sump inlet at design point 151. From there it is conveyed via existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B55 Consists of proposed single-family homes, curb and gutter, concrete sidewalks, local roads, storm sewer, and landscape area. Runoff from this basin will sheet flow northwest to proposed curb and gutter where it will be conveyed north to proposed on-grade inlet at design point B55. From there it is conveyed via proposed/existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B56 Consists of proposed single-family homes, curb and gutter, concrete sidewalks, local roads, storm sewer, and landscape area. Runoff from this basin will sheet flow northwest to proposed curb and gutter where it will convey north to proposed on-grade inlet at design point B56. From there it is conveyed using proposed/existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B57 Consists of proposed single-family homes, curb and gutter, concrete sidewalks, local roads, storm sewer, and landscape area. Runoff from this basin will sheet flow north to curb and gutter where it will convey north to proposed on-grade inlet at design point B57. From there it is conveyed via proposed/existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B58 Consists of proposed single-family homes, curb and gutter, concrete sidewalks, local roads, storm sewer, and landscape area. Runoff from this basin will sheet flow northwest to proposed curb and gutter where it will convey north to proposed on-grade inlet at design point B58. From there it is conveyed via proposed/existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B59 Consists of proposed single-family homes, curb and gutter, concrete sidewalks, local roads, and landscape area. This basin is currently partially developed and runoff from this basin sheet flows west to proposed curb and gutter where it is conveyed east to proposed sump inlet at design point B59. From there it is conveyed using existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B59a Consists of proposed single-family homes, curb and gutter, concrete sidewalks, local roads, and landscape area. Runoff from this basin sheet flows west to proposed curb and gutter where it is conveyed east to proposed sump inlet at design point B59. From there it is conveyed using existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B60 Consists of proposed single-family homes, curb and gutter, concrete sidewalks, local roads, storm sewer, and landscape area. Runoff from this basin sheet flows northwest to proposed curb and gutter where it is conveyed north to proposed on-grade inlet at design point B60. From there it is conveyed via proposed/existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B61 Consists of proposed single-family homes, curb and gutter, concrete sidewalks, local roads, storm sewer, and landscape area. Runoff from this basin sheet flows northeast to proposed curb and gutter where it is conveyed northeast to design point B61 where it is routed to basin B59a and captured by the proposed sump inlet. From there it is conveyed via proposed/existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B62 Consists of curb and gutter, concrete sidewalks, local roads, and landscape area. This basin is currently partially developed and runoff from this basin sheet flows northeast to proposed curb and gutter where it is conveyed north design point B62 where it is routed to basin B59a and captured by the proposed sump inlet. From there it is conveyed via proposed/existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B63 Consists of proposed single-family homes, curb and gutter, concrete sidewalks, local roads, and landscape area. Runoff from this basin sheet flows southwest to proposed curb and gutter where it is conveyed north to existing on-grade inlet at design point B63. From there it is conveyed via proposed/existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B64 Consists of proposed single-family homes, curb and gutter, concrete sidewalks, local roads, and landscape area. This basin sheet flows north to the proposed inlet at design point B64. From there it is conveyed via existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B65 Consists of proposed single-family homes, curb and gutter, concrete sidewalks, local roads, and landscape area. This basin sheet flows north to the proposed inlet at design point B65. From there it is conveyed via existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B66 Consists of existing concrete trails and landscape area. This basin sheet flows north to the proposed inlet at design point B66. From there it is conveyed via existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B66a Consists of existing concrete trails and landscape area. This basin sheet flows north to the proposed inlet at design point B66a. From there it is conveyed via existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B66b Consists of existing concrete trails and landscape area. This basin sheet flows north to the proposed inlet at design point B66b. From there it is conveyed via existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B67 Consists of proposed single-family homes, curb and gutter, concrete sidewalks, local roads, and landscape area. This basin sheet flows west to the proposed inlet at design point B67. From there it is conveyed via existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B68 Consists of proposed single-family homes, curb and gutter, concrete sidewalks, local roads, and landscape area. This basin sheet flows east to the proposed inlet at design point B60. From there it is conveyed via existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B69 Consists of curb and gutter, concrete sidewalks, and local roads, and landscape area. This basin sheet flows east to the proposed inlet at design point B67. From there it is conveyed via existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B70 Consists curb and gutter, concrete sidewalks, andlocal roads, and landscape area. This basin sheet flows northwest to the proposed inlet at design point B70. From there it is conveyed via existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B71 Consists of proposed single-family homes, curb and gutter, concrete sidewalks, local roads, and landscape area. This basin sheet flows northwest to the proposed inlet at design point B71. From there it is conveyed via existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B72 Consists of existing concrete trails and landscape area. This basin sheet flows north to the proposed inlet at design point B72. From there it is conveyed via existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B73 Consists of proposed single-family homes, curb and gutter, concrete sidewalks, local roads, and landscape area. This basin sheet flows north to the proposed inlet at design point B73. From there it is conveyed via existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin C3 Conists of existing roadway, curb and gutter, concrete sidewalks, and landscape area. This basin is currently developed and runoff from this basin will sheet flow northeast to existing curb and gutter where it is conveyed south to existing sump inlet at design point 203. From there it is conveyed via existing storm sewer infrastructure to EURV Pond C, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin OS2a Consists of public open spae. This basin will sheet flow northwest to existing area inlet at design point 204. From there it is conveyed via existing storm sewer to EURV Pond C, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin OS3a Consists of public open space. This basin will sheet flow to an existing swale where it is conveyed to existing FES at design point 507. From there it is conveyed via existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin OS4a Consists of public open space. This basin will sheet flow to an existing swale where it is conveyed to existing FES at design point 507. From there it is conveyed via existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin OS4c Consists of public open space. This basin will sheet flow northeast to basin OS4a. From there is sheet flows northwest to an existing culvert at design point 153. From there it is conveyed via existing storm sewer to EURV Pond B, where water quality is provided. The existing downstream infrastructure is still adequately sized, as shown by calculations provided in **Appendix B.**

Basin B represents the majority of the existing development area done in Filing 2 and the majority of the development area of Filing 3 as well. Storm water runoff from these sub-basins are conveyed via curb and gutter and property swales. Runoff is captured via a series of on-grade and sump inlets, as well as area inlets in the open space swales. Runoff is then piped north to the proposed Pond B. The treated/detained pond releases are then discharged into Happy Canyon Creek.

All inlet calculations can be found in **Appendix C.**

Table 1: Basin Summary Table

BASIN SUMMARY TABLE				
Tributary Sub-basin	Area (acres)	Percent Impervious %	Q5 (cfs)	Q100 (cfs)
B15	0.78	61.0	1.09	2.48
B17	1.47	52.8	1.57	3.73
B28	2.83	35.5	1.92	5.52
B50	1.95	15.4	0.94	3.36
B51	0.21	100.0	0.45	0.85
B55	0.74	46.1	0.66	1.75
B56	4.26	43.8	3.12	8.19
B57	0.56	56.3	0.56	1.32
B58	0.15	54.6	0.18	0.42
B59	1.36	56.8	1.42	3.32
B59a	2.63	59.4	3.79	8.55
B60	1.55	40.8	1.18	3.17
B61	1.79	60.7	1.35	3.25
B62	0.42	100.0	0.36	0.74
B63	0.94	49.4	0.75	1.94
B64	1.26	60.6	1.42	3.26
B65	1.57	53.7	1.33	3.24
B66	0.27	19.5	0.14	0.50
B66a	1.75	17.5	0.69	2.52
B66b	2.90	15.5	1.27	4.65
B67	0.15	67.7	0.19	0.43
B68	0.05	100.0	0.09	0.18
B69	0.12	67.9	0.19	0.43
B70	0.39	61.9	0.58	1.32
B71	1.22	46.0	1.18	3.05
B72	2.19	17.9	1.22	4.42
B73	2.59	16.3	0.95	3.23
C3	0.53	69.7	0.78	1.68
OS2a	41.98	5.0	14.05	59.66
OS3a	65.09	5.1	19.40	84.06
OS4a	62.22	5.1	21.32	90.20
OS4b	1.05	5.0	0.19	0.89
OS4c	6.01	5.0	1.70	7.37

III. DRAINAGE DESIGN CRITERIA

A. Regulations

Storm drainage analysis and design criteria for this project were taken from the "Storm Drainage Design and Technical Criteria Manual" (SDDTCM) by Douglas County and the "Urban Storm Drainage Criteria Manual" (USDCM) by Mile High Flood Control District (MHFD).

B. Drainage Studies

The site has previously been studied by multiple reports:

- "Master Drainage Plan for Ridgegate-Happy Canyon Creek and Badger Gulch Drainage Basins", by Merrick & Company, revised May 2017, has been utilized for the overall master planning of the site.
- "Phase II Drainage Report for Ridgegate Southwest Village Filing 1", by JR Engineering, dated October 2020, has been utilized to confirm that this drainage report is in conformance with the allowable inflows into Happy Canyon Creek.
- "Happy Canyon Creek Flood Hazard Area Delineation", by Muller Engineering Company, dated July 2014, has been utilized for 100 year floodplain mapping.
- "Phase III Drainage Report for Ridgegate Southwest Village Filing 2", by JR Engineering, dated February 2023, has been utilized to confirm that this drainage report is in conformance with the allowable inflows into Happy Canyon Creek.

C. Water Quality and MS4 Permit Requirements

The Ridgegate Southwest Village development is subject to the requirements of the MS4 standards that went into effect July 1, 2019 (COR090000), which are the standards in place at the time of submittal.

D. Hydrology

The site is located in Douglas County Rainfall Zone 1. One-hour point rainfall values were taken from the SDDTCM and used in equation 5-1 from the USDCM to calculate intensities. 1-hour point rainfall values of 1.43 inches and 2.60 inches were used for 5-year and 100-year storm events respectively. Basin percent impervious values were calculated based on proposed future land use and from data on Table 6-3 from the USDCM. The hydrology analysis was performed using Colorado Urban Hydrograph Procedure (CUHP) in conjunction with hydrograph and reservoir routing through EPA's Storm Water Management Model (SWMM). All runoff and hydrologic calculations are included in **Appendix B** of this report.

E. Hydraulics

The MHFD spreadsheet UD_Inlet v5.03, released August 2023, was utilized to determine street and inlet capacities of the development. The inflows at the inlets are based on SWMM results for the 5-year-minor and 100-year-major storm events.

Bentley's StormCAD software was utilized to verify the storm sewer sizing and to calculate the hydraulic grade lines for the system. The 5-year & 100-year storms were modeled using the flows obtained from SWMM. Headloss coefficient values were determined using MHFD Volume 1 criteria. Pipes were designed to be in accordance with Douglas County criteria with respect to HGL elevation. The Manning's n value for concrete storm sewer in 0.013. Hydraulic calculations and results can be found in **Appendix C**.

Cross sections of proposed drainage swales have been analyzed using Bentley's FlowMaster hydraulic analysis software and results can be found in **Appendix C**. A minimum of one-foot freeboard has been provided between the WSEL of the major storm event in the swales and adjacent top of foundations.

Overflow paths for sump conditions have been identified in the drainage map.

IV. STORMWATER MANAGEMENT FACILITY DESIGN

A. Stormwater Conveyance Facilities

The conveyance system within the Ridgegate Southwest Village site is that of a typical subdivision with curb and gutter capturing and conveying flows to on-grade and sump storm sewer inlets. Concentrated off-site flows are proposed to be channelized via swales and routed into the proposed storm sewer system.

All inlets within the proposed roadways will be Type R inlets. Area inlets for the improvements will consist of Type D inlets. Inlet calculations and sizing can be found in **Appendix C**.

Storm sewer will be sized to carry the minor storm in a free flowing condition, and the major storm will maintain an HGL a minimum of one foot below finished grade. Storm runoff from the proposed development will be conveyed via proposed storm sewer infrastructure to the existing Ponds B & C.

All storm sewer pipes, inlets, and streets will be public improvements. The existing ponds reside on property owned and maintained by the Rampart Range Metro District. Easements and tracts will be established to allow for maintenance access to drainage facilities outside of public right-of-way.

B. Stormwater Storage Facilities

There are two existing ponds within the Filing 2 development denoted as Pond B and Pond C. These ponds will provide water quality for the Filing 3 site, and will outfall into Happy Canyon Creek. 100-year flood control is planned to be provided by online detention within Happy Canyon (by others) per the Ridgegate Master Drainage Report and will not be provided in the on-site ponds.

The existing Pond B and Pond C utilize forebays at each outfall point into the pond in order to dissipate the energy from the storm runoff and collect sediment. Trickle channels convey the runoff to the outlet structures. The outlet structures include a micropool and contain an initial surcharge volume. The outlet structure utilizes orifice plates for both the water quality capture volume (WQCV) and EURV. The outlet structure's orifice plate is sized to release the WQCV and EURV events over a period of 40 and 52 hours respectively. For the developed 100-year inflows, an overflow grate on the top of the outlet structure has be used in order to pass discharges above the EURV level and minimize incidental detention. The ponds have an emergency spillway to discharge emergency flows above the 100-year storm event. SWMM was used in Filing 2 to determine the 5- and 100-year storm stage storage for both ponds. Trash racks are used to prevent any trash from escaping the development, and for easy cleaning. A maintenance access trail has been constructed for easy access to the outlet structure and forebays for maintenance and repairs.

Table 2 (as shown below) shows the acreages and impervious percentages that were used for each basin tributary to EURV Pond B and Pond C. The minor changes in the site plan resulted in a 1.07 additional acres. Tributary area draining to Pond B decreased by 1.27 acres and tributary area draining to Pond C increased by 2.35 acres. The additional tributary acres have all been fully accounted for in UD-Detention along with CUHP/SWMM and all initial assumptions are still valid. The overall impervious values for the two ponds has slightly decreased as the new Filing 3 site plan has a lower overall impervious value than assumed. Table 2 below shows the comparison of EURV Ponds B and C. Further detail on the EURV Ponds B and C updates can be found in the Drainage Conformance Letter for Ponds B and C that is currently under revision at the City.

Table 2: EURV Ponds B & C Comparison

	Tributary Area	Weighted Impervious (%)	5-Year Stage Storage from SWMM [ft]	100-Year Stage Storage from SWMM [ft]	Proposed 5-Year Peak Outflow [cfs]	Proposed 100-Year Peak Outflow [cfs]	Proposed 5-Year Volume [acre-ft]	Proposed 100-Year Volume [acre-ft]	Proposed Peak Flow Time [min]
Previously Approved EURV Pond B	**258.55**	**21.90**	7.60	9.33	63.15	349.2	6.16	9.10	64
EURV Pond B Conf. Letter	**257.28**	**17.71**	7.58	9.29	60.51	348.3	6.13	9.04	65
Previously Approved EURV Pond C	**62.68**	**13.00**	4.91	5.54	15.79	83.5	0.948	1.66	63
EURV Pond C Conf. Letter	**65.03**	**10.16**	4.21	5.58	18.00	88.7	0.946	1.73	63

Note: All values listed in this table were taken from CUHP and SWMM

C. Water Quality Enhancement Best Management Practices

Water quality is being provided for the site in the existing EURV ponds B and C prior to entering Happy Canyon Creek. Pond B and Pond C have been designed as EURV ponds and will utilize forebays and outlet structures to treat storm water runoff from the proposed development. The forebays will be used to dissipate the energy of the runoff and allow any remaining sediment to settle out of the water before it departs the pond. The outlet structure will release the WQCV event over a period of 40 hours.

D. Floodplain Modification

There are no modifications proposed to any floodplain. The project site is outside the one percent annual chance floodplain, and there are no CLOMR or LOMR.

E. Additional Permitting Requirements

An Approved Jurisdictional Determination, provided by the U.S. Army Corps of Engineers, Corps File No. MWO-2019-01406-DEN, has determined that there are no water resources of the U.S. on this site; therefore, a Department of the Army permit will not be required for this site. There are currently no endangered species located on the site. There are no other permitting requirements placed on the site.

V. CONCLUSIONS

A. Compliance with Standards

This report is in compliance with the standards set forth in the "Storm Drainage Design and Technical Criteria Manual" by Douglas County as well as the "Urban Storm Drainage Criteria Manual" by the Mile High Flood Control District (MHFD).

B. Variances

No variances are requested at this time.

C. Drainage Concept

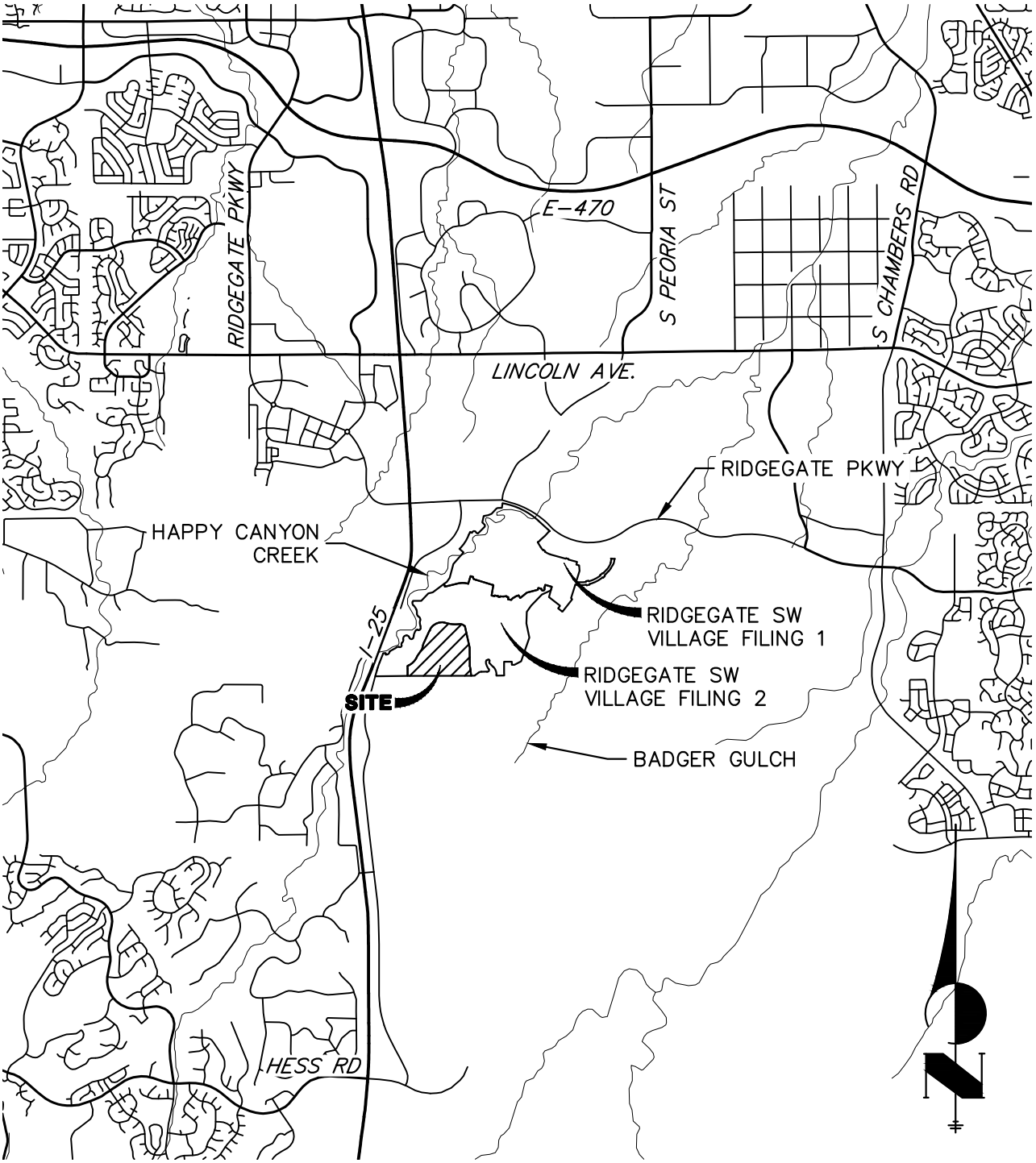
All proposed runoff will be safely conveyed through the site and will be in compliance with the drainage analysis conducted with the Filing 2 Phase III Drainage Report. Water quality will be provided by the existing EURV Pond B & Pond C that were constructed with the Filing 2 improvements. No adverse effects to Happy Canyon Creek or to the downstream infrastructure are expected as a result of the proposed Ridgegate Southwest Village Filing 3 improvements. No impacts are expected with respect to stormwater quality, quantity, or timing.

REFERENCES

1. Happy Canyon Creek Flood Hazard Area Delineation, by Muller Engineering Company, dated July 2014.
2. Master Drainage Plan for Ridgegate-Happy Canyon Creek and Badger Gulch Drainage Basins, Merrick & Company, Revised May 2017.
3. Phase II Drainage Report for Ridgegate Southwest Village, JR Engineering, dated October 28, 2020.
4. Storm Drainage Design and Technical Criteria Manual, Douglas County, July 2008.
5. Urban Storm Drainage Criteria Manual, Mile High Flood Control District, Latest Revision.
6. Phase III Drainage Report for Ridgegate Southwest Village Filing 2, JR Engineering, dated February 15, 2023.
7. Drainage Compliance Letter for Ridgegate Southwest Village Filing 2, Jr Engineering, dated January 11, 2024.

APPENDIX A

FIGURES AND EXHIBITS



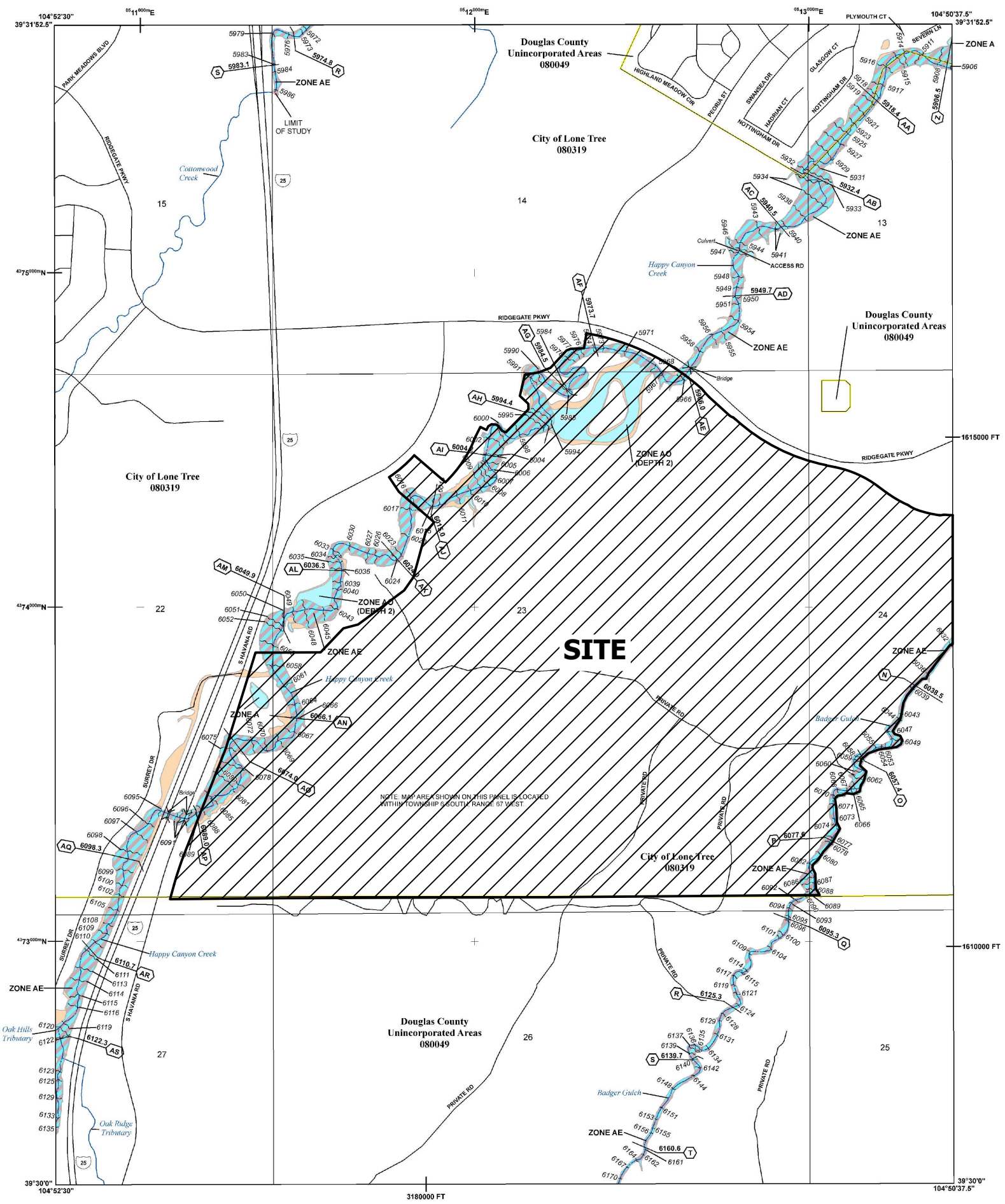
VICINITY MAP

SCALE 1'=5000'

15950.03
04/17/2023
SHEET 1 OF 1

J·R ENGINEERING
A Westrian Company

Centennial 303-740-9393 • Colorado Springs 719-593-2593
Fort Collins 970-491-9888 • www.jrengineering.com



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

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

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

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

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Accredited or Provisionally Accredited Levee, Dike, or Floodwall
- Non-accredited Levee, Dike, or Floodwall
- 18.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation (BFE)
- Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)

OTHER FEATURES
- 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 (1-877-336-2627) 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

Map Projection:
NAD83 UTM Zone 13N
Western Hemisphere; Vertical Datum: NAVD88

1 inch = 500 feet 1:6,000

0 1,000 2,000 Feet

0 250 500 Meters

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:

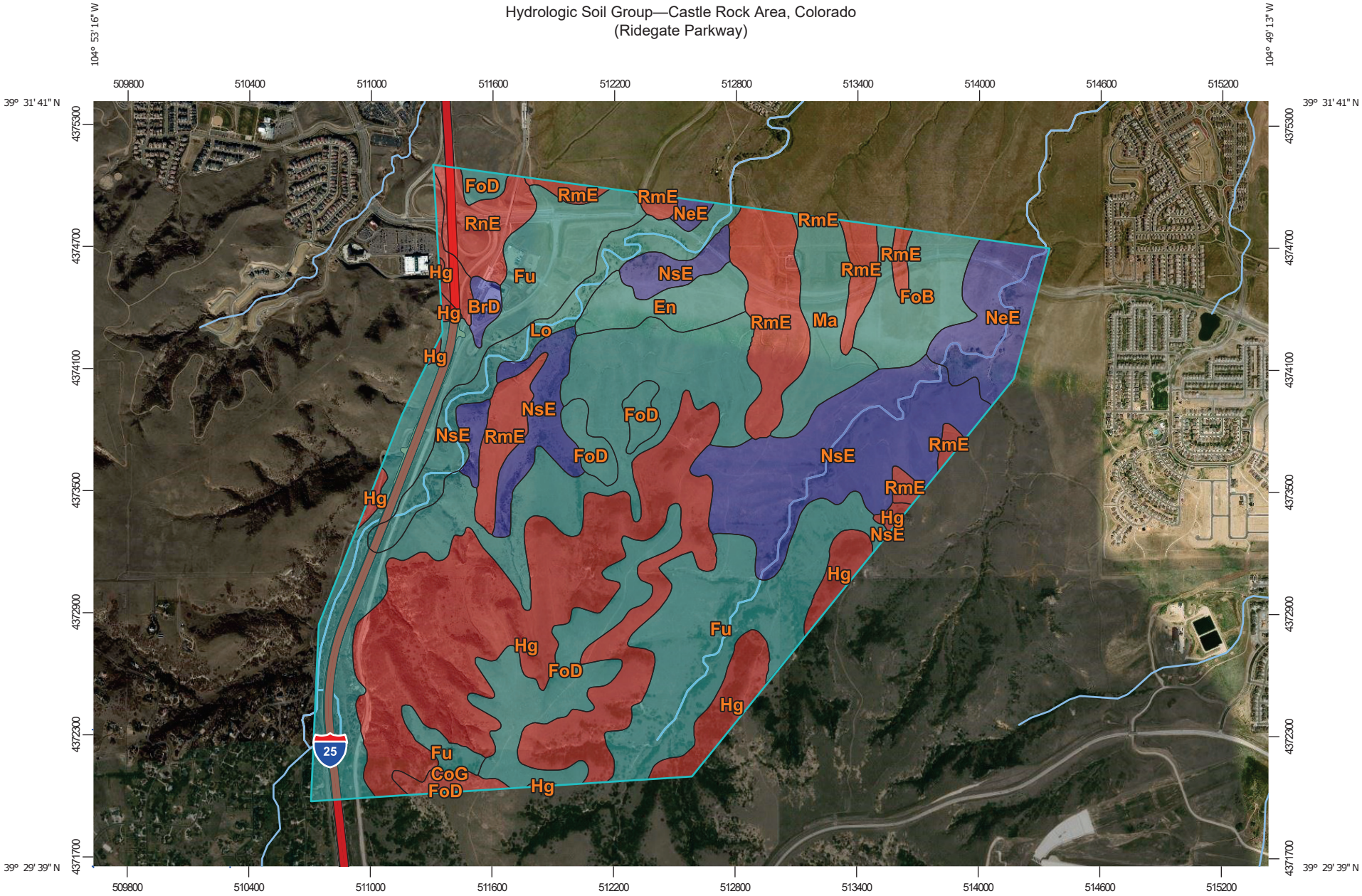
COMMUNITY	NUMBER	PANEL	SUFFIX
DOUGLAS COUNTY	080049	0063	H
LONE TREE, CITY OF	080319	0063	H

VERSION NUMBER
2.3.3.2

MAP NUMBER
08035C0063H

MAP REVISED
SEPTEMBER 4, 2020

Hydrologic Soil Group—Castle Rock Area, Colorado
(Ridegate Parkway)



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

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

Soil Rating Lines

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

Soil Rating Points

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

Water Features

Streams and Canals

Transportation

Rails
Interstate Highways
US Routes
Major Roads
Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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 11, Sep 10, 2018

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

Date(s) aerial images were photographed: Mar 16, 2012—Nov 19, 2018

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BrD	Bresser sandy loam, cool, 5 to 9 percent slopes	B	9.0	0.5%
CoG	Coni rocky loam, 3 to 100 percent slopes	D	11.1	0.6%
En	Englewood clay loam	C	42.5	2.3%
FoB	Fondis clay loam, 1 to 3 percent slopes	C	65.5	3.5%
FoD	Fondis clay loam, 3 to 9 percent slopes	C	122.1	6.6%
Fu	Fondis-Kutch association	C	541.8	29.2%
Hg	Hilly gravelly land	D	417.4	22.5%
Lo	Loamy alluvial land	C	78.0	4.2%
Ma	Manzanola clay loam	C	61.5	3.3%
NeE	Newlin gravelly sandy loam, 8 to 30 percent slopes	B	71.9	3.9%
NsE	Newlin-Satanta complex, 5 to 20 percent slopes	B	242.0	13.0%
RmE	Renohill-Buick complex, 5 to 25 percent slopes	D	154.8	8.3%
RnE	Renohill-Manzanola clay loams, 3 to 20 percent slopes	D	40.1	2.2%
Totals for Area of Interest			**1,857.6**	**100.0%**

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

APPENDIX B

HYDROLOGIC CALCULATIONS

COMPOSITE % IMPERVIOUS CALCULATIONS

Subdivision: _____
Location: Lone Tree

Project Name: Ridgegate FIL 3
Project No.: 15950.02
Calculated By: _____
Checked By: _____
Date: _____

Basin ID	Total Area (ac)	Single Family Residential (45%)			Roads (100%) / Pond (100%)			Landscape (2%) /Parks (10%)			Basins Total Weighted % Imp.
		% Imp.	Area (ac)	Weighted % Imp.	% Imp.	Area (ac)	Weighted % Imp.	% Imp.	Area (ac)	Weighted % Imp.	
BASIN B											
B15	0.78	45%	0.02	1.3%	100%	0.46	59.0%	2%	0.30	0.8%	61.0%
B17	1.47	45%	0.71	21.7%	100%	0.45	30.6%	2%	0.31	0.4%	52.8%
B28	2.83	45%	0.55	8.8%	100%	0.73	25.7%	2%	1.55	1.1%	35.5%
B50	1.95	45%	0.44	10.1%	100%	0.07	3.8%	2%	1.44	1.5%	15.4%
B51	0.21	45%	0.00	0.0%	100%	0.21	100.0%	2%	0.00	0.0%	100.0%
B55	0.74	45%	0.38	23.2%	100%	0.17	22.4%	2%	0.19	0.5%	46.1%
B56	4.26	45%	1.67	17.7%	100%	1.08	25.5%	2%	1.50	0.7%	43.8%
B57	0.56	45%	0.16	12.9%	100%	0.24	42.8%	2%	0.16	0.6%	56.3%
B58	0.15	45%	0.07	21.2%	100%	0.05	33.0%	2%	0.03	0.4%	54.6%
B59	1.36	45%	1.05	34.7%	100%	0.30	22.1%	2%	0.01	0.0%	56.8%
B60	1.55	45%	0.73	21.3%	100%	0.29	18.8%	2%	0.52	0.7%	40.8%
B61	1.79	45%	1.26	31.7%	100%	0.52	29.1%	2%	0.01	0.0%	60.7%
B62	0.42	45%	0.00	0.0%	100%	0.42	100.0%	2%	0.00	0.0%	100.0%
B63	0.94	45%	0.42	20.1%	100%	0.27	28.8%	2%	0.25	0.5%	49.4%
B64	1.26	45%	0.89	31.9%	100%	0.36	28.7%	2%	0.01	0.0%	60.6%
B65	1.57	45%	0.65	18.6%	100%	0.54	34.6%	2%	0.38	0.5%	53.7%
B66	0.27	45%	0.11	18.3%	100%	0.00	0.0%	2%	0.16	1.2%	19.5%
B66a	1.75	45%	0.63	16.2%	100%	0.00	0.0%	2%	1.12	1.3%	17.5%
B66b	2.90	45%	0.91	14.1%	100%	0.00	0.0%	2%	1.99	1.4%	15.5%
B67	0.15	45%	0.00	0.0%	100%	0.10	67.1%	2%	0.05	0.7%	67.7%
B68	0.05	45%	0.00	0.0%	100%	0.05	100.0%	2%	0.00	0.0%	100.0%
B69	0.12	45%	0.07	26.3%	100%	0.05	41.7%	2%	0.00	0.0%	67.9%
B70	0.39	45%	0.27	31.2%	100%	0.12	30.8%	2%	0.00	0.0%	61.9%
B71	1.22	45%	0.80	29.5%	100%	0.41	33.6%	2%	0.01	0.0%	63.1%
B72	2.19	45%	0.65	13.4%	100%	0.07	3.2%	2%	1.47	1.3%	17.9%
B73	2.85	45%	0.95	15.0%	100%	0.00	0.0%	2%	1.90	1.3%	16.3%
B59a	2.63	45%	1.80	30.8%	100%	0.75	28.5%	2%	0.08	0.1%	59.4%
SUB TOTAL	**36.35**										**40.8%**
BASIN OS - OFFSITE											
OS2a	41.98	45%	0.00	0.0%	100%	0.00	0.0%	5%	41.98	5.0%	5.0%
OS3a	65.09	45%	0.09	0.1%	100%	0.00	0.0%	2%	65.00	5.0%	5.1%
OS4a	62.22	45%	0.10	0.1%	100%	0.00	0.0%	2%	62.12	5.0%	5.1%
OS4b	1.05	45%	0.00	0.0%	100%	0.00	0.0%	2%	1.05	5.0%	5.0%
OS4c	6.01	45%	0.00	0.0%	100%	0.00	0.0%	2%	6.01	5.0%	5.0%
SUB TOTAL	**176.35**										**5.0%**
BASIN C											
C3	0.53	45%	0.00	0.0%	100%	0.37	69.1%	2%	0.16	0.6%	69.7%
SUB TOTAL	**0.53**										**69.7%**
TOTAL	**213.23**										

Table 6-3. Recommended percentage imperviousness values

Land Use or Surface Characteristics	Percentage Imperviousness (%)
Business:	
Downtown Areas	95
Suburban Areas	75
Residential lots (lot area only)**:**	
Single-family	
2.5 acres or larger	12
0.75 – 2.5 acres	20
0.25 – 0.75 acres	30
0.25 acres or less	45
Apartments	75
Industrial:	
Light areas	80
Heavy areas	90
Parks, cemeteries	10
Playgrounds	25
Schools	55
Railroad yard areas	50
Undeveloped Areas:	
Historic flow analysis	2
Greenbelts, agricultural	2
Off-site flow analysis (when land use not defined)	45
Streets:	
Paved	100
Gravel (packed)	40
Drive and walks	90
Roofs	90
Lawns, sandy soil	2
Lawns, clayey soil	2

COMPOSITE RUNOFF COEFFICIENT CALCULATIONS

Subdivision: _____
Location: Lone Tree

Project Name: Ridgegate FIL 3
Project No.: 15950.02
Calculated By: _____
Checked By: _____
Date: _____

Basin ID	Total Area (ac)	Basins Total Weighted % Imp.	Hydrologic Soil Group			Hydrologic Soil Group			Minor Coefficients			Major Coefficients			Basins Total Weighted C_5	Basins Total Weighted C_{100}
			Area A (ac)	Area B (ac)	Area C/D (ac)	% A (ac)	% B (ac)	% C/D (ac)	$C_{5,A}$	$C_{5,B}$	$C_{5,C/D}$	$C_{100,A}$	$C_{100,B}$	$C_{100,C/D}$		
B15	0.78	61.0%	0.00	0.26	0.52	0%	34%	66%	0.46	0.50	0.54	0.59	0.71	0.73	0.52	0.73
B17	1.47	52.8%	0.00	0.00	1.47	0%	0%	100%	0.38	0.43	0.47	0.52	0.67	0.70	0.47	0.70
B28	2.83	35.5%	0.00	1.41	1.42	0%	50%	50%	0.23	0.28	0.33	0.39	0.59	0.63	0.30	0.61
B50	1.95	15.4%	0.00	1.46	0.49	0%	75%	25%	0.08	0.11	0.16	0.23	0.50	0.55	0.12	0.51
B51	0.21	100.0%	0.00	0.00	0.21	0%	0%	100%	0.86	0.86	0.86	0.89	0.90	0.89	0.86	0.89
B55	0.74	46.1%	0.00	0.74	0.00	0%	100%	0%	0.32	0.37	0.41	0.47	0.64	0.67	0.37	0.64
B56	4.26	43.8%	0.00	0.32	3.94	0%	7%	93%	0.30	0.35	0.39	0.45	0.63	0.66	0.39	0.66
B57	0.56	56.3%	0.00	0.00	0.56	0%	0%	100%	0.41	0.46	0.50	0.55	0.69	0.71	0.50	0.71
B58	0.15	54.6%	0.00	0.10	0.04	0%	71%	29%	0.40	0.44	0.48	0.54	0.68	0.71	0.46	0.69
B59	1.36	56.8%	0.00	0.00	1.36	0%	0%	100%	0.42	0.47	0.50	0.55	0.69	0.72	0.50	0.72
B60	1.55	40.8%	0.00	0.22	1.33	0%	14%	86%	0.27	0.32	0.37	0.43	0.62	0.65	0.36	0.65
B61	1.79	60.7%	0.00	0.41	1.38	0%	23%	77%	0.46	0.50	0.53	0.58	0.71	0.73	0.53	0.73
B62	0.42	100.0%	0.00	0.07	0.35	0%	17%	83%	0.86	0.86	0.86	0.89	0.90	0.89	0.86	0.89
B63	0.94	49.4%	0.00	0.43	0.50	0%	46%	54%	0.35	0.40	0.44	0.50	0.66	0.69	0.42	0.67
B64	1.26	60.6%	0.00	0.29	0.97	0%	23%	77%	0.45	0.50	0.53	0.58	0.71	0.73	0.52	0.73
B65	1.57	53.7%	0.00	0.00	1.57	0%	0%	100%	0.39	0.44	0.47	0.53	0.68	0.70	0.47	0.70
B66	0.27	19.5%	0.00	0.10	0.17	0%	37%	63%	0.11	0.14	0.19	0.26	0.52	0.56	0.18	0.55
B66a	1.75	17.5%	0.00	0.67	1.08	0%	38%	62%	0.09	0.13	0.18	0.25	0.51	0.56	0.16	0.54
B66b	2.90	15.5%	0.00	1.15	1.75	0%	40%	60%	0.08	0.11	0.16	0.23	0.50	0.55	0.14	0.53
B67	0.15	67.7%	0.00	0.12	0.03	0%	79%	21%	0.52	0.56	0.59	0.64	0.74	0.76	0.57	0.75
B68	0.05	100.0%	0.00	0.05	0.00	0%	100%	0%	0.86	0.86	0.86	0.89	0.90	0.89	0.86	0.90
B69	0.12	67.9%	0.00	0.05	0.07	0%	42%	58%	0.52	0.56	0.59	0.64	0.75	0.76	0.58	0.75
B70	0.39	61.9%	0.00	0.09	0.30	0%	22%	78%	0.47	0.51	0.54	0.59	0.72	0.74	0.54	0.73
B71	1.22	63.1%	0.00	0.74	0.48	0%	61%	39%	0.48	0.52	0.55	0.60	0.72	0.74	0.53	0.73
B72	2.19	17.9%	0.00	2.19	0.00	0%	100%	0%	0.10	0.13	0.18	0.25	0.51	0.56	0.13	0.51
B73	2.85	16.3%	0.00	0.00	2.85	0%	0%	100%	0.09	0.12	0.17	0.24	0.50	0.55	0.17	0.55
OS2a	41.98	5.0%	0.00	0.00	41.98	0%	0%	100%	0.02	0.03	0.08	0.15	0.45	0.50	0.08	0.50
OS3a	65.09	5.1%	0.00	0.85	64.24	0%	1%	99%	0.02	0.03	0.08	0.15	0.45	0.50	0.08	0.50

OS4a	62.22	5.1%	0.00	0.00	62.22	0%	0%	100%	0.02	0.03	0.08	0.15	0.45	0.50	0.08	0.50
OS4b	1.05	5.0%	0.00	0.00	1.05	0%	0%	100%	0.02	0.03	0.08	0.15	0.45	0.50	0.08	0.50
OS4c	6.01	5.0%	0.00	0.00	6.01	0%	0%	100%	0.02	0.03	0.08	0.15	0.45	0.50	0.08	0.50
C3	0.53	69.7%	0.00	0.00	0.53	0%	0%	100%	0.54	0.58	0.61	0.65	0.75	0.77	0.61	0.77
B59a	2.63	59.4%	0.00	0.00	2.63	0%	0%	100%	0.44	0.49	0.52	0.57	0.70	0.73	0.52	0.73
TOTAL	**210.60**	**10.7%**	**0.00**	**11.71**	**198.88**	**0%**	**6%**	**94%**	**---**	**---**	**---**	**---**	**---**	**---**	**0.12**	**0.53**

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.

BASINS MODIFIED WITHIN FILING 3 HAVE BEEN HIGHLIGHTED

CUHP 5-YEAR SUBCATCHMENT PARAMETERS

Summary of CUHP Input Parameters (Version 2.0.1)

								Depression Storage		Horton's Infiltration Parameters			DCIA Level and Fractions			
Catchment Name/ID	SWMM Node/ID	Raingage Name/ID	Area (sq.mi.)	Dist. to Centroid (miles)	Length (miles)	Slope (ft./ft.)	Percent Imperv.	Pervious (inches)	Imperv. (inches)	Initial Rate (in./hr.)	Final Rate (in.hr.)	Decay Coeff. (1/sec.)	DCIA Level	Dir. Con'ct Imperv. Fraction	Receiv. Perv. Fraction	Percent Eff. Imperv.
B0	S_B0	NOAA14	0.008	0.060	0.115	0.005	43.2	0.40	0.10	3.49	0.53	0.0018	0.00	0.82	0.21	41.44
B1	S_B1	NOAA14	0.001	0.007	0.062	0.010	75.0	0.35	0.10	3.74	0.55	0.0018	0.00	0.93	0.32	73.80
B2	S_B2	NOAA14	0.002	0.007	0.062	0.010	53.3	0.35	0.10	3.81	0.55	0.0018	0.00	0.87	0.24	51.62
B3	S_B3	NOAA14	0.002	0.059	0.124	0.032	57.7	0.35	0.10	3.00	0.50	0.0018	0.00	0.89	0.26	56.34
B4	S_B4	NOAA14	0.002	0.024	0.082	0.032	62.0	0.35	0.10	3.00	0.50	0.0018	0.00	0.90	0.28	60.73
B5	S_B5	NOAA14	0.001	0.019	0.038	0.015	31.6	0.35	0.10	3.00	0.50	0.0018	0.00	0.63	0.17	29.48
B6	S_B6	NOAA14	0.002	0.024	0.077	0.033	62.3	0.35	0.10	3.00	0.50	0.0018	0.00	0.90	0.28	61.04
B7	S_B7	NOAA14	0.001	0.019	0.038	0.015	31.9	0.35	0.10	3.00	0.50	0.0018	0.00	0.64	0.18	29.79
B8	S_B8	NOAA14	0.001	0.019	0.038	0.015	31.9	0.35	0.10	3.00	0.50	0.0018	0.00	0.64	0.18	29.79
B9	S_B9	NOAA14	0.003	0.067	0.127	0.017	61.9	0.35	0.10	3.99	0.57	0.0018	0.00	0.90	0.28	60.42
B10	S_B10	NOAA14	0.002	0.058	0.098	0.033	60.5	0.35	0.10	3.65	0.54	0.0018	0.00	0.90	0.27	59.08
B11	S_B11	NOAA14	0.002	0.084	0.129	0.013	51.3	0.35	0.10	3.19	0.51	0.0018	0.00	0.86	0.24	49.73
B12	S_B12	NOAA14	0.002	0.025	0.066	0.013	52.1	0.35	0.10	3.70	0.55	0.0018	0.00	0.86	0.24	50.42
B13	S_B13	NOAA14	0.001	0.030	0.070	0.033	74.7	0.35	0.10	3.77	0.55	0.0018	0.00	0.93	0.31	73.48
B14	S_B14	NOAA14	0.001	0.009	0.063	0.016	74.8	0.35	0.10	3.49	0.53	0.0018	0.00	0.93	0.31	73.64
B15	S_B15	NOAA14	0.001	0.025	0.073	0.031	61.0	0.35	0.10	3.54	0.54	0.0018	0.00	0.90	0.27	59.61
B16	S_B16	NOAA14	0.001	0.077	0.150	0.020	67.8	0.35	0.10	3.00	0.50	0.0018	0.00	0.92	0.29	66.60
B17	S_B17	NOAA14	0.002	0.054	0.123	0.046	52.8	0.35	0.10	3.00	0.50	0.0018	0.00	0.86	0.24	51.31
B18	S_B18	NOAA14	0.003	0.125	0.253	0.029	69.1	0.35	0.10	3.19	0.51	0.0018	0.00	0.92	0.30	67.88
B19	S_B19	NOAA14	0.003	0.022	0.090	0.029	54.1	0.35	0.10	3.25	0.52	0.0018	0.00	0.87	0.25	52.58
B20	S_B20	NOAA14	0.003	0.047	0.088	0.029	54.0	0.35	0.10	3.00	0.50	0.0018	0.00	0.87	0.25	52.54
B21	S_B21	NOAA14	0.002	0.027	0.079	0.018	53.7	0.35	0.10	3.00	0.50	0.0018	0.00	0.87	0.24	52.23
B22	S_B22	NOAA14	0.002	0.064	0.130	0.027	60.0	0.35	0.10	4.50	0.60	0.0018	0.00	0.90	0.27	58.40
B23	S_B23	NOAA14	0.001	0.029	0.063	0.027	62.9	0.35	0.10	4.50	0.60	0.0018	0.00	0.91	0.28	61.33
B24	S_B24	NOAA14	0.002	0.031	0.072	0.021	47.6	0.35	0.10	4.45	0.60	0.0018	0.00	0.84	0.22	45.64
B25	S_B25	NOAA14	0.001	0.056	0.111	0.025	65.0	0.35	0.10	4.05	0.57	0.0018	0.00	0.91	0.29	63.55
B26	S_B26	NOAA14	0.002	0.057	0.130	0.025	57.2	0.35	0.10	4.00	0.57	0.0018	0.00	0.89	0.26	55.60
B27	S_B27	NOAA14	0.002	0.070	0.128	0.020	55.3	0.35	0.10	3.91	0.56	0.0018	0.00	0.88	0.25	53.66
B28	S_B28	NOAA14	0.004	0.048	0.138	0.017	35.5	0.35	0.10	3.57	0.54	0.0018	0.00	0.71	0.19	33.36
B29	S_B29	NOAA14	0.001	0.035	0.075	0.020	82.2	0.35	0.10	3.20	0.51	0.0018	0.00	0.94	0.34	81.27
B30	S_B30	NOAA14	0.001	0.014	0.027	0.020	60.5	0.35	0.10	4.05	0.57	0.0018	0.00	0.90	0.27	59.00
B31	S_B31	NOAA14	0.001	0.064	0.126	0.020	63.0	0.35	0.10	3.00	0.50	0.0018	0.00	0.91	0.28	61.74
B32	S_B32	NOAA14	0.003	0.055	0.133	0.035	56.5	0.35	0.10	4.13	0.58	0.0018	0.00	0.88	0.26	54.84
B33	S_B33	NOAA14	0.003	0.024	0.063	0.028	54.8	0.35	0.10	3.18	0.51	0.0018	0.00	0.87	0.25	53.32
B34	S_B34	NOAA14	0.001	0.046	0.109	0.016	65.4	0.35	0.10	3.49	0.53	0.0018	0.00	0.91	0.29	64.07
B35	S_B35	NOAA14	0.003	0.061	0.117	0.016	48.6	0.35	0.10	4.05	0.57	0.0018	0.00	0.84	0.23	46.76
B36	S_B36	NOAA14	0.002	0.066	0.130	0.020	62.0	0.35	0.10	3.00	0.50	0.0018	0.00	0.90	0.28	60.73
B37	S_B37	NOAA14	0.003	0.061	0.136	0.035	52.7	0.35	0.10	3.00	0.50	0.0018	0.00	0.86	0.24	51.21
B38	S_B38	NOAA14	0.000	0.030	0.057	0.035	72.0	0.35	0.10	3.00	0.50	0.0018	0.00	0.92	0.31	70.87
B39	S_B39	NOAA14	0.002	0.040	0.075	0.018	55.2	0.35	0.10	3.00	0.50	0.0018	0.00	0.88	0.25	53.77
B40	S_B40	NOAA14	0.001	0.032	0.075	0.028	48.8	0.35	0.10	3.00	0.50	0.0018	0.00	0.84	0.23	47.24
B41	S_B41	NOAA14	0.000	0.014	0.027	0.018	100.0	0.35	0.10	3.00	0.50	0.0018	0.00	1.00	0.00	100.00
B42	S_B42	NOAA14	0.005	0.075	0.168	0.017	41.6	0.40	0.10	4.39	0.59	0.0018	0.00	0.81	0.20	39.60
B43	S_B43	NOAA14	0.001	0.030	0.062	0.007	59.0	0.35	0.10	3.00	0.50	0.0018	0.00	0.90	0.27	57.68
B44	S_B44	NOAA14	0.000	0.026	0.050	0.007	65.2	0.35	0.10	3.00	0.50	0.0018	0.00	0.91	0.29	63.97
B45	S_B45	NOAA14	0.002	0.089	0.183	0.037	64.8	0.35	0.10	3.32	0.52	0.0018	0.00	0.91	0.28	63.50

B46	S_B46	NOAA14	0.003	0.070	0.138	0.037	55.8	0.35	0.10	3.12	0.51	0.0018	0.00	0.88	0.25	54.36
B47	S_B47	NOAA14	0.003	0.036	0.097	0.037	50.8	0.35	0.10	3.00	0.50	0.0018	0.00	0.85	0.23	49.27
B48	S_B48	NOAA14	0.001	0.047	0.104	0.033	69.4	0.35	0.10	3.00	0.50	0.0018	0.00	0.92	0.30	68.23
B49	S_B49	NOAA14	0.003	0.054	0.121	0.033	52.9	0.35	0.10	3.00	0.50	0.0018	0.00	0.86	0.24	51.41
B50	S_B50	NOAA14	0.003	0.042	0.093	0.050	15.4	0.35	0.10	3.80	0.55	0.0018	0.00	0.31	0.12	13.26
B51	S_B51	NOAA14	0.000	0.009	0.045	0.022	100.0	0.35	0.10	3.00	0.50	0.0018	0.00	1.00	0.00	100.00
B52	S_B52	NOAA14	0.002	0.046	0.088	0.022	54.4	0.35	0.10	3.00	0.50	0.0018	0.00	0.87	0.25	52.95
B53	S_B53	NOAA14	0.000	0.005	0.023	0.040	23.5	0.35	0.10	3.00	0.50	0.0018	0.00	0.47	0.14	21.33
B54	S_B54	NOAA14	0.001	0.019	0.038	0.018	55.9	0.35	0.10	3.00	0.50	0.0018	0.00	0.88	0.25	54.49
C0	S_C0	NOAA14	0.005	0.051	0.124	0.020	27.0	0.40	0.10	3.00	0.50	0.0018	0.00	0.54	0.16	24.81
C1	S_C1	NOAA14	0.003	0.085	0.161	0.036	61.4	0.35	0.10	3.00	0.50	0.0018	0.00	0.90	0.27	60.13
C2	S_C2	NOAA14	0.002	0.076	0.157	0.036	70.0	0.35	0.10	3.00	0.50	0.0018	0.00	0.92	0.30	68.84
C3	S_C3	NOAA14	0.001	0.018	0.064	0.014	69.7	0.35	0.10	3.00	0.50	0.0018	0.00	0.92	0.30	68.53
C4	S_C4	NOAA14	0.001	0.011	0.053	0.013	70.2	0.35	0.10	3.00	0.50	0.0018	0.00	0.92	0.30	69.04
C5	S_C5	NOAA14	0.001	0.019	0.048	0.025	51.9	0.35	0.10	3.00	0.50	0.0018	0.00	0.86	0.24	50.39
C6	S_C6	NOAA14	0.000	0.015	0.032	0.025	68.3	0.35	0.10	3.00	0.50	0.0018	0.00	0.92	0.29	67.11
C7	S_C7	NOAA14	0.001	0.038	0.091	0.012	34.8	0.35	0.10	3.00	0.50	0.0018	0.00	0.70	0.18	32.81
C8	S_C8	NOAA14	0.003	0.051	0.113	0.010	48.8	0.35	0.10	3.00	0.50	0.0018	0.00	0.84	0.23	47.24
C9	S_C9	NOAA14	0.001	0.034	0.068	0.030	57.6	0.35	0.10	3.00	0.50	0.0018	0.00	0.89	0.26	56.24
C10	S_C10	NOAA14	0.002	0.087	0.106	0.020	26.1	0.40	0.10	3.00	0.50	0.0018	0.00	0.52	0.15	23.91
F3-1	S_F3-1	NOAA14	0.004	0.078	0.158	0.060	65.0	0.35	0.10	3.00	0.50	0.0018	0.00	0.91	0.29	63.77
F3-2	S_F3-2	NOAA14	0.004	0.078	0.158	0.060	65.0	0.35	0.10	3.00	0.50	0.0018	0.00	0.91	0.29	63.77
F3-3	S_F3-3	NOAA14	0.002	0.123	0.223	0.050	65.0	0.35	0.10	3.00	0.50	0.0018	0.00	0.91	0.29	63.77
F3-4	S_F3-4	NOAA14	0.003	0.123	0.227	0.038	65.0	0.35	0.10	3.83	0.56	0.0018	0.00	0.91	0.29	63.59
F3-5	S_F3-5	NOAA14	0.012	0.063	0.187	0.038	65.0	0.35	0.10	3.07	0.50	0.0018	0.00	0.91	0.29	63.75
F3-6	S_F3-6	NOAA14	0.004	0.072	0.156	0.038	65.0	0.35	0.10	3.00	0.50	0.0018	0.00	0.91	0.29	63.77
F1-1	S_F1-1	NOAA14	0.001	0.030	0.062	0.025	61.1	0.35	0.10	3.00	0.50	0.0018	0.00	0.90	0.27	59.83
F1-2	S_F1-2	NOAA14	0.003	0.032	0.090	0.025	49.8	0.35	0.10	3.00	0.50	0.0018	0.00	0.85	0.23	48.26
F1-3	S_F1-3	NOAA14	0.001	0.035	0.070	0.018	64.6	0.35	0.10	3.36	0.52	0.0018	0.00	0.91	0.28	63.29
F1-4	S_F1-4	NOAA14	0.002	0.043	0.068	0.018	50.9	0.35	0.10	3.00	0.50	0.0018	0.00	0.85	0.23	49.38
F1-5	S_F1-5	NOAA14	0.002	0.039	0.065	0.018	50.2	0.35	0.10	3.00	0.50	0.0018	0.00	0.85	0.23	48.66
F1-6	S_F1-6	NOAA14	0.001	0.011	0.045	0.030	63.2	0.35	0.10	3.00	0.50	0.0018	0.00	0.91	0.28	61.95
F1-7	S_F1-7	NOAA14	0.003	0.034	0.056	0.030	30.9	0.35	0.10	3.00	0.50	0.0018	0.00	0.62	0.17	28.76
F1-8	S_F1-8	NOAA14	0.002	0.054	0.082	0.012	31.8	0.35	0.10	3.00	0.50	0.0018	0.00	0.64	0.18	29.68
F1-9	S_F1-9	NOAA14	0.001	0.054	0.111	0.012	66.0	0.35	0.10	3.00	0.50	0.0018	0.00	0.91	0.29	64.78
F1-10	S_F1-10	NOAA14	0.002	0.026	0.076	0.012	31.8	0.35	0.10	3.00	0.50	0.0018	0.00	0.64	0.18	29.68
OS1	S_OS1	NOAA14	0.016	0.114	0.222	0.150	5.0	0.40	0.05	3.00	0.50	0.0018	0.00	0.10	0.05	4.17
OS2a	S_OS2a	NOAA14	0.066	0.213	0.512	0.050	5.0	0.40	0.05	3.00	0.50	0.0018	0.00	0.10	0.05	4.17
OS2b	S_OS2b	NOAA14	0.001	0.055	0.086	0.050	5.0	0.40	0.05	3.00	0.50	0.0018	0.00	0.00	0.05	4.11
OS3a	S_OS3a	NOAA14	0.102	0.332	0.646	0.047	5.1	0.40	0.05	3.02	0.50	0.0018	0.00	0.10	0.05	4.25
OS3b	S_OS3b	NOAA14	0.001	0.071	0.110	0.020	5.0	0.40	0.05	3.00	0.50	0.0018	0.00	0.00	0.05	4.11
OS4a	S_OS4a	NOAA14	0.097	0.278	0.543	0.050	5.1	0.40	0.05	3.00	0.50	0.0018	0.00	0.10	0.05	4.26
OS4b	S_OS4b	NOAA14	0.002	0.065	0.132	0.020	5.0	0.40	0.05	3.00	0.50	0.0018	0.00	0.00	0.05	4.11
OS5a	S_OS5a	NOAA14	0.038	0.141	0.290	0.040	5.0	0.40	0.05	3.00	0.50	0.0018	0.00	0.10	0.05	4.17
OS5b	S_OS5b	NOAA14	0.006	0.100	0.186	0.020	5.0	0.40	0.05	3.00	0.50	0.0018	0.00	0.10	0.05	4.17
OS5c	S_OS5c	NOAA14	0.002	0.065	0.130	0.020	5.0	0.40	0.05	3.00	0.50	0.0018	0.00	0.00	0.05	4.11
OS6	S_OS6	NOAA14	0.005	0.107	0.196	0.020	5.0	0.40	0.05	3.00	0.50	0.0018	0.00	0.10	0.05	4.17
OF1	S_OF1	NOAA14	0.001	0.027	0.054	0.005	45.0	0.35	0.10	3.00	0.50	0.0018	0.00	0.83	0.22	43.39
OF2	S_OF2	NOAA14	0.002	0.048	0.109	0.005	45.0	0.35	0.10	3.08	0.51	0.0018	0.00	0.83	0.22	43.37
OF3	S_OF3	NOAA14	0.002	0.052	0.110	0.010	38.5	0.40	0.05	3.00	0.50	0.0018	0.00	0.77	0.20	36.74
A240	S_A240	NOAA14	0.024	0.019	0.156	0.052	14.5	0.50	0.10	3.00	0.50	0.0018	0.00	0.29	0.11	12.67
A245	S_A245	NOAA14	0.052	0.154	0.339	0.062	10.2	0.50	0.10	3.00	0.50	0.0018	0.00	0.20	0.10	8.68
A250	S_A250	NOAA14	0.030	0.105	0.175	0.035	15.9	0.50	0.10	3.00	0.50	0.0018	0.00	0.32	0.12	13.99
A260	S_A260	NOAA14	0.109	0.134	0.334	0.023	16.9	0.50	0.10	3.23	0.52	0.0018	0.00	0.34	0.12	14.87

B55	S_B55	NOAA14	0.001	0.031	0.068	0.028	46.1	0.35	0.10	4.50	0.60	0.0018	0.00	0.83	0.22	44.11
B56	S_B56	NOAA14	0.007	0.085	0.221	0.021	43.8	0.35	0.10	3.09	0.51	0.0018	0.00	0.82	0.21	42.16
B57	S_B57	NOAA14	0.001	0.044	0.083	0.047	56.3	0.35	0.10	3.00	0.50	0.0018	0.00	0.88	0.26	54.90
B58	S_B58	NOAA14	0.000	0.013	0.023	0.020	54.6	0.35	0.10	4.06	0.57	0.0018	0.00	0.87	0.25	52.90
B59	S_B59	NOAA14	0.002	0.054	0.106	0.025	56.8	0.35	0.10	3.00	0.50	0.0018	0.00	0.88	0.26	55.41
B59a	S_B59a	NOAA14	0.004	0.055	0.119	0.050	59.4	0.35	0.10	3.00	0.50	0.0018	0.00	0.90	0.27	58.10
B60	S_B60	NOAA14	0.002	0.058	0.117	0.038	40.8	0.35	0.10	3.21	0.51	0.0018	0.00	0.80	0.20	39.11
B61	S_B61	NOAA14	0.003	0.102	0.173	0.018	60.7	0.35	0.10	3.36	0.52	0.0018	0.00	0.90	0.27	59.35
B62	S_B62	NOAA14	0.001	0.088	0.146	0.017	100.0	0.35	0.10	3.25	0.52	0.0018	0.00	1.00	0.00	100.00
B63	S_B63	NOAA14	0.001	0.070	0.109	0.062	49.4	0.35	0.10	3.69	0.55	0.0018	0.00	0.85	0.23	47.67
B64	S_B64	NOAA14	0.002	0.062	0.122	0.060	60.6	0.35	0.10	3.34	0.52	0.0018	0.00	0.90	0.27	59.25
B65	S_B65	NOAA14	0.002	0.085	0.166	0.051	53.7	0.35	0.10	3.00	0.50	0.0018	0.00	0.87	0.24	52.23
B66	S_B66	NOAA14	0.000	0.015	0.035	0.044	19.5	0.35	0.10	3.95	0.56	0.0018	0.00	0.39	0.13	17.11
B66a	S_B66a	NOAA14	0.003	0.056	0.112	0.050	17.5	0.35	0.10	3.95	0.56	0.0018	0.00	0.35	0.12	15.19
B66b	S_B66b	NOAA14	0.005	0.069	0.119	0.070	15.5	0.35	0.10	3.95	0.56	0.0018	0.00	0.31	0.12	13.31
B67	S_B67	NOAA14	0.000	0.019	0.033	0.028	67.7	0.35	0.10	4.19	0.58	0.0018	0.00	0.92	0.29	66.27
B68	S_B68	NOAA14	0.000	0.008	0.016	0.010	100.0	0.35	0.10	4.50	0.60	0.0018	0.00	1.00	0.00	100.00
B69	S_B69	NOAA14	0.000	0.008	0.016	0.010	67.9	0.35	0.10	4.50	0.60	0.0018	0.00	0.92	0.29	66.41
B70	S_B70	NOAA14	0.001	0.019	0.039	0.029	61.9	0.35	0.10	4.07	0.57	0.0018	0.00	0.90	0.28	60.41
B71	S_B71	NOAA14	0.002	0.044	0.088	0.046	46.0	0.35	0.10	3.91	0.56	0.0018	0.00	0.83	0.22	44.16
B72	S_B72	NOAA14	0.003	0.031	0.068	0.030	17.9	0.35	0.10	4.34	0.59	0.0018	0.00	0.36	0.12	15.44
B73	S_B73	NOAA14	0.004	0.108	0.201	0.103	16.3	0.35	0.10	3.00	0.50	0.0018	0.00	0.33	0.12	14.37
OS4c	S_OS4c	NOAA14	0.009	0.142	0.274	0.115	5.0	0.40	0.05	3.00	0.50	0.0018	0.00	0.10	0.05	4.17

BASINS MODIFIED WITHIN FILING 3 HAVE BEEN HIGHLIGHTED

CUHP 5-YEAR CALCULATED PARAMETERS

Summary of Unit Hydrograph Parameters Used By Program and Calculated Results (Version 2.0.1)

		Unit Hydrograph Parameters and Results									Excess Precip.		Storm Hydrograph			
Catchment Name/ID	User Comment for Catchment	CT	Cp	W50 (min.)	W50 Before Peak	W75 (min.)	W75 Before Peak	Time to Peak (min.)	Peak (cfs)	Volume (c.f)	Excess (inches)	Excess (c.f.)	Time to Peak (min.)	Peak Flow (cfs)	Total Volume (c.f.)	Runoff per Unit Area (cfs/acre)
B0		0.092	0.056	25.4	1.39	13.2	0.98	2.3	9	18,223	0.75	13,682	33.0	4	13,684	0.77
B1		0.079	0.025	10.5	0.51	5.5	0.36	0.8	2	1,851	1.16	2,147	30.0	1	2,124	1.90
B2		0.087	0.030	9.7	0.52	5.0	0.37	0.9	5	3,630	0.89	3,219	30.0	2	3,185	1.65
B3		0.085	0.031	28.1	0.96	14.6	0.68	1.6	2	3,485	0.98	3,410	33.0	1	3,408	0.90
B4		0.084	0.034	13.4	0.65	7.0	0.46	1.1	4	3,993	1.03	4,108	30.0	2	4,095	1.57
B5		0.100	0.015	26.0	0.61	13.5	0.43	1.0	1	1,634	0.67	1,099	33.0	0	1,096	0.73
B6		0.083	0.035	12.5	0.63	6.5	0.45	1.1	4	4,211	1.03	4,346	30.0	2	4,330	1.63
B7		0.100	0.016	25.5	0.61	13.3	0.43	1.0	1	1,670	0.68	1,129	33.0	0	1,126	0.74
B8		0.100	0.016	25.5	0.61	13.3	0.43	1.0	1	1,670	0.68	1,129	33.0	0	1,126	0.74
B9		0.084	0.040	26.1	1.11	13.6	0.79	1.9	3	6,026	0.99	5,949	32.0	2	5,948	0.94
B10		0.084	0.033	22.6	0.88	11.8	0.62	1.5	2	3,993	0.98	3,925	31.0	1	3,922	1.05
B11		0.088	0.032	42.5	1.34	22.1	0.95	2.2	1	4,247	0.89	3,791	37.0	1	3,792	0.61
B12		0.088	0.033	16.4	0.72	8.5	0.51	1.2	4	4,574	0.88	4,011	30.0	2	4,004	1.22
B13		0.079	0.022	19.4	0.63	10.1	0.45	1.1	1	1,416	1.16	1,635	30.0	1	1,632	1.33
B14		0.079	0.029	9.8	0.52	5.1	0.37	0.9	3	2,541	1.16	2,957	30.0	1	2,926	1.97
B15		0.084	0.029	15.3	0.64	7.9	0.45	1.1	2	2,831	0.99	2,814	30.0	1	2,805	1.40
B16		0.081	0.028	41.1	1.18	21.4	0.83	2.0	1	2,432	1.10	2,666	36.0	0	2,666	0.73
B17		0.088	0.036	21.5	0.90	11.2	0.63	1.5	3	5,409	0.92	4,982	31.0	2	4,978	1.05
B18		0.081	0.043	39.0	1.60	20.3	1.13	2.7	2	6,461	1.10	7,136	36.0	1	7,135	0.77
B19		0.087	0.039	12.4	0.67	6.4	0.47	1.1	6	6,171	0.92	5,697	30.0	3	5,680	1.52
B20		0.087	0.039	17.4	0.83	9.1	0.59	1.4	5	6,461	0.94	6,043	30.0	2	6,036	1.24
B21		0.087	0.034	16.9	0.74	8.8	0.52	1.2	4	4,574	0.93	4,261	30.0	2	4,256	1.27
B22		0.084	0.036	26.5	1.02	13.8	0.72	1.7	2	4,646	0.95	4,396	32.0	1	4,393	0.90
B23		0.083	0.031	14.6	0.65	7.6	0.46	1.1	3	3,303	0.98	3,249	30.0	1	3,240	1.41
B24		0.090	0.030	19.1	0.74	10.0	0.52	1.2	3	4,102	0.79	3,223	30.0	1	3,220	1.00
B25		0.082	0.027	30.2	0.93	15.7	0.66	1.6	1	2,396	1.02	2,455	35.0	1	2,454	0.87
B26		0.086	0.032	28.4	1.01	14.8	0.71	1.7	2	3,957	0.93	3,669	34.0	1	3,667	0.84
B27		0.087	0.032	33.4	1.13	17.4	0.80	1.9	2	4,066	0.91	3,689	35.0	1	3,688	0.74
B28		0.097	0.038	28.5	1.13	14.8	0.80	1.9	5	10,273	0.68	6,983	35.0	2	6,982	0.68
B29		0.077	0.022	23.6	0.71	12.3	0.50	1.2	1	1,343	1.26	1,693	30.0	0	1,691	1.24
B30		0.084	0.019	12.0	0.48	6.3	0.34	0.8	1	1,162	0.97	1,124	30.0	0	1,112	1.56
B31		0.083	0.027	37.1	1.06	19.3	0.75	1.8	1	2,323	1.04	2,417	35.0	0	2,416	0.76
B32		0.086	0.041	20.7	0.95	10.8	0.67	1.6	4	6,824	0.91	6,232	31.0	2	6,227	1.06
B33		0.087	0.039	11.0	0.63	5.7	0.44	1.0	7	6,098	0.93	5,701	30.0	3	5,677	1.64
B34		0.082	0.028	29.8	0.93	15.5	0.66	1.6	1	2,468	1.05	2,590	34.0	1	2,589	0.90
B35		0.090	0.041	26.0	1.12	13.5	0.79	1.9	4	7,877	0.82	6,432	32.0	2	6,430	0.82
B36		0.084	0.038	26.7	1.08	13.9	0.76	1.8	3	5,227	1.03	5,377	32.0	1	5,375	0.97
B37		0.088	0.041	22.7	1.01	11.8	0.71	1.7	4	7,042	0.92	6,479	31.0	2	6,475	1.01
B38		0.080	0.019	20.6	0.60	10.7	0.43	1.0	1	1,016	1.15	1,164	30.0	0	1,161	1.27
B39		0.086	0.033	19.4	0.80	10.1	0.56	1.3	3	4,392	0.95	4,169	30.0	1	4,165	1.16
B40		0.090	0.025	21.5	0.72	11.2	0.51	1.2	2	2,723	0.87	2,381	30.0	1	2,378	1.01
B41		0.073	0.013	15.4	0.46	8.0	0.32	0.8	0	399	1.48	590	30.0	0	584	1.85
B42		0.093	0.042	33.6	1.40	17.5	0.99	2.3	4	10,527	0.68	7,180	36.0	2	7,181	0.57
B43		0.085	0.029	21.8	0.78	11.3	0.55	1.3	2	2,904	0.99	2,886	30.0	1	2,883	1.10
B44		0.082	0.019	26.5	0.69	13.8	0.49	1.2	1	1,125	1.07	1,199	32.0	0	1,198	1.00
B45		0.082	0.036	32.9	1.21	17.1	0.85	2.0	2	4,429	1.05	4,643	35.0	1	4,643	0.84

B46		0.086	0.040	24.1	1.04	12.5	0.73	1.7	3	6,461	0.95	6,138	31.0	2	6,134	0.99
B47		0.089	0.040	15.3	0.76	8.0	0.54	1.3	6	6,933	0.90	6,225	30.0	3	6,217	1.32
B48		0.081	0.025	26.1	0.81	13.6	0.57	1.3	1	1,960	1.11	2,185	31.0	1	2,184	1.05
B49		0.088	0.038	21.9	0.94	11.4	0.66	1.6	4	6,062	0.92	5,591	31.0	2	5,587	1.04
B50		0.120	0.028	29.3	0.92	15.2	0.65	1.5	3	7,079	0.42	2,974	35.0	1	2,972	0.48
B51		0.073	0.018	11.5	0.46	6.0	0.32	0.8	1	762	1.48	1,126	30.0	0	1,112	2.16
B52		0.087	0.034	21.1	0.85	11.0	0.60	1.4	3	4,683	0.94	4,401	31.0	1	4,397	1.08
B53		0.109	0.012	11.9	0.41	6.2	0.29	0.7	1	1,089	0.58	632	30.0	0	623	1.18
B54		0.086	0.023	14.1	0.55	7.3	0.39	0.9	2	1,924	0.96	1,842	30.0	1	1,831	1.44
C0		0.105	0.033	33.4	1.15	17.3	0.81	1.9	4	11,362	0.58	6,628	36.0	2	6,627	0.53
C1		0.084	0.044	25.5	1.16	13.3	0.82	1.9	4	7,187	1.02	7,344	32.0	2	7,343	1.00
C2		0.080	0.033	30.1	1.07	15.6	0.76	1.8	2	3,557	1.12	3,991	34.0	1	3,989	0.95
C3		0.081	0.025	16.2	0.61	8.4	0.43	1.0	2	1,924	1.12	2,151	30.0	1	2,144	1.48
C4		0.080	0.025	12.3	0.53	6.4	0.38	0.9	2	1,851	1.12	2,081	30.0	1	2,065	1.74
C5		0.088	0.024	14.3	0.57	7.4	0.40	0.9	2	2,323	0.91	2,116	30.0	1	2,104	1.39
C6		0.081	0.018	12.9	0.48	6.7	0.34	0.8	1	944	1.10	1,040	30.0	0	1,030	1.66
C7		0.097	0.018	48.3	0.97	25.1	0.68	1.6	1	1,997	0.71	1,418	40.0	0	1,418	0.47
C8		0.090	0.042	25.5	1.11	13.3	0.79	1.9	4	8,095	0.87	7,080	32.0	2	7,078	0.89
C9		0.085	0.020	25.2	0.69	13.1	0.49	1.1	1	1,343	0.98	1,313	31.0	0	1,311	0.97
C10		0.106	0.023	58.1	1.32	30.2	0.93	2.2	1	5,009	0.57	2,869	42.0	0	2,869	0.34
F3-1		0.082	0.052	17.8	1.01	9.2	0.71	1.7	7	9,946	1.06	10,578	30.0	4	10,569	1.34
F3-2		0.082	0.050	18.3	1.01	9.5	0.71	1.7	7	9,293	1.06	9,883	30.0	3	9,875	1.31
F3-3		0.082	0.034	41.3	1.38	21.5	0.98	2.3	1	3,957	1.06	4,208	37.0	1	4,209	0.71
F3-4		0.082	0.046	33.2	1.47	17.2	1.04	2.4	3	7,659	1.03	7,905	35.0	2	7,905	0.82
F3-5		0.082	0.082	12.3	1.07	6.4	0.76	1.8	29	27,661	1.06	29,332	30.0	13	29,305	1.69
F3-6		0.082	0.050	19.9	1.06	10.3	0.75	1.8	6	9,039	1.06	9,613	31.0	3	9,607	1.24
F1-1		0.084	0.023	19.9	0.66	10.4	0.47	1.1	1	1,815	1.02	1,848	30.0	1	1,845	1.20
F1-2		0.089	0.038	16.1	0.77	8.4	0.54	1.3	5	6,461	0.89	5,727	30.0	2	5,719	1.26
F1-3		0.083	0.026	22.1	0.74	11.5	0.52	1.2	1	2,142	1.04	2,237	30.0	1	2,235	1.13
F1-4		0.088	0.031	21.4	0.81	11.1	0.57	1.3	2	4,029	0.90	3,623	31.0	1	3,619	1.04
F1-5		0.089	0.030	20.6	0.77	10.7	0.55	1.3	2	3,812	0.89	3,396	30.0	1	3,392	1.06
F1-6		0.083	0.024	9.9	0.48	5.1	0.34	0.8	2	1,779	1.04	1,855	30.0	1	1,831	1.83
F1-7		0.101	0.028	19.0	0.71	9.9	0.50	1.2	5	6,607	0.66	4,389	30.0	2	4,383	0.93
F1-8		0.100	0.026	38.2	1.07	19.9	0.76	1.8	2	5,300	0.67	3,577	36.0	1	3,576	0.55
F1-9		0.082	0.031	31.2	1.03	16.2	0.73	1.7	1	3,049	1.08	3,278	35.0	1	3,277	0.89
F1-10		0.100	0.026	26.0	0.82	13.5	0.58	1.4	3	5,227	0.67	3,528	33.0	1	3,525	0.73
OS1		0.148	0.070	26.8	1.73	13.9	1.23	2.9	18	38,079	0.33	12,583	36.0	5	12,581	0.44
OS2a		0.148	0.130	37.6	4.06	19.6	2.87	6.8	52	152,387	0.33	50,356	41.0	14	50,354	0.33
OS2b		0.148	0.022	49.8	1.14	25.9	0.80	1.9	1	2,904	0.33	958	40.0	0	958	0.26
OS3a		0.147	0.158	43.4	5.57	22.6	3.94	9.3	70	236,277	0.33	77,897	43.0	19	77,896	0.30
OS3b		0.148	0.022	80.1	1.62	41.6	1.15	2.7	0	2,795	0.33	922	50.0	0	922	0.17
OS4a		0.147	0.155	36.9	4.69	19.2	3.32	7.8	79	225,859	0.33	74,884	41.0	21	74,882	0.34
OS4b		0.148	0.025	73.0	1.69	38.0	1.19	2.8	1	3,812	0.33	1,258	49.0	0	1,258	0.19
OS5a		0.148	0.102	31.6	2.78	16.4	1.96	4.6	37	89,334	0.33	29,520	38.0	9	29,518	0.38
OS5b		0.148	0.043	61.3	2.31	31.9	1.63	3.8	3	12,778	0.33	4,222	43.0	1	4,222	0.22
OS5c		0.148	0.026	68.9	1.68	35.8	1.18	2.8	1	4,247	0.33	1,402	47.0	0	1,402	0.19
OS6		0.148	0.039	70.2	2.43	36.5	1.72	4.0	2	10,781	0.33	3,563	48.0	1	3,563	0.19
OF1		0.091	0.017	39.9	0.82	20.8	0.58	1.4	0	1,198	0.83	995	36.0	0	994	0.61
OF2		0.091	0.031	39.4	1.25	20.5	0.88	2.1	2	4,755	0.83	3,924	36.0	1	3,924	0.61
OF3		0.095	0.026	43.6	1.16	22.7	0.82	1.9	1	3,848	0.74	2,846	39.0	1	2,846	0.51
A240		0.121	0.070	10.0	0.84	5.2	0.59	1.4	71	54,848	0.35	19,222	31.0	12	19,182	0.78
A245		0.131	0.105	27.5	2.52	14.3	1.78	4.2	56	120,249	0.30	35,649	38.0	11	35,650	0.34
A250		0.119	0.078	23.5	1.71	12.2	1.21	2.8	39	70,560	0.37	25,989	36.0	9	25,982	0.45
A260		0.118	0.137	22.4	2.67	11.7	1.89	4.4	146	253,501	0.36	91,168	37.0	32	91,165	0.46

B55		0.091	0.024	21.6	0.70	11.2	0.50	1.2	2	2,686	0.76	2,053	30.0	1	2,050	0.89
B56		0.092	0.052	30.9	1.54	16.1	1.09	2.6	6	15,458	0.81	12,519	35.0	3	12,518	0.73
B57		0.086	0.024	23.8	0.74	12.4	0.52	1.2	1	2,024	0.96	1,947	31.0	1	1,945	1.00
B58		0.087	0.013	16.8	0.47	8.8	0.33	0.8	0	532	0.89	474	30.0	0	471	1.20
B59		0.086	0.036	22.8	0.93	11.9	0.65	1.5	3	4,937	0.97	4,778	31.0	1	4,775	1.04
B59a		0.085	0.049	14.9	0.86	7.8	0.61	1.4	8	9,547	1.00	9,532	30.0	4	9,521	1.44
B60		0.094	0.032	27.6	0.97	14.4	0.69	1.6	3	5,627	0.77	4,319	34.0	1	4,317	0.76
B61		0.084	0.042	35.9	1.45	18.7	1.02	2.4	2	6,498	1.00	6,483	36.0	1	6,483	0.76
B62		0.073	0.025	45.5	1.16	23.7	0.82	1.9	0	1,539	1.48	2,273	38.0	0	2,273	0.86
B63		0.089	0.028	27.7	0.90	14.4	0.64	1.5	2	3,409	0.84	2,877	33.0	1	2,876	0.80
B64		0.084	0.035	21.0	0.87	10.9	0.62	1.5	3	4,556	1.00	4,543	30.0	1	4,539	1.13
B65		0.087	0.037	29.1	1.13	15.1	0.80	1.9	3	5,699	0.93	5,310	34.0	1	5,309	0.85
B66		0.114	0.011	27.1	0.53	14.1	0.38	0.9	0	980	0.46	449	35.0	0	447	0.53
B66a		0.117	0.026	38.0	1.06	19.8	0.75	1.8	2	6,353	0.43	2,757	36.0	1	2,757	0.39
B66b		0.120	0.033	32.2	1.12	16.7	0.79	1.9	4	10,527	0.41	4,318	35.0	1	4,318	0.44
B67		0.081	0.014	18.4	0.50	9.6	0.35	0.8	0	545	1.05	574	30.0	0	571	1.28
B68		0.073	0.009	15.1	0.41	7.9	0.29	0.7	0	182	1.48	268	30.0	0	265	1.86
B69		0.081	0.013	12.4	0.42	6.5	0.30	0.7	0	436	1.05	457	30.0	0	451	1.61
B70		0.084	0.021	13.4	0.52	7.0	0.37	0.9	1	1,416	0.98	1,394	30.0	1	1,383	1.49
B71		0.091	0.031	20.3	0.78	10.6	0.55	1.3	3	4,429	0.79	3,503	30.0	1	3,500	0.97
B72		0.117	0.029	22.9	0.81	11.9	0.57	1.3	4	7,950	0.41	3,274	32.0	1	3,271	0.56
B73		0.119	0.031	48.8	1.47	25.4	1.04	2.5	2	9,402	0.50	4,691	40.0	1	4,691	0.37
OS4c		0.148	0.054	45.1	2.18	23.4	1.54	3.6	6	21,816	0.33	7,209	41.0	2	7,209	0.28

BASINS MODIFIED WITHIN FILING 3 HAVE BEEN HIGHLIGHTED

CUHP 100-YEAR SUBCATCHMENT PARAMETERS

Summary of Unit Hydrograph Parameters Used By Program and Calculated Results (Version 2.0.1)

		Unit Hydrograph Parameters and Results									Excess Precip.		Storm Hydrograph			
Catchment Name/ID	User Comment for Catchment	CT	Cp	W50 (min.)	W50 Before Peak	W75 (min.)	W75 Before Peak	Time to Peak (min.)	Peak (cfs)	Volume (c.f)	Excess (inches)	Excess (c.f.)	Time to Peak (min.)	Peak Flow (cfs)	Total Volume (c.f.)	Runoff per Unit Area (cfs/acre)
B0		0.092	0.056	25.0	1.38	13.0	0.98	2.3	9	18,223	2.02	36,878	40.0	11	36,882	2.14
B1		0.079	0.025	10.5	0.50	5.5	0.36	0.8	2	1,851	2.44	4,512	35.0	2	4,463	3.97
B2		0.087	0.030	9.6	0.52	5.0	0.37	0.9	5	3,630	2.16	7,832	35.0	4	7,749	3.90
B3		0.085	0.031	27.9	0.96	14.5	0.68	1.6	2	3,485	2.26	7,869	40.0	2	7,865	2.14
B4		0.083	0.034	13.3	0.65	6.9	0.46	1.1	4	3,993	2.31	9,218	35.0	4	9,190	3.48
B5		0.099	0.016	25.3	0.60	13.2	0.43	1.0	1	1,634	1.95	3,191	40.0	1	3,184	2.08
B6		0.083	0.035	12.5	0.63	6.5	0.45	1.1	4	4,211	2.31	9,736	35.0	4	9,699	3.60
B7		0.099	0.016	24.9	0.60	12.9	0.43	1.0	1	1,670	1.96	3,268	40.0	1	3,260	2.11
B8		0.099	0.016	24.9	0.60	12.9	0.43	1.0	1	1,670	1.96	3,268	40.0	1	3,260	2.11
B9		0.083	0.041	26.0	1.11	13.5	0.78	1.9	3	6,026	2.26	13,606	40.0	4	13,603	2.24
B10		0.084	0.033	22.5	0.88	11.7	0.62	1.5	2	3,993	2.26	9,011	38.0	3	9,004	2.45
B11		0.088	0.032	42.1	1.34	21.9	0.94	2.2	1	4,247	2.17	9,220	46.0	2	9,220	1.57
B12		0.088	0.033	16.2	0.72	8.4	0.51	1.2	4	4,574	2.15	9,828	35.0	4	9,812	2.96
B13		0.079	0.022	19.3	0.63	10.0	0.45	1.1	1	1,416	2.43	3,444	35.0	1	3,436	2.84
B14		0.079	0.029	9.7	0.52	5.1	0.37	0.9	3	2,541	2.44	6,207	35.0	3	6,140	4.11
B15		0.084	0.029	15.2	0.64	7.9	0.45	1.1	2	2,831	2.27	6,423	35.0	2	6,405	3.18
B16		0.081	0.028	40.9	1.18	21.3	0.83	2.0	1	2,432	2.38	5,781	45.0	1	5,781	1.70
B17		0.087	0.036	21.4	0.89	11.1	0.63	1.5	3	5,409	2.20	11,903	37.0	4	11,893	2.51
B18		0.081	0.044	38.8	1.60	20.2	1.13	2.7	2	6,461	2.38	15,407	45.0	3	15,406	1.77
B19		0.087	0.039	12.3	0.67	6.4	0.47	1.1	6	6,171	2.20	13,581	35.0	6	13,539	3.54
B20		0.087	0.040	17.3	0.83	9.0	0.58	1.4	5	6,461	2.21	14,310	35.0	5	14,295	2.90
B21		0.087	0.034	16.7	0.73	8.7	0.52	1.2	4	4,574	2.21	10,114	35.0	4	10,100	2.96
B22		0.084	0.036	26.3	1.02	13.7	0.72	1.7	2	4,646	2.21	10,274	40.0	3	10,268	2.18
B23		0.083	0.031	14.5	0.65	7.5	0.46	1.1	3	3,303	2.25	7,432	35.0	3	7,411	3.24
B24		0.090	0.030	18.9	0.74	9.8	0.52	1.2	3	4,102	2.05	8,392	35.0	3	8,382	2.58
B25		0.082	0.027	30.0	0.93	15.6	0.66	1.5	1	2,396	2.30	5,501	40.0	1	5,498	2.05
B26		0.085	0.033	28.2	1.00	14.7	0.71	1.7	2	3,957	2.20	8,691	40.0	2	8,687	2.08
B27		0.086	0.032	33.1	1.13	17.2	0.80	1.9	2	4,066	2.18	8,852	41.0	2	8,850	1.85
B28		0.096	0.038	27.9	1.12	14.5	0.79	1.9	5	10,273	1.95	20,052	40.0	6	20,048	1.95
B29		0.077	0.022	23.5	0.71	12.2	0.50	1.2	1	1,343	2.54	3,415	38.0	1	3,411	2.57
B30		0.084	0.019	12.0	0.48	6.2	0.34	0.8	1	1,162	2.24	2,599	35.0	1	2,571	3.57
B31		0.083	0.027	36.9	1.06	19.2	0.75	1.8	1	2,323	2.32	5,391	45.0	1	5,389	1.79
B32		0.086	0.041	20.5	0.95	10.7	0.67	1.6	4	6,824	2.18	14,883	36.0	5	14,871	2.55
B33		0.086	0.039	10.9	0.62	5.7	0.44	1.0	7	6,098	2.21	13,498	35.0	6	13,439	3.77
B34		0.082	0.028	29.6	0.93	15.4	0.66	1.6	1	2,468	2.33	5,742	40.0	1	5,739	2.09
B35		0.089	0.041	25.7	1.11	13.4	0.79	1.9	4	7,877	2.08	16,408	40.0	5	16,405	2.14
B36		0.083	0.038	26.6	1.08	13.8	0.76	1.8	3	5,227	2.31	12,067	40.0	3	12,063	2.24
B37		0.087	0.041	22.5	1.00	11.7	0.71	1.7	4	7,042	2.20	15,490	38.0	5	15,479	2.42
B38		0.080	0.019	20.5	0.60	10.7	0.43	1.0	1	1,016	2.43	2,466	35.0	1	2,459	2.73
B39		0.086	0.034	19.2	0.80	10.0	0.56	1.3	3	4,392	2.23	9,790	36.0	3	9,780	2.71
B40		0.089	0.026	21.3	0.72	11.1	0.51	1.2	2	2,723	2.15	5,864	37.0	2	5,857	2.47
B41		0.073	0.013	15.4	0.46	8.0	0.32	0.8	0	399	2.76	1,102	35.0	0	1,092	3.52
B42		0.093	0.043	33.1	1.39	17.2	0.98	2.3	4	10,527	1.94	20,427	42.0	5	20,429	1.71
B43		0.085	0.029	21.7	0.78	11.3	0.55	1.3	2	2,904	2.27	6,602	37.0	2	6,595	2.53
B44		0.082	0.019	26.4	0.69	13.7	0.49	1.2	1	1,125	2.35	2,640	40.0	1	2,637	2.27
B45		0.082	0.036	32.7	1.20	17.0	0.85	2.0	2	4,429	2.33	10,302	41.0	2	10,303	1.95

B46		0.086	0.040	23.9	1.04	12.4	0.73	1.7	3	6,461	2.23	14,401	40.0	4	14,393	2.35
B47		0.088	0.040	15.2	0.76	7.9	0.54	1.3	6	6,933	2.18	15,097	35.0	6	15,077	3.12
B48		0.081	0.025	26.0	0.81	13.5	0.57	1.3	1	1,960	2.40	4,696	40.0	1	4,693	2.32
B49		0.087	0.038	21.7	0.94	11.3	0.66	1.6	4	6,062	2.20	13,348	37.0	4	13,338	2.48
B50		0.119	0.028	29.1	0.92	15.1	0.65	1.5	3	7,079	1.68	11,922	40.0	3	11,915	1.72
B51		0.073	0.018	11.5	0.46	6.0	0.32	0.8	1	762	2.76	2,104	35.0	1	2,079	4.07
B52		0.087	0.034	20.9	0.85	10.9	0.60	1.4	3	4,683	2.22	10,393	36.0	3	10,384	2.55
B53		0.108	0.012	11.8	0.40	6.1	0.29	0.7	1	1,089	1.86	2,026	35.0	1	1,997	3.30
B54		0.086	0.023	14.0	0.55	7.3	0.39	0.9	2	1,924	2.24	4,304	35.0	2	4,277	3.31
C0		0.104	0.034	32.3	1.14	16.8	0.81	1.9	5	11,362	1.86	21,179	42.0	5	21,176	1.70
C1		0.084	0.044	25.4	1.15	13.2	0.82	1.9	4	7,187	2.30	16,542	40.0	5	16,540	2.31
C2		0.080	0.033	29.9	1.07	15.6	0.75	1.8	2	3,557	2.40	8,548	40.0	2	8,545	2.12
C3		0.080	0.025	16.1	0.61	8.4	0.43	1.0	2	1,924	2.40	4,616	35.0	2	4,601	3.17
C4		0.080	0.025	12.2	0.53	6.3	0.38	0.9	2	1,851	2.41	4,453	35.0	2	4,418	3.70
C5		0.088	0.025	14.1	0.57	7.4	0.40	0.9	2	2,323	2.19	5,088	35.0	2	5,060	3.25
C6		0.081	0.018	12.9	0.48	6.7	0.34	0.8	1	944	2.38	2,249	35.0	1	2,227	3.57
C7		0.097	0.018	47.3	0.96	24.6	0.68	1.6	1	1,997	1.99	3,975	47.0	1	3,973	1.36
C8		0.089	0.042	25.2	1.11	13.1	0.78	1.8	4	8,095	2.15	17,437	40.0	5	17,431	2.23
C9		0.085	0.020	25.1	0.69	13.0	0.49	1.1	1	1,343	2.26	3,031	40.0	1	3,028	2.29
C10		0.105	0.023	57.5	1.31	29.9	0.93	2.2	1	5,009	1.85	9,284	51.0	2	9,285	1.12
F3-1		0.082	0.052	17.7	1.00	9.2	0.71	1.7	7	9,946	2.34	23,313	36.0	8	23,293	2.96
F3-2		0.082	0.050	18.2	1.00	9.5	0.71	1.7	7	9,293	2.34	21,782	36.0	7	21,764	2.90
F3-3		0.082	0.034	41.1	1.38	21.4	0.98	2.3	1	3,957	2.34	9,274	45.0	2	9,275	1.68
F3-4		0.082	0.046	33.0	1.47	17.1	1.04	2.4	3	7,659	2.31	17,659	42.0	4	17,659	1.93
F3-5		0.082	0.082	12.2	1.07	6.3	0.76	1.8	29	27,661	2.34	64,739	35.0	28	64,676	3.68
F3-6		0.082	0.050	19.8	1.05	10.3	0.74	1.8	6	9,039	2.34	21,186	36.0	7	21,173	2.75
F1-1		0.084	0.024	19.8	0.66	10.3	0.47	1.1	1	1,815	2.30	4,171	35.0	1	4,163	2.70
F1-2		0.089	0.038	15.9	0.77	8.3	0.54	1.3	5	6,461	2.17	13,994	35.0	5	13,974	3.02
F1-3		0.082	0.026	21.9	0.74	11.4	0.52	1.2	1	2,142	2.32	4,973	37.0	1	4,968	2.54
F1-4		0.088	0.031	21.2	0.81	11.0	0.57	1.3	2	4,029	2.18	8,778	36.0	3	8,770	2.50
F1-5		0.089	0.030	20.4	0.77	10.6	0.55	1.3	2	3,812	2.17	8,273	36.0	3	8,264	2.56
F1-6		0.083	0.024	9.9	0.48	5.1	0.34	0.8	2	1,779	2.32	4,131	35.0	2	4,079	4.00
F1-7		0.100	0.029	18.5	0.71	9.6	0.50	1.2	5	6,607	1.95	12,853	35.0	5	12,834	2.57
F1-8		0.099	0.027	37.3	1.06	19.4	0.75	1.8	2	5,300	1.96	10,366	45.0	2	10,363	1.60
F1-9		0.082	0.031	31.0	1.03	16.1	0.73	1.7	1	3,049	2.36	7,183	41.0	2	7,180	2.04
F1-10		0.099	0.027	25.4	0.82	13.2	0.58	1.4	3	5,227	1.96	10,224	40.0	3	10,216	2.09
OS1		0.146	0.069	26.8	1.72	13.9	1.22	2.9	18	38,079	1.60	61,115	41.0	19	61,103	1.78
OS2a		0.146	0.129	37.6	4.03	19.6	2.84	6.7	52	152,387	1.60	244,575	47.0	60	244,566	1.42
OS2b		0.146	0.022	49.8	1.13	25.9	0.80	1.9	1	2,904	1.60	4,661	50.0	1	4,660	1.13
OS3a		0.146	0.157	43.4	5.52	22.6	3.90	9.2	70	236,277	1.60	379,016	50.0	84	379,011	1.29
OS3b		0.146	0.021	80.0	1.61	41.6	1.14	2.7	0	2,795	1.60	4,486	64.0	1	4,486	0.79
OS4a		0.146	0.154	36.9	4.65	19.2	3.29	7.8	79	225,859	1.61	362,751	47.0	90	362,745	1.45
OS4b		0.146	0.025	73.0	1.68	37.9	1.18	2.8	1	3,812	1.60	6,117	59.0	1	6,117	0.85
OS5a		0.146	0.101	31.5	2.76	16.4	1.95	4.6	37	89,334	1.60	143,378	43.0	39	143,366	1.59
OS5b		0.146	0.042	61.3	2.29	31.9	1.62	3.8	3	12,778	1.60	20,507	53.0	3	20,507	0.97
OS5c		0.146	0.026	68.9	1.66	35.8	1.18	2.8	1	4,247	1.60	6,816	57.0	1	6,816	0.89
OS6		0.146	0.039	70.2	2.41	36.5	1.70	4.0	2	10,781	1.60	17,303	58.0	3	17,303	0.88
OF1		0.091	0.017	39.5	0.81	20.5	0.58	1.4	0	1,198	2.11	2,527	45.0	1	2,526	1.61
OF2		0.091	0.032	38.9	1.24	20.3	0.88	2.1	2	4,755	2.10	10,004	45.0	2	10,005	1.63
OF3		0.094	0.026	42.9	1.16	22.3	0.82	1.9	1	3,848	2.02	7,764	46.0	2	7,764	1.47
A240		0.120	0.070	9.9	0.83	5.2	0.59	1.4	71	54,848	1.63	89,339	35.0	50	89,159	3.30
A245		0.128	0.104	27.4	2.48	14.3	1.75	4.1	57	120,249	1.57	189,166	42.0	56	189,171	1.69
A250		0.118	0.077	23.4	1.69	12.2	1.19	2.8	39	70,560	1.65	116,212	41.0	37	116,180	1.93
A260		0.116	0.137	22.3	2.64	11.6	1.87	4.4	147	253,501	1.64	414,780	41.0	140	414,750	2.00

B55		0.091	0.025	21.3	0.70	11.1	0.50	1.2	2	2,686	2.02	5,433	37.0	2	5,426	2.36
B56		0.092	0.053	30.5	1.54	15.9	1.09	2.6	7	15,458	2.09	32,280	41.0	8	32,278	1.92
B57		0.086	0.024	23.6	0.73	12.3	0.52	1.2	1	2,024	2.24	4,537	40.0	1	4,532	2.37
B58		0.087	0.013	16.7	0.47	8.7	0.33	0.8	0	532	2.16	1,149	35.0	0	1,140	2.88
B59		0.086	0.036	22.6	0.92	11.8	0.65	1.5	3	4,937	2.25	11,096	38.0	3	11,087	2.44
B59a		0.084	0.049	14.8	0.86	7.7	0.61	1.4	8	9,547	2.28	21,748	35.0	9	21,723	3.25
B60		0.093	0.032	27.2	0.97	14.2	0.69	1.6	3	5,627	2.04	11,503	40.0	3	11,496	2.04
B61		0.084	0.042	35.7	1.44	18.6	1.02	2.4	2	6,498	2.27	14,778	44.0	3	14,778	1.82
B62		0.073	0.025	45.5	1.16	23.7	0.82	1.9	0	1,539	2.76	4,249	46.0	1	4,249	1.74
B63		0.089	0.028	27.4	0.90	14.2	0.64	1.5	2	3,409	2.12	7,211	40.0	2	7,207	2.07
B64		0.084	0.036	20.8	0.87	10.8	0.61	1.4	3	4,556	2.27	10,360	36.0	3	10,352	2.60
B65		0.087	0.037	28.9	1.13	15.0	0.80	1.9	3	5,699	2.21	12,602	40.0	3	12,600	2.07
B66		0.113	0.011	26.9	0.53	14.0	0.37	0.9	0	980	1.72	1,687	40.0	0	1,681	1.83
B66a		0.116	0.026	37.7	1.05	19.6	0.74	1.8	2	6,353	1.70	10,773	45.0	3	10,770	1.44
B66b		0.119	0.033	32.0	1.11	16.6	0.78	1.8	4	10,527	1.67	17,590	41.0	5	17,586	1.60
B67		0.081	0.014	18.3	0.50	9.5	0.35	0.8	0	545	2.33	1,266	35.0	0	1,258	2.84
B68		0.073	0.009	15.1	0.41	7.9	0.29	0.7	0	182	2.76	501	35.0	0	496	3.54
B69		0.081	0.013	12.3	0.42	6.4	0.30	0.7	0	436	2.32	1,009	35.0	0	996	3.56
B70		0.083	0.021	13.3	0.52	6.9	0.37	0.9	1	1,416	2.25	3,192	35.0	1	3,167	3.39
B71		0.091	0.031	20.0	0.77	10.4	0.55	1.3	3	4,429	2.06	9,116	36.0	3	9,107	2.50
B72		0.115	0.029	22.7	0.80	11.8	0.57	1.3	5	7,950	1.67	13,237	40.0	4	13,227	2.02
B73		0.117	0.031	48.5	1.46	25.2	1.03	2.4	3	9,402	1.78	16,714	48.0	3	16,714	1.25
OS4c		0.146	0.054	45.1	2.16	23.4	1.53	3.6	6	21,816	1.60	35,014	48.0	7	35,013	1.23

BASINS MODIFIED WITHIN FILING 3 HAVE BEEN HIGHLIGHTED

CUHP 100-YEAR CALCULATED PARAMETERS

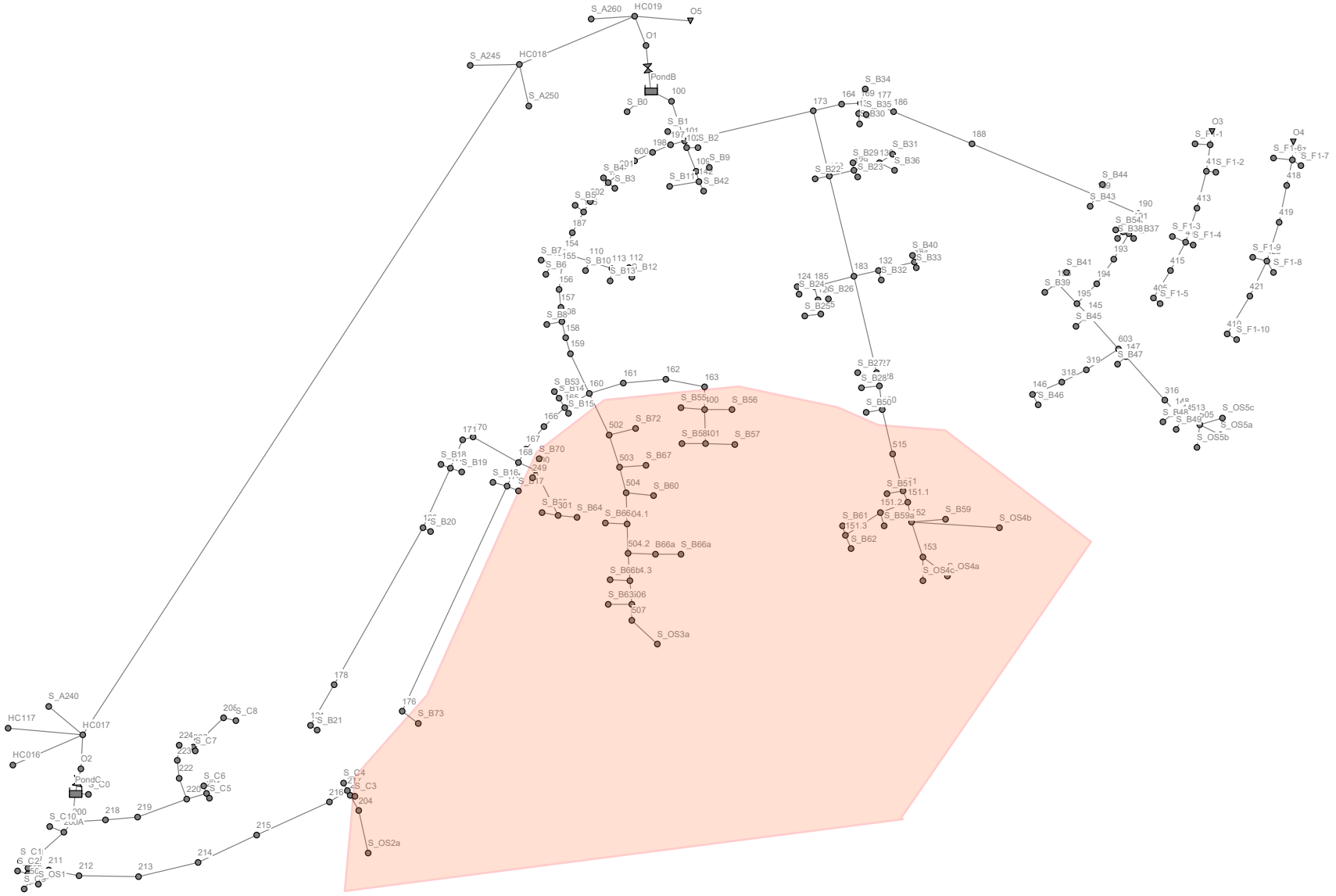
Summary of Unit Hydrograph Parameters Used By Program and Calculated Results (Version 2.0.1)

		Unit Hydrograph Parameters and Results									Excess Precip.		Storm Hydrograph			
Catchment Name/ID	User Comment for Catchment	CT	Cp	W50 (min.)	W50 Before Peak	W75 (min.)	W75 Before Peak	Time to Peak (min.)	Peak (cfs)	Volume (c.f)	Excess (inches)	Excess (c.f.)	Time to Peak (min.)	Peak Flow (cfs)	Total Volume (c.f.)	Runoff per Unit Area (cfs/acre)
B0		0.092	0.056	25.0	1.38	13.0	0.98	2.3	9	18,223	2.02	36,878	40.0	11	36,882	2.14
B1		0.079	0.025	10.5	0.50	5.5	0.36	0.8	2	1,851	2.44	4,512	35.0	2	4,463	3.97
B2		0.087	0.030	9.6	0.52	5.0	0.37	0.9	5	3,630	2.16	7,832	35.0	4	7,749	3.90
B3		0.085	0.031	27.9	0.96	14.5	0.68	1.6	2	3,485	2.26	7,869	40.0	2	7,865	2.14
B4		0.083	0.034	13.3	0.65	6.9	0.46	1.1	4	3,993	2.31	9,218	35.0	4	9,190	3.48
B5		0.099	0.016	25.3	0.60	13.2	0.43	1.0	1	1,634	1.95	3,191	40.0	1	3,184	2.08
B6		0.083	0.035	12.5	0.63	6.5	0.45	1.1	4	4,211	2.31	9,736	35.0	4	9,699	3.60
B7		0.099	0.016	24.9	0.60	12.9	0.43	1.0	1	1,670	1.96	3,268	40.0	1	3,260	2.11
B8		0.099	0.016	24.9	0.60	12.9	0.43	1.0	1	1,670	1.96	3,268	40.0	1	3,260	2.11
B9		0.083	0.041	26.0	1.11	13.5	0.78	1.9	3	6,026	2.26	13,606	40.0	4	13,603	2.24
B10		0.084	0.033	22.5	0.88	11.7	0.62	1.5	2	3,993	2.26	9,011	38.0	3	9,004	2.45
B11		0.088	0.032	42.1	1.34	21.9	0.94	2.2	1	4,247	2.17	9,220	46.0	2	9,220	1.57
B12		0.088	0.033	16.2	0.72	8.4	0.51	1.2	4	4,574	2.15	9,828	35.0	4	9,812	2.96
B13		0.079	0.022	19.3	0.63	10.0	0.45	1.1	1	1,416	2.43	3,444	35.0	1	3,436	2.84
B14		0.079	0.029	9.7	0.52	5.1	0.37	0.9	3	2,541	2.44	6,207	35.0	3	6,140	4.11
B15		0.084	0.029	15.2	0.64	7.9	0.45	1.1	2	2,831	2.27	6,423	35.0	2	6,405	3.18
B16		0.081	0.028	40.9	1.18	21.3	0.83	2.0	1	2,432	2.38	5,781	45.0	1	5,781	1.70
B17		0.087	0.036	21.4	0.89	11.1	0.63	1.5	3	5,409	2.20	11,903	37.0	4	11,893	2.51
B18		0.081	0.044	38.8	1.60	20.2	1.13	2.7	2	6,461	2.38	15,407	45.0	3	15,406	1.77
B19		0.087	0.039	12.3	0.67	6.4	0.47	1.1	6	6,171	2.20	13,581	35.0	6	13,539	3.54
B20		0.087	0.040	17.3	0.83	9.0	0.58	1.4	5	6,461	2.21	14,310	35.0	5	14,295	2.90
B21		0.087	0.034	16.7	0.73	8.7	0.52	1.2	4	4,574	2.21	10,114	35.0	4	10,100	2.96
B22		0.084	0.036	26.3	1.02	13.7	0.72	1.7	2	4,646	2.21	10,274	40.0	3	10,268	2.18
B23		0.083	0.031	14.5	0.65	7.5	0.46	1.1	3	3,303	2.25	7,432	35.0	3	7,411	3.24
B24		0.090	0.030	18.9	0.74	9.8	0.52	1.2	3	4,102	2.05	8,392	35.0	3	8,382	2.58
B25		0.082	0.027	30.0	0.93	15.6	0.66	1.5	1	2,396	2.30	5,501	40.0	1	5,498	2.05
B26		0.085	0.033	28.2	1.00	14.7	0.71	1.7	2	3,957	2.20	8,691	40.0	2	8,687	2.08
B27		0.086	0.032	33.1	1.13	17.2	0.80	1.9	2	4,066	2.18	8,852	41.0	2	8,850	1.85
B28		0.096	0.038	27.9	1.12	14.5	0.79	1.9	5	10,273	1.95	20,052	40.0	6	20,048	1.95
B29		0.077	0.022	23.5	0.71	12.2	0.50	1.2	1	1,343	2.54	3,415	38.0	1	3,411	2.57
B30		0.084	0.019	12.0	0.48	6.2	0.34	0.8	1	1,162	2.24	2,599	35.0	1	2,571	3.57
B31		0.083	0.027	36.9	1.06	19.2	0.75	1.8	1	2,323	2.32	5,391	45.0	1	5,389	1.79
B32		0.086	0.041	20.5	0.95	10.7	0.67	1.6	4	6,824	2.18	14,883	36.0	5	14,871	2.55
B33		0.086	0.039	10.9	0.62	5.7	0.44	1.0	7	6,098	2.21	13,498	35.0	6	13,439	3.77
B34		0.082	0.028	29.6	0.93	15.4	0.66	1.6	1	2,468	2.33	5,742	40.0	1	5,739	2.09
B35		0.089	0.041	25.7	1.11	13.4	0.79	1.9	4	7,877	2.08	16,408	40.0	5	16,405	2.14
B36		0.083	0.038	26.6	1.08	13.8	0.76	1.8	3	5,227	2.31	12,067	40.0	3	12,063	2.24
B37		0.087	0.041	22.5	1.00	11.7	0.71	1.7	4	7,042	2.20	15,490	38.0	5	15,479	2.42
B38		0.080	0.019	20.5	0.60	10.7	0.43	1.0	1	1,016	2.43	2,466	35.0	1	2,459	2.73
B39		0.086	0.034	19.2	0.80	10.0	0.56	1.3	3	4,392	2.23	9,790	36.0	3	9,780	2.71
B40		0.089	0.026	21.3	0.72	11.1	0.51	1.2	2	2,723	2.15	5,864	37.0	2	5,857	2.47
B41		0.073	0.013	15.4	0.46	8.0	0.32	0.8	0	399	2.76	1,102	35.0	0	1,092	3.52
B42		0.093	0.043	33.1	1.39	17.2	0.98	2.3	4	10,527	1.94	20,427	42.0	5	20,429	1.71
B43		0.085	0.029	21.7	0.78	11.3	0.55	1.3	2	2,904	2.27	6,602	37.0	2	6,595	2.53
B44		0.082	0.019	26.4	0.69	13.7	0.49	1.2	1	1,125	2.35	2,640	40.0	1	2,637	2.27
B45		0.082	0.036	32.7	1.20	17.0	0.85	2.0	2	4,429	2.33	10,302	41.0	2	10,303	1.95

B46		0.086	0.040	23.9	1.04	12.4	0.73	1.7	3	6,461	2.23	14,401	40.0	4	14,393	2.35
B47		0.088	0.040	15.2	0.76	7.9	0.54	1.3	6	6,933	2.18	15,097	35.0	6	15,077	3.12
B48		0.081	0.025	26.0	0.81	13.5	0.57	1.3	1	1,960	2.40	4,696	40.0	1	4,693	2.32
B49		0.087	0.038	21.7	0.94	11.3	0.66	1.6	4	6,062	2.20	13,348	37.0	4	13,338	2.48
B50		0.119	0.028	29.1	0.92	15.1	0.65	1.5	3	7,079	1.68	11,922	40.0	3	11,915	1.72
B51		0.073	0.018	11.5	0.46	6.0	0.32	0.8	1	762	2.76	2,104	35.0	1	2,079	4.07
B52		0.087	0.034	20.9	0.85	10.9	0.60	1.4	3	4,683	2.22	10,393	36.0	3	10,384	2.55
B53		0.108	0.012	11.8	0.40	6.1	0.29	0.7	1	1,089	1.86	2,026	35.0	1	1,997	3.30
B54		0.086	0.023	14.0	0.55	7.3	0.39	0.9	2	1,924	2.24	4,304	35.0	2	4,277	3.31
C0		0.104	0.034	32.3	1.14	16.8	0.81	1.9	5	11,362	1.86	21,179	42.0	5	21,176	1.70
C1		0.084	0.044	25.4	1.15	13.2	0.82	1.9	4	7,187	2.30	16,542	40.0	5	16,540	2.31
C2		0.080	0.033	29.9	1.07	15.6	0.75	1.8	2	3,557	2.40	8,548	40.0	2	8,545	2.12
C3		0.080	0.025	16.1	0.61	8.4	0.43	1.0	2	1,924	2.40	4,616	35.0	2	4,601	3.17
C4		0.080	0.025	12.2	0.53	6.3	0.38	0.9	2	1,851	2.41	4,453	35.0	2	4,418	3.70
C5		0.088	0.025	14.1	0.57	7.4	0.40	0.9	2	2,323	2.19	5,088	35.0	2	5,060	3.25
C6		0.081	0.018	12.9	0.48	6.7	0.34	0.8	1	944	2.38	2,249	35.0	1	2,227	3.57
C7		0.097	0.018	47.3	0.96	24.6	0.68	1.6	1	1,997	1.99	3,975	47.0	1	3,973	1.36
C8		0.089	0.042	25.2	1.11	13.1	0.78	1.8	4	8,095	2.15	17,437	40.0	5	17,431	2.23
C9		0.085	0.020	25.1	0.69	13.0	0.49	1.1	1	1,343	2.26	3,031	40.0	1	3,028	2.29
C10		0.105	0.023	57.5	1.31	29.9	0.93	2.2	1	5,009	1.85	9,284	51.0	2	9,285	1.12
F3-1		0.082	0.052	17.7	1.00	9.2	0.71	1.7	7	9,946	2.34	23,313	36.0	8	23,293	2.96
F3-2		0.082	0.050	18.2	1.00	9.5	0.71	1.7	7	9,293	2.34	21,782	36.0	7	21,764	2.90
F3-3		0.082	0.034	41.1	1.38	21.4	0.98	2.3	1	3,957	2.34	9,274	45.0	2	9,275	1.68
F3-4		0.082	0.046	33.0	1.47	17.1	1.04	2.4	3	7,659	2.31	17,659	42.0	4	17,659	1.93
F3-5		0.082	0.082	12.2	1.07	6.3	0.76	1.8	29	27,661	2.34	64,739	35.0	28	64,676	3.68
F3-6		0.082	0.050	19.8	1.05	10.3	0.74	1.8	6	9,039	2.34	21,186	36.0	7	21,173	2.75
F1-1		0.084	0.024	19.8	0.66	10.3	0.47	1.1	1	1,815	2.30	4,171	35.0	1	4,163	2.70
F1-2		0.089	0.038	15.9	0.77	8.3	0.54	1.3	5	6,461	2.17	13,994	35.0	5	13,974	3.02
F1-3		0.082	0.026	21.9	0.74	11.4	0.52	1.2	1	2,142	2.32	4,973	37.0	1	4,968	2.54
F1-4		0.088	0.031	21.2	0.81	11.0	0.57	1.3	2	4,029	2.18	8,778	36.0	3	8,770	2.50
F1-5		0.089	0.030	20.4	0.77	10.6	0.55	1.3	2	3,812	2.17	8,273	36.0	3	8,264	2.56
F1-6		0.083	0.024	9.9	0.48	5.1	0.34	0.8	2	1,779	2.32	4,131	35.0	2	4,079	4.00
F1-7		0.100	0.029	18.5	0.71	9.6	0.50	1.2	5	6,607	1.95	12,853	35.0	5	12,834	2.57
F1-8		0.099	0.027	37.3	1.06	19.4	0.75	1.8	2	5,300	1.96	10,366	45.0	2	10,363	1.60
F1-9		0.082	0.031	31.0	1.03	16.1	0.73	1.7	1	3,049	2.36	7,183	41.0	2	7,180	2.04
F1-10		0.099	0.027	25.4	0.82	13.2	0.58	1.4	3	5,227	1.96	10,224	40.0	3	10,216	2.09
OS1		0.146	0.069	26.8	1.72	13.9	1.22	2.9	18	38,079	1.60	61,115	41.0	19	61,103	1.78
OS2a		0.146	0.129	37.6	4.03	19.6	2.84	6.7	52	152,387	1.60	244,575	47.0	60	244,566	1.42
OS2b		0.146	0.022	49.8	1.13	25.9	0.80	1.9	1	2,904	1.60	4,661	50.0	1	4,660	1.13
OS3a		0.146	0.157	43.4	5.52	22.6	3.90	9.2	70	236,277	1.60	379,016	50.0	84	379,011	1.29
OS3b		0.146	0.021	80.0	1.61	41.6	1.14	2.7	0	2,795	1.60	4,486	64.0	1	4,486	0.79
OS4a		0.146	0.154	36.9	4.65	19.2	3.29	7.8	79	225,859	1.61	362,751	47.0	90	362,745	1.45
OS4b		0.146	0.025	73.0	1.68	37.9	1.18	2.8	1	3,812	1.60	6,117	59.0	1	6,117	0.85
OS5a		0.146	0.101	31.5	2.76	16.4	1.95	4.6	37	89,334	1.60	143,378	43.0	39	143,366	1.59
OS5b		0.146	0.042	61.3	2.29	31.9	1.62	3.8	3	12,778	1.60	20,507	53.0	3	20,507	0.97
OS5c		0.146	0.026	68.9	1.66	35.8	1.18	2.8	1	4,247	1.60	6,816	57.0	1	6,816	0.89
OS6		0.146	0.039	70.2	2.41	36.5	1.70	4.0	2	10,781	1.60	17,303	58.0	3	17,303	0.88
OF1		0.091	0.017	39.5	0.81	20.5	0.58	1.4	0	1,198	2.11	2,527	45.0	1	2,526	1.61
OF2		0.091	0.032	38.9	1.24	20.3	0.88	2.1	2	4,755	2.10	10,004	45.0	2	10,005	1.63
OF3		0.094	0.026	42.9	1.16	22.3	0.82	1.9	1	3,848	2.02	7,764	46.0	2	7,764	1.47
A240		0.120	0.070	9.9	0.83	5.2	0.59	1.4	71	54,848	1.63	89,339	35.0	50	89,159	3.30
A245		0.128	0.104	27.4	2.48	14.3	1.75	4.1	57	120,249	1.57	189,166	42.0	56	189,171	1.69
A250		0.118	0.077	23.4	1.69	12.2	1.19	2.8	39	70,560	1.65	116,212	41.0	37	116,180	1.93
A260		0.116	0.137	22.3	2.64	11.6	1.87	4.4	147	253,501	1.64	414,780	41.0	140	414,750	2.00

B55		0.091	0.025	21.3	0.70	11.1	0.50	1.2	2	2,686	2.02	5,433	37.0	2	5,426	2.36
B56		0.092	0.053	30.5	1.54	15.9	1.09	2.6	7	15,458	2.09	32,280	41.0	8	32,278	1.92
B57		0.086	0.024	23.6	0.73	12.3	0.52	1.2	1	2,024	2.24	4,537	40.0	1	4,532	2.37
B58		0.087	0.013	16.7	0.47	8.7	0.33	0.8	0	532	2.16	1,149	35.0	0	1,140	2.88
B59		0.086	0.036	22.6	0.92	11.8	0.65	1.5	3	4,937	2.25	11,096	38.0	3	11,087	2.44
B59a		0.084	0.049	14.8	0.86	7.7	0.61	1.4	8	9,547	2.28	21,748	35.0	9	21,723	3.25
B60		0.093	0.032	27.2	0.97	14.2	0.69	1.6	3	5,627	2.04	11,503	40.0	3	11,496	2.04
B61		0.084	0.042	35.7	1.44	18.6	1.02	2.4	2	6,498	2.27	14,778	44.0	3	14,778	1.82
B62		0.073	0.025	45.5	1.16	23.7	0.82	1.9	0	1,539	2.76	4,249	46.0	1	4,249	1.74
B63		0.089	0.028	27.4	0.90	14.2	0.64	1.5	2	3,409	2.12	7,211	40.0	2	7,207	2.07
B64		0.084	0.036	20.8	0.87	10.8	0.61	1.4	3	4,556	2.27	10,360	36.0	3	10,352	2.60
B65		0.087	0.037	28.9	1.13	15.0	0.80	1.9	3	5,699	2.21	12,602	40.0	3	12,600	2.07
B66		0.113	0.011	26.9	0.53	14.0	0.37	0.9	0	980	1.72	1,687	40.0	0	1,681	1.83
B66a		0.116	0.026	37.7	1.05	19.6	0.74	1.8	2	6,353	1.70	10,773	45.0	3	10,770	1.44
B66b		0.119	0.033	32.0	1.11	16.6	0.78	1.8	4	10,527	1.67	17,590	41.0	5	17,586	1.60
B67		0.081	0.014	18.3	0.50	9.5	0.35	0.8	0	545	2.33	1,266	35.0	0	1,258	2.84
B68		0.073	0.009	15.1	0.41	7.9	0.29	0.7	0	182	2.76	501	35.0	0	496	3.54
B69		0.081	0.013	12.3	0.42	6.4	0.30	0.7	0	436	2.32	1,009	35.0	0	996	3.56
B70		0.083	0.021	13.3	0.52	6.9	0.37	0.9	1	1,416	2.25	3,192	35.0	1	3,167	3.39
B71		0.091	0.031	20.0	0.77	10.4	0.55	1.3	3	4,429	2.06	9,116	36.0	3	9,107	2.50
B72		0.115	0.029	22.7	0.80	11.8	0.57	1.3	5	7,950	1.67	13,237	40.0	4	13,227	2.02
B73		0.117	0.031	48.5	1.46	25.2	1.03	2.4	3	9,402	1.78	16,714	48.0	3	16,714	1.25
OS4c		0.146	0.054	45.1	2.16	23.4	1.53	3.6	6	21,816	1.60	35,014	48.0	7	35,013	1.23

RIDGEGATE FILING 2 & 3 SWMM



Ridgegate Southwest Village Filing 2/3
SWMM Input File 02/01/2024

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[OPTIONS]
;;Option             Value
FLOW_UNITS           CFS
INFILTRATION         HORTON
FLOW_ROUTING         DYNWAVE
LINK_OFFSETS         DEPTH
MIN_SLOPE            0
ALLOW_PONDING        NO
SKIP_STEADY_STATE    NO

START_DATE           01/01/2005
START_TIME           00:00:00
REPORT_START_DATE    01/01/2005
REPORT_START_TIME    00:00:00
END_DATE             01/02/2005
END_TIME             12:00:00
SWEEP_START          01/01
SWEEP_END            12/31
DRY_DAYS             0
REPORT_STEP          00:01:00
WET_STEP             00:05:00
DRY_STEP             01:00:00
ROUTING_STEP         0:00:01
RULE_STEP            00:00:00

INERTIAL_DAMPING     PARTIAL
NORMAL_FLOW_LIMITED  BOTH
FORCE_MAIN_EQUATION  H-W
VARIABLE_STEP        0.75
LENGTHENING_STEP     0
MIN_SURFAREA         12.566
MAX_TRIALS           8
HEAD_TOLERANCE       0.005
SYS_FLOW_TOL         5
LAT_FLOW_TOL         5
MINIMUM_STEP         0.5
THREADS              1

[FILES]
;;Interfacing Files
USE INFLOWS "X:\1590000.all\1595002\000 FILING 3\Excel\Drainage\CUHP\100_Fut_100yr_1mi^2_SWMM INTERFACE.txt"

[EVAPORATION]
;;Data Source    Parameters
;;-------------- ----------------
CONSTANT         0.0
DRY_ONLY         NO

[JUNCTIONS]
;;Name           Elevation  MaxDepth   InitDepth  SurDepth   Aponded
;;-------------- ---------- ---------- ---------- ---------- ----------
100              6068.04    20         0          0          0
101              6068.66    20         0          0          0
102              6074.91    20         0          0          0
105              6086.38    10         0          0          0
106              6098.36    20         0          0          0
108              6096.68    15         0          0          0
109              6079.52    15         0          0          0
110              6097.63    15         0          0          0
112              6099.34    15         0          0          0
113              6098.58    15         0          0          0
```

120	6117.19	15	0	0	0
121	6132.50	15	0	0	0
124	6096.82	0	0	0	0
125	6098.41	10	0	0	0
126	6096.36	0	0	0	0
127	6097.28	11.87	0	0	0
128	6098.81	10	0	0	0
129	6084.78	20	0	0	0
130	6085.68	10	0	0	0
132	6088.81	10	0	0	0
138	6090.80	10	0	0	0
142	6081.74	10	0	0	0
145	6098.38	10	0	0	0
146	6112.79	0	0	0	0
147	6102.67	0	0	0	0
148	6112.28	10	0	0	0
149	6115.19	10	0	0	0
150	6103.39	11.55	0	0	0
151	6120.59	10	0	0	0
152	6127.4	10	0	0	0
154	6091.33	10	0	0	0
155	6093.10	10	0	0	0
156	6094.68	10	0	0	0
157	6095.5	10	0	0	0
158	6097.43	10	0	0	0
159	6098.18	12	0	0	0
160	6099.80	15	0	0	0
161	6110.60	15	0	0	0
162	6112.18	15	0	0	0
163	6113.68	15	0	0	0
164	6072.26	17.73	0	0	0
165	6101.71	15	0	0	0
166	6102.85	15	0	0	0
167	6103.98	15	0	0	0
168	6104.67	20	0	0	0
169	6072.76	16.3	0	0	0
170	6106.54	15	0	0	0
171	6106.88	15	0	0	0
172	6107.62	15	0	0	0
173	6070.79	20	0	0	0
174	6115.19	15	0	0	0
176	6129	20	0	0	0
177	6074.54	15	0	0	0
178	6131.63	15	0	0	0
135	6077.27	20	0	0	0
182	6078.01	15	0	0	0
183	6086.47	20	0	0	0
184	6090.41	15	0	0	0
185	6094.98	0	0	0	0
186	6075.02	20	0	0	0
187	6088.91	8	0	0	0
188	6078.66	15	0	0	0
189	6081.98	20	0	0	0
190	6085.01	30	0	0	0
191	6086.56	20	0	0	0
192	6087.59	15	0	0	0
193	6090.10	0	0	0	0
194	6093.82	0	0	0	0
195	6096.52	0	0	0	0
196	6099.19	0	0	0	0
197	6072.83	20	0	0	0
198	6075.21	15	0	0	0
199	6081.74	10	0	0	0
200	6091.38	10	0	0	0

201	6097.26	10	0	0	0
202	6101.42	10	0	0	0
203	6127.33	10	0	0	0
207	6122.25	0	0	0	0
208	6125.19	0	0	0	0
210	6099.70	10	0	0	0
211	6101.83	10	0	0	0
212	6104.53	10	0	0	0
213	6111.22	0	0	0	0
214	6119.97	0	0	0	0
215	6123.22	10	0	0	0
216	6126.07	10	0	0	0
217	6127.02	10	0	0	0
218	6095.63	0	0	0	0
219	6110.89	20	0	0	0
220	6119.22	18	0	0	0
221	6130.36	0	0	0	0
222	6120.10	0	0	0	0
223	6120.82	0	0	0	0
224	6121.52	0	0	0	0
300	6113	20	0	0	0
316	6107.22	10	0	0	0
318	6109.03	0	0	0	0
319	6105.14	0	0	0	0
S_B73	6126	10	0	0	0
405	6100.81	0	0	0	0
410	6113.99	0	0	0	0
411	6082.75	6	0	0	0
412	6084.36	0	0	0	0
413	6089.25	0	0	0	0
414	6093.64	0	0	0	0
415	6098.49	0	0	0	0
417	6095.25	6	0	0	0
418	6097.46	0	0	0	0
419	6101.98	0	0	0	0
420	6108.25	0	0	0	0
421	6110.89	0	0	0	0
501	6102.46	10	0	0	0
204	6127.99	20	0	0	0
503	6112	20	0	0	0
153	6127.93	20	0	0	0
505	6118.68	20	0	0	0
502	6110	15	0	0	0
513	6116.83	20	0	0	0
515	6112.06	15	0	0	0
600	6077.50	12	0	0	0
601	6079.77	10	0	0	0
602	6084.50	10	0	0	0
603	6101.76	10	0	0	0
HC016	6080	0	0	0	0
HC017	6075	0	0	0	0
HC018	6050	0	0	0	0
HC019	6040	0	0	0	0
HC117	6080	0	0	0	0
O1	6051	20	0	0	0
O2	6086.58	20	0	0	0
S_A240	6080	0	0	0	0
S_A245	6055	0	0	0	0
S_A250	6055	0	0	0	0
S_A260	6050	0	0	0	0
S_B0	6064.16	0	0	0	0
S_B1	6064.80	0	0	0	0
S_B10	6098.01	15	0	0	0
S_B11	6085.86	15	0	0	0

S_B12	6099.63	15	0	0	0
S_B13	6099.63	15	0	0	0
S_B14	6109.86	15	0	0	0
S_B15	6109.38	0	0	0	0
S_B16	6118	30	0	0	0
S_B17	6117.52	40	0	0	0
S_B18	6109.24	15	0	0	0
S_B19	6108.80	15	0	0	0
S_B2	6075	0	0	0	0
S_B20	6117.62	15	0	0	0
S_B21	6132.79	15	0	0	0
S_B22	6083.84	20	0	0	0
S_B23	6085.16	15	0	0	0
S_B24	6097.23	0	0	0	0
S_B25	6098.84	10	0	0	0
S_B26	6097.18	0	0	0	0
S_B27	6103.96	20	0	0	0
S_B28	6100.50	0	0	0	0
S_B29	6085.60	0	0	0	0
S_B3	6086.40	15	0	0	0
S_B30	6078.10	0	0	0	0
S_B31	6087	10	0	0	0
S_B32	6090.69	10	0	0	0
S_B33	6090.79	20	0	0	0
S_B34	6076.85	10	0	0	0
S_B35	6079	10	0	0	0
S_B36	6087	10	0	0	0
S_B37	6090.51	20	0	0	0
S_B38	6090.96	20	0	0	0
S_B39	6099.57	0	0	0	0
S_B4	6085.96	15	0	0	0
S_B40	6091.23	15	0	0	0
S_B41	6099.98	0	0	0	0
S_B42	6082.00	0	0	0	0
S_B43	6086.72	0	0	0	0
S_B44	6084.37	12	0	0	0
S_B45	6100.57	10	0	0	0
S_B46	6114.48	0	0	0	0
S_B47	6103	0	0	0	0
S_B48	6112.50	0	0	0	0
S_B49	6115.25	0	0	0	0
S_B5	6092.11	15	0	0	0
S_B50	6104.00	0	0	0	0
S_B51	6121	10	0	0	0
S_B53	6110.70	0	0	0	0
S_B54	6091.31	10	0	0	0
S_B6	6098.50	0	0	0	0
S_B7	6099.26	15	0	0	0
S_B8	6106.76	10	0	0	0
S_B9	6079.75	0	0	0	0
S_C0	6090	0	0	0	0
S_C1	6098.20	0	0	0	0
S_C2	6102.75	0	0	0	0
S_C3	6129.00	0	0	0	0
S_C4	6130.91	10	0	0	0
S_C5	6130.85	0	0	0	0
S_C6	6131.18	0	0	0	0
S_C7	6122.50	0	0	0	0
S_C8	6125.74	0	0	0	0
S_C9	6110	0	0	0	0
S_F1-1	6083.04	10	0	0	0
S_F1-10	6114.74	0	0	0	0
S_F1-2	6084.88	10	0	0	0
S_F1-3	6093.99	0	0	0	0

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S_F1-4           6094.54    0          0          0          0
S_F1-5           6101.63    0          0          0          0
S_F1-6           6095.62    10         0          0          0
S_F1-7           6096.08    10         0          0          0
S_F1-8           6109.21    0          0          0          0
S_F1-9           6108.6     0          0          0          0
400              6114.42    20         0          0          0
151.2            6134.9     10         0          0          0
S_OS1            6150       0          0          0          0
S_OS2a           6133       20         0          0          0
S_OS4a           6124       20         0          0          0
S_OS4c           6124       20         0          0          0
S_OS5a           6118       20         0          0          0
S_OS5b           6118       10         0          0          0
S_OS5c           6118       10         0          0          0
200A             6091.98    10         0          0          0
S_C10            6105       0          0          0          0
151.1            6125.62    10         0          0          0
S_B59a           6136       0          0          0          0
S_B61            6158       0          0          0          0
151.3            6156.5     0          0          0          0
S_B62            6158       0          0          0          0
401              6122       10         0          0          0
S_B57            6123       0          0          0          0
S_B56            6166       0          0          0          0
S_B55            6166       0          0          0          0
S_B58            6123       0          0          0          0
S_B71            6114       0          0          0          0
S_B70            6114       0          0          0          0
S_B65            6132       0          0          0          0
301              6131       15         0          0          0
S_B64            6132       0          0          0          0
S_B72            6111       0          0          0          0
S_B67            6113       0          0          0          0
S_B60            6114       0          0          0          0
504.1            6113.5     20         0          0          0
S_B66            6114       0          0          0          0
504.2            6114       20         0          0          0
B66a             6115       20         0          0          0
S_B66a           6116       0          0          0          0
504.3            6116       20         0          0          0
S_B66b           6118       0          0          0          0
506              6150       20         0          0          0
S_B63            6151       0          0          0          0
507              6155       20         0          0          0
S_OS3a           6156       0          0          0          0
504              6113       20         0          0          0
S_B59            6128       0          0          0          0
S_OS4b           6128       0          0          0          0

[OUTFALLS]
;;Name           Elevation  Type       Stage Data       Gated    Route To
;;-------------- ---------- ---------- ---------------- -------- ----------------
O4               6093.77    FREE                        NO
O3               6082.09    FREE                        NO
O5               6037.5     FREE                        NO

[STORAGE]
;;Name           Elev.    MaxDepth   InitDepth  Shape      Curve Type/Params            SurDepth  Fevap
Psi
;;-------------- -------- ---------- ---------- ---------- ---------------------------- --------- --------

PondC            6089.43  5.67       0          TABULAR    PondC-Storage                0         0
PondB            6065.37  9.5        0          TABULAR    PondB-Storage                0         0
```

[CONDUITS]

;;Name	From Node	To Node	Length	Roughness	InOffset	OutOffset	InitFlow	MaxFlow
13	221	220	82.19	0.013	0	7.03	0	0
16	223	222	51.64	0.013	0	0.2	0	0
17	224	223	50.25	0.013	0	0.2	0	0
25	204	203	45.99	0.013	0	0.2	0	0
32	501	202	26.8	0.013	0	0.2	0	0
43	172	171	106.63	0.013	0	0.2	0	0
44	171	170	27.76	0.013	0	0.2	0	0
94	S_B27	127	61.5	0.013	0	5.14	0	0
96	S_B32	132	9.17	0.013	0	1.7	0	0
97	S_B33	184	9.17	0.013	0	0.2	0	0
98	184	132	140	0.013	0	0.2	0	0
99	132	183	83.5	0.013	0	1.5	0	0
100	125	126	74.05	0.013	0	0.2	0	0
101	S_B26	126	31.17	0.013	0	0.2	0	0
102	126	185	47.36	0.013	0	0.2	0	0
103	S_B24	124	9.17	0.013	0	0.2	0	0
104	124	185	71.27	0.013	0	0.2	0	0
105	185	183	131.5	0.013	0	5.49	0	0
151	S_F1-4	414	34.86	0.013	0	0.2	0	0
152	S_F1-3	414	7.68	0.013	0	0.2	0	0
156	S_F1-2	412	31.17	0.013	0	0.21	0	0
157	S_F1-1	411	7.48	0.013	0	0.2	0	0
182	203	217	11.17	0.013	0	0.2	0	0
183	S_C4	217	35.17	0.013	0	3.18	0	0
184	S_C8	208	35.18	0.013	0	0.2	0	0
185	208	207	273.7	0.013	0	0.2	0	0
187	S_C6	221	31.16	0.013	0	0.2	0	0
189	S_B21	121	9.17	0.013	0	0.2	0	0
190	S_C5	221	14.55	0.013	0	0.2	0	0

191	222	220	68.29	0.013	0	0.2	0	0
193	216	215	264.66	0.013	0	0.2	0	0
194	215	214	207.89	0.013	0	1.17	0	0
195	121	178	66.53	0.013	0	0.2	0	0
196	178	120	510	0.013	0	0.7	0	0
197	220	219	135	0.013	0	1.58	0	0
198	218	200	150	0.013	0	2	0	0
199	210	201	48	0.013	0	1	0	0
200	214	213	199.55	0.013	0	1.76	0	0
201	213	212	199.82	0.013	0	0.2	0	0
202	219	218	127.91	0.013	0	8.86	0	0
203	142	109	40.33	0.013	0	0.2	0	0
204	109	102	88.20	0.013	0	0.2	0	0
205	102	101	29.68	0.013	0	4.77	0	0
207	173	101	386.42	0.013	0	0.2	0	0
208	149	148	38.91	0.013	0	2.13	0	0
209	S_B40	184	31.17	0.013	0	0.2	0	0
210	515	150	180.17	0.013	0	4.61	0	0
212	S_B11	142	98.12	0.013	0	0.2	0	0
213	189	188	366.14	0.013	0	0.2	0	0
214	151	515	168	0.013	0	4.75	0	0
215	153	152	26.30	0.013	0	1	0	0
228	S_B25	125	9.17	0.013	0	0.2	0	0
230	S_B41	196	29.69	0.013	0	0.2	0	0
231	S_OS1	501	830	0.0375	0	0	0	0
232	502	160	82.2	0.013	0	6.8	0	0
234	S_B44	189	9.17	0.013	0	2.21	0	0
236	S_B43	189	31.17	0.013	0	1.71	0	0
242	S_B46	146	29.72	0.013	0	0.2	0	0
243	146	318	89.07	0.013	0	0.2	0	0
244	318	319	123.03	0.013	0	0.2	0	0
245	319	603	109.23	0.013	0	1.2	0	0

249	S_B47	147	400	0.01	0	0	0	0
250	505	513	137.95	0.013	0	0.47	0	0
253	188	186	366.14	0.013	0	0.53	0	0
254	S_B53	S_B14	400	0.01	0	0	0	0
256	HC016	HC017	1290	0.064	0	0	0	0
259	HC017	HC018	1950	0.06	0	0	0	0
262	HC018	HC019	3925	0.068	0	0	0	0
264	HC019	O5	500	0.068	0	0	0	0
265	S_B38	138	400	0.01	0	0	0	0
266	S_B54	138	31.5	0.013	0	0.2	0	0
269	130	129	90	0.013	0	0.2	0	0
270	129	182	89.50	0.013	0	5.65	0	0
271	S_B23	129	9.17	0.013	0	0.2	0	0
272	S_B29	129	31.15	0.013	0	0.2	0	0
273	S_B30	135	26.5	0.013	0	0.3	0	0
300	100	PondB	37.16	0.013	0	2.48	0	0
d_B31	S_B31	130	400	0.01	0	0	0	0
d_B35	S_B35	135	400	0.01	0	0	0	0
d_B36	S_B36	130	400	0.01	0	0	0	0
d_B51	S_B51	151	400	0.01	0	0	0	0
d_F3-6	151.2	151.1	114.8	0.013	0	0	0	0
d_OS2a	S_OS2a	204	400	0.01	0	0	0	0
d_OS4a	S_OS4a	153	400	0.01	0	0	0	0
d_OS4b	S_OS4c	153	400	0.01	0	0	0	0
d_OS5a	S_OS5a	505	400	0.01	0	0	0	0
d_OS5b	S_OS5b	505	400	0.01	0	0	0	0
d_OS5c	S_OS5c	505	400	0.01	0	0	0	0
d1	S_B0	PondB	400	0.01	0	0	0	0
d3	S_C0	PondC	400	0.01	0	0	0	0
dA240	S_A240	HC017	400	0.01	0	0	0	0
dA245	S_A245	HC018	400	0.01	0	0	0	0
dA250	S_A250	HC018	400	0.01	0	0	0	0

dA260	S_A260	HC019	400	0.01	0	0	0	0
dB1	S_B1	101	400	0.01	0	0	0	0
dB2	S_B2	102	400	0.01	0	0	0	0
dB28	S_B28	128	400	0.01	0	0	0	0
dB41	S_B42	142	400	0.01	0	0	0	0
dB6	S_B6	106	400	0.01	0	0	0	0
dB9	S_B9	109	400	0.01	0	0	0	0
dC1	S_C1	201	400	0.01	0	0	0	0
dC2	S_C2	202	400	0.01	0	0	0	0
dC3	S_C3	203	400	0.01	0	0	0	0
dC7	S_C7	207	400	0.01	0	0	0	0
dC9	S_C9	501	400	0.01	0	0	0	0
dF3-10	S_B49	149	400	0.01	0	0	0	0
dF3-5	152	151.1	20.1	0.013	0	0	0	0
dF3-6	S_B50	150	400	0.01	0	0	0	0
dF3-8	147	603	36.22	0.013	0	0	0	0
dF3-9	S_B48	148	400	0.01	0	0	0	0
d-HC117	HC117	HC017	400	0.01	0	0	0	0
dO1	O1	HC019	400	0.01	0	0	0	0
dO2	O2	HC017	400	0.01	0	0	0	0
EX-Pipe-444	411	O3	33.04	0.013	0	0	0	0
Pip-39	202	210	11.17	0.013	0	1.5	0	0
Pipe-100	186	177	55.09	0.013	0	0.2	0	0
Pipe-101	177	169	57.22	0.013	0	1.5	0	0
Pipe-102	169	164	59.3	0.013	0	0.2	0	0
Pipe-103	164	173	93.9	0.013	0	1	0	0
Pipe-106	S_B45	145	9.17	0.013	0	2	0	0
Pipe-107	S_B3	199	29.64	0.013	0	4.07	0	0
Pipe-108	S_B4	199	7.85	0.013	0	4.07	0	0
Pipe-109	S_B17	174	11.17	0.013	0	2.11	0	0
Pipe-110	S_B16	174	35.17	0.013	0	2.11	0	0
Pipe-111	S_B5	105	29.96	0.013	0	5.14	0	0

Pipe-112	S_B7	106	20.17	0.013	0	0.5	0	0
Pipe-113	106	155	9.17	0.013	0	5.07	0	0
Pipe-114	S_B8	108	28.99	0.013	0	9.5	0	0
Pipe-115	S_B12	112	9.17	0.013	0	0.2	0	0
Pipe-116	112	113	56.08	0.013	0	0.2	0	0
Pipe-117	113	110	75.33	0.013	0	0.2	0	0
Pipe-118	110	154	84.02	0.013	0	5.46	0	0
Pipe-119	S_B13	113	42.61	0.013	0	0.2	0	0
Pipe-120	S_B10	110	9.17	0.013	0	0.2	0	0
Pipe-121	S_F1-5	405	31.17	0.013	0	0.2	0	0
Pipe-122	405	415	106.09	0.013	0	0.2	0	0
Pipe-123	415	414	116.30	0.013	0	0.2	0	0
Pipe-124	414	413	104.87	0.013	0	0.2	0	0
Pipe-125	413	412	132.96	0.013	0	0.21	0	0
Pipe-126	412	411	51.37	0.013	0	0.2	0	0
Pipe-127	S_F1-10	410	31.17	0.013	0	0.2	0	0
Pipe-128	410	421	146.97	0.013	0	0.23	0	0
Pipe-129	421	420	125.26	0.013	0	0.2	0	0
Pipe-130	420	419	134.85	0.013	0	0.2	0	0
Pipe-131	419	418	123.31	0.013	0	0.2	0	0
Pipe-132	418	417	80.49	0.013	0	0.2	0	0
Pipe-133	417	O4	59.35	0.013	0	0.2	0	0
Pipe-141	150	128	74.67	0.013	0	2.9	0	0
Pipe-145	128	127	46.21	0.013	0	0.49	0	0
Pipe-146	127	183	325.33	0.013	0	3.49	0	0
Pipe-150	183	182	303	0.013	0	1.65	0	0
Pipe-153	182	173	255.26	0.013	0	2.11	0	0
Pipe-162	S_F1-6	417	8.6	0.013	0	0.2	0	0
Pipe-163	S_F1-7	417	31.59	0.013	0	0.2	0	0
Pipe-164	S_F1-8	420	38.01	0.013	0	0.2	0	0
Pipe-165	S_F1-9	420	7.66	0.013	0	0.2	0	0
Pipe-166	S_B20	120	9.17	0.013	0	0.2	0	0

Pipe-179	120	172	343	0.013	0	1	0	0
Pipe-202	135	169	25.72	0.013	0	4	0	0
Pipe-204	S_B34	169	4.42	0.013	0	4	0	0
Pipe-207	S_B37	192	11.17	0.013	0	2.7	0	0
Pipe-208	138	192	33.69	0.013	0	2.7	0	0
Pipe-210	196	195	86.47	0.013	0	1.81	0	0
Pipe-211	S_B39	196	9.17	0.013	0	0.2	0	0
Pipe-230	S_B22	182	9.17	0.013	0	5.65	0	0
Pipe-26	217	216	74.96	0.013	0	0.2	0	0
Pipe-35	212	211	100.07	0.013	0	0.2	0	0
Pipe-36	211	210	65.25	0.013	0	0.5	0	0
Pipe-38	201	200A	171.54	0.013	0	0.2	0	0
Pipe-40	207	224	52.65	0.013	0	0.2	0	0
Pipe-46	S_B73	176	47.6	0.013	0	0.2	0	0
Pipe-47	176	174	400	0.013	0	0.2	0	0
Pipe-49	174	168	102.71	0.013	0	6.91	0	0
Pipe-50	168	167	48.59	0.013	0	0.2	0	0
Pipe-51	167	166	93.33	0.013	0	0.2	0	0
Pipe-52	166	165	94.17	0.013	0	0.5	0	0
Pipe-53	165	160	91.13	0.013	0	0.2	0	0
Pipe-54	160	159	142.3	0.013	0	0.2	0	0
Pipe-55	159	158	54.72	0.013	0	0.2	0	0
Pipe-56	158	108	54.74	0.013	0	0.2	0	0
Pipe-56-1	108	157	44.18	0.013	0	0.74	0	0
Pipe-57	157	156	62.45	0.013	0	0.2	0	0
Pipe-58	156	155	79.92	0.013	0	0.78	0	0
Pipe-58-1	155	154	38.69	0.013	0	1	0	0
Pipe-59	154	187	70.83	0.013	0	1	0	0
Pipe-60	187	105	76.58	0.013	0	1	0	0
Pipe-60-1	105	602	44.01	0.013	0	1	0	0
Pipe-61	602	199	84.54	0.013	0	1.07	0	0
Pipe-62	199	601	48.49	0.013	0	1	0	0

Pipe-62-1	601	600	63.32	0.013	0	1	0	0
Pipe-63	600	198	64.6	0.013	0	1	0	0
Pipe-64	198	197	61.44	0.013	0	1	0	0
Pipe-64-1	197	101	97.90	0.013	0	1.97	0	0
Pipe-65	101	100	84.33	0.013	0	0.2	0	0
Pipe-67	300	168	55.73	0.013	0	6.91	0	0
Pipe-70	170	168	174.88	0.013	0	1	0	0
Pipe-71	S_B19	172	9.17	0.013	0	1	0	0
Pipe-72	S_B18	172	31.17	0.013	0	1	0	0
Pipe-73	503	502	320	0.013	0	0	0	0
Pipe-74	S_B15	165	9.63	0.013	0	5.1	0	0
Pipe-75	S_B14	165	33.75	0.013	0	7.48	0	0
Pipe-76	400	163	53.93	0.013	0	0.2	0	0
Pipe-77	163	162	129.99	0.013	0	0.2	0	0
Pipe-78	162	161	137.67	0.013	0	0.2	0	0
Pipe-79	161	160	116.66	0.013	0	7.3	0	0
Pipe-85	513	149	65.75	0.013	0	0.33	0	0
Pipe-87	148	316	115.96	0.013	0	1	0	0
Pipe-87-1	316	147	115.71	0.013	0	0.5	0	0
Pipe-88	603	145	151.51	0.013	0	0.5	0	0
Pipe-89	145	195	54.33	0.013	0	0.5	0	0
Pipe-90	195	194	62.52	0.013	0	1	0	0
Pipe-91	194	193	128.99	0.013	0	0.5	0	0
Pipe-92	193	192	92.41	0.013	0	0.2	0	0
Pipe-93	192	191	31.24	0.013	0	0.25	0	0
Pipe-94	191	190	42.17	0.013	0	0.5	0	0
Pipe-95	190	189	141.53	0.013	0	0.2	0	0
Pipe-33	200	PondC	11.12	.013	0	1.9	0	0
274	S_C10	200A	280	0.035	0	0	0	0
Pipe-31	200A	200	20.03	0.013	0	0.5	0	0
275	151.1	151	40.33	.013	0	0	0	0
276	S_B59a	151.2	400	0.01	0	0	0	0

277	151.3	151.2	596	0.013	0	0	0	0
278	S_B62	151.3	400	0.01	0	0	0	0
279	S_B61	151.3	400	0.01	0	0	0	0
280	401	400	293	.013	0	0	0	0
281	S_B57	401	400	0.01	0	0	0	0
282	S_B58	401	400	0.01	0	0	0	0
283	S_B55	400	400	0.01	0	0	0	0
284	S_B56	400	400	0.01	0	0	0	0
285	S_B71	300	10	0.013	0	0	0	0
286	S_B70	300	30	0.013	0	0	0	0
287	301	300	284	0.013	0	0	0	0
288	S_B65	301	10	0.013	0	0	0	0
289	S_B64	301	30	0.013	0	0	0	0
290	S_OS3a	507	400	0.01	0	0	0	0
291	507	506	93	.013	0	0	0	0
292	506	504.3	632.6	0.013	0	0	0	0
293	504.3	504.2	118.7	0.013	0	0	0	0
294	504.2	504.1	20	0.013	0	0	0	0
295	504.1	504	18.7	0.013	0	0	0	0
296	504	503	40.2	0.013	0	0	0	0
297	S_B67	503	400	0.01	0	0	0	0
298	S_B60	504	400	0.01	0	0	0	0
299	S_B66	504.1	400	0.01	0	0	0	0
301	S_B66a	B66a	400	0.01	0	0	0	0
302	B66a	504.2	47	0.013	0	0	0	0
303	S_B66b	504.3	400	0.01	0	0	0	0
304	S_B63	506	400	0.01	0	0	0	0
305	S_B72	502	400	0.01	0	0	0	0
306	S_OS4b	152	400	0.01	0	0	0	0
307	S_B59	152	400	0.01	0	0	0	0

[OUTLETS]

;;Name	From Node	To Node	Offset	Type	QTable/Qcoeff	Qexpon	Gated

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;;-------------- ---------------- ---------------- ---------- --------------- ---------------- ----------
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Outlet02         PondC            O2               0          TABULAR/DEPTH   PondC-Discharge             NO

Outlet01         PondB            O1               0          TABULAR/DEPTH   PondB-Discharge             NO


[XSECTIONS]
;;Link            Shape        Geom1            Geom2      Geom3      Geom4      Barrels    Culvert
;;-------------- ------------ ---------------- ---------- ---------- ---------- ---------- ----------
13               CIRCULAR     1.5              0          0          0          1
16               CIRCULAR     1.5              0          0          0          1
17               CIRCULAR     1.5              0          0          0          1
25               CIRCULAR     3                0          0          0          1
32               CIRCULAR     1.5              0          0          0          1
43               CIRCULAR     2.5              0          0          0          1
44               CIRCULAR     2.5              0          0          0          1
94               CIRCULAR     1.5              0          0          0          1
96               CIRCULAR     1.5              0          0          0          1
97               CIRCULAR     1.5              0          0          0          1
98               CIRCULAR     1.5              0          0          0          1
99               CIRCULAR     1.5              0          0          0          1
100              CIRCULAR     1.5              0          0          0          1
101              CIRCULAR     1.5              0          0          0          1
102              CIRCULAR     1.5              0          0          0          1
103              CIRCULAR     1.5              0          0          0          1
104              CIRCULAR     1.5              0          0          0          1
105              CIRCULAR     1.5              0          0          0          1
151              CIRCULAR     1.5              0          0          0          1
152              CIRCULAR     1.5              0          0          0          1
156              CIRCULAR     1.5              0          0          0          1
157              CIRCULAR     1.5              0          0          0          1
182              CIRCULAR     3                0          0          0          1
183              CIRCULAR     1.5              0          0          0          1
184              CIRCULAR     1.5              0          0          0          1
185              CIRCULAR     1.5              0          0          0          1
187              CIRCULAR     1.5              0          0          0          1
189              CIRCULAR     1.5              0          0          0          1
190              CIRCULAR     1.5              0          0          0          1
191              CIRCULAR     1.5              0          0          0          1
193              CIRCULAR     3                0          0          0          1
194              CIRCULAR     3                0          0          0          1
195              CIRCULAR     1.5              0          0          0          1
196              CIRCULAR     1.5              0          0          0          1
197              CIRCULAR     1.5              0          0          0          1
198              CIRCULAR     1.5              0          0          0          1
199              CIRCULAR     3                0          0          0          1
200              CIRCULAR     3                0          0          0          1
201              CIRCULAR     3                0          0          0          1
202              CIRCULAR     1.5              0          0          0          1
203              CIRCULAR     1.5              0          0          0          1
204              CIRCULAR     1.5              0          0          0          1
205              CIRCULAR     1.5              0          0          0          1
207              CIRCULAR     6                0          0          0          1
208              CIRCULAR     2.5              0          0          0          1
209              CIRCULAR     1.5              0          0          0          1
210              CIRCULAR     3.5              0          0          0          1
212              CIRCULAR     1.5              0          0          0          1
213              CIRCULAR     3.5              0          0          0          1
214              CIRCULAR     3.5              0          0          0          1
215              CIRCULAR     3                0          0          0          1
228              CIRCULAR     1.5              0          0          0          1
230              CIRCULAR     1.5              0          0          0          1
231              TRIANGULAR   1.25             10         0          0          1
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232	CIRCULAR	3	0	0	0	1
234	CIRCULAR	1.5	0	0	0	1
236	CIRCULAR	2	0	0	0	1
242	CIRCULAR	1.5	0	0	0	1
243	CIRCULAR	1.5	0	0	0	1
244	CIRCULAR	1.5	0	0	0	1
245	CIRCULAR	1.5	0	0	0	1
249	DUMMY	0	0	0	0	1
250	CIRCULAR	2.5	0	0	0	1
253	CIRCULAR	3.5	0	0	0	1
254	DUMMY	0	0	0	0	1
256	TRAPEZOIDAL	20	5	8	10	1
259	TRAPEZOIDAL	20	80	10	4	1
262	TRAPEZOIDAL	20	70	5	3	1
264	TRAPEZOIDAL	20	70	5	3	1
265	CIRCULAR	1	0	0	0	1
266	CIRCULAR	1.5	0	0	0	1
269	CIRCULAR	1.5	0	0	0	1
270	CIRCULAR	1.5	0	0	0	1
271	CIRCULAR	1.5	0	0	0	1
272	CIRCULAR	1.5	0	0	0	1
273	CIRCULAR	1.5	0	0	0	1
300	RECT_CLOSED	6	8	0	0	1
d_B31	DUMMY	0	0	0	0	1
d_B35	DUMMY	0	0	0	0	1
d_B36	CIRCULAR	1	0	0	0	1
d_B51	DUMMY	0	0	0	0	1
d_F3-6	CIRCULAR	1.5	0	0	0	1
d_OS2a	DUMMY	0	0	0	0	1
d_OS4a	DUMMY	0	0	0	0	1
d_OS4b	DUMMY	0	0	0	0	1
d_OS5a	DUMMY	0	0	0	0	1
d_OS5b	DUMMY	0	0	0	0	1
d_OS5c	DUMMY	0	0	0	0	1
d1	DUMMY	0	0	0	0	1
d3	DUMMY	0	0	0	0	1
dA240	DUMMY	0	0	0	0	1
dA245	DUMMY	0	0	0	0	1
dA250	DUMMY	0	0	0	0	1
dA260	DUMMY	0	0	0	0	1
dB1	DUMMY	0	0	0	0	1
dB2	DUMMY	0	0	0	0	1
dB28	DUMMY	0	0	0	0	1
dB41	DUMMY	0	0	0	0	1
dB6	DUMMY	0	0	0	0	1
dB9	DUMMY	0	0	0	0	1
dC1	DUMMY	0	0	0	0	1
dC2	DUMMY	0	0	0	0	1
dC3	DUMMY	0	0	0	0	1
dC7	DUMMY	0	0	0	0	1
dC9	DUMMY	0	0	0	0	1
dF3-10	DUMMY	0	0	0	0	1
dF3-5	CIRCULAR	3	0	0	0	1
dF3-6	DUMMY	0	0	0	0	1
dF3-8	CIRCULAR	2.5	0	0	0	1
dF3-9	DUMMY	0	0	0	0	1
d-HC117	DUMMY	0	0	0	0	1
dO1	DUMMY	0	0	0	0	1
dO2	DUMMY	0	0	0	0	1
EX-Pipe-444	CIRCULAR	1.5	0	0	0	1
Pip-39	CIRCULAR	2	0	0	0	1
Pipe-100	CIRCULAR	3.5	0	0	0	1
Pipe-101	CIRCULAR	3.5	0	0	0	1
Pipe-102	CIRCULAR	5	0	0	0	1

Pipe-103	CIRCULAR	5	0	0	0	1
Pipe-106	CIRCULAR	1.5	0	0	0	1
Pipe-107	CIRCULAR	1.5	0	0	0	1
Pipe-108	CIRCULAR	1.5	0	0	0	1
Pipe-109	CIRCULAR	1.5	0	0	0	1
Pipe-110	CIRCULAR	1.5	0	0	0	1
Pipe-111	CIRCULAR	1	0	0	0	1
Pipe-112	CIRCULAR	1	0	0	0	1
Pipe-113	CIRCULAR	1.5	0	0	0	1
Pipe-114	CIRCULAR	1	0	0	0	1
Pipe-115	CIRCULAR	1.5	0	0	0	1
Pipe-116	CIRCULAR	1.5	0	0	0	1
Pipe-117	CIRCULAR	1.5	0	0	0	1
Pipe-118	CIRCULAR	1.5	0	0	0	1
Pipe-119	CIRCULAR	1.5	0	0	0	1
Pipe-120	CIRCULAR	1.5	0	0	0	1
Pipe-121	CIRCULAR	1.5	0	0	0	1
Pipe-122	CIRCULAR	1.5	0	0	0	1
Pipe-123	CIRCULAR	1.5	0	0	0	1
Pipe-124	CIRCULAR	1.5	0	0	0	1
Pipe-125	CIRCULAR	1.5	0	0	0	1
Pipe-126	CIRCULAR	1.5	0	0	0	1
Pipe-127	CIRCULAR	1.5	0	0	0	1
Pipe-128	CIRCULAR	1.5	0	0	0	1
Pipe-129	CIRCULAR	1.5	0	0	0	1
Pipe-130	CIRCULAR	1.5	0	0	0	1
Pipe-131	CIRCULAR	1.5	0	0	0	1
Pipe-132	CIRCULAR	1.5	0	0	0	1
Pipe-133	CIRCULAR	1.5	0	0	0	1
Pipe-141	CIRCULAR	3.5	0	0	0	1
Pipe-145	CIRCULAR	3.5	0	0	0	1
Pipe-146	CIRCULAR	3.5	0	0	0	1
Pipe-150	CIRCULAR	4	0	0	0	1
Pipe-153	CIRCULAR	4	0	0	0	1
Pipe-162	CIRCULAR	1.5	0	0	0	1
Pipe-163	CIRCULAR	1.5	0	0	0	1
Pipe-164	CIRCULAR	1.5	0	0	0	1
Pipe-165	CIRCULAR	1.5	0	0	0	1
Pipe-166	CIRCULAR	1.5	0	0	0	1
Pipe-179	CIRCULAR	1.5	0	0	0	1
Pipe-202	CIRCULAR	1.5	0	0	0	1
Pipe-204	CIRCULAR	1.5	0	0	0	1
Pipe-207	CIRCULAR	1.5	0	0	0	1
Pipe-208	CIRCULAR	1.5	0	0	0	1
Pipe-210	CIRCULAR	1.5	0	0	0	1
Pipe-211	CIRCULAR	1.5	0	0	0	1
Pipe-230	CIRCULAR	1.5	0	0	0	1
Pipe-26	CIRCULAR	3	0	0	0	1
Pipe-35	CIRCULAR	3	0	0	0	1
Pipe-36	CIRCULAR	3	0	0	0	1
Pipe-38	CIRCULAR	3	0	0	0	1
Pipe-40	CIRCULAR	1.5	0	0	0	1
Pipe-46	CIRCULAR	2	0	0	0	1
Pipe-47	CIRCULAR	2	0	0	0	1
Pipe-49	CIRCULAR	2	0	0	0	1
Pipe-50	CIRCULAR	3.5	0	0	0	1
Pipe-51	CIRCULAR	3.5	0	0	0	1
Pipe-52	CIRCULAR	3.5	0	0	0	1
Pipe-53	CIRCULAR	3.5	0	0	0	1
Pipe-54	CIRCULAR	4.5	0	0	0	1
Pipe-55	CIRCULAR	4.5	0	0	0	1
Pipe-56	CIRCULAR	4.5	0	0	0	1
Pipe-56-1	CIRCULAR	4.5	0	0	0	1
Pipe-57	CIRCULAR	4.5	0	0	0	1

Pipe-58	CIRCULAR	4.5	0	0	0	1
Pipe-58-1	CIRCULAR	4.5	0	0	0	1
Pipe-59	CIRCULAR	4.5	0	0	0	1
Pipe-60	CIRCULAR	4.5	0	0	0	1
Pipe-60-1	CIRCULAR	4.5	0	0	0	1
Pipe-61	CIRCULAR	4.5	0	0	0	1
Pipe-62	CIRCULAR	4.5	0	0	0	1
Pipe-62-1	CIRCULAR	4.5	0	0	0	1
Pipe-63	CIRCULAR	4.5	0	0	0	1
Pipe-64	CIRCULAR	4.5	0	0	0	1
Pipe-64-1	CIRCULAR	4.5	0	0	0	1
Pipe-65	RECT_CLOSED	6	8	0	0	1
Pipe-67	CIRCULAR	2	0	0	0	1
Pipe-70	CIRCULAR	2.5	0	0	0	1
Pipe-71	CIRCULAR	1.5	0	0	0	1
Pipe-72	CIRCULAR	1.5	0	0	0	1
Pipe-73	CIRCULAR	3	0	0	0	1
Pipe-74	CIRCULAR	1.5	0	0	0	1
Pipe-75	CIRCULAR	1.5	0	0	0	1
Pipe-76	CIRCULAR	2.5	0	0	0	1
Pipe-77	CIRCULAR	2.5	0	0	0	1
Pipe-78	CIRCULAR	2.5	0	0	0	1
Pipe-79	CIRCULAR	2.5	0	0	0	1
Pipe-85	CIRCULAR	2.5	0	0	0	1
Pipe-87	CIRCULAR	2.5	0	0	0	1
Pipe-87-1	CIRCULAR	2.5	0	0	0	1
Pipe-88	CIRCULAR	2.5	0	0	0	1
Pipe-89	CIRCULAR	3	0	0	0	1
Pipe-90	CIRCULAR	3	0	0	0	1
Pipe-91	CIRCULAR	3	0	0	0	1
Pipe-92	CIRCULAR	3	0	0	0	1
Pipe-93	CIRCULAR	3	0	0	0	1
Pipe-94	CIRCULAR	3	0	0	0	1
Pipe-95	CIRCULAR	3.5	0	0	0	1
Pipe-33	CIRCULAR	3.5	0	0	0	1
274	TRIANGULAR	1	8	0	0	1
Pipe-31	CIRCULAR	3	0	0	0	1
275	CIRCULAR	3.5	0	0	0	1
276	DUMMY	0	0	0	0	1
277	CIRCULAR	1.5	0	0	0	1
278	DUMMY	0	0	0	0	1
279	DUMMY	0	0	0	0	1
280	CIRCULAR	1	0	0	0	1
281	DUMMY	0	0	0	0	1
282	DUMMY	0	0	0	0	1
283	DUMMY	0	0	0	0	1
284	DUMMY	0	0	0	0	1
285	CIRCULAR	1.5	0	0	0	1
286	CIRCULAR	1.5	0	0	0	1
287	CIRCULAR	1.5	0	0	0	1
288	CIRCULAR	1.5	0	0	0	1
289	CIRCULAR	1.5	0	0	0	1
290	DUMMY	0	0	0	0	1
291	CIRCULAR	3	0	0	0	1
292	CIRCULAR	3	0	0	0	1
293	CIRCULAR	3	0	0	0	1
294	CIRCULAR	3	0	0	0	1
295	CIRCULAR	3	0	0	0	1
296	CIRCULAR	3	0	0	0	1
297	DUMMY	0	0	0	0	1
298	DUMMY	0	0	0	0	1
299	DUMMY	0	0	0	0	1
301	DUMMY	0	0	0	0	1
302	CIRCULAR	1.5	0	0	0	1

```
303              DUMMY        0               0          0          0          1
304              DUMMY        0               0          0          0          1
305              DUMMY        0               0          0          0          1
306              DUMMY        0               0          0          0          1
307              DUMMY        0               0          0          0          1

[LOSSES]
;;Link           Kentry     Kexit      Kavg       Flap Gate  Seepage
;;-------------- ---------- ---------- ---------- ---------- ----------
13               0.04       0.01       0          NO         0
16               0.04       0.03       0          NO         0
17               0.04       0.03       0          NO         0
25               0.04       0.01       0          NO         0
32               0.04       0.01       0          NO         0
43               0.2        0.08       0          NO         0
44               0.2        0.08       0          NO         0
94               0.6        0.4        0          NO         0
96               0.6        0.4        0          NO         0
97               0.6        0.4        0          NO         0
98               0.04       0.01       0          NO         0
99               0.6        0.4        0          NO         0
100              0.6        0.4        0          NO         0
101              0.6        0.4        0          NO         0
102              0.6        0.4        0          NO         0
103              0.6        0.4        0          NO         0
104              0.06       0.04       0          NO         0
105              0.6        0.4        0          NO         0
151              0.6        0.4        0          NO         0
152              0.6        0.4        0          NO         0
156              0.6        0.4        0          NO         0
157              0.6        0.4        0          NO         0
182              0.6        0.4        0          NO         0
183              0.6        0.4        0          NO         0
184              0.2        0.1        0          NO         0
185              0.2        0.1        0          NO         0
187              0.6        0.4        0          NO         0
189              .04        .01        0          NO         0
190              0.6        0.4        0          NO         0
191              0.6        0.4        0          NO         0
193              0.04       0.01       0          NO         0
194              0.06       0.04       0          NO         0
195              .04        .01        0          NO         0
196              .04        .01        0          NO         0
197              0.15       0.05       0          NO         0
198              0.6        0.4        0          NO         0
199              0.2        0.08       0          NO         0
200              0.06       0.04       0          NO         0
201              0.06       0.04       0          NO         0
202              0.04       0.01       0          NO         0
203              0.04       0.01       0          NO         0
204              0.04       0.01       0          NO         0
205              0.04       0.01       0          NO         0
207              0.6        0.4        0          NO         0
208              0.04       0.01       0          NO         0
209              0.6        0.4        0          NO         0
210              0.04       0.01       0          NO         0
212              0.6        0.4        0          NO         0
213              0.04       0.01       0          NO         0
214              0.04       0.01       0          NO         0
215              0.04       0.01       0          NO         0
228              0.6        0.4        0          NO         0
230              0.6        0.4        0          NO         0
232              0.04       0.01       0          NO         0
234              0.6        0.4        0          NO         0
```

236	0.6	0.4	0	NO	0
242	0.6	0.4	0	NO	0
243	0.04	0.01	0	NO	0
244	0.04	0.01	0	NO	0
245	0.6	0.4	0	NO	0
250	0.04	0.01	0	NO	0
253	0.04	0.01	0	NO	0
266	0.6	0.4	0	NO	0
269	0.04	0.01	0	NO	0
270	0.6	0.4	0	NO	0
271	0.6	0.4	0	NO	0
272	0.6	0.4	0	NO	0
273	0.6	0.4	0	NO	0
300	0.04	0.01	0	NO	0
d_F3-6	.04	.01	0	NO	0
dF3-5	0.04	0.01	0	NO	0
dF3-8	0.04	0.01	0	NO	0
EX-Pipe-444	0.6	0.4	0	NO	0
Pip-39	0.04	0.01	0	NO	0
Pipe-100	0.06	0.04	0	NO	0
Pipe-101	0.06	0.04	0	NO	0
Pipe-102	0.06	0.04	0	NO	0
Pipe-103	0.04	0.01	0	NO	0
Pipe-106	0.6	0.4	0	NO	0
Pipe-107	0.6	0.4	0	NO	0
Pipe-108	0.6	0.4	0	NO	0
Pipe-109	0.6	0.4	0	NO	0
Pipe-110	0.6	0.4	0	NO	0
Pipe-111	0.6	0.4	0	NO	0
Pipe-112	0.04	0.01	0	NO	0
Pipe-113	0.6	0.4	0	NO	0
Pipe-114	0.6	0.4	0	NO	0
Pipe-115	0.6	0.4	0	NO	0
Pipe-116	0.06	0.04	0	NO	0
Pipe-117	0.04	0.01	0	NO	0
Pipe-118	0.6	0.4	0	NO	0
Pipe-119	0.6	0.4	0	NO	0
Pipe-120	0.6	0.4	0	NO	0
Pipe-121	0.6	0.4	0	NO	0
Pipe-122	0.04	0.01	0	NO	0
Pipe-123	0.04	0.01	0	NO	0
Pipe-124	0.04	0.01	0	NO	0
Pipe-125	0.04	0.01	0	NO	0
Pipe-126	0.04	0.01	0	NO	0
Pipe-127	0.6	0.4	0	NO	0
Pipe-128	0.05	0.02	0	NO	0
Pipe-129	0.06	0.04	0	NO	0
Pipe-130	0.04	0.01	0	NO	0
Pipe-131	0.04	0.01	0	NO	0
Pipe-132	0.06	0.04	0	NO	0
Pipe-133	0.6	0.4	0	NO	0
Pipe-141	0.04	0.01	0	NO	0
Pipe-145	0.04	0.01	0	NO	0
Pipe-146	0.04	0.01	0	NO	0
Pipe-150	0.04	0.01	0	NO	0
Pipe-153	0.6	0.4	0	NO	0
Pipe-162	0.6	0.4	0	NO	0
Pipe-163	0.6	0.4	0	NO	0
Pipe-164	0.6	0.4	0	NO	0
Pipe-165	0.6	0.4	0	NO	0
Pipe-166	0.6	0.4	0	NO	0
Pipe-179	0.04	0.01	0	NO	0
Pipe-202	0.6	0.4	0	NO	0
Pipe-204	0.6	0.4	0	NO	0

Pipe-207	0.6	0.4	0	NO	0
Pipe-208	0.6	0.4	0	NO	0
Pipe-210	0.6	0.4	0	NO	0
Pipe-211	0.6	0.4	0	NO	0
Pipe-230	0.6	0.4	0	NO	0
Pipe-26	0.06	0.04	0	NO	0
Pipe-35	0.04	0.03	0	NO	0
Pipe-36	0.6	0.4	0	NO	0
Pipe-38	0.2	0.08	0	NO	0
Pipe-40	0.6	0.4	0	NO	0
Pipe-46	.04	.01	0	NO	0
Pipe-47	0.04	0.01	0	NO	0
Pipe-49	0.04	0.01	0	NO	0
Pipe-50	0.05	0.02	0	NO	0
Pipe-51	0.05	0.02	0	NO	0
Pipe-52	0.05	0.02	0	NO	0
Pipe-53	0.6	0.4	0	NO	0
Pipe-54	0.06	0.04	0	NO	0
Pipe-55	0.04	0.01	0	NO	0
Pipe-56	0.05	0.02	0	NO	0
Pipe-56-1	0.04	0.01	0	NO	0
Pipe-57	0.04	0.01	0	NO	0
Pipe-58	0.04	0.01	0	NO	0
Pipe-58-1	0.04	0.01	0	NO	0
Pipe-59	0.06	0.04	0	NO	0
Pipe-60	0.06	0.04	0	NO	0
Pipe-60-1	0.04	0.01	0	NO	0
Pipe-61	0.04	0.01	0	NO	0
Pipe-62	0.04	0.01	0	NO	0
Pipe-62-1	0.06	0.04	0	NO	0
Pipe-63	0.04	0.01	0	NO	0
Pipe-64	0.06	0.04	0	NO	0
Pipe-64-1	0.6	0.4	0	NO	0
Pipe-65	0.2	0.08	0	NO	0
Pipe-67	0.6	0.4	0	NO	0
Pipe-70	0.6	0.4	0	NO	0
Pipe-71	0.6	0.4	0	NO	0
Pipe-72	0.6	0.4	0	NO	0
Pipe-73	0.04	0.01	0	NO	0
Pipe-74	0.6	0.4	0	NO	0
Pipe-75	0.6	0.4	0	NO	0
Pipe-76	0.6	0.4	0	NO	0
Pipe-77	0.06	0.04	0	NO	0
Pipe-78	0.06	0.04	0	NO	0
Pipe-79	0.6	0.4	0	NO	0
Pipe-85	0.2	0.08	0	NO	0
Pipe-87	0.04	0.01	0	NO	0
Pipe-87-1	0.04	0.01	0	NO	0
Pipe-88	0.04	0.01	0	NO	0
Pipe-89	0.6	0.4	0	NO	0
Pipe-90	0.06	0.04	0	NO	0
Pipe-91	0.04	0.01	0	NO	0
Pipe-92	0.04	0.01	0	NO	0
Pipe-93	0.04	0.01	0	NO	0
Pipe-94	0.6	0.4	0	NO	0
Pipe-95	0.04	0.01	0	NO	0
Pipe-31	0.2	0.08	0	NO	0
275	.04	.01	0	NO	0
277	.04	.01	0	NO	0
280	.04	.01	0	NO	0
285	.04	.01	0	NO	0
286	.04	.01	0	NO	0
287	.04	.01	0	NO	0
288	.04	.01	0	NO	0

```
289              .04        .01        0          NO         0
291              .04        .01        0          NO         0
292              .04        .01        0          NO         0
293              .04        .01        0          NO         0
294              .04        .01        0          NO         0
295              .04        .01        0          NO         0
296              .04        .01        0          NO         0
302              .04        .01        0          NO         0

[INFLOWS]
;;Node           Constituent      Time Series      Type     Mfactor  Sfactor  Baseline Pattern
;;-------------- ---------------- ---------------- -------- -------- -------- -------- --------
HC016            FLOW             LinkA24          FLOW     1.0      1.0
HC117            FLOW             LinkHC117-DF     FLOW     1.0      1.0

[CURVES]
;;Name           Type       X-Value    Y-Value
;;-------------- ---------- ---------- ----------
;POND_RG2A_DISCHARGE
PondB-Discharge  Rating     0.00       0.00
PondB-Discharge             0.50       0.15
PondB-Discharge             1.00       0.21
PondB-Discharge             1.50       0.25
PondB-Discharge             2.00       0.38
PondB-Discharge             2.50       0.50
PondB-Discharge             3.00       0.58
PondB-Discharge             3.50       0.65
PondB-Discharge             4.00       0.84
PondB-Discharge             4.50       0.97
PondB-Discharge             5.00       1.07
PondB-Discharge             5.22       1.11
PondB-Discharge             5.50       1.84
PondB-Discharge             6.00       2.55
PondB-Discharge             6.50       3.03
PondB-Discharge             6.93       3.38
PondB-Discharge             7.00       3.44
PondB-Discharge             7.50       49.35
PondB-Discharge             7.60       63.75
PondB-Discharge             8.00       132.98
PondB-Discharge             8.50       241.15
PondB-Discharge             9.00       340.35
PondB-Discharge             9.33       349.22
PondB-Discharge             9.50       353.70
PondB-Discharge             10.00      484.94
PondB-Discharge             10.50      718.60
PondB-Discharge             10.63      791.59
;
;POND_RG3A_DISCHARGE
PondC-Discharge  Rating     0.00       0.00
PondC-Discharge             0.50       0.03
PondC-Discharge             1.00       0.04
PondC-Discharge             1.50       0.07
PondC-Discharge             2.00       0.10
PondC-Discharge             2.50       0.13
PondC-Discharge             3.00       0.22
PondC-Discharge             3.50       0.26
PondC-Discharge             4.00       6.75
PondC-Discharge             4.50       33.82
PondC-Discharge             5.00       72.41
PondC-Discharge             5.22       81.40
PondC-Discharge             5.50       83.37
PondC-Discharge             6.00       115.81
PondC-Discharge             6.50       209.50
PondC-Discharge             6.93       322.03
```

```
PondC-Discharge             7.00       342.87
PondC-Discharge             7.50       450.13
PondC-Discharge             7.60       450.13
PondC-Discharge             8.00       450.13
PondC-Discharge             8.50       450.13
PondC-Discharge             9.00       450.13
PondC-Discharge             9.33       450.13
PondC-Discharge             9.50       450.13
;
;POND_RG2A_STORAGE
PondB-Storage    Storage    0.00       10
PondB-Storage               0.63       200
PondB-Storage               1.63       1113
PondB-Storage               2.63       12158
PondB-Storage               3.63       40191
PondB-Storage               4.63       56490
PondB-Storage               5.63       60706
PondB-Storage               6.63       64941
PondB-Storage               7.63       69847
PondB-Storage               8.63       74466
PondB-Storage               9.63       80188
PondB-Storage               10.63      84593
;
;POND_RG3A_STORAGE
PondC-Storage    Storage    0.00       100
PondC-Storage               0.57       150
PondC-Storage               1.57       2478
PondC-Storage               2.57       13589
PondC-Storage               3.57       21496
PondC-Storage               4.57       24155
PondC-Storage               5.57       26740
PondC-Storage               6.57       29683
PondC-Storage               7.33       31696

[TIMESERIES]
;;Name           Date       Time       Value
;;-------------- ---------- ---------- ----------
;Hydrograph from Merrick original SWMM
LinkA24                     0:01:00    0
LinkA24                     0:02:00    0
LinkA24                     0:03:00    0
LinkA24                     0:04:00    0
LinkA24                     0:05:00    0
LinkA24                     0:06:00    0
LinkA24                     0:07:00    0
LinkA24                     0:08:00    0
LinkA24                     0:09:00    0
LinkA24                     0:10:00    0
LinkA24                     0:11:00    0
LinkA24                     0:12:00    0
LinkA24                     0:13:00    0
LinkA24                     0:14:00    0
LinkA24                     0:15:00    0
LinkA24                     0:16:00    0
LinkA24                     0:17:00    0
LinkA24                     0:18:00    0
LinkA24                     0:19:00    0
LinkA24                     0:20:00    0
LinkA24                     0:21:00    0
LinkA24                     0:22:00    0
LinkA24                     0:23:00    0
LinkA24                     0:24:00    0
LinkA24                     0:25:00    0
LinkA24                     0:26:00    0
```

LinkA24	0:27:00	0
LinkA24	0:28:00	0
LinkA24	0:29:00	0
LinkA24	0:30:00	0
LinkA24	0:31:00	0.2
LinkA24	0:32:00	1.04
LinkA24	0:33:00	2.32
LinkA24	0:34:00	4.11
LinkA24	0:35:00	7.66
LinkA24	0:36:00	15.37
LinkA24	0:37:00	30.08
LinkA24	0:38:00	53.78
LinkA24	0:39:00	86.93
LinkA24	0:40:00	128.58
LinkA24	0:41:00	176.87
LinkA24	0:42:00	229.72
LinkA24	0:43:00	285.33
LinkA24	0:44:00	342.61
LinkA24	0:45:00	401.26
LinkA24	0:46:00	461.53
LinkA24	0:47:00	524.01
LinkA24	0:48:00	589.28
LinkA24	0:49:00	658.38
LinkA24	0:50:00	732.54
LinkA24	0:51:00	812.5
LinkA24	0:52:00	898.06
LinkA24	0:53:00	988.16
LinkA24	0:54:00	1081.67
LinkA24	0:55:00	1177.97
LinkA24	0:56:00	1278.4
LinkA24	0:57:00	1385.65
LinkA24	0:58:00	1504.32
LinkA24	0:59:00	1637.64
LinkA24	1:00:00	1789.11
LinkA24	1:01:00	1961.45
LinkA24	1:02:00	2153.89
LinkA24	1:03:00	2362.17
LinkA24	1:04:00	2580.22
LinkA24	1:05:00	2801.69
LinkA24	1:06:00	3020.54
LinkA24	1:07:00	3230.92
LinkA24	1:08:00	3427.07
LinkA24	1:09:00	3604.15
LinkA24	1:10:00	3759.02
LinkA24	1:11:00	3890.68
LinkA24	1:12:00	4000.26
LinkA24	1:13:00	4090.57
LinkA24	1:14:00	4165.42
LinkA24	1:15:00	4229.01
LinkA24	1:16:00	4285.24
LinkA24	1:17:00	4337.23
LinkA24	1:18:00	4387.04
LinkA24	1:19:00	4435.67
LinkA24	1:20:00	4483.18
LinkA24	1:21:00	4528.94
LinkA24	1:22:00	4571.85
LinkA24	1:23:00	4610.62
LinkA24	1:24:00	4644.01
LinkA24	1:25:00	4671.01
LinkA24	1:26:00	4690.87
LinkA24	1:27:00	4703.18
LinkA24	1:28:00	4707.82
LinkA24	1:29:00	4704.86
LinkA24	1:30:00	4694.58

LinkA24	1:31:00	4677.36
LinkA24	1:32:00	4653.76
LinkA24	1:33:00	4624.33
LinkA24	1:34:00	4589.71
LinkA24	1:35:00	4550.56
LinkA24	1:36:00	4507.53
LinkA24	1:37:00	4461.21
LinkA24	1:38:00	4412.1
LinkA24	1:39:00	4360.68
LinkA24	1:40:00	4307.38
LinkA24	1:41:00	4252.59
LinkA24	1:42:00	4196.65
LinkA24	1:43:00	4139.88
LinkA24	1:44:00	4082.56
LinkA24	1:45:00	4024.87
LinkA24	1:46:00	3967.1
LinkA24	1:47:00	3909.28
LinkA24	1:48:00	3851.54
LinkA24	1:49:00	3794.09
LinkA24	1:50:00	3736.99
LinkA24	1:51:00	3680.2
LinkA24	1:52:00	3623.69
LinkA24	1:53:00	3567.44
LinkA24	1:54:00	3511.67
LinkA24	1:55:00	3456.47
LinkA24	1:56:00	3401.85
LinkA24	1:57:00	3347.89
LinkA24	1:58:00	3294.58
LinkA24	1:59:00	3241.84
LinkA24	2:00:00	3189.51
LinkA24	2:01:00	3137.45
LinkA24	2:02:00	3085.59
LinkA24	2:03:00	3033.98
LinkA24	2:04:00	2982.75
LinkA24	2:05:00	2932.08
LinkA24	2:06:00	2882.14
LinkA24	2:07:00	2833.12
LinkA24	2:08:00	2785.15
LinkA24	2:09:00	2738.32
LinkA24	2:10:00	2692.69
LinkA24	2:11:00	2648.26
LinkA24	2:12:00	2605.03
LinkA24	2:13:00	2562.99
LinkA24	2:14:00	2522.13
LinkA24	2:15:00	2482.41
LinkA24	2:16:00	2443.81
LinkA24	2:17:00	2406.33
LinkA24	2:18:00	2369.92
LinkA24	2:19:00	2334.54
LinkA24	2:20:00	2300.07
LinkA24	2:21:00	2266.45
LinkA24	2:22:00	2233.62
LinkA24	2:23:00	2201.55
LinkA24	2:24:00	2170.17
LinkA24	2:25:00	2139.37
LinkA24	2:26:00	2109.29
LinkA24	2:27:00	2079.76
LinkA24	2:28:00	2050.89
LinkA24	2:29:00	2022.77
LinkA24	2:30:00	1995.22
LinkA24	2:31:00	1968.04
LinkA24	2:32:00	1941.21
LinkA24	2:33:00	1914.76
LinkA24	2:34:00	1888.79

LinkA24	2:35:00	1863.37
LinkA24	2:36:00	1838.39
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LinkA24	11:37:00	1.94
LinkA24	11:38:00	1.93
LinkA24	11:39:00	1.91
LinkA24	11:40:00	1.9
LinkA24	11:41:00	1.89
LinkA24	11:42:00	1.88
LinkA24	11:43:00	1.87
LinkA24	11:44:00	1.86
LinkA24	11:45:00	1.85
LinkA24	11:46:00	1.84
LinkA24	11:47:00	1.82
LinkA24	11:48:00	1.81
LinkA24	11:49:00	1.8
LinkA24	11:50:00	1.79
LinkA24	11:51:00	1.78
LinkA24	11:52:00	1.77
LinkA24	11:53:00	1.76
LinkA24	11:54:00	1.75
LinkA24	11:55:00	1.74
LinkA24	11:56:00	1.73
LinkA24	11:57:00	1.72
LinkA24	11:58:00	1.71
LinkA24	11:59:00	1.7
LinkA24	12:00:00	1.69
LinkA24	12:01:00	1.68
LinkA24	12:02:00	1.67
LinkA24	12:03:00	1.66
LinkA24	12:04:00	1.65
LinkA24	12:05:00	1.64
LinkA24	12:06:00	1.63
LinkA24	12:07:00	1.62
LinkA24	12:08:00	1.61
LinkA24	12:09:00	1.6
LinkA24	12:10:00	1.59

LinkA24	12:11:00	1.58
LinkA24	12:12:00	1.57
LinkA24	12:13:00	1.57
LinkA24	12:14:00	1.56
LinkA24	12:15:00	1.55
LinkA24	12:16:00	1.54
LinkA24	12:17:00	1.53
LinkA24	12:18:00	1.52
LinkA24	12:19:00	1.51
LinkA24	12:20:00	1.5
LinkA24	12:21:00	1.49
LinkA24	12:22:00	1.48
LinkA24	12:23:00	1.47
LinkA24	12:24:00	1.47
LinkA24	12:25:00	1.46
LinkA24	12:26:00	1.45
LinkA24	12:27:00	1.44
LinkA24	12:28:00	1.43
LinkA24	12:29:00	1.43
LinkA24	12:30:00	1.42
LinkA24	12:31:00	1.41
LinkA24	12:32:00	1.4
LinkA24	12:33:00	1.39
LinkA24	12:34:00	1.39
LinkA24	12:35:00	1.38
LinkA24	12:36:00	1.37
LinkA24	12:37:00	1.36
LinkA24	12:38:00	1.36
LinkA24	12:39:00	1.35
LinkA24	12:40:00	1.34
LinkA24	12:41:00	1.34
LinkA24	12:42:00	1.33
LinkA24	12:43:00	1.32
LinkA24	12:44:00	1.31
LinkA24	12:45:00	1.31
LinkA24	12:46:00	1.3
LinkA24	12:47:00	1.29
LinkA24	12:48:00	1.29
LinkA24	12:49:00	1.28
LinkA24	12:50:00	1.28
LinkA24	12:51:00	1.27
LinkA24	12:52:00	1.26
LinkA24	12:53:00	1.26
LinkA24	12:54:00	1.25
LinkA24	12:55:00	1.24
LinkA24	12:56:00	1.24
LinkA24	12:57:00	1.23
LinkA24	12:58:00	1.23
LinkA24	12:59:00	1.22
LinkA24	13:00:00	1.21
LinkA24	13:01:00	1.21
LinkA24	13:02:00	1.2
LinkA24	13:03:00	1.19
LinkA24	13:04:00	1.19
LinkA24	13:05:00	1.18
LinkA24	13:06:00	1.18
LinkA24	13:07:00	1.17
LinkA24	13:08:00	1.17
LinkA24	13:09:00	1.16
LinkA24	13:10:00	1.16
LinkA24	13:11:00	1.15
LinkA24	13:12:00	1.15
LinkA24	13:13:00	1.14
LinkA24	13:14:00	1.13

LinkA24	13:15:00	1.13
LinkA24	13:16:00	1.12
LinkA24	13:17:00	1.12
LinkA24	13:18:00	1.11
LinkA24	13:19:00	1.1
LinkA24	13:20:00	1.1
LinkA24	13:21:00	1.09
LinkA24	13:22:00	1.09
LinkA24	13:23:00	1.08
LinkA24	13:24:00	1.08
LinkA24	13:25:00	1.07
LinkA24	13:26:00	1.07
LinkA24	13:27:00	1.06
LinkA24	13:28:00	1.06
LinkA24	13:29:00	1.05
LinkA24	13:30:00	1.05
LinkA24	13:31:00	1.05
LinkA24	13:32:00	1.04
LinkA24	13:33:00	1.04
LinkA24	13:34:00	1.03
LinkA24	13:35:00	1.03
LinkA24	13:36:00	1.02
LinkA24	13:37:00	1.02
LinkA24	13:38:00	1.02
LinkA24	13:39:00	1.01
LinkA24	13:40:00	1.01
LinkA24	13:41:00	1
LinkA24	13:42:00	1
LinkA24	13:43:00	0.99
LinkA24	13:44:00	0.99
LinkA24	13:45:00	0.99
LinkA24	13:46:00	0.98
LinkA24	13:47:00	0.98
LinkA24	13:48:00	0.98
LinkA24	13:49:00	0.97
LinkA24	13:50:00	0.97
LinkA24	13:51:00	0.96
LinkA24	13:52:00	0.96
LinkA24	13:53:00	0.95
LinkA24	13:54:00	0.95
LinkA24	13:55:00	0.95
LinkA24	13:56:00	0.94
LinkA24	13:57:00	0.94
LinkA24	13:58:00	0.94
LinkA24	13:59:00	0.93
LinkA24	14:00:00	0.93
LinkA24	14:01:00	0.92
LinkA24	14:02:00	0.92
LinkA24	14:03:00	0.92
LinkA24	14:04:00	0.91
LinkA24	14:05:00	0.91
LinkA24	14:06:00	0.9
LinkA24	14:07:00	0.9
LinkA24	14:08:00	0.9
LinkA24	14:09:00	0.89
LinkA24	14:10:00	0.89
LinkA24	14:11:00	0.89
LinkA24	14:12:00	0.88
LinkA24	14:13:00	0.88
LinkA24	14:14:00	0.88
LinkA24	14:15:00	0.87
LinkA24	14:16:00	0.87
LinkA24	14:17:00	0.86
LinkA24	14:18:00	0.86

LinkA24	14:19:00	0.86
LinkA24	14:20:00	0.85
LinkA24	14:21:00	0.85
LinkA24	14:22:00	0.85
LinkA24	14:23:00	0.84
LinkA24	14:24:00	0.84
LinkA24	14:25:00	0.84
LinkA24	14:26:00	0.83
LinkA24	14:27:00	0.83
LinkA24	14:28:00	0.83
LinkA24	14:29:00	0.82
LinkA24	14:30:00	0.82
LinkA24	14:31:00	0.82
LinkA24	14:32:00	0.81
LinkA24	14:33:00	0.81
LinkA24	14:34:00	0.81
LinkA24	14:35:00	0.8
LinkA24	14:36:00	0.8
LinkA24	14:37:00	0.8
LinkA24	14:38:00	0.79
LinkA24	14:39:00	0.79
LinkA24	14:40:00	0.79
LinkA24	14:41:00	0.78
LinkA24	14:42:00	0.78
LinkA24	14:43:00	0.78
LinkA24	14:44:00	0.77
LinkA24	14:45:00	0.77
LinkA24	14:46:00	0.77
LinkA24	14:47:00	0.76
LinkA24	14:48:00	0.76
LinkA24	14:49:00	0.76
LinkA24	14:50:00	0.75
LinkA24	14:51:00	0.75
LinkA24	14:52:00	0.75
LinkA24	14:53:00	0.74
LinkA24	14:54:00	0.74
LinkA24	14:55:00	0.74
LinkA24	14:56:00	0.73
LinkA24	14:57:00	0.73
LinkA24	14:58:00	0.73
LinkA24	14:59:00	0.73
LinkA24	15:00:00	0.72
LinkA24	15:01:00	0.72
LinkA24	15:02:00	0.72
LinkA24	15:03:00	0.71
LinkA24	15:04:00	0.71
LinkA24	15:05:00	0.71
LinkA24	15:06:00	0.71
LinkA24	15:07:00	0.7
LinkA24	15:08:00	0.7
LinkA24	15:09:00	0.7
LinkA24	15:10:00	0.69
LinkA24	15:11:00	0.69
LinkA24	15:12:00	0.69
LinkA24	15:13:00	0.69
LinkA24	15:14:00	0.68
LinkA24	15:15:00	0.68
LinkA24	15:16:00	0.68
LinkA24	15:17:00	0.68
LinkA24	15:18:00	0.67
LinkA24	15:19:00	0.67
LinkA24	15:20:00	0.67
LinkA24	15:21:00	0.66
LinkA24	15:22:00	0.66

```
LinkA24                      15:23:00   0.66
LinkA24                      15:24:00   0.66
LinkA24                      15:25:00   0.65
LinkA24                      15:26:00   0.65
LinkA24                      15:27:00   0.65
LinkA24                      15:28:00   0.65
LinkA24                      15:29:00   0.64
LinkA24                      15:30:00   0.64
LinkA24                      15:31:00   0.64
LinkA24                      15:32:00   0.64
LinkA24                      15:33:00   0.63
LinkA24                      15:34:00   0.63
LinkA24                      15:35:00   0.63
LinkA24                      15:36:00   0.63
LinkA24                      15:37:00   0.62
LinkA24                      15:38:00   0.62
LinkA24                      15:39:00   0.62
LinkA24                      15:40:00   0.62
LinkA24                      15:41:00   0.61
LinkA24                      15:42:00   0.61
LinkA24                      15:43:00   0.61
LinkA24                      15:44:00   0.61
LinkA24                      15:45:00   0.6
LinkA24                      15:46:00   0.6
LinkA24                      15:47:00   0.6
LinkA24                      15:48:00   0.6
LinkA24                      15:49:00   0.6
LinkA24                      15:50:00   0.59
LinkA24                      15:51:00   0.59
LinkA24                      15:52:00   0.59
LinkA24                      15:53:00   0.59
LinkA24                      15:54:00   0.58
LinkA24                      15:55:00   0.58
LinkA24                      15:56:00   0.58
LinkA24                      15:57:00   0.58
LinkA24                      15:58:00   0.58
LinkA24                      15:59:00   0.57
LinkA24                      16:00:00   0.57
;
;Hydrograph from Merrick SWMM
LinkHC117-DF                 0:01:00    0
LinkHC117-DF                 0:02:00    0
LinkHC117-DF                 0:03:00    0
LinkHC117-DF                 0:04:00    0
LinkHC117-DF                 0:05:00    0
LinkHC117-DF                 0:06:00    0
LinkHC117-DF                 0:07:00    0
LinkHC117-DF                 0:08:00    0
LinkHC117-DF                 0:09:00    0
LinkHC117-DF                 0:10:00    0
LinkHC117-DF                 0:11:00    0
LinkHC117-DF                 0:12:00    0
LinkHC117-DF                 0:13:00    0
LinkHC117-DF                 0:14:00    0.01
LinkHC117-DF                 0:15:00    0.01
LinkHC117-DF                 0:16:00    0.01
LinkHC117-DF                 0:17:00    0.02
LinkHC117-DF                 0:18:00    0.03
LinkHC117-DF                 0:19:00    0.03
LinkHC117-DF                 0:20:00    0.04
LinkHC117-DF                 0:21:00    0.06
LinkHC117-DF                 0:22:00    0.12
LinkHC117-DF                 0:23:00    0.25
LinkHC117-DF                 0:24:00    0.47
```

LinkHC117-DF	0:25:00	0.77
LinkHC117-DF	0:26:00	1.47
LinkHC117-DF	0:27:00	3.45
LinkHC117-DF	0:28:00	7.67
LinkHC117-DF	0:29:00	14.6
LinkHC117-DF	0:30:00	24.1
LinkHC117-DF	0:31:00	35.42
LinkHC117-DF	0:32:00	47.77
LinkHC117-DF	0:33:00	61.55
LinkHC117-DF	0:34:00	76.85
LinkHC117-DF	0:35:00	93.29
LinkHC117-DF	0:36:00	110.46
LinkHC117-DF	0:37:00	127.86
LinkHC117-DF	0:38:00	145.06
LinkHC117-DF	0:39:00	161.66
LinkHC117-DF	0:40:00	177.34
LinkHC117-DF	0:41:00	191.82
LinkHC117-DF	0:42:00	204.9
LinkHC117-DF	0:43:00	216.54
LinkHC117-DF	0:44:00	226.71
LinkHC117-DF	0:45:00	235.4
LinkHC117-DF	0:46:00	242.6
LinkHC117-DF	0:47:00	248.38
LinkHC117-DF	0:48:00	252.85
LinkHC117-DF	0:49:00	256.12
LinkHC117-DF	0:50:00	258.4
LinkHC117-DF	0:51:00	259.93
LinkHC117-DF	0:52:00	260.82
LinkHC117-DF	0:53:00	261.16
LinkHC117-DF	0:54:00	261.02
LinkHC117-DF	0:55:00	260.44
LinkHC117-DF	0:56:00	259.44
LinkHC117-DF	0:57:00	258.04
LinkHC117-DF	0:58:00	256.31
LinkHC117-DF	0:59:00	254.35
LinkHC117-DF	1:00:00	252.2
LinkHC117-DF	1:01:00	249.91
LinkHC117-DF	1:02:00	247.54
LinkHC117-DF	1:03:00	245.13
LinkHC117-DF	1:04:00	242.7
LinkHC117-DF	1:05:00	240.27
LinkHC117-DF	1:06:00	237.86
LinkHC117-DF	1:07:00	235.47
LinkHC117-DF	1:08:00	233.06
LinkHC117-DF	1:09:00	230.5
LinkHC117-DF	1:10:00	227.73
LinkHC117-DF	1:11:00	224.69
LinkHC117-DF	1:12:00	221.38
LinkHC117-DF	1:13:00	217.87
LinkHC117-DF	1:14:00	214.21
LinkHC117-DF	1:15:00	210.46
LinkHC117-DF	1:16:00	206.63
LinkHC117-DF	1:17:00	202.74
LinkHC117-DF	1:18:00	198.77
LinkHC117-DF	1:19:00	194.7
LinkHC117-DF	1:20:00	190.54
LinkHC117-DF	1:21:00	186.29
LinkHC117-DF	1:22:00	181.97
LinkHC117-DF	1:23:00	177.56
LinkHC117-DF	1:24:00	173.1
LinkHC117-DF	1:25:00	168.62
LinkHC117-DF	1:26:00	164.16
LinkHC117-DF	1:27:00	159.74
LinkHC117-DF	1:28:00	155.41

LinkHC117-DF	1:29:00	151.19
LinkHC117-DF	1:30:00	147.06
LinkHC117-DF	1:31:00	143.02
LinkHC117-DF	1:32:00	139.07
LinkHC117-DF	1:33:00	135.2
LinkHC117-DF	1:34:00	131.44
LinkHC117-DF	1:35:00	127.77
LinkHC117-DF	1:36:00	124.19
LinkHC117-DF	1:37:00	120.7
LinkHC117-DF	1:38:00	117.3
LinkHC117-DF	1:39:00	113.99
LinkHC117-DF	1:40:00	110.79
LinkHC117-DF	1:41:00	107.74
LinkHC117-DF	1:42:00	104.83
LinkHC117-DF	1:43:00	102.06
LinkHC117-DF	1:44:00	99.44
LinkHC117-DF	1:45:00	96.92
LinkHC117-DF	1:46:00	94.49
LinkHC117-DF	1:47:00	92.15
LinkHC117-DF	1:48:00	89.9
LinkHC117-DF	1:49:00	87.72
LinkHC117-DF	1:50:00	85.6
LinkHC117-DF	1:51:00	83.53
LinkHC117-DF	1:52:00	81.52
LinkHC117-DF	1:53:00	79.56
LinkHC117-DF	1:54:00	77.64
LinkHC117-DF	1:55:00	75.76
LinkHC117-DF	1:56:00	73.92
LinkHC117-DF	1:57:00	72.11
LinkHC117-DF	1:58:00	70.34
LinkHC117-DF	1:59:00	68.6
LinkHC117-DF	2:00:00	66.89
LinkHC117-DF	2:01:00	65.22
LinkHC117-DF	2:02:00	63.57
LinkHC117-DF	2:03:00	61.97
LinkHC117-DF	2:04:00	60.39
LinkHC117-DF	2:05:00	58.84
LinkHC117-DF	2:06:00	57.31
LinkHC117-DF	2:07:00	55.79
LinkHC117-DF	2:08:00	54.28
LinkHC117-DF	2:09:00	52.79
LinkHC117-DF	2:10:00	51.31
LinkHC117-DF	2:11:00	49.83
LinkHC117-DF	2:12:00	48.38
LinkHC117-DF	2:13:00	46.93
LinkHC117-DF	2:14:00	45.5
LinkHC117-DF	2:15:00	44.06
LinkHC117-DF	2:16:00	42.61
LinkHC117-DF	2:17:00	41.16
LinkHC117-DF	2:18:00	39.72
LinkHC117-DF	2:19:00	38.29
LinkHC117-DF	2:20:00	36.9
LinkHC117-DF	2:21:00	35.54
LinkHC117-DF	2:22:00	34.21
LinkHC117-DF	2:23:00	32.91
LinkHC117-DF	2:24:00	31.64
LinkHC117-DF	2:25:00	30.42
LinkHC117-DF	2:26:00	29.23
LinkHC117-DF	2:27:00	28.07
LinkHC117-DF	2:28:00	26.95
LinkHC117-DF	2:29:00	25.86
LinkHC117-DF	2:30:00	24.8
LinkHC117-DF	2:31:00	23.76
LinkHC117-DF	2:32:00	22.76

LinkHC117-DF	2:33:00	21.77
LinkHC117-DF	2:34:00	20.81
LinkHC117-DF	2:35:00	19.87
LinkHC117-DF	2:36:00	18.95
LinkHC117-DF	2:37:00	18.05
LinkHC117-DF	2:38:00	17.16
LinkHC117-DF	2:39:00	16.3
LinkHC117-DF	2:40:00	15.45
LinkHC117-DF	2:41:00	14.62
LinkHC117-DF	2:42:00	13.8
LinkHC117-DF	2:43:00	13
LinkHC117-DF	2:44:00	12.21
LinkHC117-DF	2:45:00	11.43
LinkHC117-DF	2:46:00	10.68
LinkHC117-DF	2:47:00	9.96
LinkHC117-DF	2:48:00	9.28
LinkHC117-DF	2:49:00	8.66
LinkHC117-DF	2:50:00	8.1
LinkHC117-DF	2:51:00	7.57
LinkHC117-DF	2:52:00	7.08
LinkHC117-DF	2:53:00	6.63
LinkHC117-DF	2:54:00	6.2
LinkHC117-DF	2:55:00	5.8
LinkHC117-DF	2:56:00	5.44
LinkHC117-DF	2:57:00	5.1
LinkHC117-DF	2:58:00	4.78
LinkHC117-DF	2:59:00	4.48
LinkHC117-DF	3:00:00	4.2
LinkHC117-DF	3:01:00	3.93
LinkHC117-DF	3:02:00	3.69
LinkHC117-DF	3:03:00	3.45
LinkHC117-DF	3:04:00	3.23
LinkHC117-DF	3:05:00	3.03
LinkHC117-DF	3:06:00	2.84
LinkHC117-DF	3:07:00	2.66
LinkHC117-DF	3:08:00	2.5
LinkHC117-DF	3:09:00	2.34
LinkHC117-DF	3:10:00	2.19
LinkHC117-DF	3:11:00	2.06
LinkHC117-DF	3:12:00	1.93
LinkHC117-DF	3:13:00	1.81
LinkHC117-DF	3:14:00	1.7
LinkHC117-DF	3:15:00	1.59
LinkHC117-DF	3:16:00	1.5
LinkHC117-DF	3:17:00	1.4
LinkHC117-DF	3:18:00	1.32
LinkHC117-DF	3:19:00	1.24
LinkHC117-DF	3:20:00	1.17
LinkHC117-DF	3:21:00	1.1
LinkHC117-DF	3:22:00	1.04
LinkHC117-DF	3:23:00	0.99
LinkHC117-DF	3:24:00	0.94
LinkHC117-DF	3:25:00	0.9
LinkHC117-DF	3:26:00	0.86
LinkHC117-DF	3:27:00	0.83
LinkHC117-DF	3:28:00	0.8
LinkHC117-DF	3:29:00	0.77
LinkHC117-DF	3:30:00	0.74
LinkHC117-DF	3:31:00	0.71
LinkHC117-DF	3:32:00	0.69
LinkHC117-DF	3:33:00	0.67
LinkHC117-DF	3:34:00	0.64
LinkHC117-DF	3:35:00	0.62
LinkHC117-DF	3:36:00	0.6

LinkHC117-DF	3:37:00	0.59
LinkHC117-DF	3:38:00	0.57
LinkHC117-DF	3:39:00	0.55
LinkHC117-DF	3:40:00	0.53
LinkHC117-DF	3:41:00	0.52
LinkHC117-DF	3:42:00	0.5
LinkHC117-DF	3:43:00	0.49
LinkHC117-DF	3:44:00	0.47
LinkHC117-DF	3:45:00	0.46
LinkHC117-DF	3:46:00	0.45
LinkHC117-DF	3:47:00	0.43
LinkHC117-DF	3:48:00	0.42
LinkHC117-DF	3:49:00	0.4
LinkHC117-DF	3:50:00	0.39
LinkHC117-DF	3:51:00	0.37
LinkHC117-DF	3:52:00	0.36
LinkHC117-DF	3:53:00	0.34
LinkHC117-DF	3:54:00	0.33
LinkHC117-DF	3:55:00	0.32
LinkHC117-DF	3:56:00	0.31
LinkHC117-DF	3:57:00	0.29
LinkHC117-DF	3:58:00	0.28
LinkHC117-DF	3:59:00	0.27
LinkHC117-DF	4:00:00	0.26
LinkHC117-DF	4:01:00	0.25
LinkHC117-DF	4:02:00	0.25
LinkHC117-DF	4:03:00	0.24
LinkHC117-DF	4:04:00	0.23
LinkHC117-DF	4:05:00	0.22
LinkHC117-DF	4:06:00	0.21
LinkHC117-DF	4:07:00	0.21
LinkHC117-DF	4:08:00	0.2
LinkHC117-DF	4:09:00	0.19
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LinkHC117-DF	4:23:00	0.13
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LinkHC117-DF	4:25:00	0.12
LinkHC117-DF	4:26:00	0.12
LinkHC117-DF	4:27:00	0.11
LinkHC117-DF	4:28:00	0.11
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LinkHC117-DF	4:30:00	0.11
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LinkHC117-DF	6:00:00	0.02
LinkHC117-DF	6:01:00	0.02
LinkHC117-DF	6:02:00	0.02
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LinkHC117-DF	6:32:00	0.01
LinkHC117-DF	6:33:00	0.01
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LinkHC117-DF	6:48:00	0.01

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LinkHC117-DF	7:02:00	0.01
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LinkHC117-DF	7:44:00	0.01
LinkHC117-DF	7:45:00	0.01
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LinkHC117-DF	7:48:00	0.01
LinkHC117-DF	7:49:00	0.01
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LinkHC117-DF	7:51:00	0.01
LinkHC117-DF	7:52:00	0.01

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LinkHC117-DF                7:53:00    0.01
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LinkHC117-DF                7:55:00    0.01
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LinkHC117-DF                7:58:00    0.01
LinkHC117-DF                7:59:00    0.01
LinkHC117-DF                8:00:00    0.01

[REPORT]
;;Reporting Options
SUBCATCHMENTS ALL
NODES ALL
LINKS ALL

[TAGS]

[MAP]
DIMENSIONS -3357.848 -32.423 12997.925 10901.746
Units      None

[COORDINATES]
;;Node           X-Coord            Y-Coord
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100              4940.770           9434.847
101              5093.781           8980.750
102              5115.718           8908.510
105              3938.796           8176.209
106              3590.887           7591.008
108              3692.004           6927.443
109              5219.383           8641.514
110              4002.962           7618.460
112              4461.994           7539.487
113              4264.561           7534.551
120              2112.537           4582.922
121              831.726            2325.217
124              6377.098           7322.310
125              6650.193           7011.813
126              6614.018           7169.299
127              7280.355           6340.079
128              7309.970           6196.940
129              7026.777           8648.507
130              7313.055           8734.884
132              7300.099           7504.936
138              10088.845          7949.778
142              5257.956           8518.563
145              9693.978           7001.481
146              9059.788           6100.530
147              10125.362          6527.242
148              10691.017          5905.726
149              10769.045          5843.780
150              7349.457           5920.533
151              7578.973           4996.298
152              7678.832           4646.631
154              3726.555           7697.433
155              3696.940           7564.166
156              3667.325           7297.631
157              3682.132           7085.390
158              3736.426           6744.817
159              3795.656           6557.256
160              4002.962           6108.095
161              4392.892           6231.491
162              4876.604           6266.041
163              5315.893           6182.132
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164	6885.489	9405.232
165	3726.555	5945.212
166	3489.635	5732.971
167	3287.266	5471.372
168	3198.421	5318.361
169	7097.730	9420.039
170	2680.158	5609.576
171	2566.634	5575.025
172	2423.495	5254.195
173	6564.659	9326.259
174	3065.153	5046.890
176	1875.617	2485.192
177	7295.163	9390.424
178	1101.736	2792.912
135	7076.135	9292.633
182	6742.349	8580.948
183	7023.692	7440.770
184	7709.773	7603.653
185	6569.595	7327.246
186	7477.789	9321.323
187	3810.464	7934.353
188	8366.239	8951.135
189	9787.759	8358.835
190	10261.599	8151.530
191	10207.305	8013.327
192	10153.011	7929.418
193	9985.192	7633.268
194	9787.759	7356.861
195	9565.647	7129.812
196	9343.534	7371.668
197	4930.898	8946.199
198	4723.593	8852.419
199	4220.138	8506.910
200	-1882.835	1233.124
201	-2374.136	762.586
202	-2396.347	635.489
203	1280.135	1527.242
207	-508.391	2080.454
208	-157.947	2413.006
210	-2390.309	702.146
211	-2156.960	678.677
212	-1811.451	609.576
213	-1130.306	599.704
214	-449.161	767.522
215	217.177	1073.544
216	1046.397	1458.539
217	1243.830	1586.871
218	-1505.545	1253.616
219	-1141.514	1283.751
220	-583.414	1481.437
221	-354.388	1551.350
222	-667.189	1728.243
223	-687.681	1923.517
224	-666.338	2095.262
300	3390.918	5239.388
316	10562.685	6037.142
318	9387.657	6240.357
319	9672.131	6375.362
S_B73	2057.711	2343.898
405	10434.353	7198.914
410	11283.317	6784.304
411	11085.884	8941.264
412	11046.397	8640.178
413	10932.873	8215.696

414	10799.605	7835.637
415	10631.787	7509.872
417	12018.756	8763.574
418	11959.526	8477.295
419	11865.745	8062.685
420	11732.478	7618.460
421	11535.044	7213.722
501	-2375.844	552.676
204	1374.630	1353.036
503	4347.998	5269.151
153	7810.519	4248.308
505	10967.423	5757.651
502	4230.917	5635.031
513	10873.643	5825.518
515	7467.917	5422.014
600	4526.160	8753.702
601	4353.406	8620.434
602	4022.705	8299.605
603	10034.551	6611.550
HC016	-2561.698	1875.617
HC017	-1767.029	2223.593
HC018	3213.228	9861.797
HC019	4526.160	10404.738
HC117	-2620.928	2290.227
O1	4649.556	10071.570
O2	-1783.992	1831.003
S_A240	-2156.960	2537.019
S_A245	2650.543	9842.053
S_A250	3311.945	9387.957
S_A260	4025.544	10378.430
S_B0	4432.379	9318.855
S_B1	4896.347	9093.040
S_B10	3958.539	7507.095
S_B11	4925.962	8466.190
S_B12	4496.545	7437.994
S_B13	4239.882	7386.476
S_B14	3657.453	6048.865
S_B15	3765.670	5882.956
S_B16	2912.142	5098.408
S_B17	3193.485	4998.766
S_B18	2319.842	5303.554
S_B19	2551.826	5211.007
S_B2	5241.856	8903.936
S_B20	2196.446	4538.500
S_B21	904.050	2272.179
S_B22	6583.896	8551.712
S_B23	7061.328	8574.469
S_B24	6395.853	7235.415
S_B25	6465.943	6993.769
S_B26	6727.542	7184.107
S_B27	7063.179	6347.174
S_B28	7112.537	6174.420
S_B29	7009.501	8732.416
S_B3	4299.112	8442.744
S_B30	7083.539	9179.109
S_B31	7461.130	8833.601
S_B32	7336.066	7404.171
S_B33	7729.516	7544.423
S_B34	7147.088	9574.284
S_B35	7167.448	9287.697
S_B36	7485.809	8648.507
S_B37	10212.241	7870.188
S_B38	10033.317	7873.272
S_B39	9195.459	7265.239

S_B4	4165.844	8566.140
S_B40	7688.042	7683.221
S_B41	9452.122	7487.352
S_B42	5306.022	8410.353
S_B43	9720.508	8242.535
S_B44	9854.393	8483.465
S_B45	9550.839	6876.851
S_B46	9127.290	5975.169
S_B47	10025.313	6444.371
S_B48	10547.878	5781.096
S_B49	10700.888	5702.122
S_B5	3840.079	8250.247
S_B50	7161.895	5889.684
S_B51	7403.751	4966.066
S_B53	3605.627	6128.455
S_B54	10002.468	7969.521
S_B6	3514.314	7467.609
S_B7	3460.704	7623.554
S_B8	3527.001	6897.903
S_B9	5370.188	8683.366
S_C0	-1700.820	1541.104
S_C1	-2477.789	771.224
S_C2	-2509.872	662.636
S_C3	1339.802	1514.284
S_C4	1205.400	1667.068
S_C5	-323.650	1495.299
S_C6	-385.728	1633.317
S_C7	-488.648	2032.330
S_C8	-25.313	2383.076
S_C9	-2430.898	464.585
S_F1-1	10913.693	8956.726
S_F1-10	11382.034	6720.138
S_F1-2	11152.363	8623.433
S_F1-3	10656.466	7893.633
S_F1-4	10888.450	7801.086
S_F1-5	10513.327	7134.748
S_F1-6	11801.579	8787.019
S_F1-7	12117.473	8709.279
S_F1-8	11801.579	7490.128
S_F1-9	11569.431	7664.537
400	5326.016	5928.444
151.2	7319.933	4751.477
S_OS1	-2275.796	518.925
S_OS2a	1489.897	877.033
S_OS4a	8087.473	4031.810
S_OS4c	7813.096	3969.941
S_OS5a	11201.876	5630.553
S_OS5b	10935.341	5497.285
S_OS5c	11221.619	5823.050
200A	-1980.171	1111.430
S_C10	-2142.615	1171.594
151.1	7631.785	4865.734
S_B59a	7368.324	4603.616
S_B61	6895.169	4600.928
151.3	6931.462	4489.360
S_B62	6994.639	4338.811
401	5334.081	5531.908
S_B57	5670.128	5521.155
S_B56	5637.868	5924.412
S_B55	5046.424	5945.919
S_B58	5065.243	5534.597
S_B71	3362.058	5148.146
S_B70	3440.067	5363.344
S_B65	3472.346	4752.721

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301             3647.194          4720.441
S_B64           3867.772          4696.232
S_B72           4536.296          5707.616
S_B67           4651.965          5285.291
S_B60           4735.354          4943.665
504.1           4442.147          4618.178
S_B66           4189.290          4631.628
504.2           4450.217          4290.002
B66a            4762.253          4279.242
S_B66a          5052.770          4276.552
504.3           4469.047          3977.966
S_B66b          4245.780          3988.726
506             4487.877          3708.969
S_B63           4224.260          3703.589
507             4493.257          3526.051
S_OS3a          4786.463          3254.365
504             4423.317          4981.324
S_B59           7911.761          4664.584
S_OS4b          8075.849          4478.976
O4              12028.628         8970.879
O3              11105.627         9094.274
O5              5160.833          10350.047
PondC           -1850.938         1552.320
PondB           4703.850          9553.307

[VERTICES]
;;Link          X-Coord           Y-Coord
;;--------------- ----------------- ------------------
```

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.2 (Build 5.2.1)

Ridgegate Southwest Village Filings 2 & 3
SWMM 5-year Output File

****
Analysis Options
****
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
Surcharge Method ..... EXTRAN
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 ..... 1.00 sec
Variable Time Step ..... YES
Maximum Trials 8
Number of Threads 1
Head Tolerance ..... 0.005000 ft

Flow Routing Continuity	Volume acre-feet	Volume 10^6 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	640.018	208.560
External Outflow	626.505	204.156
Flooding Loss	0.000	0.000
Evaporation Loss	0.000	0.000
Exfiltration Loss	0.000	0.000
Initial Stored Volume	0.001	0.000
Final Stored Volume	1.470	0.479
Continuity Error (%)	1.882	

****
Highest Continuity Errors
****
Node O1 (100.00%)
Node O2 (100.00%)

****
Time-Step Critical Elements
****
Link Pipe-204 (6.78%)
Link Pipe-74 (1.13%)

****
Highest Flow Instability Indexes

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*******************************
All links are stable.


*******************************
Most Frequent Nonconverging Nodes
*******************************
Node S_B73 (0.25%)
Node O4 (0.25%)
Node O3 (0.25%)
Node O5 (0.25%)


************************
Routing Time Step Summary
************************
Minimum Time Step           :     0.49 sec
Average Time Step           :     0.98 sec
Maximum Time Step           :     1.00 sec
% of Time in Steady State   :     0.00
Average Iterations per Step :     2.02
% of Steps Not Converging   :     0.25
Time Step Frequencies       :
    1.000 -  0.871 sec      :    92.77 %
    0.871 -  0.758 sec      :     1.49 %
    0.758 -  0.660 sec      :     2.54 %
    0.660 -  0.574 sec      :     3.20 %
    0.574 -  0.500 sec      :     0.00 %


******************
Node Depth Summary
******************

--------------------------------------------------------------------------------
                            Average  Maximum  Maximum  Time of Max    Reported
                              Depth    Depth      HGL   Occurrence   Max Depth
Node                 Type      Feet     Feet     Feet  days hr:min        Feet
--------------------------------------------------------------------------------
100                  JUNCTION     2.65     4.91  6072.95     0  01:21        4.91
101                  JUNCTION     2.05     4.30  6072.96     0  01:21        4.30
102                  JUNCTION     0.03     0.50  6075.41     0  00:31        0.50
105                  JUNCTION     0.08     1.32  6087.70     0  00:37        1.32
106                  JUNCTION     0.02     0.55  6098.91     0  00:30        0.55
108                  JUNCTION     0.09     1.49  6098.17     0  00:38        1.49
109                  JUNCTION     0.03     0.42  6079.94     0  00:35        0.42
110                  JUNCTION     0.03     0.64  6098.27     0  00:30        0.64
112                  JUNCTION     0.02     0.39  6099.73     0  00:30        0.39
113                  JUNCTION     0.02     0.45  6099.03     0  00:30        0.45
120                  JUNCTION     0.02     0.49  6117.68     0  00:31        0.48
121                  JUNCTION     0.02     0.40  6132.90     0  00:30        0.40
124                  JUNCTION     0.01     0.27  6097.09     0  00:30        0.27
125                  JUNCTION     0.01     0.20  6098.61     0  00:35        0.20
126                  JUNCTION     0.02     0.34  6096.70     0  00:34        0.34
127                  JUNCTION     0.07     1.12  6098.40     0  00:39        1.12
128                  JUNCTION     0.07     1.13  6099.94     0  00:39        1.12
129                  JUNCTION     0.04     0.64  6085.42     0  00:32        0.64
130                  JUNCTION     0.03     0.46  6086.14     0  00:34        0.46
132                  JUNCTION     0.04     0.90  6089.71     0  00:30        0.89
138                  JUNCTION     0.02     0.34  6091.14     0  00:31        0.34
142                  JUNCTION     0.02     0.32  6082.06     0  00:36        0.32
145                  JUNCTION     0.06     1.08  6099.46     0  00:36        1.08
146                  JUNCTION     0.02     0.29  6113.08     0  00:31        0.29
147                  JUNCTION     0.05     0.84  6103.51     0  00:36        0.84
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148	JUNCTION	0.04	0.69	6112.97	0	00:37	0.69
149	JUNCTION	0.05	0.79	6115.98	0	00:37	0.79
150	JUNCTION	0.07	1.08	6104.47	0	00:39	1.08
151	JUNCTION	0.06	1.06	6121.65	0	00:39	1.06
152	JUNCTION	0.04	0.74	6128.14	0	00:41	0.74
154	JUNCTION	0.08	1.33	6092.66	0	00:38	1.33
155	JUNCTION	0.08	1.28	6094.38	0	00:38	1.28
156	JUNCTION	0.09	1.48	6096.16	0	00:38	1.48
157	JUNCTION	0.09	1.48	6096.98	0	00:38	1.48
158	JUNCTION	0.09	1.49	6098.92	0	00:38	1.49
159	JUNCTION	0.09	1.47	6099.65	0	00:38	1.47
160	JUNCTION	0.09	1.48	6101.28	0	00:38	1.48
161	JUNCTION	0.03	0.46	6111.06	0	00:35	0.46
162	JUNCTION	0.04	0.56	6112.74	0	00:34	0.56
163	JUNCTION	0.04	0.56	6114.24	0	00:34	0.56
164	JUNCTION	0.08	1.27	6073.53	0	00:36	1.27
165	JUNCTION	0.05	1.02	6102.73	0	00:31	1.02
166	JUNCTION	0.06	1.02	6103.87	0	00:31	1.02
167	JUNCTION	0.05	0.93	6104.91	0	00:31	0.93
168	JUNCTION	0.05	0.93	6105.60	0	00:31	0.93
169	JUNCTION	0.08	1.29	6074.05	0	00:36	1.29
170	JUNCTION	0.05	0.96	6107.50	0	00:31	0.96
171	JUNCTION	0.05	0.93	6107.81	0	00:31	0.93
172	JUNCTION	0.05	0.90	6108.52	0	00:30	0.90
173	JUNCTION	0.42	2.23	6073.02	0	00:38	2.23
174	JUNCTION	0.03	0.36	6115.55	0	00:35	0.36
176	JUNCTION	0.02	0.21	6129.21	0	00:40	0.21
177	JUNCTION	0.08	1.41	6075.95	0	00:37	1.41
178	JUNCTION	0.02	0.31	6131.94	0	00:31	0.31
135	JUNCTION	0.03	0.49	6077.76	0	00:31	0.49
182	JUNCTION	0.08	1.45	6079.46	0	00:37	1.45
183	JUNCTION	0.07	1.17	6087.64	0	00:38	1.17
184	JUNCTION	0.03	0.60	6091.01	0	00:30	0.60
185	JUNCTION	0.03	0.44	6095.42	0	00:31	0.44
186	JUNCTION	0.08	1.40	6076.42	0	00:37	1.40
187	JUNCTION	0.08	1.33	6090.24	0	00:38	1.33
188	JUNCTION	0.07	1.19	6079.85	0	00:36	1.19
189	JUNCTION	0.07	1.19	6083.17	0	00:36	1.19
190	JUNCTION	0.06	0.93	6085.94	0	00:35	0.93
191	JUNCTION	0.07	1.30	6087.86	0	00:35	1.30
192	JUNCTION	0.06	0.97	6088.56	0	00:35	0.97
193	JUNCTION	0.05	0.87	6090.97	0	00:36	0.87
194	JUNCTION	0.05	0.87	6094.69	0	00:36	0.87
195	JUNCTION	0.05	0.87	6097.39	0	00:36	0.87
196	JUNCTION	0.02	0.43	6099.62	0	00:30	0.43
197	JUNCTION	0.09	1.67	6074.50	0	00:38	1.67
198	JUNCTION	0.08	1.34	6076.55	0	00:38	1.33
199	JUNCTION	0.08	1.35	6083.09	0	00:38	1.35
200	JUNCTION	0.99	2.26	6093.64	0	01:06	2.26
201	JUNCTION	0.05	0.91	6098.17	0	00:40	0.91
202	JUNCTION	0.03	0.60	6102.02	0	00:38	0.60
203	JUNCTION	0.07	1.33	6128.66	0	00:40	1.33
207	JUNCTION	0.03	0.54	6122.79	0	00:33	0.54
208	JUNCTION	0.03	0.45	6125.64	0	00:33	0.45
210	JUNCTION	0.05	0.96	6100.66	0	00:40	0.96
211	JUNCTION	0.05	0.97	6102.80	0	00:41	0.97
212	JUNCTION	0.05	0.78	6105.31	0	00:41	0.78
213	JUNCTION	0.04	0.73	6111.95	0	00:41	0.73
214	JUNCTION	0.04	0.72	6120.69	0	00:40	0.72
215	JUNCTION	0.06	0.99	6124.21	0	00:40	0.99
216	JUNCTION	0.06	0.98	6127.05	0	00:40	0.98
217	JUNCTION	0.06	1.00	6128.02	0	00:40	1.00
218	JUNCTION	0.03	0.57	6096.20	0	00:32	0.57
219	JUNCTION	0.02	0.39	6111.28	0	00:32	0.39

220	JUNCTION	0.02	0.39	6119.61	0	00:32	0.39
221	JUNCTION	0.01	0.24	6130.60	0	00:30	0.24
222	JUNCTION	0.03	0.53	6120.63	0	00:34	0.53
223	JUNCTION	0.03	0.47	6121.29	0	00:34	0.47
224	JUNCTION	0.03	0.48	6122.00	0	00:34	0.48
300	JUNCTION	0.03	0.56	6113.56	0	00:31	0.56
316	JUNCTION	0.04	0.69	6107.91	0	00:37	0.69
318	JUNCTION	0.02	0.32	6109.35	0	00:31	0.32
319	JUNCTION	0.02	0.37	6105.51	0	00:31	0.37
S_B73	JUNCTION	3.18	3.86	6129.86	0	00:25	3.40
405	JUNCTION	0.02	0.28	6101.09	0	00:30	0.28
410	JUNCTION	0.02	0.27	6114.26	0	00:33	0.27
411	JUNCTION	0.04	0.85	6083.60	0	00:30	0.85
412	JUNCTION	0.03	0.56	6084.92	0	00:30	0.56
413	JUNCTION	0.02	0.39	6089.64	0	00:31	0.39
414	JUNCTION	0.02	0.38	6094.02	0	00:30	0.38
415	JUNCTION	0.01	0.23	6098.72	0	00:30	0.23
417	JUNCTION	0.04	0.71	6095.96	0	00:31	0.71
418	JUNCTION	0.03	0.40	6097.86	0	00:35	0.40
419	JUNCTION	0.02	0.37	6102.35	0	00:35	0.37
420	JUNCTION	0.02	0.35	6108.60	0	00:35	0.35
421	JUNCTION	0.02	0.27	6111.16	0	00:33	0.27
501	JUNCTION	0.03	0.53	6102.99	0	00:38	0.53
204	JUNCTION	0.06	1.02	6129.01	0	00:40	1.02
503	JUNCTION	0.09	1.42	6113.42	0	00:43	1.42
153	JUNCTION	0.54	1.72	6129.65	0	00:41	1.72
505	JUNCTION	0.05	0.86	6119.54	0	00:38	0.86
502	JUNCTION	0.06	0.87	6110.87	0	00:42	0.87
513	JUNCTION	0.04	0.77	6117.60	0	00:38	0.77
515	JUNCTION	0.06	1.05	6113.11	0	00:39	1.05
600	JUNCTION	0.08	1.34	6078.84	0	00:38	1.34
601	JUNCTION	0.08	1.37	6081.14	0	00:38	1.37
602	JUNCTION	0.08	1.30	6085.80	0	00:38	1.30
603	JUNCTION	0.05	0.93	6102.69	0	00:36	0.93
HC016	JUNCTION	1.52	12.75	6092.75	0	01:29	12.75
HC017	JUNCTION	0.45	5.58	6080.58	0	01:32	5.58
HC018	JUNCTION	0.89	10.81	6060.81	0	01:39	10.81
HC019	JUNCTION	0.85	8.76	6048.76	0	01:46	8.76
HC117	JUNCTION	0.00	0.00	6080.00	0	00:00	0.00
O1	JUNCTION	0.00	0.00	6051.00	0	00:10	0.00
O2	JUNCTION	0.00	0.00	6086.58	0	00:10	0.00
S_A240	JUNCTION	0.00	0.00	6080.00	0	00:00	0.00
S_A245	JUNCTION	0.00	0.00	6055.00	0	00:00	0.00
S_A250	JUNCTION	0.00	0.00	6055.00	0	00:00	0.00
S_A260	JUNCTION	0.00	0.00	6050.00	0	00:00	0.00
S_B0	JUNCTION	0.00	0.00	6064.16	0	00:00	0.00
S_B1	JUNCTION	0.00	0.00	6064.80	0	00:00	0.00
S_B10	JUNCTION	0.02	0.42	6098.43	0	00:30	0.42
S_B11	JUNCTION	0.02	0.20	6086.06	0	00:37	0.20
S_B12	JUNCTION	0.02	0.50	6100.13	0	00:30	0.50
S_B13	JUNCTION	0.01	0.20	6099.83	0	00:30	0.20
S_B14	JUNCTION	0.02	0.41	6110.27	0	00:30	0.41
S_B15	JUNCTION	0.01	0.18	6109.56	0	00:30	0.18
S_B16	JUNCTION	0.02	0.20	6118.20	0	00:36	0.20
S_B17	JUNCTION	0.02	0.44	6117.96	0	00:31	0.44
S_B18	JUNCTION	0.03	0.36	6109.60	0	00:36	0.36
S_B19	JUNCTION	0.02	0.60	6109.40	0	00:30	0.60
S_B2	JUNCTION	0.00	0.00	6075.00	0	00:00	0.00
S_B20	JUNCTION	0.02	0.52	6118.14	0	00:30	0.52
S_B21	JUNCTION	0.02	0.41	6133.20	0	00:30	0.40
S_B22	JUNCTION	0.02	0.38	6084.22	0	00:32	0.38
S_B23	JUNCTION	0.02	0.43	6085.59	0	00:30	0.43
S_B24	JUNCTION	0.02	0.36	6097.59	0	00:30	0.36
S_B25	JUNCTION	0.02	0.24	6099.08	0	00:34	0.24

S_B26	JUNCTION	0.02	0.29	6097.47	0	00:34	0.29
S_B27	JUNCTION	0.02	0.24	6104.20	0	00:35	0.24
S_B28	JUNCTION	0.00	0.00	6100.50	0	00:00	0.00
S_B29	JUNCTION	0.01	0.18	6085.78	0	00:30	0.18
S_B3	JUNCTION	0.02	0.28	6086.68	0	00:33	0.28
S_B30	JUNCTION	0.01	0.21	6078.31	0	00:30	0.21
S_B31	JUNCTION	0.00	0.00	6087.00	0	00:00	0.00
S_B32	JUNCTION	0.03	0.52	6091.21	0	00:31	0.52
S_B33	JUNCTION	0.02	0.62	6091.41	0	00:30	0.62
S_B34	JUNCTION	0.02	0.28	6077.13	0	00:34	0.28
S_B35	JUNCTION	0.00	0.00	6079.00	0	00:00	0.00
S_B36	JUNCTION	0.03	0.52	6087.52	0	00:32	0.52
S_B37	JUNCTION	0.03	0.50	6091.01	0	00:31	0.50
S_B38	JUNCTION	0.03	0.43	6091.39	0	00:33	0.43
S_B39	JUNCTION	0.02	0.42	6099.99	0	00:30	0.42
S_B4	JUNCTION	0.02	0.48	6086.44	0	00:30	0.48
S_B40	JUNCTION	0.01	0.25	6091.48	0	00:30	0.25
S_B41	JUNCTION	0.01	0.12	6100.10	0	00:30	0.12
S_B42	JUNCTION	0.00	0.00	6082.00	0	00:00	0.00
S_B43	JUNCTION	0.01	0.17	6086.89	0	00:30	0.17
S_B44	JUNCTION	0.01	0.18	6084.55	0	00:32	0.18
S_B45	JUNCTION	0.02	0.35	6100.92	0	00:35	0.35
S_B46	JUNCTION	0.02	0.33	6114.81	0	00:31	0.33
S_B47	JUNCTION	0.00	0.00	6103.00	0	00:00	0.00
S_B48	JUNCTION	0.00	0.00	6112.50	0	00:00	0.00
S_B49	JUNCTION	0.00	0.00	6115.25	0	00:00	0.00
S_B5	JUNCTION	0.01	0.19	6092.30	0	00:33	0.19
S_B50	JUNCTION	0.00	0.00	6104.00	0	00:00	0.00
S_B51	JUNCTION	0.00	0.00	6121.00	0	00:00	0.00
S_B53	JUNCTION	0.00	0.00	6110.70	0	00:00	0.00
S_B54	JUNCTION	0.01	0.31	6091.62	0	00:30	0.31
S_B6	JUNCTION	0.00	0.00	6098.50	0	00:00	0.00
S_B7	JUNCTION	0.01	0.18	6099.44	0	00:33	0.18
S_B8	JUNCTION	0.01	0.19	6106.95	0	00:33	0.19
S_B9	JUNCTION	0.00	0.00	6079.75	0	00:00	0.00
S_C0	JUNCTION	0.00	0.00	6090.00	0	00:00	0.00
S_C1	JUNCTION	0.00	0.00	6098.20	0	00:00	0.00
S_C2	JUNCTION	0.00	0.00	6102.75	0	00:00	0.00
S_C3	JUNCTION	0.00	0.00	6129.00	0	00:00	0.00
S_C4	JUNCTION	0.01	0.28	6131.19	0	00:30	0.28
S_C5	JUNCTION	0.01	0.31	6131.16	0	00:30	0.31
S_C6	JUNCTION	0.01	0.19	6131.37	0	00:30	0.19
S_C7	JUNCTION	0.00	0.00	6122.50	0	00:00	0.00
S_C8	JUNCTION	0.03	0.47	6126.21	0	00:32	0.47
S_C9	JUNCTION	0.00	0.00	6110.00	0	00:00	0.00
S_F1-1	JUNCTION	0.02	0.57	6083.61	0	00:30	0.57
S_F1-10	JUNCTION	0.02	0.32	6115.06	0	00:33	0.32
S_F1-2	JUNCTION	0.03	0.57	6085.45	0	00:30	0.57
S_F1-3	JUNCTION	0.02	0.28	6094.27	0	00:30	0.28
S_F1-4	JUNCTION	0.02	0.32	6094.86	0	00:30	0.32
S_F1-5	JUNCTION	0.02	0.32	6101.95	0	00:30	0.32
S_F1-6	JUNCTION	0.01	0.39	6096.01	0	00:30	0.39
S_F1-7	JUNCTION	0.02	0.41	6096.49	0	00:30	0.41
S_F1-8	JUNCTION	0.02	0.26	6109.47	0	00:36	0.26
S_F1-9	JUNCTION	0.02	0.30	6108.90	0	00:35	0.30
400	JUNCTION	0.04	0.66	6115.08	0	00:34	0.66
151.2	JUNCTION	0.03	0.43	6135.33	0	00:30	0.43
S_OS1	JUNCTION	0.04	0.55	6150.55	0	00:36	0.55
S_OS2a	JUNCTION	0.00	0.00	6133.00	0	00:00	0.00
S_OS4a	JUNCTION	0.00	0.00	6124.00	0	00:00	0.00
S_OS4c	JUNCTION	0.00	0.00	6124.00	0	00:00	0.00
S_OS5a	JUNCTION	0.00	0.00	6118.00	0	00:00	0.00
S_OS5b	JUNCTION	0.00	0.00	6118.00	0	00:00	0.00
S_OS5c	JUNCTION	0.00	0.00	6118.00	0	00:00	0.00

200A	JUNCTION	0.45	1.74	6093.72	0	01:02	1.74
S_C10	JUNCTION	0.03	0.23	6105.23	0	00:44	0.23
151.1	JUNCTION	0.04	0.68	6126.30	0	00:40	0.68
S_B59a	JUNCTION	0.03	0.46	6136.46	0	00:30	0.46
S_B61	JUNCTION	0.00	0.00	6158.00	0	00:00	0.00
S_B62	JUNCTION	0.00	0.00	6158.00	0	00:00	0.00
401	JUNCTION	0.01	0.24	6122.24	0	00:31	0.24
S_B57	JUNCTION	0.00	0.00	6123.00	0	00:00	0.00
S_B56	JUNCTION	0.00	0.00	6166.00	0	00:00	0.00
S_B55	JUNCTION	0.00	0.00	6166.00	0	00:00	0.00
S_B58	JUNCTION	0.00	0.00	6123.00	0	00:00	0.00
S_B71	JUNCTION	0.01	0.19	6114.19	0	00:30	0.19
S_B70	JUNCTION	0.01	0.18	6114.18	0	00:30	0.18
S_B65	JUNCTION	0.01	0.20	6132.20	0	00:34	0.20
301	JUNCTION	0.02	0.33	6131.33	0	00:31	0.33
S_B64	JUNCTION	0.02	0.28	6132.28	0	00:30	0.28
S_B72	JUNCTION	0.00	0.00	6111.00	0	00:00	0.00
S_B67	JUNCTION	0.00	0.00	6113.00	0	00:00	0.00
S_B60	JUNCTION	0.00	0.00	6114.00	0	00:00	0.00
504.1	JUNCTION	0.06	0.99	6114.49	0	00:43	0.99
S_B66	JUNCTION	0.00	0.00	6114.00	0	00:00	0.00
504.2	JUNCTION	0.06	0.98	6114.98	0	00:43	0.98
B66a	JUNCTION	0.01	0.22	6115.22	0	00:36	0.22
S_B66a	JUNCTION	0.00	0.00	6116.00	0	00:00	0.00
504.3	JUNCTION	0.06	1.02	6117.02	0	00:43	1.02
S_B66b	JUNCTION	0.00	0.00	6118.00	0	00:00	0.00
506	JUNCTION	0.05	0.73	6150.73	0	00:43	0.73
S_B63	JUNCTION	0.00	0.00	6151.00	0	00:00	0.00
507	JUNCTION	0.05	0.72	6155.72	0	00:43	0.72
S_OS3a	JUNCTION	0.00	0.00	6156.00	0	00:00	0.00
504	JUNCTION	0.06	1.05	6114.05	0	00:42	1.05
S_B59	JUNCTION	0.00	0.00	6128.00	0	00:00	0.00
S_OS4b	JUNCTION	0.00	0.00	6128.00	0	00:00	0.00
O4	OUTFALL	0.00	0.00	6093.77	0	00:00	0.00
O3	OUTFALL	0.03	0.65	6082.74	0	00:30	0.65
O5	OUTFALL	0.35	4.68	6042.18	0	01:46	4.68
PondC	STORAGE	2.91	4.21	6093.64	0	01:06	4.21
PondB	STORAGE	5.29	7.58	6072.95	0	01:21	7.58

****
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 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
100	JUNCTION	0.00	126.69	0	00:38	0	3.49	0.048
101	JUNCTION	0.00	126.75	0	00:37	0	3.48	-0.106
102	JUNCTION	0.00	5.40	0	00:31	0	0.15	-0.000
105	JUNCTION	0.00	48.94	0	00:38	0	1.4	-0.000
106	JUNCTION	0.00	2.23	0	00:30	0	0.0408	0.000
108	JUNCTION	0.00	44.06	0	00:38	0	1.28	-0.000
109	JUNCTION	0.00	3.91	0	00:35	0	0.127	-0.000
110	JUNCTION	0.00	3.21	0	00:30	0	0.0715	0.000
112	JUNCTION	0.00	1.54	0	00:30	0	0.03	-0.000
113	JUNCTION	0.00	2.06	0	00:30	0	0.0422	-0.001
120	JUNCTION	0.00	3.76	0	00:30	0	0.077	-0.001
121	JUNCTION	0.00	1.60	0	00:30	0	0.0318	-0.001
124	JUNCTION	0.00	1.12	0	00:30	0	0.0241	-0.000
125	JUNCTION	0.00	0.57	0	00:34	0	0.0184	0.000

126	JUNCTION	0.00	1.49	0	00:34	0	0.0458	0.000
127	JUNCTION	0.00	32.90	0	00:39	0	0.906	-0.001
128	JUNCTION	0.00	32.09	0	00:39	0	0.879	-0.000
129	JUNCTION	0.00	3.54	0	00:31	0	0.0952	-0.010
130	JUNCTION	0.00	1.88	0	00:34	0	0.0583	0.028
132	JUNCTION	0.00	5.48	0	00:30	0	0.107	-0.018
138	JUNCTION	0.00	1.09	0	00:30	0	0.0224	-0.070
142	JUNCTION	0.00	2.36	0	00:36	0	0.0821	0.000
145	JUNCTION	0.00	17.40	0	00:36	0	0.448	-0.000
146	JUNCTION	0.00	1.76	0	00:31	0	0.0459	-0.000
147	JUNCTION	0.00	14.68	0	00:36	0	0.368	0.000
148	JUNCTION	0.00	12.55	0	00:37	0	0.321	-0.000
149	JUNCTION	0.00	12.01	0	00:37	0	0.305	-0.000
150	JUNCTION	0.00	30.26	0	00:39	0	0.826	-0.000
151	JUNCTION	0.00	29.37	0	00:40	0	0.804	-0.001
152	JUNCTION	0.00	24.47	0	00:41	0	0.659	0.000
154	JUNCTION	0.00	48.63	0	00:38	0	1.39	-0.000
155	JUNCTION	0.00	45.79	0	00:38	0	1.32	-0.000
156	JUNCTION	0.00	44.07	0	00:38	0	1.28	-0.000
157	JUNCTION	0.00	44.06	0	00:38	0	1.28	-0.000
158	JUNCTION	0.00	43.74	0	00:38	0	1.27	-0.000
159	JUNCTION	0.00	43.74	0	00:38	0	1.27	-0.000
160	JUNCTION	0.00	43.73	0	00:38	0	1.27	-0.032
161	JUNCTION	0.00	4.47	0	00:35	0	0.127	-0.000
162	JUNCTION	0.00	4.47	0	00:34	0	0.127	-0.001
163	JUNCTION	0.00	4.47	0	00:34	0	0.127	-0.001
164	JUNCTION	0.00	25.61	0	00:37	0	0.661	0.130
165	JUNCTION	0.00	17.58	0	00:31	0	0.423	0.104
166	JUNCTION	0.00	14.92	0	00:31	0	0.375	-0.001
167	JUNCTION	0.00	14.92	0	00:31	0	0.375	-0.001
168	JUNCTION	0.00	14.91	0	00:31	0	0.375	-0.000
169	JUNCTION	0.00	25.61	0	00:36	0	0.661	-0.001
170	JUNCTION	0.00	7.57	0	00:31	0	0.173	-0.003
171	JUNCTION	0.00	7.57	0	00:31	0	0.173	-0.000
172	JUNCTION	0.00	7.57	0	00:31	0	0.173	-0.002
173	JUNCTION	0.00	69.79	0	00:37	0	1.87	0.563
174	JUNCTION	0.00	2.92	0	00:35	0	0.092	0.034
176	JUNCTION	0.00	1.10	0	00:28	0	0.035	0.306
177	JUNCTION	0.00	22.90	0	00:37	0	0.585	-0.001
178	JUNCTION	0.00	1.59	0	00:30	0	0.0318	-0.002
135	JUNCTION	0.00	2.26	0	00:31	0	0.0564	-0.005
182	JUNCTION	0.00	44.20	0	00:37	0	1.21	-0.001
183	JUNCTION	0.00	39.76	0	00:38	0	1.08	-0.001
184	JUNCTION	0.00	3.51	0	00:30	0	0.0603	0.174
185	JUNCTION	0.00	2.60	0	00:31	0	0.0699	-0.000
186	JUNCTION	0.00	22.90	0	00:37	0	0.585	-0.000
187	JUNCTION	0.00	48.63	0	00:38	0	1.39	-0.000
188	JUNCTION	0.00	22.90	0	00:36	0	0.585	-0.003
189	JUNCTION	0.00	22.91	0	00:36	0	0.585	-0.018
190	JUNCTION	0.00	21.77	0	00:36	0	0.554	0.019
191	JUNCTION	0.00	21.77	0	00:35	0	0.554	-0.000
192	JUNCTION	0.00	21.77	0	00:35	0	0.554	0.001
193	JUNCTION	0.00	18.88	0	00:36	0	0.484	-0.000
194	JUNCTION	0.00	18.88	0	00:36	0	0.484	-0.000
195	JUNCTION	0.00	18.88	0	00:36	0	0.484	-0.000
196	JUNCTION	0.00	1.61	0	00:30	0	0.0355	-0.008
197	JUNCTION	0.00	51.45	0	00:38	0	1.46	0.094
198	JUNCTION	0.00	51.33	0	00:38	0	1.46	-0.000
199	JUNCTION	0.00	51.15	0	00:38	0	1.46	-0.000
200	JUNCTION	0.00	26.38	0	00:40	0	0.706	-0.010
201	JUNCTION	0.00	22.80	0	00:39	0	0.597	0.025
202	JUNCTION	0.00	5.76	0	00:38	0	0.134	0.000
203	JUNCTION	0.00	14.66	0	00:40	0	0.393	0.003
207	JUNCTION	0.00	2.24	0	00:33	0	0.0636	-0.000

208	JUNCTION	0.00	1.99	0	00:32	0	0.0529	-0.002	
210	JUNCTION	0.00	20.98	0	00:40	0	0.542	-0.000	
211	JUNCTION	0.00	15.28	0	00:41	0	0.408	-0.000	
212	JUNCTION	0.00	15.28	0	00:41	0	0.408	0.000	
213	JUNCTION	0.00	15.28	0	00:41	0	0.408	-0.000	
214	JUNCTION	0.00	15.28	0	00:40	0	0.408	-0.000	
215	JUNCTION	0.00	15.28	0	00:40	0	0.408	-0.001	
216	JUNCTION	0.00	15.29	0	00:40	0	0.408	-0.002	
217	JUNCTION	0.00	15.29	0	00:40	0	0.408	-0.001	
218	JUNCTION	0.00	3.47	0	00:32	0	0.087	-0.001	
219	JUNCTION	0.00	3.47	0	00:32	0	0.087	-0.000	
220	JUNCTION	0.00	3.47	0	00:32	0	0.087	-0.000	
221	JUNCTION	0.00	1.32	0	00:30	0	0.0234	0.000	
222	JUNCTION	0.00	2.24	0	00:34	0	0.0636	-0.000	
223	JUNCTION	0.00	2.24	0	00:34	0	0.0636	-0.000	
224	JUNCTION	0.00	2.24	0	00:34	0	0.0636	-0.000	
300	JUNCTION	0.00	4.47	0	00:31	0	0.11	0.001	
316	JUNCTION	0.00	12.55	0	00:37	0	0.321	-0.000	
318	JUNCTION	0.00	1.76	0	00:31	0	0.0459	-0.000	
319	JUNCTION	0.00	1.76	0	00:31	0	0.0459	-0.000	
S_B73	JUNCTION	0.95	0.95	0	00:40	0.0351	0.0351	0.323	
405	JUNCTION	0.00	1.11	0	00:30	0	0.0254	-0.000	
410	JUNCTION	0.00	1.06	0	00:33	0	0.0264	-0.000	
411	JUNCTION	0.00	5.75	0	00:30	0	0.126	0.000	
412	JUNCTION	0.00	5.15	0	00:30	0	0.112	0.000	
413	JUNCTION	0.00	2.93	0	00:31	0	0.0692	-0.000	
414	JUNCTION	0.00	2.93	0	00:30	0	0.0692	-0.000	
415	JUNCTION	0.00	1.11	0	00:30	0	0.0254	0.000	
417	JUNCTION	0.00	5.06	0	00:31	0	0.124	0.008	
418	JUNCTION	0.00	2.60	0	00:35	0	0.0776	-0.055	
419	JUNCTION	0.00	2.60	0	00:35	0	0.0776	-0.000	
420	JUNCTION	0.00	2.60	0	00:35	0	0.0776	-0.000	
421	JUNCTION	0.00	1.06	0	00:33	0	0.0264	-0.000	
501	JUNCTION	0.00	4.93	0	00:36	0	0.104	0.132	
204	JUNCTION	0.00	14.05	0	00:41	0	0.377	-0.010	
503	JUNCTION	0.00	23.19	0	00:42	0	0.697	-0.000	
153	JUNCTION	0.00	23.02	0	00:41	0	0.614	0.010	
505	JUNCTION	0.00	10.41	0	00:38	0	0.263	-0.001	
502	JUNCTION	0.00	24.20	0	00:42	0	0.721	-0.000	
513	JUNCTION	0.00	10.41	0	00:38	0	0.263	-0.000	
515	JUNCTION	0.00	29.37	0	00:39	0	0.804	-0.001	
600	JUNCTION	0.00	51.24	0	00:38	0	1.46	-0.000	
601	JUNCTION	0.00	51.18	0	00:38	0	1.46	-0.000	
602	JUNCTION	0.00	48.95	0	00:38	0	1.4	-0.000	
603	JUNCTION	0.00	16.38	0	00:36	0	0.413	-0.001	
HC016	JUNCTION	4707.81	4707.81	0	01:28	195	195	0.036	
HC017	JUNCTION	0.00	4853.43	0	01:29	0	203	-0.248	
HC018	JUNCTION	0.00	4836.93	0	01:32	0	204	-0.205	
HC019	JUNCTION	0.00	4705.39	0	01:41	0	205	0.444	
HC117	JUNCTION	261.16	261.16	0	00:53	7.57	7.57	0.000	
O1	JUNCTION	0.00	60.53	0	01:21	0	3.21	3206353.041	gal
O2	JUNCTION	0.00	18.00	0	01:06	0	0.718	718223.902	gal
S_A240	JUNCTION	11.77	11.77	0	00:31	0.143	0.143	0.000	
S_A245	JUNCTION	11.38	11.38	0	00:38	0.267	0.267	0.000	
S_A250	JUNCTION	8.74	8.74	0	00:36	0.194	0.194	0.000	
S_A260	JUNCTION	31.81	31.81	0	00:37	0.682	0.682	0.000	
S_B0	JUNCTION	3.88	3.88	0	00:33	0.102	0.102	0.000	
S_B1	JUNCTION	0.97	0.97	0	00:30	0.0159	0.0159	0.000	
S_B10	JUNCTION	1.16	1.16	0	00:31	0.0293	0.0293	0.000	
S_B11	JUNCTION	0.71	0.71	0	00:37	0.0284	0.0284	0.000	
S_B12	JUNCTION	1.54	1.54	0	00:30	0.03	0.03	0.000	
S_B13	JUNCTION	0.52	0.52	0	00:30	0.0122	0.0122	0.004	
S_B14	JUNCTION	1.38	1.73	0	00:30	0.0219	0.0265	-0.000	
S_B15	JUNCTION	1.09	1.09	0	00:30	0.021	0.021	0.000	

S_B16	JUNCTION	0.49	0.49	0	00:36	0.0199	0.0199	0.001
S_B17	JUNCTION	1.57	1.57	0	00:31	0.0372	0.0372	0.000
S_B18	JUNCTION	1.37	1.37	0	00:36	0.0534	0.0534	0.000
S_B19	JUNCTION	2.59	2.59	0	00:30	0.0425	0.0425	0.000
S_B2	JUNCTION	1.65	1.65	0	00:30	0.0238	0.0238	0.000
S_B20	JUNCTION	2.20	2.20	0	00:30	0.0451	0.0451	0.000
S_B21	JUNCTION	1.60	1.60	0	00:30	0.0318	0.0318	0.000
S_B22	JUNCTION	1.15	1.15	0	00:32	0.0329	0.0329	0.000
S_B23	JUNCTION	1.28	1.28	0	00:30	0.0242	0.0242	0.001
S_B24	JUNCTION	1.12	1.12	0	00:30	0.0241	0.0241	0.000
S_B25	JUNCTION	0.57	0.57	0	00:35	0.0184	0.0184	0.001
S_B26	JUNCTION	0.92	0.92	0	00:34	0.0274	0.0274	0.000
S_B27	JUNCTION	0.83	0.83	0	00:35	0.0276	0.0276	0.000
S_B28	JUNCTION	1.92	1.92	0	00:35	0.0522	0.0522	0.000
S_B29	JUNCTION	0.46	0.46	0	00:30	0.0126	0.0126	0.017
S_B3	JUNCTION	0.86	0.86	0	00:33	0.0255	0.0255	0.000
S_B30	JUNCTION	0.50	0.50	0	00:30	0.00832	0.00832	0.046
S_B31	JUNCTION	0.49	0.49	0	00:35	0.0181	0.0181	0.000
S_B32	JUNCTION	1.99	1.99	0	00:31	0.0466	0.0466	0.000
S_B33	JUNCTION	2.75	2.75	0	00:30	0.0425	0.0425	0.000
S_B34	JUNCTION	0.61	0.61	0	00:34	0.0194	0.0194	0.001
S_B35	JUNCTION	1.78	1.78	0	00:32	0.0481	0.0481	0.000
S_B36	JUNCTION	1.39	1.39	0	00:32	0.0402	0.0402	-0.042
S_B37	JUNCTION	1.96	1.96	0	00:31	0.0484	0.0484	0.000
S_B38	JUNCTION	0.36	0.36	0	00:30	0.00868	0.00868	0.181
S_B39	JUNCTION	1.41	1.41	0	00:30	0.0312	0.0312	0.000
S_B4	JUNCTION	1.72	1.72	0	00:30	0.0306	0.0306	0.000
S_B40	JUNCTION	0.76	0.76	0	00:30	0.0178	0.0178	-0.047
S_B41	JUNCTION	0.20	0.20	0	00:30	0.00437	0.00437	0.046
S_B42	JUNCTION	1.65	1.65	0	00:36	0.0537	0.0537	0.000
S_B43	JUNCTION	0.88	0.88	0	00:30	0.0216	0.0216	0.000
S_B44	JUNCTION	0.31	0.31	0	00:32	0.00896	0.00896	0.001
S_B45	JUNCTION	1.02	1.02	0	00:35	0.0347	0.0347	0.000
S_B46	JUNCTION	1.76	1.76	0	00:31	0.0459	0.0459	0.000
S_B47	JUNCTION	2.52	2.52	0	00:30	0.0465	0.0465	0.000
S_B48	JUNCTION	0.56	0.56	0	00:31	0.0163	0.0163	0.000
S_B49	JUNCTION	1.74	1.74	0	00:31	0.0418	0.0418	0.000
S_B5	JUNCTION	0.33	0.33	0	00:33	0.0082	0.0082	0.002
S_B50	JUNCTION	0.94	0.94	0	00:35	0.0222	0.0222	0.000
S_B51	JUNCTION	0.45	0.45	0	00:30	0.00832	0.00832	0.000
S_B53	JUNCTION	0.35	0.35	0	00:30	0.00466	0.00466	0.000
S_B54	JUNCTION	0.76	0.76	0	00:30	0.0137	0.0137	0.000
S_B6	JUNCTION	1.89	1.89	0	00:30	0.0324	0.0324	0.000
S_B7	JUNCTION	0.34	0.34	0	00:33	0.00843	0.00843	0.002
S_B8	JUNCTION	0.34	0.34	0	00:33	0.00843	0.00843	0.002
S_B9	JUNCTION	1.57	1.57	0	00:32	0.0445	0.0445	0.000
S_C0	JUNCTION	1.67	1.67	0	00:36	0.0496	0.0496	0.000
S_C1	JUNCTION	1.98	1.98	0	00:32	0.0549	0.0549	0.000
S_C2	JUNCTION	0.93	0.93	0	00:34	0.0298	0.0298	0.000
S_C3	JUNCTION	0.78	0.78	0	00:30	0.016	0.016	0.000
S_C4	JUNCTION	0.89	0.89	0	00:30	0.0154	0.0154	0.000
S_C5	JUNCTION	0.89	0.89	0	00:30	0.0157	0.0157	0.001
S_C6	JUNCTION	0.43	0.43	0	00:30	0.0077	0.0077	0.001
S_C7	JUNCTION	0.26	0.26	0	00:40	0.0106	0.0106	0.000
S_C8	JUNCTION	1.99	1.99	0	00:32	0.0529	0.0529	-0.000
S_C9	JUNCTION	0.36	0.36	0	00:31	0.00981	0.00981	0.000
S_F1-1	JUNCTION	0.60	0.60	0	00:30	0.0138	0.0138	0.002
S_F1-10	JUNCTION	1.06	1.06	0	00:33	0.0264	0.0264	0.000
S_F1-2	JUNCTION	2.25	2.25	0	00:30	0.0428	0.0428	-0.000
S_F1-3	JUNCTION	0.66	0.66	0	00:30	0.0167	0.0167	0.001
S_F1-4	JUNCTION	1.15	1.15	0	00:31	0.0271	0.0271	0.000
S_F1-5	JUNCTION	1.11	1.11	0	00:30	0.0254	0.0254	0.000
S_F1-6	JUNCTION	0.90	0.90	0	00:30	0.0137	0.0137	0.003
S_F1-7	JUNCTION	1.69	1.69	0	00:30	0.0328	0.0328	0.035

S_F1-8	JUNCTION	0.80	0.80	0	00:36	0.0267	0.0267	0.000
S_F1-9	JUNCTION	0.75	0.75	0	00:35	0.0245	0.0245	0.001
400	JUNCTION	0.00	4.48	0	00:34	0	0.127	0.006
151.2	JUNCTION	0.00	5.41	0	00:30	0	0.137	-0.009
S_OS1	JUNCTION	4.57	4.57	0	00:36	0.0941	0.0941	-0.141
S_OS2a	JUNCTION	14.05	14.05	0	00:41	0.377	0.377	0.000
S_OS4a	JUNCTION	21.32	21.32	0	00:41	0.56	0.56	0.000
S_OS4c	JUNCTION	1.70	1.70	0	00:41	0.0539	0.0539	0.000
S_OS5a	JUNCTION	9.45	9.45	0	00:38	0.221	0.221	0.000
S_OS5b	JUNCTION	0.76	0.76	0	00:43	0.0316	0.0316	0.000
S_OS5c	JUNCTION	0.23	0.23	0	00:47	0.0105	0.0105	0.000
200A	JUNCTION	0.00	23.26	0	00:40	0	0.618	-0.060
S_C10	JUNCTION	0.46	0.46	0	00:42	0.0215	0.0215	-1.081
151.1	JUNCTION	0.00	29.07	0	00:40	0	0.796	0.002
S_B59a	JUNCTION	3.79	5.41	0	00:30	0.0712	0.137	0.000
S_B61	JUNCTION	1.35	1.35	0	00:36	0.0485	0.0485	0.000
S_B62	JUNCTION	0.36	0.36	0	00:38	0.017	0.017	0.000
401	JUNCTION	0.00	0.73	0	00:30	0	0.0181	-0.044
S_B57	JUNCTION	0.56	0.56	0	00:31	0.0146	0.0146	0.000
S_B56	JUNCTION	3.12	3.12	0	00:35	0.0936	0.0936	0.000
S_B55	JUNCTION	0.66	0.66	0	00:30	0.0153	0.0153	0.000
S_B58	JUNCTION	0.18	0.18	0	00:30	0.00352	0.00352	0.000
S_B71	JUNCTION	1.18	1.18	0	00:30	0.0262	0.0262	0.000
S_B70	JUNCTION	0.58	0.58	0	00:30	0.0103	0.0103	-0.005
S_B65	JUNCTION	1.33	1.33	0	00:34	0.0397	0.0397	0.001
301	JUNCTION	0.00	2.73	0	00:31	0	0.0737	0.001
S_B64	JUNCTION	1.42	1.42	0	00:30	0.034	0.034	-0.000
S_B72	JUNCTION	1.22	1.22	0	00:32	0.0245	0.0245	0.000
S_B67	JUNCTION	0.19	0.19	0	00:30	0.00427	0.00427	0.000
S_B60	JUNCTION	1.18	1.18	0	00:34	0.0323	0.0323	0.000
504.1	JUNCTION	0.00	21.99	0	00:43	0	0.66	0.000
S_B66	JUNCTION	0.14	0.14	0	00:35	0.00335	0.00335	0.000
504.2	JUNCTION	0.00	21.86	0	00:43	0	0.657	0.001
B66a	JUNCTION	0.00	0.69	0	00:36	0	0.0206	-0.020
S_B66a	JUNCTION	0.69	0.69	0	00:36	0.0206	0.0206	0.000
504.3	JUNCTION	0.00	21.22	0	00:43	0	0.637	0.002
S_B66b	JUNCTION	1.27	1.27	0	00:35	0.0323	0.0323	0.000
506	JUNCTION	0.00	20.07	0	00:43	0	0.604	-0.003
S_B63	JUNCTION	0.75	0.75	0	00:33	0.0215	0.0215	0.000
507	JUNCTION	0.00	19.40	0	00:43	0	0.583	0.000
S_OS3a	JUNCTION	19.40	19.40	0	00:43	0.583	0.583	0.000
504	JUNCTION	0.00	23.05	0	00:42	0	0.693	-0.000
S_B59	JUNCTION	1.42	1.42	0	00:31	0.0357	0.0357	0.000
S_OS4b	JUNCTION	0.19	0.19	0	00:49	0.00941	0.00941	0.000
O4	OUTFALL	0.00	5.06	0	00:31	0	0.124	0.000
O3	OUTFALL	0.00	5.75	0	00:30	0	0.126	0.000
O5	OUTFALL	0.00	4633.13	0	01:46	0	204	0.000
PondC	STORAGE	0.00	28.00	0	00:40	0	0.755	-0.017
PondB	STORAGE	0.00	129.93	0	00:38	0	3.59	-0.003

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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	Hours Surcharged	Max. Height Above Crown Feet	Min. Depth Below Rim Feet
S_B73	JUNCTION	35.58	1.863	6.137
HC117	JUNCTION	36.00	0.000	0.000
O1	JUNCTION	36.00	0.000	20.000

O2	JUNCTION	36.00	0.000	20.000
S_A240	JUNCTION	36.00	0.000	0.000
S_A245	JUNCTION	36.00	0.000	0.000
S_A250	JUNCTION	36.00	0.000	0.000
S_A260	JUNCTION	36.00	0.000	0.000
S_B0	JUNCTION	36.00	0.000	0.000
S_B1	JUNCTION	36.00	0.000	0.000
S_B2	JUNCTION	36.00	0.000	0.000
S_B28	JUNCTION	36.00	0.000	0.000
S_B31	JUNCTION	36.00	0.000	10.000
S_B35	JUNCTION	36.00	0.000	10.000
S_B42	JUNCTION	36.00	0.000	0.000
S_B47	JUNCTION	36.00	0.000	0.000
S_B48	JUNCTION	36.00	0.000	0.000
S_B49	JUNCTION	36.00	0.000	0.000
S_B50	JUNCTION	36.00	0.000	0.000
S_B51	JUNCTION	36.00	0.000	10.000
S_B53	JUNCTION	36.00	0.000	0.000
S_B6	JUNCTION	36.00	0.000	0.000
S_B9	JUNCTION	36.00	0.000	0.000
S_C0	JUNCTION	36.00	0.000	0.000
S_C1	JUNCTION	36.00	0.000	0.000
S_C2	JUNCTION	36.00	0.000	0.000
S_C3	JUNCTION	36.00	0.000	0.000
S_C7	JUNCTION	36.00	0.000	0.000
S_C9	JUNCTION	36.00	0.000	0.000
S_OS2a	JUNCTION	36.00	0.000	20.000
S_OS4a	JUNCTION	36.00	0.000	20.000
S_OS4c	JUNCTION	36.00	0.000	20.000
S_OS5a	JUNCTION	36.00	0.000	20.000
S_OS5b	JUNCTION	36.00	0.000	10.000
S_OS5c	JUNCTION	36.00	0.000	10.000
S_B61	JUNCTION	36.00	0.000	0.000
S_B62	JUNCTION	36.00	0.000	0.000
S_B57	JUNCTION	36.00	0.000	0.000
S_B56	JUNCTION	36.00	0.000	0.000
S_B55	JUNCTION	36.00	0.000	0.000
S_B58	JUNCTION	36.00	0.000	0.000
S_B72	JUNCTION	36.00	0.000	0.000
S_B67	JUNCTION	36.00	0.000	0.000
S_B60	JUNCTION	36.00	0.000	0.000
S_B66	JUNCTION	36.00	0.000	0.000
S_B66a	JUNCTION	36.00	0.000	0.000
S_B66b	JUNCTION	36.00	0.000	0.000
S_B63	JUNCTION	36.00	0.000	0.000
S_OS3a	JUNCTION	36.00	0.000	0.000
S_B59	JUNCTION	36.00	0.000	0.000
S_OS4b	JUNCTION	36.00	0.000	0.000

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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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	Average Volume	Avg Pcnt	Evap Pcnt	Exfil Pcnt	Maximum Volume	Max Pcnt	Time of Max Occurrence	Maximum Outflow

Storage Unit	1000 ft³	Full	Loss	Loss	1000 ft³	Full	days	hr:min	CFS
PondC	15.689	20	0	0	41.211	53	0	01:06	18.00
PondB	124.401	30	0	0	267.036	65	0	01:21	60.53

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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
O4	13.04	1.45	5.06	0.124
O3	10.95	1.77	5.75	0.126
O5	99.15	234.67	4633.13	203.891
System	41.04	237.89	4635.09	204.141

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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	Max/ Full Flow	Max/ Full Depth
13	CONDUIT	1.32	0	00:30	7.16	0.06	0.16
16	CONDUIT	2.24	0	00:34	4.70	0.21	0.31
17	CONDUIT	2.24	0	00:34	4.68	0.21	0.32
25	CONDUIT	14.05	0	00:41	6.18	0.21	0.36
32	CONDUIT	4.86	0	00:38	8.74	0.26	0.35
43	CONDUIT	7.57	0	00:31	4.86	0.26	0.35
44	CONDUIT	7.57	0	00:31	4.75	0.26	0.36
94	CONDUIT	0.83	0	00:35	4.67	0.05	0.16
96	CONDUIT	1.99	0	00:31	4.54	0.14	0.30
97	CONDUIT	2.75	0	00:30	4.91	0.19	0.35
98	CONDUIT	3.50	0	00:30	4.93	0.33	0.43
99	CONDUIT	5.48	0	00:30	5.44	0.52	0.56
100	CONDUIT	0.57	0	00:35	4.25	0.03	0.13
101	CONDUIT	0.92	0	00:34	4.24	0.06	0.18
102	CONDUIT	1.49	0	00:34	5.36	0.09	0.21
103	CONDUIT	1.12	0	00:30	4.16	0.07	0.21
104	CONDUIT	1.12	0	00:30	5.18	0.07	0.18
105	CONDUIT	2.60	0	00:31	6.34	0.16	0.28
151	CONDUIT	1.15	0	00:30	4.54	0.08	0.20
152	CONDUIT	0.66	0	00:30	3.44	0.05	0.17
156	CONDUIT	2.25	0	00:30	4.13	0.21	0.35
157	CONDUIT	0.60	0	00:30	1.99	0.05	0.41
182	CONDUIT	14.66	0	00:40	5.91	0.22	0.38
183	CONDUIT	0.89	0	00:30	4.26	0.06	0.18
184	CONDUIT	1.99	0	00:32	4.38	0.19	0.30
185	CONDUIT	1.99	0	00:33	4.54	0.19	0.30
187	CONDUIT	0.43	0	00:30	3.49	0.03	0.12
189	CONDUIT	1.60	0	00:30	4.20	0.15	0.27
190	CONDUIT	0.89	0	00:30	3.94	0.06	0.19
191	CONDUIT	2.24	0	00:34	4.34	0.21	0.33
193	CONDUIT	15.28	0	00:40	7.63	0.23	0.33
194	CONDUIT	15.28	0	00:40	7.59	0.23	0.33
195	CONDUIT	1.59	0	00:30	4.28	0.15	0.26

196	CONDUIT	1.57	0	00:31	6.07	0.09	0.20
197	CONDUIT	3.47	0	00:32	9.44	0.15	0.26
198	CONDUIT	3.47	0	00:32	5.87	0.27	0.37
199	CONDUIT	20.98	0	00:40	11.49	0.18	0.31
200	CONDUIT	15.28	0	00:41	11.90	0.12	0.24
201	CONDUIT	15.28	0	00:41	11.59	0.13	0.24
202	CONDUIT	3.47	0	00:32	9.50	0.15	0.26
203	CONDUIT	2.36	0	00:36	8.47	0.10	0.21
204	CONDUIT	3.91	0	00:35	9.82	0.17	0.28
205	CONDUIT	5.40	0	00:31	10.65	0.23	0.33
207	CONDUIT	69.79	0	00:38	7.90	0.23	0.53
208	CONDUIT	12.01	0	00:37	9.19	0.21	0.31
209	CONDUIT	0.76	0	00:30	3.66	0.05	0.22
210	CONDUIT	29.38	0	00:39	12.09	0.19	0.30
212	CONDUIT	0.71	0	00:37	5.39	0.03	0.13
213	CONDUIT	22.90	0	00:36	7.97	0.25	0.34
214	CONDUIT	29.37	0	00:39	12.08	0.19	0.30
215	CONDUIT	23.02	0	00:41	7.27	0.26	0.46
228	CONDUIT	0.57	0	00:34	3.68	0.03	0.14
230	CONDUIT	0.20	0	00:30	2.56	0.01	0.12
231	CONDUIT	4.58	0	00:36	4.18	0.11	0.43
232	CONDUIT	24.20	0	00:43	14.36	0.18	0.29
234	CONDUIT	0.31	0	00:32	2.92	0.02	0.11
236	CONDUIT	0.88	0	00:30	7.26	0.01	0.08
242	CONDUIT	1.76	0	00:31	6.95	0.07	0.20
243	CONDUIT	1.76	0	00:31	7.20	0.08	0.20
244	CONDUIT	1.76	0	00:31	6.51	0.10	0.21
245	CONDUIT	1.76	0	00:31	5.40	0.12	0.24
249	DUMMY	2.52	0	00:30			
250	CONDUIT	10.41	0	00:38	6.94	0.25	0.34
253	CONDUIT	22.90	0	00:37	7.96	0.25	0.34
254	DUMMY	0.35	0	00:30			
256	CONDUIT	4704.75	0	01:30	5.88	0.19	0.46
259	CONDUIT	4830.98	0	01:32	5.56	0.07	0.41
262	CONDUIT	4699.72	0	01:41	4.44	0.26	0.49
264	CONDUIT	4633.13	0	01:46	7.12	0.18	0.34
265	CONDUIT	0.35	0	00:33	1.27	0.37	0.38
266	CONDUIT	0.76	0	00:30	3.15	0.07	0.19
269	CONDUIT	1.88	0	00:34	4.09	0.20	0.31
270	CONDUIT	3.54	0	00:32	5.36	0.30	0.40
271	CONDUIT	1.28	0	00:30	3.71	0.09	0.29
272	CONDUIT	0.46	0	00:30	2.69	0.03	0.21
273	CONDUIT	0.50	0	00:30	3.59	0.03	0.13
300	CONDUIT	126.19	0	00:38	8.93	0.22	0.83
d_B31	DUMMY	0.49	0	00:35			
d_B35	DUMMY	1.78	0	00:32			
d_B36	CONDUIT	1.39	0	00:32	3.65	0.52	0.49
d_B51	DUMMY	0.45	0	00:30			
d_F3-6	CONDUIT	5.41	0	00:30	12.48	0.18	0.36
d_OS2a	DUMMY	14.05	0	00:41			
d_OS4a	DUMMY	21.32	0	00:41			
d_OS4b	DUMMY	1.70	0	00:41			
d_OS5a	DUMMY	9.45	0	00:38			
d_OS5b	DUMMY	0.76	0	00:43			
d_OS5c	DUMMY	0.23	0	00:47			
d1	DUMMY	3.88	0	00:33			
d3	DUMMY	1.67	0	00:36			
dA240	DUMMY	11.77	0	00:31			
dA245	DUMMY	11.38	0	00:38			
dA250	DUMMY	8.74	0	00:36			
dA260	DUMMY	31.81	0	00:37			
dB1	DUMMY	0.97	0	00:30			
dB2	DUMMY	1.65	0	00:30			
dB28	DUMMY	1.92	0	00:35			

dB41	DUMMY	1.65	0	00:36			
dB6	DUMMY	1.89	0	00:30			
dB9	DUMMY	1.57	0	00:32			
dC1	DUMMY	1.98	0	00:32			
dC2	DUMMY	0.93	0	00:34			
dC3	DUMMY	0.78	0	00:30			
dC7	DUMMY	0.26	0	00:40			
dC9	DUMMY	0.36	0	00:31			
dF3-10	DUMMY	1.74	0	00:31			
dF3-5	CONDUIT	24.47	0	00:41	19.17	0.12	0.24
dF3-6	DUMMY	0.94	0	00:35			
dF3-8	CONDUIT	14.68	0	00:36	9.47	0.23	0.35
dF3-9	DUMMY	0.56	0	00:31			
d-HC117	DUMMY	261.16	0	00:53			
dO1	DUMMY	0.00	0	00:00			
dO2	DUMMY	0.00	0	00:00			
EX-Pipe-444	CONDUIT	5.75	0	00:30	6.51	0.39	0.50
Pip-39	CONDUIT	5.76	0	00:38	7.49	0.18	0.29
Pipe-100	CONDUIT	22.90	0	00:37	6.50	0.32	0.39
Pipe-101	CONDUIT	22.90	0	00:37	6.41	0.33	0.40
Pipe-102	CONDUIT	25.61	0	00:37	6.49	0.14	0.25
Pipe-103	CONDUIT	25.61	0	00:37	6.55	0.14	0.25
Pipe-106	CONDUIT	1.02	0	00:35	3.95	0.07	0.20
Pipe-107	CONDUIT	0.86	0	00:33	4.16	0.06	0.17
Pipe-108	CONDUIT	1.72	0	00:30	4.31	0.12	0.28
Pipe-109	CONDUIT	1.57	0	00:31	4.37	0.11	0.26
Pipe-110	CONDUIT	0.49	0	00:36	3.64	0.03	0.13
Pipe-111	CONDUIT	0.33	0	00:33	3.38	0.07	0.18
Pipe-112	CONDUIT	0.34	0	00:33	3.63	0.07	0.18
Pipe-113	CONDUIT	2.23	0	00:30	4.74	0.15	0.31
Pipe-114	CONDUIT	0.34	0	00:33	3.43	0.07	0.18
Pipe-115	CONDUIT	1.54	0	00:30	3.50	0.15	0.30
Pipe-116	CONDUIT	1.54	0	00:30	4.21	0.15	0.26
Pipe-117	CONDUIT	2.06	0	00:30	4.59	0.20	0.30
Pipe-118	CONDUIT	3.21	0	00:30	4.80	0.31	0.40
Pipe-119	CONDUIT	0.52	0	00:30	3.40	0.04	0.15
Pipe-120	CONDUIT	1.16	0	00:31	3.43	0.08	0.29
Pipe-121	CONDUIT	1.11	0	00:30	4.45	0.08	0.20
Pipe-122	CONDUIT	1.11	0	00:30	4.93	0.07	0.19
Pipe-123	CONDUIT	1.11	0	00:30	6.29	0.05	0.16
Pipe-124	CONDUIT	2.93	0	00:31	8.34	0.14	0.25
Pipe-125	CONDUIT	2.93	0	00:31	7.98	0.15	0.26
Pipe-126	CONDUIT	5.15	0	00:30	7.71	0.30	0.40
Pipe-127	CONDUIT	1.06	0	00:33	4.21	0.08	0.20
Pipe-128	CONDUIT	1.06	0	00:33	4.82	0.07	0.18
Pipe-129	CONDUIT	1.06	0	00:33	4.81	0.07	0.18
Pipe-130	CONDUIT	2.60	0	00:35	8.42	0.12	0.23
Pipe-131	CONDUIT	2.60	0	00:35	7.70	0.13	0.25
Pipe-132	CONDUIT	2.60	0	00:35	6.42	0.16	0.30
Pipe-133	CONDUIT	5.06	0	00:31	6.89	0.33	0.43
Pipe-141	CONDUIT	30.27	0	00:39	12.10	0.20	0.31
Pipe-145	CONDUIT	32.09	0	00:39	12.23	0.21	0.32
Pipe-146	CONDUIT	32.90	0	00:40	12.50	0.22	0.32
Pipe-150	CONDUIT	39.76	0	00:38	13.02	0.18	0.29
Pipe-153	CONDUIT	44.20	0	00:37	11.75	0.22	0.34
Pipe-162	CONDUIT	0.90	0	00:30	3.35	0.06	0.30
Pipe-163	CONDUIT	1.70	0	00:30	4.00	0.11	0.31
Pipe-164	CONDUIT	0.80	0	00:36	4.15	0.05	0.17
Pipe-165	CONDUIT	0.75	0	00:35	3.55	0.05	0.18
Pipe-166	CONDUIT	2.20	0	00:30	5.00	0.13	0.30
Pipe-179	CONDUIT	3.75	0	00:31	7.58	0.23	0.32
Pipe-202	CONDUIT	2.26	0	00:31	5.15	0.15	0.30
Pipe-204	CONDUIT	0.61	0	00:34	3.27	0.04	0.16
Pipe-207	CONDUIT	1.96	0	00:31	4.61	0.13	0.29

Pipe-208	CONDUIT	1.09	0	00:31	4.02	0.08	0.21
Pipe-210	CONDUIT	1.61	0	00:30	4.04	0.15	0.28
Pipe-211	CONDUIT	1.41	0	00:30	4.18	0.10	0.25
Pipe-230	CONDUIT	1.15	0	00:32	3.99	0.08	0.22
Pipe-26	CONDUIT	15.29	0	00:40	7.52	0.23	0.33
Pipe-35	CONDUIT	15.28	0	00:41	10.51	0.14	0.26
Pipe-36	CONDUIT	15.28	0	00:41	8.95	0.14	0.29
Pipe-38	CONDUIT	22.80	0	00:40	9.04	0.20	0.39
Pipe-40	CONDUIT	2.24	0	00:34	4.29	0.21	0.34
Pipe-46	CONDUIT	1.10	0	00:28	0.64	0.02	0.55
Pipe-47	CONDUIT	0.95	0	00:41	5.48	0.02	0.10
Pipe-49	CONDUIT	2.92	0	00:35	7.71	0.07	0.18
Pipe-50	CONDUIT	14.92	0	00:31	7.39	0.15	0.26
Pipe-51	CONDUIT	14.92	0	00:31	7.41	0.15	0.26
Pipe-52	CONDUIT	14.93	0	00:32	6.46	0.18	0.29
Pipe-53	CONDUIT	17.58	0	00:31	7.63	0.13	0.32
Pipe-54	CONDUIT	43.74	0	00:38	9.77	0.22	0.32
Pipe-55	CONDUIT	43.74	0	00:38	9.80	0.22	0.32
Pipe-56	CONDUIT	43.74	0	00:38	9.74	0.22	0.33
Pipe-56-1	CONDUIT	44.06	0	00:38	9.77	0.22	0.33
Pipe-57	CONDUIT	44.07	0	00:38	9.79	0.22	0.33
Pipe-58	CONDUIT	44.07	0	00:39	9.84	0.22	0.32
Pipe-58-1	CONDUIT	45.80	0	00:38	12.60	0.17	0.28
Pipe-59	CONDUIT	48.63	0	00:38	12.75	0.17	0.29
Pipe-60	CONDUIT	48.63	0	00:38	12.76	0.17	0.29
Pipe-60-1	CONDUIT	48.95	0	00:38	12.88	0.18	0.29
Pipe-61	CONDUIT	48.97	0	00:38	12.98	0.18	0.29
Pipe-62	CONDUIT	51.18	0	00:38	13.05	0.18	0.30
Pipe-62-1	CONDUIT	51.24	0	00:38	12.90	0.18	0.30
Pipe-63	CONDUIT	51.33	0	00:38	13.12	0.18	0.29
Pipe-64	CONDUIT	51.45	0	00:38	13.45	0.17	0.29
Pipe-64-1	CONDUIT	51.41	0	00:38	11.38	0.17	0.38
Pipe-65	CONDUIT	126.69	0	00:38	8.60	0.23	0.75
Pipe-67	CONDUIT	4.46	0	00:31	6.95	0.12	0.26
Pipe-70	CONDUIT	7.57	0	00:31	4.64	0.26	0.37
Pipe-71	CONDUIT	2.59	0	00:30	4.84	0.18	0.34
Pipe-72	CONDUIT	1.37	0	00:36	4.68	0.09	0.22
Pipe-73	CONDUIT	23.19	0	00:43	9.37	0.44	0.38
Pipe-74	CONDUIT	1.09	0	00:30	10.36	0.02	0.11
Pipe-75	CONDUIT	1.73	0	00:30	4.97	0.12	0.25
Pipe-76	CONDUIT	4.47	0	00:34	4.86	0.11	0.24
Pipe-77	CONDUIT	4.47	0	00:34	5.45	0.11	0.22
Pipe-78	CONDUIT	4.47	0	00:35	5.45	0.11	0.22
Pipe-79	CONDUIT	4.47	0	00:35	7.63	0.06	0.18
Pipe-85	CONDUIT	10.41	0	00:38	8.52	0.18	0.30
Pipe-87	CONDUIT	12.55	0	00:37	11.47	0.16	0.27
Pipe-87-1	CONDUIT	12.55	0	00:37	11.46	0.16	0.27
Pipe-88	CONDUIT	16.38	0	00:36	9.92	0.29	0.37
Pipe-89	CONDUIT	17.40	0	00:37	9.01	0.16	0.32
Pipe-90	CONDUIT	18.88	0	00:36	11.37	0.17	0.28
Pipe-91	CONDUIT	18.88	0	00:36	11.21	0.18	0.29
Pipe-92	CONDUIT	18.88	0	00:36	11.19	0.18	0.29
Pipe-93	CONDUIT	21.77	0	00:35	10.41	0.21	0.34
Pipe-94	CONDUIT	21.77	0	00:36	9.13	0.21	0.37
Pipe-95	CONDUIT	21.77	0	00:36	10.18	0.15	0.27
Pipe-33	CONDUIT	26.38	0	00:40	6.58	0.39	0.65
274	CONDUIT	0.46	0	00:44	0.30	0.02	0.62
Pipe-31	CONDUIT	23.24	0	00:41	6.27	0.49	0.58
275	CONDUIT	29.07	0	00:40	15.68	0.08	0.25
276	CONDUIT	5.41	0	00:30	12.21	0.20	0.30
278	DUMMY	0.36	0	00:38			
279	DUMMY	1.35	0	00:36			
280	CONDUIT	0.73	0	00:31	2.18	0.13	0.45
281	DUMMY	0.56	0	00:31			

282	DUMMY	0.18	0	00:30			
283	DUMMY	0.66	0	00:30			
284	DUMMY	3.12	0	00:35			
285	CONDUIT	1.18	0	00:30	3.45	0.04	0.25
286	CONDUIT	0.58	0	00:30	1.89	0.03	0.24
287	CONDUIT	2.73	0	00:31	6.31	0.10	0.29
288	CONDUIT	1.33	0	00:34	6.35	0.04	0.18
289	CONDUIT	1.42	0	00:30	5.65	0.07	0.20
290	DUMMY	19.40	0	00:43			
291	CONDUIT	19.40	0	00:43	14.69	0.13	0.24
292	CONDUIT	20.07	0	00:43	11.66	0.13	0.29
293	CONDUIT	21.21	0	00:43	10.24	0.25	0.33
294	CONDUIT	21.86	0	00:43	10.80	0.21	0.33
295	CONDUIT	21.99	0	00:43	10.36	0.20	0.34
296	CONDUIT	23.05	0	00:43	8.40	0.22	0.41
297	DUMMY	0.19	0	00:30			
298	DUMMY	1.18	0	00:34			
299	DUMMY	0.14	0	00:35			
301	DUMMY	0.69	0	00:36			
302	CONDUIT	0.69	0	00:36	2.14	0.04	0.40
303	DUMMY	1.27	0	00:35			
304	DUMMY	0.75	0	00:33			
305	DUMMY	1.22	0	00:32			
306	DUMMY	0.19	0	00:49			
307	DUMMY	1.42	0	00:31			
Outlet02	DUMMY	18.00	0	01:06			
Outlet01	DUMMY	60.53	0	01:21			

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Flow Classification Summary
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	Adjusted	---------- Fraction of Time in Flow Class ----------							
Conduit	/Actual Length	Dry	Up Dry	Down Dry	Sub Crit	Sup Crit	Up Crit	Down Crit	Norm Ltd	Inlet Ctrl
13	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
16	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
17	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
25	1.00	0.00	0.00	0.00	0.00	0.03	0.00	0.97	0.00	0.00
32	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
43	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
44	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
94	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
96	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
97	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
98	1.00	0.00	0.00	0.00	0.00	0.01	0.00	0.98	0.01	0.00
99	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
100	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
101	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
102	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
103	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
104	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
105	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
151	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
152	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
156	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
157	1.00	0.00	0.00	0.00	0.04	0.00	0.00	0.96	0.00	0.00
182	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
183	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
184	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
185	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00

187	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
189	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
190	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
191	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
193	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
194	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
195	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
196	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
197	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
198	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
199	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
200	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
201	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
202	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
203	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
204	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
205	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
207	1.00	0.01	0.55	0.00	0.43	0.00	0.00	0.01	0.60	0.00
208	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
209	1.00	0.00	0.00	0.00	0.00	0.01	0.00	0.98	0.00	0.00
210	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
212	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
213	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
214	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
215	1.00	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00	0.00
228	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
230	1.00	0.00	0.00	0.00	0.01	0.01	0.00	0.98	0.02	0.00
231	1.00	0.00	0.00	0.00	0.88	0.11	0.00	0.00	0.00	0.00
232	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
234	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
236	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
242	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
243	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
244	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
245	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
250	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
253	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
256	1.00	0.00	0.01	0.00	0.99	0.00	0.00	0.00	0.00	0.00
259	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.97	0.00
262	1.00	0.00	0.00	0.00	0.99	0.00	0.00	0.00	0.93	0.00
264	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
265	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.83	0.00
266	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
269	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
270	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
271	1.00	0.00	0.00	0.00	0.02	0.02	0.00	0.96	0.00	0.00
272	1.00	0.00	0.00	0.00	0.02	0.02	0.00	0.95	0.03	0.00
273	1.00	0.00	0.00	0.00	0.00	0.01	0.00	0.99	0.00	0.00
300	1.00	0.00	0.00	0.00	0.98	0.00	0.00	0.01	0.00	0.00
d_B36	1.00	0.00	0.00	0.00	0.95	0.04	0.00	0.00	0.95	0.00
d_F3-6	1.00	0.21	0.66	0.00	0.01	0.12	0.00	0.00	0.99	0.00
dF3-5	1.00	0.01	0.19	0.00	0.65	0.16	0.00	0.00	0.04	0.00
dF3-8	1.00	0.00	0.84	0.00	0.03	0.13	0.00	0.00	0.95	0.00
EX-Pipe-444	1.00	0.00	0.00	0.00	0.90	0.09	0.00	0.00	0.00	0.00
Pip-39	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-100	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-101	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-102	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-103	1.00	0.81	0.02	0.00	0.14	0.00	0.00	0.03	0.95	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-107	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-108	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-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-115	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-118	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	0.01	0.00	0.98	0.00	0.00
Pipe-120	1.00	0.00	0.00	0.00	0.01	0.01	0.00	0.98	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-123	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-124	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-125	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-126	1.00	0.00	0.00	0.00	0.00	0.01	0.00	0.98	0.00	0.00
Pipe-127	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-128	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-129	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-130	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-131	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-132	1.00	0.01	0.00	0.00	0.00	0.01	0.00	0.98	0.01	0.00
Pipe-133	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-141	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-145	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-146	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-150	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-153	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-162	1.00	0.00	0.00	0.00	0.03	0.01	0.00	0.95	0.00	0.00
Pipe-163	1.00	0.00	0.00	0.00	0.00	0.03	0.00	0.96	0.00	0.00
Pipe-164	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-165	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-166	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-179	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-202	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-204	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-207	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-208	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-210	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-211	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-230	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-26	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-35	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-36	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-38	1.00	0.41	0.47	0.00	0.09	0.03	0.00	0.01	0.99	0.00
Pipe-40	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-46	1.00	0.00	0.87	0.00	0.00	0.00	0.13	0.00	0.00	0.00
Pipe-47	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-49	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-50	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-51	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-52	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-53	1.00	0.00	0.00	0.00	0.00	0.07	0.00	0.93	0.00	0.00
Pipe-54	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-55	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-56	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-56-1	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-57	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-58	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-58-1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-59	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-60	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-60-1	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-61	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00

Pipe-62	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-62-1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-63	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-64	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-64-1	1.00	0.55	0.31	0.00	0.12	0.01	0.00	0.02	0.96	0.00
Pipe-65	1.00	0.00	0.00	0.00	0.98	0.00	0.00	0.01	0.00	0.00
Pipe-67	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-70	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-71	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-72	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-73	1.00	0.00	0.00	0.00	0.89	0.11	0.00	0.00	0.87	0.00
Pipe-74	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-75	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-76	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-77	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-78	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-79	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-85	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-87	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-87-1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-88	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-89	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-90	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-91	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-92	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-93	1.00	0.00	0.00	0.00	0.00	0.02	0.00	0.98	0.00	0.00
Pipe-94	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-95	1.00	0.01	0.00	0.00	0.00	0.02	0.00	0.98	0.00	0.00
Pipe-33	1.00	0.00	0.00	0.00	0.98	0.00	0.00	0.01	0.00	0.00
274	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.99	0.00
Pipe-31	1.00	0.19	0.07	0.00	0.72	0.00	0.00	0.02	0.26	0.00
275	1.00	0.00	0.20	0.00	0.64	0.15	0.00	0.00	0.99	0.00
276	1.00	0.00	0.00	0.00	0.87	0.13	0.00	0.00	0.87	0.00
280	1.00	0.00	0.89	0.00	0.10	0.00	0.00	0.00	1.00	0.00
285	1.00	0.00	0.91	0.00	0.05	0.04	0.00	0.00	0.99	0.00
286	1.00	0.00	0.92	0.00	0.07	0.00	0.00	0.00	0.99	0.00
287	1.00	0.00	0.00	0.00	0.90	0.10	0.00	0.00	0.99	0.00
288	1.00	0.00	0.00	0.00	0.89	0.10	0.00	0.00	0.99	0.00
289	1.00	0.00	0.91	0.00	0.01	0.08	0.00	0.00	0.99	0.00
291	1.00	0.00	0.00	0.00	0.87	0.13	0.00	0.00	0.93	0.00
292	1.00	0.00	0.00	0.00	0.88	0.11	0.00	0.00	0.99	0.00
293	1.00	0.00	0.00	0.00	0.88	0.11	0.00	0.00	0.87	0.00
294	1.00	0.00	0.00	0.00	0.88	0.12	0.00	0.00	0.88	0.00
295	1.00	0.00	0.00	0.00	0.88	0.12	0.00	0.00	0.05	0.00
296	1.00	0.00	0.87	0.00	0.02	0.10	0.00	0.00	0.95	0.00
302	1.00	0.00	0.88	0.00	0.11	0.00	0.00	0.00	0.99	0.00

****
Conduit Surcharge Summary
****

Conduit	Hours Full: Both Ends	Hours Full: Upstream	Hours Full: Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
Pipe-46	0.01	0.01	35.58	0.01	0.01
274	0.01	0.01	3.03	0.01	0.01

Analysis begun on: Thu Feb 8 08:28:23 2024
Analysis ended on: Thu Feb 8 08:28:46 2024
Total elapsed time: 00:00:23

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.2 (Build 5.2.1)

Ridgegate Southwest Village Filings 2 & 3
SWMM 100-year Output File

****
Analysis Options
****
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
Surcharge Method ..... EXTRAN
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 ..... 1.00 sec
Variable Time Step ..... YES
Maximum Trials 8
Number of Threads 1
Head Tolerance ..... 0.005000 ft

Flow Routing Continuity	Volume acre-feet	Volume 10^6 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	689.890	224.811
External Outflow	642.313	209.307
Flooding Loss	0.000	0.000
Evaporation Loss	0.000	0.000
Exfiltration Loss	0.000	0.000
Initial Stored Volume	0.001	0.000
Final Stored Volume	1.511	0.492
Continuity Error (%)	6.677	

****
Highest Continuity Errors
****
Node O1 (100.00%)
Node O2 (100.00%)

****
Time-Step Critical Elements
****
Link dF3-5 (6.29%)
Link Pipe-33 (2.33%)
Link Pipe-74 (1.03%)

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*******************************
Highest Flow Instability Indexes
*******************************
All links are stable.


*******************************
Most Frequent Nonconverging Nodes
*******************************
Node O4 (0.25%)
Node O3 (0.25%)
Node O5 (0.25%)
Node S_B73 (0.14%)
Node 503 (0.08%)


************************
Routing Time Step Summary
************************
Minimum Time Step           :     0.50 sec
Average Time Step           :     0.95 sec
Maximum Time Step           :     1.00 sec
% of Time in Steady State   :     0.00
Average Iterations per Step :     2.02
% of Steps Not Converging   :     0.25
Time Step Frequencies       :
    1.000 -  0.871 sec      :    89.08 %
    0.871 -  0.758 sec      :     0.85 %
    0.758 -  0.660 sec      :     1.34 %
    0.660 -  0.574 sec      :     1.81 %
    0.574 -  0.500 sec      :     6.92 %


******************
Node Depth Summary
******************

-------------------------------------------------------------------------------
                            Average  Maximum  Maximum  Time of Max    Reported
                              Depth    Depth      HGL   Occurrence   Max Depth
Node                 Type      Feet     Feet     Feet  days hr:min        Feet
-------------------------------------------------------------------------------
100                  JUNCTION     2.87     6.73  6074.77     0  01:04        6.73
101                  JUNCTION     2.29     6.51  6075.17     0  01:01        6.51
102                  JUNCTION     0.06     0.87  6075.78     0  00:55        0.87
105                  JUNCTION     0.20     2.74  6089.12     0  00:40        2.69
106                  JUNCTION     0.05     0.90  6099.26     0  00:35        0.90
108                  JUNCTION     0.23     3.05  6099.73     0  00:46        3.05
109                  JUNCTION     0.06     0.71  6080.23     0  00:41        0.71
110                  JUNCTION     0.06     1.13  6098.76     0  00:35        1.13
112                  JUNCTION     0.04     0.63  6099.97     0  00:35        0.63
113                  JUNCTION     0.04     0.75  6099.33     0  00:35        0.75
120                  JUNCTION     0.05     0.78  6117.97     0  00:36        0.78
121                  JUNCTION     0.04     0.62  6133.12     0  00:35        0.62
124                  JUNCTION     0.03     0.43  6097.25     0  00:35        0.43
125                  JUNCTION     0.02     0.30  6098.71     0  00:40        0.30
126                  JUNCTION     0.04     0.56  6096.92     0  00:40        0.56
127                  JUNCTION     0.18     2.44  6099.72     0  00:45        2.44
128                  JUNCTION     0.18     2.50  6101.31     0  00:46        2.50
129                  JUNCTION     0.07     1.10  6085.88     0  00:37        1.10
130                  JUNCTION     0.06     0.75  6086.43     0  00:40        0.75
132                  JUNCTION     0.10     2.56  6091.37     0  00:36        2.55
138                  JUNCTION     0.03     0.54  6091.34     0  00:36        0.54
142                  JUNCTION     0.05     0.56  6082.30     0  00:45        0.56
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145	JUNCTION	0.17	2.53	6100.91	0	00:43	2.53
146	JUNCTION	0.03	0.46	6113.25	0	00:40	0.46
147	JUNCTION	0.13	2.05	6104.72	0	00:42	2.05
148	JUNCTION	0.11	1.47	6113.75	0	00:43	1.47
149	JUNCTION	0.13	1.78	6116.97	0	00:43	1.78
150	JUNCTION	0.18	2.39	6105.78	0	00:46	2.39
151	JUNCTION	0.17	2.31	6122.90	0	00:46	2.31
152	JUNCTION	0.12	1.65	6129.05	0	00:47	1.65
154	JUNCTION	0.20	2.74	6094.07	0	00:40	2.71
155	JUNCTION	0.19	2.56	6095.66	0	00:39	2.56
156	JUNCTION	0.23	3.07	6097.75	0	00:39	3.06
157	JUNCTION	0.23	3.05	6098.55	0	00:46	3.05
158	JUNCTION	0.23	3.06	6100.49	0	00:46	3.06
159	JUNCTION	0.23	3.02	6101.20	0	00:46	3.02
160	JUNCTION	0.23	3.07	6102.87	0	00:46	3.07
161	JUNCTION	0.06	0.78	6111.38	0	00:41	0.78
162	JUNCTION	0.07	0.92	6113.10	0	00:40	0.92
163	JUNCTION	0.07	0.93	6114.61	0	00:40	0.93
164	JUNCTION	0.27	4.83	6077.09	0	00:51	4.83
165	JUNCTION	0.11	1.87	6103.58	0	00:36	1.87
166	JUNCTION	0.11	1.65	6104.50	0	00:37	1.65
167	JUNCTION	0.10	1.48	6105.46	0	00:37	1.48
168	JUNCTION	0.10	1.49	6106.16	0	00:37	1.49
169	JUNCTION	0.24	4.38	6077.14	0	00:52	4.38
170	JUNCTION	0.10	1.65	6108.19	0	00:36	1.65
171	JUNCTION	0.09	1.57	6108.45	0	00:36	1.57
172	JUNCTION	0.09	1.49	6109.11	0	00:36	1.49
173	JUNCTION	0.67	6.22	6077.01	0	00:52	6.22
174	JUNCTION	0.05	0.59	6115.78	0	00:42	0.59
176	JUNCTION	0.04	0.38	6129.38	0	00:48	0.38
177	JUNCTION	0.20	2.99	6077.53	0	00:51	2.99
178	JUNCTION	0.03	0.47	6132.10	0	00:36	0.47
135	JUNCTION	0.05	0.87	6078.14	0	00:38	0.87
182	JUNCTION	0.23	3.55	6081.56	0	00:46	3.55
183	JUNCTION	0.18	2.39	6088.86	0	00:45	2.39
184	JUNCTION	0.06	1.78	6092.19	0	00:36	1.78
185	JUNCTION	0.05	0.75	6095.73	0	00:40	0.75
186	JUNCTION	0.20	2.91	6077.93	0	00:51	2.90
187	JUNCTION	0.20	2.78	6091.69	0	00:40	2.70
188	JUNCTION	0.17	2.37	6081.03	0	00:43	2.37
189	JUNCTION	0.17	2.37	6084.35	0	00:42	2.37
190	JUNCTION	0.13	1.79	6086.80	0	00:41	1.79
191	JUNCTION	0.19	3.23	6089.79	0	00:42	3.23
192	JUNCTION	0.15	2.53	6090.12	0	00:42	2.53
193	JUNCTION	0.13	1.79	6091.89	0	00:43	1.79
194	JUNCTION	0.13	1.72	6095.54	0	00:43	1.72
195	JUNCTION	0.13	1.75	6098.27	0	00:43	1.75
196	JUNCTION	0.04	0.70	6099.89	0	00:35	0.69
197	JUNCTION	0.28	13.24	6086.07	0	00:41	4.42
198	JUNCTION	0.21	4.30	6079.51	0	00:41	2.99
199	JUNCTION	0.20	3.00	6084.74	0	00:41	2.67
200	JUNCTION	1.12	3.71	6095.09	0	01:03	3.71
201	JUNCTION	0.15	2.33	6099.59	0	00:47	2.33
202	JUNCTION	0.08	1.24	6102.66	0	00:44	1.23
203	JUNCTION	0.24	3.65	6130.98	0	00:47	3.65
207	JUNCTION	0.07	0.96	6123.21	0	00:40	0.96
208	JUNCTION	0.05	0.74	6125.93	0	00:40	0.74
210	JUNCTION	0.16	2.31	6102.01	0	00:47	2.31
211	JUNCTION	0.17	2.55	6104.38	0	00:47	2.55
212	JUNCTION	0.13	1.77	6106.30	0	00:47	1.77
213	JUNCTION	0.12	1.57	6112.79	0	00:47	1.57
214	JUNCTION	0.11	1.54	6121.51	0	00:47	1.54
215	JUNCTION	0.17	2.37	6125.59	0	00:46	2.37
216	JUNCTION	0.16	2.33	6128.40	0	00:46	2.33

217	JUNCTION	0.17	2.42	6129.44	0	00:46	2.42
218	JUNCTION	0.06	1.01	6096.64	0	00:37	1.01
219	JUNCTION	0.04	0.63	6111.52	0	00:38	0.63
220	JUNCTION	0.04	0.64	6119.86	0	00:37	0.64
221	JUNCTION	0.02	0.36	6130.72	0	00:35	0.36
222	JUNCTION	0.07	0.94	6121.04	0	00:41	0.94
223	JUNCTION	0.06	0.80	6121.62	0	00:41	0.80
224	JUNCTION	0.06	0.80	6122.32	0	00:40	0.80
300	JUNCTION	0.06	0.96	6113.96	0	00:37	0.96
316	JUNCTION	0.11	1.46	6108.68	0	00:43	1.46
318	JUNCTION	0.03	0.49	6109.52	0	00:40	0.49
319	JUNCTION	0.04	0.58	6105.72	0	00:35	0.58
S_B73	JUNCTION	3.20	3.89	6129.89	0	00:25	3.68
405	JUNCTION	0.03	0.43	6101.24	0	00:36	0.43
410	JUNCTION	0.03	0.46	6114.45	0	00:40	0.46
411	JUNCTION	0.09	2.10	6084.85	0	00:36	2.09
412	JUNCTION	0.06	1.18	6085.54	0	00:36	1.18
413	JUNCTION	0.04	0.62	6089.87	0	00:36	0.62
414	JUNCTION	0.04	0.60	6094.24	0	00:36	0.60
415	JUNCTION	0.02	0.36	6098.85	0	00:36	0.36
417	JUNCTION	0.09	1.82	6097.07	0	00:37	1.82
418	JUNCTION	0.05	0.68	6098.14	0	00:41	0.68
419	JUNCTION	0.05	0.62	6102.60	0	00:41	0.62
420	JUNCTION	0.04	0.58	6108.83	0	00:41	0.58
421	JUNCTION	0.03	0.46	6111.35	0	00:40	0.46
501	JUNCTION	0.08	1.33	6103.79	0	00:49	1.33
204	JUNCTION	0.20	3.42	6131.41	0	00:47	3.42
503	JUNCTION	0.39	10.45	6122.45	0	00:38	7.70
153	JUNCTION	0.69	4.18	6132.11	0	00:47	4.18
505	JUNCTION	0.15	2.26	6120.94	0	00:45	2.26
502	JUNCTION	0.15	1.99	6111.99	0	00:49	1.99
513	JUNCTION	0.13	1.85	6118.68	0	00:45	1.85
515	JUNCTION	0.17	2.30	6114.36	0	00:46	2.30
600	JUNCTION	0.20	3.70	6081.20	0	00:41	3.16
601	JUNCTION	0.20	3.39	6083.16	0	00:41	3.04
602	JUNCTION	0.19	2.85	6087.35	0	00:41	2.64
603	JUNCTION	0.14	2.24	6104.00	0	00:42	2.24
HC016	JUNCTION	1.72	12.74	6092.74	0	01:29	12.74
HC017	JUNCTION	0.54	5.58	6080.58	0	01:31	5.58
HC018	JUNCTION	1.04	10.74	6060.74	0	01:40	10.74
HC019	JUNCTION	0.99	8.75	6048.75	0	01:47	8.75
HC117	JUNCTION	0.00	0.00	6080.00	0	00:00	0.00
O1	JUNCTION	0.00	0.00	6051.00	0	00:09	0.00
O2	JUNCTION	0.00	0.00	6086.58	0	00:09	0.00
S_A240	JUNCTION	0.00	0.00	6080.00	0	00:00	0.00
S_A245	JUNCTION	0.00	0.00	6055.00	0	00:00	0.00
S_A250	JUNCTION	0.00	0.00	6055.00	0	00:00	0.00
S_A260	JUNCTION	0.00	0.00	6050.00	0	00:00	0.00
S_B0	JUNCTION	0.00	0.00	6064.16	0	00:00	0.00
S_B1	JUNCTION	0.00	0.00	6064.80	0	00:00	0.00
S_B10	JUNCTION	0.05	0.84	6098.85	0	00:36	0.84
S_B11	JUNCTION	0.03	0.31	6086.17	0	00:46	0.31
S_B12	JUNCTION	0.04	0.83	6100.46	0	00:35	0.83
S_B13	JUNCTION	0.02	0.28	6099.91	0	00:35	0.28
S_B14	JUNCTION	0.03	0.66	6110.52	0	00:35	0.66
S_B15	JUNCTION	0.02	0.30	6109.68	0	00:35	0.30
S_B16	JUNCTION	0.03	0.32	6118.32	0	00:45	0.32
S_B17	JUNCTION	0.05	0.73	6118.25	0	00:36	0.73
S_B18	JUNCTION	0.05	0.59	6109.83	0	00:45	0.59
S_B19	JUNCTION	0.05	1.00	6109.80	0	00:35	1.00
S_B2	JUNCTION	0.00	0.00	6075.00	0	00:00	0.00
S_B20	JUNCTION	0.05	0.88	6118.50	0	00:35	0.88
S_B21	JUNCTION	0.04	0.64	6133.43	0	00:35	0.64
S_B22	JUNCTION	0.04	0.63	6084.47	0	00:40	0.63

S_B23	JUNCTION	0.04	0.84	6086.00	0	00:36	0.84
S_B24	JUNCTION	0.04	0.63	6097.86	0	00:35	0.63
S_B25	JUNCTION	0.03	0.39	6099.23	0	00:40	0.39
S_B26	JUNCTION	0.04	0.48	6097.66	0	00:40	0.48
S_B27	JUNCTION	0.03	0.40	6104.36	0	00:41	0.40
S_B28	JUNCTION	0.00	0.00	6100.50	0	00:00	0.00
S_B29	JUNCTION	0.02	0.28	6085.88	0	00:37	0.28
S_B3	JUNCTION	0.03	0.46	6086.86	0	00:40	0.46
S_B30	JUNCTION	0.02	0.32	6078.42	0	00:30	0.32
S_B31	JUNCTION	0.00	0.00	6087.00	0	00:00	0.00
S_B32	JUNCTION	0.05	1.00	6091.69	0	00:36	1.00
S_B33	JUNCTION	0.05	1.62	6092.41	0	00:35	1.62
S_B34	JUNCTION	0.03	0.45	6077.30	0	00:51	0.45
S_B35	JUNCTION	0.00	0.00	6079.00	0	00:00	0.00
S_B36	JUNCTION	0.07	9.18	6096.18	0	00:35	1.41
S_B37	JUNCTION	0.05	0.84	6091.35	0	00:38	0.84
S_B38	JUNCTION	0.05	0.64	6091.60	0	00:38	0.64
S_B39	JUNCTION	0.04	0.69	6100.26	0	00:35	0.69
S_B4	JUNCTION	0.04	0.77	6086.73	0	00:35	0.77
S_B40	JUNCTION	0.03	0.98	6092.21	0	00:36	0.98
S_B41	JUNCTION	0.01	0.17	6100.15	0	00:35	0.17
S_B42	JUNCTION	0.00	0.00	6082.00	0	00:00	0.00
S_B43	JUNCTION	0.02	0.25	6086.97	0	00:32	0.25
S_B44	JUNCTION	0.02	0.29	6084.66	0	00:40	0.29
S_B45	JUNCTION	0.04	0.60	6101.17	0	00:43	0.60
S_B46	JUNCTION	0.04	0.55	6115.03	0	00:40	0.55
S_B47	JUNCTION	0.00	0.00	6103.00	0	00:00	0.00
S_B48	JUNCTION	0.00	0.00	6112.50	0	00:00	0.00
S_B49	JUNCTION	0.00	0.00	6115.25	0	00:00	0.00
S_B5	JUNCTION	0.02	0.34	6092.45	0	00:40	0.34
S_B50	JUNCTION	0.00	0.00	6104.00	0	00:00	0.00
S_B51	JUNCTION	0.00	0.00	6121.00	0	00:00	0.00
S_B53	JUNCTION	0.00	0.00	6110.70	0	00:00	0.00
S_B54	JUNCTION	0.03	0.49	6091.80	0	00:35	0.49
S_B6	JUNCTION	0.00	0.00	6098.50	0	00:00	0.00
S_B7	JUNCTION	0.02	0.30	6099.56	0	00:37	0.30
S_B8	JUNCTION	0.02	0.35	6107.11	0	00:40	0.35
S_B9	JUNCTION	0.00	0.00	6079.75	0	00:00	0.00
S_C0	JUNCTION	0.00	0.00	6090.00	0	00:00	0.00
S_C1	JUNCTION	0.00	0.00	6098.20	0	00:00	0.00
S_C2	JUNCTION	0.00	0.00	6102.75	0	00:00	0.00
S_C3	JUNCTION	0.00	0.00	6129.00	0	00:00	0.00
S_C4	JUNCTION	0.02	0.42	6131.33	0	00:35	0.42
S_C5	JUNCTION	0.03	0.50	6131.35	0	00:35	0.50
S_C6	JUNCTION	0.02	0.29	6131.47	0	00:35	0.29
S_C7	JUNCTION	0.00	0.00	6122.50	0	00:00	0.00
S_C8	JUNCTION	0.05	0.79	6126.53	0	00:40	0.79
S_C9	JUNCTION	0.00	0.00	6110.00	0	00:00	0.00
S_F1-1	JUNCTION	0.06	1.81	6084.85	0	00:36	1.81
S_F1-10	JUNCTION	0.04	0.59	6115.33	0	00:40	0.59
S_F1-2	JUNCTION	0.05	1.07	6085.95	0	00:35	1.07
S_F1-3	JUNCTION	0.03	0.46	6094.45	0	00:36	0.46
S_F1-4	JUNCTION	0.03	0.53	6095.07	0	00:36	0.53
S_F1-5	JUNCTION	0.03	0.53	6102.16	0	00:36	0.53
S_F1-6	JUNCTION	0.05	1.47	6097.09	0	00:37	1.47
S_F1-7	JUNCTION	0.04	1.13	6097.21	0	00:37	1.13
S_F1-8	JUNCTION	0.04	0.48	6109.69	0	00:45	0.48
S_F1-9	JUNCTION	0.04	0.49	6109.09	0	00:41	0.49
400	JUNCTION	0.08	1.14	6115.56	0	00:40	1.14
151.2	JUNCTION	0.05	0.67	6135.57	0	00:36	0.67
S_OS1	JUNCTION	0.07	0.92	6150.92	0	00:42	0.92
S_OS2a	JUNCTION	0.00	0.00	6133.00	0	00:00	0.00
S_OS4a	JUNCTION	0.00	0.00	6124.00	0	00:00	0.00
S_OS4c	JUNCTION	0.00	0.00	6124.00	0	00:00	0.00

S_OS5a	JUNCTION	0.00	0.00	6118.00	0	00:00	0.00
S_OS5b	JUNCTION	0.00	0.00	6118.00	0	00:00	0.00
S_OS5c	JUNCTION	0.00	0.00	6118.00	0	00:00	0.00
200A	JUNCTION	0.62	3.98	6095.96	0	00:57	3.98
S_C10	JUNCTION	0.05	0.37	6105.37	0	00:51	0.37
151.1	JUNCTION	0.10	1.36	6126.98	0	00:46	1.36
S_B59a	JUNCTION	0.05	0.73	6136.73	0	00:36	0.73
S_B61	JUNCTION	0.00	0.00	6158.00	0	00:00	0.00
S_B62	JUNCTION	0.00	0.00	6158.00	0	00:00	0.00
401	JUNCTION	0.02	0.38	6122.38	0	00:37	0.38
S_B57	JUNCTION	0.00	0.00	6123.00	0	00:00	0.00
S_B56	JUNCTION	0.00	0.00	6166.00	0	00:00	0.00
S_B55	JUNCTION	0.00	0.00	6166.00	0	00:00	0.00
S_B58	JUNCTION	0.00	0.00	6123.00	0	00:00	0.00
S_B71	JUNCTION	0.02	0.33	6114.33	0	00:36	0.33
S_B70	JUNCTION	0.01	0.27	6114.27	0	00:35	0.27
S_B65	JUNCTION	0.02	0.32	6132.32	0	00:40	0.32
301	JUNCTION	0.04	0.51	6131.51	0	00:40	0.51
S_B64	JUNCTION	0.03	0.42	6132.42	0	00:36	0.42
S_B72	JUNCTION	0.00	0.00	6111.00	0	00:00	0.00
S_B67	JUNCTION	0.00	0.00	6113.00	0	00:00	0.00
S_B60	JUNCTION	0.00	0.00	6114.00	0	00:00	0.00
504.1	JUNCTION	0.34	10.77	6124.27	0	00:38	7.68
S_B66	JUNCTION	0.00	0.00	6114.00	0	00:00	0.00
504.2	JUNCTION	0.33	10.73	6124.73	0	00:38	7.70
B66a	JUNCTION	0.22	9.82	6124.82	0	00:38	6.73
S_B66a	JUNCTION	0.00	0.00	6116.00	0	00:00	0.00
504.3	JUNCTION	0.32	15.09	6131.09	0	00:38	8.01
S_B66b	JUNCTION	0.00	0.00	6118.00	0	00:00	0.00
506	JUNCTION	0.13	1.60	6151.60	0	00:50	1.60
S_B63	JUNCTION	0.00	0.00	6151.00	0	00:00	0.00
507	JUNCTION	0.13	1.62	6156.62	0	00:50	1.62
S_OS3a	JUNCTION	0.00	0.00	6156.00	0	00:00	0.00
504	JUNCTION	0.35	10.72	6123.72	0	00:38	7.68
S_B59	JUNCTION	0.00	0.00	6128.00	0	00:00	0.00
S_OS4b	JUNCTION	0.00	0.00	6128.00	0	00:00	0.00
O4	OUTFALL	0.00	0.00	6093.77	0	00:00	0.00
O3	OUTFALL	0.06	1.13	6083.22	0	00:36	1.13
O5	OUTFALL	0.41	4.67	6042.17	0	01:47	4.67
PondC	STORAGE	3.03	5.58	6095.01	0	01:03	5.58
PondB	STORAGE	5.50	9.29	6074.66	0	01:05	9.29

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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 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
100	JUNCTION	0.00	428.99	0	00:41	0	12.1	-0.011
101	JUNCTION	0.00	459.17	0	00:41	0	12.1	-0.091
102	JUNCTION	0.00	13.74	0	00:38	0	0.381	0.013
105	JUNCTION	0.00	169.70	0	00:40	0	4.97	-0.000
106	JUNCTION	0.00	5.12	0	00:35	0	0.0969	0.001
108	JUNCTION	0.00	150.29	0	00:46	0	4.69	-0.000
109	JUNCTION	0.00	10.44	0	00:41	0	0.324	0.005
110	JUNCTION	0.00	7.52	0	00:35	0	0.166	-0.021
112	JUNCTION	0.00	3.73	0	00:35	0	0.0734	-0.000
113	JUNCTION	0.00	4.84	0	00:35	0	0.0991	0.043
120	JUNCTION	0.00	8.85	0	00:36	0	0.182	-0.002

121	JUNCTION	0.00	3.73	0	00:35	0	0.0755	-0.000
124	JUNCTION	0.00	2.92	0	00:35	0	0.0627	0.068
125	JUNCTION	0.00	1.35	0	00:40	0	0.0411	-0.004
126	JUNCTION	0.00	3.62	0	00:40	0	0.106	-0.015
127	JUNCTION	0.00	123.79	0	00:46	0	3.73	-0.000
128	JUNCTION	0.00	121.73	0	00:46	0	3.66	-0.000
129	JUNCTION	0.00	8.09	0	00:37	0	0.212	0.046
130	JUNCTION	0.00	4.37	0	00:40	0	0.131	-0.076
132	JUNCTION	0.00	12.83	0	00:35	0	0.255	-0.076
138	JUNCTION	0.00	2.48	0	00:35	0	0.0504	-0.037
142	JUNCTION	0.00	6.77	0	00:45	0	0.222	0.004
145	JUNCTION	0.00	60.37	0	00:43	0	1.71	-0.000
146	JUNCTION	0.00	4.18	0	00:40	0	0.108	-0.000
147	JUNCTION	0.00	53.88	0	00:42	0	1.52	0.004
148	JUNCTION	0.00	48.62	0	00:43	0	1.41	-0.000
149	JUNCTION	0.00	47.39	0	00:43	0	1.38	-0.000
150	JUNCTION	0.00	116.37	0	00:46	0	3.51	-0.000
151	JUNCTION	0.00	113.08	0	00:46	0	3.42	-0.001
152	JUNCTION	0.00	101.52	0	00:47	0	3.1	0.000
154	JUNCTION	0.00	163.06	0	00:40	0	4.95	-0.000
155	JUNCTION	0.00	154.54	0	00:40	0	4.78	-0.000
156	JUNCTION	0.00	150.30	0	00:46	0	4.69	-0.000
157	JUNCTION	0.00	150.29	0	00:46	0	4.69	-0.000
158	JUNCTION	0.00	149.36	0	00:46	0	4.66	-0.000
159	JUNCTION	0.00	149.36	0	00:46	0	4.66	-0.000
160	JUNCTION	0.00	149.36	0	00:46	0	4.66	-0.021
161	JUNCTION	0.00	11.64	0	00:41	0	0.324	-0.000
162	JUNCTION	0.00	11.64	0	00:40	0	0.324	-0.001
163	JUNCTION	0.00	11.64	0	00:40	0	0.324	-0.001
164	JUNCTION	0.00	81.25	0	00:42	0	2.21	0.026
165	JUNCTION	0.00	42.06	0	00:37	0	1.03	0.040
166	JUNCTION	0.00	36.02	0	00:37	0	0.919	-0.001
167	JUNCTION	0.00	36.01	0	00:37	0	0.919	-0.000
168	JUNCTION	0.00	36.01	0	00:37	0	0.919	-0.000
169	JUNCTION	0.00	80.32	0	00:43	0	2.21	0.021
170	JUNCTION	0.00	17.65	0	00:36	0	0.399	-0.005
171	JUNCTION	0.00	17.65	0	00:36	0	0.399	0.005
172	JUNCTION	0.00	17.65	0	00:36	0	0.399	0.001
173	JUNCTION	0.00	233.19	0	00:42	0	6.65	0.246
174	JUNCTION	0.00	7.89	0	00:42	0	0.257	0.112
176	JUNCTION	0.00	3.23	0	00:48	0	0.125	-0.195
177	JUNCTION	0.00	73.43	0	00:43	0	2.03	0.004
178	JUNCTION	0.00	3.73	0	00:35	0	0.0755	-0.002
135	JUNCTION	0.00	5.69	0	00:38	0	0.142	-0.011
182	JUNCTION	0.00	151.31	0	00:45	0	4.44	0.084
183	JUNCTION	0.00	140.94	0	00:45	0	4.15	-0.001
184	JUNCTION	0.00	8.10	0	00:35	0	0.144	0.109
185	JUNCTION	0.00	6.49	0	00:40	0	0.169	-0.004
186	JUNCTION	0.00	73.43	0	00:43	0	2.02	-0.029
187	JUNCTION	0.00	165.67	0	00:40	0	4.95	-0.000
188	JUNCTION	0.00	73.39	0	00:43	0	2.03	0.045
189	JUNCTION	0.00	73.42	0	00:41	0	2.03	-0.010
190	JUNCTION	0.00	70.70	0	00:42	0	1.96	0.014
191	JUNCTION	0.00	70.71	0	00:42	0	1.96	0.000
192	JUNCTION	0.00	70.71	0	00:42	0	1.96	0.007
193	JUNCTION	0.00	63.82	0	00:43	0	1.79	-0.011
194	JUNCTION	0.00	63.82	0	00:43	0	1.79	-0.000
195	JUNCTION	0.00	63.82	0	00:43	0	1.79	-0.000
196	JUNCTION	0.00	3.67	0	00:35	0	0.0813	-0.005
197	JUNCTION	0.00	229.46	0	00:41	0	5.09	0.089
198	JUNCTION	0.00	221.78	0	00:41	0	5.1	0.084
199	JUNCTION	0.00	182.01	0	00:40	0	5.1	0.000
200	JUNCTION	0.00	96.84	0	00:46	0	2.85	-0.024
201	JUNCTION	0.00	87.40	0	00:47	0	2.56	0.007

202	JUNCTION	0.00	20.66	0	00:44	0	0.544	-0.010	
203	JUNCTION	0.00	61.05	0	00:47	0	1.86	0.004	
207	JUNCTION	0.00	5.68	0	00:40	0	0.16	-0.049	
208	JUNCTION	0.00	4.96	0	00:40	0	0.13	0.077	
210	JUNCTION	0.00	83.08	0	00:47	0	2.44	0.002	
211	JUNCTION	0.00	62.47	0	00:47	0	1.9	-0.005	
212	JUNCTION	0.00	62.47	0	00:47	0	1.9	0.003	
213	JUNCTION	0.00	62.47	0	00:47	0	1.9	-0.001	
214	JUNCTION	0.00	62.47	0	00:47	0	1.9	-0.000	
215	JUNCTION	0.00	62.47	0	00:46	0	1.9	-0.001	
216	JUNCTION	0.00	62.47	0	00:46	0	1.9	-0.001	
217	JUNCTION	0.00	62.47	0	00:46	0	1.9	-0.000	
218	JUNCTION	0.00	8.47	0	00:38	0	0.215	0.304	
219	JUNCTION	0.00	8.47	0	00:38	0	0.215	-0.000	
220	JUNCTION	0.00	8.47	0	00:37	0	0.215	-0.000	
221	JUNCTION	0.00	3.01	0	00:35	0	0.0545	-0.000	
222	JUNCTION	0.00	5.68	0	00:41	0	0.16	-0.000	
223	JUNCTION	0.00	5.68	0	00:41	0	0.16	-0.000	
224	JUNCTION	0.00	5.68	0	00:40	0	0.16	-0.000	
300	JUNCTION	0.00	10.75	0	00:37	0	0.263	0.000	
316	JUNCTION	0.00	48.62	0	00:43	0	1.41	-0.004	
318	JUNCTION	0.00	4.18	0	00:40	0	0.108	-0.000	
319	JUNCTION	0.00	4.18	0	00:40	0	0.108	0.058	
S_B73	JUNCTION	3.23	3.23	0	00:48	0.125	0.125	0.230	
405	JUNCTION	0.00	2.69	0	00:36	0	0.0618	-0.000	
410	JUNCTION	0.00	3.00	0	00:40	0	0.0764	-0.000	
411	JUNCTION	0.00	13.66	0	00:36	0	0.3	0.000	
412	JUNCTION	0.00	12.30	0	00:35	0	0.269	0.011	
413	JUNCTION	0.00	6.96	0	00:36	0	0.165	-0.039	
414	JUNCTION	0.00	6.96	0	00:36	0	0.165	0.000	
415	JUNCTION	0.00	2.69	0	00:36	0	0.0618	-0.001	
417	JUNCTION	0.00	13.30	0	00:37	0	0.334	0.017	
418	JUNCTION	0.00	7.03	0	00:41	0	0.208	-0.038	
419	JUNCTION	0.00	7.03	0	00:41	0	0.208	-0.000	
420	JUNCTION	0.00	7.03	0	00:41	0	0.208	-0.000	
421	JUNCTION	0.00	3.00	0	00:40	0	0.0764	-0.000	
501	JUNCTION	0.00	19.42	0	00:42	0	0.48	0.172	
204	JUNCTION	0.00	59.66	0	00:47	0	1.83	-0.004	
503	JUNCTION	0.00	96.59	0	00:50	0	3.21	-0.006	
153	JUNCTION	0.00	97.57	0	00:47	0	2.98	0.002	
505	JUNCTION	0.00	43.43	0	00:45	0	1.28	-0.000	
502	JUNCTION	0.00	100.57	0	00:49	0	3.31	-0.001	
513	JUNCTION	0.00	43.43	0	00:45	0	1.28	-0.000	
515	JUNCTION	0.00	113.08	0	00:46	0	3.42	-0.000	
600	JUNCTION	0.00	203.76	0	00:41	0	5.1	0.036	
601	JUNCTION	0.00	188.39	0	00:41	0	5.1	0.000	
602	JUNCTION	0.00	172.09	0	00:40	0	4.97	-0.000	
603	JUNCTION	0.00	58.00	0	00:42	0	1.63	-0.003	
HC016	JUNCTION	4707.81	4707.81	0	01:28	195	195	0.027	
HC017	JUNCTION	0.00	4854.20	0	01:29	0	203	-0.215	
HC018	JUNCTION	0.00	4863.13	0	01:31	0	206	-0.083	
HC019	JUNCTION	0.00	4687.95	0	01:42	0	209	0.292	
HC117	JUNCTION	261.16	261.16	0	00:53	7.57	7.57	0.000	
O1	JUNCTION	0.00	348.27	0	01:05	0	1212036076.095		gal
O2	JUNCTION	0.00	88.72	0	01:03	0	2.97	2969639.286	gal
S_A240	JUNCTION	49.90	49.90	0	00:35	0.667	0.667	0.000	
S_A245	JUNCTION	55.95	55.95	0	00:42	1.42	1.42	0.000	
S_A250	JUNCTION	37.46	37.46	0	00:41	0.869	0.869	0.000	
S_A260	JUNCTION	139.65	139.65	0	00:41	3.1	3.1	0.000	
S_B0	JUNCTION	10.72	10.72	0	00:40	0.276	0.276	0.000	
S_B1	JUNCTION	2.03	2.03	0	00:35	0.0334	0.0334	0.000	
S_B10	JUNCTION	2.70	2.70	0	00:38	0.0673	0.0673	-0.000	
S_B11	JUNCTION	1.84	1.84	0	00:46	0.069	0.069	-0.019	
S_B12	JUNCTION	3.73	3.73	0	00:35	0.0734	0.0734	0.000	

S_B13	JUNCTION	1.11	1.11	0	00:35	0.0257	0.0257	-0.003
S_B14	JUNCTION	2.88	3.87	0	00:35	0.0459	0.0609	-0.000
S_B15	JUNCTION	2.48	2.48	0	00:35	0.0479	0.0479	-0.000
S_B16	JUNCTION	1.14	1.14	0	00:45	0.0432	0.0432	0.000
S_B17	JUNCTION	3.73	3.73	0	00:37	0.089	0.089	0.000
S_B18	JUNCTION	3.15	3.15	0	00:45	0.115	0.115	-0.008
S_B19	JUNCTION	6.01	6.01	0	00:35	0.101	0.101	-0.000
S_B2	JUNCTION	3.90	3.90	0	00:35	0.058	0.058	0.000
S_B20	JUNCTION	5.16	5.16	0	00:35	0.107	0.107	0.000
S_B21	JUNCTION	3.73	3.73	0	00:35	0.0755	0.0755	0.000
S_B22	JUNCTION	2.79	2.79	0	00:40	0.0768	0.0768	0.000
S_B23	JUNCTION	2.95	2.95	0	00:35	0.0554	0.0554	0.001
S_B24	JUNCTION	2.92	2.92	0	00:35	0.0627	0.0627	0.000
S_B25	JUNCTION	1.35	1.35	0	00:40	0.0411	0.0411	0.000
S_B26	JUNCTION	2.27	2.27	0	00:40	0.065	0.065	0.000
S_B27	JUNCTION	2.07	2.07	0	00:41	0.0662	0.0662	0.000
S_B28	JUNCTION	5.52	5.52	0	00:40	0.15	0.15	0.000
S_B29	JUNCTION	0.95	0.95	0	00:38	0.0255	0.0255	0.010
S_B3	JUNCTION	2.05	2.05	0	00:40	0.0588	0.0588	0.000
S_B30	JUNCTION	1.14	1.14	0	00:35	0.0192	0.0192	0.057
S_B31	JUNCTION	1.15	1.15	0	00:45	0.0403	0.0403	0.000
S_B32	JUNCTION	4.80	4.80	0	00:36	0.111	0.111	-0.000
S_B33	JUNCTION	6.33	6.33	0	00:35	0.101	0.101	0.002
S_B34	JUNCTION	1.42	1.42	0	00:40	0.0429	0.0429	0.000
S_B35	JUNCTION	4.64	4.64	0	00:40	0.123	0.123	0.000
S_B36	JUNCTION	3.23	3.23	0	00:40	0.0902	0.0902	-0.012
S_B37	JUNCTION	4.70	4.70	0	00:38	0.116	0.116	0.000
S_B38	JUNCTION	0.76	0.76	0	00:35	0.0184	0.0184	0.102
S_B39	JUNCTION	3.28	3.28	0	00:36	0.0732	0.0732	0.000
S_B4	JUNCTION	3.82	3.82	0	00:35	0.0687	0.0687	-0.000
S_B40	JUNCTION	1.85	1.85	0	00:37	0.0438	0.0438	-0.039
S_B41	JUNCTION	0.39	0.39	0	00:35	0.00817	0.00817	0.029
S_B42	JUNCTION	4.95	4.95	0	00:42	0.153	0.153	0.000
S_B43	JUNCTION	2.02	2.02	0	00:37	0.0493	0.0493	0.016
S_B44	JUNCTION	0.70	0.70	0	00:40	0.0197	0.0197	0.000
S_B45	JUNCTION	2.38	2.38	0	00:41	0.0771	0.0771	0.000
S_B46	JUNCTION	4.18	4.18	0	00:40	0.108	0.108	0.000
S_B47	JUNCTION	5.97	5.97	0	00:35	0.113	0.113	0.000
S_B48	JUNCTION	1.26	1.26	0	00:40	0.0351	0.0351	0.000
S_B49	JUNCTION	4.14	4.14	0	00:37	0.0998	0.0998	0.000
S_B5	JUNCTION	0.94	0.94	0	00:40	0.0238	0.0238	0.001
S_B50	JUNCTION	3.36	3.36	0	00:40	0.0891	0.0891	0.000
S_B51	JUNCTION	0.85	0.85	0	00:35	0.0156	0.0156	0.000
S_B53	JUNCTION	0.99	0.99	0	00:35	0.0149	0.0149	0.000
S_B54	JUNCTION	1.75	1.75	0	00:35	0.032	0.032	-0.000
S_B6	JUNCTION	4.17	4.17	0	00:35	0.0725	0.0725	0.000
S_B7	JUNCTION	0.97	0.97	0	00:40	0.0244	0.0244	-0.010
S_B8	JUNCTION	0.97	0.97	0	00:40	0.0244	0.0244	0.001
S_B9	JUNCTION	3.72	3.72	0	00:40	0.102	0.102	0.000
S_C0	JUNCTION	5.32	5.32	0	00:42	0.158	0.158	0.000
S_C1	JUNCTION	4.57	4.57	0	00:40	0.124	0.124	0.000
S_C2	JUNCTION	2.08	2.08	0	00:40	0.0639	0.0639	0.000
S_C3	JUNCTION	1.68	1.68	0	00:35	0.0344	0.0344	0.000
S_C4	JUNCTION	1.89	1.89	0	00:35	0.033	0.033	-0.000
S_C5	JUNCTION	2.08	2.08	0	00:35	0.0378	0.0378	0.000
S_C6	JUNCTION	0.93	0.93	0	00:35	0.0167	0.0167	0.000
S_C7	JUNCTION	0.75	0.75	0	00:47	0.0297	0.0297	0.000
S_C8	JUNCTION	4.96	4.96	0	00:40	0.13	0.13	-0.000
S_C9	JUNCTION	0.85	0.85	0	00:40	0.0226	0.0226	0.000
S_F1-1	JUNCTION	1.35	1.35	0	00:35	0.0311	0.0311	0.009
S_F1-10	JUNCTION	3.01	3.01	0	00:40	0.0764	0.0764	0.000
S_F1-2	JUNCTION	5.38	5.38	0	00:35	0.105	0.105	0.018
S_F1-3	JUNCTION	1.50	1.50	0	00:37	0.0372	0.0372	0.000
S_F1-4	JUNCTION	2.77	2.77	0	00:36	0.0656	0.0656	0.000

S_F1-5	JUNCTION	2.69	2.69	0	00:36	0.0618	0.0618	0.000
S_F1-6	JUNCTION	1.96	1.96	0	00:35	0.0305	0.0305	-0.003
S_F1-7	JUNCTION	4.68	4.68	0	00:35	0.096	0.096	0.016
S_F1-8	JUNCTION	2.34	2.34	0	00:45	0.0775	0.0775	0.000
S_F1-9	JUNCTION	1.72	1.72	0	00:41	0.0537	0.0537	0.000
400	JUNCTION	0.00	11.64	0	00:40	0	0.324	0.003
151.2	JUNCTION	0.00	12.21	0	00:36	0	0.305	-0.007
S_OS1	JUNCTION	18.63	18.63	0	00:41	0.457	0.457	-0.164
S_OS2a	JUNCTION	59.66	59.66	0	00:47	1.83	1.83	0.000
S_OS4a	JUNCTION	90.20	90.20	0	00:47	2.71	2.71	0.000
S_OS4c	JUNCTION	7.37	7.37	0	00:48	0.262	0.262	0.000
S_OS5a	JUNCTION	39.25	39.25	0	00:43	1.07	1.07	0.000
S_OS5b	JUNCTION	3.43	3.43	0	00:53	0.153	0.153	0.000
S_OS5c	JUNCTION	1.04	1.04	0	00:57	0.051	0.051	0.000
200A	JUNCTION	0.00	88.92	0	00:47	0	2.63	-0.051
S_C10	JUNCTION	1.55	1.55	0	00:51	0.0695	0.0695	-0.364
151.1	JUNCTION	0.00	112.46	0	00:46	0	3.41	0.001
S_B59a	JUNCTION	8.55	12.21	0	00:36	0.162	0.305	-0.000
S_B61	JUNCTION	3.25	3.25	0	00:44	0.111	0.111	0.000
S_B62	JUNCTION	0.74	0.74	0	00:46	0.0318	0.0318	0.000
401	JUNCTION	0.00	1.73	0	00:37	0	0.0424	-0.024
S_B57	JUNCTION	1.32	1.32	0	00:40	0.0339	0.0339	0.000
S_B56	JUNCTION	8.19	8.19	0	00:41	0.241	0.241	0.000
S_B55	JUNCTION	1.75	1.75	0	00:37	0.0406	0.0406	0.000
S_B58	JUNCTION	0.42	0.42	0	00:35	0.00852	0.00852	0.000
S_B71	JUNCTION	3.05	3.05	0	00:36	0.0681	0.0681	0.000
S_B70	JUNCTION	1.32	1.32	0	00:35	0.0237	0.0237	-0.006
S_B65	JUNCTION	3.24	3.24	0	00:40	0.0942	0.0942	0.000
301	JUNCTION	0.00	6.47	0	00:40	0	0.172	0.002
S_B64	JUNCTION	3.26	3.26	0	00:36	0.0774	0.0774	0.000
S_B72	JUNCTION	4.42	4.42	0	00:40	0.0989	0.0989	0.000
S_B67	JUNCTION	0.43	0.43	0	00:35	0.00941	0.00941	0.000
S_B60	JUNCTION	3.17	3.17	0	00:40	0.086	0.086	0.000
504.1	JUNCTION	0.00	93.28	0	00:50	0	3.11	-0.002
S_B66	JUNCTION	0.50	0.50	0	00:40	0.0126	0.0126	0.000
504.2	JUNCTION	0.00	92.82	0	00:50	0	3.1	-0.002
B66a	JUNCTION	0.00	2.52	0	00:45	0	0.0806	-0.017
S_B66a	JUNCTION	2.52	2.52	0	00:45	0.0806	0.0806	0.000
504.3	JUNCTION	0.00	90.35	0	00:50	0	3.02	-0.013
S_B66b	JUNCTION	4.65	4.65	0	00:41	0.132	0.132	0.000
506	JUNCTION	0.00	85.88	0	00:50	0	2.89	0.000
S_B63	JUNCTION	1.94	1.94	0	00:40	0.0539	0.0539	0.000
507	JUNCTION	0.00	84.06	0	00:50	0	2.84	0.000
S_OS3a	JUNCTION	84.06	84.06	0	00:50	2.84	2.84	0.000
504	JUNCTION	0.00	96.24	0	00:50	0	3.2	-0.002
S_B59	JUNCTION	3.32	3.32	0	00:38	0.0829	0.0829	0.000
S_OS4b	JUNCTION	0.89	0.89	0	00:59	0.0458	0.0458	0.000
O4	OUTFALL	0.00	13.30	0	00:37	0	0.334	0.000
O3	OUTFALL	0.00	13.65	0	00:36	0	0.3	0.000
O5	OUTFALL	0.00	4623.15	0	01:47	0	209	0.000
PondC	STORAGE	0.00	101.99	0	00:46	0	3.01	-0.011
PondB	STORAGE	0.00	445.51	0	00:41	0	12.4	-0.018

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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	Hours Surcharged	Max. Height Above Crown Feet	Min. Depth Below Rim Feet

100	JUNCTION	0.55	0.534	13.266
101	JUNCTION	0.16	0.036	13.494
173	JUNCTION	0.13	0.110	13.780
184	JUNCTION	0.04	0.084	13.216
197	JUNCTION	0.01	7.743	6.757
200	JUNCTION	0.42	0.211	6.289
203	JUNCTION	0.46	0.455	6.345
S_B73	JUNCTION	35.58	1.890	6.110
411	JUNCTION	0.25	0.395	3.905
417	JUNCTION	0.13	0.123	4.177
204	JUNCTION	0.37	0.418	16.582
503	JUNCTION	0.85	7.452	9.548
153	JUNCTION	0.63	1.181	15.819
HC117	JUNCTION	36.00	0.000	0.000
O1	JUNCTION	36.00	0.000	20.000
O2	JUNCTION	36.00	0.000	20.000
S_A240	JUNCTION	36.00	0.000	0.000
S_A245	JUNCTION	36.00	0.000	0.000
S_A250	JUNCTION	36.00	0.000	0.000
S_A260	JUNCTION	36.00	0.000	0.000
S_B0	JUNCTION	36.00	0.000	0.000
S_B1	JUNCTION	36.00	0.000	0.000
S_B2	JUNCTION	36.00	0.000	0.000
S_B28	JUNCTION	36.00	0.000	0.000
S_B31	JUNCTION	36.00	0.000	10.000
S_B33	JUNCTION	0.06	0.124	18.376
S_B35	JUNCTION	36.00	0.000	10.000
S_B36	JUNCTION	0.32	8.183	0.817
S_B42	JUNCTION	36.00	0.000	0.000
S_B47	JUNCTION	36.00	0.000	0.000
S_B48	JUNCTION	36.00	0.000	0.000
S_B49	JUNCTION	36.00	0.000	0.000
S_B50	JUNCTION	36.00	0.000	0.000
S_B51	JUNCTION	36.00	0.000	10.000
S_B53	JUNCTION	36.00	0.000	0.000
S_B6	JUNCTION	36.00	0.000	0.000
S_B9	JUNCTION	36.00	0.000	0.000
S_C0	JUNCTION	36.00	0.000	0.000
S_C1	JUNCTION	36.00	0.000	0.000
S_C2	JUNCTION	36.00	0.000	0.000
S_C3	JUNCTION	36.00	0.000	0.000
S_C7	JUNCTION	36.00	0.000	0.000
S_C9	JUNCTION	36.00	0.000	0.000
S_F1-1	JUNCTION	0.21	0.310	8.190
S_OS2a	JUNCTION	36.00	0.000	20.000
S_OS4a	JUNCTION	36.00	0.000	20.000
S_OS4c	JUNCTION	36.00	0.000	20.000
S_OS5a	JUNCTION	36.00	0.000	20.000
S_OS5b	JUNCTION	36.00	0.000	10.000
S_OS5c	JUNCTION	36.00	0.000	10.000
200A	JUNCTION	0.75	0.784	6.016
S_B61	JUNCTION	36.00	0.000	0.000
S_B62	JUNCTION	36.00	0.000	0.000
S_B57	JUNCTION	36.00	0.000	0.000
S_B56	JUNCTION	36.00	0.000	0.000
S_B55	JUNCTION	36.00	0.000	0.000
S_B58	JUNCTION	36.00	0.000	0.000
S_B72	JUNCTION	36.00	0.000	0.000
S_B67	JUNCTION	36.00	0.000	0.000
S_B60	JUNCTION	36.00	0.000	0.000
504.1	JUNCTION	0.77	7.770	9.230
S_B66	JUNCTION	36.00	0.000	0.000
504.2	JUNCTION	0.74	7.734	9.266
B66a	JUNCTION	0.78	8.322	10.178

S_B66a	JUNCTION	36.00	0.000	0.000
504.3	JUNCTION	0.64	12.088	4.912
S_B66b	JUNCTION	36.00	0.000	0.000
S_B63	JUNCTION	36.00	0.000	0.000
S_OS3a	JUNCTION	36.00	0.000	0.000
504	JUNCTION	0.79	7.724	9.276
S_B59	JUNCTION	36.00	0.000	0.000
S_OS4b	JUNCTION	36.00	0.000	0.000

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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 Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 ft³	Max Pcnt Full	Time of Max Occurrence days hr:min	Maximum Outflow CFS
PondC	18.492	24	0	0	75.567	97	0 01:03	88.72
PondB	138.002	34	0	0	393.607	96	0 01:05	348.27

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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
O4	15.35	4.11	13.30	0.334
O3	13.20	4.34	13.65	0.300
O5	99.20	291.96	4623.15	208.657
System	42.58	300.41	4627.32	209.292

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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	Max/ Full Flow	Max/ Full Depth
13	CONDUIT	3.01	0 00:35	9.11	0.13	0.24
16	CONDUIT	5.68	0 00:41	6.01	0.54	0.53
17	CONDUIT	5.68	0 00:41	5.98	0.54	0.53
25	CONDUIT	59.66	0 00:47	8.44	0.89	1.00
32	CONDUIT	18.60	0 00:44	11.75	1.00	0.94
43	CONDUIT	17.65	0 00:36	6.01	0.60	0.58
44	CONDUIT	17.65	0 00:36	5.75	0.61	0.60
94	CONDUIT	2.07	0 00:41	5.93	0.12	0.25
96	CONDUIT	4.80	0 00:36	5.58	0.33	0.62

97	CONDUIT	6.31	0	00:35	5.61	0.43	1.00
98	CONDUIT	8.06	0	00:35	5.07	0.77	1.00
99	CONDUIT	12.78	0	00:36	7.39	1.21	0.95
100	CONDUIT	1.35	0	00:40	4.80	0.08	0.22
101	CONDUIT	2.27	0	00:40	5.26	0.15	0.29
102	CONDUIT	3.62	0	00:40	6.35	0.22	0.37
103	CONDUIT	2.92	0	00:35	5.20	0.18	0.35
104	CONDUIT	2.92	0	00:35	6.07	0.18	0.33
105	CONDUIT	6.49	0	00:40	7.93	0.41	0.47
151	CONDUIT	2.77	0	00:36	5.58	0.19	0.32
152	CONDUIT	1.50	0	00:37	3.78	0.10	0.29
156	CONDUIT	5.37	0	00:35	4.97	0.51	0.68
157	CONDUIT	1.37	0	00:39	1.99	0.12	1.00
182	CONDUIT	61.05	0	00:47	9.28	0.92	0.88
183	CONDUIT	1.88	0	00:35	5.12	0.13	0.26
184	CONDUIT	4.96	0	00:40	5.54	0.47	0.51
185	CONDUIT	4.96	0	00:40	5.68	0.47	0.50
187	CONDUIT	0.93	0	00:35	4.25	0.06	0.18
189	CONDUIT	3.73	0	00:35	5.31	0.36	0.42
190	CONDUIT	2.08	0	00:35	4.80	0.14	0.29
191	CONDUIT	5.68	0	00:41	5.39	0.54	0.58
193	CONDUIT	62.47	0	00:46	10.66	0.94	0.77
194	CONDUIT	62.47	0	00:47	10.56	0.94	0.78
195	CONDUIT	3.73	0	00:35	5.42	0.35	0.41
196	CONDUIT	3.71	0	00:36	7.77	0.22	0.32
197	CONDUIT	8.47	0	00:38	12.03	0.36	0.42
198	CONDUIT	8.48	0	00:38	7.16	0.66	0.77
199	CONDUIT	83.07	0	00:47	15.73	0.72	0.70
200	CONDUIT	62.47	0	00:47	17.40	0.50	0.51
201	CONDUIT	62.47	0	00:47	16.71	0.52	0.52
202	CONDUIT	8.47	0	00:38	12.16	0.36	0.42
203	CONDUIT	6.77	0	00:45	11.38	0.29	0.37
204	CONDUIT	10.44	0	00:41	12.82	0.44	0.47
205	CONDUIT	13.74	0	00:38	13.53	0.59	0.79
207	CONDUIT	234.44	0	00:41	9.66	0.78	1.00
208	CONDUIT	47.39	0	00:43	12.91	0.82	0.70
209	CONDUIT	1.91	0	00:37	4.22	0.13	0.83
210	CONDUIT	113.08	0	00:46	17.03	0.75	0.65
212	CONDUIT	1.84	0	00:46	6.55	0.09	0.22
213	CONDUIT	73.39	0	00:43	10.65	0.79	0.67
214	CONDUIT	113.08	0	00:46	17.01	0.75	0.65
215	CONDUIT	97.57	0	00:47	13.80	1.09	1.00
228	CONDUIT	1.35	0	00:40	4.47	0.08	0.23
230	CONDUIT	0.39	0	00:35	2.56	0.03	0.22
231	CONDUIT	18.58	0	00:42	5.22	0.44	0.87
232	CONDUIT	100.57	0	00:49	20.61	0.74	0.65
234	CONDUIT	0.70	0	00:40	3.55	0.05	0.17
236	CONDUIT	2.02	0	00:37	8.80	0.03	0.22
242	CONDUIT	4.18	0	00:40	8.39	0.18	0.33
243	CONDUIT	4.18	0	00:40	9.23	0.20	0.30
244	CONDUIT	4.18	0	00:40	8.33	0.23	0.33
245	CONDUIT	4.20	0	00:40	6.53	0.28	0.53
249	DUMMY	5.97	0	00:35			
250	CONDUIT	43.43	0	00:45	9.47	1.06	0.89
253	CONDUIT	73.43	0	00:43	10.63	0.79	0.67
254	DUMMY	0.99	0	00:35			
256	CONDUIT	4704.47	0	01:30	5.88	0.19	0.46
259	CONDUIT	4831.90	0	01:32	5.33	0.07	0.41
262	CONDUIT	4663.74	0	01:42	4.42	0.26	0.49
264	CONDUIT	4623.15	0	01:47	7.11	0.18	0.34
265	CONDUIT	0.76	0	00:38	1.59	0.82	0.59
266	CONDUIT	1.75	0	00:35	3.88	0.17	0.30
269	CONDUIT	4.36	0	00:40	4.84	0.47	0.55
270	CONDUIT	8.09	0	00:37	6.40	0.69	0.67

271	CONDUIT	2.95	0	00:35	3.71	0.20	0.58
272	CONDUIT	0.95	0	00:37	2.67	0.06	0.40
273	CONDUIT	1.14	0	00:35	3.73	0.08	0.29
300	CONDUIT	434.87	0	00:41	12.40	0.77	1.00
d_B31	DUMMY	1.15	0	00:45			
d_B35	DUMMY	4.64	0	00:40			
d_B36	CONDUIT	3.23	0	00:40	4.44	1.21	0.87
d_B51	DUMMY	0.85	0	00:35			
d_F3-6	CONDUIT	12.21	0	00:36	12.89	0.41	0.67
d_OS2a	DUMMY	59.66	0	00:47			
d_OS4a	DUMMY	90.20	0	00:47			
d_OS4b	DUMMY	7.37	0	00:48			
d_OS5a	DUMMY	39.25	0	00:43			
d_OS5b	DUMMY	3.43	0	00:53			
d_OS5c	DUMMY	1.04	0	00:57			
d1	DUMMY	10.72	0	00:40			
d3	DUMMY	5.32	0	00:42			
dA240	DUMMY	49.90	0	00:35			
dA245	DUMMY	55.95	0	00:42			
dA250	DUMMY	37.46	0	00:41			
dA260	DUMMY	139.65	0	00:41			
dB1	DUMMY	2.03	0	00:35			
dB2	DUMMY	3.90	0	00:35			
dB28	DUMMY	5.52	0	00:40			
dB41	DUMMY	4.95	0	00:42			
dB6	DUMMY	4.17	0	00:35			
dB9	DUMMY	3.72	0	00:40			
dC1	DUMMY	4.57	0	00:40			
dC2	DUMMY	2.08	0	00:40			
dC3	DUMMY	1.68	0	00:35			
dC7	DUMMY	0.75	0	00:47			
dC9	DUMMY	0.85	0	00:40			
dF3-10	DUMMY	4.14	0	00:37			
dF3-5	CONDUIT	101.52	0	00:47	28.66	0.51	0.50
dF3-6	DUMMY	3.36	0	00:40			
dF3-8	CONDUIT	53.88	0	00:42	12.42	0.83	0.86
dF3-9	DUMMY	1.26	0	00:40			
d-HC117	DUMMY	261.16	0	00:53			
dO1	DUMMY	0.00	0	00:00			
dO2	DUMMY	0.00	0	00:00			
EX-Pipe-444	CONDUIT	13.65	0	00:36	8.30	0.92	0.88
Pip-39	CONDUIT	20.66	0	00:44	10.46	0.65	0.60
Pipe-100	CONDUIT	73.43	0	00:43	9.01	1.02	0.81
Pipe-101	CONDUIT	73.44	0	00:43	8.99	1.04	0.84
Pipe-102	CONDUIT	81.25	0	00:42	7.47	0.44	0.90
Pipe-103	CONDUIT	83.37	0	00:41	6.41	0.45	0.98
Pipe-106	CONDUIT	2.38	0	00:41	4.78	0.16	0.38
Pipe-107	CONDUIT	2.05	0	00:40	5.12	0.14	0.28
Pipe-108	CONDUIT	3.82	0	00:35	5.24	0.26	0.43
Pipe-109	CONDUIT	3.73	0	00:36	5.36	0.25	0.42
Pipe-110	CONDUIT	1.14	0	00:45	4.52	0.08	0.20
Pipe-111	CONDUIT	0.94	0	00:40	4.39	0.19	0.32
Pipe-112	CONDUIT	0.97	0	00:40	4.85	0.19	0.35
Pipe-113	CONDUIT	5.12	0	00:35	5.80	0.34	0.50
Pipe-114	CONDUIT	0.97	0	00:40	4.44	0.19	0.32
Pipe-115	CONDUIT	3.73	0	00:35	4.42	0.36	0.48
Pipe-116	CONDUIT	3.73	0	00:35	5.36	0.36	0.42
Pipe-117	CONDUIT	4.84	0	00:35	4.85	0.46	0.56
Pipe-118	CONDUIT	7.51	0	00:35	5.78	0.71	0.69
Pipe-119	CONDUIT	1.11	0	00:35	3.49	0.07	0.28
Pipe-120	CONDUIT	2.70	0	00:38	3.73	0.18	0.59
Pipe-121	CONDUIT	2.69	0	00:36	5.47	0.18	0.32
Pipe-122	CONDUIT	2.69	0	00:36	6.36	0.18	0.29
Pipe-123	CONDUIT	2.69	0	00:36	7.63	0.13	0.25

Pipe-124	CONDUIT	6.96	0	00:36	10.62	0.33	0.40
Pipe-125	CONDUIT	6.96	0	00:36	9.24	0.35	0.53
Pipe-126	CONDUIT	12.30	0	00:36	7.82	0.71	0.89
Pipe-127	CONDUIT	3.00	0	00:40	5.38	0.22	0.35
Pipe-128	CONDUIT	3.00	0	00:40	6.50	0.20	0.31
Pipe-129	CONDUIT	3.00	0	00:40	6.48	0.20	0.31
Pipe-130	CONDUIT	7.03	0	00:41	11.14	0.32	0.39
Pipe-131	CONDUIT	7.03	0	00:41	10.15	0.36	0.41
Pipe-132	CONDUIT	7.03	0	00:41	7.24	0.42	0.73
Pipe-133	CONDUIT	13.30	0	00:37	8.24	0.86	0.86
Pipe-141	CONDUIT	116.37	0	00:46	16.95	0.77	0.67
Pipe-145	CONDUIT	121.74	0	00:46	16.99	0.81	0.70
Pipe-146	CONDUIT	123.79	0	00:46	17.38	0.82	0.69
Pipe-150	CONDUIT	140.95	0	00:45	18.12	0.65	0.59
Pipe-153	CONDUIT	151.22	0	00:45	14.51	0.74	0.94
Pipe-162	CONDUIT	1.94	0	00:35	3.35	0.13	0.99
Pipe-163	CONDUIT	4.66	0	00:36	4.05	0.31	0.88
Pipe-164	CONDUIT	2.34	0	00:45	5.40	0.16	0.29
Pipe-165	CONDUIT	1.72	0	00:41	4.13	0.12	0.29
Pipe-166	CONDUIT	5.16	0	00:35	6.09	0.31	0.49
Pipe-179	CONDUIT	8.85	0	00:36	9.52	0.53	0.52
Pipe-202	CONDUIT	5.69	0	00:38	6.33	0.38	0.51
Pipe-204	CONDUIT	1.42	0	00:40	4.03	0.09	0.28
Pipe-207	CONDUIT	4.70	0	00:38	5.67	0.32	0.48
Pipe-208	CONDUIT	2.48	0	00:36	4.91	0.19	0.33
Pipe-210	CONDUIT	3.67	0	00:35	4.96	0.35	0.44
Pipe-211	CONDUIT	3.28	0	00:36	5.04	0.22	0.40
Pipe-230	CONDUIT	2.79	0	00:40	4.93	0.19	0.36
Pipe-26	CONDUIT	62.47	0	00:46	10.47	0.94	0.79
Pipe-35	CONDUIT	62.47	0	00:47	12.09	0.59	0.69
Pipe-36	CONDUIT	62.47	0	00:47	11.44	0.59	0.73
Pipe-38	CONDUIT	87.39	0	00:47	13.17	0.76	0.89
Pipe-40	CONDUIT	5.68	0	00:40	5.33	0.54	0.58
Pipe-46	CONDUIT	3.23	0	00:48	1.71	0.06	0.58
Pipe-47	CONDUIT	3.23	0	00:48	7.87	0.08	0.19
Pipe-49	CONDUIT	7.89	0	00:42	10.27	0.19	0.29
Pipe-50	CONDUIT	36.01	0	00:37	9.40	0.36	0.42
Pipe-51	CONDUIT	36.02	0	00:37	9.43	0.36	0.42
Pipe-52	CONDUIT	36.02	0	00:37	8.20	0.43	0.47
Pipe-53	CONDUIT	42.06	0	00:37	7.85	0.31	0.66
Pipe-54	CONDUIT	149.36	0	00:46	13.25	0.76	0.67
Pipe-55	CONDUIT	149.36	0	00:46	13.38	0.76	0.66
Pipe-56	CONDUIT	149.37	0	00:46	13.29	0.76	0.67
Pipe-56-1	CONDUIT	150.29	0	00:46	13.34	0.77	0.67
Pipe-57	CONDUIT	150.30	0	00:46	13.36	0.77	0.67
Pipe-58	CONDUIT	150.30	0	00:46	13.53	0.76	0.67
Pipe-58-1	CONDUIT	155.69	0	00:40	17.50	0.56	0.55
Pipe-59	CONDUIT	165.67	0	00:40	17.69	0.59	0.58
Pipe-60	CONDUIT	168.77	0	00:40	17.93	0.61	0.59
Pipe-60-1	CONDUIT	172.09	0	00:40	18.22	0.62	0.59
Pipe-61	CONDUIT	176.49	0	00:40	18.98	0.63	0.60
Pipe-62	CONDUIT	188.39	0	00:41	18.92	0.68	0.63
Pipe-62-1	CONDUIT	203.76	0	00:41	19.56	0.73	0.68
Pipe-63	CONDUIT	221.78	0	00:41	20.22	0.80	0.74
Pipe-64	CONDUIT	229.46	0	00:41	18.16	0.78	0.94
Pipe-64-1	CONDUIT	210.78	0	00:41	15.14	0.71	0.98
Pipe-65	CONDUIT	428.99	0	00:41	11.87	0.77	1.00
Pipe-67	CONDUIT	10.75	0	00:37	8.43	0.30	0.43
Pipe-70	CONDUIT	17.64	0	00:36	5.60	0.61	0.61
Pipe-71	CONDUIT	6.01	0	00:35	5.96	0.41	0.56
Pipe-72	CONDUIT	3.15	0	00:45	5.67	0.21	0.35
Pipe-73	CONDUIT	96.59	0	00:50	15.38	1.83	0.83
Pipe-74	CONDUIT	2.48	0	00:35	12.11	0.04	0.17
Pipe-75	CONDUIT	3.87	0	00:35	5.97	0.26	0.39

Pipe-76	CONDUIT	11.64	0	00:40	6.12	0.28	0.41
Pipe-77	CONDUIT	11.64	0	00:40	7.11	0.28	0.37
Pipe-78	CONDUIT	11.64	0	00:41	7.12	0.28	0.37
Pipe-79	CONDUIT	11.64	0	00:41	9.69	0.16	0.29
Pipe-85	CONDUIT	43.43	0	00:45	11.96	0.75	0.69
Pipe-87	CONDUIT	48.62	0	00:43	16.37	0.63	0.58
Pipe-87-1	CONDUIT	48.62	0	00:43	16.28	0.63	0.60
Pipe-88	CONDUIT	57.99	0	00:43	13.02	1.03	0.92
Pipe-89	CONDUIT	60.37	0	00:43	11.55	0.57	0.69
Pipe-90	CONDUIT	63.82	0	00:43	15.52	0.58	0.56
Pipe-91	CONDUIT	63.82	0	00:43	15.44	0.61	0.57
Pipe-92	CONDUIT	63.83	0	00:43	13.35	0.61	0.69
Pipe-93	CONDUIT	70.71	0	00:42	10.78	0.67	0.92
Pipe-94	CONDUIT	70.70	0	00:42	11.66	0.67	0.80
Pipe-95	CONDUIT	70.74	0	00:41	12.66	0.50	0.57
Pipe-33	CONDUIT	96.74	0	00:47	10.84	1.43	1.00
274	CONDUIT	1.55	0	00:51	0.83	0.07	0.68
Pipe-31	CONDUIT	88.92	0	00:47	12.69	1.89	1.00
275	CONDUIT	112.46	0	00:46	22.03	0.32	0.52
276	CONDUIT	12.21	0	00:36	15.14	0.44	0.47
278	DUMMY	0.74	0	00:46			
279	DUMMY	3.25	0	00:44			
280	CONDUIT	1.73	0	00:37	3.00	0.30	0.69
281	DUMMY	1.32	0	00:40			
282	DUMMY	0.42	0	00:35			
283	DUMMY	1.75	0	00:37			
284	DUMMY	8.19	0	00:41			
285	CONDUIT	3.05	0	00:36	4.26	0.09	0.43
286	CONDUIT	1.32	0	00:35	2.10	0.07	0.41
287	CONDUIT	6.47	0	00:40	7.60	0.24	0.49
288	CONDUIT	3.24	0	00:40	8.29	0.10	0.27
289	CONDUIT	3.26	0	00:36	7.09	0.17	0.31
290	DUMMY	84.06	0	00:50			
291	CONDUIT	84.07	0	00:50	21.83	0.54	0.54
292	CONDUIT	85.87	0	00:50	15.30	0.55	0.77
293	CONDUIT	90.35	0	00:50	12.78	1.04	1.00
294	CONDUIT	92.82	0	00:50	13.13	0.88	1.00
295	CONDUIT	93.29	0	00:50	13.20	0.86	1.00
296	CONDUIT	96.24	0	00:50	13.62	0.91	1.00
297	DUMMY	0.43	0	00:35			
298	DUMMY	3.17	0	00:40			
299	DUMMY	0.50	0	00:40			
301	DUMMY	2.52	0	00:45			
302	CONDUIT	2.64	0	00:36	2.59	0.17	1.00
303	DUMMY	4.65	0	00:41			
304	DUMMY	1.94	0	00:40			
305	DUMMY	4.42	0	00:40			
306	DUMMY	0.89	0	00:59			
307	DUMMY	3.32	0	00:38			
Outlet02	DUMMY	88.72	0	01:03			
Outlet01	DUMMY	348.27	0	01:05			

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Flow Classification Summary
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	Adjusted	Fraction of Time in Flow Class							
	/Actual		Up	Down	Sub	Sup	Up	Down	Norm	Inlet
Conduit	Length	Dry	Dry	Dry	Crit	Crit	Crit	Crit	Ltd	Ctrl
13	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
16	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00

17	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
25	1.00	0.00	0.00	0.00	0.03	0.03	0.00	0.94	0.00	0.00
32	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
43	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
44	1.00	0.00	0.00	0.00	0.01	0.00	0.00	0.99	0.00	0.00
94	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
96	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
97	1.00	0.00	0.00	0.00	0.01	0.01	0.00	0.98	0.00	0.00
98	1.00	0.00	0.00	0.00	0.02	0.02	0.00	0.96	0.02	0.00
99	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
100	1.00	0.00	0.00	0.00	0.00	0.02	0.00	0.97	0.00	0.00
101	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
102	1.00	0.00	0.00	0.00	0.00	0.01	0.00	0.98	0.00	0.00
103	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
104	1.00	0.00	0.00	0.00	0.00	0.03	0.00	0.97	0.03	0.00
105	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
151	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
152	1.00	0.00	0.00	0.00	0.00	0.02	0.00	0.98	0.00	0.00
156	1.00	0.00	0.00	0.00	0.01	0.00	0.00	0.99	0.00	0.00
157	1.00	0.00	0.00	0.00	0.04	0.00	0.00	0.95	0.00	0.00
182	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
183	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
184	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
185	1.00	0.00	0.00	0.00	0.00	0.01	0.00	0.98	0.00	0.00
187	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
189	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
190	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
191	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
193	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
194	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
195	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
196	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
197	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
198	1.00	0.01	0.00	0.00	0.03	0.02	0.00	0.95	0.04	0.00
199	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
200	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
201	1.00	0.01	0.00	0.00	0.00	0.01	0.00	0.99	0.00	0.00
202	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
203	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
204	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
205	1.00	0.00	0.00	0.00	0.00	0.02	0.00	0.97	0.00	0.00
207	1.00	0.00	0.54	0.00	0.45	0.00	0.00	0.01	0.59	0.00
208	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
209	1.00	0.00	0.00	0.00	0.01	0.01	0.00	0.97	0.00	0.00
210	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
212	1.00	0.00	0.00	0.00	0.00	0.02	0.00	0.97	0.00	0.00
213	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
214	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
215	1.00	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00	0.00
228	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
230	1.00	0.00	0.00	0.00	0.03	0.00	0.00	0.96	0.03	0.00
231	1.00	0.00	0.00	0.00	0.89	0.11	0.00	0.00	0.04	0.00
232	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
234	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
236	1.00	0.00	0.00	0.00	0.00	0.02	0.00	0.98	0.01	0.00
242	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
243	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
244	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
245	1.00	0.00	0.00	0.00	0.00	0.01	0.00	0.98	0.00	0.00
250	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
253	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
256	1.00	0.00	0.01	0.00	0.99	0.00	0.00	0.00	0.00	0.00
259	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.97	0.00
262	1.00	0.00	0.00	0.00	0.99	0.00	0.00	0.00	0.93	0.00

264	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
265	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.83	0.00
266	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
269	1.00	0.00	0.00	0.00	0.01	0.01	0.00	0.98	0.00	0.00
270	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
271	1.00	0.00	0.00	0.00	0.04	0.01	0.00	0.95	0.00	0.00
272	1.00	0.00	0.00	0.00	0.04	0.01	0.00	0.94	0.04	0.00
273	1.00	0.00	0.00	0.00	0.03	0.01	0.00	0.96	0.02	0.00
300	1.00	0.00	0.00	0.00	0.98	0.00	0.00	0.01	0.00	0.00
d_B36	1.00	0.00	0.00	0.00	0.98	0.01	0.00	0.00	0.95	0.00
d_F3-6	1.00	0.83	0.04	0.00	0.02	0.11	0.00	0.00	0.99	0.00
dF3-5	1.00	0.02	0.00	0.00	0.81	0.17	0.00	0.00	0.01	0.00
dF3-8	1.00	0.00	0.00	0.00	0.85	0.14	0.00	0.00	0.93	0.00
EX-Pipe-444	1.00	0.00	0.00	0.00	0.90	0.10	0.00	0.00	0.00	0.00
Pip-39	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-100	1.00	0.00	0.00	0.00	0.01	0.00	0.00	0.99	0.00	0.00
Pipe-101	1.00	0.01	0.00	0.00	0.01	0.00	0.00	0.99	0.00	0.00
Pipe-102	1.00	0.00	0.00	0.00	0.03	0.01	0.00	0.96	0.00	0.00
Pipe-103	1.00	0.80	0.03	0.00	0.16	0.00	0.00	0.01	0.92	0.00
Pipe-106	1.00	0.00	0.00	0.00	0.00	0.01	0.00	0.99	0.00	0.00
Pipe-107	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-108	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-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	0.01	0.00	0.99	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-115	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	0.02	0.00	0.97	0.00	0.00
Pipe-118	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	0.01	0.02	0.00	0.97	0.00	0.00
Pipe-120	1.00	0.00	0.00	0.00	0.02	0.01	0.00	0.96	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-123	1.00	0.00	0.00	0.00	0.00	0.01	0.00	0.98	0.01	0.00
Pipe-124	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-125	1.00	0.00	0.00	0.00	0.00	0.02	0.00	0.98	0.01	0.00
Pipe-126	1.00	0.00	0.00	0.00	0.00	0.03	0.00	0.97	0.00	0.00
Pipe-127	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-128	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-129	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-130	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-131	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-132	1.00	0.01	0.00	0.00	0.01	0.02	0.00	0.96	0.03	0.00
Pipe-133	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-141	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-145	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-146	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-150	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-153	1.00	0.00	0.00	0.00	0.01	0.02	0.00	0.97	0.00	0.00
Pipe-162	1.00	0.00	0.00	0.00	0.05	0.00	0.00	0.94	0.02	0.00
Pipe-163	1.00	0.00	0.00	0.00	0.04	0.02	0.00	0.94	0.00	0.00
Pipe-164	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-165	1.00	0.00	0.00	0.00	0.00	0.02	0.00	0.98	0.00	0.00
Pipe-166	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-179	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-202	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-204	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-207	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-208	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-210	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-211	1.00	0.00	0.00	0.00	0.00	0.01	0.00	0.99	0.00	0.00

Pipe-230	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-26	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-35	1.00	0.01	0.00	0.00	0.00	0.04	0.00	0.95	0.00	0.00
Pipe-36	1.00	0.01	0.00	0.00	0.00	0.02	0.00	0.98	0.00	0.00
Pipe-38	1.00	0.39	0.47	0.00	0.07	0.05	0.00	0.01	0.96	0.00
Pipe-40	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-46	1.00	0.00	0.87	0.00	0.00	0.00	0.13	0.00	0.00	0.00
Pipe-47	1.00	0.01	0.00	0.00	0.00	0.01	0.00	0.98	0.01	0.00
Pipe-49	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-50	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-51	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-52	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-53	1.00	0.00	0.00	0.00	0.07	0.01	0.00	0.91	0.05	0.00
Pipe-54	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-55	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-56	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-56-1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-57	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-58	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-58-1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-59	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-60	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-60-1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-61	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-62	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-62-1	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-63	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-64	1.00	0.00	0.00	0.00	0.00	0.02	0.00	0.97	0.00	0.00
Pipe-64-1	1.00	0.53	0.32	0.00	0.13	0.00	0.00	0.01	0.94	0.00
Pipe-65	1.00	0.00	0.00	0.00	0.98	0.00	0.00	0.01	0.00	0.00
Pipe-67	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-70	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-71	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-72	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
Pipe-73	1.00	0.00	0.00	0.00	0.88	0.12	0.00	0.00	0.87	0.00
Pipe-74	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-75	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-76	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-77	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-78	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-79	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-85	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-87	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-87-1	1.00	0.00	0.00	0.00	0.00	0.01	0.00	0.99	0.00	0.00
Pipe-88	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-89	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-90	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-91	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-92	1.00	0.00	0.00	0.00	0.00	0.02	0.00	0.97	0.00	0.00
Pipe-93	1.00	0.00	0.00	0.00	0.00	0.04	0.00	0.95	0.00	0.00
Pipe-94	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe-95	1.00	0.00	0.00	0.00	0.00	0.04	0.00	0.95	0.00	0.00
Pipe-33	1.00	0.00	0.00	0.00	0.98	0.00	0.00	0.02	0.00	0.00
274	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00
Pipe-31	1.00	0.18	0.07	0.00	0.73	0.00	0.00	0.02	0.25	0.00
275	1.00	0.00	0.82	0.00	0.01	0.16	0.00	0.00	0.99	0.00
276	1.00	0.00	0.00	0.00	0.87	0.13	0.00	0.00	0.87	0.00
280	1.00	0.00	0.89	0.00	0.10	0.00	0.00	0.00	1.00	0.00
285	1.00	0.00	0.91	0.00	0.05	0.04	0.00	0.00	0.98	0.00
286	1.00	0.00	0.92	0.00	0.08	0.00	0.00	0.00	0.99	0.00
287	1.00	0.00	0.00	0.00	0.90	0.10	0.00	0.00	0.99	0.00
288	1.00	0.00	0.00	0.00	0.89	0.10	0.00	0.00	0.99	0.00
289	1.00	0.00	0.91	0.00	0.01	0.08	0.00	0.00	0.99	0.00
291	1.00	0.00	0.00	0.00	0.87	0.13	0.00	0.00	0.92	0.00

292	1.00	0.00	0.87	0.00	0.01	0.12	0.00	0.00	0.99	0.00
293	1.00	0.00	0.00	0.00	0.89	0.10	0.00	0.00	0.87	0.00
294	1.00	0.00	0.00	0.00	0.89	0.10	0.00	0.00	0.87	0.00
295	1.00	0.00	0.00	0.00	0.89	0.10	0.00	0.00	0.90	0.00
296	1.00	0.00	0.87	0.00	0.04	0.09	0.00	0.00	0.92	0.00
302	1.00	0.00	0.88	0.00	0.12	0.00	0.00	0.00	0.96	0.00

****
Conduit Surcharge Summary
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Conduit	Hours Full: Both Ends	Hours Full: Upstream	Hours Full: Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
25	0.37	0.37	0.46	0.01	0.01
32	0.01	0.01	0.08	0.01	0.01
97	0.04	0.06	0.04	0.01	0.04
98	0.11	0.11	0.32	0.01	0.01
99	0.01	0.38	0.01	0.28	0.01
157	0.21	0.21	0.25	0.01	0.01
182	0.01	0.58	0.01	0.01	0.01
198	0.01	0.01	0.42	0.01	0.01
205	0.01	0.01	0.37	0.01	0.01
207	0.18	0.20	0.41	0.01	0.07
209	0.01	0.01	0.04	0.01	0.01
215	0.11	0.11	0.63	0.35	0.01
231	0.01	0.01	0.25	0.01	0.01
250	0.01	0.01	0.01	0.27	0.01
300	0.66	0.66	0.74	0.01	0.01
d_B36	0.01	0.32	0.01	0.46	0.01
EX-Pipe-444	0.01	0.33	0.01	0.01	0.01
Pipe-100	0.01	0.01	0.01	0.14	0.01
Pipe-101	0.01	0.01	0.01	0.18	0.01
Pipe-103	0.01	0.01	0.20	0.01	0.01
Pipe-126	0.01	0.01	0.25	0.01	0.01
Pipe-132	0.01	0.01	0.13	0.01	0.01
Pipe-133	0.01	0.22	0.01	0.01	0.01
Pipe-153	0.01	0.01	0.13	0.01	0.01
Pipe-162	0.01	0.01	0.13	0.01	0.01
Pipe-163	0.01	0.01	0.13	0.01	0.01
Pipe-38	0.01	0.01	0.75	0.01	0.01
Pipe-46	0.01	0.01	35.58	0.01	0.01
Pipe-64	0.01	0.01	0.01	0.01	0.01
Pipe-64-1	0.01	0.01	0.16	0.01	0.01
Pipe-65	0.48	0.50	0.55	0.01	0.19
Pipe-73	0.01	0.85	0.01	1.01	0.01
Pipe-88	0.01	0.01	0.01	0.16	0.01
Pipe-94	0.01	0.21	0.01	0.01	0.01
Pipe-33	0.40	0.42	0.40	0.69	0.37
274	0.01	0.01	3.57	0.01	0.01
Pipe-31	0.42	0.84	0.42	0.93	0.42
280	0.01	0.01	0.51	0.01	0.01
292	0.01	0.01	0.64	0.01	0.01
293	0.64	0.64	0.74	0.23	0.33
294	0.74	0.74	0.77	0.01	0.16
295	0.77	0.77	0.79	0.01	0.03
296	0.79	0.79	0.85	0.01	0.01
302	0.78	0.78	1.15	0.01	0.01

Analysis begun on: Thu Feb 8 08:30:35 2024

Analysis ended on: Thu Feb 8 08:31:00 2024
Total elapsed time: 00:00:25

APPENDIX C

HYDRAULIC CALCULATIONS

MHFD-Inlet, Version 5.03 (August 2023)

INLET MANAGEMENT

Worksheet Protected

INLET NAME	B59	B59a	B51	B58	B57
Site Type (Urban or Rural)	URBAN	URBAN	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET	STREET	STREET
Hydraulic Condition	In Sump	On Grade	In Sump	On Grade	On Grade
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	1.4	3.8	0.5	0.2	0.6
Major Q_{Known} (cfs)	3.3	8.6	0.9	0.4	1.3

Bypass (Carry-Over) Flow from Upstream Inlets must be organized from upstream (left) to downstream (right) in order for bypass flows to be linked.

Receive Bypass Flow from:	User-Defined	User-Defined	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	1.2	0.0	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)					
Percent Impervious					
NRCS Soil Type					

Watershed Profile

Overland Slope (ft/ft)					
Overland Length (ft)					
Channel Slope (ft/ft)					
Channel Length (ft)					

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)					
One-Hour Precipitation, P_1 (inches)					
C_1					
C_2					
C_3					
User-defined C					
User-defined 5-yr C_5					
User-defined T_c					

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)					
One-Hour Precipitation, P_1 (inches)					
C_1					
C_2					
C_3					
User-defined C					
User-defined 5-yr C_5					
User-defined T_c					

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**1.4**	**3.8**	**0.5**	**0.2**	**0.6**
Major Total Design Peak Flow, Q (cfs)	**4.5**	**8.6**	**0.9**	**0.4**	**1.3**
Minor Flow Bypassed Downstream, Q_b (cfs)	N/A	0.0	N/A	0.0	0.0
Major Flow Bypassed Downstream, Q_b (cfs)	N/A	0.1	N/A	0.0	0.0

MHFD-Inlet, Version 5.03 (August 2023)

INLET MANAGEMENT

Worksheet Protected

INLET NAME	B56	B55	B63	B60	B67
Site Type (Urban or Rural)	URBAN	URBAN	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET	STREET	STREET
Hydraulic Condition	On Grade	On Grade	On Grade	In Sump	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	3.1	0.7	0.8	1.2	0.2
Major Q_{Known} (cfs)	8.2	1.8	2.0	3.2	0.4

Bypass (Carry-Over) Flow from Upstream Inlets m

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)					
Percent Impervious					
NRCS Soil Type					

Watershed Profile

Overland Slope (ft/ft)					
Overland Length (ft)					
Channel Slope (ft/ft)					
Channel Length (ft)					

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)					
One-Hour Precipitation, P_1 (inches)					
C_1					
C_2					
C_3					
User-defined C					
User-defined 5-yr C_5					
User-defined T_c					

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)					
One-Hour Precipitation, P_1 (inches)					
C_1					
C_2					
C_3					
User-defined C					
User-defined 5-yr C_5					
User-defined T_c					

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**3.1**	**0.7**	**0.8**	**1.2**	**0.2**
Major Total Design Peak Flow, Q (cfs)	**8.2**	**1.8**	**2.0**	**3.2**	**0.4**
Minor Flow Bypassed Downstream, Q_b (cfs)	0.0	0.0	0.0	N/A	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	0.0	0.0	0.0	N/A	N/A

MHFD-Inlet, Version 5.03 (August 2023)

INLET MANAGEMENT

Worksheet Protected

INLET NAME	B65	B64	B71	B70	B66
Site Type (Urban or Rural)	URBAN	URBAN	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET	STREET	AREA
Hydraulic Condition	On Grade	On Grade	On Grade	On Grade	Swale
Inlet Type	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT TYPE D (Parallel & Depressed)

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	1.3	1.4	1.2	0.6	0.1
Major Q_{Known} (cfs)	3.3	3.3	3.1	1.3	0.5

Bypass (Carry-Over) Flow from Upstream Inlets m

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	User-Defined	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	1.4	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)					
Percent Impervious					
NRCS Soil Type					

Watershed Profile

Overland Slope (ft/ft)					
Overland Length (ft)					
Channel Slope (ft/ft)					
Channel Length (ft)					

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)					
One-Hour Precipitation, P_1 (inches)					
C_1					
C_2					
C_3					
User-defined C					
User-defined 5-yr C_5					
User-defined T_c					

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)					
One-Hour Precipitation, P_1 (inches)					
C_1					
C_2					
C_3					
User-defined C					
User-defined 5-yr C_5					
User-defined T_c					

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**1.3**	**1.4**	**1.2**	**0.6**	**0.1**
Major Total Design Peak Flow, Q (cfs)	**3.3**	**3.3**	**4.5**	**1.3**	**0.5**
Minor Flow Bypassed Downstream, Q_b (cfs)	0.0	0.0	0.0	0.0	0.0
Major Flow Bypassed Downstream, Q_b (cfs)	0.7	0.7	0.0	0.0	0.0

MHFD-Inlet, Version 5.03 (August 2023)

INLET MANAGEMENT

Worksheet Protected

INLET NAME	B66a	B66b	B73	B72
Site Type (Urban or Rural)	URBAN	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	AREA	AREA	AREA	AREA
Hydraulic Condition	Swale	Swale	Swale	Swale
Inlet Type	CDOT TYPE D (Parallel & Depressed)	CDOT TYPE D (Parallel & Depressed)	CDOT TYPE D (Parallel & Depressed)	CDOT TYPE D (Parallel & Depressed)

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	0.7	1.3	1.0	1.2
Major Q_{Known} (cfs)	2.5	4.7	3.2	4.4

Bypass (Carry-Over) Flow from Upstream Inlets m

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)				
Percent Impervious				
NRCS Soil Type				

Watershed Profile

Overland Slope (ft/ft)				
Overland Length (ft)				
Channel Slope (ft/ft)				
Channel Length (ft)				

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)				
One-Hour Precipitation, P_1 (inches)				
C_1				
C_2				
C_3				
User-defined C				
User-defined 5-yr C_5				
User-defined T_c				

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)				
One-Hour Precipitation, P_1 (inches)				
C_1				
C_2				
C_3				
User-defined C				
User-defined 5-yr C_5				
User-defined T_c				

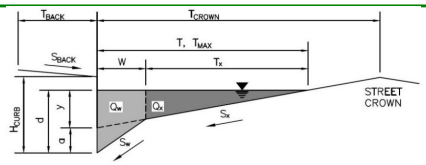
CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**0.7**	**1.3**	**1.0**	**1.2**
Major Total Design Peak Flow, Q (cfs)	**2.5**	**4.7**	**3.2**	**4.4**
Minor Flow Bypassed Downstream, Q_b (cfs)	0.0	0.0	0.0	0.0
Major Flow Bypassed Downstream, Q_b (cfs)	0.0	0.0	0.0	0.0

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

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

Project: **RIDGEGATE FILING NO.3**
Inlet ID: **B51**



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	7.0	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} =	0.018	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	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	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	5.7	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

Maximum Capacity for 1/2 Street based On Allowable Spread

		Minor Storm	Major Storm	
Water Depth without Gutter Depression (T * S_x * 12)	y =	4.32	4.32	inches
Vertical Depth between Gutter Lip and Gutter Flowline (W * S_w * 12)	d_C =	2.0	2.0	inches
Gutter Depression (d_C - (W * S_x * 12))	a =	1.51	1.51	inches
Water Depth at Gutter Flowline (y + a)	d =	5.83	5.83	inches
Allowable Spread for Discharge outside the Gutter Section (T - W)	T_X =	16.0	16.0	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.330	0.330	
Discharge outside the Gutter Section, carried in Section T_X	Q_X =	0.0	0.0	cfs
Discharge within the Gutter Section (Q_T - Q_X - Q_{BACK})	Q_W =	0.0	0.0	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	0.0	0.0	cfs
Maximum Flow Based On Allowable Spread	**Q_T =**	**SUMP**	**SUMP**	**cfs**
Flow Velocity within the Gutter Section	V =	0.0	0.0	fps
V*d Product: Flow Velocity times Gutter Flowline Depth	V*d =	0.0	0.0	

Maximum Capacity for 1/2 Street based on Allowable Depth

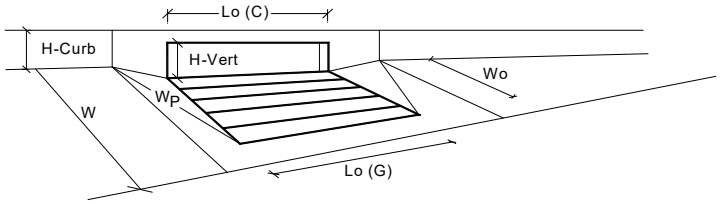
		Minor Storm	Major Storm	
Theoretical Water Spread	T_{TH} =	10.4	17.5	ft
Theoretical Spread for Discharge outside the Gutter Section (T - W)	$T_{X\,TH}$ =	8.4	15.5	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.560	0.341	
Theoretical Discharge outside the Gutter Section, carried in Section $T_{X\,TH}$	$Q_{X\,TH}$ =	0.0	0.0	cfs
Actual Discharge outside the Gutter Section, (limited by distance T_{CROWN})	Q_X =	0.0	0.0	cfs
Discharge within the Gutter Section (Q_d - Q_X)	Q_W =	0.0	0.0	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	0.0	0.0	cfs
Total Discharge for Major & Minor Storm (Pre-Safety Factor)	Q =	SUMP	SUMP	cfs
Average Flow Velocity Within the Gutter Section	V =	0.0	0.0	fps
V*d Product: Flow Velocity Times Gutter Flowline Depth	V*d =	0.0	0.0	
Slope-Based Safety Factor for Minor/Major Storm depth reduction, d ≥ 6"	R =	SUMP	SUMP	
Max Flow based on Allowable Depth (Safety Factor Applied)	**Q_d =**	**SUMP**	**SUMP**	**cfs**
Resultant Flow Depth at Gutter Flowline (Safety Factor Applied)	d =			inches
Resultant Flow Depth at Street Crown (Safety Factor Applied)	d_{CROWN} =			inches

MINOR STORM Allowable Capacity is not applicable to Sump Condition
MAJOR STORM Allowable Capacity is not applicable to Sump Condition

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

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.03 (August 2023)

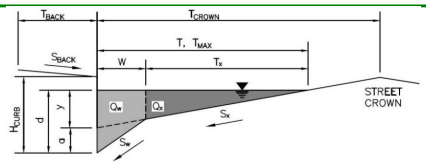


Design Information (Input)	CDOT Type R Curb Opening			
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	4.0	5.7	inches
Grate Information		MINOR	MAJOR	☐ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Open Area Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Grate Flow Analysis (Calculated)		MINOR	MAJOR	
Clogging Coefficient for Multiple Units	Coef =	N/A	N/A	
Clogging Factor for Multiple Units	Clog =	N/A	N/A	
Grate Capacity as a Weir (based on MHFD - CSU 2010 Study)		MINOR	MAJOR	
Interception without Clogging	Q_{wi} =	N/A	N/A	cfs
Interception with Clogging	Q_{wa} =	N/A	N/A	cfs
Grate Capacity as an Orifice (based on MHFD - CSU 2010 Study)		MINOR	MAJOR	
Interception without Clogging	Q_{oi} =	N/A	N/A	cfs
Interception with Clogging	Q_{oa} =	N/A	N/A	cfs
Grate Capacity as Mixed Flow		MINOR	MAJOR	
Interception without Clogging	Q_{mi} =	N/A	N/A	cfs
Interception with Clogging	Q_{ma} =	N/A	N/A	cfs
Resulting Grate Capacity (assumes clogged condition)	**Q_{Grate} =**	**N/A**	**N/A**	**cfs**
Curb Opening Flow Analysis (Calculated)		MINOR	MAJOR	
Clogging Coefficient for Multiple Units	Coef =	1.00	1.00	
Clogging Factor for Multiple Units	Clog =	0.10	0.10	
Curb Capacity as a Weir (based on MHFD - CSU 2010 Study)		MINOR	MAJOR	
Interception without Clogging	Q_{wi} =	2.1	5.3	cfs
Interception with Clogging	Q_{wa} =	1.9	4.8	cfs
Curb Capacity as an Orifice (based on MHFD - CSU 2010 Study)		MINOR	MAJOR	
Interception without Clogging	Q_{oi} =	9.8	11.0	cfs
Interception with Clogging	Q_{oa} =	8.8	9.9	cfs
Curb Opening Capacity as Mixed Flow		MINOR	MAJOR	
Interception without Clogging	Q_{mi} =	4.2	7.1	cfs
Interception with Clogging	Q_{ma} =	3.8	6.4	cfs
Resulting Curb Opening Capacity (assumes clogged condition)	**Q_{Curb} =**	**1.9**	**4.8**	**cfs**
Resultant Street Conditions		MINOR	MAJOR	
Total Inlet Length	L =	5.00	5.00	feet
Resultant Street Flow Spread (based on street geometry from above)	T =	10.4	17.5	ft
Resultant Flow Depth at Street Crown	d_{CROWN} =	0.0	0.0	inches
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.17	0.31	ft
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**1.9**	**4.8**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms (>Q Peak)	$Q_{PEAK\ REQUIRED}$ =	0.5	0.9	cfs

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

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

Project: **RIDGEGATE FILING NO.3**
Inlet ID: **B55**



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	7.0	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} =	0.018	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	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 =	0.028	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	5.7	inches
Allow Flow Depth at Street Crown (check box for yes, leave blank for no)		☐	☐	

Maximum Capacity for 1/2 Street based On Allowable Spread

		Minor Storm	Major Storm	
Water Depth without Gutter Depression (T * S_x * 12)	y =	4.32	4.32	inches
Vertical Depth between Gutter Lip and Gutter Flowline (W * S_w * 12)	d_C =	2.0	2.0	inches
Gutter Depression (d_C - (W * S_x * 12))	a =	1.51	1.51	inches
Water Depth at Gutter Flowline (y + a)	d =	5.83	5.83	inches
Allowable Spread for Discharge outside the Gutter Section (T - W)	T_X =	16.0	16.0	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.330	0.330	
Discharge outside the Gutter Section, carried in Section T_X	Q_X =	13.9	13.9	cfs
Discharge within the Gutter Section (Q_T - Q_X - Q_{BACK})	Q_W =	6.9	6.9	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	1.7	1.7	cfs
Maximum Flow Based On Allowable Spread	**Q_T =**	**22.5**	**22.5**	**cfs**
Flow Velocity within the Gutter Section	V =	8.5	8.5	fps
V*d Product: Flow Velocity times Gutter Flowline Depth	V*d =	4.1	4.1	

Maximum Capacity for 1/2 Street based on Allowable Depth

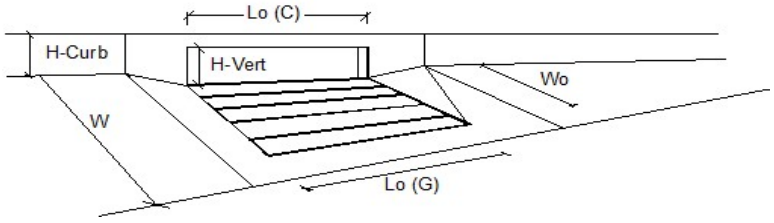
		Minor Storm	Major Storm	
Theoretical Water Spread	T_{TH} =	10.4	17.5	ft
Theoretical Spread for Discharge outside the Gutter Section (T - W)	$T_{X\,TH}$ =	8.4	15.5	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.560	0.341	
Theoretical Discharge outside the Gutter Section, carried in Section $T_{X\,TH}$	$Q_{X\,TH}$ =	2.5	12.7	cfs
Actual Discharge outside the Gutter Section, (limited by distance T_{CROWN})	Q_X =	2.5	12.7	cfs
Discharge within the Gutter Section (Q_d - Q_X)	Q_W =	3.1	6.6	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	0.0	1.4	cfs
Total Discharge for Major & Minor Storm (Pre-Safety Factor)	Q =	5.6	20.6	cfs
Average Flow Velocity Within the Gutter Section	V =	6.3	8.4	fps
V*d Product: Flow Velocity Times Gutter Flowline Depth	V*d =	2.1	4.0	
Slope-Based Safety Factor for Minor/Major Storm depth reduction, d ≥ 6"	R =	1.00	0.78	
Max Flow based on Allowable Depth (Safety Factor Applied)	**Q_d =**	**5.6**	**16.2**	**cfs**
Resultant Flow Depth at Gutter Flowline (Safety Factor Applied)	d =	4.00	5.34	inches
Resultant Flow Depth at Street Crown (Safety Factor Applied)	d_{CROWN} =	0.00	0.00	inches

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**5.6**	**16.2**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design peak flow of 0.66 cfs on sheet 'Inlet Management'
Major storm max. allowable capacity GOOD - greater than the design peak flow of 1.75 cfs on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

MHFD-Inlet, Version 5.03 (August 2023)

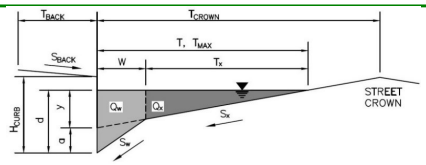


Design Information (Input)	CDOT Type R Curb Opening		MINOR	MAJOR	
Type of Inlet		Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')		a_{LOCAL} =	5.0	5.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)		No =	1	1	
Length of a Single Unit Inlet (Grate or Curb Opening)		L_o =	10.00	10.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)		W_o =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)		C_f (G) =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)		C_f (C) =	0.10	0.10	
Street Hydraulics: OK - Q < Allowable Street Capacity'			MINOR	MAJOR	
Design Discharge for Half of Street (from *Inlet Management*)		Q_o =	0.7	1.8	cfs
Water Spread Width		T =	2.1	5.7	ft
Water Depth at Flowline (outside of local depression)		d =	2.0	2.9	inches
Water Depth at Street Crown (or at T_{MAX})		d_{CROWN} =	0.0	0.0	inches
Ratio of Gutter Flow to Design Flow		E_o =	1.000	0.843	
Discharge outside the Gutter Section W, carried in Section T_x		Q_x =	0.0	0.3	cfs
Discharge within the Gutter Section W		Q_w =	0.7	1.5	cfs
Discharge Behind the Curb Face		Q_{BACK} =	0.0	0.0	cfs
Flow Area within the Gutter Section W		A_W =	0.17	0.31	sq ft
Velocity within the Gutter Section W		V_W =	3.9	4.7	fps
Water Depth for Design Condition		d_{LOCAL} =	7.0	7.9	inches
Grate Analysis (Calculated)			MINOR	MAJOR	
Total Length of Inlet Grate Opening		L =	N/A	N/A	ft
Ratio of Grate Flow to Design Flow		$E_{o\text{-}GRATE}$ =	N/A	N/A	
Under No-Clogging Condition			MINOR	MAJOR	
Minimum Velocity Where Grate Splash-Over Begins		V_o =	N/A	N/A	fps
Interception Rate of Frontal Flow		R_f =	N/A	N/A	
Interception Rate of Side Flow		R_x =	N/A	N/A	
Interception Capacity		Q_i =	N/A	N/A	cfs
Under Clogging Condition			MINOR	MAJOR	
Clogging Coefficient for Multiple-unit Grate Inlet		GrateCoeff =	N/A	N/A	
Clogging Factor for Multiple-unit Grate Inlet		GrateClog =	N/A	N/A	
Effective (unclogged) Length of Multiple-unit Grate Inlet		L_e =	N/A	N/A	ft
Minimum Velocity Where Grate Splash-Over Begins		V_o =	N/A	N/A	fps
Interception Rate of Frontal Flow		R_f =	N/A	N/A	
Interception Rate of Side Flow		R_x =	N/A	N/A	
Actual Interception Capacity		**Q_a =**	**N/A**	**N/A**	**cfs**
Carry-Over Flow = Q_o-Q_a (to be applied to curb opening or next d/s inlet)		**Q_b =**	**N/A**	**N/A**	**cfs**
Curb Opening or Slotted Inlet Analysis (Calculated)			MINOR	MAJOR	
Equivalent Slope S_e		S_e =	0.291	0.249	ft/ft
Required Length L_T to Have 100% Interception		L_T =	2.95	5.21	ft
Under No-Clogging Condition			MINOR	MAJOR	
Effective Length of Curb Opening or Slotted Inlet (minimum of L, L_T)		L =	2.95	5.21	ft
Interception Capacity		Q_i =	0.7	1.8	cfs
Under Clogging Condition			MINOR	MAJOR	
Clogging Coefficient		CurbCoeff =	1.25	1.25	
Clogging Factor for Multiple-unit Curb Opening or Slotted Inlet		CurbClog =	0.06	0.06	
Effective (Unclogged) Length		L_e =	2.95	5.21	ft
Actual Interception Capacity		**Q_a =**	**0.7**	**1.8**	**cfs**
Carry-Over Flow = $Q_{b(GRATE)}$-Q_a		**Q_b =**	**0.0**	**0.0**	**cfs**
Summary			MINOR	MAJOR	
Total Inlet Interception Capacity		**Q =**	**0.7**	**1.8**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)		**Q_b =**	**0.0**	**0.0**	**cfs**
Capture Percentage = Q_a/Q_o		**C% =**	**100**	**100**	**%**

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

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

Project: **RIDGEGATE FILING NO.3**
Inlet ID: **B56**



Gutter Geometry:			
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	7.0	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} =	0.018	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	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 =	0.028	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	5.7	inches
Allow Flow Depth at Street Crown (check box for yes, leave blank for no)		☐	☐	

Maximum Capacity for 1/2 Street based On Allowable Spread		Minor Storm	Major Storm	
Water Depth without Gutter Depression (T * S_x * 12)	y =	4.32	4.32	inches
Vertical Depth between Gutter Lip and Gutter Flowline (W * S_w * 12)	d_C =	2.0	2.0	inches
Gutter Depression (d_C - (W * S_x * 12))	a =	1.51	1.51	inches
Water Depth at Gutter Flowline (y + a)	d =	5.83	5.83	inches
Allowable Spread for Discharge outside the Gutter Section (T - W)	T_X =	16.0	16.0	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.330	0.330	
Discharge outside the Gutter Section, carried in Section T_X	Q_X =	13.9	13.9	cfs
Discharge within the Gutter Section (Q_T - Q_X - Q_{BACK})	Q_W =	6.9	6.9	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	1.7	1.7	cfs
Maximum Flow Based On Allowable Spread	**Q_T =**	**22.5**	**22.5**	**cfs**
Flow Velocity within the Gutter Section	V =	8.5	8.5	fps
V*d Product: Flow Velocity times Gutter Flowline Depth	V*d =	4.1	4.1	

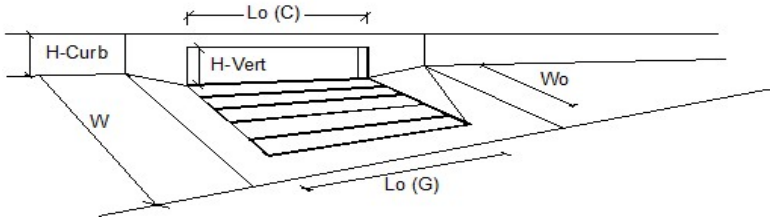
Maximum Capacity for 1/2 Street based on Allowable Depth		Minor Storm	Major Storm	
Theoretical Water Spread	T_{TH} =	10.4	17.5	ft
Theoretical Spread for Discharge outside the Gutter Section (T - W)	$T_{X\,TH}$ =	8.4	15.5	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.560	0.341	
Theoretical Discharge outside the Gutter Section, carried in Section $T_{X\,TH}$	$Q_{X\,TH}$ =	2.5	12.7	cfs
Actual Discharge outside the Gutter Section, (limited by distance T_{CROWN})	Q_X =	2.5	12.7	cfs
Discharge within the Gutter Section (Q_d - Q_X)	Q_W =	3.1	6.6	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	0.0	1.4	cfs
Total Discharge for Major & Minor Storm (Pre-Safety Factor)	Q =	5.6	20.6	cfs
Average Flow Velocity Within the Gutter Section	V =	6.3	8.4	fps
V*d Product: Flow Velocity Times Gutter Flowline Depth	V*d =	2.1	4.0	
Slope-Based Safety Factor for Minor/Major Storm depth reduction, d ≥ 6"	R =	1.00	0.78	
Max Flow based on Allowable Depth (Safety Factor Applied)	**Q_d =**	**5.6**	**16.2**	**cfs**
Resultant Flow Depth at Gutter Flowline (Safety Factor Applied)	d =	4.00	5.34	inches
Resultant Flow Depth at Street Crown (Safety Factor Applied)	d_{CROWN} =	0.00	0.00	inches

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**5.6**	**16.2**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design peak flow of 3.12 cfs on sheet 'Inlet Management'
Major storm max. allowable capacity GOOD - greater than the design peak flow of 8.19 cfs on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

MHFD-Inlet, Version 5.03 (August 2023)

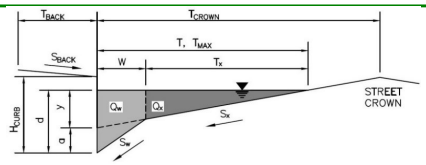


Design Information (Input)	CDOT Type R Curb Opening		MINOR	MAJOR	
Type of Inlet		Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')		a_{LOCAL} =	5.0	5.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)		No =	2	2	
Length of a Single Unit Inlet (Grate or Curb Opening)		L_o =	10.00	10.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)		W_o =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)		C_f (G) =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)		C_f (C) =	0.10	0.10	
Street Hydraulics: OK - Q < Allowable Street Capacity'			MINOR	MAJOR	
Design Discharge for Half of Street (from *Inlet Management*)		Q_o =	3.1	8.2	cfs
Water Spread Width		T =	7.8	12.2	ft
Water Depth at Flowline (outside of local depression)		d =	3.4	4.4	inches
Water Depth at Street Crown (or at T_{MAX})		d_{CROWN} =	0.0	0.0	inches
Ratio of Gutter Flow to Design Flow		E_o =	0.697	0.482	
Discharge outside the Gutter Section W, carried in Section T_x		Q_x =	0.9	4.2	cfs
Discharge within the Gutter Section W		Q_w =	2.2	3.9	cfs
Discharge Behind the Curb Face		Q_{BACK} =	0.0	0.0	cfs
Flow Area within the Gutter Section W		A_W =	0.40	0.58	sq ft
Velocity within the Gutter Section W		V_W =	5.4	6.8	fps
Water Depth for Design Condition		d_{LOCAL} =	8.4	9.4	inches
Grate Analysis (Calculated)			MINOR	MAJOR	
Total Length of Inlet Grate Opening		L =	N/A	N/A	ft
Ratio of Grate Flow to Design Flow		$E_{o\text{-}GRATE}$ =	N/A	N/A	
Under No-Clogging Condition			MINOR	MAJOR	
Minimum Velocity Where Grate Splash-Over Begins		V_o =	N/A	N/A	fps
Interception Rate of Frontal Flow		R_f =	N/A	N/A	
Interception Rate of Side Flow		R_x =	N/A	N/A	
Interception Capacity		Q_i =	N/A	N/A	cfs
Under Clogging Condition			MINOR	MAJOR	
Clogging Coefficient for Multiple-unit Grate Inlet		GrateCoeff =	N/A	N/A	
Clogging Factor for Multiple-unit Grate Inlet		GrateClog =	N/A	N/A	
Effective (unclogged) Length of Multiple-unit Grate Inlet		L_e =	N/A	N/A	ft
Minimum Velocity Where Grate Splash-Over Begins		V_o =	N/A	N/A	fps
Interception Rate of Frontal Flow		R_f =	N/A	N/A	
Interception Rate of Side Flow		R_x =	N/A	N/A	
Actual Interception Capacity		**Q_a =**	**N/A**	**N/A**	**cfs**
Carry-Over Flow = Q_o-Q_a (to be applied to curb opening or next d/s inlet)		**Q_b =**	**N/A**	**N/A**	**cfs**
Curb Opening or Slotted Inlet Analysis (Calculated)			MINOR	MAJOR	
Equivalent Slope S_e		S_e =	0.209	0.151	ft/ft
Required Length L_T to Have 100% Interception		L_T =	7.59	14.38	ft
Under No-Clogging Condition			MINOR	MAJOR	
Effective Length of Curb Opening or Slotted Inlet (minimum of L, L_T)		L =	7.59	14.38	ft
Interception Capacity		Q_i =	3.1	8.2	cfs
Under Clogging Condition			MINOR	MAJOR	
Clogging Coefficient		CurbCoeff =	1.33	1.33	
Clogging Factor for Multiple-unit Curb Opening or Slotted Inlet		CurbClog =	0.03	0.03	
Effective (Unclogged) Length		L_e =	7.59	14.38	ft
Actual Interception Capacity		**Q_a =**	**3.1**	**8.2**	**cfs**
Carry-Over Flow = $Q_{b(GRATE)}$-Q_a		**Q_b =**	**0.0**	**0.0**	**cfs**
Summary			MINOR	MAJOR	
Total Inlet Interception Capacity		**Q =**	**3.1**	**8.2**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)		**Q_b =**	**0.0**	**0.0**	**cfs**
Capture Percentage = Q_a/Q_o		**C% =**	**100**	**100**	**%**

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

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

Project: **RIDGEGATE FILING NO.3**
Inlet ID: **B57**



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	7.0	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} =	0.018	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	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 =	0.025	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	5.7	inches
Allow Flow Depth at Street Crown (check box for yes, leave blank for no)		☐	☐	

Maximum Capacity for 1/2 Street based On Allowable Spread

		Minor Storm	Major Storm	
Water Depth without Gutter Depression (T * S_x * 12)	y =	4.32	4.32	inches
Vertical Depth between Gutter Lip and Gutter Flowline (W * S_w * 12)	d_C =	2.0	2.0	inches
Gutter Depression (d_C - (W * S_x * 12))	a =	1.51	1.51	inches
Water Depth at Gutter Flowline (y + a)	d =	5.83	5.83	inches
Allowable Spread for Discharge outside the Gutter Section (T - W)	T_X =	16.0	16.0	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.330	0.330	
Discharge outside the Gutter Section, carried in Section T_X	Q_X =	13.3	13.3	cfs
Discharge within the Gutter Section (Q_T - Q_X - Q_{BACK})	Q_W =	6.5	6.5	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	1.6	1.6	cfs
Maximum Flow Based On Allowable Spread	**Q_T =**	**21.4**	**21.4**	**cfs**
Flow Velocity within the Gutter Section	V =	8.1	8.1	fps
V*d Product: Flow Velocity times Gutter Flowline Depth	V*d =	3.9	3.9	

Maximum Capacity for 1/2 Street based on Allowable Depth

		Minor Storm	Major Storm	
Theoretical Water Spread	T_{TH} =	10.4	17.5	ft
Theoretical Spread for Discharge outside the Gutter Section (T - W)	$T_{X\,TH}$ =	8.4	15.5	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.560	0.341	
Theoretical Discharge outside the Gutter Section, carried in Section $T_{X\,TH}$	$Q_{X\,TH}$ =	2.4	12.1	cfs
Actual Discharge outside the Gutter Section, (limited by distance T_{CROWN})	Q_X =	2.4	12.1	cfs
Discharge within the Gutter Section (Q_d - Q_X)	Q_W =	3.0	6.2	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	0.0	1.3	cfs
Total Discharge for Major & Minor Storm (Pre-Safety Factor)	Q =	5.3	19.7	cfs
Average Flow Velocity Within the Gutter Section	V =	6.0	8.0	fps
V*d Product: Flow Velocity Times Gutter Flowline Depth	V*d =	2.0	3.8	
Slope-Based Safety Factor for Minor/Major Storm depth reduction, d ≥ 6"	R =	1.00	0.85	
Max Flow based on Allowable Depth (Safety Factor Applied)	**Q_d =**	**5.3**	**16.6**	**cfs**
Resultant Flow Depth at Gutter Flowline (Safety Factor Applied)	d =	4.00	5.45	inches
Resultant Flow Depth at Street Crown (Safety Factor Applied)	d_{CROWN} =	0.00	0.00	inches

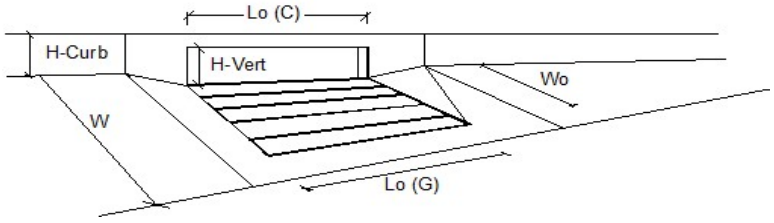
MINOR STORM Allowable Capacity is based on Depth Criterion
MAJOR STORM Allowable Capacity is based on Depth Criterion

	Minor Storm	Major Storm	
Q_{allow} =	**5.3**	**16.6**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design peak flow of 0.56 cfs on sheet 'Inlet Management'
Major storm max. allowable capacity GOOD - greater than the design peak flow of 1.32 cfs on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

MHFD-Inlet, Version 5.03 (August 2023)

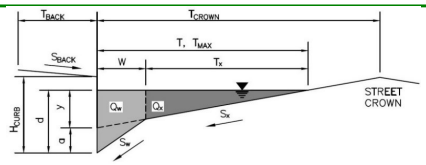


Design Information (Input)	CDOT Type R Curb Opening			
		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')	a_{LOCAL} =	5.0	5.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)	No =	1	1	
Length of a Single Unit Inlet (Grate or Curb Opening)	L_o =	5.00	5.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)	W_o =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)	C_f (G) =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)	C_f (C) =	0.10	0.10	
Street Hydraulics: OK - Q < Allowable Street Capacity'		MINOR	MAJOR	
Design Discharge for Half of Street (from *Inlet Management*)	Q_o =	0.6	1.3	cfs
Water Spread Width	T =	2.0	4.8	ft
Water Depth at Flowline (outside of local depression)	d =	2.0	2.7	inches
Water Depth at Street Crown (or at T_{MAX})	d_{CROWN} =	0.0	0.0	inches
Ratio of Gutter Flow to Design Flow	E_o =	1.000	0.899	
Discharge outside the Gutter Section W, carried in Section T_x	Q_x =	0.0	0.1	cfs
Discharge within the Gutter Section W	Q_w =	0.6	1.2	cfs
Discharge Behind the Curb Face	Q_{BACK} =	0.0	0.0	cfs
Flow Area within the Gutter Section W	A_W =	0.17	0.28	sq ft
Velocity within the Gutter Section W	V_W =	3.4	4.2	fps
Water Depth for Design Condition	d_{LOCAL} =	7.0	7.7	inches
Grate Analysis (Calculated)		MINOR	MAJOR	
Total Length of Inlet Grate Opening	L =	N/A	N/A	ft
Ratio of Grate Flow to Design Flow	$E_{o\text{-}GRATE}$ =	N/A	N/A	
Under No-Clogging Condition		MINOR	MAJOR	
Minimum Velocity Where Grate Splash-Over Begins	V_o =	N/A	N/A	fps
Interception Rate of Frontal Flow	R_f =	N/A	N/A	
Interception Rate of Side Flow	R_x =	N/A	N/A	
Interception Capacity	Q_i =	N/A	N/A	cfs
Under Clogging Condition		MINOR	MAJOR	
Clogging Coefficient for Multiple-unit Grate Inlet	GrateCoeff =	N/A	N/A	
Clogging Factor for Multiple-unit Grate Inlet	GrateClog =	N/A	N/A	
Effective (unclogged) Length of Multiple-unit Grate Inlet	L_e =	N/A	N/A	ft
Minimum Velocity Where Grate Splash-Over Begins	V_o =	N/A	N/A	fps
Interception Rate of Frontal Flow	R_f =	N/A	N/A	
Interception Rate of Side Flow	R_x =	N/A	N/A	
Actual Interception Capacity	**Q_a =**	**N/A**	**N/A**	**cfs**
Carry-Over Flow = Q_o-Q_a (to be applied to curb opening or next d/s inlet)	**Q_b =**	**N/A**	**N/A**	**cfs**
Curb Opening or Slotted Inlet Analysis (Calculated)		MINOR	MAJOR	
Equivalent Slope S_e	S_e =	0.291	0.264	ft/ft
Required Length L_T to Have 100% Interception	L_T =	2.70	4.37	ft
Under No-Clogging Condition		MINOR	MAJOR	
Effective Length of Curb Opening or Slotted Inlet (minimum of L, L_T)	L =	2.70	4.37	ft
Interception Capacity	Q_i =	0.6	1.3	cfs
Under Clogging Condition		MINOR	MAJOR	
Clogging Coefficient	CurbCoeff =	1.00	1.00	
Clogging Factor for Multiple-unit Curb Opening or Slotted Inlet	CurbClog =	0.10	0.10	
Effective (Unclogged) Length	L_e =	2.70	4.37	ft
Actual Interception Capacity	**Q_a =**	**0.6**	**1.3**	**cfs**
Carry-Over Flow = $Q_{b(GRATE)}$-Q_a	**Q_b =**	**0.0**	**0.0**	**cfs**
Summary		MINOR	MAJOR	
Total Inlet Interception Capacity	**Q =**	**0.6**	**1.3**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.0**	**0.0**	**cfs**
Capture Percentage = Q_a/Q_o	**C% =**	**100**	**100**	**%**

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

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

Project: **RIDGEGATE FILING NO.3**
Inlet ID: **B58**



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	7.0	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} =	0.018	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	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 =	0.025	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	5.7	inches
Allow Flow Depth at Street Crown (check box for yes, leave blank for no)		☐	☐	

Maximum Capacity for 1/2 Street based On Allowable Spread

		Minor Storm	Major Storm	
Water Depth without Gutter Depression (T * S_x * 12)	y =	4.32	4.32	inches
Vertical Depth between Gutter Lip and Gutter Flowline (W * S_w * 12)	d_C =	2.0	2.0	inches
Gutter Depression (d_C - (W * S_x * 12))	a =	1.51	1.51	inches
Water Depth at Gutter Flowline (y + a)	d =	5.83	5.83	inches
Allowable Spread for Discharge outside the Gutter Section (T - W)	T_X =	16.0	16.0	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.330	0.330	
Discharge outside the Gutter Section, carried in Section T_X	Q_X =	13.3	13.3	cfs
Discharge within the Gutter Section (Q_T - Q_X - Q_{BACK})	Q_W =	6.5	6.5	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	1.6	1.6	cfs
Maximum Flow Based On Allowable Spread	**Q_T =**	**21.4**	**21.4**	**cfs**
Flow Velocity within the Gutter Section	V =	8.1	8.1	fps
V*d Product: Flow Velocity times Gutter Flowline Depth	V*d =	3.9	3.9	

Maximum Capacity for 1/2 Street based on Allowable Depth

		Minor Storm	Major Storm	
Theoretical Water Spread	T_{TH} =	10.4	17.5	ft
Theoretical Spread for Discharge outside the Gutter Section (T - W)	$T_{X\,TH}$ =	8.4	15.5	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.560	0.341	
Theoretical Discharge outside the Gutter Section, carried in Section $T_{X\,TH}$	$Q_{X\,TH}$ =	2.4	12.1	cfs
Actual Discharge outside the Gutter Section, (limited by distance T_{CROWN})	Q_X =	2.4	12.1	cfs
Discharge within the Gutter Section (Q_d - Q_X)	Q_W =	3.0	6.2	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	0.0	1.3	cfs
Total Discharge for Major & Minor Storm (Pre-Safety Factor)	Q =	5.3	19.7	cfs
Average Flow Velocity Within the Gutter Section	V =	6.0	8.0	fps
V*d Product: Flow Velocity Times Gutter Flowline Depth	V*d =	2.0	3.8	
Slope-Based Safety Factor for Minor/Major Storm depth reduction, d ≥ 6"	R =	1.00	0.85	
Max Flow based on Allowable Depth (Safety Factor Applied)	**Q_d =**	**5.3**	**16.6**	**cfs**
Resultant Flow Depth at Gutter Flowline (Safety Factor Applied)	d =	4.00	5.45	inches
Resultant Flow Depth at Street Crown (Safety Factor Applied)	d_{CROWN} =	0.00	0.00	inches

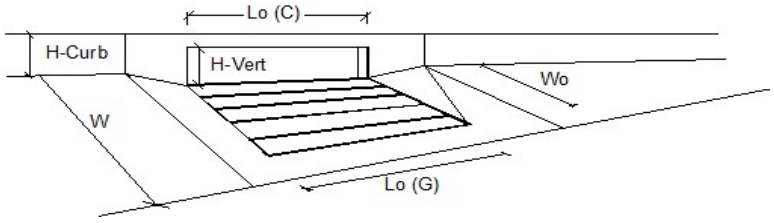
MINOR STORM Allowable Capacity is based on Depth Criterion
MAJOR STORM Allowable Capacity is based on Depth Criterion

	Minor Storm	Major Storm	
Q_{allow} =	**5.3**	**16.6**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design peak flow of 0.18 cfs on sheet 'Inlet Management'
Major storm max. allowable capacity GOOD - greater than the design peak flow of 0.42 cfs on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

MHFD-Inlet, Version 5.03 (August 2023)

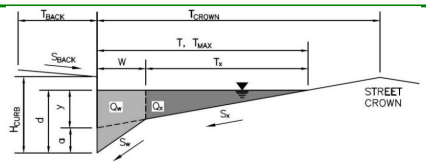


Design Information (Input)	CDOT Type R Curb Opening		MINOR	MAJOR	
Type of Inlet		Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')		a_{LOCAL} =	5.0	5.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)		No =	1	1	
Length of a Single Unit Inlet (Grate or Curb Opening)		L_o =	5.00	5.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)		W_o =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)		C_f (G) =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)		C_f (C) =	0.10	0.10	
Street Hydraulics: OK - Q < Allowable Street Capacity'			MINOR	MAJOR	
Design Discharge for Half of Street (from *Inlet Management*)		Q_o =	0.2	0.4	cfs
Water Spread Width		T =	1.3	1.8	ft
Water Depth at Flowline (outside of local depression)		d =	1.8	1.9	inches
Water Depth at Street Crown (or at T_{MAX})		d_{CROWN} =	0.0	0.0	inches
Ratio of Gutter Flow to Design Flow		E_o =	1.000	1.000	
Discharge outside the Gutter Section W, carried in Section T_x		Q_x =	0.0	0.0	cfs
Discharge within the Gutter Section W		Q_w =	0.2	0.4	cfs
Discharge Behind the Curb Face		Q_{BACK} =	0.0	0.0	cfs
Flow Area within the Gutter Section W		A_W =	0.00	0.00	sq ft
Velocity within the Gutter Section W		V_W =	0.0	0.0	fps
Water Depth for Design Condition		d_{LOCAL} =	6.8	6.9	inches
Grate Analysis (Calculated)			MINOR	MAJOR	
Total Length of Inlet Grate Opening		L =	N/A	N/A	ft
Ratio of Grate Flow to Design Flow		$E_{o\text{-}GRATE}$ =	N/A	N/A	
Under No-Clogging Condition			MINOR	MAJOR	
Minimum Velocity Where Grate Splash-Over Begins		V_o =	N/A	N/A	fps
Interception Rate of Frontal Flow		R_f =	N/A	N/A	
Interception Rate of Side Flow		R_x =	N/A	N/A	
Interception Capacity		Q_i =	N/A	N/A	cfs
Under Clogging Condition			MINOR	MAJOR	
Clogging Coefficient for Multiple-unit Grate Inlet		GrateCoeff =	N/A	N/A	
Clogging Factor for Multiple-unit Grate Inlet		GrateClog =	N/A	N/A	
Effective (unclogged) Length of Multiple-unit Grate Inlet		L_e =	N/A	N/A	ft
Minimum Velocity Where Grate Splash-Over Begins		V_o =	N/A	N/A	fps
Interception Rate of Frontal Flow		R_f =	N/A	N/A	
Interception Rate of Side Flow		R_x =	N/A	N/A	
Actual Interception Capacity		**Q_a =**	**N/A**	**N/A**	**cfs**
Carry-Over Flow = Q_o-Q_a (to be applied to curb opening or next d/s inlet)		**Q_b =**	**N/A**	**N/A**	**cfs**
Curb Opening or Slotted Inlet Analysis (Calculated)			MINOR	MAJOR	
Equivalent Slope S_e		S_e =	0.291	0.291	ft/ft
Required Length L_T to Have 100% Interception		L_T =	1.51	2.33	ft
Under No-Clogging Condition			MINOR	MAJOR	
Effective Length of Curb Opening or Slotted Inlet (minimum of L, L_T)		L =	1.51	2.33	ft
Interception Capacity		Q_i =	0.2	0.4	cfs
Under Clogging Condition			MINOR	MAJOR	
Clogging Coefficient		CurbCoeff =	1.00	1.00	
Clogging Factor for Multiple-unit Curb Opening or Slotted Inlet		CurbClog =	0.10	0.10	
Effective (Unclogged) Length		L_e =	1.51	2.33	ft
Actual Interception Capacity		**Q_a =**	**0.2**	**0.4**	**cfs**
Carry-Over Flow = $Q_{b(GRATE)}$-Q_a		**Q_b =**	**0.0**	**0.0**	**cfs**
Summary			MINOR	MAJOR	
Total Inlet Interception Capacity		**Q =**	**0.2**	**0.4**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)		**Q_b =**	**0.0**	**0.0**	**cfs**
Capture Percentage = Q_a/Q_o		**C% =**	**100**	**100**	**%**

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

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

Project: **RIDGEGATE FILING NO.3**
Inlet ID: **B59**



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	7.0	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} =	0.018	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	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	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	5.7	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

Maximum Capacity for 1/2 Street based On Allowable Spread

		Minor Storm	Major Storm	
Water Depth without Gutter Depression (T * S_x * 12)	y =	4.32	4.32	inches
Vertical Depth between Gutter Lip and Gutter Flowline (W * S_w * 12)	d_C =	2.0	2.0	inches
Gutter Depression (d_C - (W * S_x * 12))	a =	1.51	1.51	inches
Water Depth at Gutter Flowline (y + a)	d =	5.83	5.83	inches
Allowable Spread for Discharge outside the Gutter Section (T - W)	T_X =	16.0	16.0	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.330	0.330	
Discharge outside the Gutter Section, carried in Section T_X	Q_X =	0.0	0.0	cfs
Discharge within the Gutter Section (Q_T - Q_X - Q_{BACK})	Q_W =	0.0	0.0	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	0.0	0.0	cfs
Maximum Flow Based On Allowable Spread	**Q_T =**	**SUMP**	**SUMP**	**cfs**
Flow Velocity within the Gutter Section	V =	0.0	0.0	fps
V*d Product: Flow Velocity times Gutter Flowline Depth	V*d =	0.0	0.0	

Maximum Capacity for 1/2 Street based on Allowable Depth

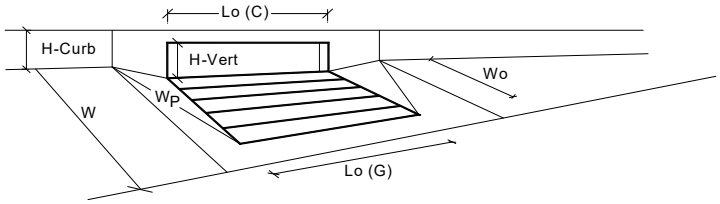
		Minor Storm	Major Storm	
Theoretical Water Spread	T_{TH} =	10.4	17.5	ft
Theoretical Spread for Discharge outside the Gutter Section (T - W)	$T_{X\,TH}$ =	8.4	15.5	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.560	0.341	
Theoretical Discharge outside the Gutter Section, carried in Section $T_{X\,TH}$	$Q_{X\,TH}$ =	0.0	0.0	cfs
Actual Discharge outside the Gutter Section, (limited by distance T_{CROWN})	Q_X =	0.0	0.0	cfs
Discharge within the Gutter Section (Q_d - Q_X)	Q_W =	0.0	0.0	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	0.0	0.0	cfs
Total Discharge for Major & Minor Storm (Pre-Safety Factor)	Q =	SUMP	SUMP	cfs
Average Flow Velocity Within the Gutter Section	V =	0.0	0.0	fps
V*d Product: Flow Velocity Times Gutter Flowline Depth	V*d =	0.0	0.0	
Slope-Based Safety Factor for Minor/Major Storm depth reduction, d ≥ 6"	R =	SUMP	SUMP	
Max Flow based on Allowable Depth (Safety Factor Applied)	**Q_d =**	**SUMP**	**SUMP**	**cfs**
Resultant Flow Depth at Gutter Flowline (Safety Factor Applied)	d =			inches
Resultant Flow Depth at Street Crown (Safety Factor Applied)	d_{CROWN} =			inches

MINOR STORM Allowable Capacity is not applicable to Sump Condition
MAJOR STORM Allowable Capacity is not applicable to Sump Condition

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

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.03 (August 2023)

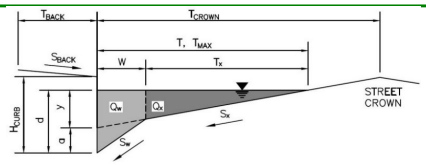


Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	4.0	5.7	inches
Grate Information		MINOR	MAJOR	☐ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Open Area Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	15.00	15.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Grate Flow Analysis (Calculated)		MINOR	MAJOR	
Clogging Coefficient for Multiple Units	Coef =	N/A	N/A	
Clogging Factor for Multiple Units	Clog =	N/A	N/A	
Grate Capacity as a Weir (based on MHFD - CSU 2010 Study)		MINOR	MAJOR	
Interception without Clogging	Q_{wi} =	N/A	N/A	cfs
Interception with Clogging	Q_{wa} =	N/A	N/A	cfs
Grate Capacity as an Orifice (based on MHFD - CSU 2010 Study)		MINOR	MAJOR	
Interception without Clogging	Q_{oi} =	N/A	N/A	cfs
Interception with Clogging	Q_{oa} =	N/A	N/A	cfs
Grate Capacity as Mixed Flow		MINOR	MAJOR	
Interception without Clogging	Q_{mi} =	N/A	N/A	cfs
Interception with Clogging	Q_{ma} =	N/A	N/A	cfs
Resulting Grate Capacity (assumes clogged condition)	**Q_{Grate} =**	**N/A**	**N/A**	**cfs**
Curb Opening Flow Analysis (Calculated)		MINOR	MAJOR	
Clogging Coefficient for Multiple Units	Coef =	1.31	1.31	
Clogging Factor for Multiple Units	Clog =	0.04	0.04	
Curb Capacity as a Weir (based on MHFD - CSU 2010 Study)		MINOR	MAJOR	
Interception without Clogging	Q_{wi} =	2.9	8.8	cfs
Interception with Clogging	Q_{wa} =	2.8	8.5	cfs
Curb Capacity as an Orifice (based on MHFD - CSU 2010 Study)		MINOR	MAJOR	
Interception without Clogging	Q_{oi} =	29.3	33.0	cfs
Interception with Clogging	Q_{oa} =	28.0	31.5	cfs
Curb Opening Capacity as Mixed Flow		MINOR	MAJOR	
Interception without Clogging	Q_{mi} =	8.6	15.9	cfs
Interception with Clogging	Q_{ma} =	8.2	15.2	cfs
Resulting Curb Opening Capacity (assumes clogged condition)	**Q_{Curb} =**	**2.8**	**8.5**	**cfs**
Resultant Street Conditions		MINOR	MAJOR	
Total Inlet Length	L =	15.00	15.00	feet
Resultant Street Flow Spread (based on street geometry from above)	T =	10.4	17.5	ft
Resultant Flow Depth at Street Crown	d_{CROWN} =	0.0	0.0	inches
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.17	0.31	ft
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	0.64	0.77	
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**2.8**	**8.5**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms (>Q Peak)	$Q_{PEAK\ REQUIRED}$ =	1.4	4.5	cfs

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

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

Project: **RIDGEGATE FILING NO.3**
Inlet ID: **B59a**



Gutter Geometry:			
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	7.0	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} =	0.018	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	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 =	0.030	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	5.7	inches
Allow Flow Depth at Street Crown (check box for yes, leave blank for no)		☐	☐	

Maximum Capacity for 1/2 Street based On Allowable Spread		Minor Storm	Major Storm	
Water Depth without Gutter Depression (T * S_x * 12)	y =	4.32	4.32	inches
Vertical Depth between Gutter Lip and Gutter Flowline (W * S_w * 12)	d_C =	2.0	2.0	inches
Gutter Depression (d_C - (W * S_x * 12))	a =	1.51	1.51	inches
Water Depth at Gutter Flowline (y + a)	d =	5.83	5.83	inches
Allowable Spread for Discharge outside the Gutter Section (T - W)	T_X =	16.0	16.0	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.330	0.330	
Discharge outside the Gutter Section, carried in Section T_X	Q_X =	14.5	14.5	cfs
Discharge within the Gutter Section (Q_T - Q_X - Q_{BACK})	Q_W =	7.2	7.2	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	1.8	1.8	cfs
Maximum Flow Based On Allowable Spread	**Q_T =**	**23.5**	**23.5**	**cfs**
Flow Velocity within the Gutter Section	V =	8.9	8.9	fps
V*d Product: Flow Velocity times Gutter Flowline Depth	V*d =	4.3	4.3	

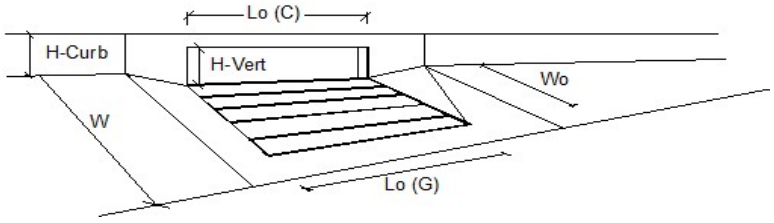
Maximum Capacity for 1/2 Street based on Allowable Depth		Minor Storm	Major Storm	
Theoretical Water Spread	T_{TH} =	10.4	17.5	ft
Theoretical Spread for Discharge outside the Gutter Section (T - W)	$T_{X\,TH}$ =	8.4	15.5	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.560	0.341	
Theoretical Discharge outside the Gutter Section, carried in Section $T_{X\,TH}$	$Q_{X\,TH}$ =	2.6	13.2	cfs
Actual Discharge outside the Gutter Section, (limited by distance T_{CROWN})	Q_X =	2.6	13.2	cfs
Discharge within the Gutter Section (Q_d - Q_X)	Q_W =	3.3	6.8	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	0.0	1.5	cfs
Total Discharge for Major & Minor Storm (Pre-Safety Factor)	Q =	5.9	21.5	cfs
Average Flow Velocity Within the Gutter Section	V =	6.6	8.7	fps
V*d Product: Flow Velocity Times Gutter Flowline Depth	V*d =	2.2	4.1	
Slope-Based Safety Factor for Minor/Major Storm depth reduction, d ≥ 6"	R =	1.00	0.73	
Max Flow based on Allowable Depth (Safety Factor Applied)	**Q_d =**	**5.9**	**15.7**	**cfs**
Resultant Flow Depth at Gutter Flowline (Safety Factor Applied)	d =	4.00	5.24	inches
Resultant Flow Depth at Street Crown (Safety Factor Applied)	d_{CROWN} =	0.00	0.00	inches

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**5.9**	**15.7**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design peak flow of 3.79 cfs on sheet 'Inlet Management'
Major storm max. allowable capacity GOOD - greater than the design peak flow of 8.55 cfs on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

MHFD-Inlet, Version 5.03 (August 2023)

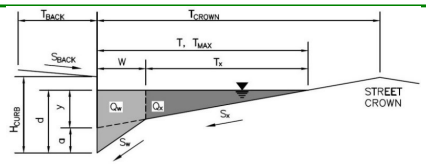


Design Information (Input)	CDOT Type R Curb Opening		MINOR	MAJOR	
Type of Inlet		Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')		a_{LOCAL} =	5.0	5.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)		No =	1	1	
Length of a Single Unit Inlet (Grate or Curb Opening)		L_o =	15.00	15.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)		W_o =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)		C_f (G) =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)		C_f (C) =	0.10	0.10	
Street Hydraulics: OK - Q < Allowable Street Capacity'			MINOR	MAJOR	
Design Discharge for Half of Street (from *Inlet Management*)		Q_o =	3.8	8.6	cfs
Water Spread Width		T =	8.4	12.2	ft
Water Depth at Flowline (outside of local depression)		d =	3.5	4.4	inches
Water Depth at Street Crown (or at T_{MAX})		d_{CROWN} =	0.0	0.0	inches
Ratio of Gutter Flow to Design Flow		E_o =	0.660	0.482	
Discharge outside the Gutter Section W, carried in Section T_x		Q_x =	1.3	4.4	cfs
Discharge within the Gutter Section W		Q_w =	2.5	4.1	cfs
Discharge Behind the Curb Face		Q_{BACK} =	0.0	0.0	cfs
Flow Area within the Gutter Section W		A_W =	0.42	0.58	sq ft
Velocity within the Gutter Section W		V_W =	5.9	7.1	fps
Water Depth for Design Condition		d_{LOCAL} =	8.5	9.4	inches
Grate Analysis (Calculated)			MINOR	MAJOR	
Total Length of Inlet Grate Opening		L =	N/A	N/A	ft
Ratio of Grate Flow to Design Flow		$E_{o\text{-}GRATE}$ =	N/A	N/A	
Under No-Clogging Condition			MINOR	MAJOR	
Minimum Velocity Where Grate Splash-Over Begins		V_o =	N/A	N/A	fps
Interception Rate of Frontal Flow		R_f =	N/A	N/A	
Interception Rate of Side Flow		R_x =	N/A	N/A	
Interception Capacity		Q_i =	N/A	N/A	cfs
Under Clogging Condition			MINOR	MAJOR	
Clogging Coefficient for Multiple-unit Grate Inlet		GrateCoeff =	N/A	N/A	
Clogging Factor for Multiple-unit Grate Inlet		GrateClog =	N/A	N/A	
Effective (unclogged) Length of Multiple-unit Grate Inlet		L_e =	N/A	N/A	ft
Minimum Velocity Where Grate Splash-Over Begins		V_o =	N/A	N/A	fps
Interception Rate of Frontal Flow		R_f =	N/A	N/A	
Interception Rate of Side Flow		R_x =	N/A	N/A	
Actual Interception Capacity		**Q_a =**	**N/A**	**N/A**	**cfs**
Carry-Over Flow = Q_o-Q_a (to be applied to curb opening or next d/s inlet)		**Q_b =**	**N/A**	**N/A**	**cfs**
Curb Opening or Slotted Inlet Analysis (Calculated)			MINOR	MAJOR	
Equivalent Slope S_e		S_e =	0.199	0.151	ft/ft
Required Length L_T to Have 100% Interception		L_T =	8.61	14.78	ft
Under No-Clogging Condition			MINOR	MAJOR	
Effective Length of Curb Opening or Slotted Inlet (minimum of L, L_T)		L =	8.61	14.78	ft
Interception Capacity		Q_i =	3.8	8.5	cfs
Under Clogging Condition			MINOR	MAJOR	
Clogging Coefficient		CurbCoeff =	1.31	1.31	
Clogging Factor for Multiple-unit Curb Opening or Slotted Inlet		CurbClog =	0.04	0.04	
Effective (Unclogged) Length		L_e =	8.61	14.35	ft
Actual Interception Capacity		**Q_a =**	**3.8**	**8.5**	**cfs**
Carry-Over Flow = $Q_{b(GRATE)}$-Q_a		**Q_b =**	**0.0**	**0.0**	**cfs**
Summary			MINOR	MAJOR	
Total Inlet Interception Capacity		**Q =**	**3.8**	**8.5**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)		**Q_b =**	**0.0**	**0.1**	**cfs**
Capture Percentage = Q_a/Q_o		**C% =**	**100**	**99**	**%**

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

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

Project: **RIDGEGATE FILING NO.3**
Inlet ID: **B60**



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	7.0	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} =	0.018	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	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	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	5.7	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

Maximum Capacity for 1/2 Street based On Allowable Spread

		Minor Storm	Major Storm	
Water Depth without Gutter Depression (T * S_x * 12)	y =	4.32	4.32	inches
Vertical Depth between Gutter Lip and Gutter Flowline (W * S_w * 12)	d_C =	2.0	2.0	inches
Gutter Depression (d_C - (W * S_x * 12))	a =	1.51	1.51	inches
Water Depth at Gutter Flowline (y + a)	d =	5.83	5.83	inches
Allowable Spread for Discharge outside the Gutter Section (T - W)	T_X =	16.0	16.0	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.330	0.330	
Discharge outside the Gutter Section, carried in Section T_X	Q_X =	0.0	0.0	cfs
Discharge within the Gutter Section (Q_T - Q_X - Q_{BACK})	Q_W =	0.0	0.0	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	0.0	0.0	cfs
Maximum Flow Based On Allowable Spread	**Q_T =**	**SUMP**	**SUMP**	**cfs**
Flow Velocity within the Gutter Section	V =	0.0	0.0	fps
V*d Product: Flow Velocity times Gutter Flowline Depth	V*d =	0.0	0.0	

Maximum Capacity for 1/2 Street based on Allowable Depth

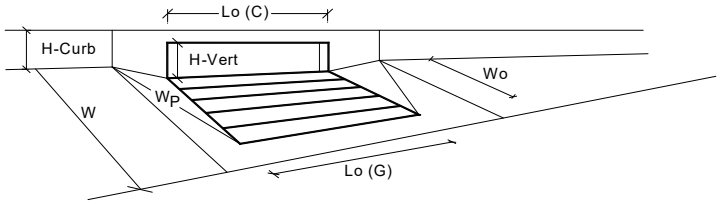
		Minor Storm	Major Storm	
Theoretical Water Spread	T_{TH} =	10.4	17.5	ft
Theoretical Spread for Discharge outside the Gutter Section (T - W)	$T_{X\,TH}$ =	8.4	15.5	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.560	0.341	
Theoretical Discharge outside the Gutter Section, carried in Section $T_{X\,TH}$	$Q_{X\,TH}$ =	0.0	0.0	cfs
Actual Discharge outside the Gutter Section, (limited by distance T_{CROWN})	Q_X =	0.0	0.0	cfs
Discharge within the Gutter Section (Q_d - Q_X)	Q_W =	0.0	0.0	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	0.0	0.0	cfs
Total Discharge for Major & Minor Storm (Pre-Safety Factor)	Q =	SUMP	SUMP	cfs
Average Flow Velocity Within the Gutter Section	V =	0.0	0.0	fps
V*d Product: Flow Velocity Times Gutter Flowline Depth	V*d =	0.0	0.0	
Slope-Based Safety Factor for Minor/Major Storm depth reduction, d ≥ 6"	R =	SUMP	SUMP	
Max Flow based on Allowable Depth (Safety Factor Applied)	**Q_d =**	**SUMP**	**SUMP**	**cfs**
Resultant Flow Depth at Gutter Flowline (Safety Factor Applied)	d =			inches
Resultant Flow Depth at Street Crown (Safety Factor Applied)	d_{CROWN} =			inches

MINOR STORM Allowable Capacity is not applicable to Sump Condition
MAJOR STORM Allowable Capacity is not applicable to Sump Condition

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

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.03 (August 2023)

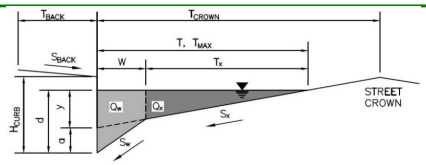


Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	4.0	5.7	inches
Grate Information		MINOR	MAJOR	☐ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Open Area Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Grate Flow Analysis (Calculated)		MINOR	MAJOR	
Clogging Coefficient for Multiple Units	Coef =	N/A	N/A	
Clogging Factor for Multiple Units	Clog =	N/A	N/A	
Grate Capacity as a Weir (based on MHFD - CSU 2010 Study)		MINOR	MAJOR	
Interception without Clogging	Q_{wi} =	N/A	N/A	cfs
Interception with Clogging	Q_{wa} =	N/A	N/A	cfs
Grate Capacity as an Orifice (based on MHFD - CSU 2010 Study)		MINOR	MAJOR	
Interception without Clogging	Q_{oi} =	N/A	N/A	cfs
Interception with Clogging	Q_{oa} =	N/A	N/A	cfs
Grate Capacity as Mixed Flow		MINOR	MAJOR	
Interception without Clogging	Q_{mi} =	N/A	N/A	cfs
Interception with Clogging	Q_{ma} =	N/A	N/A	cfs
Resulting Grate Capacity (assumes clogged condition)	**Q_{Grate} =**	**N/A**	**N/A**	**cfs**
Curb Opening Flow Analysis (Calculated)		MINOR	MAJOR	
Clogging Coefficient for Multiple Units	Coef =	1.00	1.00	
Clogging Factor for Multiple Units	Clog =	0.10	0.10	
Curb Capacity as a Weir (based on MHFD - CSU 2010 Study)		MINOR	MAJOR	
Interception without Clogging	Q_{wi} =	2.1	5.3	cfs
Interception with Clogging	Q_{wa} =	1.9	4.8	cfs
Curb Capacity as an Orifice (based on MHFD - CSU 2010 Study)		MINOR	MAJOR	
Interception without Clogging	Q_{oi} =	9.8	11.0	cfs
Interception with Clogging	Q_{oa} =	8.8	9.9	cfs
Curb Opening Capacity as Mixed Flow		MINOR	MAJOR	
Interception without Clogging	Q_{mi} =	4.2	7.1	cfs
Interception with Clogging	Q_{ma} =	3.8	6.4	cfs
Resulting Curb Opening Capacity (assumes clogged condition)	**Q_{Curb} =**	**1.9**	**4.8**	**cfs**
Resultant Street Conditions		MINOR	MAJOR	
Total Inlet Length	L =	5.00	5.00	feet
Resultant Street Flow Spread (based on street geometry from above)	T =	10.4	17.5	ft
Resultant Flow Depth at Street Crown	d_{CROWN} =	0.0	0.0	inches
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.17	0.31	ft
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**1.9**	**4.8**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms (>Q Peak)	$Q_{PEAK\ REQUIRED}$ =	1.2	3.2	cfs

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

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

Project: **RIDGEGATE FILING NO.3**
Inlet ID: **B63**



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	7.0	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} =	0.018	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	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 =	0.024	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	5.7	inches
Allow Flow Depth at Street Crown (check box for yes, leave blank for no)		☐	☐	

Maximum Capacity for 1/2 Street based On Allowable Spread

		Minor Storm	Major Storm	
Water Depth without Gutter Depression (T * S_x * 12)	y =	4.32	4.32	inches
Vertical Depth between Gutter Lip and Gutter Flowline (W * S_w * 12)	d_C =	2.0	2.0	inches
Gutter Depression (d_C - (W * S_x * 12))	a =	1.51	1.51	inches
Water Depth at Gutter Flowline (y + a)	d =	5.83	5.83	inches
Allowable Spread for Discharge outside the Gutter Section (T - W)	T_X =	16.0	16.0	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.330	0.330	
Discharge outside the Gutter Section, carried in Section T_X	Q_X =	13.0	13.0	cfs
Discharge within the Gutter Section (Q_T - Q_X - Q_{BACK})	Q_W =	6.4	6.4	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	1.6	1.6	cfs
Maximum Flow Based On Allowable Spread	**Q_T =**	**21.0**	**21.0**	**cfs**
Flow Velocity within the Gutter Section	V =	8.0	8.0	fps
V*d Product: Flow Velocity times Gutter Flowline Depth	V*d =	3.9	3.9	

Maximum Capacity for 1/2 Street based on Allowable Depth

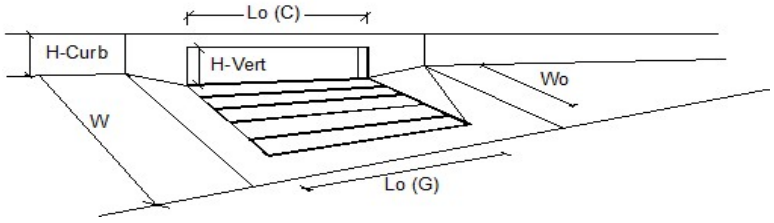
		Minor Storm	Major Storm	
Theoretical Water Spread	T_{TH} =	10.4	17.5	ft
Theoretical Spread for Discharge outside the Gutter Section (T - W)	$T_{X\,TH}$ =	8.4	15.5	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.560	0.341	
Theoretical Discharge outside the Gutter Section, carried in Section $T_{X\,TH}$	$Q_{X\,TH}$ =	2.3	11.8	cfs
Actual Discharge outside the Gutter Section, (limited by distance T_{CROWN})	Q_X =	2.3	11.8	cfs
Discharge within the Gutter Section (Q_d - Q_X)	Q_W =	2.9	6.1	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	0.0	1.3	cfs
Total Discharge for Major & Minor Storm (Pre-Safety Factor)	Q =	5.2	19.3	cfs
Average Flow Velocity Within the Gutter Section	V =	5.9	7.8	fps
V*d Product: Flow Velocity Times Gutter Flowline Depth	V*d =	2.0	3.7	
Slope-Based Safety Factor for Minor/Major Storm depth reduction, d ≥ 6"	R =	1.00	0.87	
Max Flow based on Allowable Depth (Safety Factor Applied)	**Q_d =**	**5.2**	**16.8**	**cfs**
Resultant Flow Depth at Gutter Flowline (Safety Factor Applied)	d =	4.00	5.50	inches
Resultant Flow Depth at Street Crown (Safety Factor Applied)	d_{CROWN} =	0.00	0.00	inches

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**5.2**	**16.8**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design peak flow of 0.78 cfs on sheet 'Inlet Management'
Major storm max. allowable capacity GOOD - greater than the design peak flow of 1.98 cfs on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

MHFD-Inlet, Version 5.03 (August 2023)

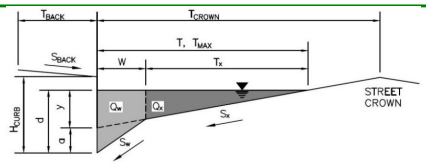


Design Information (Input)	CDOT Type R Curb Opening		MINOR	MAJOR	
Type of Inlet		Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')		a_{LOCAL} =	5.0	5.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)		No =	1	1	
Length of a Single Unit Inlet (Grate or Curb Opening)		L_o =	10.00	10.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)		W_o =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)		C_f (G) =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)		C_f (C) =	0.10	0.10	
Street Hydraulics: OK - Q < Allowable Street Capacity'			MINOR	MAJOR	
Design Discharge for Half of Street (from *Inlet Management*)		Q_o =	0.8	2.0	cfs
Water Spread Width		T =	2.3	6.4	ft
Water Depth at Flowline (outside of local depression)		d =	2.1	3.0	inches
Water Depth at Street Crown (or at T_{MAX})		d_{CROWN} =	0.0	0.0	inches
Ratio of Gutter Flow to Design Flow		E_o =	1.000	0.795	
Discharge outside the Gutter Section W, carried in Section T_x		Q_x =	0.0	0.4	cfs
Discharge within the Gutter Section W		Q_w =	0.8	1.6	cfs
Discharge Behind the Curb Face		Q_{BACK} =	0.0	0.0	cfs
Flow Area within the Gutter Section W		A_W =	0.18	0.34	sq ft
Velocity within the Gutter Section W		V_W =	4.4	4.6	fps
Water Depth for Design Condition		d_{LOCAL} =	7.1	8.0	inches
Grate Analysis (Calculated)			MINOR	MAJOR	
Total Length of Inlet Grate Opening		L =	N/A	N/A	ft
Ratio of Grate Flow to Design Flow		$E_{o\text{-}GRATE}$ =	N/A	N/A	
Under No-Clogging Condition			MINOR	MAJOR	
Minimum Velocity Where Grate Splash-Over Begins		V_o =	N/A	N/A	fps
Interception Rate of Frontal Flow		R_f =	N/A	N/A	
Interception Rate of Side Flow		R_x =	N/A	N/A	
Interception Capacity		Q_i =	N/A	N/A	cfs
Under Clogging Condition			MINOR	MAJOR	
Clogging Coefficient for Multiple-unit Grate Inlet		GrateCoeff =	N/A	N/A	
Clogging Factor for Multiple-unit Grate Inlet		GrateClog =	N/A	N/A	
Effective (unclogged) Length of Multiple-unit Grate Inlet		L_e =	N/A	N/A	ft
Minimum Velocity Where Grate Splash-Over Begins		V_o =	N/A	N/A	fps
Interception Rate of Frontal Flow		R_f =	N/A	N/A	
Interception Rate of Side Flow		R_x =	N/A	N/A	
Actual Interception Capacity		**Q_a =**	**N/A**	**N/A**	**cfs**
Carry-Over Flow = Q_o-Q_a (to be applied to curb opening or next d/s inlet)		**Q_b =**	**N/A**	**N/A**	**cfs**
Curb Opening or Slotted Inlet Analysis (Calculated)			MINOR	MAJOR	
Equivalent Slope S_e		S_e =	0.291	0.236	ft/ft
Required Length L_T to Have 100% Interception		L_T =	3.19	5.65	ft
Under No-Clogging Condition			MINOR	MAJOR	
Effective Length of Curb Opening or Slotted Inlet (minimum of L, L_T)		L =	3.19	5.65	ft
Interception Capacity		Q_i =	0.8	2.0	cfs
Under Clogging Condition			MINOR	MAJOR	
Clogging Coefficient		CurbCoeff =	1.25	1.25	
Clogging Factor for Multiple-unit Curb Opening or Slotted Inlet		CurbClog =	0.06	0.06	
Effective (Unclogged) Length		L_e =	3.19	5.65	ft
Actual Interception Capacity		**Q_a =**	**0.8**	**2.0**	**cfs**
Carry-Over Flow = $Q_{b(GRATE)}$-Q_a		**Q_b =**	**0.0**	**0.0**	**cfs**
Summary			MINOR	MAJOR	
Total Inlet Interception Capacity		**Q =**	**0.8**	**2.0**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)		**Q_b =**	**0.0**	**0.0**	**cfs**
Capture Percentage = Q_a/Q_o		**C% =**	**100**	**100**	**%**

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

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

Project: **RIDGEGATE FILING NO.3**
Inlet ID: **B64**



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	7.0	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} =	0.018	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	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 =	0.060	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	5.7	inches
Allow Flow Depth at Street Crown (check box for yes, leave blank for no)		☐	☐	

Maximum Capacity for 1/2 Street based On Allowable Spread

		Minor Storm	Major Storm	
Water Depth without Gutter Depression (T * S_x * 12)	y =	4.32	4.32	inches
Vertical Depth between Gutter Lip and Gutter Flowline (W * S_w * 12)	d_C =	2.0	2.0	inches
Gutter Depression (d_C - (W * S_x * 12))	a =	1.51	1.51	inches
Water Depth at Gutter Flowline (y + a)	d =	5.83	5.83	inches
Allowable Spread for Discharge outside the Gutter Section (T - W)	T_X =	16.0	16.0	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.330	0.330	
Discharge outside the Gutter Section, carried in Section T_X	Q_X =	20.5	20.5	cfs
Discharge within the Gutter Section (Q_T - Q_X - Q_{BACK})	Q_W =	10.1	10.1	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	2.5	2.5	cfs
Maximum Flow Based On Allowable Spread	**Q_T =**	**33.2**	**33.2**	**cfs**
Flow Velocity within the Gutter Section	V =	12.6	12.6	fps
V*d Product: Flow Velocity times Gutter Flowline Depth	V*d =	6.1	6.1	

Maximum Capacity for 1/2 Street based on Allowable Depth

		Minor Storm	Major Storm	
Theoretical Water Spread	T_{TH} =	10.4	17.5	ft
Theoretical Spread for Discharge outside the Gutter Section (T - W)	$T_{X\,TH}$ =	8.4	15.5	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.560	0.341	
Theoretical Discharge outside the Gutter Section, carried in Section $T_{X\,TH}$	$Q_{X\,TH}$ =	3.6	18.7	cfs
Actual Discharge outside the Gutter Section, (limited by distance T_{CROWN})	Q_X =	3.6	18.7	cfs
Discharge within the Gutter Section (Q_d - Q_X)	Q_W =	4.6	9.7	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	0.0	2.1	cfs
Total Discharge for Major & Minor Storm (Pre-Safety Factor)	Q =	8.3	30.5	cfs
Average Flow Velocity Within the Gutter Section	V =	9.3	12.3	fps
V*d Product: Flow Velocity Times Gutter Flowline Depth	V*d =	3.1	5.9	
Slope-Based Safety Factor for Minor/Major Storm depth reduction, d ≥ 6"	R =	1.00	0.42	
Max Flow based on Allowable Depth (Safety Factor Applied)	**Q_d =**	**8.3**	**12.8**	**cfs**
Resultant Flow Depth at Gutter Flowline (Safety Factor Applied)	d =	4.00	4.52	inches
Resultant Flow Depth at Street Crown (Safety Factor Applied)	d_{CROWN} =	0.00	0.00	inches

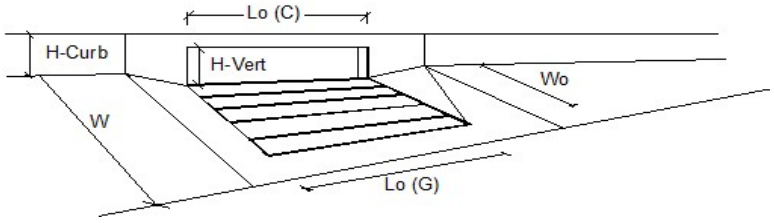
MINOR STORM Allowable Capacity is based on Depth Criterion
MAJOR STORM Allowable Capacity is based on Depth Criterion

	Minor Storm	Major Storm	
Q_{allow} =	**8.3**	**12.8**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design peak flow of 1.42 cfs on sheet 'Inlet Management'
Major storm max. allowable capacity GOOD - greater than the design peak flow of 3.26 cfs on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

MHFD-Inlet, Version 5.03 (August 2023)

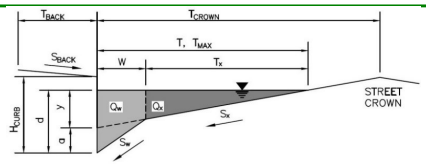


Design Information (Input)	CDOT Type R Curb Opening		MINOR	MAJOR	
Type of Inlet		Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')		a_{LOCAL} =	5.0	5.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)		No =	1	1	
Length of a Single Unit Inlet (Grate or Curb Opening)		L_o =	5.00	5.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)		W_o =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)		C_f (G) =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)		C_f (C) =	0.10	0.10	
Street Hydraulics: OK - Q < Allowable Street Capacity'			MINOR	MAJOR	
Design Discharge for Half of Street (from *Inlet Management*)		Q_o =	1.4	3.3	cfs
Water Spread Width		T =	3.6	6.5	ft
Water Depth at Flowline (outside of local depression)		d =	2.4	3.1	inches
Water Depth at Street Crown (or at T_{MAX})		d_{CROWN} =	0.0	0.0	inches
Ratio of Gutter Flow to Design Flow		E_o =	0.967	0.785	
Discharge outside the Gutter Section W, carried in Section T_x		Q_x =	0.0	0.7	cfs
Discharge within the Gutter Section W		Q_w =	1.4	2.6	cfs
Discharge Behind the Curb Face		Q_{BACK} =	0.0	0.0	cfs
Flow Area within the Gutter Section W		A_W =	0.23	0.35	sq ft
Velocity within the Gutter Section W		V_W =	5.9	7.4	fps
Water Depth for Design Condition		d_{LOCAL} =	7.4	8.1	inches
Grate Analysis (Calculated)			MINOR	MAJOR	
Total Length of Inlet Grate Opening		L =	N/A	N/A	ft
Ratio of Grate Flow to Design Flow		$E_{o\text{-}GRATE}$ =	N/A	N/A	
Under No-Clogging Condition			MINOR	MAJOR	
Minimum Velocity Where Grate Splash-Over Begins		V_o =	N/A	N/A	fps
Interception Rate of Frontal Flow		R_f =	N/A	N/A	
Interception Rate of Side Flow		R_x =	N/A	N/A	
Interception Capacity		Q_i =	N/A	N/A	cfs
Under Clogging Condition			MINOR	MAJOR	
Clogging Coefficient for Multiple-unit Grate Inlet		GrateCoeff =	N/A	N/A	
Clogging Factor for Multiple-unit Grate Inlet		GrateClog =	N/A	N/A	
Effective (unclogged) Length of Multiple-unit Grate Inlet		L_e =	N/A	N/A	ft
Minimum Velocity Where Grate Splash-Over Begins		V_o =	N/A	N/A	fps
Interception Rate of Frontal Flow		R_f =	N/A	N/A	
Interception Rate of Side Flow		R_x =	N/A	N/A	
Actual Interception Capacity		**Q_a =**	**N/A**	**N/A**	**cfs**
Carry-Over Flow = Q_o-Q_a (to be applied to curb opening or next d/s inlet)		**Q_b =**	**N/A**	**N/A**	**cfs**
Curb Opening or Slotted Inlet Analysis (Calculated)			MINOR	MAJOR	
Equivalent Slope S_e		S_e =	0.282	0.233	ft/ft
Required Length L_T to Have 100% Interception		L_T =	4.63	7.72	ft
Under No-Clogging Condition			MINOR	MAJOR	
Effective Length of Curb Opening or Slotted Inlet (minimum of L, L_T)		L =	4.63	5.00	ft
Interception Capacity		Q_i =	1.4	2.8	cfs
Under Clogging Condition			MINOR	MAJOR	
Clogging Coefficient		CurbCoeff =	1.00	1.00	
Clogging Factor for Multiple-unit Curb Opening or Slotted Inlet		CurbClog =	0.10	0.10	
Effective (Unclogged) Length		L_e =	4.50	4.50	ft
Actual Interception Capacity		**Q_a =**	**1.4**	**2.6**	**cfs**
Carry-Over Flow = $Q_{b(GRATE)}$-Q_a		**Q_b =**	**0.0**	**0.7**	**cfs**
Summary			MINOR	MAJOR	
Total Inlet Interception Capacity		**Q =**	**1.4**	**2.6**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)		**Q_b =**	**0.0**	**0.7**	**cfs**
Capture Percentage = Q_a/Q_o		**C% =**	**100**	**79**	**%**

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

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

Project: **RIDGEGATE FILING NO.3**
Inlet ID: **B65**



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	7.0	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} =	0.018	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	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 =	0.060	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	5.7	inches
Allow Flow Depth at Street Crown (check box for yes, leave blank for no)		☐	☐	

Maximum Capacity for 1/2 Street based On Allowable Spread

		Minor Storm	Major Storm	
Water Depth without Gutter Depression (T * S_x * 12)	y =	4.32	4.32	inches
Vertical Depth between Gutter Lip and Gutter Flowline (W * S_w * 12)	d_C =	2.0	2.0	inches
Gutter Depression (d_C - (W * S_x * 12))	a =	1.51	1.51	inches
Water Depth at Gutter Flowline (y + a)	d =	5.83	5.83	inches
Allowable Spread for Discharge outside the Gutter Section (T - W)	T_X =	16.0	16.0	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.330	0.330	
Discharge outside the Gutter Section, carried in Section T_X	Q_X =	20.5	20.5	cfs
Discharge within the Gutter Section (Q_T - Q_X - Q_{BACK})	Q_W =	10.1	10.1	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	2.5	2.5	cfs
Maximum Flow Based On Allowable Spread	**Q_T =**	**33.2**	**33.2**	**cfs**
Flow Velocity within the Gutter Section	V =	12.6	12.6	fps
V*d Product: Flow Velocity times Gutter Flowline Depth	V*d =	6.1	6.1	

Maximum Capacity for 1/2 Street based on Allowable Depth

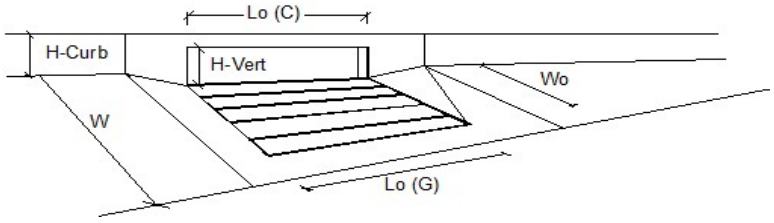
		Minor Storm	Major Storm	
Theoretical Water Spread	T_{TH} =	10.4	17.5	ft
Theoretical Spread for Discharge outside the Gutter Section (T - W)	$T_{X\,TH}$ =	8.4	15.5	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.560	0.341	
Theoretical Discharge outside the Gutter Section, carried in Section $T_{X\,TH}$	$Q_{X\,TH}$ =	3.6	18.7	cfs
Actual Discharge outside the Gutter Section, (limited by distance T_{CROWN})	Q_X =	3.6	18.7	cfs
Discharge within the Gutter Section (Q_d - Q_X)	Q_W =	4.6	9.7	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	0.0	2.1	cfs
Total Discharge for Major & Minor Storm (Pre-Safety Factor)	Q =	8.3	30.5	cfs
Average Flow Velocity Within the Gutter Section	V =	9.3	12.3	fps
V*d Product: Flow Velocity Times Gutter Flowline Depth	V*d =	3.1	5.9	
Slope-Based Safety Factor for Minor/Major Storm depth reduction, d ≥ 6"	R =	1.00	0.42	
Max Flow based on Allowable Depth (Safety Factor Applied)	**Q_d =**	**8.3**	**12.8**	**cfs**
Resultant Flow Depth at Gutter Flowline (Safety Factor Applied)	d =	4.00	4.52	inches
Resultant Flow Depth at Street Crown (Safety Factor Applied)	d_{CROWN} =	0.00	0.00	inches

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**8.3**	**12.8**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design peak flow of 1.33 cfs on sheet 'Inlet Management'
Major storm max. allowable capacity GOOD - greater than the design peak flow of 3.25 cfs on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

MHFD-Inlet, Version 5.03 (August 2023)

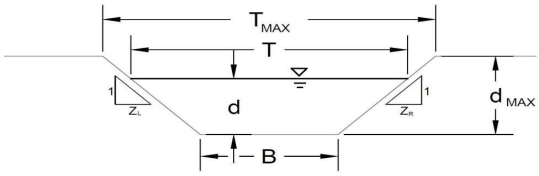


Design Information (Input)	CDOT Type R Curb Opening		MINOR	MAJOR	
Type of Inlet		Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')		a_{LOCAL} =	5.0	5.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)		No =	1	1	
Length of a Single Unit Inlet (Grate or Curb Opening)		L_o =	5.00	5.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)		W_o =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)		C_f (G) =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)		C_f (C) =	0.10	0.10	
Street Hydraulics: OK - Q < Allowable Street Capacity'			MINOR	MAJOR	
Design Discharge for Half of Street (from *Inlet Management*)		Q_o =	1.3	3.3	cfs
Water Spread Width		T =	3.4	6.5	ft
Water Depth at Flowline (outside of local depression)		d =	2.3	3.1	inches
Water Depth at Street Crown (or at T_{MAX})		d_{CROWN} =	0.0	0.0	inches
Ratio of Gutter Flow to Design Flow		E_o =	0.976	0.785	
Discharge outside the Gutter Section W, carried in Section T_x		Q_x =	0.0	0.7	cfs
Discharge within the Gutter Section W		Q_w =	1.3	2.6	cfs
Discharge Behind the Curb Face		Q_{BACK} =	0.0	0.0	cfs
Flow Area within the Gutter Section W		A_W =	0.22	0.35	sq ft
Velocity within the Gutter Section W		V_W =	5.8	7.4	fps
Water Depth for Design Condition		d_{LOCAL} =	7.3	8.1	inches
Grate Analysis (Calculated)			MINOR	MAJOR	
Total Length of Inlet Grate Opening		L =	N/A	N/A	ft
Ratio of Grate Flow to Design Flow		$E_{o\text{-}GRATE}$ =	N/A	N/A	
Under No-Clogging Condition			MINOR	MAJOR	
Minimum Velocity Where Grate Splash-Over Begins		V_o =	N/A	N/A	fps
Interception Rate of Frontal Flow		R_f =	N/A	N/A	
Interception Rate of Side Flow		R_x =	N/A	N/A	
Interception Capacity		Q_i =	N/A	N/A	cfs
Under Clogging Condition			MINOR	MAJOR	
Clogging Coefficient for Multiple-unit Grate Inlet		GrateCoeff =	N/A	N/A	
Clogging Factor for Multiple-unit Grate Inlet		GrateClog =	N/A	N/A	
Effective (unclogged) Length of Multiple-unit Grate Inlet		L_e =	N/A	N/A	ft
Minimum Velocity Where Grate Splash-Over Begins		V_o =	N/A	N/A	fps
Interception Rate of Frontal Flow		R_f =	N/A	N/A	
Interception Rate of Side Flow		R_x =	N/A	N/A	
Actual Interception Capacity		**Q_a =**	**N/A**	**N/A**	**cfs**
Carry-Over Flow = Q_o-Q_a (to be applied to curb opening or next d/s inlet)		**Q_b =**	**N/A**	**N/A**	**cfs**
Curb Opening or Slotted Inlet Analysis (Calculated)			MINOR	MAJOR	
Equivalent Slope S_e		S_e =	0.285	0.233	ft/ft
Required Length L_T to Have 100% Interception		L_T =	4.46	7.71	ft
Under No-Clogging Condition			MINOR	MAJOR	
Effective Length of Curb Opening or Slotted Inlet (minimum of L, L_T)		L =	4.46	5.00	ft
Interception Capacity		Q_i =	1.3	2.8	cfs
Under Clogging Condition			MINOR	MAJOR	
Clogging Coefficient		CurbCoeff =	1.00	1.00	
Clogging Factor for Multiple-unit Curb Opening or Slotted Inlet		CurbClog =	0.10	0.10	
Effective (Unclogged) Length		L_e =	4.46	4.50	ft
Actual Interception Capacity		**Q_a =**	**1.3**	**2.6**	**cfs**
Carry-Over Flow = $Q_{b(GRATE)}$-Q_a		**Q_b =**	**0.0**	**0.7**	**cfs**
Summary			MINOR	MAJOR	
Total Inlet Interception Capacity		**Q =**	**1.3**	**2.6**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)		**Q_b =**	**0.0**	**0.7**	**cfs**
Capture Percentage = Q_a/Q_o		**C% =**	**100**	**79**	**%**

AREA INLET IN A SWALE

RIDGEGATE FILING NO.3

B66



This worksheet uses the NRCS vegetal retardance method to determine Manning's n for grass-lined channels.

An override Manning's n can be entered for other channel materials.

Analysis of Trapezoidal Channel (Grass-Lined uses SCS Method)

NRCS Vegetal Retardance (A, B, C, D, or E)	A, B, C, D, or E =		
Manning's n (Leave cell D16 blank to manually enter an n value)	n =	0.030	
Channel Invert Slope	S_O =	0.0600	ft/ft
Bottom Width	B =	2.00	ft
Left Side Slope	Z1 =	5.00	ft/ft
Right Side Sloe	Z2 =	5.00	ft/ft

Check one of the following soil types:

Soil Type:	Max. Velocity (V_{MAX})	Max Froude No. (F_{MAX})
Non-Cohesive	5.0 fps	0.60
Cohesive	7.0 fps	0.80
Paved	N/A	N/A

Choose One:
- Non-Cohesive
- Cohesive
- Paved

		Minor Storm	Major Storm	
Maximum Allowable Top Width of Channel for Minor & Major Storm	T_{MAX} =	**12.00**	**12.00**	**ft**
Maximum Allowable Water Depth in Channel for Minor & Major Storm	d_{MAX} =	**1.00**	**1.00**	**ft**

Allowable Channel Capacity Based On Channel Geometry

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion	Q_{allow} =	**58.8**	**58.8**	**cfs**
MAJOR STORM Allowable Capacity is based on Depth Criterion	d_{allow} =	**1.00**	**1.00**	**ft**

Water Depth in Channel Based On Design Peak Flow

Design Peak Flow	Q_o =	**0.1**	**0.5**	**cfs**
Water Depth	d =	**0.04**	**0.09**	**ft**

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'

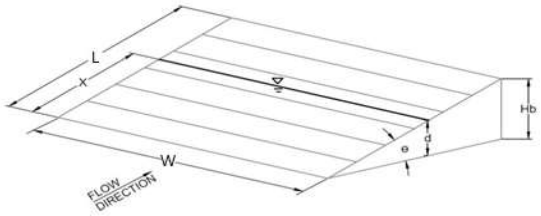
AREA INLET IN A SWALE

RIDGEGATE FILING NO.3

B66

Inlet Design Information (Input)

Type of Inlet: CDOT TYPE D (Parallel & Depressed) — Inlet Type = CDOT TYPE D (Parallel & Depressed)



Angle of Inclined Grate (must be <= 30 degrees)	θ =	0.00	degrees
Width of Grate	W =	6.00	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 =	0.38	
Grate Discharge Coefficient	C_d =	0.68	
Orifice Coefficient	C_o =	0.45	
Weir Coefficient	C_w =	1.46	

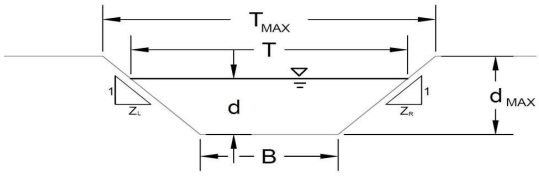
		MINOR	MAJOR	
Water Depth at Inlet (for depressed inlets, 1 foot is added for depression)	d =	1.04	1.09	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**24.8**	**26.5**	**cfs**
Bypassed Flow	**Q_b =**	**0.0**	**0.0**	**cfs**
Capture Percentage = Qa/Qo	**C% =**	**100**	**100**	**%**

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

AREA INLET IN A SWALE

RIDGEGATE FILING NO.3

B66a



This worksheet uses the NRCS vegetal retardance method to determine Manning's n for grass-lined channels.

An override Manning's n can be entered for other channel materials.

Analysis of Trapezoidal Channel (Grass-Lined uses SCS Method)

NRCS Vegetal Retardance (A, B, C, D, or E)	A, B, C, D, or E =		
Manning's n (Leave cell D16 blank to manually enter an n value)	n =	0.030	
Channel Invert Slope	S_O =	0.0430	ft/ft
Bottom Width	B =	2.00	ft
Left Side Slope	Z1 =	5.00	ft/ft
Right Side Sloe	Z2 =	5.00	ft/ft

Check one of the following soil types:

Soil Type:	Max. Velocity (V_{MAX})	Max Froude No. (F_{MAX})
Non-Cohesive	5.0 fps	0.60
Cohesive	7.0 fps	0.80
Paved	N/A	N/A

Choose One:
- Non-Cohesive
- Cohesive
- Paved

		Minor Storm	Major Storm	
Maximum Allowable Top Width of Channel for Minor & Major Storm	T_{MAX} =	**12.00**	**12.00**	**ft**
Maximum Allowable Water Depth in Channel for Minor & Major Storm	d_{MAX} =	**1.00**	**1.00**	**ft**

Allowable Channel Capacity Based On Channel Geometry

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion	Q_{allow} =	**49.8**	**49.8**	**cfs**
MAJOR STORM Allowable Capacity is based on Depth Criterion	d_{allow} =	**1.00**	**1.00**	**ft**

Water Depth in Channel Based On Design Peak Flow

Design Peak Flow	Q_o =	**0.7**	**2.5**	**cfs**
Water Depth	d =	**0.12**	**0.24**	**ft**

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'

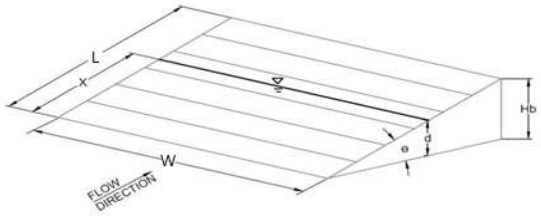
AREA INLET IN A SWALE

RIDGEGATE FILING NO.3

B66a

Inlet Design Information (Input)

Type of Inlet: CDOT TYPE D (Parallel & Depressed) — Inlet Type = CDOT TYPE D (Parallel & Depressed)



Angle of Inclined Grate (must be <= 30 degrees)	θ =	0.00	degrees
Width of Grate	W =	6.00	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 =	0.38	
Grate Discharge Coefficient	C_d =	0.68	
Orifice Coefficient	C_o =	0.45	
Weir Coefficient	C_w =	1.46	

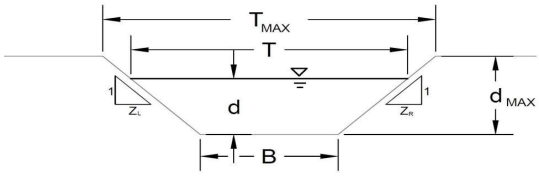
		MINOR	MAJOR	
Water Depth at Inlet (for depressed inlets, 1 foot is added for depression)	d =	1.12	1.24	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**27.5**	**32.0**	**cfs**
Bypassed Flow	**Q_b =**	**0.0**	**0.0**	**cfs**
Capture Percentage = Qa/Qo	**C% =**	**100**	**100**	**%**

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

AREA INLET IN A SWALE

RIDGEGATE FILING NO.3

B66b



This worksheet uses the NRCS vegetal retardance method to determine Manning's n for grass-lined channels.

An override Manning's n can be entered for other channel materials.

Analysis of Trapezoidal Channel (Grass-Lined uses SCS Method)

NRCS Vegetal Retardance (A, B, C, D, or E)	A, B, C, D, or E =		
Manning's n (Leave cell D16 blank to manually enter an n value)	n =	0.030	
Channel Invert Slope	S_O =	0.0700	ft/ft
Bottom Width	B =	2.00	ft
Left Side Slope	Z1 =	5.00	ft/ft
Right Side Sloe	Z2 =	5.00	ft/ft

Check one of the following soil types:

Soil Type:	Max. Velocity (V_{MAX})	Max Froude No. (F_{MAX})
Non-Cohesive	5.0 fps	0.60
Cohesive	7.0 fps	0.80
Paved	N/A	N/A

Choose One:
- Non-Cohesive
- Cohesive
- Paved

		Minor Storm	Major Storm	
Maximum Allowable Top Width of Channel for Minor & Major Storm	T_{MAX} =	**8.00**	**8.00**	**ft**
Maximum Allowable Water Depth in Channel for Minor & Major Storm	d_{MAX} =	**0.60**	**0.60**	**ft**

Allowable Channel Capacity Based On Channel Geometry

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion	Q_{allow} =	**20.3**	**20.3**	**cfs**
MAJOR STORM Allowable Capacity is based on Depth Criterion	d_{allow} =	**0.60**	**0.60**	**ft**

Water Depth in Channel Based On Design Peak Flow

Design Peak Flow	Q_o =	**1.3**	**4.7**	**cfs**
Water Depth	d =	**0.15**	**0.29**	**ft**

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'

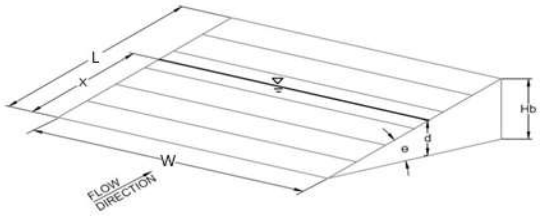
AREA INLET IN A SWALE

RIDGEGATE FILING NO.3

B66b

Inlet Design Information (Input)

Type of Inlet: CDOT TYPE D (Parallel & Depressed) — Inlet Type = CDOT TYPE D (Parallel & Depressed)



Angle of Inclined Grate (must be <= 30 degrees)	θ =	0.00	degrees
Width of Grate	W =	6.00	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 =	0.38	
Grate Discharge Coefficient	C_d =	0.68	
Orifice Coefficient	C_o =	0.45	
Weir Coefficient	C_w =	1.46	

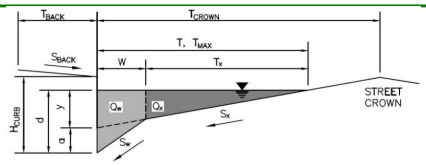
		MINOR	MAJOR	
Water Depth at Inlet (for depressed inlets, 1 foot is added for depression)	d =	1.15	1.29	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**28.5**	**32.6**	**cfs**
Bypassed Flow	**Q_b =**	**0.0**	**0.0**	**cfs**
Capture Percentage = Qa/Qo	**C% =**	**100**	**100**	**%**

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

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

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

Project: **RIDGEGATE FILING NO.3**
Inlet ID: **B67**



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	7.0	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} =	0.018	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	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	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	5.7	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

Maximum Capacity for 1/2 Street based On Allowable Spread

		Minor Storm	Major Storm	
Water Depth without Gutter Depression (T * S_x * 12)	y =	4.32	4.32	inches
Vertical Depth between Gutter Lip and Gutter Flowline (W * S_w * 12)	d_C =	2.0	2.0	inches
Gutter Depression (d_C - (W * S_x * 12))	a =	1.51	1.51	inches
Water Depth at Gutter Flowline (y + a)	d =	5.83	5.83	inches
Allowable Spread for Discharge outside the Gutter Section (T - W)	T_X =	16.0	16.0	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.330	0.330	
Discharge outside the Gutter Section, carried in Section T_X	Q_X =	0.0	0.0	cfs
Discharge within the Gutter Section (Q_T - Q_X - Q_{BACK})	Q_W =	0.0	0.0	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	0.0	0.0	cfs
Maximum Flow Based On Allowable Spread	**Q_T =**	**SUMP**	**SUMP**	**cfs**
Flow Velocity within the Gutter Section	V =	0.0	0.0	fps
V*d Product: Flow Velocity times Gutter Flowline Depth	V*d =	0.0	0.0	

Maximum Capacity for 1/2 Street based on Allowable Depth

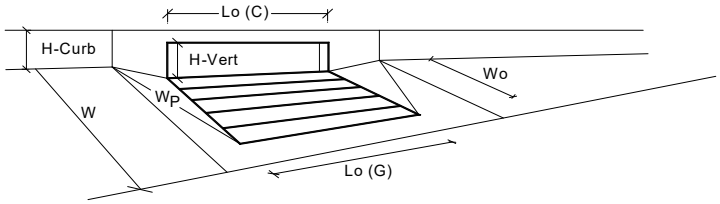
		Minor Storm	Major Storm	
Theoretical Water Spread	T_{TH} =	10.4	17.5	ft
Theoretical Spread for Discharge outside the Gutter Section (T - W)	$T_{X\,TH}$ =	8.4	15.5	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.560	0.341	
Theoretical Discharge outside the Gutter Section, carried in Section $T_{X\,TH}$	$Q_{X\,TH}$ =	0.0	0.0	cfs
Actual Discharge outside the Gutter Section, (limited by distance T_{CROWN})	Q_X =	0.0	0.0	cfs
Discharge within the Gutter Section (Q_d - Q_X)	Q_W =	0.0	0.0	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	0.0	0.0	cfs
Total Discharge for Major & Minor Storm (Pre-Safety Factor)	Q =	SUMP	SUMP	cfs
Average Flow Velocity Within the Gutter Section	V =	0.0	0.0	fps
V*d Product: Flow Velocity Times Gutter Flowline Depth	V*d =	0.0	0.0	
Slope-Based Safety Factor for Minor/Major Storm depth reduction, d ≥ 6"	R =	SUMP	SUMP	
Max Flow based on Allowable Depth (Safety Factor Applied)	**Q_d =**	**SUMP**	**SUMP**	**cfs**
Resultant Flow Depth at Gutter Flowline (Safety Factor Applied)	d =			inches
Resultant Flow Depth at Street Crown (Safety Factor Applied)	d_{CROWN} =			inches

MINOR STORM Allowable Capacity is not applicable to Sump Condition
MAJOR STORM Allowable Capacity is not applicable to Sump Condition

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

INLET IN A SUMP OR SAG LOCATION

MHFD-Inlet, Version 5.03 (August 2023)

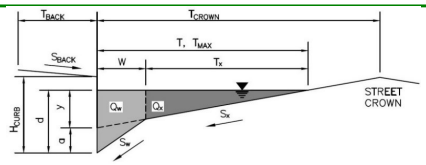


Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	4.0	5.7	inches
Grate Information		MINOR	MAJOR	☐ Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Open Area Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	5.00	5.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Grate Flow Analysis (Calculated)		MINOR	MAJOR	
Clogging Coefficient for Multiple Units	Coef =	N/A	N/A	
Clogging Factor for Multiple Units	Clog =	N/A	N/A	
Grate Capacity as a Weir (based on MHFD - CSU 2010 Study)		MINOR	MAJOR	
Interception without Clogging	Q_{wi} =	N/A	N/A	cfs
Interception with Clogging	Q_{wa} =	N/A	N/A	cfs
Grate Capacity as an Orifice (based on MHFD - CSU 2010 Study)		MINOR	MAJOR	
Interception without Clogging	Q_{oi} =	N/A	N/A	cfs
Interception with Clogging	Q_{oa} =	N/A	N/A	cfs
Grate Capacity as Mixed Flow		MINOR	MAJOR	
Interception without Clogging	Q_{mi} =	N/A	N/A	cfs
Interception with Clogging	Q_{ma} =	N/A	N/A	cfs
Resulting Grate Capacity (assumes clogged condition)	**Q_{Grate} =**	**N/A**	**N/A**	**cfs**
Curb Opening Flow Analysis (Calculated)		MINOR	MAJOR	
Clogging Coefficient for Multiple Units	Coef =	1.00	1.00	
Clogging Factor for Multiple Units	Clog =	0.10	0.10	
Curb Capacity as a Weir (based on MHFD - CSU 2010 Study)		MINOR	MAJOR	
Interception without Clogging	Q_{wi} =	2.1	5.3	cfs
Interception with Clogging	Q_{wa} =	1.9	4.8	cfs
Curb Capacity as an Orifice (based on MHFD - CSU 2010 Study)		MINOR	MAJOR	
Interception without Clogging	Q_{oi} =	9.8	11.0	cfs
Interception with Clogging	Q_{oa} =	8.8	9.9	cfs
Curb Opening Capacity as Mixed Flow		MINOR	MAJOR	
Interception without Clogging	Q_{mi} =	4.2	7.1	cfs
Interception with Clogging	Q_{ma} =	3.8	6.4	cfs
Resulting Curb Opening Capacity (assumes clogged condition)	**Q_{Curb} =**	**1.9**	**4.8**	**cfs**
Resultant Street Conditions		MINOR	MAJOR	
Total Inlet Length	L =	5.00	5.00	feet
Resultant Street Flow Spread (based on street geometry from above)	T =	10.4	17.5	ft
Resultant Flow Depth at Street Crown	d_{CROWN} =	0.0	0.0	inches
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.17	0.31	ft
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	1.00	1.00	
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**1.9**	**4.8**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms (>Q Peak)	$Q_{PEAK\ REQUIRED}$ =	0.2	0.4	cfs

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

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

Project: **RIDGEGATE FILING NO.3**
Inlet ID: **B70**



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	7.0	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} =	0.018	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	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 =	0.035	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	5.7	inches
Allow Flow Depth at Street Crown (check box for yes, leave blank for no)		☐	☐	

Maximum Capacity for 1/2 Street based On Allowable Spread

		Minor Storm	Major Storm	
Water Depth without Gutter Depression (T * S_x * 12)	y =	4.32	4.32	inches
Vertical Depth between Gutter Lip and Gutter Flowline (W * S_w * 12)	d_C =	2.0	2.0	inches
Gutter Depression (d_C - (W * S_x * 12))	a =	1.51	1.51	inches
Water Depth at Gutter Flowline (y + a)	d =	5.83	5.83	inches
Allowable Spread for Discharge outside the Gutter Section (T - W)	T_X =	16.0	16.0	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.330	0.330	
Discharge outside the Gutter Section, carried in Section T_X	Q_X =	15.7	15.7	cfs
Discharge within the Gutter Section (Q_T - Q_X - Q_{BACK})	Q_W =	7.7	7.7	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	1.9	1.9	cfs
Maximum Flow Based On Allowable Spread	**Q_T =**	**25.4**	**25.4**	**cfs**
Flow Velocity within the Gutter Section	V =	9.6	9.6	fps
V*d Product: Flow Velocity times Gutter Flowline Depth	V*d =	4.7	4.7	

Maximum Capacity for 1/2 Street based on Allowable Depth

		Minor Storm	Major Storm	
Theoretical Water Spread	T_{TH} =	10.4	17.5	ft
Theoretical Spread for Discharge outside the Gutter Section (T - W)	$T_{X\,TH}$ =	8.4	15.5	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.560	0.341	
Theoretical Discharge outside the Gutter Section, carried in Section $T_{X\,TH}$	$Q_{X\,TH}$ =	2.8	14.3	cfs
Actual Discharge outside the Gutter Section, (limited by distance T_{CROWN})	Q_X =	2.8	14.3	cfs
Discharge within the Gutter Section (Q_d - Q_X)	Q_W =	3.5	7.4	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	0.0	1.6	cfs
Total Discharge for Major & Minor Storm (Pre-Safety Factor)	Q =	6.3	23.3	cfs
Average Flow Velocity Within the Gutter Section	V =	7.1	9.4	fps
V*d Product: Flow Velocity Times Gutter Flowline Depth	V*d =	2.4	4.5	
Slope-Based Safety Factor for Minor/Major Storm depth reduction, d ≥ 6"	R =	1.00	0.65	
Max Flow based on Allowable Depth (Safety Factor Applied)	**Q_d =**	**6.3**	**15.0**	**cfs**
Resultant Flow Depth at Gutter Flowline (Safety Factor Applied)	d =	4.00	5.08	inches
Resultant Flow Depth at Street Crown (Safety Factor Applied)	d_{CROWN} =	0.00	0.00	inches

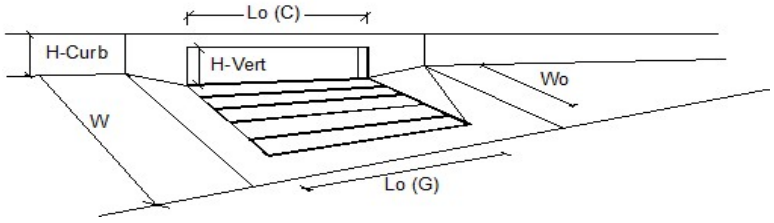
MINOR STORM Allowable Capacity is based on Depth Criterion
MAJOR STORM Allowable Capacity is based on Depth Criterion

	Minor Storm	Major Storm	
Q_{allow} =	**6.3**	**15.0**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design peak flow of 0.58 cfs on sheet 'Inlet Management'
Major storm max. allowable capacity GOOD - greater than the design peak flow of 1.32 cfs on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

MHFD-Inlet, Version 5.03 (August 2023)

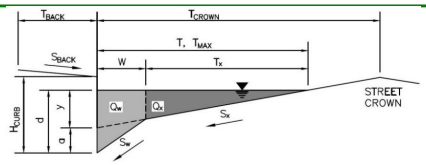


Design Information (Input)	CDOT Type R Curb Opening		MINOR	MAJOR	
Type of Inlet		Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')		a_{LOCAL} =	5.0	5.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)		No =	1	1	
Length of a Single Unit Inlet (Grate or Curb Opening)		L_o =	5.00	5.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)		W_o =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)		C_f (G) =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)		C_f (C) =	0.10	0.10	
Street Hydraulics: OK - Q < Allowable Street Capacity'			MINOR	MAJOR	
Design Discharge for Half of Street (from *Inlet Management*)		Q_o =	0.6	1.3	cfs
Water Spread Width		T =	1.9	4.3	ft
Water Depth at Flowline (outside of local depression)		d =	2.0	2.5	inches
Water Depth at Street Crown (or at T_{MAX})		d_{CROWN} =	0.0	0.0	inches
Ratio of Gutter Flow to Design Flow		E_o =	1.000	0.934	
Discharge outside the Gutter Section W, carried in Section T_x		Q_x =	0.0	0.1	cfs
Discharge within the Gutter Section W		Q_w =	0.6	1.2	cfs
Discharge Behind the Curb Face		Q_{BACK} =	0.0	0.0	cfs
Flow Area within the Gutter Section W		A_W =	0.00	0.26	sq ft
Velocity within the Gutter Section W		V_W =	0.0	4.8	fps
Water Depth for Design Condition		d_{LOCAL} =	7.0	7.5	inches
Grate Analysis (Calculated)			MINOR	MAJOR	
Total Length of Inlet Grate Opening		L =	N/A	N/A	ft
Ratio of Grate Flow to Design Flow		$E_{o\text{-}GRATE}$ =	N/A	N/A	
Under No-Clogging Condition			MINOR	MAJOR	
Minimum Velocity Where Grate Splash-Over Begins		V_o =	N/A	N/A	fps
Interception Rate of Frontal Flow		R_f =	N/A	N/A	
Interception Rate of Side Flow		R_x =	N/A	N/A	
Interception Capacity		Q_i =	N/A	N/A	cfs
Under Clogging Condition			MINOR	MAJOR	
Clogging Coefficient for Multiple-unit Grate Inlet		GrateCoeff =	N/A	N/A	
Clogging Factor for Multiple-unit Grate Inlet		GrateClog =	N/A	N/A	
Effective (unclogged) Length of Multiple-unit Grate Inlet		L_e =	N/A	N/A	ft
Minimum Velocity Where Grate Splash-Over Begins		V_o =	N/A	N/A	fps
Interception Rate of Frontal Flow		R_f =	N/A	N/A	
Interception Rate of Side Flow		R_x =	N/A	N/A	
Actual Interception Capacity		**Q_a =**	**N/A**	**N/A**	**cfs**
Carry-Over Flow = Q_o-Q_a (to be applied to curb opening or next d/s inlet)		**Q_b =**	**N/A**	**N/A**	**cfs**
Curb Opening or Slotted Inlet Analysis (Calculated)			MINOR	MAJOR	
Equivalent Slope S_e		S_e =	0.291	0.273	ft/ft
Required Length L_T to Have 100% Interception		L_T =	2.80	4.38	ft
Under No-Clogging Condition			MINOR	MAJOR	
Effective Length of Curb Opening or Slotted Inlet (minimum of L, L_T)		L =	2.80	4.38	ft
Interception Capacity		Q_i =	0.6	1.3	cfs
Under Clogging Condition			MINOR	MAJOR	
Clogging Coefficient		CurbCoeff =	1.00	1.00	
Clogging Factor for Multiple-unit Curb Opening or Slotted Inlet		CurbClog =	0.10	0.10	
Effective (Unclogged) Length		L_e =	2.80	4.38	ft
Actual Interception Capacity		**Q_a =**	**0.6**	**1.3**	**cfs**
Carry-Over Flow = $Q_{b(GRATE)}$-Q_a		**Q_b =**	**0.0**	**0.0**	**cfs**
Summary			MINOR	MAJOR	
Total Inlet Interception Capacity		**Q =**	**0.6**	**1.3**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)		**Q_b =**	**0.0**	**0.0**	**cfs**
Capture Percentage = Q_a/Q_o		**C% =**	**100**	**100**	**%**

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

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

Project: **RIDGEGATE FILING NO.3**
Inlet ID: **B71**



Gutter Geometry:

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	7.0	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} =	0.018	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	18.0	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 =	0.035	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	18.0	18.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	5.7	inches
Allow Flow Depth at Street Crown (check box for yes, leave blank for no)		☐	☐	

Maximum Capacity for 1/2 Street based On Allowable Spread

		Minor Storm	Major Storm	
Water Depth without Gutter Depression (T * S_x * 12)	y =	4.32	4.32	inches
Vertical Depth between Gutter Lip and Gutter Flowline (W * S_w * 12)	d_C =	2.0	2.0	inches
Gutter Depression (d_C - (W * S_x * 12))	a =	1.51	1.51	inches
Water Depth at Gutter Flowline (y + a)	d =	5.83	5.83	inches
Allowable Spread for Discharge outside the Gutter Section (T - W)	T_X =	16.0	16.0	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.330	0.330	
Discharge outside the Gutter Section, carried in Section T_X	Q_X =	15.7	15.7	cfs
Discharge within the Gutter Section (Q_T - Q_X - Q_{BACK})	Q_W =	7.7	7.7	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	1.9	1.9	cfs
Maximum Flow Based On Allowable Spread	**Q_T =**	**25.4**	**25.4**	**cfs**
Flow Velocity within the Gutter Section	V =	9.6	9.6	fps
V*d Product: Flow Velocity times Gutter Flowline Depth	V*d =	4.7	4.7	

Maximum Capacity for 1/2 Street based on Allowable Depth

		Minor Storm	Major Storm	
Theoretical Water Spread	T_{TH} =	10.4	17.5	ft
Theoretical Spread for Discharge outside the Gutter Section (T - W)	$T_{X\,TH}$ =	8.4	15.5	ft
Gutter Flow to Design Flow Ratio by FHWA HEC-22 method (Eq. 7-7)	E_O =	0.560	0.341	
Theoretical Discharge outside the Gutter Section, carried in Section $T_{X\,TH}$	$Q_{X\,TH}$ =	2.8	14.3	cfs
Actual Discharge outside the Gutter Section, (limited by distance T_{CROWN})	Q_X =	2.8	14.3	cfs
Discharge within the Gutter Section (Q_d - Q_X)	Q_W =	3.5	7.4	cfs
Discharge Behind the Curb (e.g., sidewalk, driveways, & lawns)	Q_{BACK} =	0.0	1.6	cfs
Total Discharge for Major & Minor Storm (Pre-Safety Factor)	Q =	6.3	23.3	cfs
Average Flow Velocity Within the Gutter Section	V =	7.1	9.4	fps
V*d Product: Flow Velocity Times Gutter Flowline Depth	V*d =	2.4	4.5	
Slope-Based Safety Factor for Minor/Major Storm depth reduction, d ≥ 6"	R =	1.00	0.65	
Max Flow based on Allowable Depth (Safety Factor Applied)	**Q_d =**	**6.3**	**15.0**	**cfs**
Resultant Flow Depth at Gutter Flowline (Safety Factor Applied)	d =	4.00	5.08	inches
Resultant Flow Depth at Street Crown (Safety Factor Applied)	d_{CROWN} =	0.00	0.00	inches

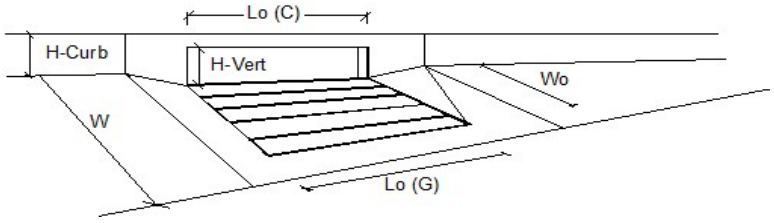
MINOR STORM Allowable Capacity is based on Depth Criterion
MAJOR STORM Allowable Capacity is based on Depth Criterion

	Minor Storm	Major Storm	
Q_{allow} =	**6.3**	**15.0**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design peak flow of 1.18 cfs on sheet 'Inlet Management'
Major storm max. allowable capacity GOOD - greater than the design peak flow of 4.45 cfs on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

MHFD-Inlet, Version 5.03 (August 2023)

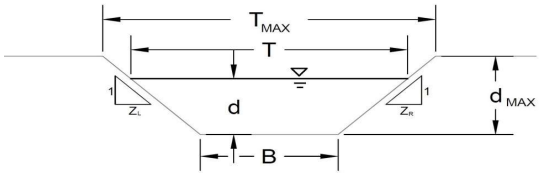


Design Information (Input)	CDOT Type R Curb Opening		MINOR	MAJOR	
Type of Inlet		Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')		a_{LOCAL} =	5.0	5.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)		No =	1	1	
Length of a Single Unit Inlet (Grate or Curb Opening)		L_o =	10.00	10.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)		W_o =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)		C_f (G) =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)		C_f (C) =	0.10	0.10	
Street Hydraulics: OK - Q < Allowable Street Capacity'			MINOR	MAJOR	
Design Discharge for Half of Street (from *Inlet Management*)		Q_o =	1.2	4.5	cfs
Water Spread Width		T =	3.9	8.8	ft
Water Depth at Flowline (outside of local depression)		d =	2.5	3.6	inches
Water Depth at Street Crown (or at T_{MAX})		d_{CROWN} =	0.0	0.0	inches
Ratio of Gutter Flow to Design Flow		E_o =	0.954	0.640	
Discharge outside the Gutter Section W, carried in Section T_x		Q_x =	0.1	1.6	cfs
Discharge within the Gutter Section W		Q_w =	1.1	2.8	cfs
Discharge Behind the Curb Face		Q_{BACK} =	0.0	0.0	cfs
Flow Area within the Gutter Section W		A_W =	0.24	0.44	sq ft
Velocity within the Gutter Section W		V_W =	4.6	6.5	fps
Water Depth for Design Condition		d_{LOCAL} =	7.5	8.6	inches
Grate Analysis (Calculated)			MINOR	MAJOR	
Total Length of Inlet Grate Opening		L =	N/A	N/A	ft
Ratio of Grate Flow to Design Flow		$E_{o\text{-}GRATE}$ =	N/A	N/A	
Under No-Clogging Condition			MINOR	MAJOR	
Minimum Velocity Where Grate Splash-Over Begins		V_o =	N/A	N/A	fps
Interception Rate of Frontal Flow		R_f =	N/A	N/A	
Interception Rate of Side Flow		R_x =	N/A	N/A	
Interception Capacity		Q_i =	N/A	N/A	cfs
Under Clogging Condition			MINOR	MAJOR	
Clogging Coefficient for Multiple-unit Grate Inlet		GrateCoeff =	N/A	N/A	
Clogging Factor for Multiple-unit Grate Inlet		GrateClog =	N/A	N/A	
Effective (unclogged) Length of Multiple-unit Grate Inlet		L_e =	N/A	N/A	ft
Minimum Velocity Where Grate Splash-Over Begins		V_o =	N/A	N/A	fps
Interception Rate of Frontal Flow		R_f =	N/A	N/A	
Interception Rate of Side Flow		R_x =	N/A	N/A	
Actual Interception Capacity		**Q_a =**	**N/A**	**N/A**	**cfs**
Carry-Over Flow = Q_o-Q_a (to be applied to curb opening or next d/s inlet)		**Q_b =**	**N/A**	**N/A**	**cfs**
Curb Opening or Slotted Inlet Analysis (Calculated)			MINOR	MAJOR	
Equivalent Slope S_e		S_e =	0.279	0.194	ft/ft
Required Length L_T to Have 100% Interception		L_T =	4.10	9.55	ft
Under No-Clogging Condition			MINOR	MAJOR	
Effective Length of Curb Opening or Slotted Inlet (minimum of L, L_T)		L =	4.10	9.55	ft
Interception Capacity		Q_i =	1.2	4.5	cfs
Under Clogging Condition			MINOR	MAJOR	
Clogging Coefficient		CurbCoeff =	1.25	1.25	
Clogging Factor for Multiple-unit Curb Opening or Slotted Inlet		CurbClog =	0.06	0.06	
Effective (Unclogged) Length		L_e =	4.10	9.38	ft
Actual Interception Capacity		**Q_a =**	**1.2**	**4.4**	**cfs**
Carry-Over Flow = $Q_{b(GRATE)}$-Q_a		**Q_b =**	**0.0**	**0.0**	**cfs**
Summary			MINOR	MAJOR	
Total Inlet Interception Capacity		**Q =**	**1.2**	**4.4**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)		**Q_b =**	**0.0**	**0.0**	**cfs**
Capture Percentage = Q_a/Q_o		**C% =**	**100**	**100**	**%**

AREA INLET IN A SWALE

RIDGEGATE FILING NO.3

B72



This worksheet uses the NRCS vegetal retardance method to determine Manning's n for grass-lined channels.

An override Manning's n can be entered for other channel materials.

Analysis of Trapezoidal Channel (Grass-Lined uses SCS Method)

NRCS Vegetal Retardance (A, B, C, D, or E)	A, B, C, D, or E =		
Manning's n (Leave cell D16 blank to manually enter an n value)	n =	0.030	
Channel Invert Slope	S_O =	0.0210	ft/ft
Bottom Width	B =	2.00	ft
Left Side Slope	Z1 =	5.00	ft/ft
Right Side Sloe	Z2 =	5.00	ft/ft

Check one of the following soil types:

Soil Type:	Max. Velocity (V_{MAX})	Max Froude No. (F_{MAX})
Non-Cohesive	5.0 fps	0.60
Cohesive	7.0 fps	0.80
Paved	N/A	N/A

Choose One:
- ○ **Non-Cohesive**
- ◉ **Cohesive**
- ○ **Paved**

		Minor Storm	Major Storm	
Maximum Allowable Top Width of Channel for Minor & Major Storm	T_{MAX} =	**12.00**	**12.00**	**ft**
Maximum Allowable Water Depth in Channel for Minor & Major Storm	d_{MAX} =	**1.00**	**1.00**	**ft**

Allowable Channel Capacity Based On Channel Geometry

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion	Q_{allow} =	**34.8**	**34.8**	**cfs**
MAJOR STORM Allowable Capacity is based on Depth Criterion	d_{allow} =	**1.00**	**1.00**	**ft**

Water Depth in Channel Based On Design Peak Flow

Design Peak Flow	Q_o =	**1.2**	**4.4**	**cfs**
Water Depth	d =	**0.20**	**0.39**	**ft**

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'

AREA INLET IN A SWALE

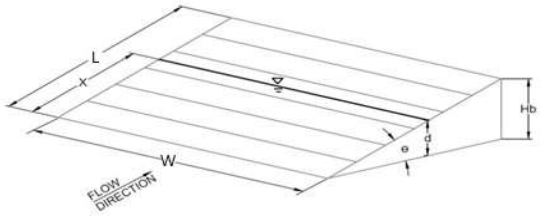
RIDGEGATE FILING NO.3

B72

Inlet Design Information (Input)

Type of Inlet	CDOT TYPE D (Parallel & Depressed)	Inlet Type =	CDOT TYPE D (Parallel & Depressed)

Angle of Inclined Grate (must be <= 30 degrees)	θ =	0.00	degrees
Width of Grate	W =	6.00	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 =	0.38	
Grate Discharge Coefficient	C_d =	0.68	
Orifice Coefficient	C_o =	0.45	
Weir Coefficient	C_w =	1.46	



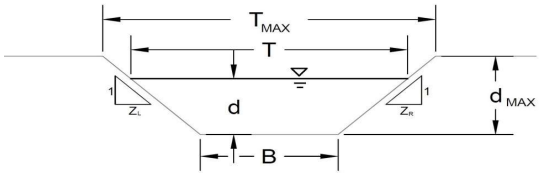
		MINOR	MAJOR	
Water Depth at Inlet (for depressed inlets, 1 foot is added for depression)	d =	1.20	1.39	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**30.5**	**33.7**	**cfs**
Bypassed Flow	**Q_b =**	**0.0**	**0.0**	**cfs**
Capture Percentage = Qa/Qo	**C% =**	**100**	**100**	**%**

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

AREA INLET IN A SWALE

RIDGEGATE FILING NO.3

B73



This worksheet uses the NRCS vegetal retardance method to determine Manning's n for grass-lined channels.

An override Manning's n can be entered for other channel materials.

Analysis of Trapezoidal Channel (Grass-Lined uses SCS Method)

NRCS Vegetal Retardance (A, B, C, D, or E)	A, B, C, D, or E =		
Manning's n (Leave cell D16 blank to manually enter an n value)	n =	0.030	
Channel Invert Slope	S_O =	0.0240	ft/ft
Bottom Width	B =	2.00	ft
Left Side Slope	Z1 =	5.00	ft/ft
Right Side Sloe	Z2 =	5.00	ft/ft

Check one of the following soil types:

Soil Type:	Max. Velocity (V_{MAX})	Max Froude No. (F_{MAX})
Non-Cohesive	5.0 fps	0.60
Cohesive	7.0 fps	0.80
Paved	N/A	N/A

Choose One:
- Non-Cohesive
- Cohesive
- Paved

		Minor Storm	Major Storm	
Maximum Allowable Top Width of Channel for Minor & Major Storm	T_{MAX} =	**9.50**	**9.50**	**ft**
Maximum Allowable Water Depth in Channel for Minor & Major Storm	d_{MAX} =	**0.75**	**0.75**	**ft**

Allowable Channel Capacity Based On Channel Geometry

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion	Q_{allow} =	**19.4**	**19.4**	**cfs**
MAJOR STORM Allowable Capacity is based on Depth Criterion	d_{allow} =	**0.75**	**0.75**	**ft**

Water Depth in Channel Based On Design Peak Flow

Design Peak Flow	Q_o =	**1.0**	**3.2**	**cfs**
Water Depth	d =	**0.17**	**0.32**	**ft**

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'

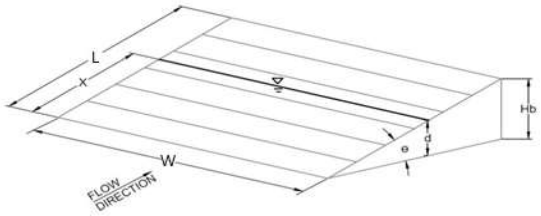
AREA INLET IN A SWALE

RIDGEGATE FILING NO.3

B73

Inlet Design Information (Input)

Type of Inlet: CDOT TYPE D (Parallel & Depressed) — Inlet Type = CDOT TYPE D (Parallel & Depressed)



Angle of Inclined Grate (must be <= 30 degrees)	θ =	0.00	degrees
Width of Grate	W =	6.00	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 =	0.38	
Grate Discharge Coefficient	C_d =	0.68	
Orifice Coefficient	C_o =	0.45	
Weir Coefficient	C_w =	1.46	

		MINOR	MAJOR	
Water Depth at Inlet (for depressed inlets, 1 foot is added for depression)	d =	1.17	1.32	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**29.3**	**32.9**	**cfs**
Bypassed Flow	**Q_b =**	**0.0**	**0.0**	**cfs**
Capture Percentage = Qa/Qo	**C% =**	**100**	**100**	**%**

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

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Wednesday, Mar 27 2024

Swale A-A

Triangular

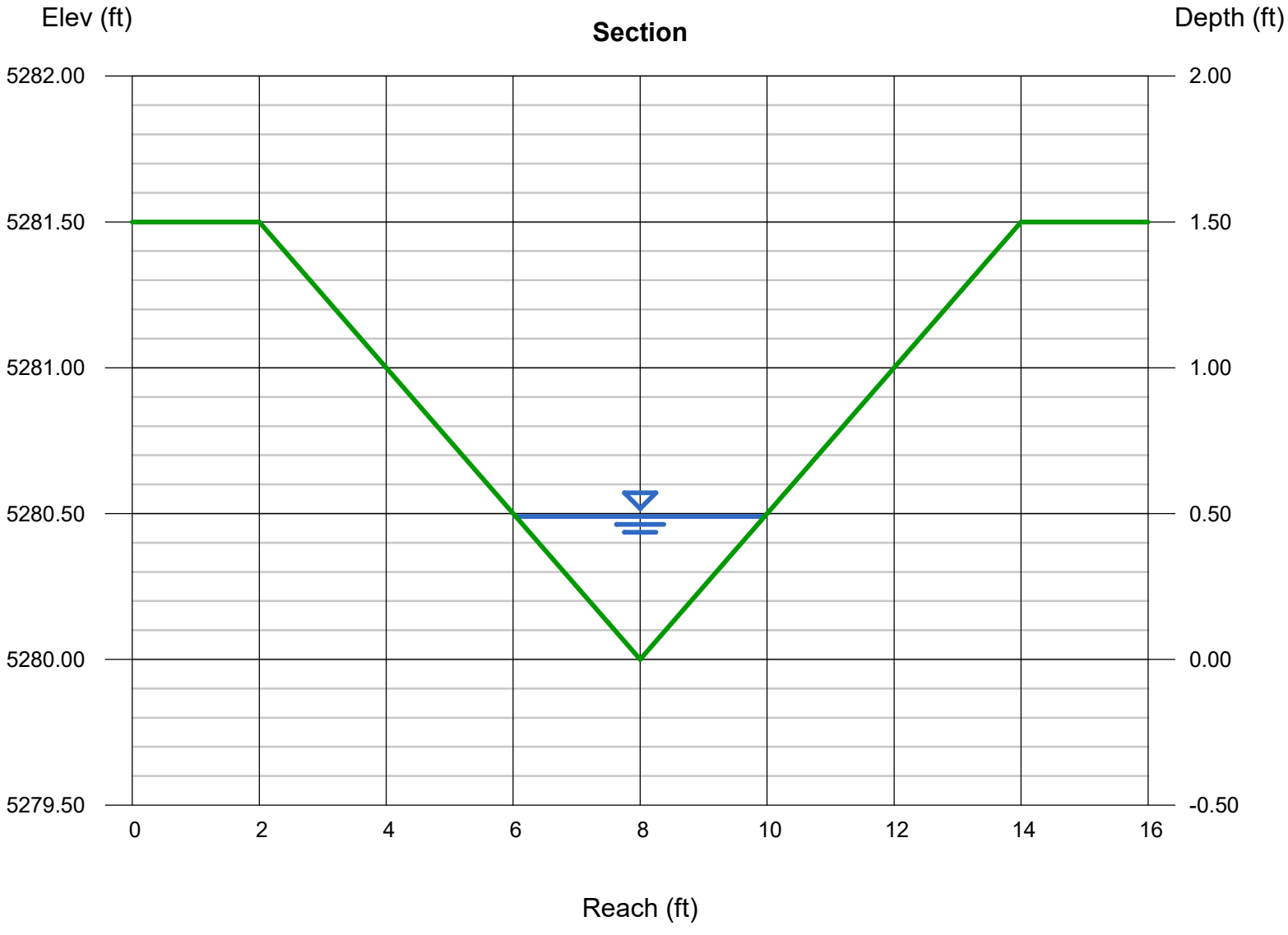
Side Slopes (z:1)	= 4.00, 4.00
Total Depth (ft)	= 1.50
Invert Elev (ft)	= 5280.00
Slope (%)	= 3.30
N-Value	= 0.150

Calculations

Compute by:	Known Q
Known Q (cfs)	= 0.63

Highlighted

Depth (ft)	= 0.49
Q (cfs)	= 0.630
Area (sqft)	= 0.96
Velocity (ft/s)	= 0.66
Wetted Perim (ft)	= 4.04
Crit Depth, Yc (ft)	= 0.28
Top Width (ft)	= 3.92
EGL (ft)	= 0.50



Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Tuesday, Mar 26 2024

Swale BB

Triangular

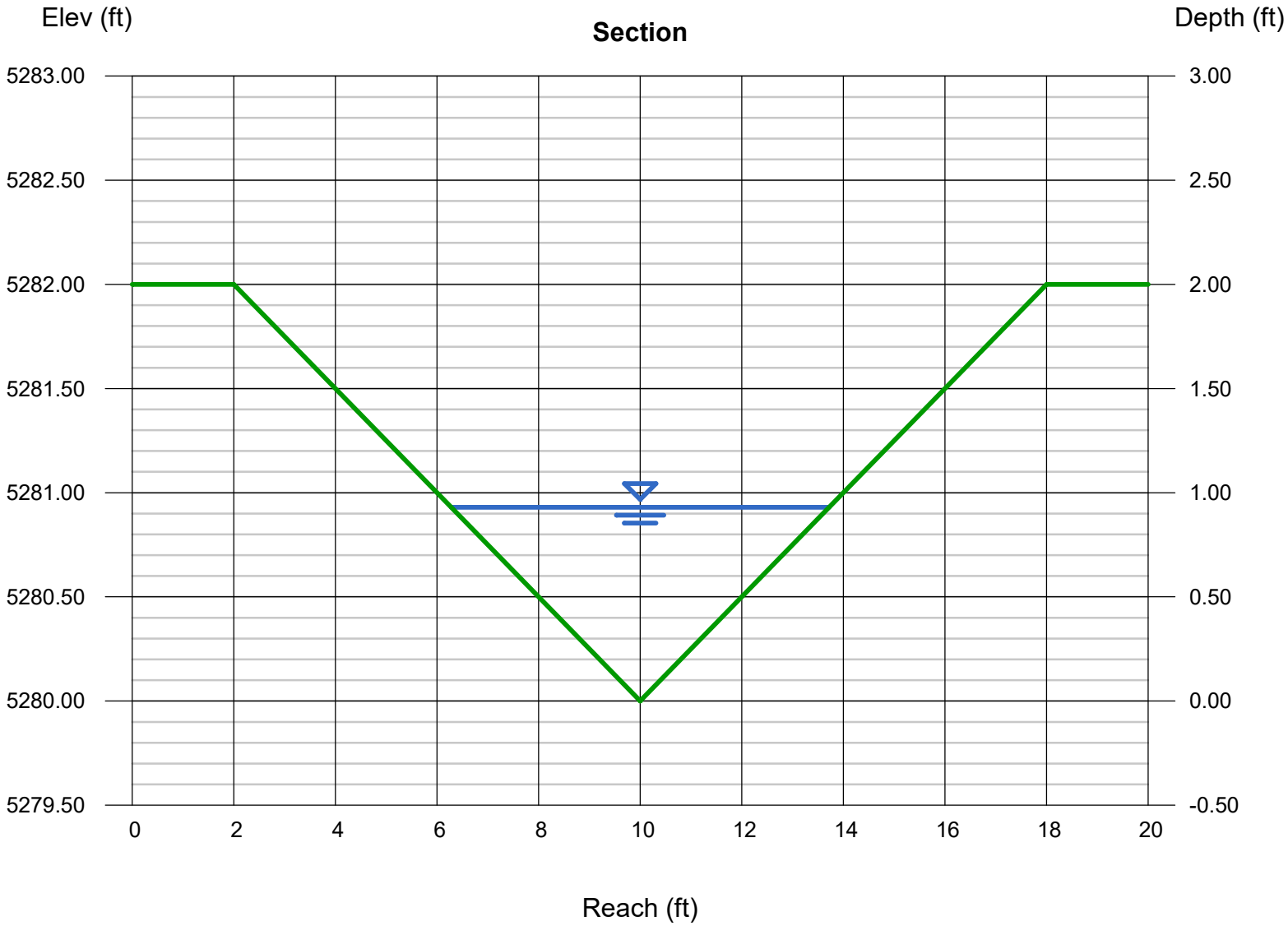
Side Slopes (z:1)	= 4.00, 4.00
Total Depth (ft)	= 2.00
Invert Elev (ft)	= 5280.00
Slope (%)	= 5.50
N-Value	= 0.150

Calculations

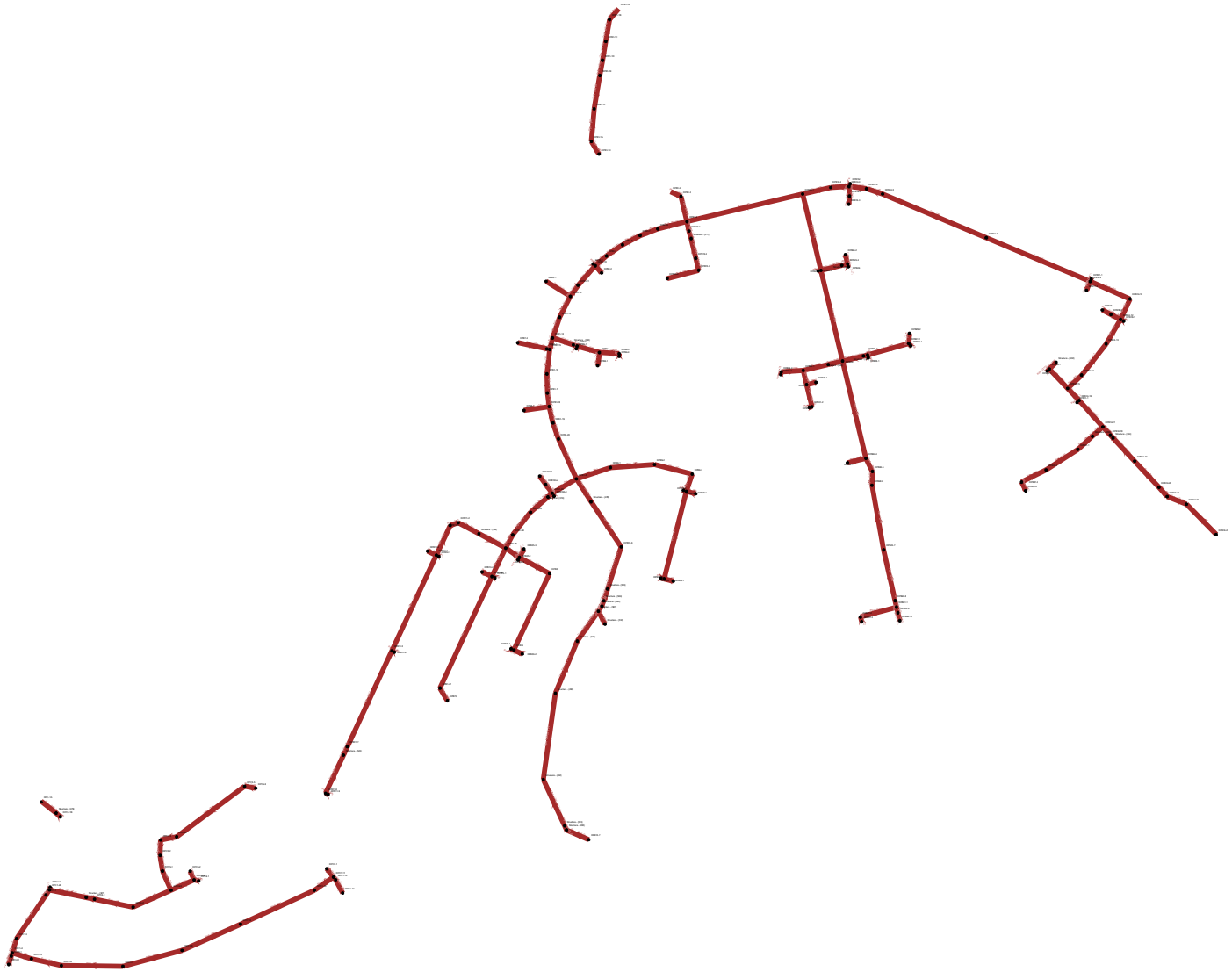
Compute by:	Known Q
Known Q (cfs)	= 4.65

Highlighted

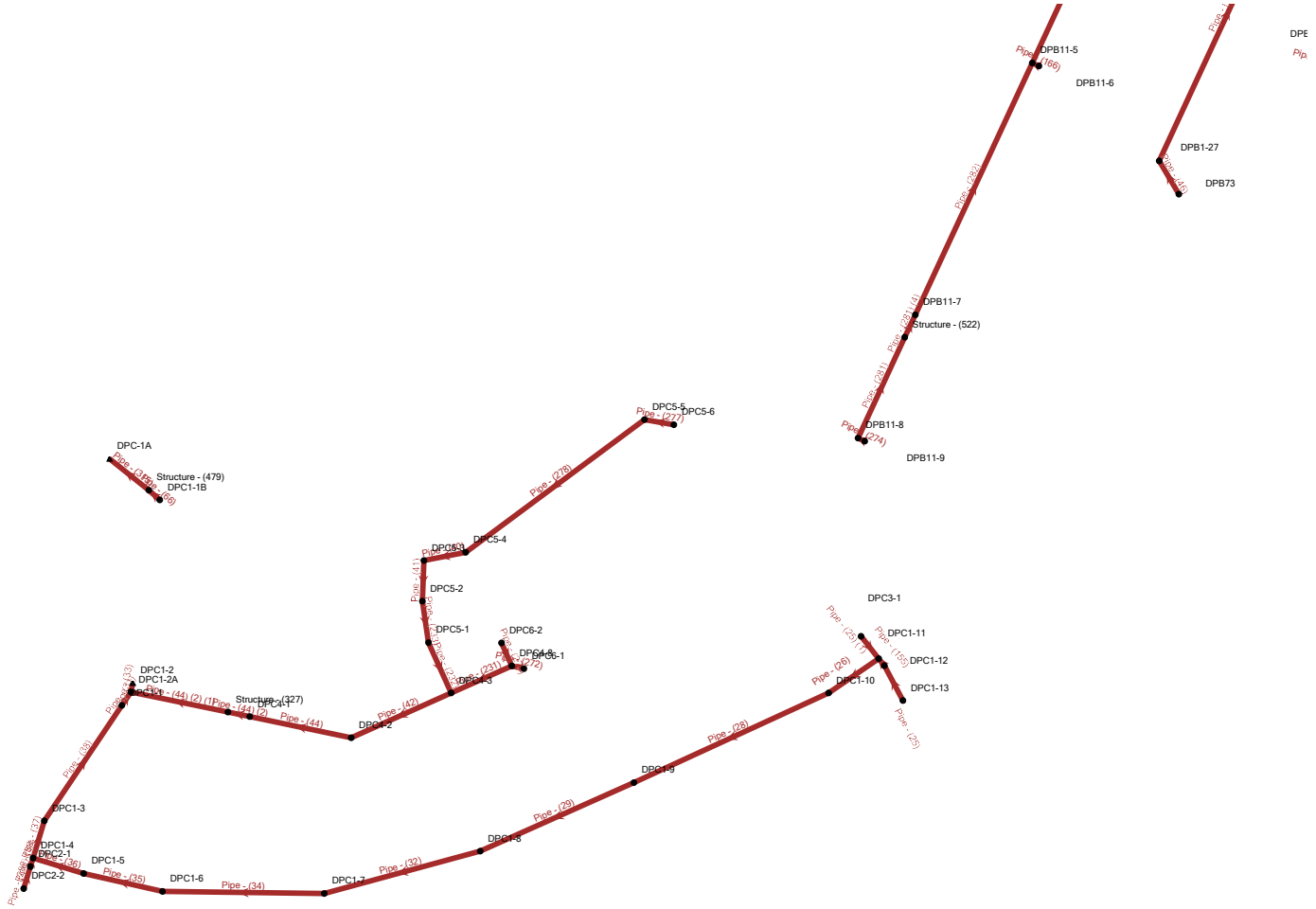
Depth (ft)	= 0.93
Q (cfs)	= 4.650
Area (sqft)	= 3.46
Velocity (ft/s)	= 1.34
Wetted Perim (ft)	= 7.67
Crit Depth, Yc (ft)	= 0.61
Top Width (ft)	= 7.44
EGL (ft)	= 0.96



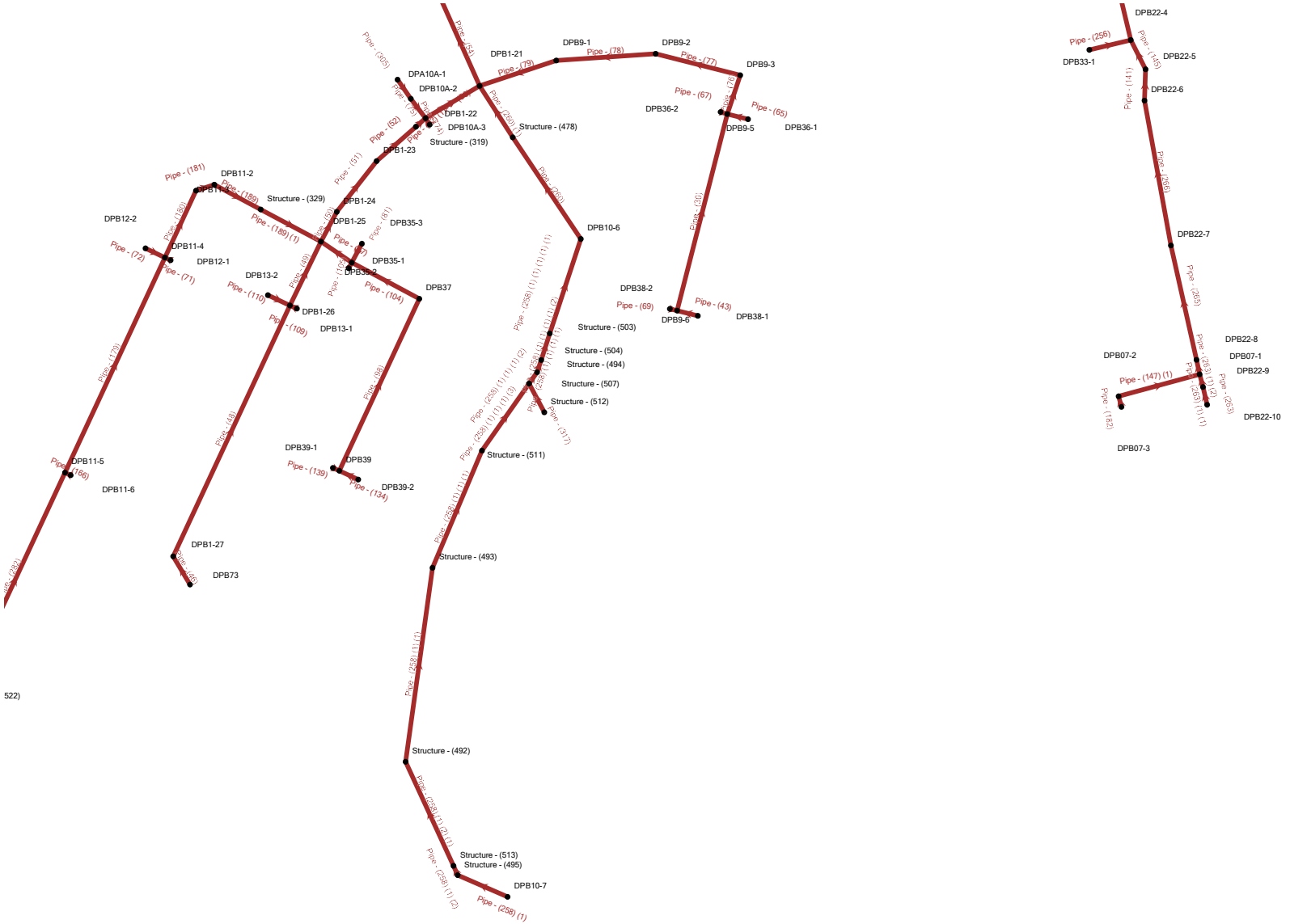
Ridgegate Southwest Village Filings 2 & 3 StormCAD Map



Ridgegate Southwest Village Filings 2 & 3 StormCAD Map



Scenario: 5-YEAR



Ridgegate Southwest Village Filings 2 & 3
StormCAD Map

Scenario: 5-YEAR
Current Time Step: 0.000 h
Conduit FlexTable: Combined Pipe/Node Report

Upstream Structure	Label	Flow (cfs)	Diameter (in)	Rise (ft)	Span (ft)	Length (User Defined) (ft)	Slope (Calculated) (ft/ft)	Is Surcharged?	Velocity (ft/s)	Invert (Start) (ft)	Invert (Stop) (ft)	Elevation Ground (Start) (ft)	Elevation Ground (Stop) (ft)	HGL (In) (ft)	HGL (Out) (ft)	Energy Grade Line (In) (ft)	Energy Grade Line (Out) (ft)	Upstream Structure Headloss Coefficient	Manning's n
DPC1-13	Pipe - (25)	14.05	36.0	-	-	46.0	0.010	False	7.48	6,128.01	6,127.55	6,133.02	6,135.62	6,129.20	6,129.08	6,129.65	6,129.28	0.249	0.013
DPC1-12	Pipe - (25) (1)	14.66	36.0	-	-	11.2	0.010	False	7.57	6,127.34	6,127.23	6,135.62	6,135.39	6,128.91	6,128.94	6,129.15	6,129.11	0.200	0.013
DPC1-11	Pipe - (26)	15.29	36.0	-	-	75.0	0.010	False	7.65	6,127.03	6,126.28	6,135.39	6,135.94	6,128.28	6,127.75	6,128.75	6,127.99	0.623	0.013
DPC1-10	Pipe - (28)	15.29	36.0	-	-	264.7	0.010	False	7.65	6,126.08	6,123.44	6,135.94	6,138.04	6,127.33	6,124.90	6,127.80	6,125.14	0.200	0.013
DPC1-9	Pipe - (29)	15.29	36.0	-	-	207.9	0.010	False	7.65	6,123.23	6,121.15	6,138.04	6,129.95	6,124.48	6,122.13	6,124.95	6,123.04	0.200	0.013
DPB9-6	Pipe - (30)	0.73	24.0	-	-	-	0.025	False	4.54	6,122.33	6,115.00	6,129.01	6,120.06	6,122.62	6,115.47	6,122.72	6,115.50	0.200	0.013
DPC1-1	Pipe - (31)	23.26	36.0	-	-	20.0	0.005	False	6.65	6,092.00	6,091.90	6,098.14	6,098.18	6,093.77	6,093.78	6,094.21	6,094.09	0.200	0.013
DPC1-8	Pipe - (32)	15.29	36.0	-	-	199.7	0.035	False	11.97	6,119.98	6,113.00	6,129.95	6,120.68	6,121.23	6,113.71	6,121.70	6,115.93	0.200	0.013
DPC1-2A	Pipe - (33)	26.38	42.0	-	-	11.1	0.005	False	6.84	6,091.40	6,091.34	6,098.18	6,096.36	6,093.64	6,093.64	6,093.89	6,093.88	0.274	0.013
DPC1-7	Pipe - (34)	15.29	36.0	-	-	199.9	0.032	False	11.66	6,111.24	6,104.74	6,120.68	6,111.35	6,112.48	6,106.21	6,112.95	6,106.45	0.200	0.013
DPC1-6	Pipe - (35)	15.29	36.0	-	-	100.1	0.025	False	10.62	6,104.54	6,102.04	6,111.35	6,109.04	6,105.79	6,103.51	6,106.26	6,103.75	0.200	0.013
DPC1-5	Pipe - (36)	15.29	36.0	-	-	65.3	0.025	False	10.62	6,101.84	6,100.21	6,109.04	6,108.50	6,103.09	6,101.95	6,103.56	6,102.13	0.200	0.013
DPC1-4	Pipe - (37)	20.98	36.0	-	-	48.0	0.030	False	12.41	6,099.71	6,098.27	6,108.50	6,108.83	6,101.18	6,099.22	6,101.76	6,100.32	0.518	0.013
DPC1-3	Pipe - (38)	22.80	36.0	-	-	171.6	0.030	False	12.65	6,097.27	6,092.19	6,108.83	6,098.14	6,098.81	6,094.13	6,099.42	6,094.42	0.217	0.013
DPC2-1	Pipe - (39)	5.76	24.0	-	-	11.2	0.020	False	7.72	6,101.44	6,101.21	6,108.66	6,108.50	6,102.28	6,101.87	6,102.60	6,102.38	0.200	0.013
DPC5-4	Pipe - (40)	2.24	18.0	-	-	52.7	0.010	False	4.73	6,122.26	6,121.74	6,134.88	6,135.26	6,122.83	6,122.36	6,123.04	6,122.48	0.382	0.013
DPC5-3	Pipe - (41)	2.24	18.0	-	-	50.3	0.010	False	4.73	6,121.53	6,121.03	6,135.26	6,135.88	6,122.10	6,121.50	6,122.31	6,121.72	0.588	0.013
DPC4-3	Pipe - (42)	3.47	18.0	-	-	135.2	0.050	False	9.52	6,119.23	6,112.48	6,135.82	6,130.31	6,119.94	6,112.87	6,120.22	6,114.28	0.745	0.013
DPB38-1	Pipe - (43)	0.56	18.0	-	-	-	0.010	False	3.16	6,123.14	6,122.83	6,129.09	6,129.01	6,123.42	6,123.07	6,123.51	6,123.22	0.771	0.013
DPC4-2	Pipe - (44)	3.47	18.0	-	-	128.1	0.050	False	9.52	6,110.90	6,104.50	6,130.31	6,108.52	6,111.61	6,104.89	6,111.89	6,106.30	0.200	0.013
DPC4-1	Pipe - (44) (2)	3.47	18.0	-	-	27.7	0.015	False	6.18	6,095.64	6,095.23	6,108.52	6,096.94	6,096.35	6,096.20	6,096.63	6,096.31	1.073	0.013
Structure - (327)	Pipe - (44) (2) (1)	3.47	18.0	-	-	122.4	0.015	False	6.18	6,095.23	6,093.39	6,096.94	6,098.18	6,095.94	6,093.92	6,096.21	6,094.38	0.200	0.013
DPB73	Pipe - (46)	0.95	24.0	-	-	47.6	0.024	False	4.83	6,126.71	6,125.57	6,132.41	6,132.10	6,127.05	6,125.80	6,127.16	6,126.16	0.552	0.013
DPB1-27	Pipe - (48)	0.95	24.0	-	-	400.1	0.020	False	4.54	6,124.92	6,116.92	6,132.10	6,123.16	6,125.26	6,117.16	6,125.37	6,117.48	0.200	0.013
DPB1-26	Pipe - (49)	2.92	24.0	-	-	102.8	0.040	False	8.10	6,115.20	6,111.09	6,123.16	6,120.83	6,115.79	6,111.43	6,116.01	6,112.45	0.200	0.013
DPB1-25	Pipe - (50)	14.91	42.0	-	-	48.6	0.010	False	7.50	6,104.68	6,104.20	6,120.83	6,119.81	6,105.86	6,105.55	6,106.29	6,105.77	0.487	0.013
DPB1-24	Pipe - (51)	14.91	42.0	-	-	93.3	0.010	False	7.50	6,103.99	6,103.06	6,119.81	6,117.63	6,105.17	6,104.42	6,105.60	6,104.64	0.200	0.013
DPB1-23	Pipe - (52)	14.91	42.0	-	-	75.6	0.010	False	7.50	6,102.86	6,102.11	6,117.63	6,116.70	6,104.04	6,103.70	6,104.47	6,103.86	0.200	0.013
Structure - (319)	Pipe - (52) (1)	14.91	42.0	-	-	18.6	0.010	False	7.50	6,102.11	6,101.92	6,116.70	6,116.68	6,103.28	6,103.47	6,103.71	6,103.64	0.200	0.013
DPB1-22	Pipe - (53)	17.58	42.0	-	-	91.1	0.010	False	7.85	6,101.72	6,100.81	6,116.68	6,117.61	6,103.00	6,102.47	6,103.48	6,102.67	0.200	0.013
DPB1-21	Pipe - (54)	43.73	60.0	-	-	142.3	0.010	False	9.85	6,099.81	6,098.39	6,117.61	6,115.02	6,101.66	6,100.67	6,102.34	6,100.99	0.357	0.013
DPB1-20	Pipe - (55)	43.73	60.0	-	-	54.7	0.010	False	9.85	6,098.19	6,097.64	6,115.02	6,112.98	6,100.04	6,099.92	6,100.72	6,100.24	0.200	0.013
DPB1-19	Pipe - (56)	43.73	60.0	-	-	54.7	0.010	False	9.85	6,097.44	6,096.89	6,112.98	6,110.84	6,099.29	6,099.18	6,099.97	6,099.50	0.200	0.013
DPB1-18	Pipe - (56) (1)	44.06	60.0	-	-	44.2	0.010	False	9.87	6,096.69	6,096.25	6,110.84	6,109.12	6,098.55	6,097.76	6,099.23	6,098.43	0.200	0.013
DPB1-17	Pipe - (57)	44.06	60.0	-	-	62.5	0.010	False	9.87	6,095.51	6,094.89	6,109.12	6,106.67	6,097.37	6,096.36	6,098.05	6,097.65	0.200	0.013
DPB1-16	Pipe - (58)	44.06	60.0	-	-	79.9	0.010	False	9.88	6,091.73	6,090.93	6,106.67	6,103.55	6,093.59	6,093.28	6,094.27	6,093.59	0.200	0.013
DPB1-15	Pipe - (58) (1)	45.79	60.0	-	-	38.7	0.010	False	9.98	6,090.73	6,090.34	6,103.55	6,102.05	6,092.62	6,091.90	6,093.32	6,092.67	0.200	0.013
DPB1-14	Pipe - (59)	48.63	60.0	-	-	70.8	0.010	False	10.16	6,089.63	6,088.92	6,102.05	6,099.26	6,091.58	6,090.47	6,092.31	6,091.85	0.200	0.013
DPB1-13	Pipe - (60)	48.63	60.0	-	-	76.6	0.010	False	10.16	6,087.16	6,086.39	6,099.26	6,096.28	6,089.11	6,087.93	6,089.84	6,089.33	0.200	0.013
DPB1-12	Pipe - (60) (1)	48.94	60.0	-	-	44.0	0.010	False	10.17	6,084.95	6,084.51	6,096.28	6,094.88	6,086.91	6,086.11	6,087.64	6,086.78	0.200	0.013
DPB1-11	Pipe - (61)	48.94	60.0	-	-	84.5	0.010	False	10.17	6,083.66	6,082.82	6,094.88	6,092.16	6,085.62	6,084.35	6,086.35	6,085.78	0.200	0.013
DPB1-10	Pipe - (62)	51.15	60.0	-	-	48.5	0.010	False	10.30	6,081.27	6,080.78	6,092.16	6,090.61	6,083.27	6,082.41	6,084.02	6,083.73	0.200	0.013
DPB1-9	Pipe - (62) (1)	51.15	60.0	-	-	63.3	0.010	False	10.30	6,079.15	6,078.51	6,090.61	6,088.58	6,081.15	6,080.11	6,081.90	6,081.50	0.200	0.013
DPB1-8	Pipe - (63)	51.15	60.0	-	-	64.6	0.010	False	10.30	6,076.87	6,076.22	6,088.58	6,086.51	6,078.87	6,077.82	6,079.62	6,079.21	0.200	0.013
DPB1-7	Pipe - (64)	51.15	60.0	-	-	61.5	0.015	False	11.91	6,074.76	6,073.84	6,086.51	6,084.70	6,076.77	6,075.33	6,077.52	6,076.60	0.200	0.013
DPB1-6	Pipe - (64) (1)	51.15	60.0	-	-	97.9	0.030	False	15.24	6,072.60	6,069.66	6,084.70	6,083.53	6,074.60	6,073.31	6,075.36	6,073.47	0.200	0.013
DPB36-1	Pipe - (65)	3.12	18.0	-	-	-	0.010	False	5.17	6,115.81	6,115.50	6,120.14	6,120.06	6,116.48	6,116.06	6,116.74	6,116.47	0.477	0.013
DPB1-3	Pipe - (65) (1)	126.69	-	6.0	8.0	37.2	0.005	False	9.16	6,068.05	6,067.86	6,078.63	6,075.71	6,072.95	6,072.95	6,073.11	6,073.10	0.428	0.013
DPB1-5	Pipe - (65) (2)	126.75	-	6.0	8.0	84.3	0.005	False	9.16	6,068.67	6,068.25	6,083.53	6,078.63	6,073.08	6,073.08	6,073.28	6,073.24	0.637	0.013
DPC1-1B	Pipe - (66)	18.00	36.0	-	-	18.1	0.005	False	6.22	6,087.44	6,087.35	6,090.78	6,096.77	6,088.80	6,088.65	6,089.32	6,089.24	0.200	0.013
DPB36-2	Pipe - (67)	0.66	18.0	-	-	9.2	0.010	False	3.30	6,115.59	6,115.50	6,120.14	6,120.06	6,115.89	6,115.76	6,116.00	6,115.92	0.580	0.013
DPB35-1	Pipe - (67)	4.47	24.0	-	-	55.8	0.035	False	8.75	6,113.04	6,111.09	6,121.79	6,120.83	6,113.78	6,111.53	6,114.06	6,112.71	0.200	0.013
DPB38-2	Pipe - (69)	0.18	18.0	-	-	9.4	0.010	False	2.21	6,122.92	6,122.83	6,129.09	6,129.01	6,123.08	6,122.97	6,123.13	6,123.04	0.824	0.013
DPB12-1	Pipe - (71)	2.59	18.0	-	-	9.2	0.020	False	6.31	6,108.81	6,108.63	6,113.70	6,113.61	6,109.42	6,109.10	6,109.65	6,109.56	0.563	0.013
DPB12-2	Pipe - (72)	1.37	18.0	-	-	31.2	0.020	False	5.25	6,109.25	6,108.63	6,113.70	6,113.61	6,109.69	6,108.94	6,109.85	6,109.23	0.539	0.013
DPB10A-3	Pipe - (74)	1.09	18.0	-	-	9.6	0.020	False	4.91	6,109.39	6,109.20	6,116.91	6,116.68	6,109.78	6,109.49	6,109.92	6,109.81	0.958	0.013
DPB10A-2	Pipe - (75)	1.73	18.0	-	-	33.8	0.020	False	5.62	6,109.88	6,109.20	6,116.91	6,116.68	6,110.37	6,109.55	6,110.55	6,110.03	0.706	0.013
DPB9-3	Pipe - (77)	4.48	30.0	-	-	126.1	0.010	False	5.54	6,113.69	6,112.39	6,119.66	6,122.02	6,114.39	6,112.95	6,114.64	6,113.25	0.690	0.013
DPB9-2	Pipe - (78)	4.48	30.0	-	-	144.0	0.010	False	5.40	6,112.19	6,110.81	6,122.02	6,119.98	6,112.89	6,111.38	6,113.14	6,111.67	0.200	0.013
DPB9-1	Pipe - (79)	4.48	30.0	-	-	116.7	0.030	False	8.08	6,110.61	6,107.11	6,119.98	6,117.61	6,111.31	6,107.53	6,111.56	6,108.55	0.200	0.013
DPB1-1H	Pipe - (80)	60.53	72.0	-	-	48.4	0.010	False	10.62	6,065.13	6,064.65	6,072.55	6,072.92	6,067.20	6,066.32	6,067.96	6,067.69	0.200	0.013
DPB35-3	Pipe - (81)	0.58	18.0	-	-	-	0.025	False	4.41	6,116.30	6,115.52	6,121.87	6,121.79	6,116.58	6,115.71	6,116.68	6,116.01	0.719	0.013
DPB1-1G	Pipe - (82)	60.53	72.0	-	-	106.1	0.010	False	10.61	6,056.15	6,055.09	6,072.92	6,063.98	6,058.22	6,056.69	6,058.98	6,058.26	0.214	0.013
DPB1-1F	Pipe - (83) (1)	60.53	72.0	-	-	110.0	0.010	False	10.62	6,046.59	6,045.49	6,063.98	6,055.79	6,048.66	6,047.08	6,049.42	6,048.66	0.214	0.013
DPB1-1E	Pipe - (83) (2)	60.53	72.0	-	-	50.0	0.010	False	10.62	6,036.99	6,036.49	6,055.79	6,046.58	6,039.06	6,038.16	6,039.82	6,039.54	0.214	0.013
DPB1-1D	Pipe - (83) (3)	60.53	72.0	-	-	62.4	0.010	False	10.62	6,030.49	6,029.87	6,046.58	6,039.60	6,032.56	6,031.51	6,033.32	6,032.95	0.200	0.013
DPB1-1C	Pipe - (83) (4)	60.53	72.0	-	-	71.9	0.005	False	8.29	6,023.80	6,023.44	6,039.60	6,034.59	6,026.23	6,026.32	6,026.73	6,026.59	0.200	0.013
DPB1-1B	Pipe - (84)	60.53	60.0	-	-	45.7	0.005	False	8.40	6,023.24	6,023.01	6,034.59	6,028.57	6,025.43	6,025.02	6,026.26	6,026.07	0.264	0.013
DPB14-23	Pipe - (85)	10.41	30.0	-	-	138.0	0.010	False	6.97	6,118.69	6,117.31	6,123.69	6,124.32	6,119.77	6,118.17	6,120.18	6,118.57	0.304	0.013
DPB14-22	Pipe - (85) (1)	10.41	30.0	-	-	65.8	0.020	False	8.95	6,116.85	6,115.53	6,124.32	6,125.00	6,117.92	6,116.82	6,118.33	6,117.03	0.217	0.013
DPB14-21	Pipe - (86)	12.01	30.0	-	-	38.9	0.020	False	9.32	6,115.20	6,114.42	6,125.00	6,124.96	6,116.36	6,115.25	6,116.81	6,116.37	0.299	0.013

DPB14-20	Pipe - (87)	12.55	30.0	-	-	116.0	0.035	False	11.52	6,112.29	6,108.23	6,124.96	6,115.33	6,113.48	6,108.92	6,113.94	6,109.88	0.200	0.013
DPB14-19	Pipe - (87) (1)	12.55	30.0	-	-	103.4	0.035	False	11.52	6,107.23	6,103.62	6,115.33	6,110.25	6,108.42	6,105.25	6,108.88	6,105.43	0.200	0.013
Structure - (334)	Pipe - (87) (1) (1)	12.55	30.0	-	-	12.4	0.035	False	11.52	6,103.62	6,103.18	6,110.25	6,110.12	6,104.81	6,104.42	6,105.27	6,104.72	0.200	0.013
DPB14-18	Pipe - (88)	14.68	30.0	-	-	36.2	0.025	False	10.68	6,102.68	6,101.78	6,110.12	6,109.98	6,103.97	6,103.73	6,104.48	6,103.91	0.221	0.013
DPB14-17	Pipe - (88) (1)	16.38	30.0	-	-	115.5	0.025	False	11.01	6,101.78	6,098.89	6,109.98	6,106.66	6,103.15	6,099.75	6,103.70	6,100.53	0.258	0.013
DPB14-16	Pipe - (89)	17.40	36.0	-	-	54.3	0.025	False	11.03	6,098.39	6,097.03	6,106.66	6,105.48	6,099.73	6,098.68	6,100.24	6,098.92	0.200	0.013
DPB14-15	Pipe - (90)	18.88	36.0	-	-	62.5	0.025	False	11.29	6,096.53	6,094.97	6,105.48	6,103.33	6,097.92	6,095.88	6,098.46	6,096.90	0.671	0.013
DPB14-14	Pipe - (91)	18.88	36.0	-	-	129.0	0.025	False	11.29	6,093.84	6,090.61	6,103.33	6,098.89	6,095.23	6,091.47	6,095.77	6,092.32	0.200	0.013
DPB14-13	Pipe - (92)	18.88	36.0	-	-	92.4	0.025	False	11.29	6,090.11	6,087.80	6,098.89	6,095.70	6,091.50	6,089.68	6,092.04	6,089.90	0.200	0.013
DPB14-12	Pipe - (93)	21.77	36.0	-	-	73.4	0.028	False	12.29	6,087.60	6,085.52	6,095.70	6,093.18	6,089.10	6,087.14	6,089.69	6,087.50	0.200	0.013
DPB14-10	Pipe - (95)	21.77	42.0	-	-	141.6	0.020	False	10.70	6,085.02	6,082.19	6,093.18	6,091.30	6,086.45	6,083.97	6,086.99	6,084.22	0.673	0.013
DPB14-9	Pipe - (97)	22.91	42.0	-	-	366.2	0.008	False	7.99	6,081.99	6,078.88	6,091.30	6,092.32	6,083.46	6,080.64	6,084.01	6,080.92	0.200	0.013
DPB39	Pipe - (98)	2.73	18.0	-	-	-	0.047	False	8.69	6,131.52	6,118.64	6,139.13	6,125.66	6,132.15	6,119.38	6,132.38	6,119.50	0.671	0.013
DPB14-7	Pipe - (99)	22.91	42.0	-	-	366.2	0.009	False	8.28	6,078.67	6,075.23	6,092.32	6,085.36	6,080.14	6,077.00	6,080.70	6,077.27	0.200	0.013
DPB14-5	Pipe - (100)	22.91	42.0	-	-	55.1	0.005	False	6.59	6,075.03	6,074.75	6,085.36	6,084.46	6,076.50	6,076.53	6,077.05	6,076.80	0.200	0.013
DPB14-4	Pipe - (101)	22.91	42.0	-	-	57.2	0.005	False	6.59	6,074.55	6,074.27	6,084.46	6,084.15	6,076.02	6,075.64	6,076.58	6,076.31	0.200	0.013
DPB14-3	Pipe - (102)	25.61	60.0	-	-	59.3	0.005	False	6.60	6,072.77	6,072.47	6,084.15	6,084.57	6,074.17	6,074.29	6,074.67	6,074.49	0.200	0.013
DPB14-2	Pipe - (103)	25.61	60.0	-	-	93.9	0.005	False	6.60	6,072.27	6,071.80	6,084.57	6,086.00	6,074.13	6,074.17	6,074.36	6,074.29	0.200	0.013
DPB37	Pipe - (104)	2.73	18.0	-	-	-	0.047	False	8.70	6,118.44	6,113.23	6,125.66	6,121.79	6,119.07	6,114.05	6,119.30	6,114.15	0.648	0.013
DPB35-2	Pipe - (105)	1.18	18.0	-	-	-	0.025	False	5.41	6,115.75	6,115.52	6,121.87	6,121.79	6,116.16	6,115.81	6,116.30	6,116.18	0.769	0.013
DPB14-1	Pipe - (105)	69.79	72.0	-	-	386.4	0.005	False	8.63	6,070.80	6,068.87	6,086.00	6,083.53	6,073.04	6,073.32	6,073.86	6,073.46	0.461	0.013
DPB21-1	Pipe - (106)	1.02	18.0	-	-	9.2	0.021	False	4.89	6,100.58	6,100.39	6,107.24	6,106.66	6,100.96	6,100.67	6,101.09	6,100.98	0.845	0.013
DPB2-2	Pipe - (107)	0.86	18.0	-	-	29.7	0.020	False	4.57	6,086.41	6,085.82	6,092.47	6,092.16	6,086.76	6,086.06	6,086.88	6,086.39	0.773	0.013
DPB2-1	Pipe - (108)	1.72	18.0	-	-	7.8	0.020	False	5.61	6,085.98	6,085.82	6,092.47	6,092.16	6,086.47	6,086.20	6,086.65	6,086.57	0.802	0.013
DPB13-1	Pipe - (109)	1.57	18.0	-	-	11.2	0.020	False	5.46	6,117.54	6,117.31	6,123.38	6,123.16	6,118.01	6,117.67	6,118.18	6,118.05	0.720	0.013
DPB13-2	Pipe - (110)	0.49	18.0	-	-	35.2	0.020	False	3.88	6,118.02	6,117.31	6,123.38	6,123.16	6,118.27	6,117.50	6,118.36	6,117.73	0.697	0.013
DPB3-1	Pipe - (111)	0.33	12.0	-	-	92.7	0.010	False	2.84	6,089.82	6,088.90	6,091.86	6,096.28	6,090.06	6,089.10	6,090.14	6,089.23	0.371	0.013
DPB7-2	Pipe - (112)	0.34	12.0	-	-	96.8	0.010	False	2.86	6,096.21	6,095.24	6,098.21	6,103.82	6,096.45	6,095.71	6,096.54	6,095.73	0.362	0.013
DPB7-1	Pipe - (113)	2.23	18.0	-	-	9.2	0.010	False	4.72	6,094.74	6,094.65	6,103.82	6,103.55	6,095.31	6,095.14	6,095.52	6,095.45	0.964	0.013
DPB8-1	Pipe - (114)	0.34	12.0	-	-	82.6	0.010	False	2.86	6,104.00	6,103.18	6,106.16	6,110.84	6,104.24	6,103.38	6,104.33	6,103.51	0.394	0.013
DPB4-4	Pipe - (115)	1.54	18.0	-	-	8.8	0.010	False	4.25	6,099.72	6,099.63	6,104.79	6,104.69	6,100.19	6,100.12	6,100.35	6,100.22	0.617	0.013
DPB4-3	Pipe - (116)	1.54	18.0	-	-	64.4	0.010	False	4.25	6,099.44	6,098.79	6,104.69	6,103.64	6,099.90	6,099.34	6,100.07	6,099.42	0.651	0.013
DPB4-2	Pipe - (117)	2.06	18.0	-	-	75.3	0.010	False	4.62	6,098.60	6,097.84	6,103.64	6,102.72	6,099.14	6,098.62	6,099.34	6,098.69	0.264	0.013
DPB4-1	Pipe - (118)	3.21	18.0	-	-	12.9	0.010	False	5.23	6,097.64	6,097.52	6,102.72	6,102.58	6,098.40	6,098.45	6,098.60	6,098.55	0.287	0.013
Structure - (330)	Pipe - (118) (2) (1)	3.21	18.0	-	-	71.1	0.010	False	5.23	6,097.52	6,096.80	6,102.58	6,102.05	6,098.20	6,097.37	6,098.46	6,097.80	0.200	0.013
DPB6-1	Pipe - (119)	0.52	18.0	-	-	42.6	0.020	False	3.94	6,099.64	6,098.79	6,104.67	6,103.64	6,099.91	6,099.38	6,100.00	6,099.39	0.649	0.013
DPB5-1	Pipe - (120)	1.16	18.0	-	-	9.2	0.020	False	5.00	6,098.03	6,097.84	6,103.00	6,102.72	6,098.63	6,098.65	6,098.67	6,098.67	0.605	0.013
DPB39-2	Pipe - (134)	1.42	12.0	-	-	-	0.042	False	7.19	6,132.78	6,131.52	6,139.19	6,139.13	6,133.28	6,132.51	6,133.48	6,132.56	1.190	0.013
DPB39-1	Pipe - (139)	1.33	18.0	-	-	-	0.035	False	6.37	6,132.08	6,131.72	6,139.20	6,139.13	6,132.51	6,132.53	6,132.67	6,132.55	0.897	0.013
DPB22-6	Pipe - (141)	30.26	42.0	-	-	43.7	0.020	False	11.73	6,098.65	6,097.78	6,109.17	6,109.35	6,100.35	6,100.04	6,101.01	6,100.32	0.200	0.013
DPB22-5	Pipe - (145)	32.09	42.0	-	-	46.2	0.020	False	11.92	6,097.58	6,096.66	6,109.35	6,108.86	6,099.33	6,098.91	6,100.02	6,099.22	0.271	0.013
DPB22-4	Pipe - (146)	32.90	42.0	-	-	325.4	0.020	False	12.03	6,096.47	6,089.97	6,108.86	6,099.90	6,098.25	6,091.11	6,098.95	6,093.36	0.209	0.013
DPB07-2	Pipe - (147) (1)	5.41	18.0	-	-	114.8	0.024	False	8.26	6,128.51	6,125.77	6,134.90	6,133.24	6,129.41	6,126.37	6,129.78	6,127.43	1.019	0.013
DPB22-3	Pipe - (150)	39.76	48.0	-	-	303.1	0.020	False	12.54	6,086.49	6,080.43	6,099.90	6,091.56	6,088.37	6,081.63	6,089.10	6,084.07	0.200	0.013
DPB22-2	Pipe - (153)	44.20	48.0	-	-	255.3	0.020	False	12.92	6,078.02	6,072.91	6,091.56	6,086.00	6,080.01	6,074.18	6,080.79	6,075.68	0.200	0.013
DPC3-1	Pipe - (155)	0.89	18.0	-	-	35.2	0.020	False	4.63	6,130.92	6,130.22	6,135.62	6,135.39	6,131.27	6,130.47	6,131.40	6,130.80	0.590	0.013
DPB11-6	Pipe - (166)	2.20	18.0	-	-	9.2	0.025	False	6.52	6,117.63	6,117.40	6,123.08	6,122.98	6,118.22	6,118.33	6,118.40	6,118.38	0.648	0.013
DPB11-5	Pipe - (179)	3.76	18.0	-	-	343.1	0.025	False	7.60	6,117.21	6,108.63	6,122.98	6,113.61	6,117.95	6,109.12	6,118.24	6,110.01	0.429	0.013
DPB11-4	Pipe - (180)	7.57	30.0	-	-	106.6	0.005	False	4.97	6,107.63	6,107.10	6,113.61	6,115.66	6,108.54	6,108.17	6,108.88	6,108.34	0.390	0.013
DPB11-3	Pipe - (181)	7.57	30.0	-	-	27.8	0.005	False	4.99	6,106.89	6,106.75	6,115.66	6,116.84	6,107.81	6,107.83	6,108.14	6,108.00	0.386	0.013
DPB07-3	Pipe - (182)	5.41	18.0	-	-	-	0.020	False	7.76	6,129.03	6,128.71	6,134.83	6,134.90	6,129.93	6,130.07	6,130.30	6,130.22	0.949	0.013
DPB11-2	Pipe - (189)	7.57	30.0	-	-	76.3	0.005	False	4.96	6,106.55	6,106.17	6,116.84	6,108.97	6,107.47	6,107.41	6,107.80	6,107.54	0.386	0.013
Structure - (329)	Pipe - (189) (1)	7.57	30.0	-	-	98.6	0.005	False	4.96	6,106.17	6,105.68	6,108.97	6,120.83	6,107.09	6,106.56	6,107.42	6,106.94	0.200	0.013
DPB15-3	Pipe - (200)	2.36	18.0	-	-	40.4	0.050	False	8.51	6,081.75	6,079.73	6,089.01	6,089.01	6,082.33	6,080.70	6,082.55	6,080.76	0.818	0.013
DPB15-2	Pipe - (201)	3.91	18.0	-	-	64.4	0.050	False	9.85	6,079.54	6,076.32	6,089.01	6,085.35	6,080.29	6,077.36	6,080.59	6,077.48	0.482	0.013
Structure - (317)	Pipe - (201) (1)	3.91	18.0	-	-	23.9	0.050	False	9.85	6,076.32	6,075.13	6,085.35	6,083.79	6,077.07	6,076.33	6,077.37	6,076.42	0.204	0.013
DPB16-2	Pipe - (202)	2.26	18.0	-	-	25.7	0.020	False	6.07	6,077.29	6,076.77	6,084.41	6,084.15	6,077.85	6,077.18	6,078.07	6,077.71	0.699	0.013
DPB16-1	Pipe - (204)	0.61	18.0	-	-	4.4	0.020	False	4.13	6,076.86	6,076.77	6,084.41	6,084.15	6,077.15	6,077.00	6,077.25	6,077.20	0.982	0.013
DPB16-3	Pipe - (206)	0.50	18.0	-	-	25.1	0.020	False	3.90	6,078.08	6,077.58	6,085.69	6,084.41	6,078.35	6,078.21	6,078.44	6,078.22	0.996	0.013
DPB17-2	Pipe - (206) (1)	0.88	18.0	-	-	31.2	0.020	False	4.61	6,084.82	6,084.19	6,091.57	6,091.30	6,085.17	6,084.44	6,085.29	6,084.77	0.864	0.013
DPB18-1	Pipe - (207)	1.96	18.0	-	-	11.2	0.020	False	5.83	6,090.53	6,090.30	6,096.09	6,095.70	6,091.05	6,090.70	6,091.25	6,091.12	0.671	0.013
DPB18-2	Pipe - (208)	1.09	18.0	-	-	33.7	0.015	False	4.43	6,090.81	6,090.30	6,095.84	6,095.70	6,091.20	6,090.60	6,091.34	6,090.90	0.211	0.013
DPB19-1	Pipe - (210)	1.61	18.0	-	-	86.5	0.010	False	4.30	6,099.20	6,098.34	6,104.56	6,105.48	6,099.68	6,098.73	6,099.85	6,098.89	0.666	0.013
DPB20-1	Pipe - (211)	1.41	18.0	-	-	9.2	0.020	False	5.29	6,099.58	6,099.40	6,104.85	6,104.56	6,100.03	6,099.92	6,100.19	6,100.00	0.647	0.013
DPB24-2	Pipe - (222)	0.49	18.0	-	-	31.2	0.020	False	3.88	6,085.62	6,084.99	6,090.33	6,090.24	6,085.87	6,085.67	6,085.96	6,085.67	0.610	0.013
DPB24-1	Pipe - (223)	1.39	18.0	-	-	9.2	0.020	False	5.27	6,085.18	6,084.99	6,090.34	6,090.24	6,085.62	6,085.64	6,085.78	6,085.69	0.634	0.013
DPB23-2	Pipe - (228)	1.88	18.0	-	-	19.5	0.012	False	4.87	6,084.79	6,084.54	6,090.24	6,086.25	6,085.56	6,085.58	6,085.63	6,085.61	0.666	0.013
Structure - (469)	Pipe - (228) (1)	3.54	18.0	-	-	70.0	0.012	False	5.82	6,084.54	6,083.67	6,086.25	6,091.56	6,085.26	6,084.23	6,085.54	6,084.76	0.200	0.013
DPB23-1	Pipe - (230)	1.15	18.0	-	-	9.2	0.020	False	4.99	6,083.85	6,083.67	6,091.83	6,091.56	6,084.25	6,083.97	6,084.40	6,084.29	1.017	0.013
DPC4-8	Pipe - (231)	1.32	18.0	-	-	82.3	0.050	False	7.17	6,130.38	6,126.27	6,136.96	6,135.82	6,130.81	6,126.51	6,130.96	6,127.31	0.439	0.013
DPC5-1	Pipe - (232)	2.24	18.0	-	-	68.3	0.010	False	4.73	6,120.11	6,119.43	6,136.43	6,135.82	6,120.68	6,120.39	6,120.89	6,120.44	0.200	0.013
DPC5-2	Pipe - (233)	2.24	18.0	-	-	51.6	0.010	False	4.73	6,120.83	6,120.32	6,135.88	6,136.43	6,121.40	6,120.79	6,121.61	6,121.00	0.200	0.013
DPB15-1	Pipe - (238)	5.40	18.0	-	-	29.7	0.050	False	10.79	6,074.92	6,073.44	6,083.79	6,083.53	6,075.82	6,073.97	6,076.19	6,075.44	0.513	0.013
DPB32-1	Pipe - (242)	0.92	18.0	-	-	31.2	0.020	False	4.67	6,097.20	6,096.57	6,103.19	6,103.51	6,097.55	6,097.04	6,097.68	6,097.09	0.762	0.013
DPB31-3	Pipe - (244)	0.57	18.0	-	-	9.2	0.025	False	4.38	6,098.85	6,098.62	6,105.08	6,104.99	6,099.13	6,098.82	6,099.23	6,099.00	0.808	0.013
DPB30-3	Pipe - (248)	1.12	18.0	-	-	9.5	0.022	False	5.13	6,097.24	6,097.03	6,104.80	6,104.63	6,097.64	6,097.32	6,097.78	6,097.50	0.962	0.013
DPB30-2	Pipe - (249)	1.12	18.0	-	-	71.3	0.023	False	5.20	6,096.83	6,095.19	6,104.63	6,102.62	6,097.23	6,095.92	6,097.37	6,095.95	0.573	0.013
DPB30-1	Pipe - (250)	2.60	18.0	-	-	83.5	0.023	False	6.64	6,094.99	6,093.07	6,102.62	6,100.69	6,095.60	6,093.90	6,095.83	6,093.99	0.452	0.013
Structure - (333)	Pipe - (250) (1)	2.60	18.0	-	-	48.0	0.023	False	6.64	6,093.07	6,091.97	6,100.69	6,099.90	6,093.68	6,092.38	6,093.91	6,093.06	0.200	0.013
DPB31-1	Pipe - (251)	1.49	18.0	-	-	47.4	0.025	False	5.82	6,096.38	6,095.19	6,103.51	6,102.62	6,096.83	6,095.91	6,097.00	6,095.95	0.450	0.013
DPB29-1	Pipe - (252)	2.75	18.0	-	-	9.9	0.019	False	6.25	6,090.81	6,090.62	6,095.90	6,095.80	6,091.44	6,091.51	6,091.67	6,091.60	0.587	0.013
DPB27-2	Pipe - (253)	3.51	18.0	-	-	139.3	0.010	False	5.36	6,090.42	6,089.02	6,095.80	6,098.45	6,091.14	6,090.20	6,091.41	6,090.28	0.530	0.013
DPB27-1																			

	Pipe - (254)	5.48	18.0	-	-	13.5	0.010	False	6.01	6,088.82	6,088.69	6,098.45	6,098.81	6,089.99	6,089.99	6,090.20	6,090.15	0.200	0.013
Structure - (332)	Pipe - (254) (1)	5.48	18.0	-	-	70.0	0.010	False	6.01	6,088.69	6,087.99	6,098.81	6,099.90	6,089.59	6,089.13	6,089.97	6,089.32	0.310	0.013
DPB28-1	Pipe - (255)	1.99	18.0	-	-	9.2	0.020	False	5.85	6,090.71	6,090.52	6,098.76	6,098.45	6,091.24	6,090.93	6,091.43	6,091.34	1.002	0.013
DPB33-1	Pipe - (256)	0.83	18.0	-	-	61.5	0.025	False	4.90	6,103.97	6,102.43	6,109.89	6,108.86	6,104.31	6,102.66	6,104.43	6,103.03	0.755	0.013
DPB29-2	Pipe - (257)	0.76	18.0	-	-	33.3	0.019	False	4.31	6,091.25	6,090.62	6,095.93	6,095.80	6,091.57	6,091.56	6,091.68	6,091.56	0.593	0.013
DPB10-7	Pipe - (258) (1)	19.40	36.0	-	-	78.7	0.035	False	12.84	6,156.00	6,153.24	6,159.34	6,169.88	6,157.42	6,154.08	6,157.96	6,156.36	0.200	0.013
Structure - (492)	Pipe - (258) (1) (1)	20.07	36.0	-	-	283.2	0.040	False	13.58	6,134.96	6,123.64	6,164.92	6,143.69	6,136.40	6,124.43	6,136.96	6,127.30	0.425	0.013
Structure - (493)	Pipe - (258) (1) (1) (1)	20.07	36.0	-	-	184.0	0.028	False	11.92	6,121.64	6,116.54	6,143.69	6,131.72	6,123.08	6,118.37	6,123.64	6,118.62	0.200	0.013
Structure - (494)	Pipe - (258) (1) (1) (1) (1)	21.99	36.0	-	-	18.7	0.005	False	6.55	6,112.27	6,112.18	6,125.01	6,127.28	6,114.26	6,114.25	6,114.56	6,114.49	0.200	0.013
Structure - (503)	Pipe - (258) (1) (1) (1) (1) (1)	23.19	42.0	-	-	143.8	0.008	False	7.84	6,111.40	6,110.25	6,127.28	6,125.55	6,112.88	6,112.19	6,113.44	6,112.42	0.200	0.013
Structure - (504)	Pipe - (258) (1) (1) (1) (1) (2)	23.05	36.0	-	-	40.3	0.005	False	6.63	6,112.10	6,111.90	6,127.28	6,127.28	6,113.65	6,113.38	6,114.26	6,113.76	0.219	0.013
Structure - (507)	Pipe - (258) (1) (1) (1) (2)	21.86	36.0	-	-	20.0	0.010	False	8.45	6,112.83	6,112.63	6,128.18	6,125.01	6,114.34	6,114.44	6,114.93	6,114.74	0.200	0.013
Structure - (511)	Pipe - (258) (1) (1) (1) (3)	21.22	36.0	-	-	118.7	0.028	False	12.14	6,116.34	6,113.03	6,131.72	6,128.18	6,117.83	6,114.88	6,118.40	6,115.16	0.200	0.013
Structure - (495)	Pipe - (258) (1) (2)	19.40	36.0	-	-	14.9	0.040	False	13.45	6,151.24	6,150.65	6,169.88	6,170.18	6,152.65	6,151.64	6,153.20	6,153.04	0.351	0.013
Structure - (513)	Pipe - (258) (1) (2) (1)	20.07	36.0	-	-	165.8	0.034	False	12.83	6,148.65	6,143.00	6,170.18	6,164.92	6,150.09	6,143.82	6,150.65	6,146.38	0.200	0.013
DPB10-6	Pipe - (260)	23.19	42.0	-	-	176.8	0.015	False	9.72	6,110.05	6,107.48	6,125.55	6,120.53	6,111.53	6,109.32	6,112.09	6,109.58	0.424	0.013
Structure - (478)	Pipe - (260) (1)	24.20	42.0	-	-	88.3	0.020	False	11.03	6,107.28	6,105.51	6,120.53	6,117.61	6,108.79	6,106.52	6,109.36	6,108.23	0.200	0.013
DPB22-10	Pipe - (263)	23.02	36.0	-	-	26.3	0.020	False	11.02	6,127.94	6,127.42	6,131.28	6,133.12	6,129.49	6,128.58	6,130.10	6,129.86	0.219	0.013
DPB22-9	Pipe - (263) (1) (1)	24.47	36.0	-	-	20.6	0.030	False	12.91	6,124.88	6,124.27	6,133.12	6,133.24	6,126.48	6,125.97	6,127.11	6,126.37	0.240	0.013
DPB07-1	Pipe - (263) (1) (2)	29.07	42.0	-	-	19.7	0.020	False	11.67	6,123.77	6,123.37	6,133.24	6,133.12	6,125.43	6,124.66	6,126.08	6,125.93	0.200	0.013
DPB22-8	Pipe - (265)	29.37	42.0	-	-	168.1	0.033	False	13.88	6,118.86	6,113.37	6,133.12	6,122.22	6,120.53	6,114.32	6,121.18	6,117.32	0.200	0.013
DPB22-7	Pipe - (266)	29.37	42.0	-	-	213.1	0.037	False	14.45	6,106.79	6,099.01	6,122.22	6,109.17	6,108.46	6,100.93	6,109.11	6,101.29	0.266	0.013
DPC6-1	Pipe - (272)	0.89	18.0	-	-	14.6	0.020	False	4.63	6,130.86	6,130.57	6,137.37	6,136.96	6,131.21	6,130.99	6,131.34	6,131.05	0.831	0.013
DPC6-2	Pipe - (273)	0.43	18.0	-	-	31.2	0.020	False	4.47	6,131.20	6,130.57	6,137.31	6,136.96	6,131.44	6,131.02	6,131.52	6,131.03	0.799	0.010
DPB11-9	Pipe - (274)	1.60	18.0	-	-	9.2	0.010	False	4.29	6,132.80	6,132.71	6,137.79	6,137.21	6,133.28	6,133.21	6,133.45	6,133.32	0.604	0.013
DPC5-6	Pipe - (277)	1.99	18.0	-	-	35.2	0.010	False	4.57	6,125.75	6,125.40	6,129.78	6,130.50	6,126.29	6,125.84	6,126.48	6,126.06	0.464	0.013
DPC5-5	Pipe - (278)	1.99	18.0	-	-	273.7	0.010	False	4.57	6,125.20	6,122.47	6,130.50	6,134.88	6,125.74	6,123.05	6,125.93	6,123.16	0.385	0.013
DPC2-2	Pipe - (280) (1)	4.93	18.0	-	-	26.8	0.020	False	7.55	6,102.47	6,101.94	6,108.21	6,108.66	6,103.33	6,102.56	6,103.68	6,103.14	0.875	0.013
DPB11-8	Pipe - (281)	1.60	18.0	-	-	137.3	0.033	False	6.53	6,132.51	6,128.03	6,137.21	6,129.74	6,132.99	6,128.67	6,133.16	6,128.74	0.667	0.013
Structure - (522)	Pipe - (281) (4)	1.60	18.0	-	-	30.6	0.033	False	6.53	6,128.03	6,127.03	6,129.74	6,133.45	6,128.51	6,127.33	6,128.68	6,127.58	0.200	0.013
DPB11-7	Pipe - (282)	1.60	18.0	-	-	343.1	0.027	False	6.15	6,126.83	6,117.40	6,133.45	6,122.98	6,127.31	6,118.34	6,127.48	6,118.37	0.200	0.013
DPB15-4	Pipe - (283)	0.71	18.0	-	-	98.2	0.040	False	5.52	6,085.88	6,081.95	6,091.02	6,089.01	6,086.19	6,082.72	6,086.30	6,082.73	0.657	0.013
Structure - (302)	Pipe - (284)	0.20	18.0	-	-	29.7	0.020	False	2.95	6,099.99	6,099.40	6,103.99	6,104.56	6,100.16	6,099.97	6,100.21	6,099.97	0.533	0.013
DPB31-2	Pipe - (285)	0.57	18.0	-	-	74.1	0.025	False	4.38	6,098.42	6,096.57	6,104.99	6,103.51	6,098.70	6,097.06	6,098.80	6,097.08	0.666	0.013
DPB17-1	Pipe - (287)	0.31	18.0	-	-	7.7	0.020	False	3.37	6,084.36	6,084.20	6,091.57	6,091.30	6,084.56	6,084.36	6,084.63	6,084.52	0.953	0.013
DPB37-4	Pipe - (290)	1.76	18.0	-	-	29.8	0.050	False	7.80	6,114.49	6,113.00	6,121.56	6,121.50	6,114.99	6,113.54	6,115.17	6,113.65	0.877	0.013
DPB37-3	Pipe - (291)	1.76	18.0	-	-	89.1	0.040	False	7.22	6,112.81	6,109.24	6,121.50	6,117.39	6,113.30	6,109.54	6,113.49	6,109.83	0.660	0.013
DPB37-2	Pipe - (292)	1.76	18.0	-	-	123.1	0.030	False	6.52	6,109.04	6,105.35	6,117.39	6,112.35	6,109.54	6,105.67	6,109.72	6,105.94	0.200	0.013
DPB37-1	Pipe - (293)	1.76	18.0	-	-	63.7	0.020	False	5.64	6,105.16	6,103.88	6,112.35	6,110.81	6,105.66	6,104.56	6,105.84	6,104.63	0.200	0.013
Structure - (459)	Pipe - (293) (1)	1.76	18.0	-	-	45.6	0.020	False	5.64	6,103.88	6,102.97	6,110.81	6,109.98	6,104.38	6,103.81	6,104.56	6,103.86	0.200	0.013
DPA10A-1	Pipe - (305)	0.35	12.0	-	-	33.7	0.010	False	2.89	6,110.41	6,110.08	6,114.63	6,116.91	6,110.66	6,110.67	6,110.74	6,110.68	0.803	0.013
DPB18-3	Pipe - (312)	0.76	18.0	-	-	31.5	0.010	False	3.46	6,091.33	6,091.01	6,093.04	6,095.84	6,091.65	6,091.29	6,091.77	6,091.40	0.200	0.013
Structure - (479)	Pipe - (315)	18.00	36.0	-	-	71.4	0.005	False	6.31	6,083.39	6,083.02	6,096.77	6,086.36	6,084.75	6,084.29	6,085.27	6,084.91	0.200	0.013
Structure - (512)	Pipe - (317)	0.69	18.0	-	-	47.0	0.040	True	5.47	6,114.91	6,113.03	6,125.57	6,128.18	6,115.22	6,115.04	6,115.33	6,115.05	1.393	0.013
DPB9-5	Pipie - (76)	4.48	30.0	-	-	54.4	0.011	False	5.71	6,114.49	6,113.88	6,120.06	6,119.66	6,115.19	6,114.74	6,115.44	6,114.86	0.200	0.013

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Profile Report
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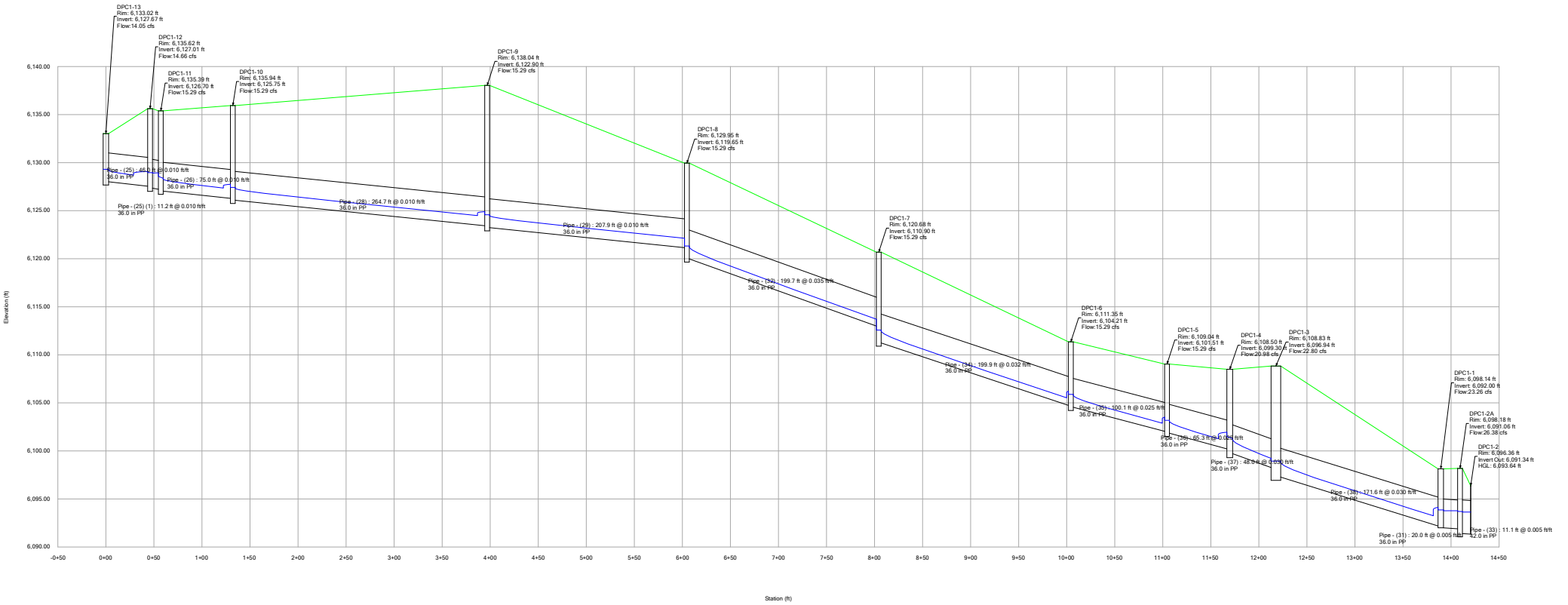

Profile Report
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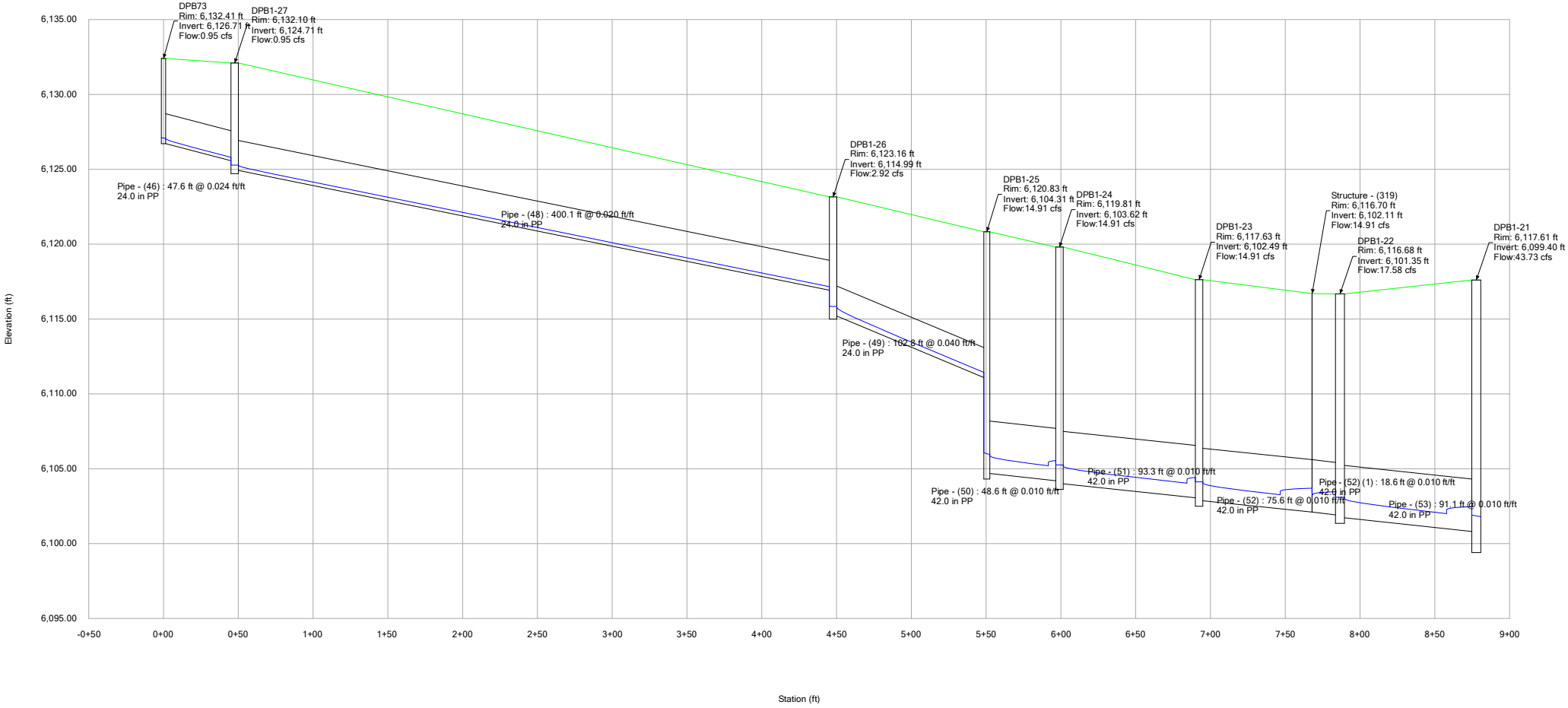

Profile Report

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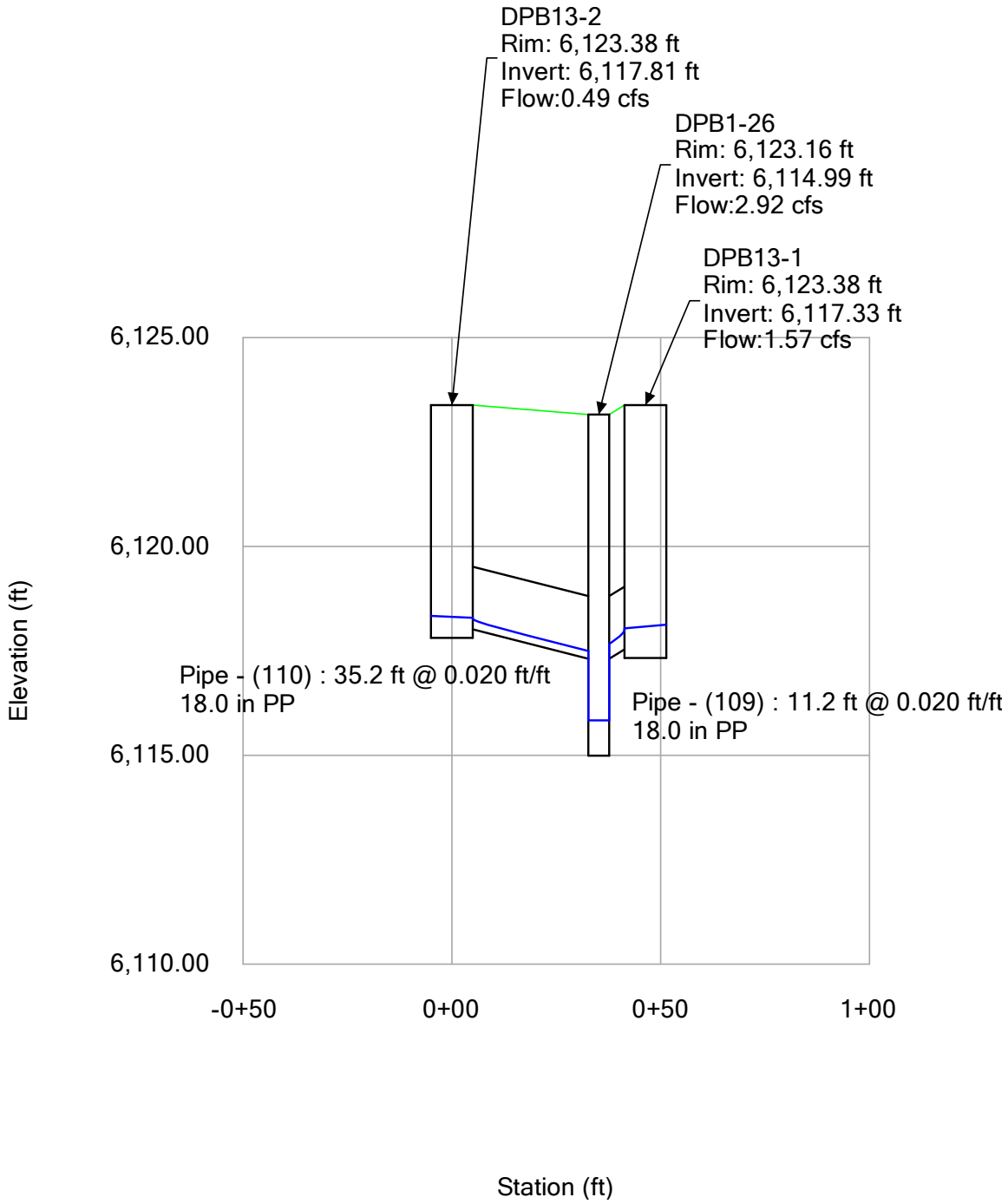

Profile Report

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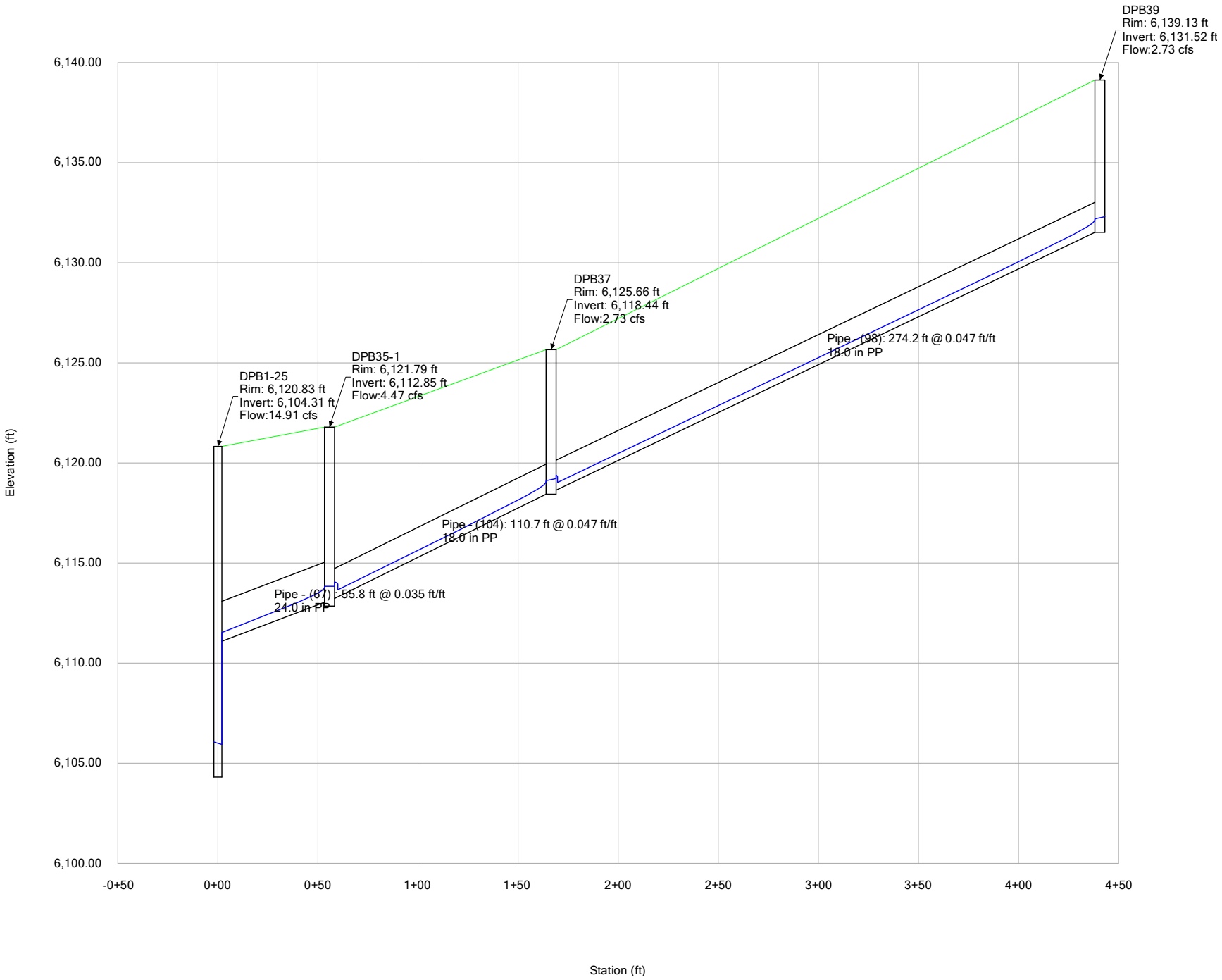

Profile Report

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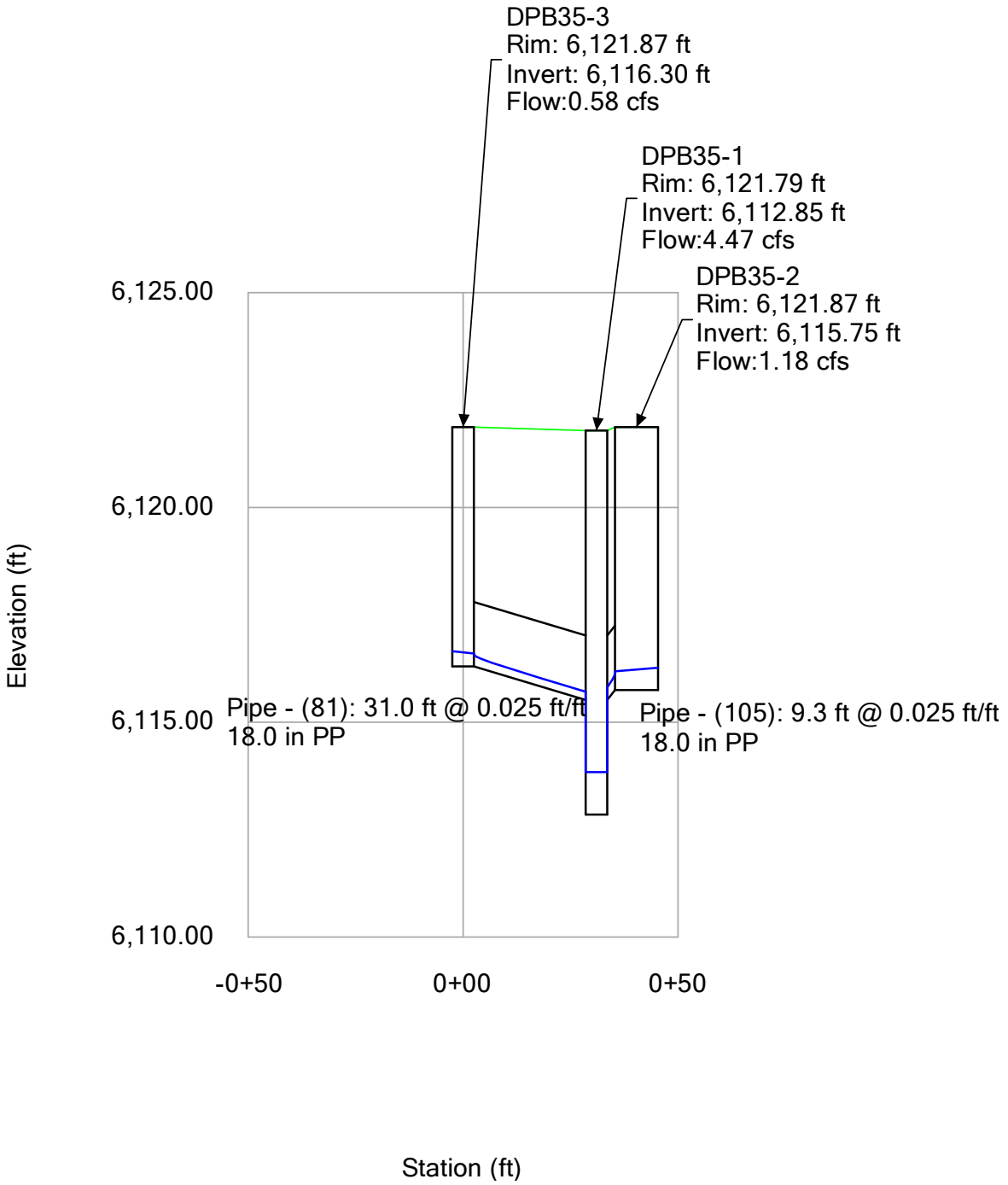

Profile Report

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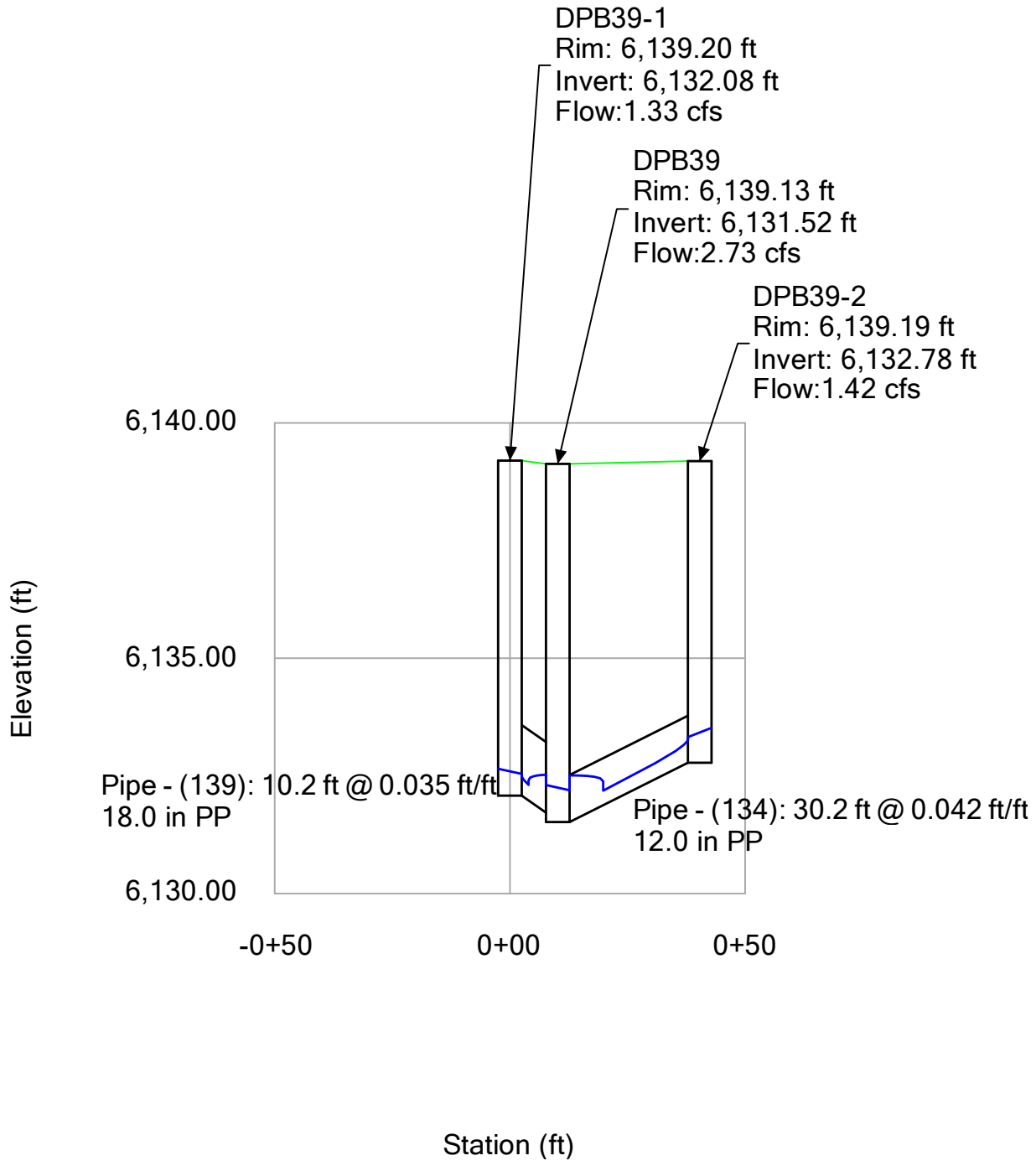

Profile Report

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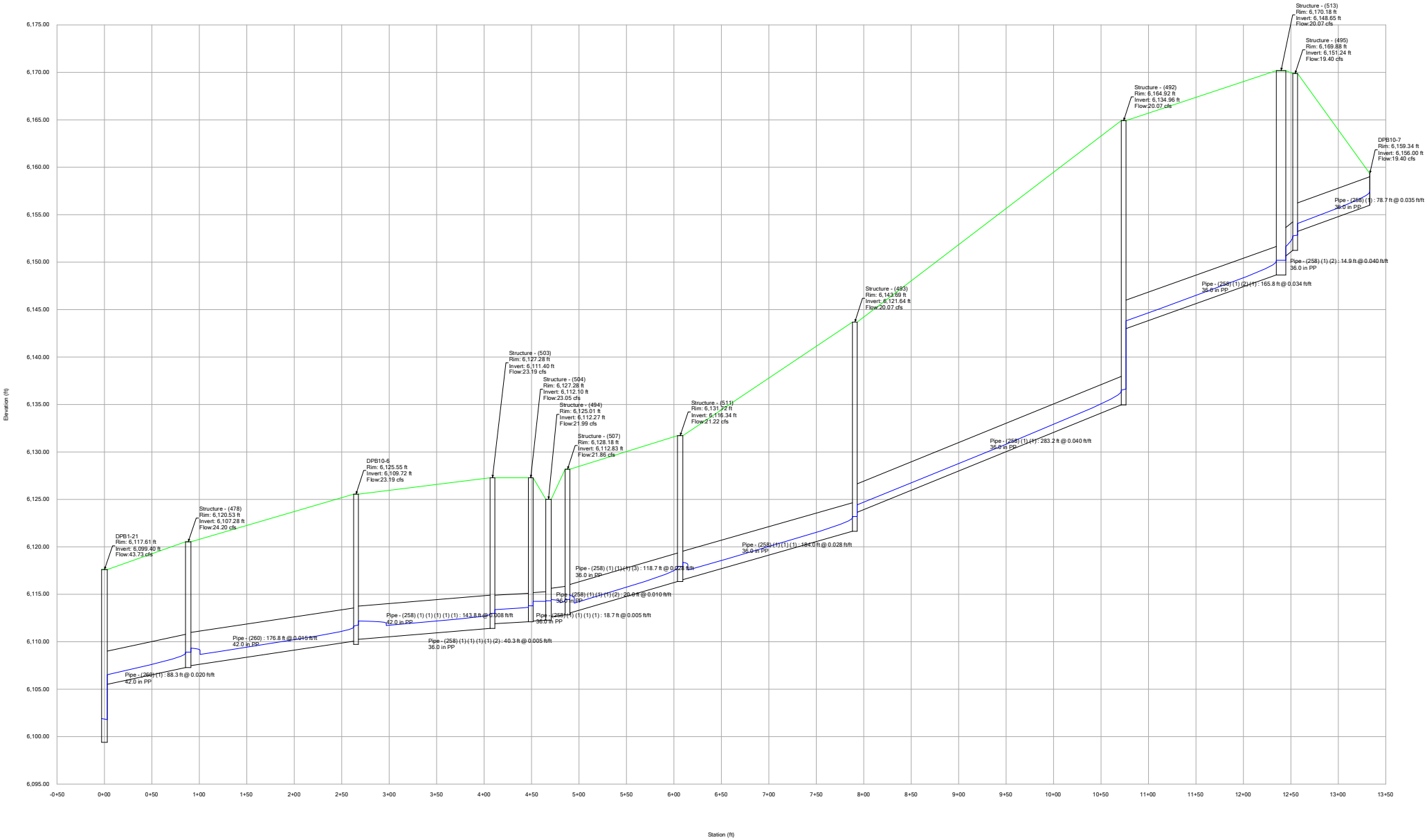

Profile Report

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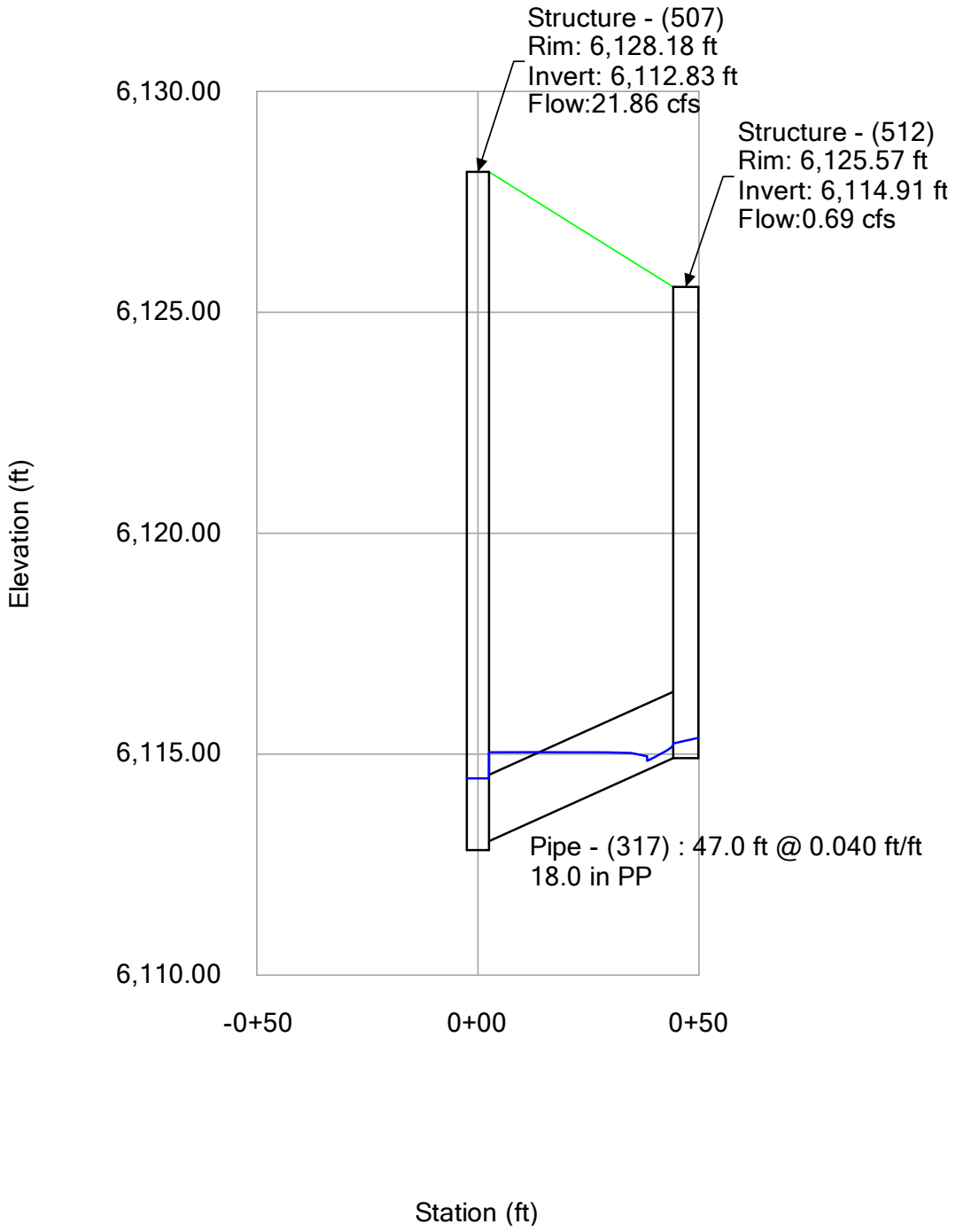

Profile Report
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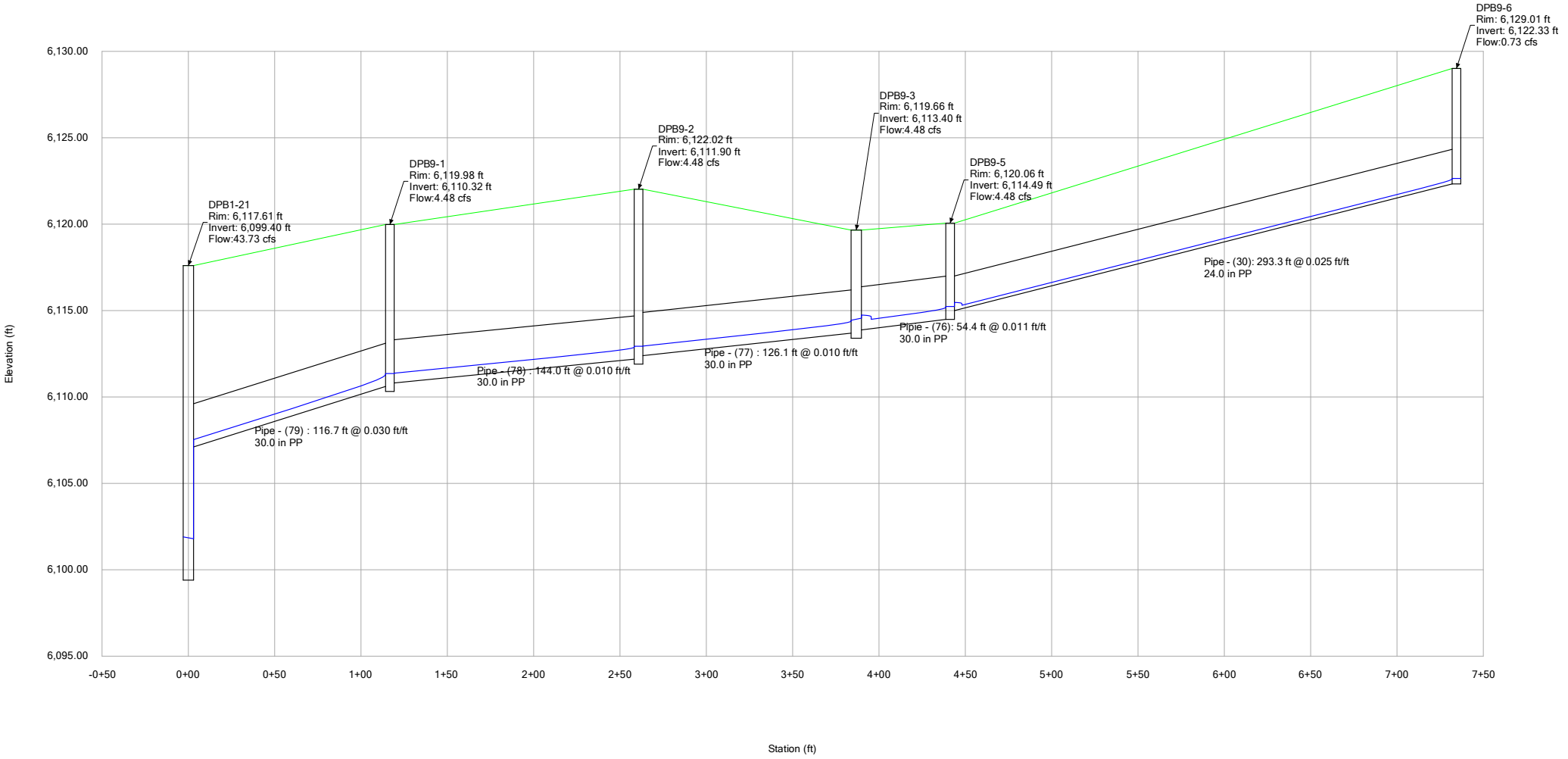

Profile Report

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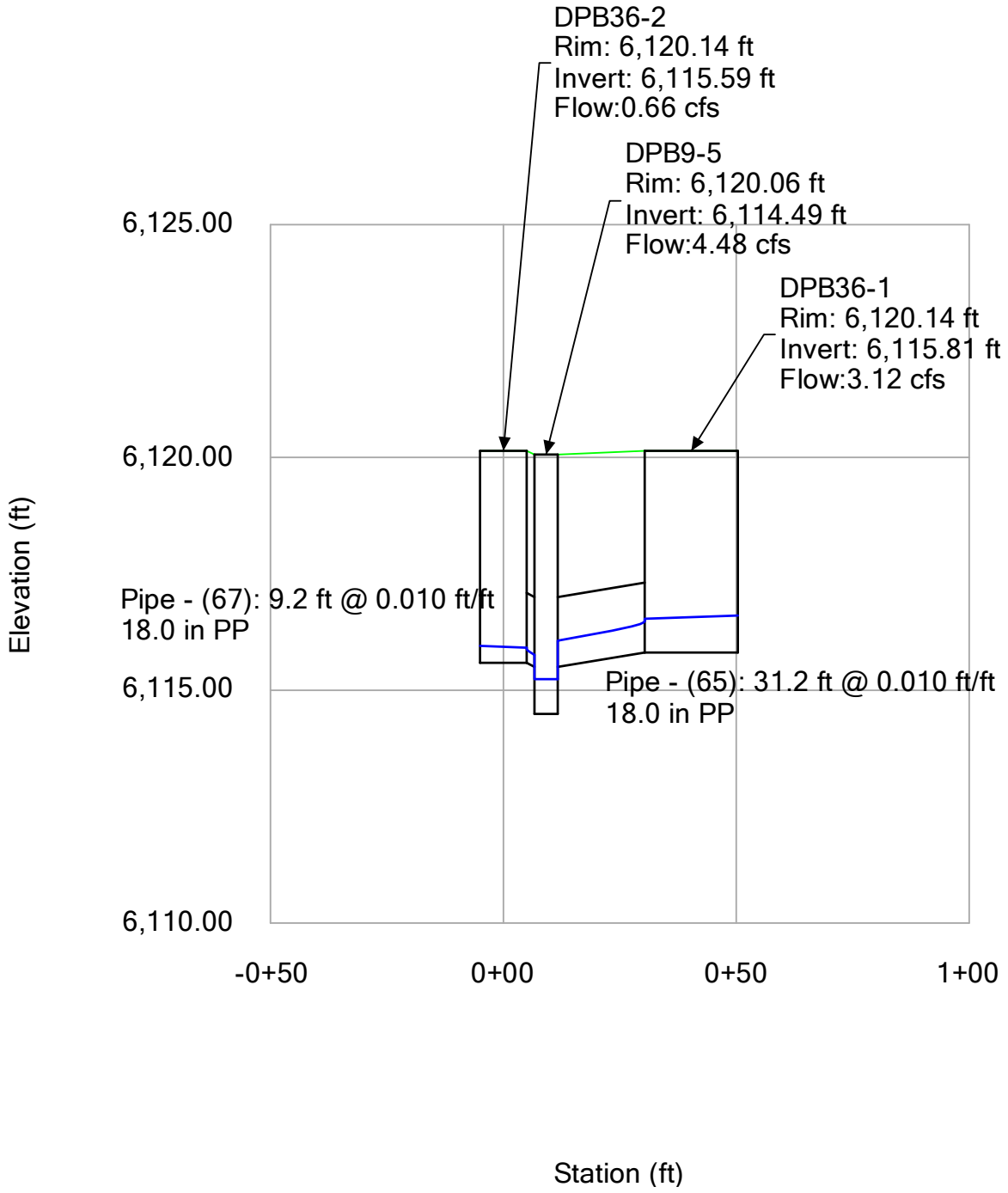

Profile Report

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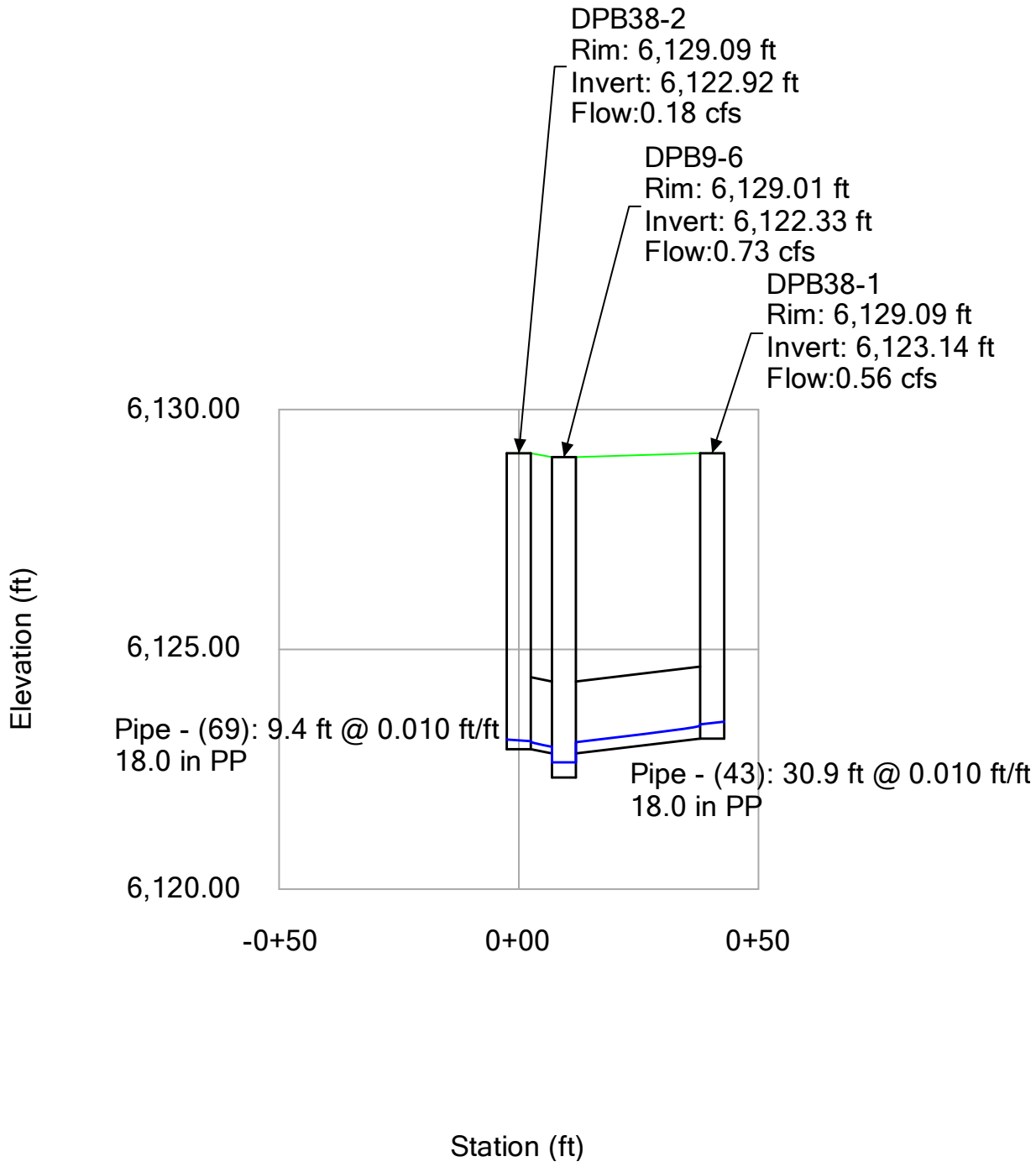

Profile Report

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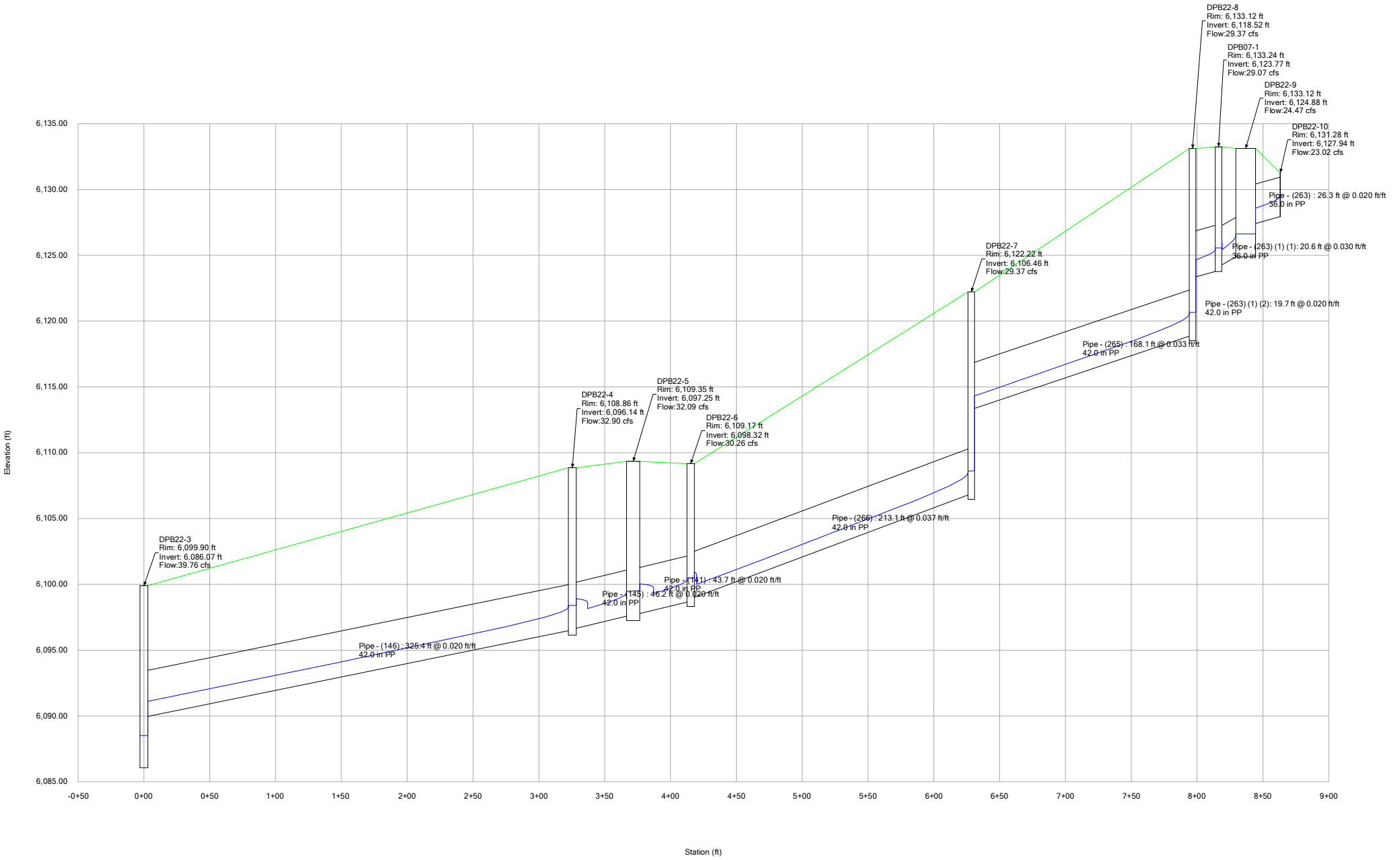

Profile Report

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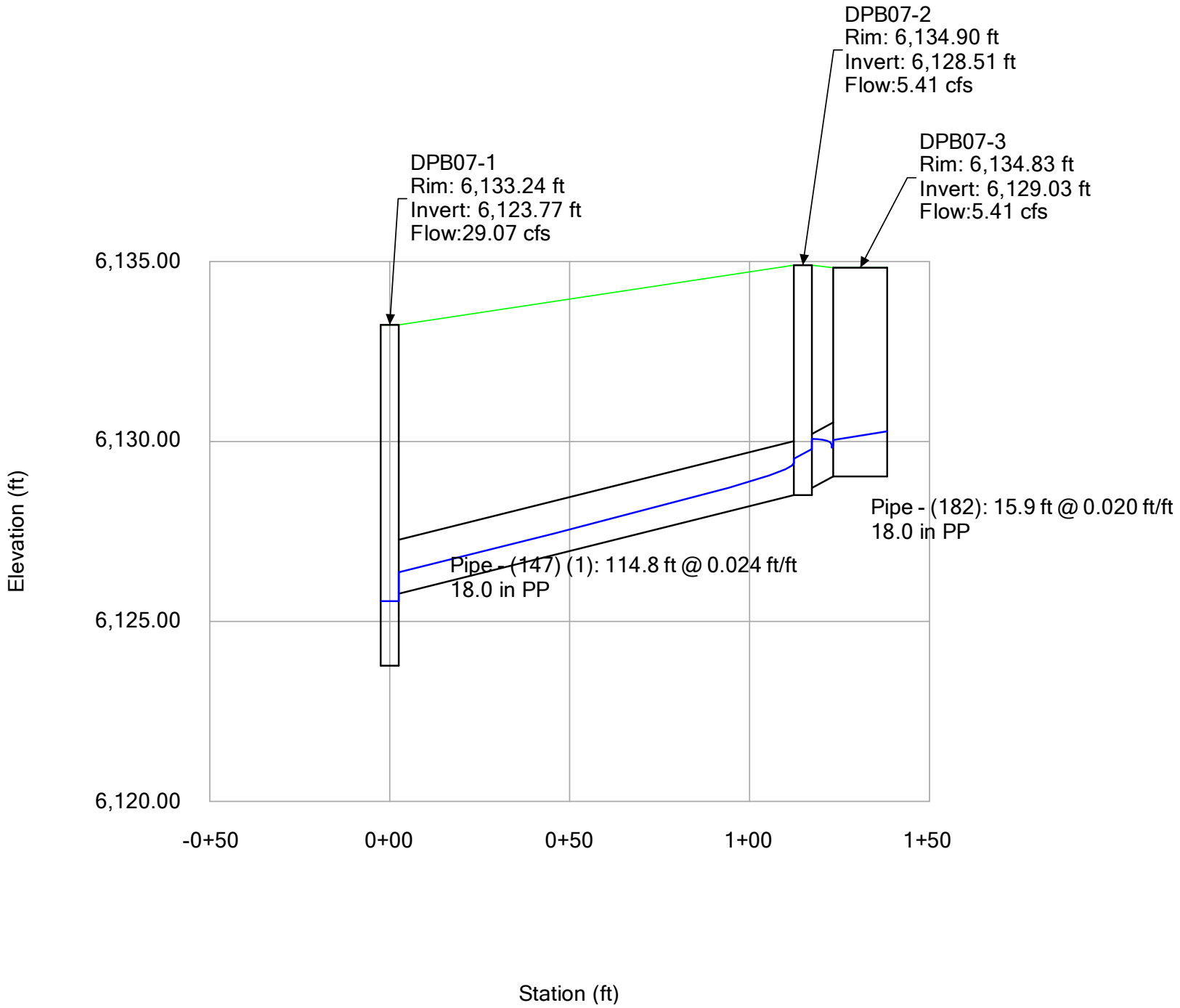

Profile Report
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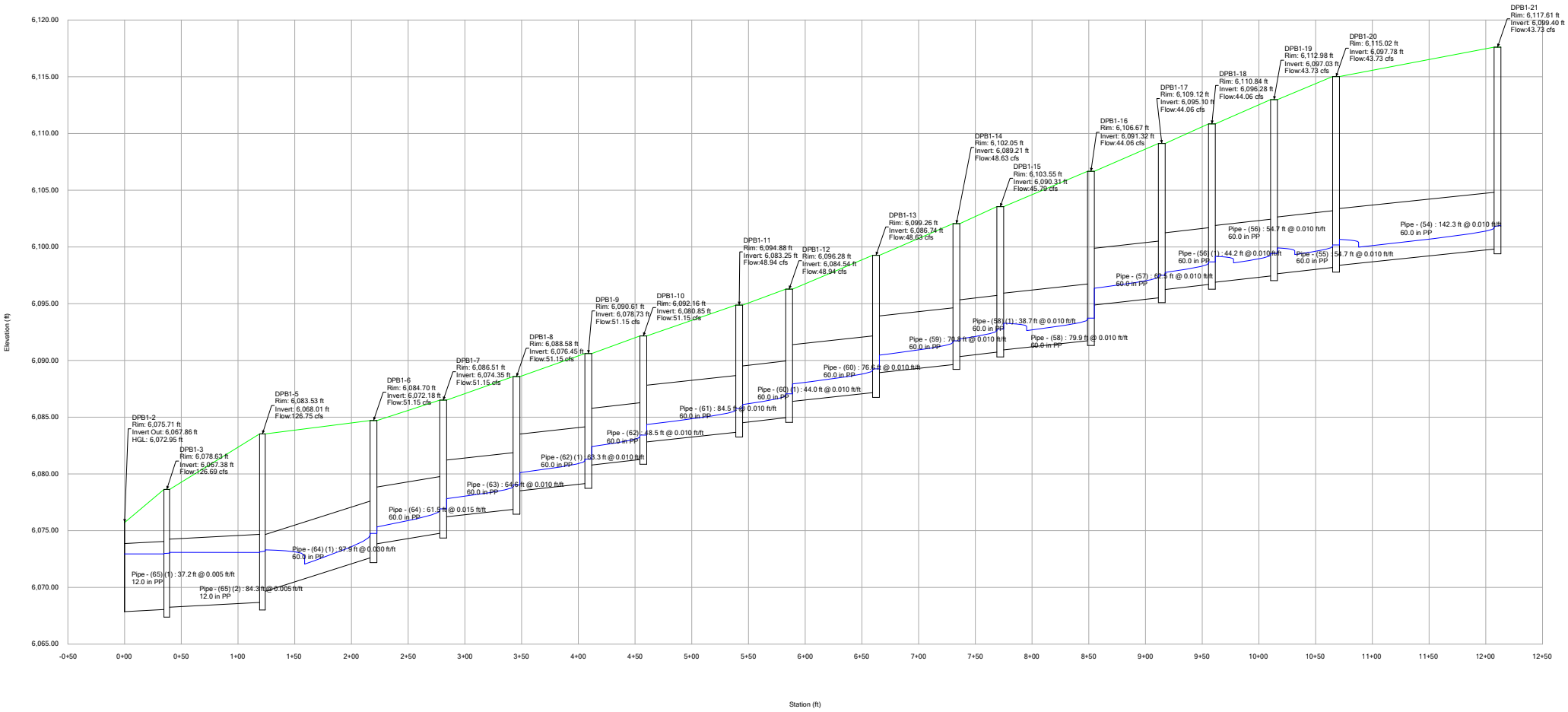
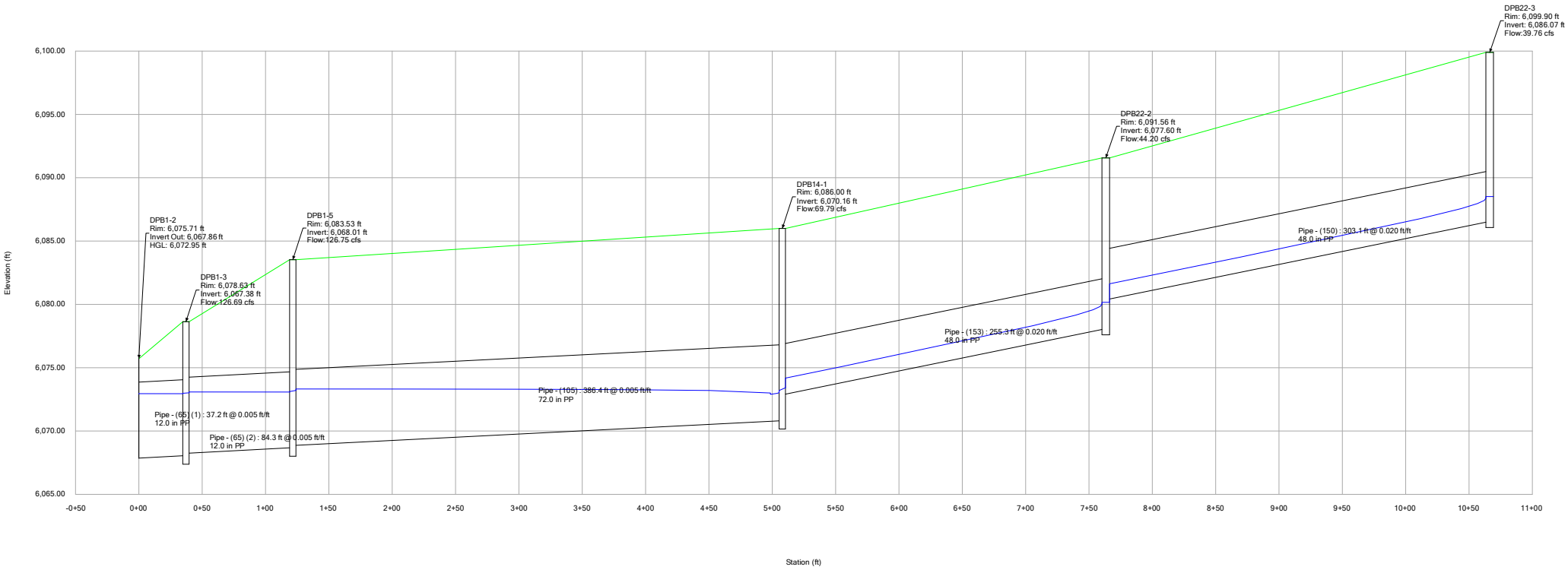
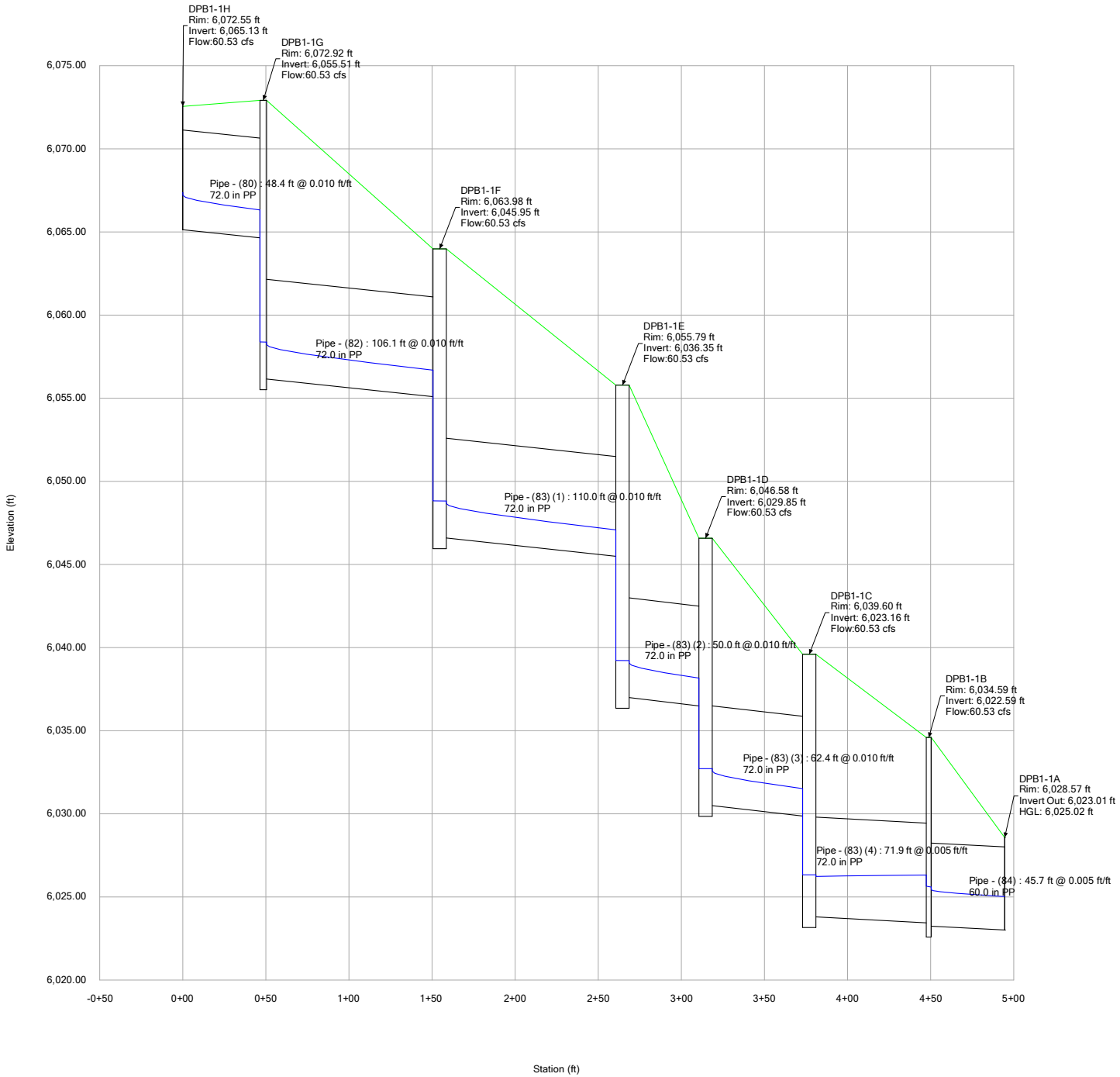


Profile Report
Engineering Profile - F3 DPB22-3 - POND B (Filing 2-3 Stormcad.stsw)



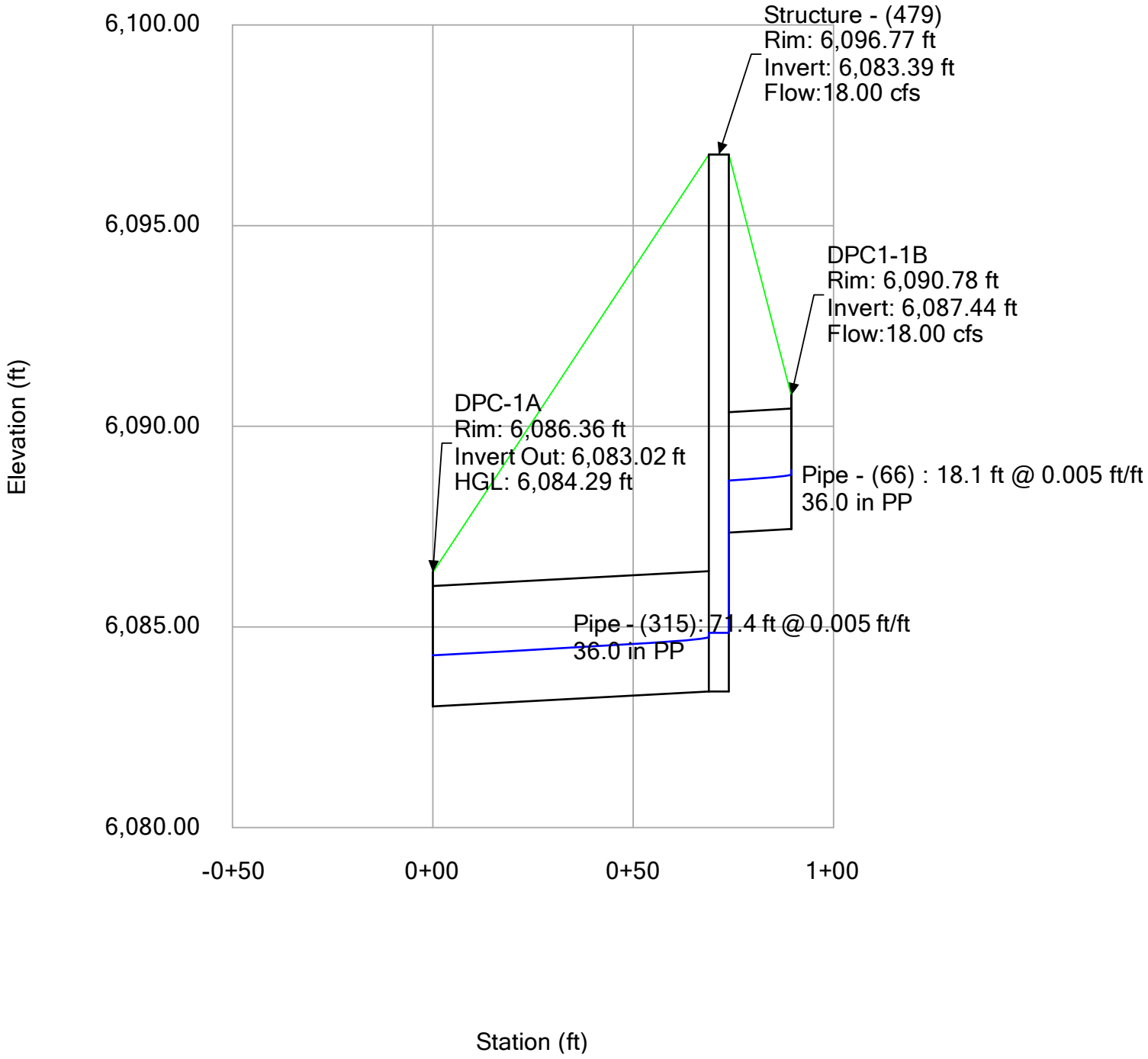
Profile Report

Engineering Profile - POND B OUTFALL (Filing 2-3 Stormcad.stsw)



Profile Report

Engineering Profile - POND C OUTFALL (Filing 2-3 Stormcad.stsw)



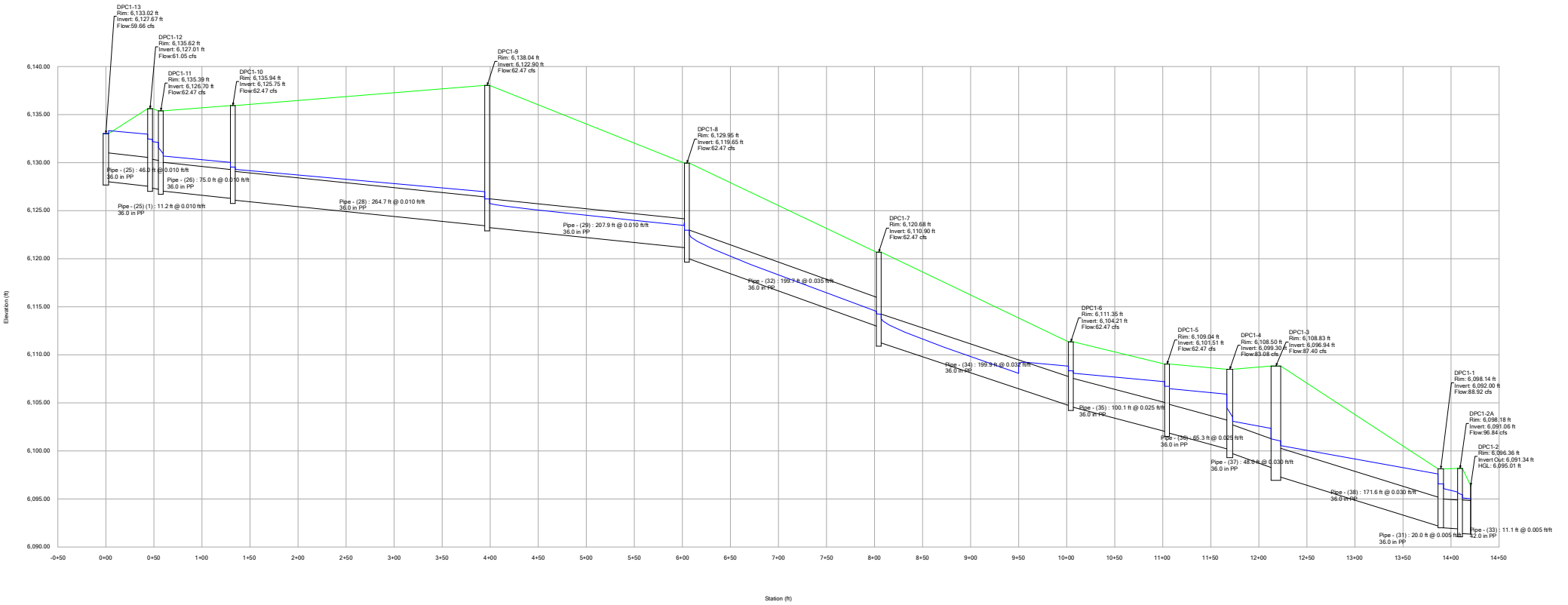
Scenario: 100-YEAR
Current Time Step: 0.000 h
Conduit FlexTable: Combined Pipe/Node Report

Upstream Structure	Label	Flow (cfs)	Diameter (in)	Rise (ft)	Span (ft)	Length (User Defined) (ft)	Slope (Calculated) (ft/ft)	Is Surcharged?	Velocity (ft/s)	Invert (Start) (ft)	Invert (Stop) (ft)	Elevation Ground (Start) (ft)	Elevation Ground (Stop) (ft)	HGL (In) (ft)	HGL (Out) (ft)	Energy Grade Line (In) (ft)	Energy Grade Line (Out) (ft)	Upstream Structure Headloss Coefficient	Manning's n
DPC1-13	Pipe - (25)	59.66	36.0	-	-	46.0	0.010	True	8.44	6,128.01	6,127.55	6,133.02	6,135.62	6,133.33	6,132.96	6,134.44	6,134.07	0.000	0.013
DPC1-12	Pipe - (25) (1)	61.05	36.0	-	-	11.2	0.010	True	8.64	6,127.34	6,127.23	6,135.62	6,135.39	6,132.19	6,132.09	6,133.35	6,133.25	0.240	0.013
DPC1-11	Pipe - (26)	62.47	36.0	-	-	75.0	0.010	True	8.84	6,127.03	6,126.28	6,135.39	6,135.94	6,130.68	6,130.03	6,131.90	6,131.24	0.736	0.013
DPC1-10	Pipe - (28)	62.47	36.0	-	-	264.7	0.010	True	8.84	6,126.08	6,123.44	6,135.94	6,138.04	6,129.30	6,126.98	6,130.51	6,128.19	0.200	0.013
DPC1-9	Pipe - (29)	62.47	36.0	-	-	207.9	0.010	False	10.72	6,123.23	6,121.15	6,138.04	6,129.95	6,125.78	6,123.72	6,127.26	6,124.94	0.298	0.013
DPB9-6	Pipe - (30)	1.73	24.0	-	-	-	0.025	False	5.87	6,122.33	6,115.00	6,129.01	6,120.06	6,122.79	6,116.34	6,122.95	6,116.34	0.668	0.013
DPC1-1	Pipe - (31)	88.92	36.0	-	-	20.0	0.005	True	12.58	6,092.00	6,091.90	6,098.14	6,098.18	6,096.08	6,095.72	6,098.54	6,098.18	0.200	0.013
DPC1-8	Pipe - (32)	62.47	36.0	-	-	199.7	0.035	False	17.65	6,119.98	6,113.00	6,129.95	6,120.68	6,122.52	6,114.52	6,124.01	6,116.27	0.298	0.013
DPC1-2A	Pipe - (33)	96.84	42.0	-	-	11.1	0.005	True	10.07	6,091.40	6,091.34	6,098.18	6,096.36	6,095.11	6,095.01	6,096.69	6,096.58	0.324	0.013
DPC1-7	Pipe - (34)	62.47	36.0	-	-	199.9	0.032	True	17.17	6,111.24	6,104.74	6,120.68	6,111.35	6,113.78	6,108.82	6,115.27	6,110.04	0.325	0.013
DPC1-6	Pipe - (35)	62.47	36.0	-	-	100.1	0.025	True	8.84	6,104.54	6,102.04	6,111.35	6,109.04	6,108.08	6,107.21	6,109.30	6,108.42	0.209	0.013
DPC1-5	Pipe - (36)	62.47	36.0	-	-	65.3	0.025	True	8.84	6,101.84	6,100.21	6,109.04	6,108.50	6,106.48	6,105.91	6,107.69	6,107.12	0.200	0.013
DPC1-4	Pipe - (37)	83.08	36.0	-	-	48.0	0.030	True	11.75	6,099.71	6,098.27	6,108.50	6,108.83	6,103.09	6,102.34	6,105.24	6,104.49	0.651	0.013
DPC1-3	Pipe - (38)	87.40	36.0	-	-	171.6	0.030	True	12.36	6,097.27	6,092.19	6,108.83	6,098.14	6,100.55	6,097.60	6,102.93	6,099.98	0.297	0.013
DPC2-1	Pipe - (39)	20.66	24.0	-	-	11.2	0.020	True	6.58	6,101.44	6,101.21	6,108.66	6,108.50	6,106.32	6,106.23	6,107.00	6,106.90	0.200	0.013
DPC5-4	Pipe - (40)	5.68	18.0	-	-	52.7	0.010	False	6.06	6,122.26	6,121.74	6,134.88	6,135.26	6,123.18	6,123.12	6,123.57	6,123.28	0.640	0.013
DPC5-3	Pipe - (41)	5.68	18.0	-	-	50.3	0.010	False	6.06	6,121.53	6,121.03	6,135.26	6,135.88	6,122.45	6,122.14	6,122.84	6,122.35	0.957	0.013
DPC4-3	Pipe - (42)	8.47	18.0	-	-	135.2	0.050	False	12.20	6,119.23	6,112.48	6,135.82	6,130.31	6,120.36	6,113.11	6,120.91	6,115.42	1.318	0.013
DPB38-1	Pipe - (43)	1.32	18.0	-	-	-	0.010	False	4.07	6,123.14	6,122.83	6,129.09	6,129.01	6,123.57	6,123.19	6,123.72	6,123.45	0.741	0.013
DPC4-2	Pipe - (44)	8.47	18.0	-	-	128.1	0.050	False	12.20	6,110.90	6,104.50	6,130.31	6,108.52	6,112.03	6,105.13	6,112.58	6,107.44	0.617	0.013
DPC4-1	Pipe - (44) (2)	8.47	18.0	-	-	27.7	0.015	True	7.77	6,095.64	6,095.23	6,108.52	6,096.94	6,097.11	6,096.94	6,097.47	6,098.28	1.001	0.013
Structure - (327)	Pipe - (44) (2) (1)	8.47	18.0	-	-	122.4	0.015	True	4.79	6,095.23	6,093.39	6,096.94	6,098.18	6,097.78	6,096.98	6,098.14	6,097.34	0.000	0.013
DPB73	Pipe - (46)	3.23	24.0	-	-	47.6	0.024	False	6.96	6,126.71	6,125.57	6,132.41	6,132.10	6,127.34	6,125.98	6,127.57	6,126.73	0.509	0.013
DPB1-27	Pipe - (48)	3.23	24.0	-	-	400.1	0.020	False	6.53	6,124.92	6,116.92	6,132.10	6,123.16	6,125.55	6,117.35	6,125.78	6,118.01	0.450	0.013
DPB1-26	Pipe - (49)	7.89	24.0	-	-	102.8	0.040	False	10.82	6,115.20	6,111.09	6,123.16	6,120.83	6,116.20	6,111.66	6,116.59	6,113.47	0.200	0.013
DPB1-25	Pipe - (50)	36.01	42.0	-	-	48.6	0.010	False	9.59	6,104.68	6,104.20	6,120.83	6,119.81	6,106.54	6,106.57	6,107.29	6,106.92	0.540	0.013
DPB1-24	Pipe - (51)	36.01	42.0	-	-	93.3	0.010	False	9.59	6,103.99	6,103.06	6,119.81	6,117.63	6,105.85	6,106.15	6,106.60	6,106.39	0.241	0.013
DPB1-23	Pipe - (52)	36.01	42.0	-	-	75.6	0.010	True	9.59	6,102.86	6,102.11	6,117.63	6,116.70	6,106.00	6,105.93	6,106.24	6,106.15	0.200	0.013
Structure - (319)	Pipe - (52) (1)	36.01	42.0	-	-	18.6	0.010	True	3.74	6,102.11	6,101.92	6,116.70	6,116.68	6,105.80	6,105.78	6,106.02	6,106.00	0.200	0.013
DPB1-22	Pipe - (53)	42.06	42.0	-	-	91.1	0.010	True	4.37	6,101.72	6,100.81	6,116.68	6,117.61	6,105.55	6,105.39	6,105.85	6,105.69	0.200	0.013
DPB1-21	Pipe - (54)	149.36	60.0	-	-	142.3	0.010	False	13.72	6,099.81	6,098.39	6,117.61	6,115.02	6,103.32	6,103.33	6,104.92	6,104.23	0.405	0.013
DPB1-20	Pipe - (55)	149.36	60.0	-	-	54.7	0.010	False	13.72	6,098.19	6,097.64	6,115.02	6,112.98	6,102.62	6,102.58	6,103.65	6,103.48	0.221	0.013
DPB1-19	Pipe - (56)	149.36	60.0	-	-	54.7	0.010	False	13.72	6,097.44	6,096.89	6,112.98	6,110.84	6,101.90	6,101.86	6,102.92	6,102.76	0.202	0.013
DPB1-18	Pipe - (56) (1)	150.29	60.0	-	-	44.2	0.010	False	13.74	6,096.69	6,096.25	6,110.84	6,109.12	6,100.47	6,100.67	6,101.86	6,101.58	0.390	0.013
DPB1-17	Pipe - (57)	150.29	60.0	-	-	62.5	0.010	False	13.74	6,095.51	6,094.89	6,109.12	6,106.67	6,099.03	6,097.86	6,100.64	6,100.23	0.356	0.013
DPB1-16	Pipe - (58)	150.29	60.0	-	-	79.9	0.010	True	13.74	6,091.73	6,090.93	6,106.67	6,103.55	6,096.08	6,095.99	6,097.15	6,096.90	0.268	0.013
DPB1-15	Pipe - (58) (1)	154.54	60.0	-	-	38.7	0.010	False	13.83	6,090.73	6,090.34	6,103.55	6,102.05	6,095.07	6,095.08	6,096.20	6,096.04	0.300	0.013
DPB1-14	Pipe - (59)	163.06	60.0	-	-	70.8	0.010	False	14.00	6,089.63	6,088.92	6,102.05	6,099.26	6,093.29	6,092.03	6,095.03	6,093.70	0.357	0.013
DPB1-13	Pipe - (60)	163.06	60.0	-	-	76.6	0.010	False	14.00	6,087.16	6,086.39	6,099.26	6,096.28	6,090.82	6,090.47	6,092.56	6,091.58	0.357	0.013
DPB1-12	Pipe - (60) (1)	169.70	60.0	-	-	44.0	0.010	False	14.13	6,084.95	6,084.51	6,096.28	6,094.88	6,089.06	6,089.15	6,090.56	6,090.32	0.384	0.013
DPB1-11	Pipe - (61)	169.70	60.0	-	-	84.5	0.010	False	14.13	6,083.66	6,082.82	6,094.88	6,092.16	6,087.40	6,087.05	6,089.21	6,088.22	0.356	0.013
DPB1-10	Pipe - (62)	182.01	60.0	-	-	48.5	0.010	False	14.35	6,081.27	6,080.78	6,092.16	6,090.61	6,085.13	6,084.81	6,087.07	6,086.17	0.349	0.013
DPB1-9	Pipe - (62) (1)	182.01	60.0	-	-	63.3	0.010	False	14.35	6,079.15	6,078.51	6,090.61	6,088.58	6,083.01	6,082.54	6,084.95	6,083.90	0.349	0.013
DPB1-8	Pipe - (63)	182.01	60.0	-	-	64.6	0.010	False	14.35	6,076.87	6,076.22	6,088.58	6,086.51	6,080.73	6,080.69	6,082.67	6,082.03	0.349	0.013
DPB1-7	Pipe - (64)	182.01	60.0	-	-	61.5	0.015	True	9.27	6,074.76	6,073.84	6,086.51	6,084.70	6,079.89	6,079.59	6,081.23	6,080.93	0.200	0.013
DPB1-6	Pipe - (64) (1)	182.01	60.0	-	-	97.9	0.030	True	9.27	6,072.60	6,069.66	6,084.70	6,083.53	6,078.79	6,078.31	6,080.13	6,079.65	0.200	0.013
DPB36-1	Pipe - (65)	8.19	18.0	-	-	-	0.010	False	6.56	6,115.81	6,115.50	6,120.14	6,120.06	6,116.92	6,116.51	6,117.45	6,117.16	0.690	0.013
DPB1-3	Pipe - (65) (1)	428.99	-	6.0	8.0	37.2	0.005	True	8.94	6,068.05	6,067.86	6,078.63	6,075.71	6,074.77	6,074.66	6,076.01	6,075.90	1.058	0.013
DPB1-5	Pipe - (65) (2)	459.17	-	6.0	8.0	84.3	0.005	True	9.57	6,068.67	6,068.25	6,083.53	6,078.63	6,076.76	6,076.47	6,078.18	6,077.89	0.655	0.013
DPC1-1B	Pipe - (66)	88.72	36.0	-	-	18.1	0.005	True	12.55	6,087.44	6,087.35	6,090.78	6,096.77	6,090.61	6,090.19	6,093.06	6,092.74	0.068	0.013
DPB36-2	Pipe - (67)	1.75	18.0	-	-	9.2	0.010	False	4.38	6,115.59	6,115.50	6,120.14	6,120.06	6,116.30	6,116.31	6,116.37	6,116.36	0.530	0.013
DPB35-1	Pipe - (67)	10.75	24.0	-	-	55.8	0.035	False	11.24	6,113.04	6,111.09	6,121.79	6,120.83	6,114.22	6,111.81	6,114.70	6,113.54	0.299	0.013
DPB38-2	Pipe - (69)	0.42	18.0	-	-	9.4	0.010	False	2.85	6,122.92	6,122.83	6,129.09	6,129.01	6,123.16	6,123.04	6,123.24	6,123.15	0.808	0.013
DPB12-1	Pipe - (71)	6.01	18.0	-	-	9.2	0.020	False	7.96	6,108.81	6,108.63	6,113.70	6,113.61	6,109.76	6,109.83	6,110.17	6,110.03	0.821	0.013
DPB12-2	Pipe - (72)	3.15	18.0	-	-	31.2	0.020	False	6.67	6,109.25	6,108.63	6,113.70	6,113.61	6,109.93	6,109.92	6,110.19	6,109.97	0.491	0.013
DPB10A-3	Pipe - (74)	2.48	18.0	-	-	9.6	0.020	False	6.23	6,109.39	6,109.20	6,116.91	6,116.68	6,109.99	6,109.66	6,110.21	6,110.11	0.917	0.013
DPB10A-2	Pipe - (75)	3.87	18.0	-	-	33.8	0.020	False	7.07	6,109.88	6,109.20	6,116.91	6,116.68	6,110.63	6,109.74	6,110.92	6,110.45	0.624	0.013
DPB9-3	Pipe - (77)	11.64	30.0	-	-	126.1	0.010	False	7.27	6,113.69	6,112.39	6,119.66	6,122.02	6,114.84	6,113.72	6,115.28	6,113.95	0.690	0.013
DPB9-2	Pipe - (78)	11.64	30.0	-	-	144.0	0.010	False	7.08	6,112.19	6,110.81	6,122.02	6,119.98	6,113.33	6,112.14	6,113.77	6,112.37	0.200	0.013
DPB9-1	Pipe - (79)	11.64	30.0	-	-	116.7	0.030	False	10.67	6,110.61	6,107.11	6,119.98	6,117.61	6,111.75	6,107.79	6,112.19	6,109.56	0.200	0.013
DPB1-1H	Pipe - (80)	348.27	72.0	-	-	48.4	0.010	False	16.72	6,065.13	6,064.65	6,072.55	6,072.92	6,070.19	6,069.22	6,073.10	6,072.75	0.303	0.013
DPB35-3	Pipe - (81)	1.32	18.0	-	-	-	0.025	False	5.63	6,116.30	6,115.52	6,121.87	6,121.79	6,116.73	6,115.81	6,116.88	6,116.30	0.691	0.013
DPB1-1G	Pipe - (82)	348.27	72.0	-	-	106.1	0.010	False	16.70	6,056.15	6,055.09	6,072.92	6,063.98	6,061.21	6,059.51	6,064.12	6,063.30	0.563	0.013
DPB1-1F	Pipe - (83) (1)	348.27	72.0	-	-	110.0	0.010	False	16.72	6,046.59	6,045.49	6,063.98	6,055.79	6,051.65	6,049.90	6,054.56	6,053.70	0.303	0.013
DPB1-1E	Pipe - (83) (2)	348.27	72.0	-	-	50.0	0.010	False	16.72	6,036.99	6,036.49	6,055.79	6,046.58	6,042.05	6,041.06	6,044.96	6,044.60	0.303	0.013
DPB1-1D	Pipe - (83) (3)	348.27	72.0	-	-	62.4	0.010	True	12.32	6,030.49	6,029.87	6,046.58	6,039.60	6,036.57	6,036.15	6,038.93	6,038.51	0.200	0.013
DPB1-1C	Pipe - (83) (4)	348.27	72.0	-	-	71.9	0.005	True	12.32	6,023.80	6,023.44	6,039.60	6,034.59	6,034.74	6,034.25	6,037.10	6,036.61	0.200	0.013
DPB1-1B	Pipe - (84)	348.27	60.0	-	-	45.7	0.005	True	17.74	6,023.24	6,023.01	6,034.59	6,028.57	6,028.76	6,027.82	6,033.64	6,032.83	0.414	0.013
DPB14-23	Pipe - (85)	43.43	30.0	-	-	138.0	0.010	True	8.85	6,118.69	6,117.31	6,123.69	6,124.32	6,122.07	6,120.52	6,123.28	6,121.74	0.200	0.013
DPB14-22	Pipe - (85) (1)	43.43	30.0	-	-	65.8	0.020	True	8.85	6,116.85	6,115.53	6,124.32	6,125.00	6,119.66	6,118.93	6,120.88	6,120.14	0.305	0.013
DPB14-21	Pipe - (86)	47.39	30.0	-	-	38.9	0.020	False	13.18	6,115.20	6,114.42	6,125.00	6,124.96	6,117.47	6,116.32	6,119.06	6,118.29	0.371	0.013

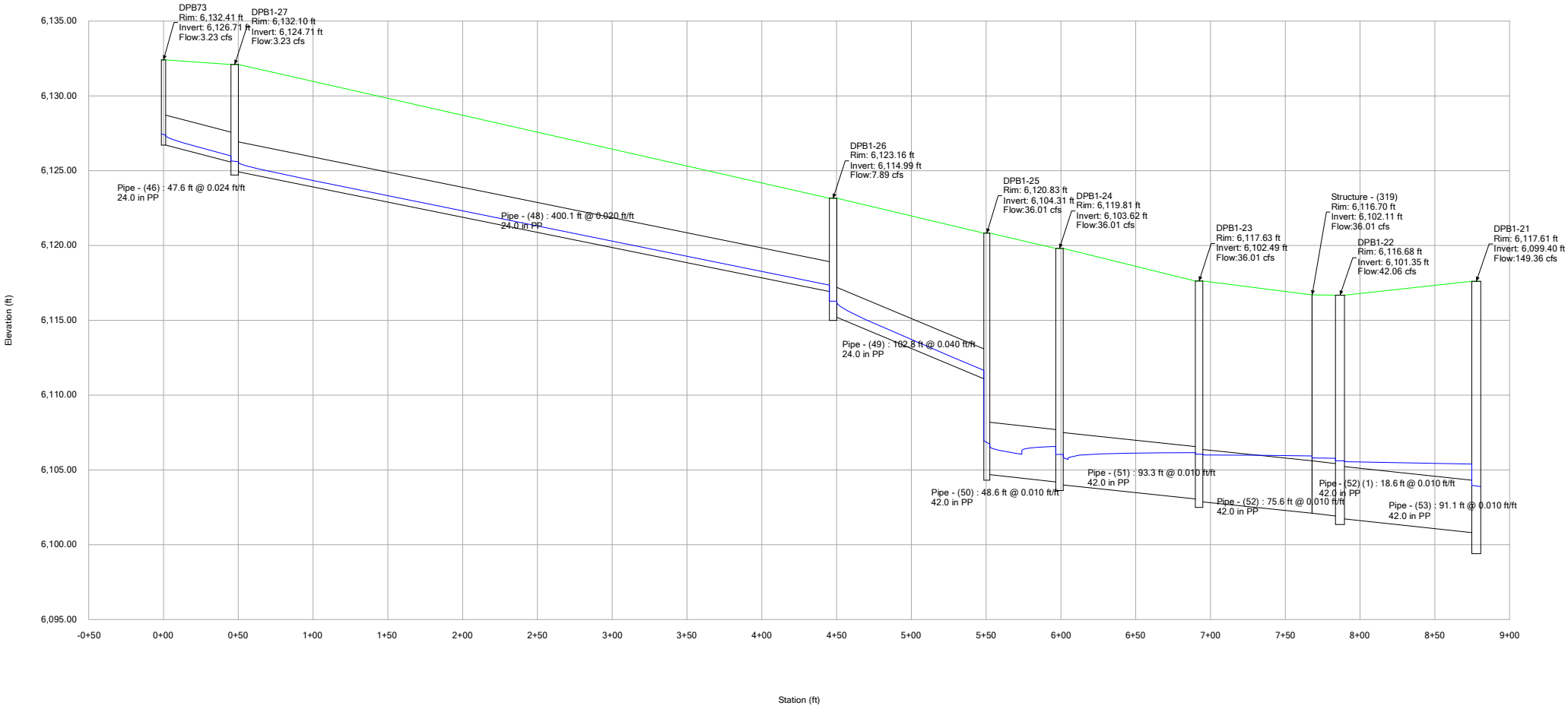
DPB14-20	Pipe - (87)	48.62	30.0	-	-	116.0	0.035	True	16.54	6,112.29	6,108.23	6,124.96	6,115.33	6,114.57	6,111.32	6,116.24	6,112.85	0.200	0.013
DPB14-19	Pipe - (87) (1)	48.62	30.0	-	-	103.4	0.035	True	9.90	6,107.23	6,103.62	6,115.33	6,110.25	6,110.41	6,108.95	6,111.93	6,110.48	0.200	0.013
Structure - (334)	Pipe - (87) (1) (1)	48.62	30.0	-	-	12.4	0.035	True	9.90	6,103.62	6,103.18	6,110.25	6,110.12	6,108.04	6,107.86	6,109.56	6,109.39	0.200	0.013
DPB14-18	Pipe - (88)	53.88	30.0	-	-	36.2	0.025	True	10.98	6,102.68	6,101.78	6,110.12	6,109.98	6,106.52	6,105.89	6,108.39	6,107.77	0.207	0.013
DPB14-17	Pipe - (88) (1)	58.00	30.0	-	-	115.5	0.025	True	11.82	6,101.78	6,098.89	6,109.98	6,106.66	6,104.39	6,102.08	6,106.56	6,104.25	0.210	0.013
DPB14-16	Pipe - (89)	60.37	36.0	-	-	54.3	0.025	True	8.54	6,098.39	6,097.03	6,106.66	6,105.48	6,102.02	6,101.58	6,103.16	6,102.71	0.200	0.013
DPB14-15	Pipe - (90)	63.82	36.0	-	-	62.5	0.025	False	15.62	6,096.53	6,094.97	6,105.48	6,103.33	6,099.10	6,097.61	6,100.63	6,098.88	1.070	0.013
DPB14-14	Pipe - (91)	63.82	36.0	-	-	129.0	0.025	True	15.62	6,093.84	6,090.61	6,103.33	6,098.89	6,096.40	6,093.89	6,097.93	6,095.16	0.290	0.013
DPB14-13	Pipe - (92)	63.82	36.0	-	-	92.4	0.025	True	15.62	6,090.11	6,087.80	6,098.89	6,095.70	6,092.68	6,091.75	6,094.21	6,093.02	0.290	0.013
DPB14-12	Pipe - (93)	70.71	36.0	-	-	73.4	0.028	True	16.79	6,087.60	6,085.52	6,095.70	6,093.18	6,090.27	6,089.24	6,092.03	6,090.79	0.272	0.013
DPB14-10	Pipe - (95)	70.71	42.0	-	-	141.6	0.020	True	7.35	6,085.02	6,082.19	6,093.18	6,091.30	6,088.73	6,088.03	6,089.57	6,088.87	0.722	0.013
DPB14-9	Pipe - (97)	73.42	42.0	-	-	366.2	0.008	True	7.63	6,081.99	6,078.88	6,091.30	6,092.32	6,087.45	6,085.50	6,088.35	6,086.40	0.200	0.013
DPB39	Pipe - (98)	6.47	18.0	-	-	-	0.047	True	11.10	6,131.52	6,118.64	6,139.13	6,125.66	6,132.50	6,120.21	6,132.94	6,120.42	1.155	0.013
DPB14-7	Pipe - (99)	73.42	42.0	-	-	366.2	0.009	True	7.63	6,078.67	6,075.23	6,092.32	6,085.36	6,084.95	6,083.00	6,085.86	6,083.91	0.200	0.013
DPB14-5	Pipe - (100)	73.42	42.0	-	-	55.1	0.005	True	7.63	6,075.03	6,074.75	6,085.36	6,084.46	6,082.43	6,082.14	6,083.34	6,083.04	0.230	0.013
DPB14-4	Pipe - (101)	73.42	42.0	-	-	57.2	0.005	True	7.63	6,074.55	6,074.27	6,084.46	6,084.15	6,081.53	6,081.23	6,082.44	6,082.14	0.268	0.013
DPB14-3	Pipe - (102)	80.32	60.0	-	-	59.3	0.005	True	4.09	6,072.77	6,072.47	6,084.15	6,084.57	6,081.44	6,081.39	6,081.70	6,081.65	0.263	0.013
DPB14-2	Pipe - (103)	80.32	60.0	-	-	93.9	0.005	True	4.09	6,072.27	6,071.80	6,084.57	6,086.00	6,081.23	6,081.14	6,081.49	6,081.40	0.208	0.013
DPB37	Pipe - (104)	6.47	18.0	-	-	-	0.047	False	11.10	6,118.44	6,113.23	6,125.66	6,121.79	6,119.42	6,114.72	6,119.85	6,114.93	1.118	0.013
DPB35-2	Pipe - (105)	3.05	18.0	-	-	-	0.025	False	7.13	6,115.75	6,115.52	6,121.87	6,121.79	6,116.41	6,116.02	6,116.67	6,116.56	0.717	0.013
DPB14-1	Pipe - (105)	233.19	72.0	-	-	386.4	0.005	True	8.25	6,070.80	6,068.87	6,086.00	6,083.53	6,079.65	6,078.48	6,080.71	6,079.54	0.556	0.013
DPB21-1	Pipe - (106)	2.38	18.0	-	-	9.2	0.021	True	1.35	6,100.58	6,100.39	6,107.24	6,106.66	6,103.37	6,103.37	6,103.40	6,103.40	0.649	0.013
DPB2-2	Pipe - (107)	2.05	18.0	-	-	29.7	0.020	True	5.90	6,086.41	6,085.82	6,092.47	6,092.16	6,087.75	6,087.74	6,087.77	6,087.76	0.662	0.013
DPB2-1	Pipe - (108)	3.82	18.0	-	-	7.8	0.020	True	2.16	6,085.98	6,085.82	6,092.47	6,092.16	6,087.72	6,087.71	6,087.79	6,087.78	0.691	0.013
DPB13-1	Pipe - (109)	3.73	18.0	-	-	11.2	0.020	False	7.00	6,117.54	6,117.31	6,123.38	6,123.16	6,118.27	6,117.89	6,118.56	6,118.45	0.665	0.013
DPB13-2	Pipe - (110)	1.14	18.0	-	-	35.2	0.020	False	4.98	6,118.02	6,117.31	6,123.38	6,123.16	6,118.41	6,117.59	6,118.56	6,117.98	0.670	0.013
DPB3-1	Pipe - (111)	0.94	12.0	-	-	92.7	0.010	True	1.20	6,089.82	6,088.90	6,091.86	6,096.28	6,091.19	6,091.13	6,091.21	6,091.15	0.219	0.013
DPB7-2	Pipe - (112)	0.97	12.0	-	-	96.8	0.010	True	3.86	6,096.21	6,095.24	6,098.21	6,103.82	6,096.74	6,096.71	6,096.82	6,096.73	0.305	0.013
DPB7-1	Pipe - (113)	5.12	18.0	-	-	9.2	0.010	True	2.90	6,094.74	6,094.65	6,103.82	6,103.55	6,096.48	6,096.46	6,096.61	6,096.59	0.850	0.013
DPB8-1	Pipe - (114)	0.97	12.0	-	-	82.6	0.010	False	3.86	6,104.00	6,103.18	6,106.16	6,110.84	6,104.42	6,103.53	6,104.57	6,103.76	0.342	0.013
DPB4-4	Pipe - (115)	3.73	18.0	-	-	8.8	0.010	False	5.44	6,099.72	6,099.63	6,104.79	6,104.69	6,100.53	6,100.57	6,100.76	6,100.70	0.561	0.013
DPB4-3	Pipe - (116)	3.73	18.0	-	-	64.4	0.010	False	5.44	6,099.44	6,098.79	6,104.69	6,103.64	6,100.17	6,099.84	6,100.46	6,099.95	0.651	0.013
DPB4-2	Pipe - (117)	4.84	18.0	-	-	75.3	0.010	True	5.82	6,098.60	6,097.84	6,103.64	6,102.72	6,099.44	6,099.44	6,099.79	6,099.56	0.348	0.013
DPB4-1	Pipe - (118)	7.52	18.0	-	-	12.9	0.010	True	6.47	6,097.64	6,097.52	6,102.72	6,102.58	6,099.14	6,099.07	6,099.42	6,099.36	0.324	0.013
Structure - (330)	Pipe - (118) (2) (1)	7.52	18.0	-	-	71.1	0.010	False	6.47	6,097.52	6,096.80	6,102.58	6,102.05	6,098.58	6,097.74	6,099.07	6,098.39	0.357	0.013
DPB6-1	Pipe - (119)	1.11	18.0	-	-	42.6	0.020	False	4.93	6,099.64	6,098.79	6,104.67	6,103.64	6,100.04	6,099.90	6,100.18	6,099.91	0.625	0.013
DPB5-1	Pipe - (120)	2.70	18.0	-	-	9.2	0.020	True	6.39	6,098.03	6,097.84	6,103.00	6,102.72	6,099.50	6,099.49	6,099.53	6,099.53	0.507	0.013
DPB39-2	Pipe - (134)	3.26	12.0	-	-	-	0.042	True	9.01	6,132.78	6,131.52	6,139.19	6,139.13	6,133.55	6,133.27	6,133.94	6,133.54	1.892	0.013
DPB39-1	Pipe - (139)	3.24	18.0	-	-	-	0.035	True	8.25	6,132.08	6,131.72	6,139.20	6,139.13	6,133.40	6,133.40	6,133.46	6,133.45	0.793	0.013
DPB22-6	Pipe - (141)	116.37	42.0	-	-	43.7	0.020	True	12.10	6,098.65	6,097.78	6,109.17	6,109.35	6,105.01	6,104.43	6,107.28	6,106.70	0.286	0.013
DPB22-5	Pipe - (145)	121.73	42.0	-	-	46.2	0.020	True	12.65	6,097.58	6,096.66	6,109.35	6,108.86	6,102.32	6,101.65	6,104.81	6,104.13	0.393	0.013
DPB22-4	Pipe - (146)	123.79	42.0	-	-	325.4	0.020	False	16.66	6,096.47	6,089.97	6,108.86	6,099.90	6,099.75	6,092.51	6,102.47	6,095.96	0.247	0.013
DPB07-2	Pipe - (147) (1)	12.21	18.0	-	-	114.8	0.024	True	6.91	6,128.51	6,125.77	6,134.90	6,133.24	6,130.85	6,129.30	6,131.59	6,130.04	0.787	0.013
DPB22-3	Pipe - (150)	140.94	48.0	-	-	303.1	0.020	False	17.45	6,086.49	6,080.43	6,099.90	6,091.56	6,090.01	6,084.31	6,092.26	6,086.26	0.259	0.013
DPB22-2	Pipe - (153)	151.31	48.0	-	-	255.3	0.020	True	12.04	6,078.02	6,072.91	6,091.56	6,086.00	6,082.78	6,079.95	6,085.03	6,082.20	0.200	0.013
DPC3-1	Pipe - (155)	1.89	18.0	-	-	35.2	0.020	True	1.07	6,130.92	6,130.22	6,135.62	6,135.39	6,132.79	6,132.78	6,132.81	6,132.80	0.447	0.013
DPB11-6	Pipe - (166)	5.16	18.0	-	-	9.2	0.025	True	2.92	6,117.63	6,117.40	6,123.08	6,122.98	6,119.35	6,119.33	6,119.48	6,119.46	0.547	0.013
DPB11-5	Pipe - (179)	8.85	18.0	-	-	343.1	0.025	False	9.55	6,117.21	6,108.63	6,122.98	6,113.61	6,118.36	6,109.41	6,118.93	6,110.13	0.830	0.013
DPB11-4	Pipe - (180)	17.65	30.0	-	-	106.6	0.005	False	6.20	6,107.63	6,107.10	6,113.61	6,115.66	6,109.05	6,108.99	6,109.63	6,109.25	0.544	0.013
DPB11-3	Pipe - (181)	17.65	30.0	-	-	27.8	0.005	False	6.22	6,106.89	6,106.75	6,115.66	6,116.84	6,108.66	6,108.64	6,109.01	6,108.90	0.386	0.013
DPB07-3	Pipe - (182)	12.21	18.0	-	-	-	0.020	True	6.91	6,129.03	6,128.71	6,134.83	6,134.90	6,131.95	6,131.73	6,132.69	6,132.47	0.456	0.013
DPB11-2	Pipe - (189)	17.65	30.0	-	-	76.3	0.005	False	6.18	6,106.55	6,106.17	6,116.84	6,108.97	6,108.26	6,108.20	6,108.64	6,108.44	0.410	0.013
Structure - (329)	Pipe - (189) (1)	17.65	30.0	-	-	98.6	0.005	False	6.18	6,106.17	6,105.68	6,108.97	6,120.83	6,107.59	6,107.53	6,108.18	6,107.80	0.281	0.013
DPB15-3	Pipe - (200)	6.77	18.0	-	-	40.4	0.050	True	11.48	6,081.75	6,079.73	6,089.01	6,089.01	6,082.76	6,081.83	6,083.20	6,082.06	1.347	0.013
DPB15-2	Pipe - (201)	10.44	18.0	-	-	64.4	0.050	True	5.91	6,079.54	6,076.32	6,089.01	6,085.35	6,081.19	6,080.55	6,081.73	6,081.09	0.438	0.013
Structure - (317)	Pipe - (201) (1)	10.44	18.0	-	-	23.9	0.050	True	5.91	6,076.32	6,075.13	6,085.35	6,083.79	6,080.22	6,079.98	6,080.76	6,080.53	0.207	0.013
DPB16-2	Pipe - (202)	5.69	18.0	-	-	25.7	0.020	True	3.22	6,077.29	6,076.77	6,084.41	6,084.15	6,081.75	6,081.68	6,081.91	6,081.84	0.466	0.013
DPB16-1	Pipe - (204)	1.42	18.0	-	-	4.4	0.020	True	0.80	6,076.86	6,076.77	6,084.41	6,084.15	6,081.77	6,081.77	6,081.78	6,081.78	0.540	0.013
DPB16-3	Pipe - (206)	1.14	18.0	-	-	25.1	0.020	True	0.65	6,078.08	6,077.58	6,085.69	6,084.41	6,081.99	6,081.98	6,081.99	6,081.99	0.683	0.013
DPB17-2	Pipe - (206) (1)	2.02	18.0	-	-	31.2	0.020	True	1.14	6,084.82	6,084.19	6,091.57	6,091.30	6,088.53	6,088.52	6,088.55	6,088.54	0.592	0.013
DPB18-1	Pipe - (207)	4.70	18.0	-	-	11.2	0.020	True	2.66	6,090.53	6,090.30	6,096.09	6,095.70	6,092.47	6,092.45	6,092.58	6,092.56	0.552	0.013
DPB18-2	Pipe - (208)	2.48	18.0	-	-	33.7	0.015	True	1.40	6,090.81	6,090.30	6,095.84	6,095.70	6,092.51	6,092.49	6,092.54	6,092.52	0.200	0.013
DPB19-1	Pipe - (210)	3.67	18.0	-	-	86.5	0.010	True	2.08	6,099.20	6,098.34	6,104.56	6,105.48	6,102.32	6,102.22	6,102.39	6,102.29	0.802	0.013
DPB20-1	Pipe - (211)	3.28	18.0	-	-	9.2	0.020	True	1.86	6,099.58	6,099.40	6,104.85	6,104.56	6,102.42	6,102.41	6,102.48	6,102.47	0.459	0.013
DPB24-2	Pipe - (222)	1.15	18.0	-	-	31.2	0.020	False	4.99	6,085.62	6,084.99	6,090.33	6,090.24	6,086.43	6,086.44	6,086.46	6,086.45	0.546	0.013
DPB24-1	Pipe - (223)	3.23	18.0	-	-	9.2	0.020	False	6.72	6,085.18	6,084.99	6,090.34	6,090.24	6,086.41	6,086.42	6,086.48	6,086.47	0.545	0.013
DPB23-2	Pipe - (228)	4.37	18.0	-	-	19.5	0.012	True	6.16	6,084.79	6,084.54	6,090.24	6,086.25	6,086.29	6,086.25	6,086.38	6,086.40	0.691	0.013
Structure - (469)	Pipe - (228) (1)	8.09	18.0	-	-	70.0	0.012	True	7.16	6,084.54	6,083.67	6,086.25	6,091.56	6,085.65	6,085.29	6,086.17	6,085.61	0.357	0.013
DPB23-1	Pipe - (230)	2.79	18.0	-	-	9.2	0.020	True	1.58	6,083.85	6,083.67	6,091.83	6,091.56	6,085.47	6,085.46	6,085.50	6,085.50	0.899	0.013
DPC4-8	Pipe - (231)	3.01	18.0	-	-	82.3	0.050	False	9.13	6,130.38	6,126.27	6,136.96	6,135.82	6,131.04	6,126.63	6,131.29	6,127.93	0.433	0.013
DPC5-1	Pipe - (232)	5.68	18.0	-	-	68.3	0.010	True	3.21	6,120.11	6,119.43	6,136.43	6,135.82	6,121.74	6,121.54	6,121.90	6,121.70	0.200	0.013
DPC5-2	Pipe - (233)	5.68	18.0	-	-	51.6	0.010	True	6.06	6,120.83	6,120.32	6,135.88	6,136.43	6,121.83	6,121.83	6,122.15	6,121.99	0.350	0.013
DPB15-1	Pipe - (238)	13.74	18.0	-	-	29.7	0.050	True	7.78	6,074.92	6,073.44	6,083.79	6,083.53	6,079.06	6,078.55	6,080.00	6,079.49	0.329	0.013
DPB32-1	Pipe - (242)	2.27	18.0	-	-	31.2	0.020	False	6.08	6,097.20	6,096.57	6,103.19	6,103.51	6,097.77	6,097.48	6,097.98	6,097.54	0.720	0.013
DPB31-3	Pipe - (244)	1.35	18.0	-	-	9.2	0.025	False	5.65	6,098.85	6,098.62	6,105.08	6,104.99	6,099.29	6,098.94	6,099.44	6,099.16	0.778	0.013
DPB30-3	Pipe - (248)	2.92	18.0	-	-	9.5	0.022	False	6.78	6,097.24	6,097.03	6,104.80	6,104.63	6,097.89	6,097.79	6,098.14	6,097.92	0.911	0.013
DPB30-2	Pipe - (249)	2.92	18.0	-	-	71.3	0.023	True	6.87	6,096.83	6,095.19	6,104.63	6,102.62	6,097.48	6,096.73	6,097.73	6,096.77	0.573	0.013
DPB30-1	Pipe - (250)	6.49	18.0	-	-	83.5	0.023	False	8.55	6,094.99	6,093.07	6,102.62	6,100.69	6,095.98	6,094.51	6,096.41	6,094.72	0.795	0.013
Structure - (333)	Pipe - (250) (1)	6.49	18.0	-	-	48.0	0.023	False	8.55	6,093.07	6,091.97	6,100.69	6,099.90	6,094.06	6,092.65	6,094.49	6,093.38	0.343	0.013
DPB31-1	Pipe - (251)	3.62	18.0	-	-	47.4	0.025	True	7.52	6,096.38	6,095.19	6,103.51	6,102.62	6,097.10	6,096.71	6,097.39	6,096.78	0.456	0.013
DPB29-1	Pipe - (252)	6.33	18.0	-	-	9.9	0.019	True	3.58	6,090.81	6,090.62	6,095.90	6,095.80	6,095.84	6,095.80	6,096.04	6,096.32	0.200	0.013
DPB27-2	Pipe - (253)	8.10	18.0	-	-	139.3	0.010	True	4.58	6,090.42	6,089.02	6,095.80	6,098.45	6,095.91	6,095.09	6,096.24	6,095.41	0.000	0.013
DPB27-1																			

	Pipe - (254)	12.83	18.0	-	-	13.5	0.010	True	7.26	6,088.82	6,088.69	6,098.45	6,098.81	6,094.09	6,093.88	6,094.90	6,094.70	0.461	0.013
Structure - (332)	Pipe - (254) (1)	12.83	18.0	-	-	70.0	0.010	True	7.26	6,088.69	6,087.99	6,098.81	6,099.90	6,093.39	6,092.35	6,094.21	6,093.17	0.200	0.013
DPB28-1	Pipe - (255)	4.80	18.0	-	-	9.2	0.020	True	2.72	6,090.71	6,090.52	6,098.76	6,098.45	6,095.23	6,095.21	6,095.35	6,095.33	0.643	0.013
DPB33-1	Pipe - (256)	2.07	18.0	-	-	61.5	0.025	False	6.40	6,103.97	6,102.43	6,109.89	6,108.86	6,104.51	6,103.08	6,104.71	6,103.18	0.715	0.013
DPB29-2	Pipe - (257)	1.85	18.0	-	-	33.3	0.019	True	1.05	6,091.25	6,090.62	6,095.93	6,095.80	6,095.81	6,095.80	6,095.83	6,096.25	0.203	0.013
DPB10-7	Pipe - (258) (1)	84.06	36.0	-	-	78.7	0.035	False	18.96	6,156.00	6,153.24	6,159.34	6,169.88	6,158.81	6,156.08	6,161.13	6,158.28	0.200	0.013
Structure - (492)	Pipe - (258) (1) (1)	85.88	36.0	-	-	283.2	0.040	True	20.04	6,134.96	6,123.64	6,164.92	6,143.69	6,137.78	6,132.40	6,140.19	6,134.69	0.281	0.013
Structure - (493)	Pipe - (258) (1) (1) (1)	85.88	36.0	-	-	184.0	0.028	True	12.15	6,121.64	6,116.54	6,143.69	6,131.72	6,130.78	6,127.73	6,133.07	6,130.02	0.307	0.013
Structure - (494)	Pipe - (258) (1) (1) (1) (1)	93.28	36.0	-	-	18.7	0.005	True	13.20	6,112.27	6,112.18	6,125.01	6,127.28	6,119.59	6,119.22	6,122.29	6,121.93	0.321	0.013
Structure - (503)	Pipe - (258) (1) (1) (1) (1) (1)	96.59	42.0	-	-	143.8	0.008	True	10.04	6,111.40	6,110.25	6,127.28	6,125.55	6,116.38	6,115.05	6,117.95	6,116.62	0.200	0.013
Structure - (504)	Pipe - (258) (1) (1) (1) (1) (2)	96.24	36.0	-	-	40.3	0.005	True	13.62	6,112.10	6,111.90	6,127.28	6,127.28	6,117.37	6,116.53	6,120.25	6,119.41	0.207	0.013
Structure - (507)	Pipe - (258) (1) (1) (1) (2)	92.82	36.0	-	-	20.0	0.010	True	13.13	6,112.83	6,112.63	6,128.18	6,125.01	6,121.94	6,121.56	6,124.62	6,124.24	0.204	0.013
Structure - (511)	Pipe - (258) (1) (1) (1) (3)	90.35	36.0	-	-	118.7	0.028	True	12.78	6,116.34	6,113.03	6,131.72	6,128.18	6,125.83	6,123.65	6,128.36	6,126.19	0.290	0.013
Structure - (495)	Pipe - (258) (1) (2)	84.06	36.0	-	-	14.9	0.040	False	19.94	6,151.24	6,150.65	6,169.88	6,170.18	6,154.05	6,152.98	6,156.37	6,155.24	0.443	0.013
Structure - (513)	Pipe - (258) (1) (2) (1)	85.88	36.0	-	-	165.8	0.034	False	18.83	6,148.65	6,143.00	6,170.18	6,164.92	6,151.47	6,144.93	6,153.88	6,149.90	0.200	0.013
DPB10-6	Pipe - (260)	96.59	42.0	-	-	176.8	0.015	True	14.00	6,110.05	6,107.48	6,125.55	6,120.53	6,113.50	6,111.88	6,115.07	6,113.45	0.584	0.013
Structure - (478)	Pipe - (260) (1)	100.57	42.0	-	-	88.3	0.020	False	16.03	6,107.28	6,105.51	6,120.53	6,117.61	6,110.35	6,107.88	6,112.31	6,111.16	0.260	0.013
DPB22-10	Pipe - (263)	97.57	36.0	-	-	26.3	0.020	False	15.17	6,127.94	6,127.42	6,131.28	6,133.12	6,130.83	6,130.37	6,133.86	6,133.33	0.147	0.013
DPB22-9	Pipe - (263) (1) (1)	101.52	36.0	-	-	20.6	0.030	True	14.36	6,124.88	6,124.27	6,133.12	6,133.24	6,128.30	6,127.82	6,131.50	6,131.03	0.200	0.013
DPB07-1	Pipe - (263) (1) (2)	112.46	42.0	-	-	19.7	0.020	False	16.48	6,123.77	6,123.37	6,133.24	6,133.12	6,126.96	6,126.19	6,129.28	6,129.04	0.200	0.013
DPB22-8	Pipe - (265)	113.08	42.0	-	-	168.1	0.033	False	19.92	6,118.86	6,113.37	6,133.12	6,122.22	6,122.06	6,115.49	6,124.40	6,120.85	0.200	0.013
DPB22-7	Pipe - (266)	113.08	42.0	-	-	213.1	0.037	True	20.79	6,106.79	6,099.01	6,122.22	6,109.17	6,109.99	6,106.65	6,112.33	6,108.79	0.200	0.013
DPC6-1	Pipe - (272)	2.08	18.0	-	-	14.6	0.020	False	5.93	6,130.86	6,130.57	6,137.37	6,136.96	6,131.41	6,131.36	6,131.61	6,131.42	0.793	0.013
DPC6-2	Pipe - (273)	0.93	18.0	-	-	31.2	0.020	False	5.63	6,131.20	6,130.57	6,137.31	6,136.96	6,131.56	6,131.39	6,131.68	6,131.40	0.777	0.010
DPB11-9	Pipe - (274)	3.73	18.0	-	-	9.2	0.010	False	5.44	6,132.80	6,132.71	6,137.79	6,137.21	6,133.61	6,133.65	6,133.84	6,133.78	0.551	0.013
DPC5-6	Pipe - (277)	4.96	18.0	-	-	35.2	0.010	False	5.86	6,125.75	6,125.40	6,129.78	6,130.50	6,126.61	6,126.50	6,126.96	6,126.67	0.557	0.013
DPC5-5	Pipe - (278)	4.96	18.0	-	-	273.7	0.010	False	5.86	6,125.20	6,122.47	6,130.50	6,134.88	6,126.06	6,123.74	6,126.41	6,123.87	0.547	0.013
DPC2-2	Pipe - (280) (1)	19.42	18.0	-	-	26.8	0.020	True	10.99	6,102.47	6,101.94	6,108.21	6,108.66	6,106.92	6,106.00	6,108.80	6,107.88	0.200	0.013
DPB11-8	Pipe - (281)	3.73	18.0	-	-	137.3	0.033	False	8.34	6,132.51	6,128.03	6,137.21	6,129.74	6,133.25	6,129.05	6,133.54	6,129.16	0.667	0.013
Structure - (522)	Pipe - (281) (4)	3.73	18.0	-	-	30.6	0.033	False	8.34	6,128.03	6,127.03	6,129.74	6,133.45	6,128.77	6,127.81	6,129.06	6,127.99	0.200	0.013
DPB11-7	Pipe - (282)	3.73	18.0	-	-	343.1	0.027	True	7.85	6,126.83	6,117.40	6,133.45	6,122.98	6,127.57	6,119.37	6,127.86	6,119.44	0.200	0.013
DPB15-4	Pipe - (283)	1.84	18.0	-	-	98.2	0.040	True	7.31	6,085.88	6,081.95	6,091.02	6,089.01	6,086.39	6,083.80	6,086.57	6,083.81	0.618	0.013
Structure - (302)	Pipe - (284)	0.39	18.0	-	-	29.7	0.020	True	0.22	6,099.99	6,099.40	6,103.99	6,104.56	6,102.44	6,102.44	6,102.45	6,102.45	0.319	0.013
DPB31-2	Pipe - (285)	1.35	18.0	-	-	74.1	0.025	False	5.65	6,098.42	6,096.57	6,104.99	6,103.51	6,098.86	6,097.50	6,099.02	6,097.52	0.666	0.013
DPB17-1	Pipe - (287)	0.70	18.0	-	-	7.7	0.020	True	0.40	6,084.36	6,084.20	6,091.57	6,091.30	6,088.53	6,088.53	6,088.53	6,088.53	0.595	0.013
DPB37-4	Pipe - (290)	4.18	18.0	-	-	29.8	0.050	False	10.03	6,114.49	6,113.00	6,121.56	6,121.50	6,115.27	6,114.06	6,115.58	6,114.19	0.933	0.013
DPB37-3	Pipe - (291)	4.18	18.0	-	-	89.1	0.040	False	9.27	6,112.81	6,109.24	6,121.50	6,117.39	6,113.59	6,110.10	6,113.90	6,110.28	0.754	0.013
DPB37-2	Pipe - (292)	4.18	18.0	-	-	123.1	0.030	True	8.36	6,109.04	6,105.35	6,117.39	6,112.35	6,109.83	6,107.24	6,110.14	6,107.33	0.228	0.013
DPB37-1	Pipe - (293)	4.18	18.0	-	-	63.7	0.020	True	2.37	6,105.16	6,103.88	6,112.35	6,110.81	6,107.19	6,107.09	6,107.28	6,107.18	0.200	0.013
Structure - (459)	Pipe - (293) (1)	4.18	18.0	-	-	45.6	0.020	True	2.37	6,103.88	6,102.97	6,110.81	6,109.98	6,107.04	6,106.96	6,107.12	6,107.05	0.200	0.013
DPA10A-1	Pipe - (305)	0.99	12.0	-	-	33.7	0.010	True	3.88	6,110.41	6,110.08	6,114.63	6,116.91	6,111.10	6,111.09	6,111.15	6,111.12	0.724	0.013
DPB18-3	Pipe - (312)	1.75	18.0	-	-	31.5	0.010	True	4.41	6,091.33	6,091.01	6,093.04	6,095.84	6,092.54	6,092.54	6,092.56	6,092.56	0.200	0.013
Structure - (479)	Pipe - (315)	88.72	36.0	-	-	71.4	0.005	True	12.55	6,083.39	6,083.02	6,096.77	6,086.36	6,087.22	6,085.86	6,089.67	6,088.41	0.200	0.013
Structure - (512)	Pipe - (317)	2.52	18.0	-	-	47.0	0.040	True	1.43	6,114.91	6,113.03	6,125.57	6,128.18	6,125.18	6,125.15	6,125.21	6,125.18	0.238	0.013
DPB9-5	Pipie - (76)	11.64	30.0	-	-	54.4	0.011	False	7.50	6,114.49	6,113.88	6,120.06	6,119.66	6,115.63	6,115.48	6,116.07	6,115.65	0.610	0.013

Profile Report
Engineering Profile - F3 POND C - DPC1-13 (Filing 2-3 Stormcad.stsw)

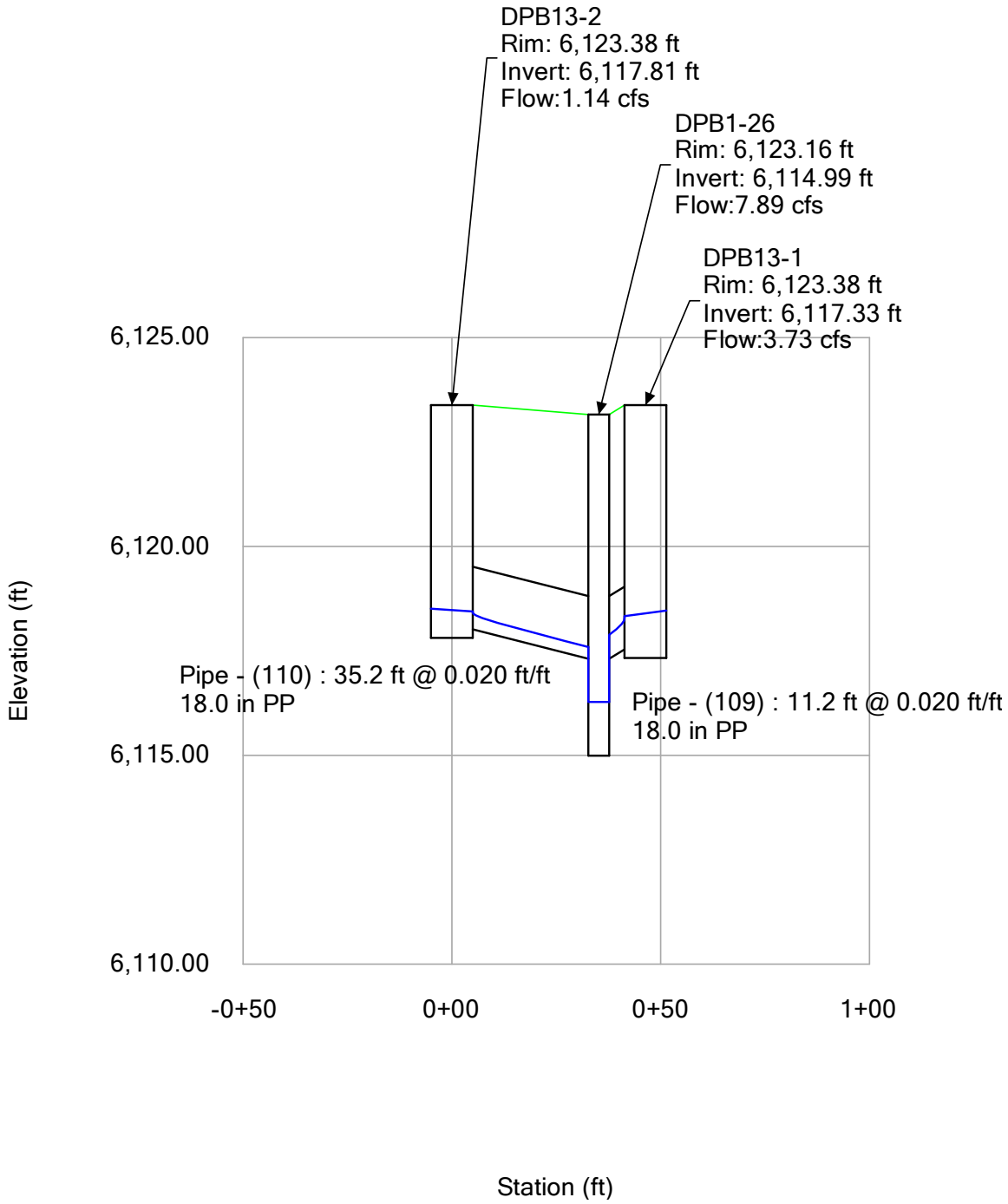


Profile Report
Engineering Profile - F3 DPB1-21 - DPB73 (Filing 2-3 Stormcad.stsw)



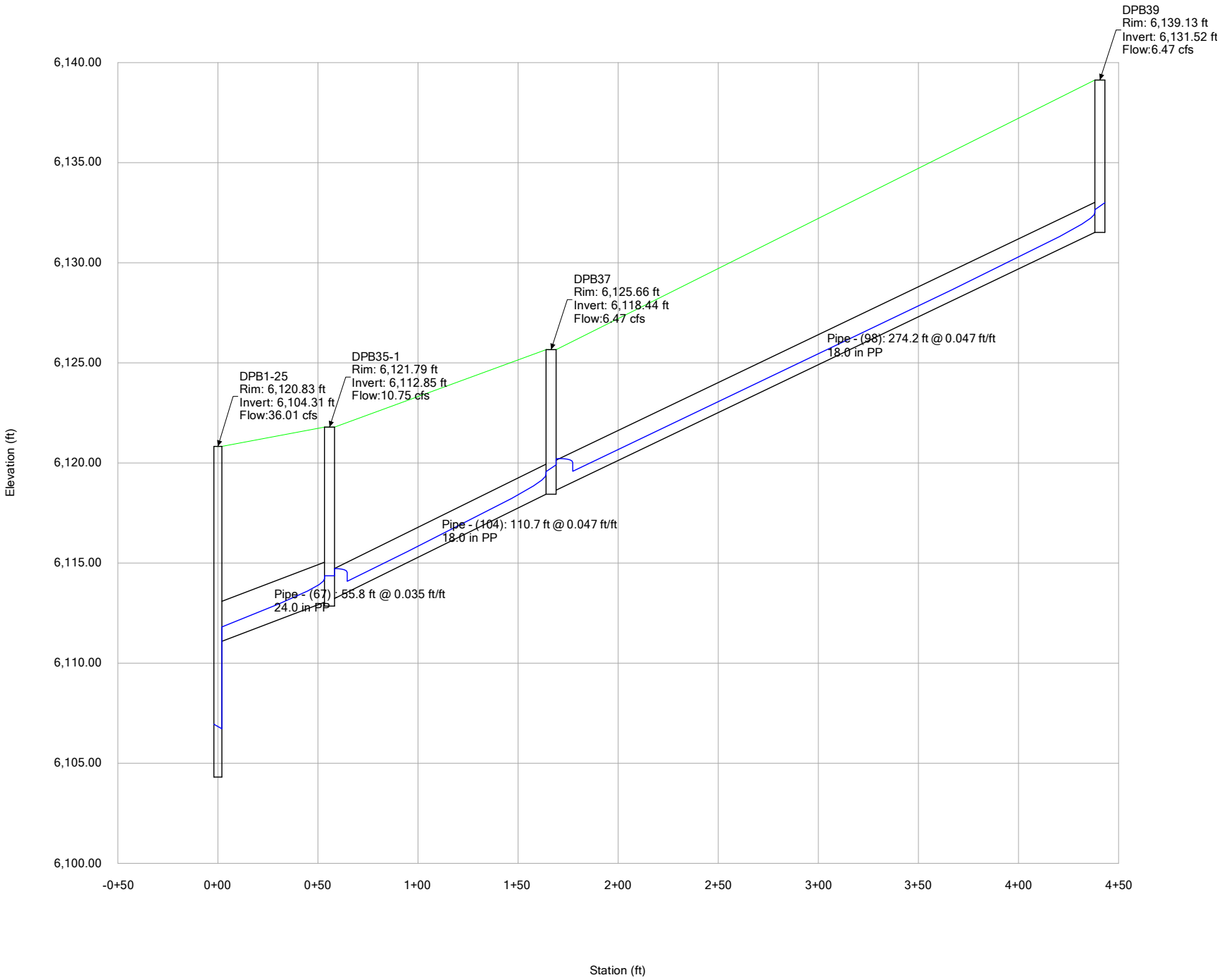
Profile Report

Engineering Profile - F3 DPB13-2 - DPB 13-1 (Filing 2-3 Stormcad.stsw)



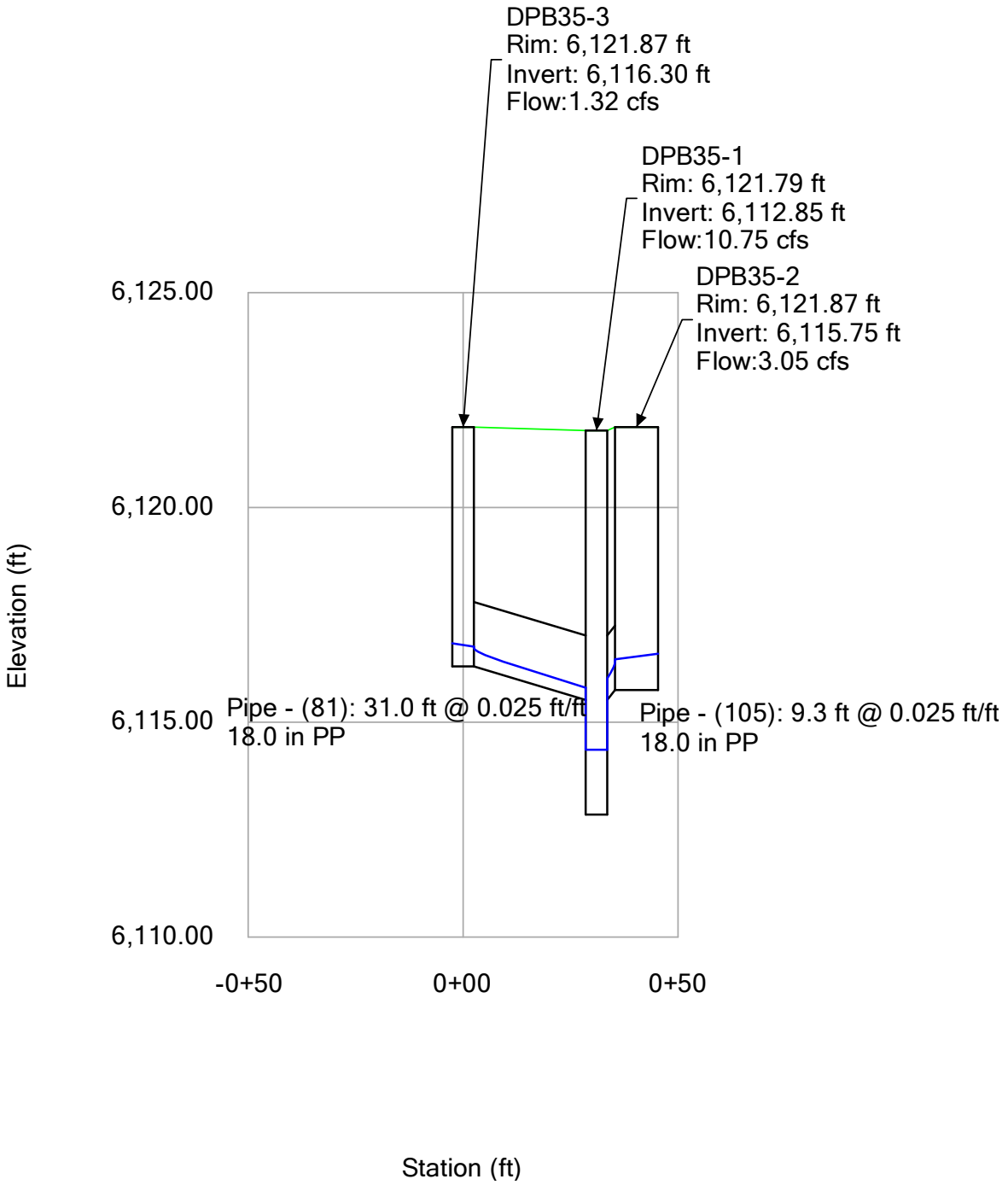
Profile Report

Engineering Profile - F3 DPB1-25 - DPB39 (Filing 2-3 Stormcad.stsw)



Profile Report

Engineering Profile - F3 DPB35-3 P DPB35-2 (Filing 2-3 Stormcad.stsw)



Profile Report

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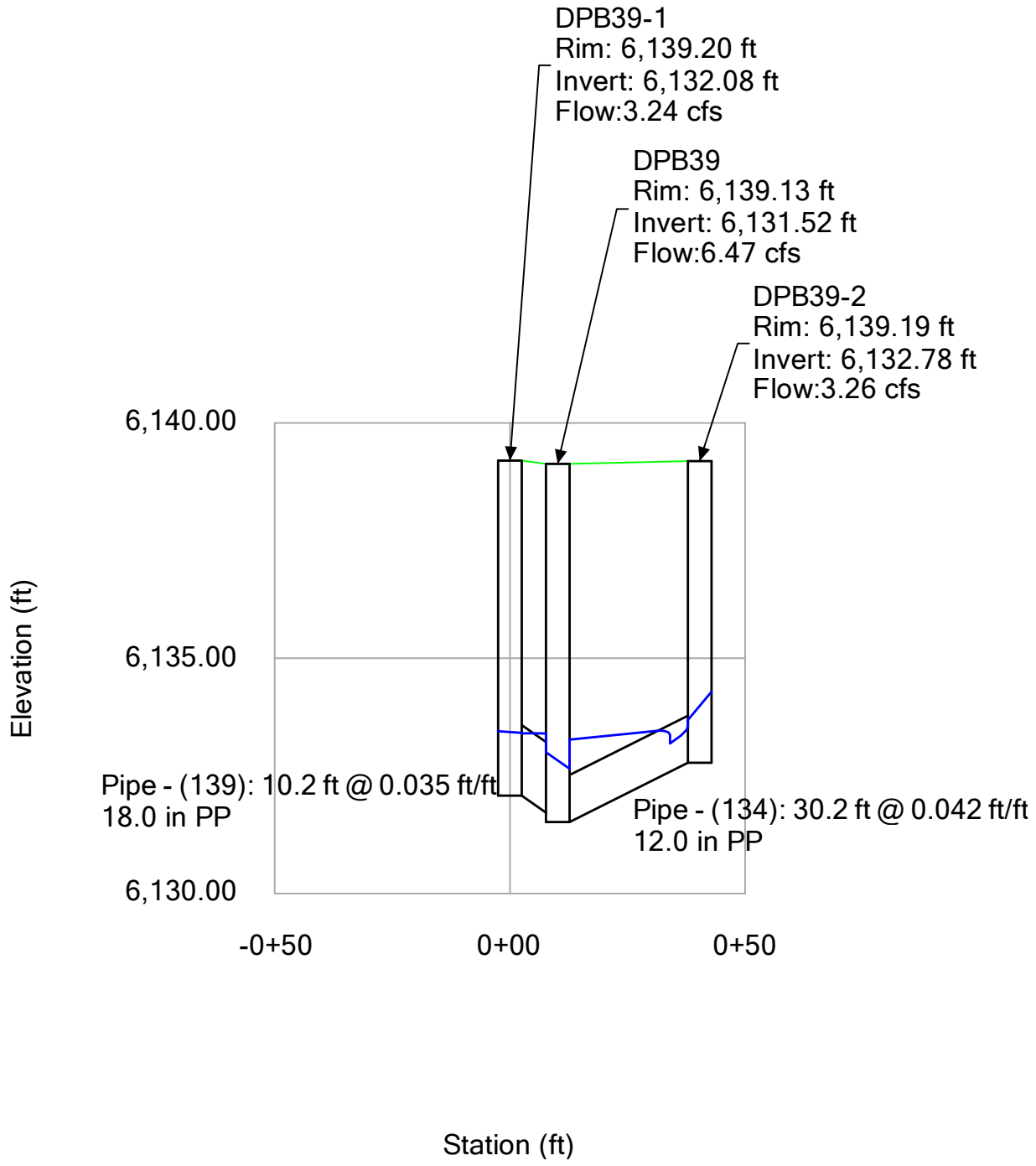

Profile Report

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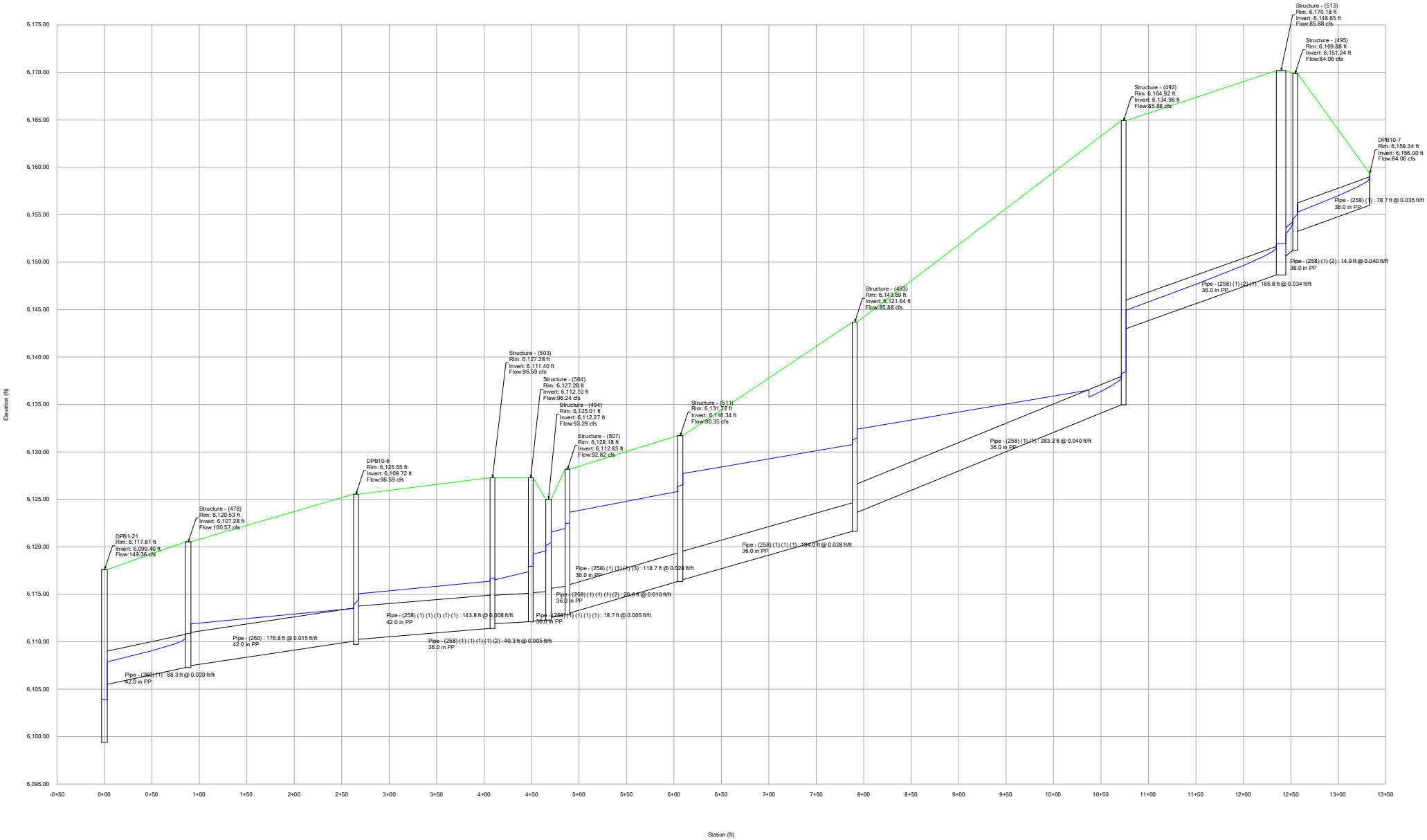
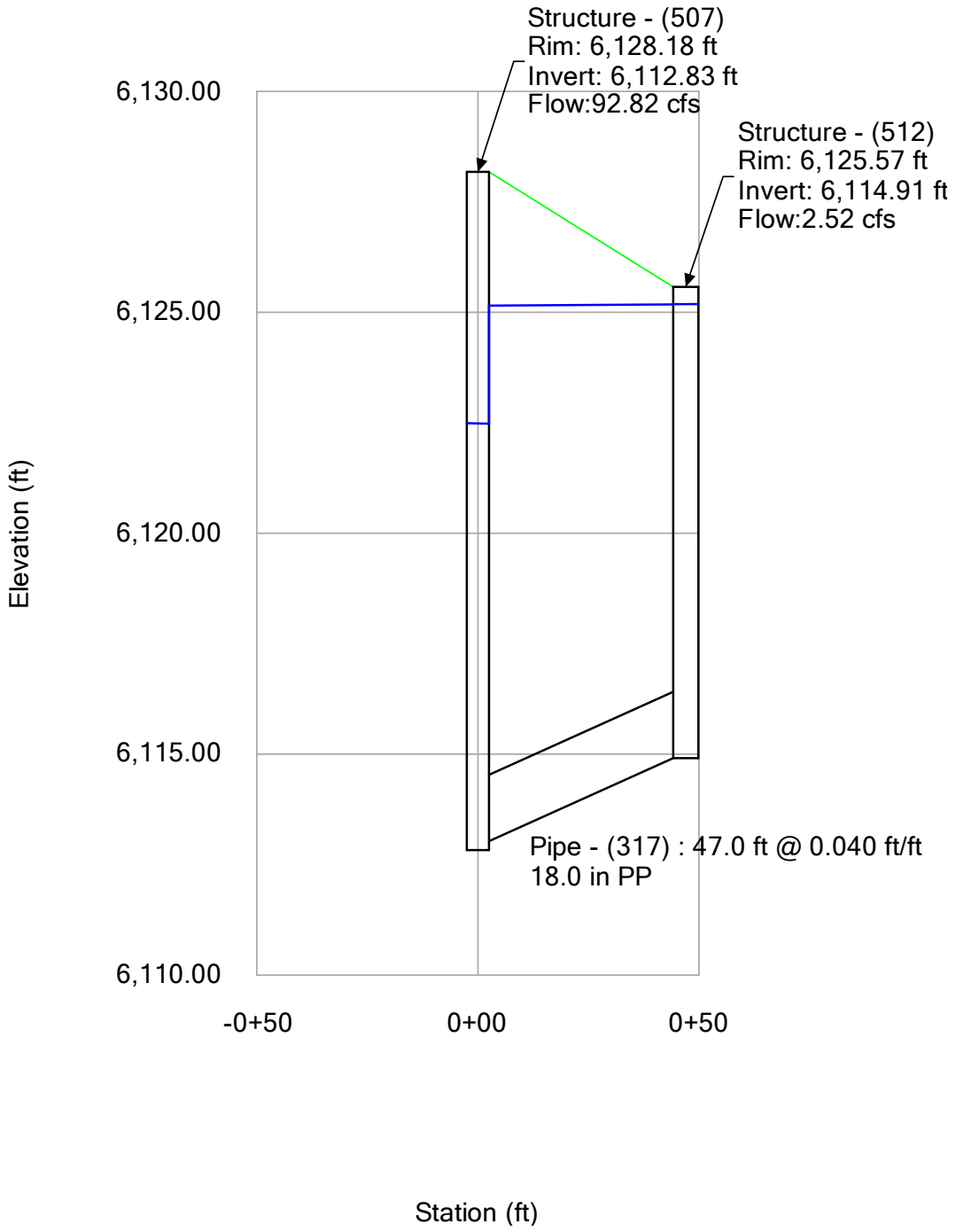
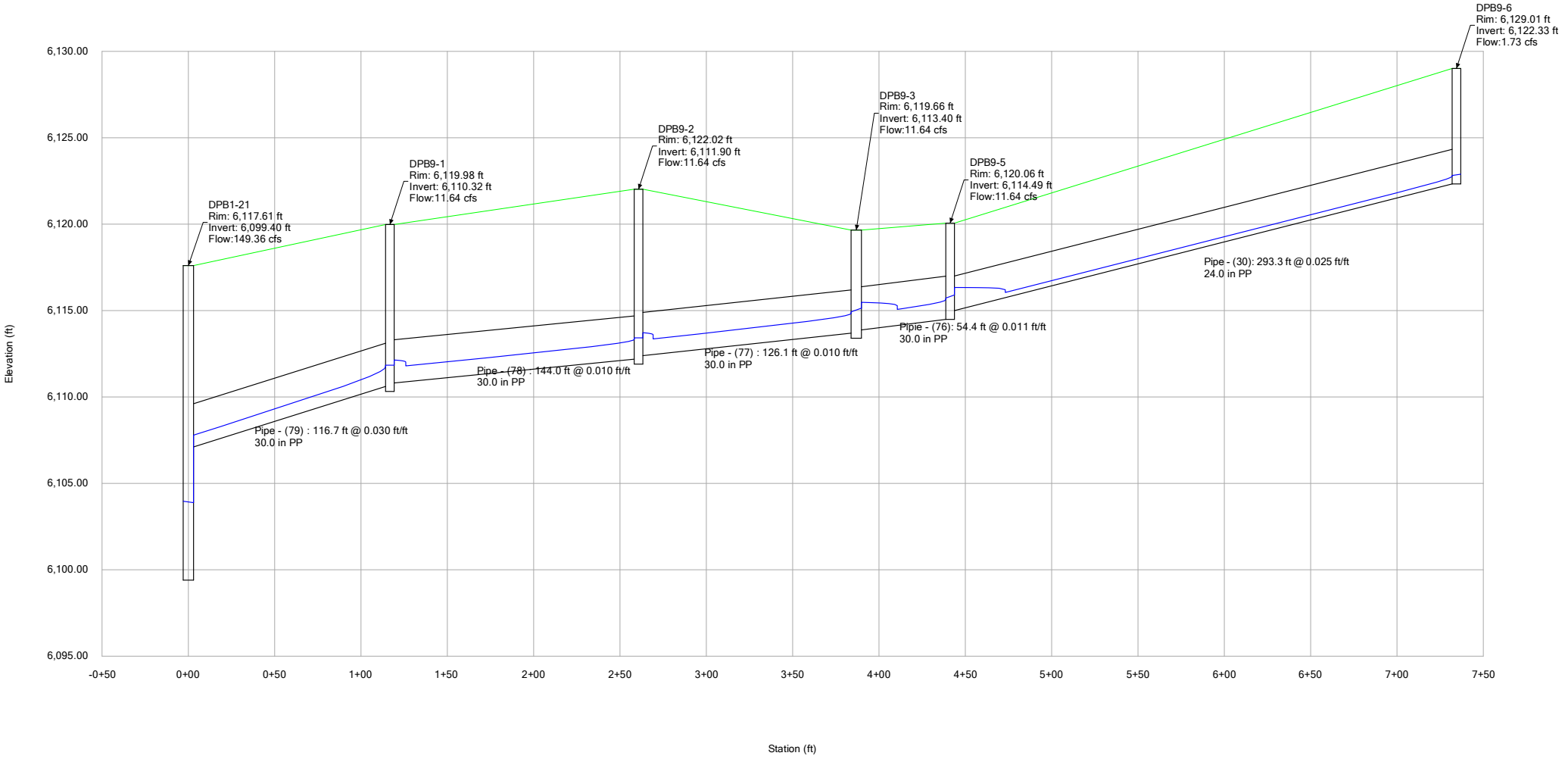


Profile Report

Engineering Profile - F3 507 - 512 (Filing 2-3 Stormcad.stsw)

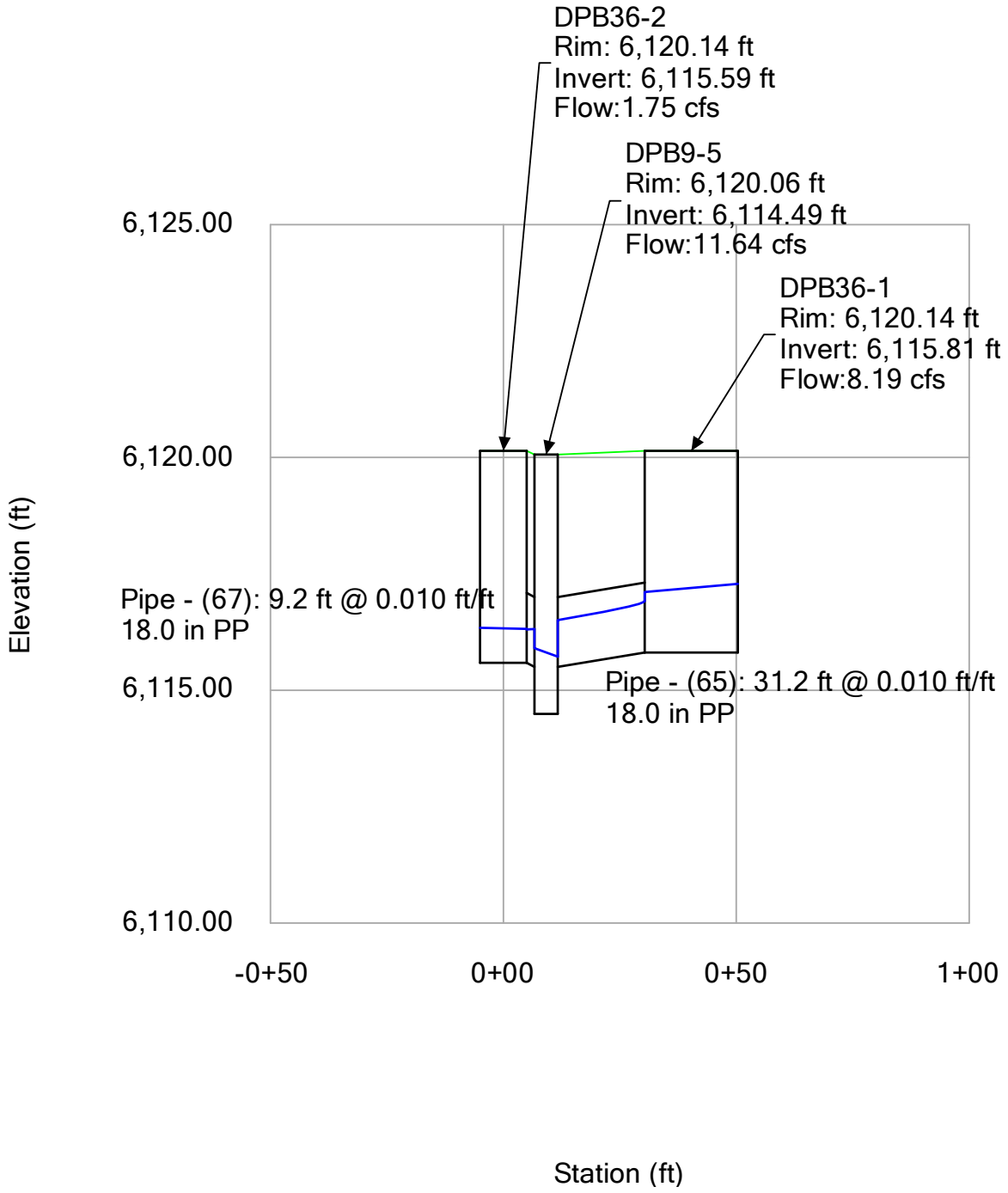


Profile Report
Engineering Profile - F3 DPB1-21 - DPB9-6 (Filing 2-3 Stormcad.stsw)



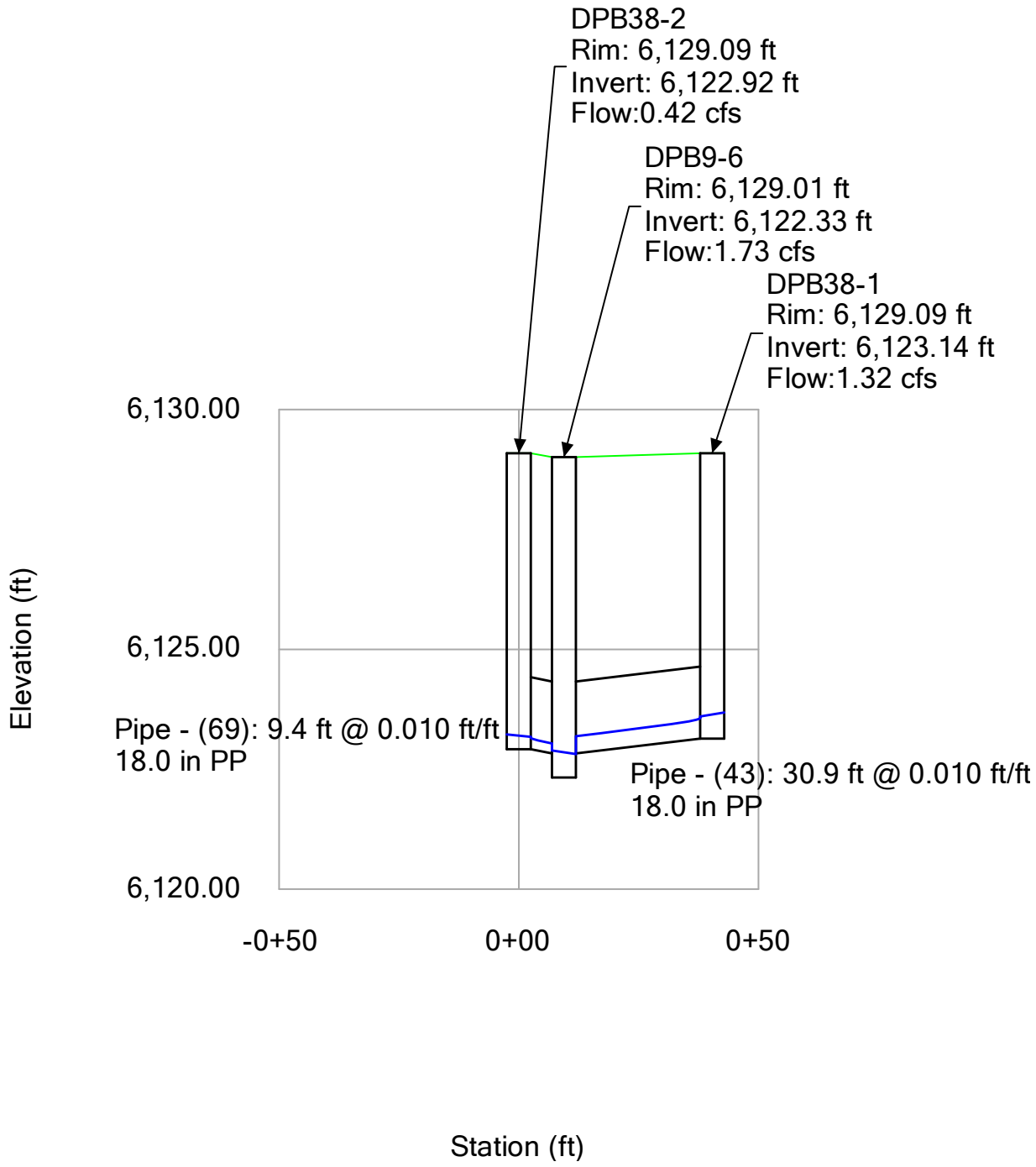
Profile Report

Engineering Profile - F3 DPB36-2 - DPB36-1 (Filing 2-3 Stormcad.stsw)



Profile Report

Engineering Profile - F3 DPB38-2 - DPB38-1 (Filing 2-3 Stormcad.stsw)



Profile Report
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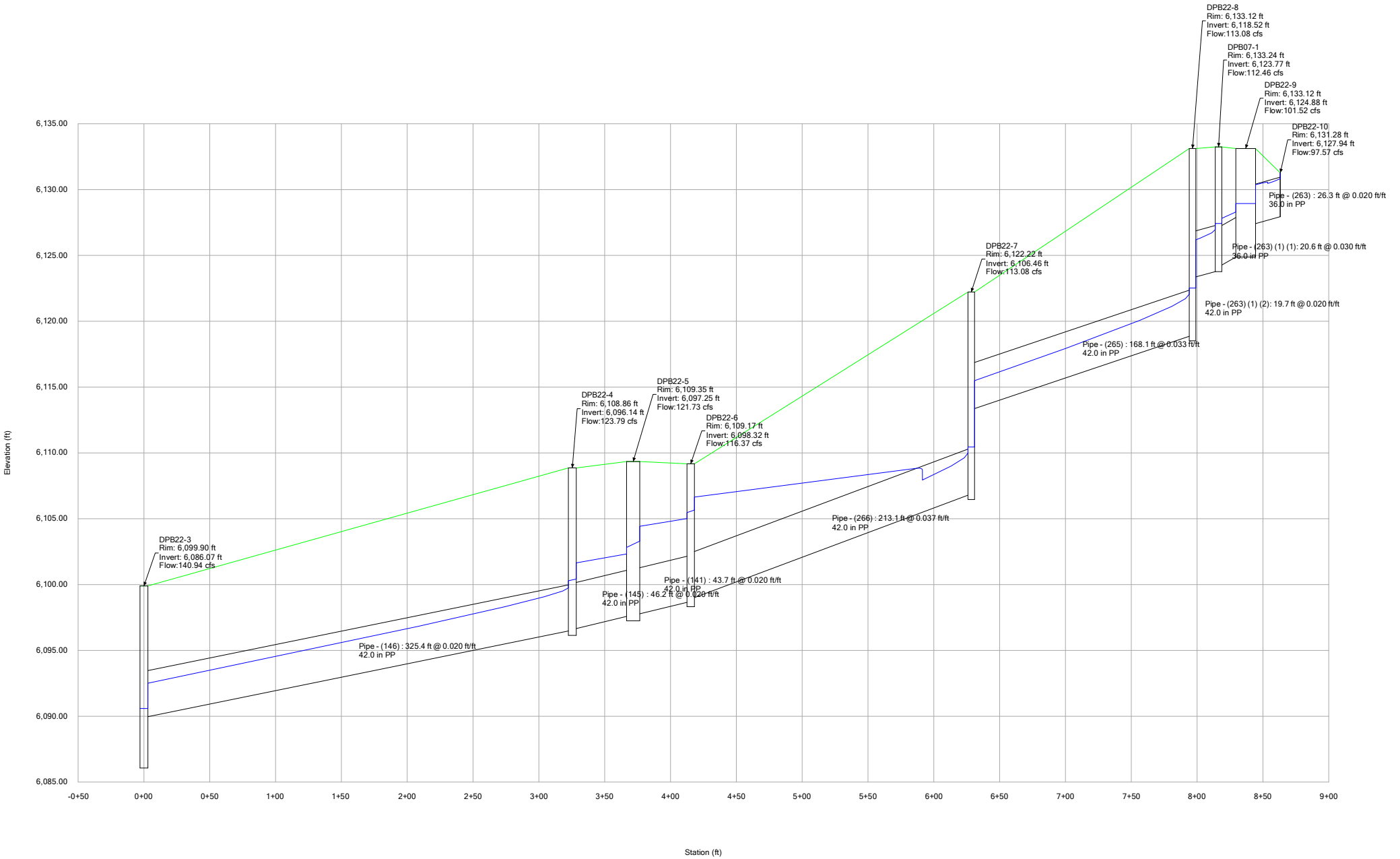

Profile Report

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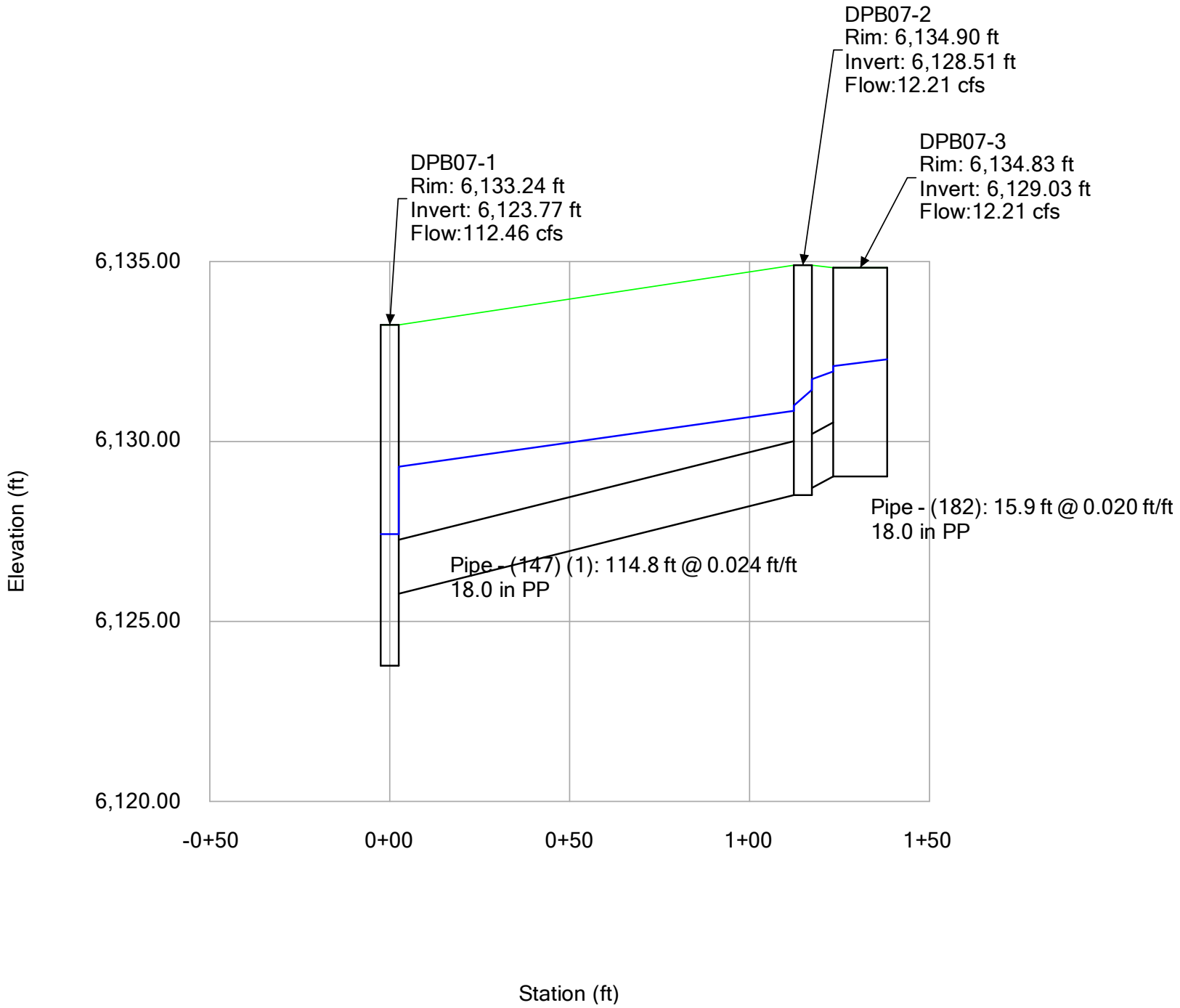
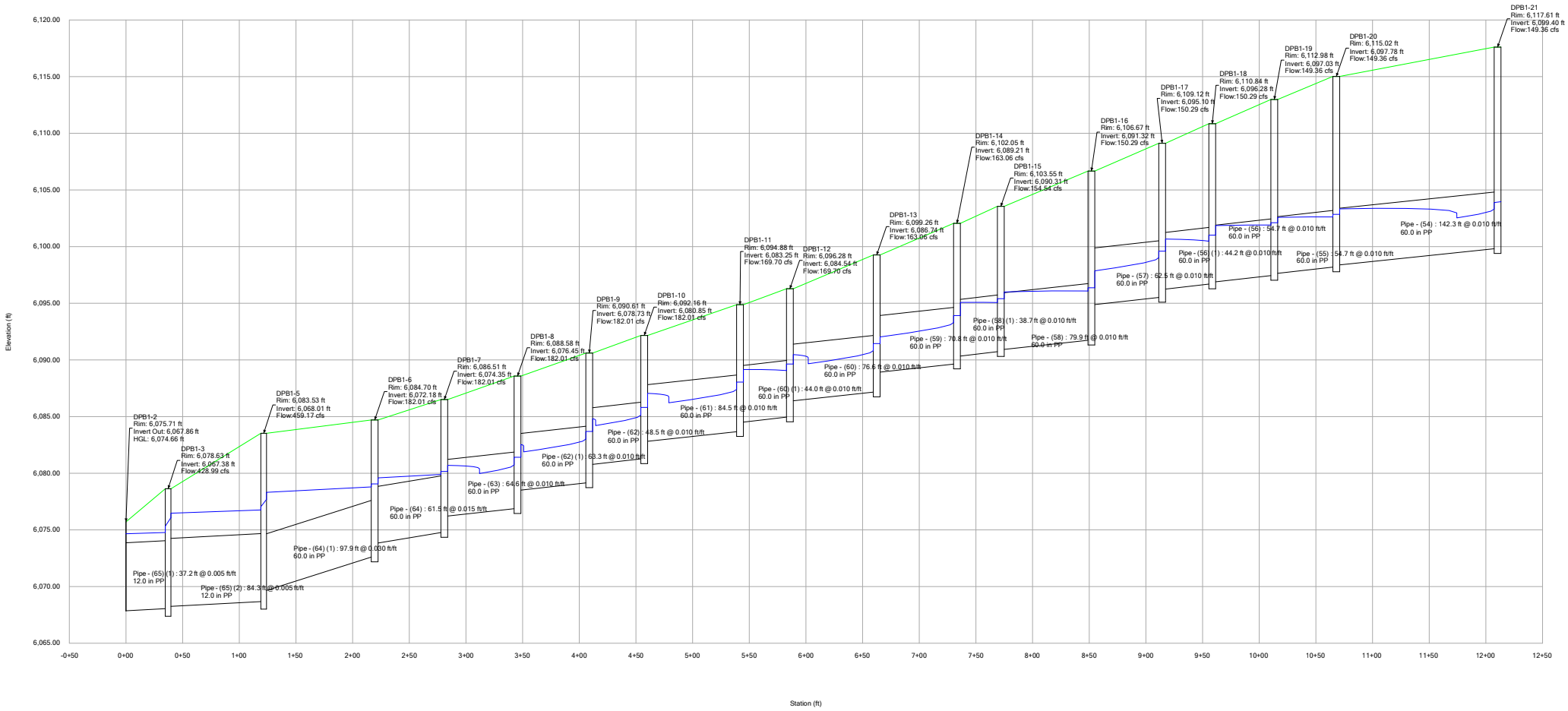
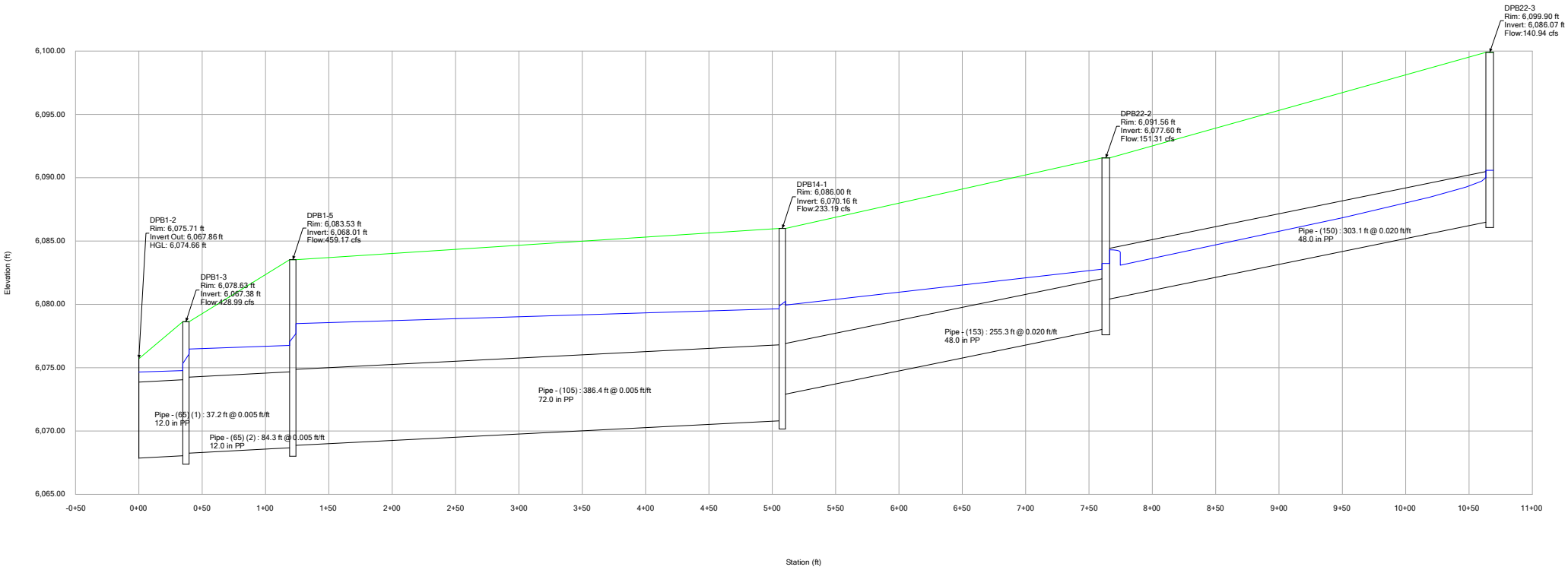


Profile Report

Engineering Profile - F3 DPB1-21 - PONDB (Filing 2-3 Stormcad.stsw)

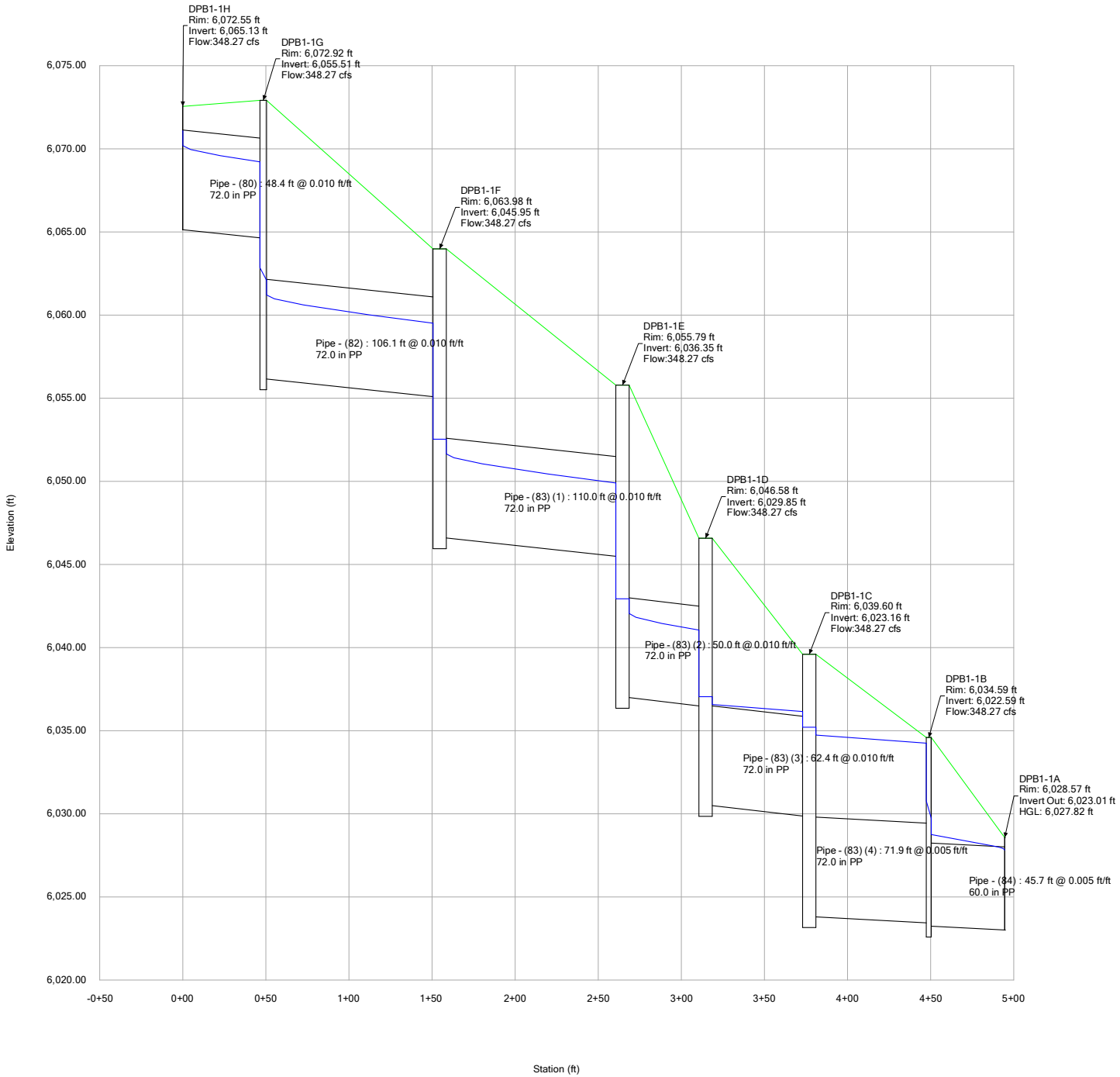


Profile Report
Engineering Profile - F3 DPB22-3 - POND B (Filing 2-3 Stormcad.stsw)



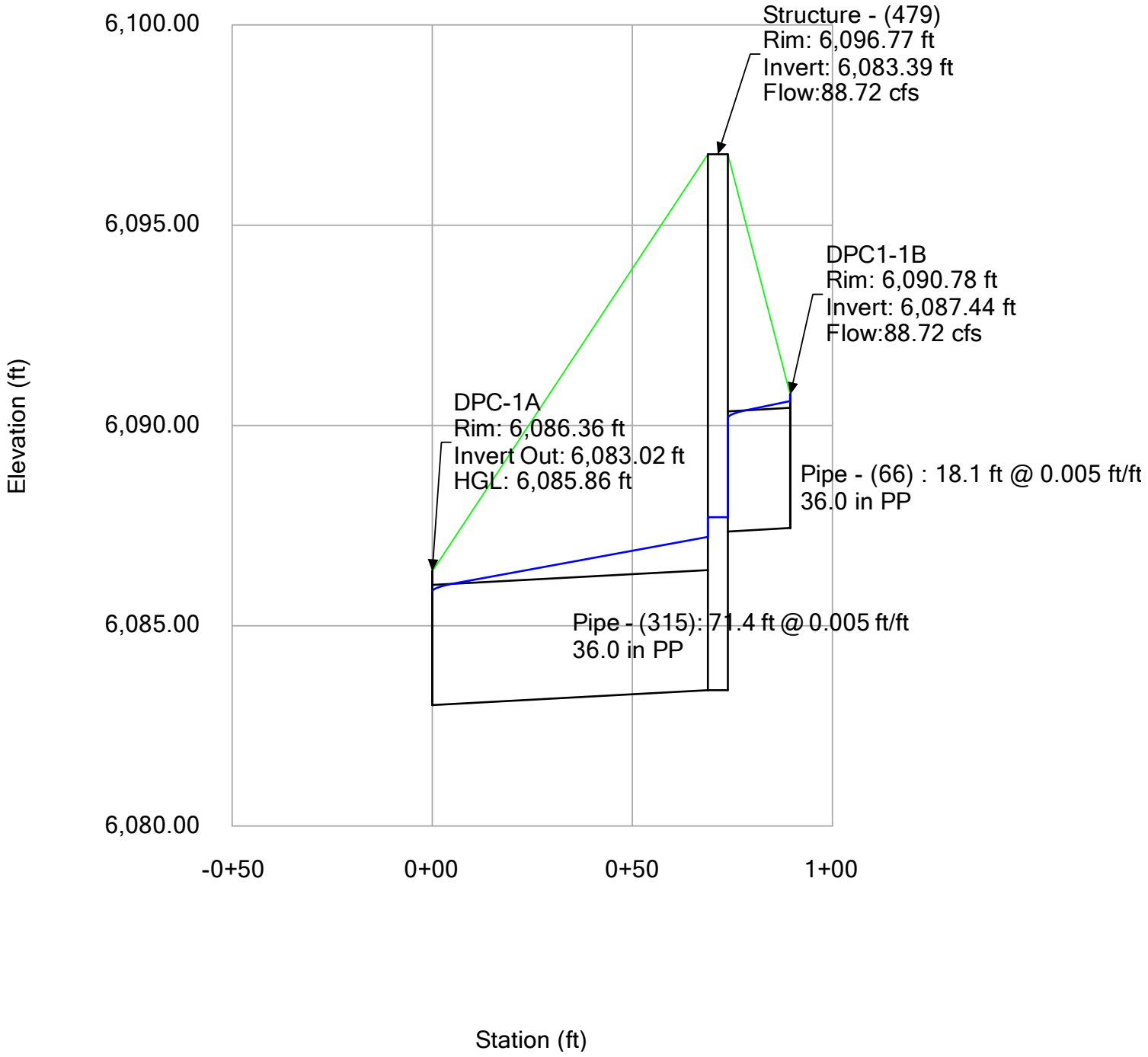
Profile Report

Engineering Profile - POND B OUTFALL (Filing 2-3 Stormcad.stsw)



Profile Report

Engineering Profile - POND C OUTFALL (Filing 2-3 Stormcad.stsw)

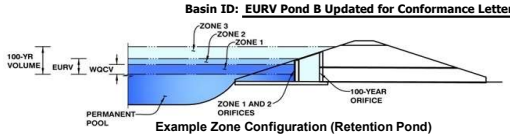


DETENTION BASIN STAGE-STORAGE TABLE BUILDER

MHFD-Detention, Version 4.04 (February 2021)

Project: Ridgegate F2

Basin ID: EURV Pond B Updated for Conformance Letter



Example Zone Configuration (Retention Pond)

Watershed Information

Selected BMP Type =	**EDB**	
Watershed Area =	257.28	acres
Watershed Length =	6,214	ft
Watershed Length to Centroid =	3,100	ft
Watershed Slope =	0.060	ft/ft
Watershed Imperviousness =	17.7%	percent
Percentage Hydrologic Soil Group A =	0.0%	percent
Percentage Hydrologic Soil Group B =	15.0%	percent
Percentage Hydrologic Soil Groups C/D =	85.0%	percent
Target WQCV Drain Time =	40.0	hours
Location for 1-hr Rainfall Depths =	Lone Tree - Municipal Court	

After providing required inputs above including 1-hour rainfall depths, click 'Run CUHP' to generate runoff hydrographs using the embedded Colorado Urban Hydrograph Procedure.

			Optional User Overrides	
Water Quality Capture Volume (WQCV) =	2.270	acre-feet		acre-feet
Excess Urban Runoff Volume (EURV) =	4.045	acre-feet		acre-feet
2-yr Runoff Volume (P1 = 1.06 in.) =	4.462	acre-feet	1.06	inches
5-yr Runoff Volume (P1 = 1.43 in.) =	10.513	acre-feet	1.43	inches
10-yr Runoff Volume (P1 = 1.66 in.) =	15.005	acre-feet	1.66	inches
25-yr Runoff Volume (P1 = 1.68 in.) =	16.950	acre-feet		inches
50-yr Runoff Volume (P1 = 2.26 in.) =	29.085	acre-feet	2.26	inches
100-yr Runoff Volume (P1 = 2.6 in.) =	37.858	acre-feet	2.60	inches
500-yr Runoff Volume (P1 = 3.07 in.) =	48.232	acre-feet		inches
Approximate 2-yr Detention Volume =	2.912	acre-feet		
Approximate 5-yr Detention Volume =	5.843	acre-feet		
Approximate 10-yr Detention Volume =	7.397	acre-feet		
Approximate 25-yr Detention Volume =	7.756	acre-feet		
Approximate 50-yr Detention Volume =	9.722	acre-feet		
Approximate 100-yr Detention Volume =	12.961	acre-feet		

Define Zones and Basin Geometry

Zone 1 Volume (WQCV) =	2.270	acre-feet
Zone 2 Volume (EURV - Zone 1) =	1.775	acre-feet
Select Zone 3 Storage Volume (Optional) =		acre-feet
Total Detention Basin Volume =	4.045	acre-feet
Initial Surcharge Volume (ISV) =	user	ft^3
Initial Surcharge Depth (ISD) =	user	ft
Total Available Detention Depth (H_{total}) =	user	ft
Depth of Trickle Channel (H_{TC}) =	user	ft
Slope of Trickle Channel (S_{TC}) =	user	ft/ft
Slopes of Main Basin Sides (S_{main}) =	user	H:V
Basin Length-to-Width Ratio ($R_{L/W}$) =	user	

Total detention volume is less than 100-year volume.

Initial Surcharge Area (A_{ISV}) =	user	ft^2
Surcharge Volume Length (L_{ISV}) =	user	ft
Surcharge Volume Width (W_{ISV}) =	user	ft
Depth of Basin Floor (H_{FLOOR}) =	user	ft
Length of Basin Floor (L_{FLOOR}) =	user	ft
Width of Basin Floor (W_{FLOOR}) =	user	ft
Area of Basin Floor (A_{FLOOR}) =	user	ft^2
Volume of Basin Floor (V_{FLOOR}) =	user	ft^3
Depth of Main Basin (H_{MAIN}) =	user	ft
Length of Main Basin (L_{MAIN}) =	user	ft
Width of Main Basin (W_{MAIN}) =	user	ft
Area of Main Basin (A_{MAIN}) =	user	ft^2
Volume of Main Basin (V_{MAIN}) =	user	ft^3
Calculated Total Basin Volume (V_{total}) =	**user**	acre-feet

6065.37

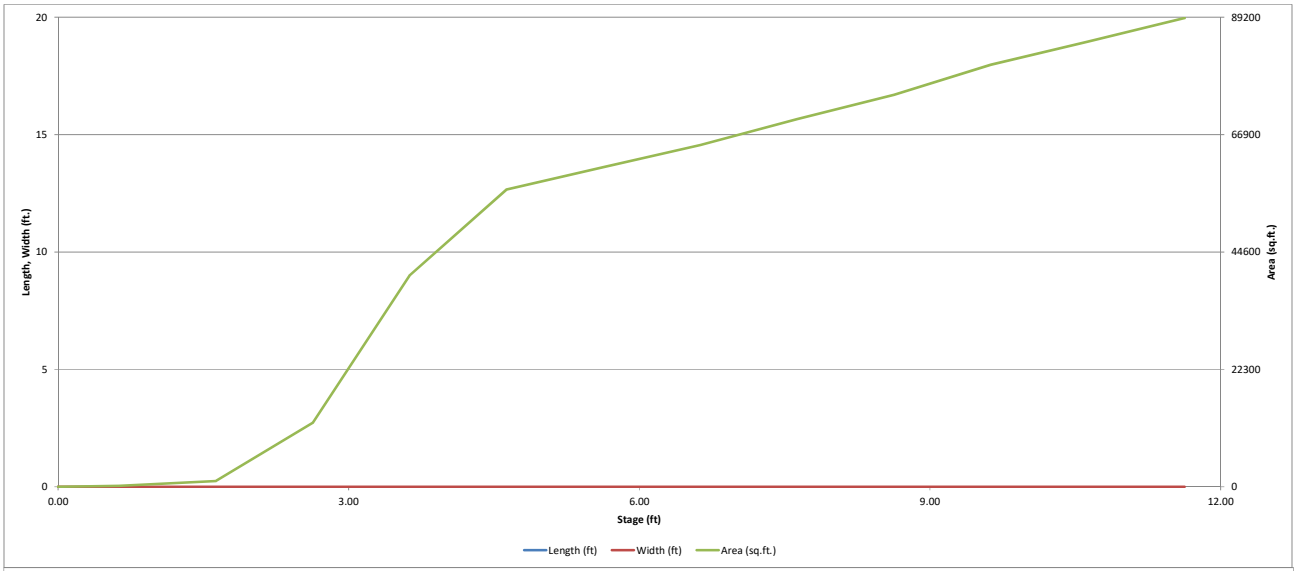
Depth Increment = 1.00 ft

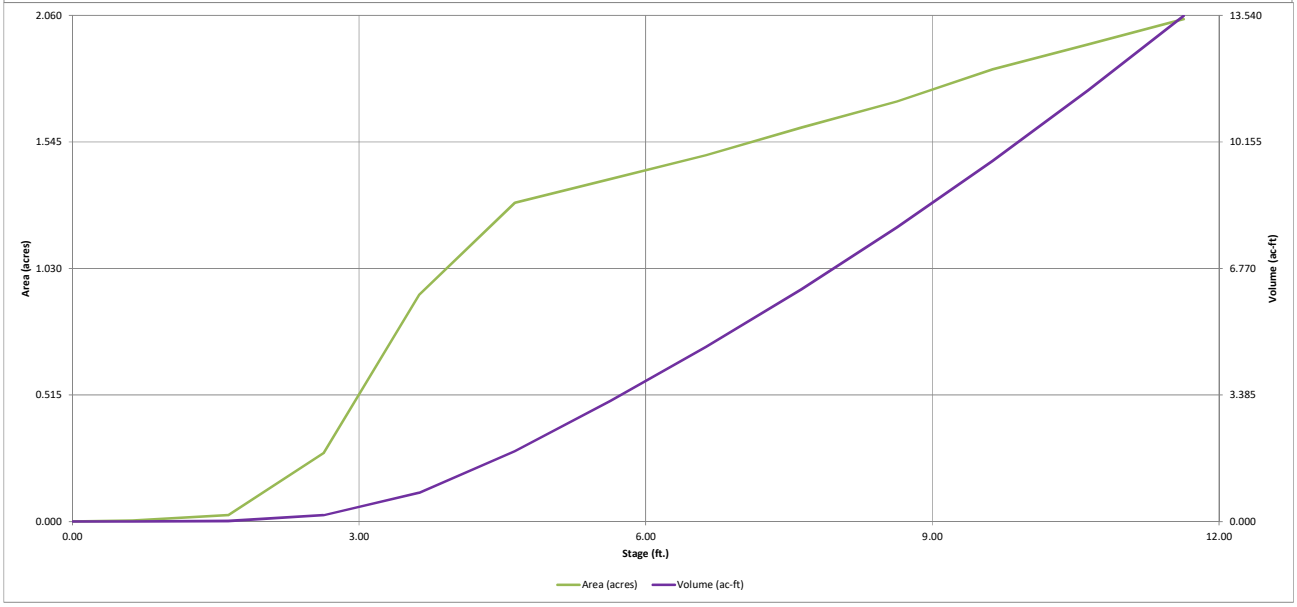
8.489

Stage - Storage Description	Stage (ft)	Optional Override Stage (ft)	Length (ft)	Width (ft)	Area (ft^2)	Optional Override Area (ft^2)	Area (acre)	Volume (ft^3)	Volume (ac-ft)
Top of Micropool	--	0.00	--	--	--	10	0.000		
6066	--	0.63	--	--	--	200	0.005	66	0.002
6067	--	1.63	--	--	--	1,113	0.026	723	0.017
6068	--	2.63	--	--	--	12,158	0.279	7,358	0.169
6069	--	3.63	--	--	--	40,191	0.923	33,532	0.770
6070	--	4.63	--	--	--	56,490	1.297	81,873	1.880
6071	--	5.63	--	--	--	60,706	1.394	140,471	3.225
6072	--	6.63	--	--	--	64,941	1.491	203,294	4.667
6073	--	7.63	--	--	--	69,847	1.603	270,688	6.214
6074	--	8.63	--	--	--	74,466	1.710	342,845	7.871
6075	--	9.63	--	--	--	80,188	1.841	420,172	9.646
6076	--	10.63	--	--	--	84,593	1.942	502,562	11.537
6077	--	11.63	--	--	--	89,059	2.045	589,388	13.530

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

MHFD-Detention, Version 4.04 (February 2021)



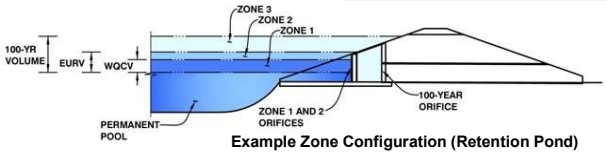


DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.04 (February 2021)

Project: **Ridgegate F2**

Basin ID: **EURV Pond B Updated for Conformance Letter**



Example Zone Configuration (Retention Pond)

	Estimated Stage (ft)	Estimated Volume (ac-ft)	Outlet Type
Zone 1 (WQCV)	4.93	2.270	Orifice Plate
Zone 2 (EURV)	6.21	1.775	Rectangular Orifice
Zone 3			Weir&Pipe (Circular)
Total (all zones)		4.045	

User Input: Orifice at Underdrain Outlet (typically used to drain WQCV in a Filtration BMP)

			Calculated Parameters for Underdrain		
Underdrain Orifice Invert Depth =		ft (distance below the filtration media surface)	Underdrain Orifice Area =		ft^2
Underdrain Orifice Diameter =		inches	Underdrain Orifice Centroid =		feet

User Input: Orifice Plate with one or more orifices or Elliptical Slot Weir (typically used to drain WQCV and/or EURV in a sedimentation BMP)

			Calculated Parameters for Plate		
Invert of Lowest Orifice =	0.00	ft (relative to basin bottom at Stage = 0 ft)	WQ Orifice Area per Row =	N/A	ft^2
Depth at top of Zone using Orifice Plate =	5.22	ft (relative to basin bottom at Stage = 0 ft)	Elliptical Half-Width =	N/A	feet
Orifice Plate: Orifice Vertical Spacing =	N/A	inches	Elliptical Slot Centroid =	N/A	feet
Orifice Plate: Orifice Area per Row =	N/A	inches	Elliptical Slot Area =	N/A	ft^2

User Input: Stage and Total Area of Each Orifice Row (numbered from lowest to highest)

	Row 1 (required)	Row 2 (optional)	Row 3 (optional)	Row 4 (optional)	Row 5 (optional)	Row 6 (optional)	Row 7 (optional)	Row 8 (optional)
Stage of Orifice Centroid (ft)	0.00	1.80	3.60					
Orifice Area (sq. inches)	5.00	6.14	6.14					

	Row 9 (optional)	Row 10 (optional)	Row 11 (optional)	Row 12 (optional)	Row 13 (optional)	Row 14 (optional)	Row 15 (optional)	Row 16 (optional)
Stage of Orifice Centroid (ft)								
Orifice Area (sq. inches)								

User Input: Vertical Orifice (Circular or Rectangular)

	Zone 2 Rectangular	Not Selected		Calculated Parameters for Vertical Orifice	Zone 2 Rectangular	Not Selected	
Invert of Vertical Orifice =	5.23	N/A	ft (relative to basin bottom at Stage = 0 ft)	Vertical Orifice Area =	0.33	N/A	ft^2
Depth at top of Zone using Vertical Orifice =	6.93	N/A	ft (relative to basin bottom at Stage = 0 ft)	Vertical Orifice Centroid =	0.08	N/A	feet
Vertical Orifice Height =	2.00	N/A	inches				
Vertical Orifice Width =	23.55		inches				

User Input: Overflow Weir (Dropbox with Flat or Sloped Grate and Outlet Pipe OR Rectangular/Trapezoidal Weir (and No Outlet Pipe))

	Zone 3 Weir	Not Selected		Calculated Parameters for Overflow Weir	Zone 3 Weir	Not Selected	
Overflow Weir Front Edge Height, Ho =	7.00	N/A	ft (relative to basin bottom at Stage = 0 ft)	Height of Grate Upper Edge, H_t =	7.00	N/A	feet
Overflow Weir Front Edge Length =	30.00	N/A	feet	Overflow Weir Slope Length =	10.00	N/A	feet
Overflow Weir Grate Slope =	0.00	N/A	H:V	Grate Open Area / 100-yr Orifice Area =	7.38	N/A	
Horiz. Length of Weir Sides =	10.00	N/A	feet	Overflow Grate Open Area w/o Debris =	208.80	N/A	ft^2
Overflow Grate Type =	Type C Grate	N/A		Overflow Grate Open Area w/ Debris =	104.40	N/A	ft^2
Debris Clogging % =	50%	N/A	%				

User Input: Outlet Pipe w/ Flow Restriction Plate (Circular Orifice, Restrictor Plate, or Rectangular Orifice)

	Zone 3 Circular	Not Selected		Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate	Zone 3 Circular	Not Selected	
Depth to Invert of Outlet Pipe =	0.25	N/A	ft (distance below basin bottom at Stage = 0 ft)	Outlet Orifice Area =	28.27	N/A	ft^2
Circular Orifice Diameter =	72.00	N/A	inches	Outlet Orifice Centroid =	3.00	N/A	feet
				Half-Central Angle of Restrictor Plate on Pipe =	N/A	N/A	radians

User Input: Emergency Spillway (Rectangular or Trapezoidal)

			Calculated Parameters for Spillway		
Spillway Invert Stage=	9.50	ft (relative to basin bottom at Stage = 0 ft)	Spillway Design Flow Depth=	1.01	feet
Spillway Crest Length =	125.00	feet	Stage at Top of Freeboard =	11.51	feet
Spillway End Slopes =	4.00	H:V	Basin Area at Top of Freeboard =	2.03	acres
Freeboard above Max Water Surface =	1.00	feet	Basin Volume at Top of Freeboard =	13.29	acre-ft

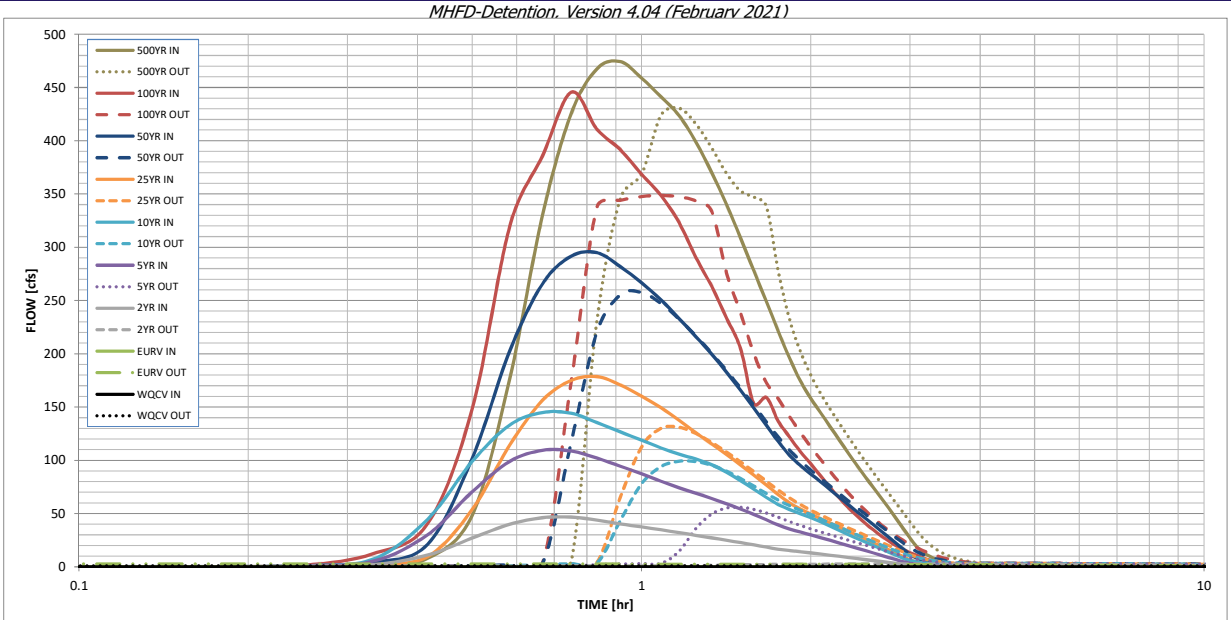
Routed Hydrograph Results

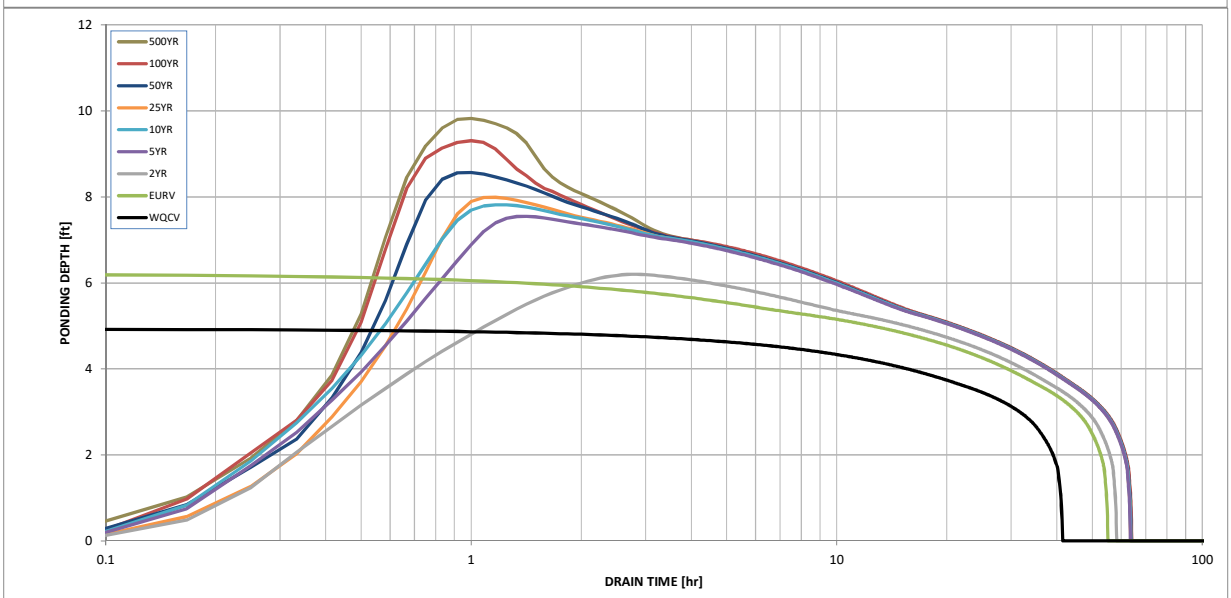
The user can override the default CUHP hydrographs and runoff volumes by entering new values in the Inflow Hydrographs table (Columns W through AF).

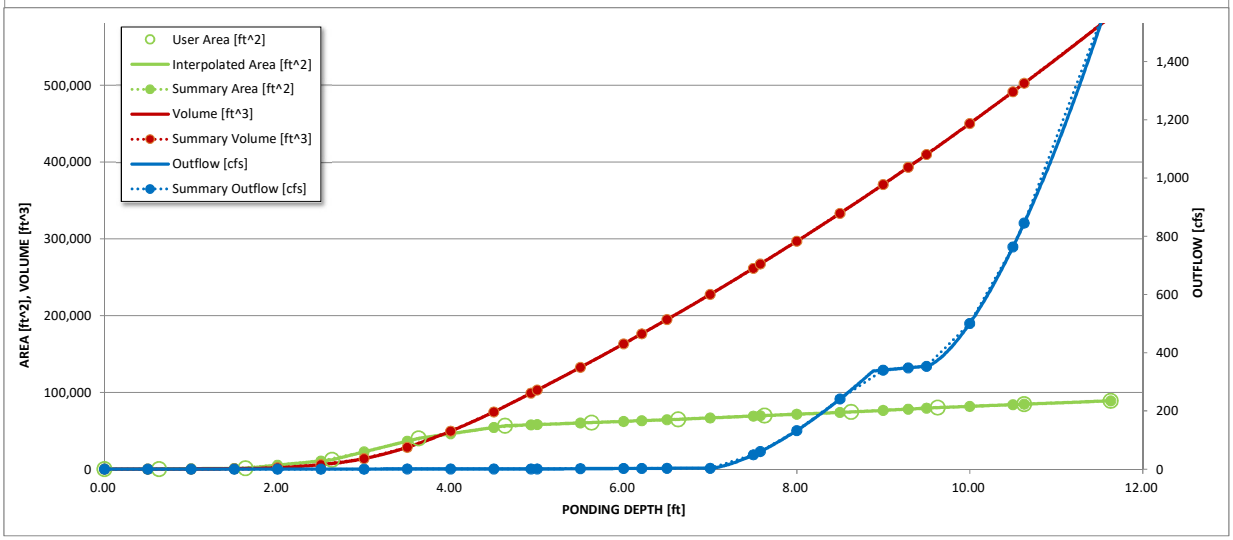
Design Storm Return Period =	WQCV	EURV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
One-Hour Rainfall Depth (in) =	N/A	N/A	1.06	1.43	1.66	1.68	2.26	2.60	3.07
CUHP Runoff Volume (acre-ft) =	2.270	4.045	4.462	10.513	15.005	16.950	29.085	37.858	48.232
User Override Inflow Hydrograph Volume (acre-ft) =	N/A	N/A	4.462	10.513	15.005	16.950	29.085	38.029	48.232
CUHP Predevelopment Peak Q (cfs) =	N/A	N/A	18.9	78.9	113.5	146.0	259.0	338.0	432.8
OPTIONAL Override Predevelopment Peak Q (cfs) =	N/A	N/A							
Predevelopment Unit Peak Flow, q (cfs/acre) =	N/A	N/A	0.07	0.31	0.44	0.57	1.01	1.31	1.68
Peak Inflow Q (cfs) =	N/A	N/A	46.7	109.3	144.9	178.6	294.9	445.5	474.3
Peak Outflow Q (cfs) =	1.0	2.7	2.7	55.9	99.1	131.0	257.5	348.6	430.5
Ratio Peak Outflow to Predevelopment Q =	N/A	N/A	N/A	0.7	0.9	0.9	1.0	1.0	1.0
Structure Controlling Flow =	Plate	Vertical Orifice 1	Vertical Orifice 1	Overflow Weir 1	Overflow Weir 1	Overflow Weir 1	Overflow Weir 1	Outlet Plate 1	Spillway
Max Velocity through Grate 1 (fps) =	N/A	N/A	N/A	0.3	0.5	0.6	1.2	1.6	1.7
Max Velocity through Grate 2 (fps) =	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Time to Drain 97% of Inflow Volume (hours) =	38	50	53	54	51	50	42	38	34
Time to Drain 99% of Inflow Volume (hours) =	**40**	53	56	59	58	58	55	53	50
Maximum Ponding Depth (ft) =	4.93	6.21	6.20	7.55	7.82	7.99	8.57	9.31	9.82
Area at Maximum Ponding Depth (acres) =	1.33	1.45	1.45	1.59	1.62	1.64	1.70	1.80	1.86
Maximum Volume Stored (acre-ft) =	2.273	4.049	4.035	6.070	6.504	6.798	7.751	9.045	9.997

DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.04 (February 2021)







S-A-V-D Chart Axis Override	X-axis	Left Y-Axis	Right Y-Axis
minimum bound			
maximum bound			

DETENTION BASIN OUTLET STRUCTURE DESIGN

Outflow Hydrograph Workbook Filename:

Inflow Hydrographs

The user can override the calculated inflow hydrographs from this workbook with inflow hydrographs developed in a separate program.

	SOURCE	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	USER	CUHP
Time Interval	TIME	WQCV [cfs]	EURV [cfs]	2 Year [cfs]	5 Year [cfs]	10 Year [cfs]	25 Year [cfs]	50 Year [cfs]	100 Year [cfs]	500 Year [cfs]
5.00 min	0:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0:05:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0:10:00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.01	0.17
	0:15:00	0.00	0.00	0.39	0.79	0.98	0.48	0.98	1.43	1.43
	0:20:00	0.00	0.00	2.04	5.26	7.18	2.00	4.25	12.25	7.96
	0:25:00	0.00	0.00	11.04	30.02	44.64	9.63	21.11	40.47	48.17
	0:30:00	0.00	0.00	26.96	70.37	98.81	53.67	101.76	147.81	176.80
	0:35:00	0.00	0.00	40.00	99.04	133.14	114.50	202.79	319.81	329.78
	0:40:00	0.00	0.00	46.10	109.33	144.88	156.24	265.47	385.60	425.48
	0:45:00	0.00	0.00	46.70	108.64	144.14	174.95	291.59	445.51	467.39
	0:50:00	0.00	0.00	43.81	102.02	135.43	178.55	294.88	410.77	474.27
	0:55:00	0.00	0.00	40.36	94.48	126.69	170.78	281.85	391.68	458.89
	1:00:00	0.00	0.00	37.43	87.40	119.03	160.33	266.66	368.76	441.24
	1:05:00	0.00	0.00	34.73	80.32	111.63	149.40	250.63	348.44	423.52
	1:10:00	0.00	0.00	32.11	74.18	105.63	137.58	233.05	323.08	398.82
	1:15:00	0.00	0.00	29.56	69.01	101.18	125.83	215.91	290.26	370.12
	1:20:00	0.00	0.00	27.20	64.15	95.88	115.42	199.62	263.17	340.15
	1:25:00	0.00	0.00	24.95	59.20	88.84	105.46	182.73	233.39	308.75
	1:30:00	0.00	0.00	22.76	54.24	80.99	95.68	165.74	204.83	278.04
	1:35:00	0.00	0.00	20.63	49.33	73.00	86.17	149.18	153.24	249.25
	1:40:00	0.00	0.00	18.54	44.23	65.23	76.84	133.00	159.14	221.48
	1:45:00	0.00	0.00	16.62	39.29	58.56	67.82	117.66	136.83	195.81
	1:50:00	0.00	0.00	15.20	35.50	53.77	59.93	104.63	121.92	174.47
	1:55:00	0.00	0.00	14.10	32.61	49.91	54.15	95.09	108.19	158.10
	2:00:00	0.00	0.00	13.06	30.01	46.14	49.49	87.19	96.63	144.36
	2:05:00	0.00	0.00	12.01	27.45	42.17	45.23	79.72	85.15	131.37
	2:10:00	0.00	0.00	10.89	24.85	38.09	41.06	72.26	74.11	118.67
	2:15:00	0.00	0.00	9.79	22.33	34.09	37.11	65.11	64.25	106.57
	2:20:00	0.00	0.00	8.73	19.88	30.26	33.30	58.25	55.53	95.15
	2:25:00	0.00	0.00	7.73	17.53	26.65	29.65	51.74	47.79	84.51
	2:30:00	0.00	0.00	6.77	15.27	23.24	26.17	45.57	40.81	74.50
	2:35:00	0.00	0.00	5.84	13.08	20.00	22.76	39.59	34.73	64.76
	2:40:00	0.00	0.00	4.93	10.94	16.90	19.42	33.76	29.17	55.20
	2:45:00	0.00	0.00	4.03	8.84	13.88	16.12	28.03	24.37	45.75
	2:50:00	0.00	0.00	3.16	6.79	10.91	12.87	22.37	20.03	36.39
	2:55:00	0.00	0.00	2.32	4.86	8.10	9.65	16.81	16.45	27.22
	3:00:00	0.00	0.00	1.62	3.40	6.05	6.61	11.66	13.40	19.08
	3:05:00	0.00	0.00	1.18	2.55	4.78	4.44	8.26	10.76	13.66
	3:10:00	0.00	0.00	0.92	2.02	3.87	3.10	6.06	8.41	9.99
	3:15:00	0.00	0.00	0.75	1.63	3.15	2.24	4.53	6.30	7.29
	3:20:00	0.00	0.00	0.62	1.32	2.56	1.63	3.39	4.81	5.27
	3:25:00	0.00	0.00	0.50	1.07	2.06	1.23	2.58	3.67	3.77
	3:30:00	0.00	0.00	0.41	0.86	1.62	0.93	1.94	2.81	2.62
	3:35:00	0.00	0.00	0.33	0.67	1.24	0.70	1.45	2.31	1.82
	3:40:00	0.00	0.00	0.27	0.52	0.94	0.54	1.10	1.77	1.37
	3:45:00	0.00	0.00	0.22	0.40	0.70	0.41	0.84	1.44	1.05
	3:50:00	0.00	0.00	0.17	0.29	0.53	0.32	0.65	1.27	0.84
	3:55:00	0.00	0.00	0.13	0.21	0.41	0.25	0.50	0.97	0.65
	4:00:00	0.00	0.00	0.10	0.15	0.30	0.18	0.38	0.90	0.49
	4:05:00	0.00	0.00	0.07	0.10	0.21	0.13	0.27	0.80	0.35
	4:10:00	0.00	0.00	0.04	0.06	0.13	0.09	0.19	0.65	0.24
	4:15:00	0.00	0.00	0.03	0.04	0.08	0.06	0.12	0.66	0.15
	4:20:00	0.00	0.00	0.01	0.02	0.04	0.03	0.06	0.50	0.08
	4:25:00	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.50	0.03
	4:30:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.00
	4:35:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00
	4:40:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00
	4:45:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00
	4:50:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00
	4:55:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00
	5:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.00
	5:05:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00
	5:10:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.00
	5:15:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00
	5:20:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00
	5:25:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00
	5:30:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00
	5:35:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00
	5:40:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00
	5:45:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00
	5:50:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00
	5:55:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00
	6:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00

DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.04 (February 2021)

Summary Stage-Area-Volume-Discharge Relationships

The user can create a summary S-A-V-D by entering the desired stage increments and the remainder of the table will populate automatically.
The user should graphically compare the summary S-A-V-D table to the full S-A-V-D table in the chart to confirm it captures all key transition points.

Stage - Storage Description	Stage [ft]	Area [ft^2]	Area [acres]	Volume [ft^3]	Volume [ac-ft]	Total Outflow [cfs]
EL: 6065.37	0.00	10	0.000	0	0.000	0.00
	0.50	161	0.004	43	0.001	0.12
	1.00	538	0.012	203	0.005	0.17
	1.50	994	0.023	586	0.013	0.20
	2.00	5,200	0.119	1,890	0.043	0.33
	2.50	10,722	0.246	5,871	0.135	0.44
	3.00	22,530	0.517	13,775	0.316	0.51
	3.50	36,547	0.839	28,544	0.655	0.58
	4.00	46,222	1.061	49,519	1.137	0.77
	4.50	54,371	1.248	74,667	1.714	0.89
WQCV WSEL: 6070.30	4.93	57,755	1.326	99,010	2.273	0.97
	5.00	58,050	1.333	103,063	2.366	0.98
	5.50	60,158	1.381	132,615	3.044	1.75
	6.00	62,273	1.430	163,222	3.747	2.45
EURV WSEL:6071.58	6.21	63,162	1.450	176,393	4.049	2.67
	6.50	64,390	1.478	194,888	4.474	2.94
	7.00	66,756	1.533	227,658	5.226	3.33
	7.50	69,209	1.589	261,650	6.007	49.25
5-YR WSEL:6072.92	7.58	69,602	1.598	267,202	6.134	60.66
	8.00	71,556	1.643	296,848	6.815	132.87
	8.50	73,866	1.696	333,203	7.649	241.04
	9.00	76,583	1.758	370,789	8.512	340.35
100-YR WSEL: 6074.68	9.29	78,243	1.796	393,239	9.028	348.16
SPILLWAY CREST: 6074.87	9.50	79,444	1.824	409,796	9.408	353.70
	10.00	81,818	1.878	450,143	10.334	500.85
	10.50	84,020	1.929	491,602	11.286	763.60
	10.63	84,593	1.942	502,562	11.537	845.65
	11.63	89,059	2.045	589,388	13.530	1,634.99

For best results, include the stages of all grade slope changes (e.g. ISV and Floor) from the S-A-V table on Sheet 'Basin'.

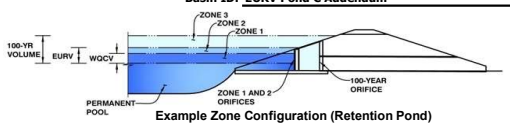
Also include the inverts of all outlets (e.g. vertical orifice, overflow grate, and spillway, where applicable).

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

MHFD-Detention, Version 4.04 (February 2021)

Project: **Ridgegate F2**

Basin ID: **EURV Pond C Addendum**



Example Zone Configuration (Retention Pond)

Watershed Information

Selected BMP Type =	**EDB**	
Watershed Area =	65.03	acres
Watershed Length =	4,029	ft
Watershed Length to Centroid =	1,100	ft
Watershed Slope =	0.020	ft/ft
Watershed Imperviousness =	10.2%	percent
Percentage Hydrologic Soil Group A =	0.0%	percent
Percentage Hydrologic Soil Group B =	0.0%	percent
Percentage Hydrologic Soil Groups C/D =	100.0%	percent
Target WQCV Drain Time =	40.0	hours
Location for 1-hr Rainfall Depths =	Lone Tree - Municipal Court	

After providing required inputs above including 1-hour rainfall depths, click 'Run CUHP' to generate runoff hydrographs using the embedded Colorado Urban Hydrograph Procedure.

			Optional User Overrides	
Water Quality Capture Volume (WQCV) =	0.368	acre-feet		acre-feet
Excess Urban Runoff Volume (EURV) =	0.550	acre-feet		acre-feet
2-yr Runoff Volume (P1 = 1.06 in.) =	0.818	acre-feet	1.06	inches
5-yr Runoff Volume (P1 = 1.43 in.) =	2.318	acre-feet	1.43	inches
10-yr Runoff Volume (P1 = 1.66 in.) =	3.436	acre-feet	1.66	inches
25-yr Runoff Volume (P1 = 1.68 in.) =	3.934	acre-feet		inches
50-yr Runoff Volume (P1 = 2.26 in.) =	6.996	acre-feet	2.26	inches
100-yr Runoff Volume (P1 = 2.6 in.) =	9.234	acre-feet	2.60	inches
500-yr Runoff Volume (P1 = 3.07 in.) =	11.841	acre-feet		inches
Approximate 2-yr Detention Volume =	0.397	acre-feet		
Approximate 5-yr Detention Volume =	1.004	acre-feet		
Approximate 10-yr Detention Volume =	1.327	acre-feet		
Approximate 25-yr Detention Volume =	1.408	acre-feet		
Approximate 50-yr Detention Volume =	1.745	acre-feet		
Approximate 100-yr Detention Volume =	2.490	acre-feet		

Define Zones and Basin Geometry

Zone 1 Volume (WQCV) =	0.368	acre-feet
Zone 2 Volume (EURV - Zone 1) =	0.182	acre-feet
Select Zone 3 Storage Volume (Optional) =		acre-feet
Total Detention Basin Volume =	0.550	acre-feet
Initial Surcharge Volume (ISV) =	user	ft^3
Initial Surcharge Depth (ISD) =	user	ft
Total Available Detention Depth (H_{total}) =	user	ft
Depth of Trickle Channel (H_{TC}) =	user	ft
Slope of Trickle Channel (S_{TC}) =	user	ft/ft
Slopes of Main Basin Sides (S_{main}) =	user	H:V
Basin Length-to-Width Ratio ($R_{L/W}$) =	user	

Total detention volume is less than 100-year volume.

Initial Surcharge Area (A_{ISV}) =	user	ft^2
Surcharge Volume Length (L_{ISV}) =	user	ft
Surcharge Volume Width (W_{ISV}) =	user	ft
Depth of Basin Floor (H_{FLOOR}) =	user	ft
Length of Basin Floor (L_{FLOOR}) =	user	ft
Width of Basin Floor (W_{FLOOR}) =	user	ft
Area of Basin Floor (A_{FLOOR}) =	user	ft^2
Volume of Basin Floor (V_{FLOOR}) =	user	ft^3
Depth of Main Basin (H_{MAIN}) =	user	ft
Length of Main Basin (L_{MAIN}) =	user	ft
Width of Main Basin (W_{MAIN}) =	user	ft
Area of Main Basin (A_{MAIN}) =	user	ft^2
Volume of Main Basin (V_{MAIN}) =	user	ft^3
Calculated Total Basin Volume (V_{total}) =	**user**	acre-feet

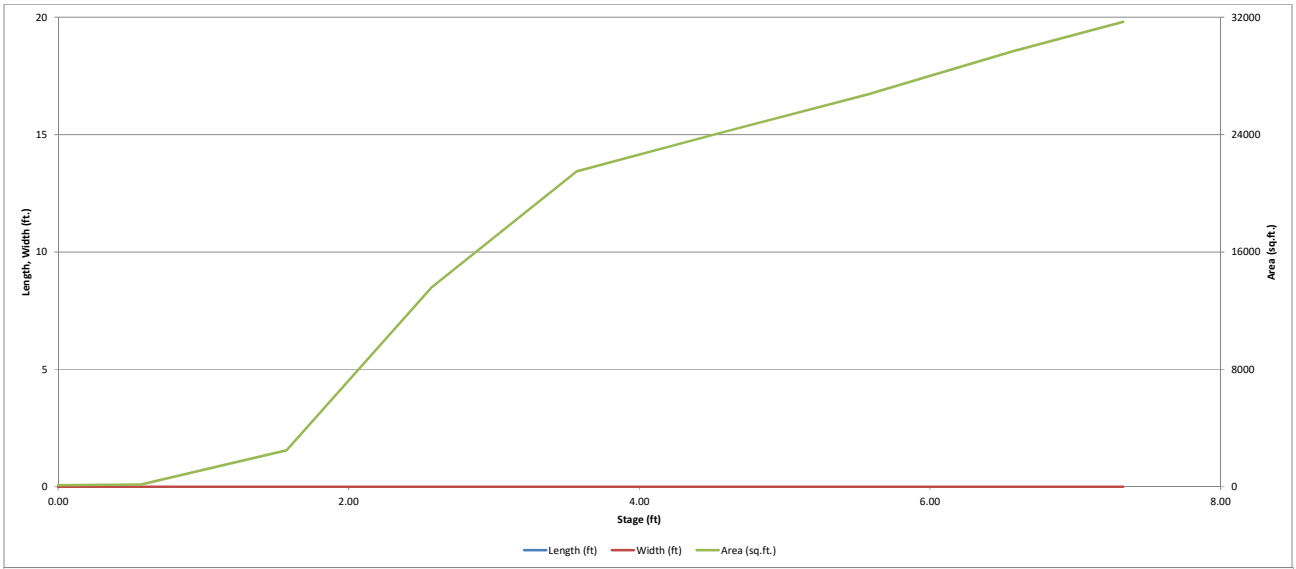
Depth Increment = 1.00 ft

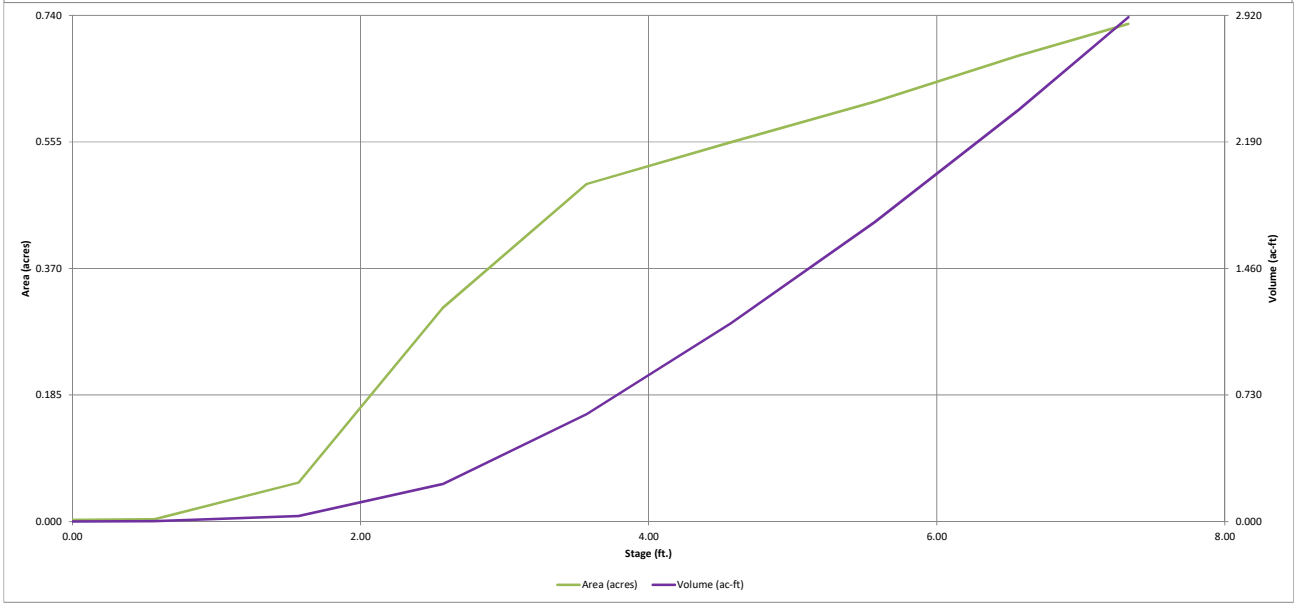
8.489

Stage - Storage Description	Stage (ft)	Optional Override Stage (ft)	Length (ft)	Width (ft)	Area (ft^2)	Optional Override Area (ft^2)	Area (acre)	Volume (ft^3)	Volume (ac-ft)
Top of Micropool	--	0.00	--	--	--	100	0.002		
6090	--	0.57	--	--	--	150	0.003	71	0.002
6091	--	1.57	--	--	--	2478	0.057	1,385	0.032
6092	--	2.57	--	--	--	13589	0.312	9,419	0.216
6093	--	3.57	--	--	--	21496	0.493	26,961	0.619
6094	--	4.57	--	--	--	24155	0.555	49,787	1.143
6095	--	5.57	--	--	--	26740	0.614	75,234	1.727
6096	--	6.57	--	--	--	29683	0.681	103,446	2.375
6096.76	--	7.33	--	--	--	31696	0.728	126,770	2.910

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

MHFD-Detention, Version 4.04 (February 2021)



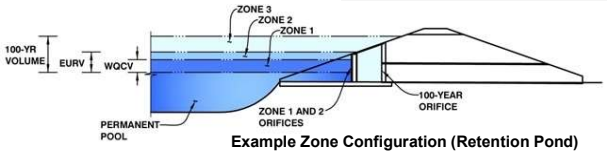


DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.04 (February 2021)

Project: **Ridgegate F2**

Basin ID: **EURV Pond C Addendum**



Example Zone Configuration (Retention Pond)

	Estimated Stage (ft)	Estimated Volume (ac-ft)	Outlet Type
Zone 1 (WQCV)	3.01	0.368	Orifice Plate
Zone 2 (EURV)	3.43	0.182	Orifice Plate
Zone 3			Weir&Pipe (Circular)
Total (all zones)		0.550	

User Input: Orifice at Underdrain Outlet (typically used to drain WQCV in a Filtration BMP)

			Calculated Parameters for Underdrain		
Underdrain Orifice Invert Depth =		ft (distance below the filtration media surface)	Underdrain Orifice Area =		ft^2
Underdrain Orifice Diameter =		inches	Underdrain Orifice Centroid =		feet

User Input: Orifice Plate with one or more orifices or Elliptical Slot Weir (typically used to drain WQCV and/or EURV in a sedimentation BMP)

			Calculated Parameters for Plate		
Invert of Lowest Orifice =	0.00	ft (relative to basin bottom at Stage = 0 ft)	WQ Orifice Area per Row =	N/A	ft^2
Depth at top of Zone using Orifice Plate =	3.79	ft (relative to basin bottom at Stage = 0 ft)	Elliptical Half-Width =	N/A	feet
Orifice Plate: Orifice Vertical Spacing =	N/A	inches	Elliptical Slot Centroid =	N/A	feet
Orifice Plate: Orifice Area per Row =	N/A	inches	Elliptical Slot Area =	N/A	ft^2

User Input: Stage and Total Area of Each Orifice Row (numbered from lowest to highest)

	Row 1 (required)	Row 2 (optional)	Row 3 (optional)	Row 4 (optional)	Row 5 (optional)	Row 6 (optional)	Row 7 (optional)	Row 8 (optional)
Stage of Orifice Centroid (ft)	0.00	1.25	2.49					
Orifice Area (sq. inches)	1.12	1.30	3.50					

	Row 9 (optional)	Row 10 (optional)	Row 11 (optional)	Row 12 (optional)	Row 13 (optional)	Row 14 (optional)	Row 15 (optional)	Row 16 (optional)
Stage of Orifice Centroid (ft)								
Orifice Area (sq. inches)								

User Input: Vertical Orifice (Circular or Rectangular)

	Not Selected	Not Selected		Calculated Parameters for Vertical Orifice	Not Selected	Not Selected	
Invert of Vertical Orifice =	N/A	N/A	ft (relative to basin bottom at Stage = 0 ft)	Vertical Orifice Area =	N/A	N/A	ft^2
Depth at top of Zone using Vertical Orifice =	N/A	N/A	ft (relative to basin bottom at Stage = 0 ft)	Vertical Orifice Centroid =	N/A	N/A	feet
Vertical Orifice Diameter =	N/A	N/A	inches				

User Input: Overflow Weir (Dropbox with Flat or Sloped Grate and Outlet Pipe OR Rectangular/Trapezoidal Weir (and No Outlet Pipe))

	Zone 3 Weir	Not Selected		Calculated Parameters for Overflow Weir	Zone 3 Weir	Not Selected	
Overflow Weir Front Edge Height, Ho =	3.75	N/A	ft (relative to basin bottom at Stage = 0 ft)	Height of Grate Upper Edge, H_t =	3.75	N/A	feet
Overflow Weir Front Edge Length =	8.00	N/A	feet	Overflow Weir Slope Length =	8.00	N/A	feet
Overflow Weir Grate Slope =	0.00	N/A	H:V	Grate Open Area / 100-yr Orifice Area =	6.30	N/A	
Horiz. Length of Weir Sides =	8.00	N/A	feet	Overflow Grate Open Area w/o Debris =	44.54	N/A	ft^2
Overflow Grate Type =	Type C Grate	N/A		Overflow Grate Open Area w/ Debris =	22.27	N/A	ft^2
Debris Clogging % =	50%	N/A	%				

User Input: Outlet Pipe w/ Flow Restriction Plate (Circular Orifice, Restrictor Plate, or Rectangular Orifice)

	Zone 3 Circular	Not Selected		Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate	Zone 3 Circular	Not Selected	
Depth to Invert of Outlet Pipe =	2.00	N/A	ft (distance below basin bottom at Stage = 0 ft)	Outlet Orifice Area =	7.07	N/A	ft^2
Circular Orifice Diameter =	36.00	N/A	inches	Outlet Orifice Centroid =	1.50	N/A	feet
				Half-Central Angle of Restrictor Plate on Pipe =	N/A	N/A	radians

User Input: Emergency Spillway (Rectangular or Trapezoidal)

			Calculated Parameters for Spillway		
Spillway Invert Stage=	5.67	ft (relative to basin bottom at Stage = 0 ft)	Spillway Design Flow Depth=	0.66	feet
Spillway Crest Length =	60.00	feet	Stage at Top of Freeboard =	7.33	feet
Spillway End Slopes =	4.00	H:V	Basin Area at Top of Freeboard =	0.73	acres
Freeboard above Max Water Surface =	1.00	feet	Basin Volume at Top of Freeboard =	2.91	acre-ft

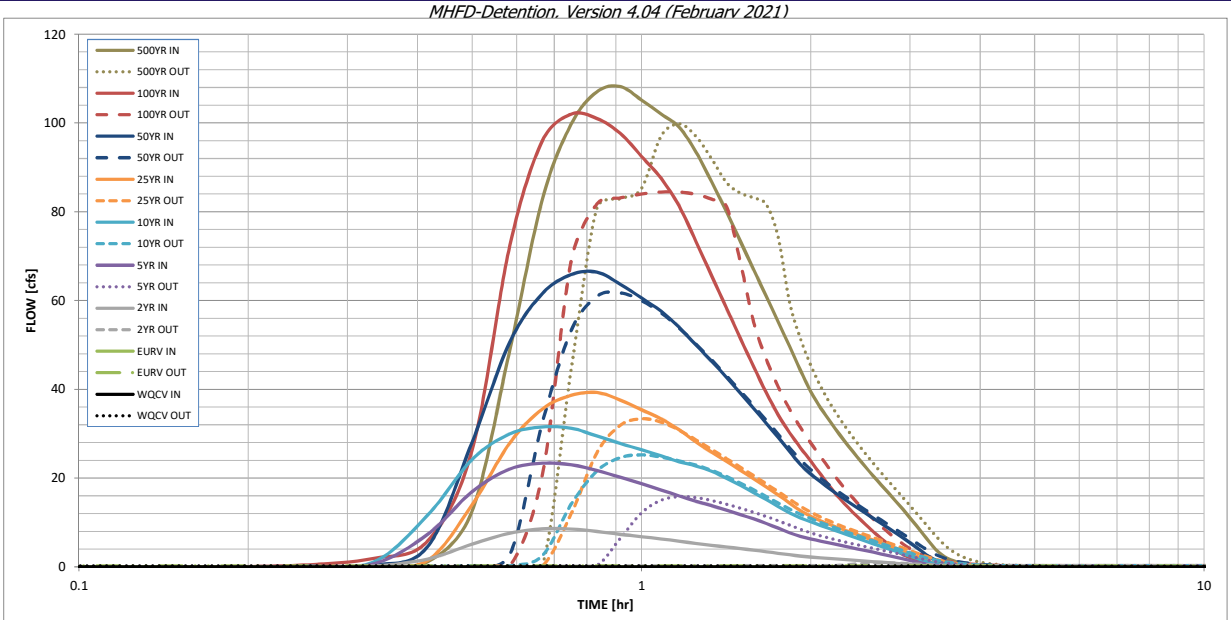
Routed Hydrograph Results

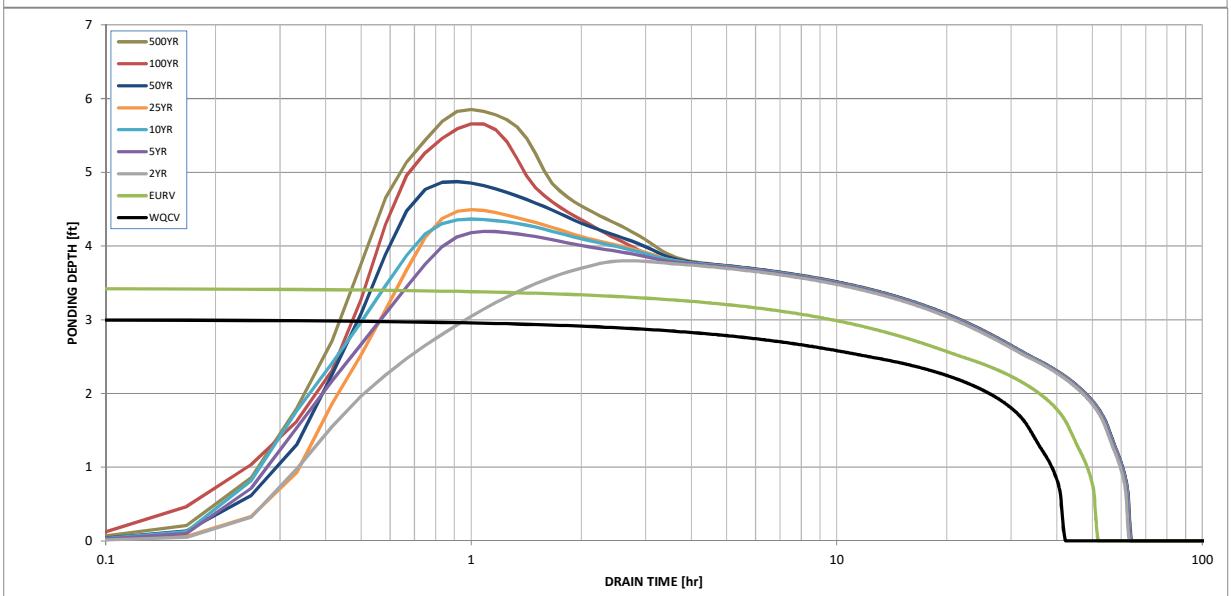
The user can override the default CUHP hydrographs and runoff volumes by entering new values in the Inflow Hydrographs table (Columns W through AF).

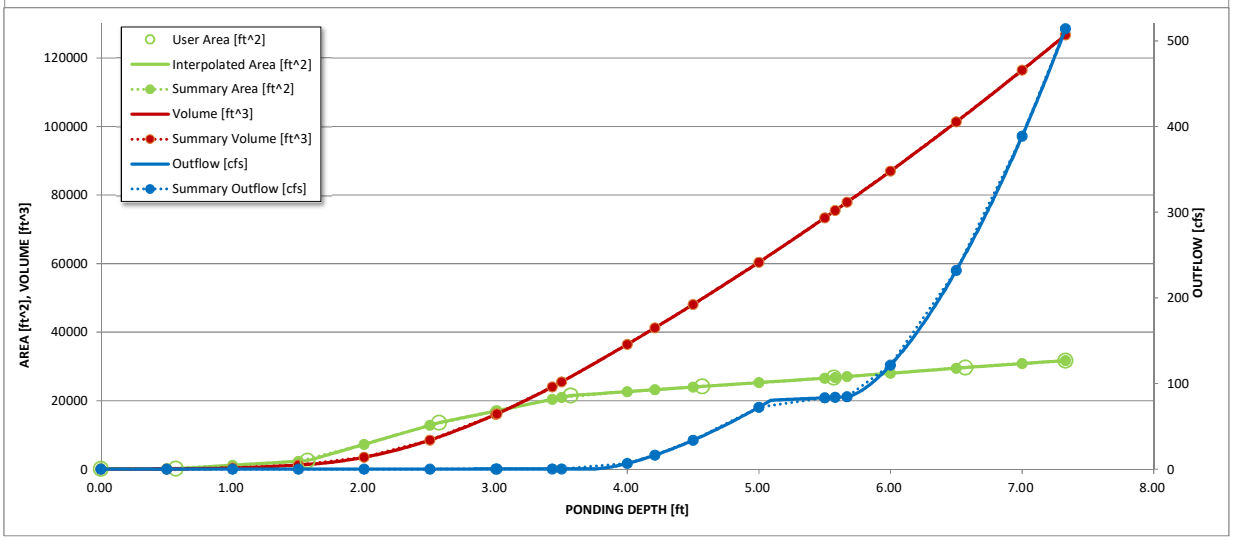
Design Storm Return Period =	WQCV	EURV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
One-Hour Rainfall Depth (in) =	N/A	N/A	1.06	1.43	1.66	1.68	2.26	2.60	3.07
CUHP Runoff Volume (acre-ft) =	0.368	0.550	0.818	2.318	3.436	3.934	6.996	9.234	11.841
User Override Inflow Hydrograph Volume (acre-ft) =	N/A	N/A	0.818	2.318	3.436	3.934	6.996	9.209	11.841
CUHP Predevelopment Peak Q (cfs) =	N/A	N/A	5.3	19.7	27.9	35.8	62.8	82.0	104.5
OPTIONAL Override Predevelopment Peak Q (cfs) =	N/A	N/A							
Predevelopment Unit Peak Flow, q (cfs/acre) =	N/A	N/A	0.08	0.30	0.43	0.55	0.97	1.26	1.61
Peak Inflow Q (cfs) =	N/A	N/A	8.5	23.3	31.5	39.3	66.4	102.0	108.2
Peak Outflow Q (cfs) =	0.2	0.2	0.9	15.8	25.2	33.3	61.7	84.4	99.8
Ratio Peak Outflow to Predevelopment Q =	N/A	N/A	N/A	0.8	0.9	0.9	1.0	1.0	1.0
Structure Controlling Flow =	Plate	Plate	Overflow Weir 1	Overflow Weir 1	Overflow Weir 1	Overflow Weir 1	Overflow Weir 1	Outlet Plate 1	Spillway
Max Velocity through Grate 1 (fps) =	N/A	N/A	0.01	0.3	0.6	0.7	1.4	1.9	1.9
Max Velocity through Grate 2 (fps) =	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Time to Drain 97% of Inflow Volume (hours) =	38	46	55	49	45	43	33	28	23
Time to Drain 99% of Inflow Volume (hours) =	**40**	49	60	56	54	53	49	46	43
Maximum Ponding Depth (ft) =	3.01	3.43	3.80	4.20	4.37	4.49	4.87	5.66	5.85
Area at Maximum Ponding Depth (acres) =	0.39	0.47	0.51	0.53	0.54	0.55	0.57	0.62	0.63
Maximum Volume Stored (acre-ft) =	0.371	0.552	0.734	0.937	1.028	1.099	1.312	1.776	1.902

DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.04 (February 2021)







S-A-V-D Chart Axis Override	X-axis	Left Y-Axis	Right Y-Axis
minimum bound			
maximum bound			

DETENTION BASIN OUTLET STRUCTURE DESIGN

Outflow Hydrograph Workbook Filename:

Inflow Hydrographs

The user can override the calculated inflow hydrographs from this workbook with inflow hydrographs developed in a separate program.

	SOURCE	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	USER	CUHP
Time Interval	TIME	WQCV [cfs]	EURV [cfs]	2 Year [cfs]	5 Year [cfs]	10 Year [cfs]	25 Year [cfs]	50 Year [cfs]	100 Year [cfs]	500 Year [cfs]
5.00 min	0:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0:05:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0:10:00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02
	0:15:00	0.00	0.00	0.04	0.08	0.10	0.05	0.10	0.40	0.14
	0:20:00	0.00	0.00	0.20	0.67	1.05	0.19	0.39	1.90	1.14
	0:25:00	0.00	0.00	1.77	7.32	11.65	1.45	4.55	5.82	12.58
	0:30:00	0.00	0.00	5.12	16.95	24.20	14.00	28.13	26.26	48.85
	0:35:00	0.00	0.00	7.60	22.04	29.96	27.92	50.63	72.38	82.85
	0:40:00	0.00	0.00	8.54	23.34	31.50	35.57	61.57	96.01	99.72
	0:45:00	0.00	0.00	8.53	23.00	31.24	38.64	65.84	101.99	107.01
	0:50:00	0.00	0.00	7.97	21.70	29.47	39.28	66.40	101.00	108.22
	0:55:00	0.00	0.00	7.32	20.17	27.79	37.58	63.66	97.67	105.17
	1:00:00	0.00	0.00	6.79	18.73	26.39	35.41	60.59	92.49	102.02
	1:05:00	0.00	0.00	6.31	17.33	25.02	33.35	57.61	87.55	99.05
	1:10:00	0.00	0.00	5.79	15.98	23.68	30.88	53.96	81.27	93.47
	1:15:00	0.00	0.00	5.27	14.80	22.73	28.13	49.97	73.32	86.66
	1:20:00	0.00	0.00	4.86	13.76	21.52	25.84	46.33	65.55	79.99
	1:25:00	0.00	0.00	4.48	12.76	19.96	23.75	42.66	58.26	73.28
	1:30:00	0.00	0.00	4.12	11.77	18.34	21.75	39.12	51.41	66.90
	1:35:00	0.00	0.00	3.76	10.80	16.73	19.84	35.69	45.03	60.95
	1:40:00	0.00	0.00	3.41	9.78	15.15	17.99	32.39	39.27	55.21
	1:45:00	0.00	0.00	3.06	8.72	13.63	16.18	29.18	34.25	49.68
	1:50:00	0.00	0.00	2.72	7.68	12.16	14.39	26.03	30.25	44.31
	1:55:00	0.00	0.00	2.43	6.86	11.04	12.68	23.08	26.85	39.48
	2:00:00	0.00	0.00	2.21	6.29	10.15	11.39	20.92	23.80	35.78
	2:05:00	0.00	0.00	2.04	5.79	9.33	10.36	19.11	20.80	32.66
	2:10:00	0.00	0.00	1.88	5.32	8.55	9.49	17.50	17.96	29.82
	2:15:00	0.00	0.00	1.73	4.88	7.82	8.70	16.01	15.43	27.22
	2:20:00	0.00	0.00	1.59	4.47	7.12	7.98	14.64	13.28	24.82
	2:25:00	0.00	0.00	1.44	4.07	6.45	7.30	13.35	11.35	22.57
	2:30:00	0.00	0.00	1.31	3.67	5.81	6.64	12.12	9.62	20.47
	2:35:00	0.00	0.00	1.18	3.29	5.20	6.01	10.95	7.91	18.52
	2:40:00	0.00	0.00	1.05	2.91	4.62	5.40	9.81	6.46	16.62
	2:45:00	0.00	0.00	0.92	2.55	4.07	4.79	8.71	5.09	14.77
	2:50:00	0.00	0.00	0.79	2.18	3.52	4.18	7.61	3.77	12.93
	2:55:00	0.00	0.00	0.66	1.82	2.98	3.58	6.53	2.77	11.09
	3:00:00	0.00	0.00	0.54	1.46	2.44	2.98	5.45	2.11	9.26
	3:05:00	0.00	0.00	0.41	1.11	1.91	2.38	4.37	1.62	7.44
	3:10:00	0.00	0.00	0.29	0.76	1.39	1.78	3.30	1.26	5.63
	3:15:00	0.00	0.00	0.18	0.48	0.98	1.20	2.28	0.98	3.96
	3:20:00	0.00	0.00	0.11	0.33	0.75	0.74	1.53	0.76	2.74
	3:25:00	0.00	0.00	0.07	0.24	0.59	0.48	1.07	0.59	1.94
	3:30:00	0.00	0.00	0.06	0.19	0.47	0.32	0.77	0.46	1.39
	3:35:00	0.00	0.00	0.05	0.14	0.37	0.21	0.55	0.37	0.97
	3:40:00	0.00	0.00	0.04	0.11	0.29	0.14	0.40	0.31	0.66
	3:45:00	0.00	0.00	0.03	0.09	0.22	0.09	0.28	0.26	0.43
	3:50:00	0.00	0.00	0.02	0.07	0.16	0.06	0.19	0.21	0.27
	3:55:00	0.00	0.00	0.02	0.05	0.11	0.04	0.14	0.18	0.18
	4:00:00	0.00	0.00	0.01	0.03	0.08	0.03	0.10	0.15	0.13
	4:05:00	0.00	0.00	0.01	0.02	0.06	0.02	0.07	0.12	0.10
	4:10:00	0.00	0.00	0.01	0.02	0.04	0.02	0.06	0.09	0.08
	4:15:00	0.00	0.00	0.01	0.01	0.03	0.01	0.04	0.07	0.06
	4:20:00	0.00	0.00	0.00	0.01	0.02	0.01	0.03	0.06	0.04
	4:25:00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.05	0.03
	4:30:00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.04	0.02
	4:35:00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.01
	4:40:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
	4:45:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
	4:50:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
	4:55:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
	5:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
	5:05:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
	5:10:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
	5:15:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
	5:20:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
	5:25:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
	5:30:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
	5:35:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
	5:40:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
	5:45:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
	5:50:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
	5:55:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
	6:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00

DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.04 (February 2021)

Summary Stage-Area-Volume-Discharge Relationships

The user can create a summary S-A-V-D by entering the desired stage increments and the remainder of the table will populate automatically.
The user should graphically compare the summary S-A-V-D table to the full S-A-V-D table in the chart to confirm it captures all key transition points.

Stage - Storage Description	Stage [ft]	Area [ft^2]	Area [acres]	Volume [ft^3]	Volume [ac-ft]	Total Outflow [cfs]
EL: 6089.43	0.00	100	0.002	0	0.000	0.00
	0.50	144	0.003	61	0.001	0.03
	1.00	1,151	0.026	351	0.008	0.04
	1.50	2,315	0.053	1,217	0.028	0.07
	2.00	7,256	0.167	3,478	0.080	0.09
	2.50	12,811	0.294	8,495	0.195	0.12
	3.00	16,989	0.390	15,993	0.367	0.21
WQCV WSEL: 6092.44	3.01	17,068	0.392	16,163	0.371	0.21
EURV WSEL: 6092.86	3.43	20,389	0.468	24,029	0.552	0.25
	3.50	20,943	0.481	25,476	0.585	0.25
	4.00	22,639	0.520	36,450	0.837	6.73
5-YR WSEL: 6093.63	4.21	23,198	0.533	41,263	0.947	16.39
	4.50	23,969	0.550	48,102	1.104	33.81
	5.00	25,267	0.580	60,412	1.387	72.40
	5.50	26,559	0.610	73,369	1.684	83.37
100-YR WSEL: 6095.09	5.58	26,769	0.615	75,502	1.733	83.92
SPILLWAY CREST: 6095.1	5.67	27,034	0.621	77,923	1.789	84.54
	6.00	28,005	0.643	87,004	1.997	121.50
	6.50	29,477	0.677	101,375	2.327	232.18
	7.00	30,822	0.708	116,454	2.673	388.88
	7.33	31,696	0.728	126,770	2.910	514.30

For best results, include the stages of all grade slope changes (e.g. ISV and Floor) from the S-A-V table on Sheet 'Basin'.

Also include the inverts of all outlets (e.g. vertical orifice, overflow grate, and spillway, where applicable).

Weir Report

Pond B Spillway

Trapezoidal Weir

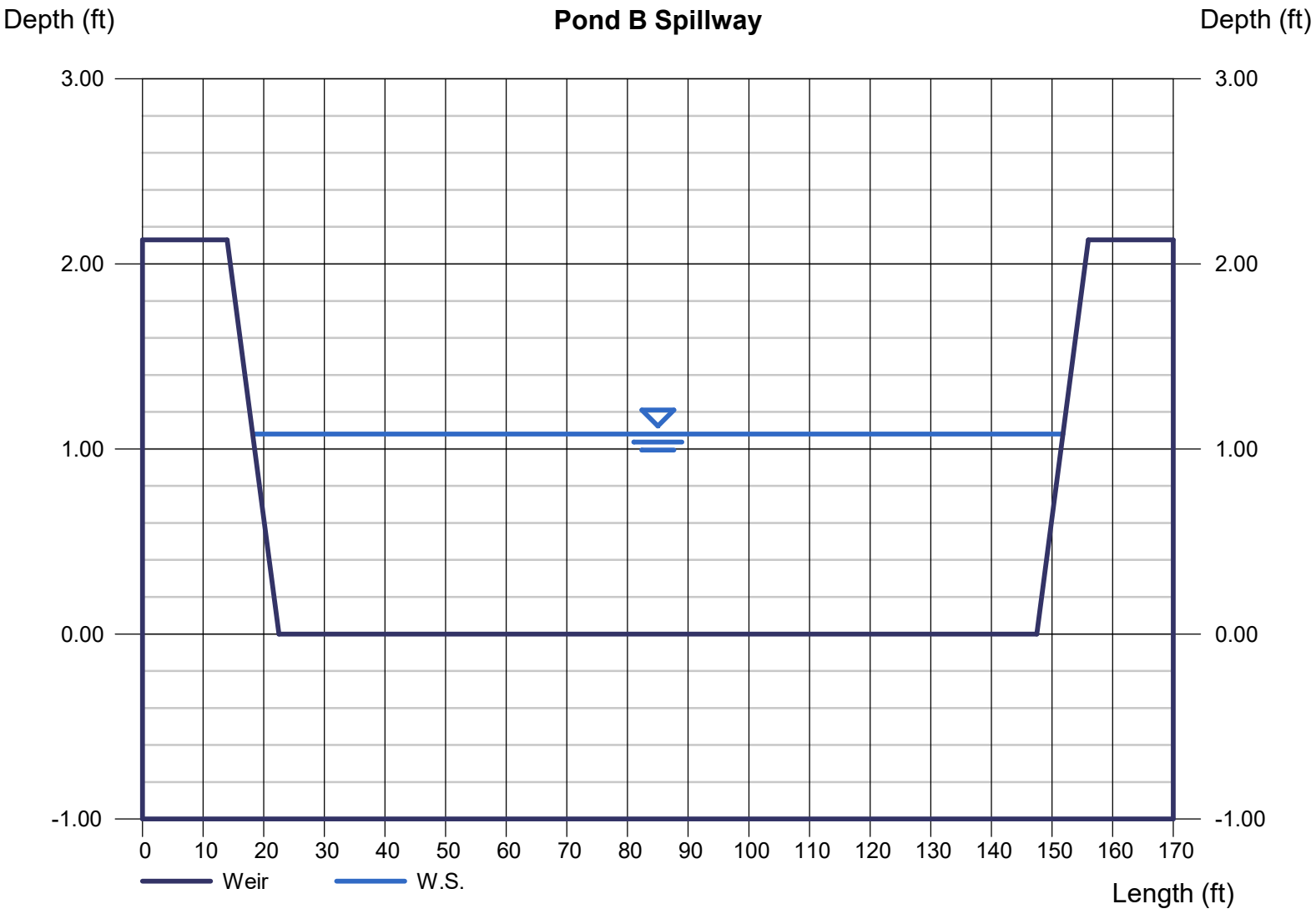
Crest	= Sharp
Bottom Length (ft)	= 125.00
Total Depth (ft)	= 2.13
Side Slope (z:1)	= 4.00

Calculations

Weir Coeff. Cw	= 3.10
Compute by:	Known Q
Known Q (cfs)	= 445.51

Highlighted

Depth (ft)	= 1.08
Q (cfs)	= 445.51
Area (sqft)	= 139.67
Velocity (ft/s)	= 3.19
Top Width (ft)	= 133.64



Weir Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Friday, Mar 29 2024

Pond C Spillway

Trapezoidal Weir

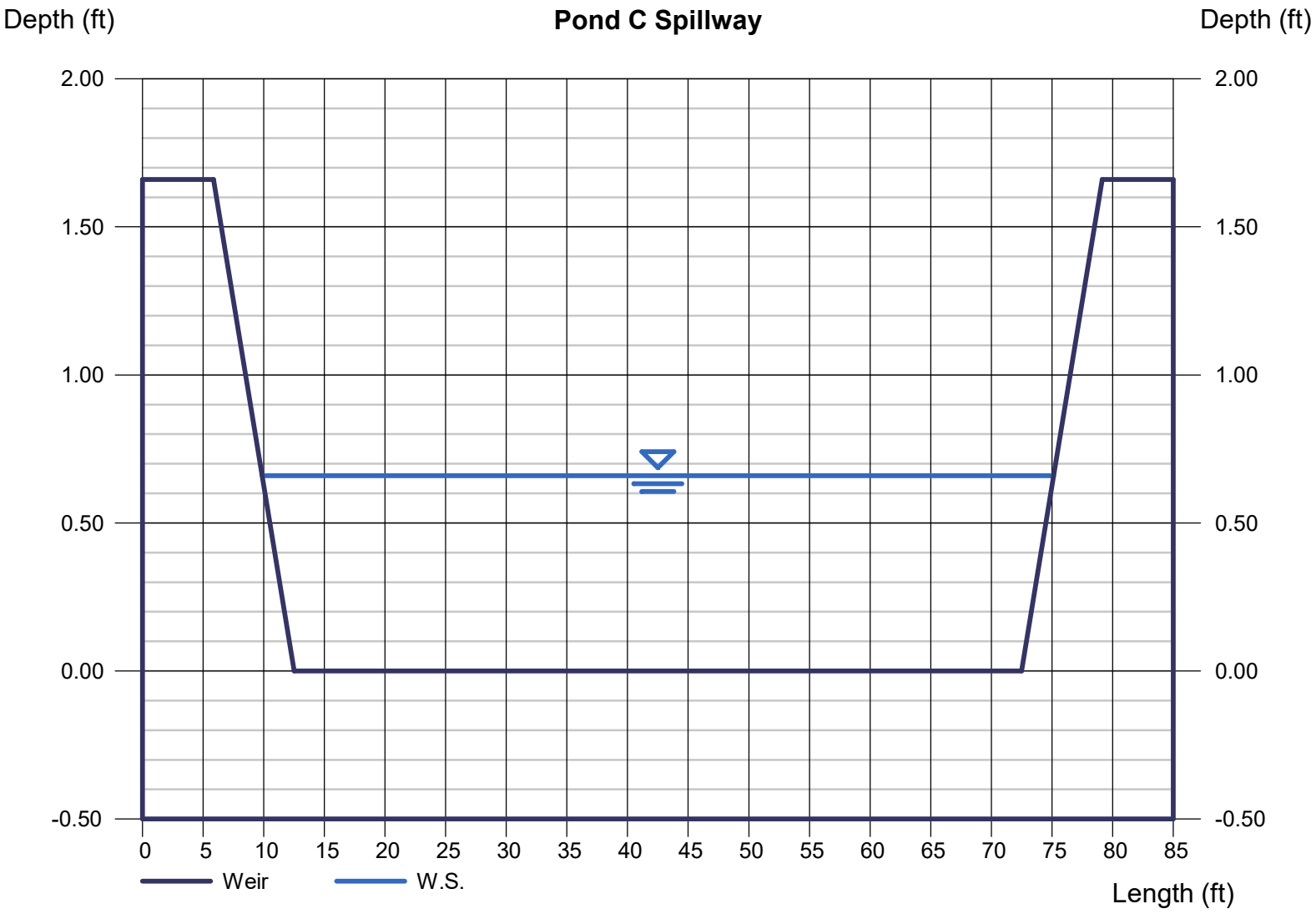
Crest	= Sharp
Bottom Length (ft)	= 60.00
Total Depth (ft)	= 1.66
Side Slope (z:1)	= 4.00

Calculations

Weir Coeff. Cw	= 3.10
Compute by:	Known Q
Known Q (cfs)	= 101.99

Highlighted

Depth (ft)	= 0.66
Q (cfs)	= 101.99
Area (sqft)	= 41.34
Velocity (ft/s)	= 2.47
Top Width (ft)	= 65.28



APPENDIX D

REFERENCE MATERIAL

MASTER DRAINAGE PLAN
FOR
RIDGEGATE – HAPPY CANYON CREEK AND BADGER GULCH DRAINAGE BASINS

February 2017
Revised May 2017

Prepared For:

Rampart Range Metropolitan District No. 1
8390 E. Crescent Parkway, Suite 500
Greenwood Village, CO 80111
Phone: (303) 779-4525
Fax: (303) 773-2050

Prepared By:

5/19/2017
Colin McKernan, PE

Reviewed By:

Carson Besgrove, PE

Merrick Job No. 65119103

MERRICK® & COMPANY

5970 Greenwood Plaza Blvd
Greenwood Village, CO 80111
Phone: (303) 751-0741
Fax (303) 964-3355

NORTH

600 0 600 1200

1 inch = 600 feet

LEGEND

- C13-B / 6.4 | 37.2 — BASIN ID; BASIN PERCENT IMPERVIOUS; BASIN AREA (ACRES)
- 15C — DESIGN POINT
- POND 1 — POND
- J1 / 15A — SWMM CONVEYANCE ELEMENT; SWMM NODE
- EXISTING MAJOR BASIN BOUNDARY
- EXISTING SUB-BASIN BOUNDARY
- PROPOSED SUB-BASIN BOUNDARY
- EXISTING TRACT LINE
- PROPOSED TRACT LINE
- SECTION LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- FLOW DIRECTION

LAND USE

- LD RES
- MF RES
- MD RES
- HD RES
- MU/COM
- SCHOOL/ INST
- P/OS
- CMTY PARK
- PARK

MERRICK & COMPANY

REVISIONS:

REV	REVISION DESCRIPTION	DATE

DESIGN BY:	CM
DRAWN BY:	JG
CHECKED BY:	CB
APPROVED BY:	CM

HAPPY CANYON CREEK MASTER DRAINAGE PLAN

OVERALL DRAINAGE MAP DEVELOPED CONDITION

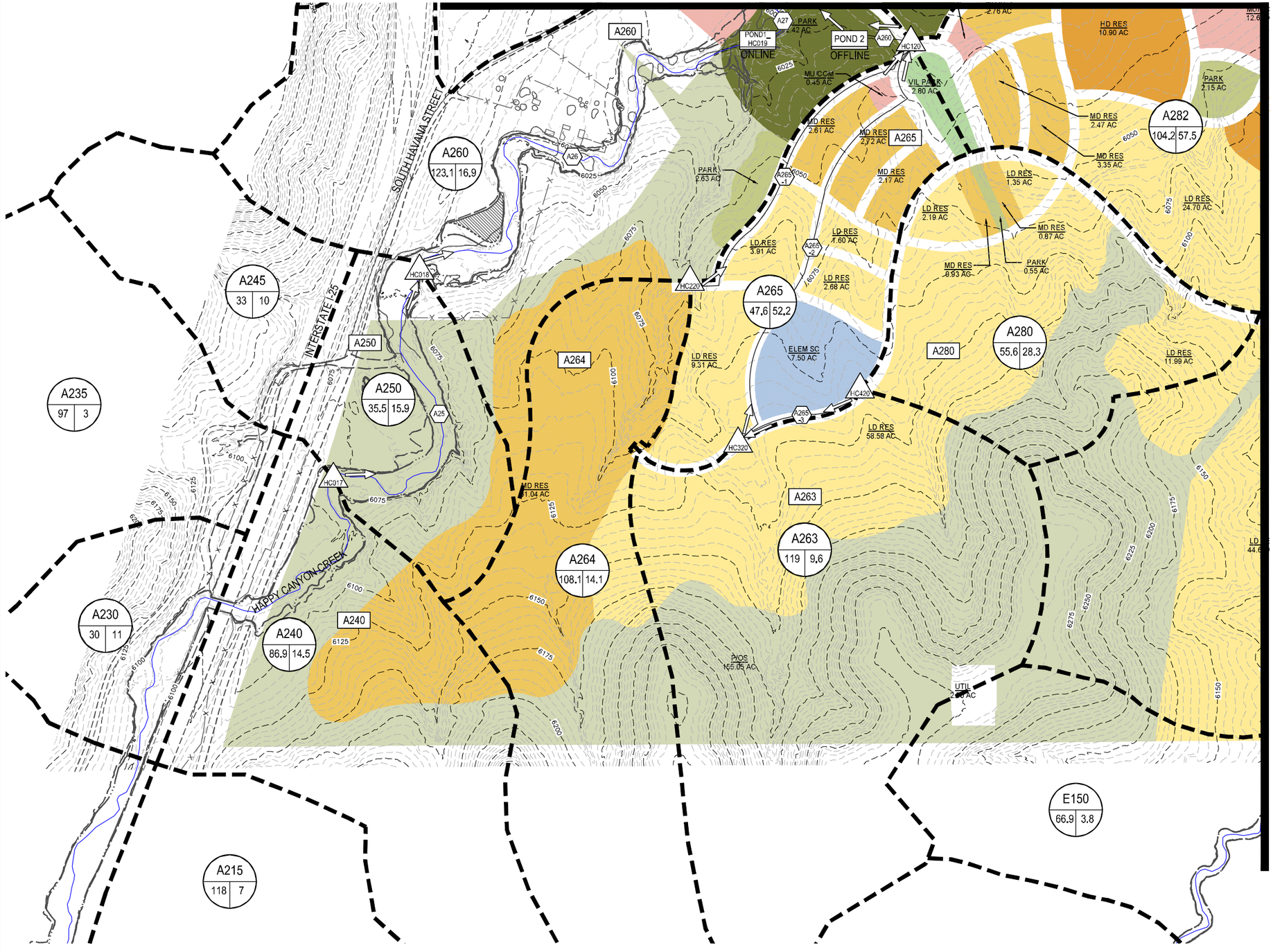
JOB NO: 65119103

DATE: 11/23/2016

SHEET: DR-1

MATCH LINE - SEE SHEET DR-4

MATCH LINE - SEE SHEET DR-3



NORTH

300 0 300 600

1 inch = 300 feet

LEGEND

- C13-B / 6.4 | 37.2 — BASIN ID; BASIN PERCENT IMPERVIOUS
- BASIN AREA (ACRES)
- 15C — DESIGN POINT
- POND 1 — POND
- J1 — SWMM CONVEYANCE ELEMENT
- 15A — SWMM NODE
- EXISTING MAJOR BASIN BOUNDARY
- EXISTING SUB-BASIN BOUNDARY
- PROPOSED SUB-BASIN BOUNDARY
- EXISTING TRACT LINE
- PROPOSED TRACT LINE
- SECTION LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- FLOW DIRECTION

LAND USE

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MERRICK & COMPANY

REVISIONS:

REV	REVISION DESCRIPTION

DESIGN BY:	CM
DRAWN BY:	JG
CHECKED BY:	CB
APPROVED BY:	CM

HAPPY CANYON CREEK MASTER DRAINAGE PLAN

DEVELOPED DRAINAGE MAP SOUTHWEST PART

JOB NO: 65119103

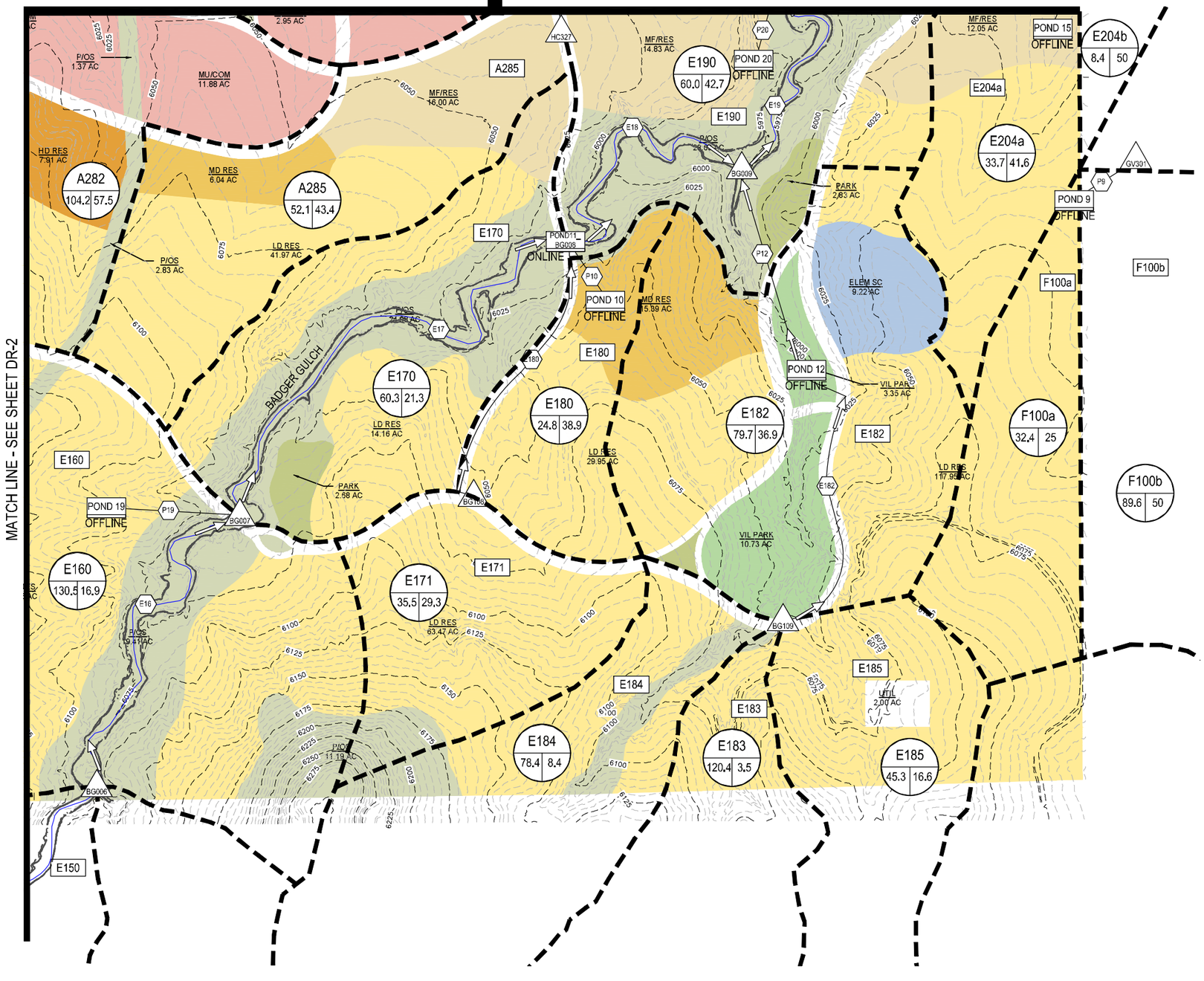
DATE: 11/23/2016

SHEET: DR-2

MATCH LINE - SEE SHEET DR-4

MATCH LINE - SEE SHEET DR-5

MATCH LINE - SEE SHEET DR-2



NORTH

300 0 300 600

1 inch = 300 feet

LEGEND

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- EXISTING MINOR CONTOUR
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- PROPOSED STORM SEWER
- FLOW DIRECTION

LAND USE

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- MD RES
- HD RES
- MU/COM
- SCHOOL/ INST
- P/OS
- CMTY PARK
- PARK

MERRICK & COMPANY

REVISIONS:

NO.	DATE	CHECKED BY:	APPROVED BY:	REV REVISION DESCRIPTION

DESIGN BY: CM
DRAWN BY: JG
CHECKED BY: CB
APPROVED BY: CM

HAPPY CANYON CREEK MASTER DRAINAGE PLAN

DEVELOPED DRAINAGE MAP SOUTHEAST PART

JOB NO: 65119103
DATE: 11/23/2016
SHEET: DR-3

LEGEND

- BASIN ID
- BASIN PERCENT IMPERVIOUS
- BASIN AREA (ACRES)
- DESIGN POINT
- POND
- SWMM CONVEYANCE ELEMENT
- SWMM NODE
- EXISTING MAJOR BASIN BOUNDARY
- EXISTING SUB-BASIN BOUNDARY
- PROPOSED SUB-BASIN BOUNDARY
- EXISTING TRACT LINE
- PROPOSED TRACT LINE
- SECTION LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- FLOW DIRECTION

LAND USE

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- MF RES
- MD RES
- HD RES
- MU/COM
- SCHOOL/ INST
- P/OS
- CMTY PARK
- PARK

NORTH
300 0 300 600
1 Inch = 300 Feet

MERRICK & COMPANY

REVISIONS:

REV	REVISION DESCRIPTION	DATE	CHECKED BY	APPROVED

DESIGN BY:	CM
DRAWN BY:	JG
CHECKED BY:	CB
APPROVED BY:	CM

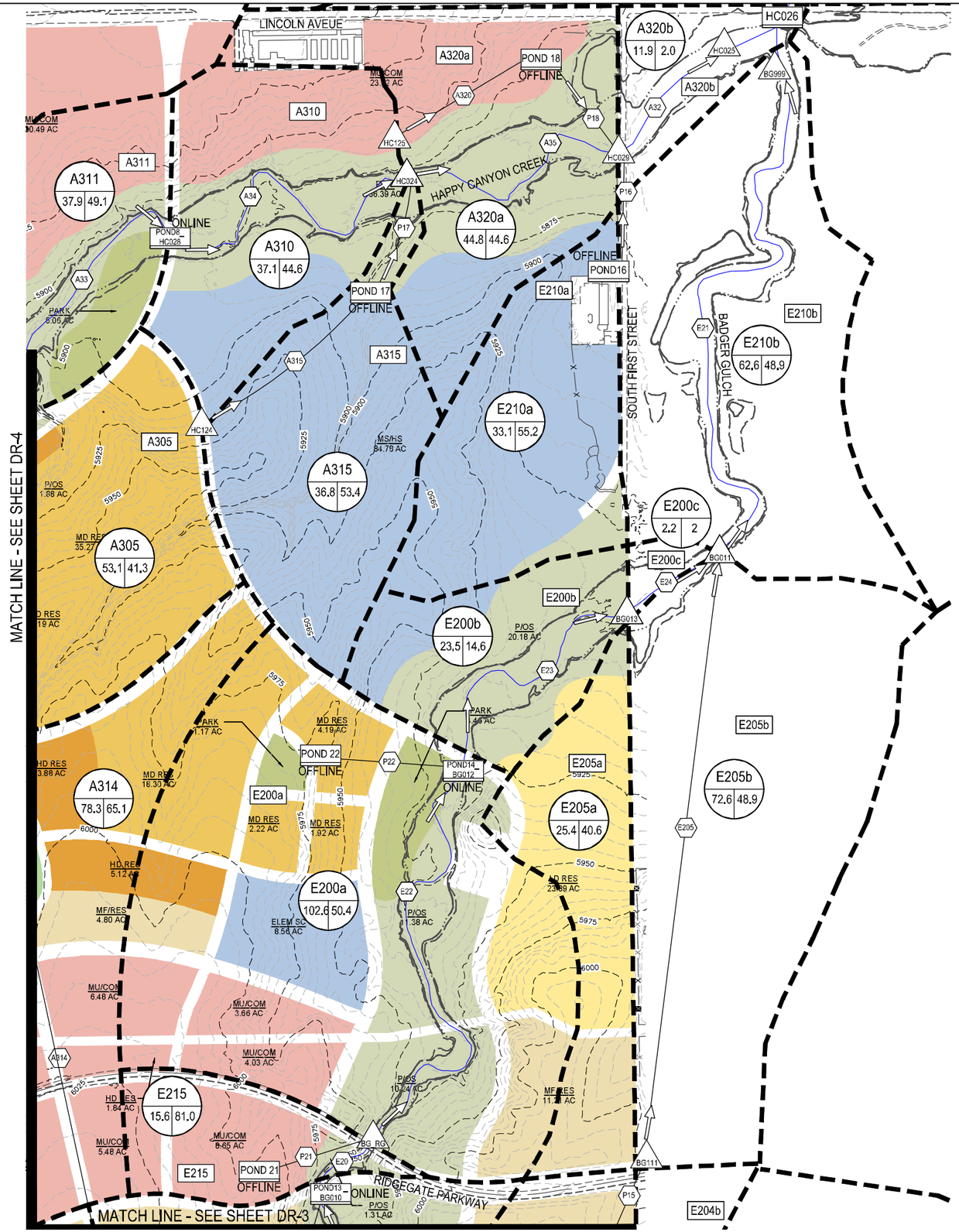
HAPPY CANYON CREEK MASTER DRAINAGE PLAN

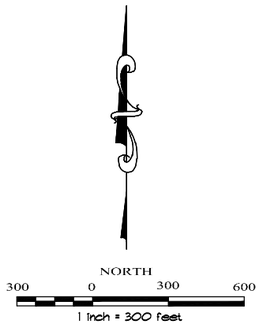
DEVELOPED DRAINAGE MAP NORTHWEST PART

JOB NO: 65119103

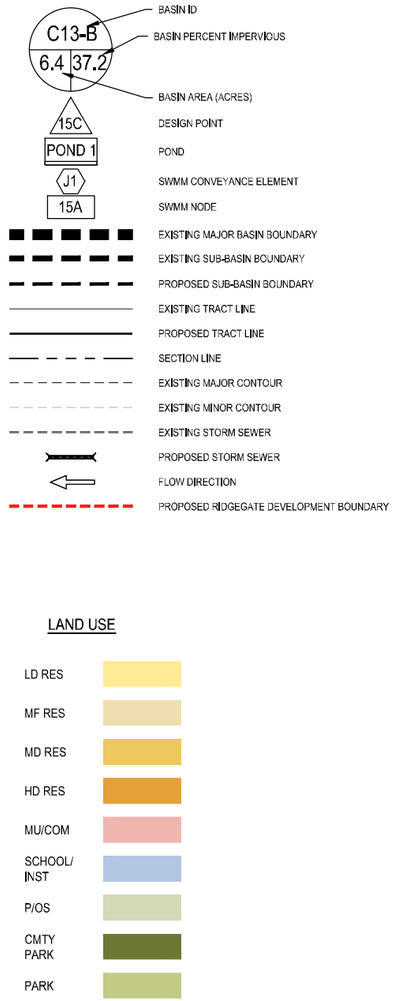
DATE: 11/23/2016

SHEET: DR-4





LEGEND



LAND USE

MERRICK & COMPANY

REVISIONS:

REV	REVISION DESCRIPTION	DRAWN BY	CHECKED BY	APPVD'D BY

DESIGN BY: CM
DRAWN BY: JG
CHECKED BY: CB
APPROVED BY: CM

HAPPY CANYON CREEK MASTER DRAINAGE PLAN

DEVELOPED DRAINAGE MAP NORTHEAST PART

JOB NO: 65119103
DATE: 11/23/2016
SHEET: DR-5

PHASE III DRAINAGE REPORT
FOR
RIDGEGATE SOUTHWEST VILLAGE FILING 2

Prepared For:

Shea Homes
9380 Station Street, Suite 600
Lone Tree, CO 80124
(303) 791-8180
Contact: Ryan McDermed

Prepared By:

JR Engineering, LLC

7200 South Alton Way Suite C400
Centennial, CO 80112
(303) 267-6220
Contact: Aaron Clutter, PE

February 15, 2023

Engineer's Certification

I affirm that this report and plan for the drainage design of Ridgegate Southwest Village Filing 2 was prepared by me (or under my direct supervision) in accordance with the provisions of Douglas County Drainage Design and Technical Criteria for the owners thereof. I understand that City of Lone Tree does not and will not assume liability for drainage facilities designed by others.

_____

Aaron Clutter, P.E. Date

State of Colorado No. 36742

For and on Behalf of JR Engineering

Shea Homes herby certifies that the drainage facilities for Ridgegate Southwest Village Filing 2 shall be constructed according to the design presented in this report. I understand that The City of Lone Tree does not and will not assume liability for the drainage facilities designed and/or certified by my engineer and that Douglas County reviews drainage plans pursuant to Colorado Revised Statutes, Title 30, Article 28; but cannot, on behalf of Ridgegate, guarantee that the final drainage design review will absolve Shea Homes and/or their successors and/or assigns of future liability for improper design. I further understand that approval of the final plat does not imply approval of my engineer's drainage design.

_____

Name of Developer

_____

Authorized Signature

TABLE OF CONTENTS

I. GENERAL LOCATION AND DESCRIPTION

A. Site Location

The proposed development henceforth referred to as "Ridgegate Southwest Village Filing 2" site is located in Sections 22 and 23, Township 6 South, Range 67 West of the 6th Principal Meridian. The site is located to the south of Ridgegate Parkway, east of Interstate Highway 25 (I-25), and north of the public service right-of-way. A vicinity map showing the project site is shown below and is also presented in Appendix A.

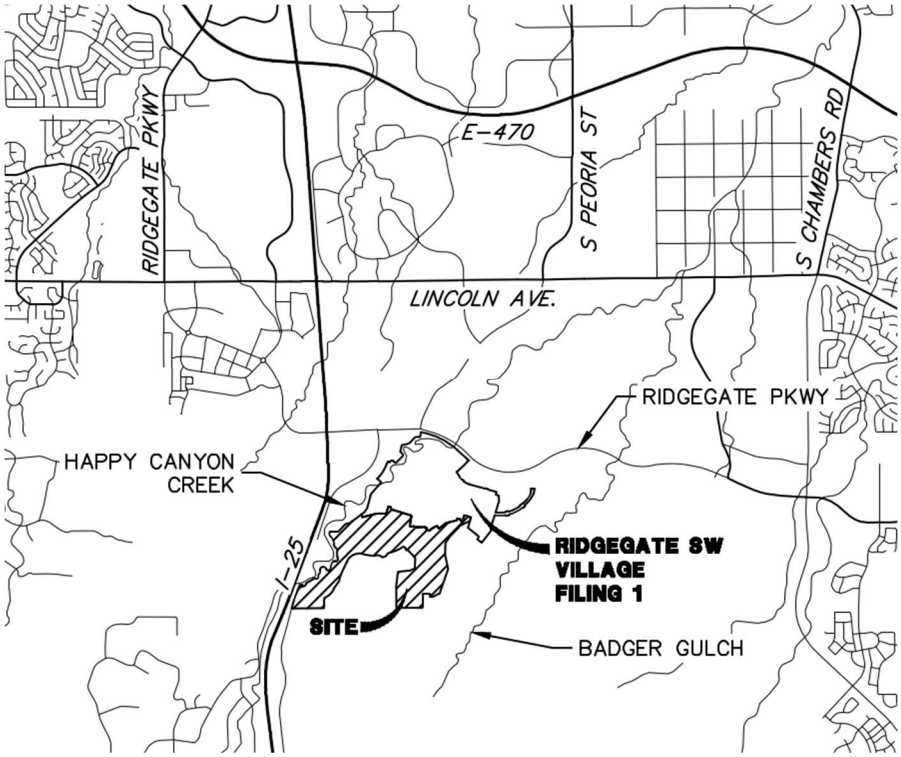


Figure 1: Vicinity Map

B. Description of Property

The proposed site plan of the Ridgegate Southwest Village Filing 2 development consists of approximately 169.29 acres of undeveloped land. The proposed development will consist of a park, a school, multi-family lots, public roadways, and 319 residential lots. A site plan has been provided in Appendix A. The site is currently unoccupied and undeveloped, and is vegetated with native grasses and shrubs. The majority of soil is classified by the Natural Resource Conservation Service (NRCS) as Hydrologic Group C and D with some areas containing Hydrologic Group B soils. Hydrologic Group B are described as "soils having a moderate infiltration rate when thoroughly wet and consist mainly of moderately deep, moderately well drained soils that have moderately fine texture to moderately coarse texture". 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 texture." 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."

The site slopes vary between 0-25%, with some areas up to 33%. The terrain is mountainous and relatively steep throughout. The historic drainage patterns for the entire Ridgegate Southwest Village Development are split in two directions. The western half of the development drains north and west to Happy Canyon Creek, while the eastern half of the development drains to the north and east to Badger Gulch. The Filing 2 improvements within this report will drain west to Happy Canyon Creek.

The site is shown on the Federal Emergency Management Agency (FEMA), Flood Insurance Rate Map (FIRM) Community Panel No. 08035C0063H, September 4, 2020. The majority of the site lies within Zone X which is the flood insurance rate zone that corresponds to areas outside the one percent annual chance floodplain. See the FIRM Map located in Appendix A.

There is a major drainageway located adjacent to the site: Happy Canyon Creek. Happy Canyon Creek is located on the western edge of the site and shall be the ultimate outfall for the Filing 2 improvements. Happy Canyon Creek lies within a 100-year floodplain identified as Zone A in the FEMA FIRM Panel No. 08035C0063H.

There are no active irrigation ditch facilities located within the site. There are no significant geologic features within the area to be developed, and areas of higher topography within the site will remain undeveloped under a conservation easement.

II. DRAINAGE BASINS AND SUB-BASINS

A. Major Drainage Basins

The Ridgegate Southwest Village Filing 2 site lies within the Happy Canyon Creek basin, which is a left bank tributary of Cherry Creek. This report has been prepared in conformance with the "Phase II Drainage Report for Ridgegate Southwest Village", by JR Engineering, prepared October 2020.

In the existing condition, storm runoff from the undeveloped site drains into Happy Canyon Creek via overland sheet flow and natural drainage channels. The historic drainage basin map can be referenced in the "Master Drainage Plan for Ridgegate – Happy Canyon Creek and Badger Gulch Drainage Basins", by Merrick & Company, revised May 2017, and is included in Appendix D.

Development of the project site will result in increased runoff volume to Happy Canyon Creek. Two onsite WQ/EURV ponds will be provided for the proposed Filing 2 development. EURV Pond B will provide some inadvertent 100-year detention of the developed runoff, as these developed flows are routed through the outlet structure. The design 100-year discharge for EURV ponds B & C have been established in coordination with Merrick & Company in order to minimize

the adverse effects of the peak discharge from the site coinciding with the peak discharge in the receiving drainageway. Online regional detention is proposed in Happy Canyon Creek (by others). The inflows into Happy Canyon Creek will be analyzed in a separate drainage report by Merrick & Company. Per the "Master Drainage Plan for Ridgegate – Happy Canyon Creek and Badger Gulch Drainage Basins", by Merrick & Company, revised May 2017, creek stabilization improvements are proposed (by others) within the channels to stabilize the drainageways and protect against the effects of urbanization in the watersheds.

B. Proposed Drainage Basins

Ridgegate Filing 2 has been divided into three developed condition basins denoted as Basins B, C, and F1. Additionally there are five offsite basins that will remain undeveloped and six future development basins from Filing 3 that will be captured in design and routed through the proposed storm sewer infrastructure in Filing 2. All of the future development basins from Filing 3, Basin B and offsite basins three through five will be routed to the proposed EURV Pond B. Basins C and offsite basins one and two will be routed to the proposed EURV Pond C. The proposed basins will primarily follow existing drainage patterns. The proposed development will consist of residential lots, future multi-family, a future school and a park. The drainage basins are presented in the drainage map located in Appendix E.

Basin B consists of Sub-Basins B0-B54 combining for a total of 66.20 acres. This basin represents the majority of the proposed development. Stormwater runoff from these sub-basins are conveyed via curb and gutter and property swales. Runoff is captured via a series of on-grade and sump inlets, as well as area inlets in the open space swales. Runoff is then piped north to the proposed EURV Pond B. The treated/detained pond releases are then discharged into Happy Canyon Creek.

Basin C consists of Sub-Basins C0-C10 combining for a total of 12.54 acres. This basin represents the western most portion of the proposed Filing 2 development. Stormwater runoff from these sub-basins are conveyed via curb and gutter and open space swales. Runoff is captured via a series of on-grade and sump inlets, as well as area inlets in the open space swales. Runoff is then piped northwest to the proposed EURV Pond C. The treated/detained pond releases are then discharged into Happy Canyon Creek.

Basin F3 consists of Sub-Basins F3-1 through F3-6 combining for a total of 18.61 acres. These sub-basins are primarily future residential lots. Stormwater runoff from these sub-basins will be captured by proposed public storm sewer stubs or conveyed via future curb and gutter to proposed on-grade and sump inlets. Runoff will then be piped north to the proposed EURV Pond B.

Basins F1, Basin A29, and Basin A30 drain northeast towards Pond A and have been accounted for in "Addendum I to Phase III Drainage Report for Ridgegate Southwest Village Filing 1", by JR Engineering, prepared September 2021, as can be seen on the Filing 1 drainage map included in Appendix D. The total area and percent imperviousness for these basins have not changed and thus there is no impact on the drainage design from Ridgegate Southwest Village Filing 1.

Sub-Basins OF1 – OF3 include the back half of proposed residential single family lots. The sub-basins back up to Happy Canyon Creek and are not proposed to be routed to an EURV Pond. Instead runoff will sheet flow over pervious receiving area for about 200 feet towards Happy Canyon Creek. A table with major basin parameters is located below:

MAJOR BASIN SUMMARY TABLE

Major Basin	Area (acres)	Percent Impervious
B	66.20	54
C	12.54	47
F1	11.08	45
F3	18.61	65
OS	226.85	5
OF	2.70	42

III. DRAINAGE DESIGN CRITERIA

A. Regulations

Storm drainage analysis and design criteria for this project were taken from the "Storm Drainage Design and Technical Criteria Manual" (SDDTCM) by Douglas County and the "Urban Storm Drainage Criteria Manual" (USDCM) by Mile High Flood Control District (MHFD).

B. Drainage Studies

The site has previously been studied by multiple reports:

- "Master Drainage Plan for Ridgegate-Happy Canyon Creek and Badger Gulch Drainage Basins", by Merrick & Company, revised May 2017, has been utilized for the overall master planning of the site.
- "Phase II Drainage Report for Ridgegate Southwest Village", by JR Engineering, dated October 2020, has been utilized to confirm that this drainage report is in conformance with the allowable inflows into Happy Canyon Creek.
- "Happy Canyon Creek Flood Hazard Area Delineation", by Muller Engineering Company, dated July 2014, has been utilized for 100 year floodplain mapping.

C. Water Quality and MS4 Permit Requirements

The Ridgegate Southwest Village development is subject to the requirements of the MS4 standards that went into effect July 1, 2019 (COR090000), which are the standards in place at the time of submittal.

D. Hydrology

The site is located in Douglas County Rainfall Zone 1. One-hour point rainfall values were taken from the SDDTCM and used in equation 5-1 from the USDCM to calculate intensities. 1-hour point rainfall values of 1.43 inches and 2.60 inches were used for 5-year and 100-year storm events respectively. Basin percent impervious values were calculated based on proposed future land use and from data on Table 6-3 from the USDCM. The hydrology analysis was performed using Colorado Urban Hydrograph Procedure (CUHP) in conjunction with hydrograph and reservoir routing through EPA's Storm Water Management Model (SWMM). All runoff and hydrologic calculations are included in Appendix B of this report.

E. Hydraulics

The MHFD spreadsheet UD_Inlet v5.01, released April 2021, was utilized to determine street and inlet capacities of the development. The inflows at the inlets are based on SWMM results for the 5-year-minor and 100-year-major storm events. Temporary inlets are being proposed at DP303 and DP305 that will capture undeveloped flows from future Basin F3.

Bentley's StormCAD software was utilized to verify the storm sewer sizing and to calculate the hydraulic grade lines for the system. The 5-year & 100-year storms were modeled, with flows obtained from SWMM and input into StormCAD. Headloss coefficient values were determined using MHFD Volume 1 criteria. Pipes were designed to be in accordance with Douglas County criteria with respect to HGL elevation. The Manning's n value for concrete storm sewer in 0.013. Hydraulic calculations and results can be found in Appendix C.

Cross sections of proposed drainage swales have been analyzed using Bentley's FlowMaster hydraulic analysis software and results can be found in Appendix C. A minimum of one foot freeboard has been provided between the WSEL of the major storm event in the swales and adjacent top of foundations. An existing drainage swale denominated "Phase 4 Swale", passes through the site and has been redesigned for existing grade and proposed grade conditions. The purpose of Phase 4 swale is to allow the site to properly drain into Happy Canyon Creek while it is being developed. An exhibit for existing and proposed conditions has been added to Appendix A.

The maximum design discharge of the 100-year developed flows have been established in coordination with Merrick & Company in their design of the in-line ponds within the channels. The outfalls will be armored with soil riprap into Happy Canyon Creek to either the thalweg of the channel or the 100-year floodplain. All calculations pertaining to the proposed pond and the proposed location can be found in Appendix C.

Overflow paths for sump conditions have been identified in the drainage map.

IV. STORMWATER MANAGEMENT FACILITY DESIGN

A. Stormwater Conveyance Facilities

The conveyance system within the Ridgegate Southwest Village site is that of a typical subdivision with curb and gutter capturing and conveying flows to on-grade and sump storm sewer inlets. Concentrated off-site flows are proposed to be channelized via swales and routed into the proposed storm sewer system. There is an existing drainage swale that will be routed towards proposed Pond B, swale calculations can be found in Appendix C and an exhibit in Appendix A.

All inlets within the proposed roadways will be Type R inlets. Area inlets for the improvements will consist of Type C inlets. Inlet calculations and sizing can be found in Appendix C.

Storm sewer will be sized to carry the minor storm in a free flowing condition, and the major storm will maintain an HGL a minimum of one foot below finished grade. Storm runoff from the proposed development will be conveyed via proposed storm sewer infrastructure to the proposed EURV Ponds B & C.

All storm sewer pipes, inlets, and streets will be public improvements. The EURV pond will reside on property owned and maintained by the Rampart Range Metro District. Easements and tracts will be established to allow for maintenance access to drainage facilities outside of public right-of-way.

B. Stormwater Storage Facilities

There are two proposed EURV ponds within the Filing 2 development. These EURV ponds will provide water quality for the Filing 2 site, and will outfall into Happy Canyon Creek. In-line detention is planned to be provided within Happy Canyon (by others) per the Ridgegate Master Drainage Report and will not be provided in the on-site ponds.

The proposed EURV ponds will utilize forebays at each outfall point into the pond in order to dissipate the energy from the storm runoff and collect sediment. Trickle channels will then convey the runoff to the outlet structures. The outlet structures will include a micropool and contain an initial surcharge volume. The outlet structure will utilize orifice plates for both the water quality capture volume (WQCV) and EURV. The outlet structure's orifice plate will be sized to release the WQCV and EURV events over a period of 40 and 52 hours respectively. For the developed 100-year inflows, an overflow grate on the top of the outlet structure will be used in order to pass discharges above the EURV level and minimize incidental detention. The ponds will also have an emergency spillway to discharge emergency flows above the 100-year storm event. SWMM was used to determine the 5- and 100-year storm stage storage for both ponds. Trash racks will be used to prevent any trash from escaping the development, and for easy cleaning. A maintenance access trail will also be constructed for easy access to the outlet structure and forebays for maintenance and repairs. Watershed design parameters and design storm results for the proposed EURV pond can be found below in Table 1. All pond and forebay calculations can be found in Appendix C.

The EURV Ponds B & C are designed to discharge the 100-year storm event through the outlet structure due to steeper grades and the increased possibility of erosion. A junction structure with energy dissipaters has been designed to slow down flows coming out of EURV Pond B right before discharging into Happy Canyon Creek. EURV Pond C will discharge to an existing drainage channel that ultimately drains into Happy Canyon Creek. Outflows from EURV Pond C have to pass through an existing 24-inch RCP pipe before reaching Happy Canyon Creek. The existing 24-inch pipe has been analyzed with results attached to Appendix C; the existing pipe is able to convey the minor 5-year storm event and the 100-year storm event will be allowed to pass over the existing trail. The existing trail has sculpted concrete drop structures on both sides of the culvert and soil riprap armament has been specified on the upstream side of the existing culvert up to the 100-yr WSEL passing over the trail in order to prevent erosion, culvert and weir calculations are provided in Appendix C. As can be seen on Table 1, routing the 100-year storm event through the EURV Ponds has caused a decrease in 100-year peak outflows and a two-minute higher peak flow time for EURV Pond B when compared to the "Phase II Drainage Report for Ridgegate Southwest Village", by JR Engineering, dated October 2020. However, using SWMM to compare the major storm event flows at existing design point HC019, the total peak flow within Happy Canyon Creek decreased as shown on Table 2.

Table 1. EURV Pond Design Parameters

	5-Year Stage Storage from SWMM [ft]	100-Year Stage Storage from SWMM [ft]	Proposed 5-Year Peak Outflow [cfs]	Proposed 100-Year Peak Outflow [cfs]	Proposed 5-Year Volume [acre-ft]	Proposed 100-Year Volume [acre-ft]	Proposed Peak Flow Time [min]	Phase II 100-Year Peak Outflow [cfs]	Phase II Peak Flow Time [min]
EURV Pond B	7.60	9.33	63.15	349.2	6.16	9.10	64	383.2	62
EURV Pond C	4.91	5.54	15.79	83.5	0.948	1.656	63	83.6	68

*Peak times and flows were compared to "Phase II Drainage Report for Ridgegate Southwest Village" by JR Engineering, prepared October 2020

Table 2. Happy Canyon Creek Comparison Table

Happy Canyon Creek Table

Design Node:	Peak Flow, Q_{100}	Peak Time
HC019	(cfs)	(hr:min)
Merrick	5241	1:31
Proposed	4688	1:42

C. Water Quality Enhancement Best Management Practices

Water quality is being provided for the site in the proposed EURV Ponds B & C prior to entering Happy Canyon Creek. Pond B & C will be designed as EURV Ponds and will utilize forebays and outlet structures to treat storm water runoff from the proposed development. The forebays will be used to dissipate the energy of the runoff and allow any remaining sediment to settle out of the

water before it departs the pond. The outlet structure will utilize an orifice plate to release the WQCV event over a period of 40 hours.

D. Floodplain Modification

There are no modifications proposed to any floodplain. The project site is outside the one percent annual chance floodplain, and there are no CLOMR or LOMR. The proposed naturalized channel outfall for EURV Pond B will require grading in cut within the 100-year floodplain. A no-rise certification and a floodplain permit will be required.

E. Additional Permitting Requirements

An Approved Jurisdictional Determination, provided by the U.S. Army Corps of Engineers, Corps File No. MWO-2019-01406-DEN, has determined that there are no water resources of the U.S. on this site; therefore, a Department of the Army permit will not be required for this site. There are currently no endangered species located on the site. There are no other permitting requirements placed on the site.

V. CONCLUSIONS

A. Compliance with Standards

This report is in compliance with the standards set forth in the "Storm Drainage Design and Technical Criteria Manual" by Douglas County as well as the "Urban Storm Drainage Criteria Manual" by the Mile High Flood Control District (MHFD).

B. Variances

No variances are requested at this time.

C. Drainage Concept

All proposed runoff will be safely conveyed through the site and release at allowable rates at the proposed Pond B and C outfalls. Water quality will be provided at both outfall locations. No adverse effects to Happy Canyon Creek or to the downstream infrastructure are expected as a result of the proposed Ridgegate Southwest Village Filing 2 improvements. No impacts are expected with respect to stormwater quality, quantity, or timing.

PHASE III DRAINAGE REPORT
FOR
RIDGEGATE SOUTHWEST VILLAGE FILING 2

Prepared For:

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Contact: Ryan McDermed

Prepared By:

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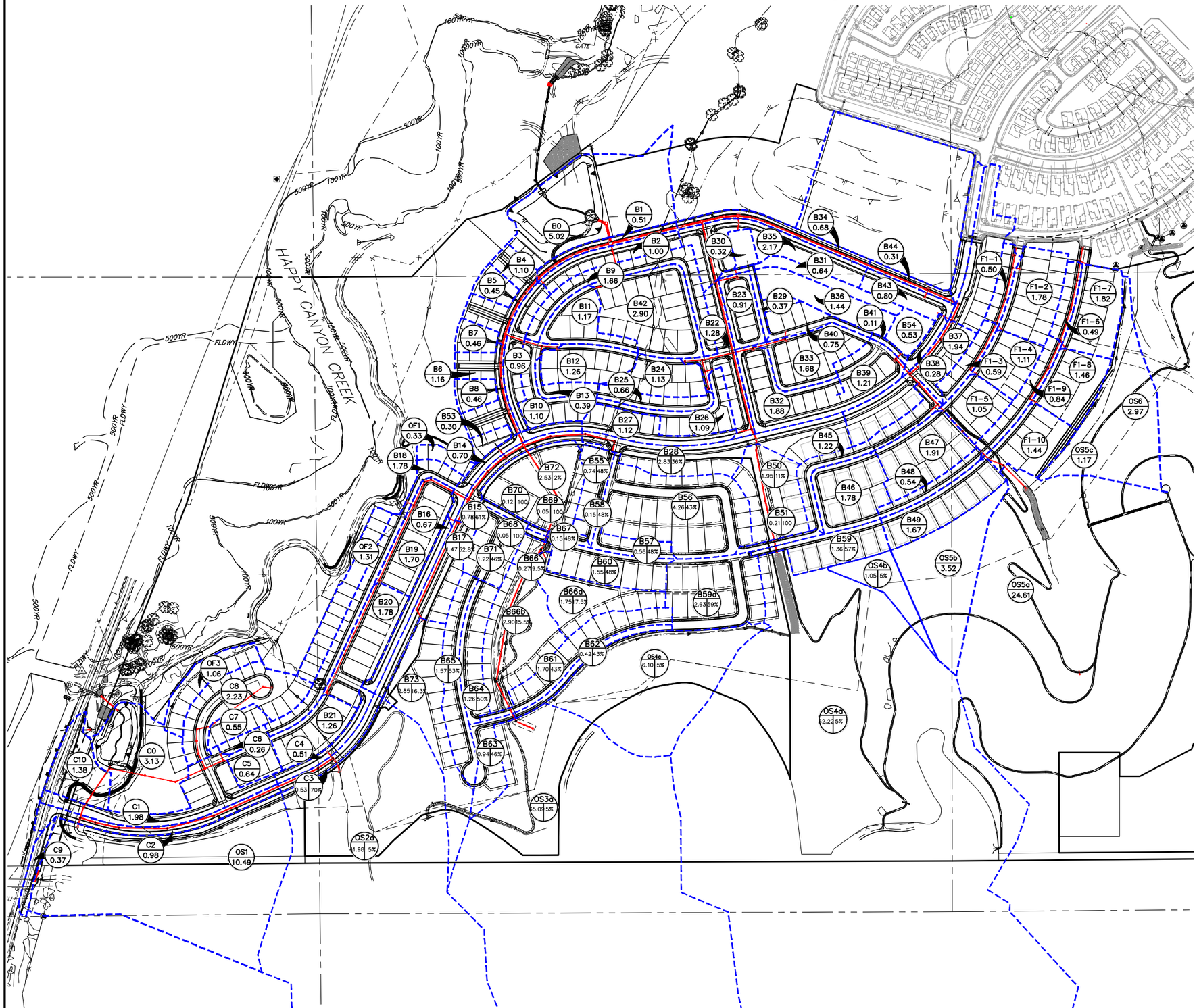
(303) 267-6220
Contact: Aaron Clutter, PE

February 15, 2023

RIDGEGATE SOUTHWEST VILLAGE FILING 2

DRAINAGE MAP



Tributary Sub-Basin	Area (acres)	Percent Impervious	Q5 (cfs)	Q100 (cfs)
B0	5.02	43.2	3.88	10.72
B1	0.51	75.0	0.97	2.03
B2	1.00	53.3	1.65	3.90
B3	0.96	57.7	0.86	2.05
B4	1.10	62.0	1.72	3.82
B5	0.45	31.6	0.33	0.94
B6	1.16	62.3	1.89	4.17
B7	0.46	31.9	0.34	0.97
B8	0.46	31.9	0.34	0.97
B9	1.66	61.9	1.57	3.72
B10	1.10	60.5	1.16	2.70
B11	1.17	51.3	0.71	1.84
B12	1.26	52.1	1.54	3.73
B13	0.39	74.7	0.52	1.11
B14	0.70	74.8	1.38	2.88
B15	0.78	61.0	1.09	2.48
B16	0.67	67.8	0.49	1.14
B17	1.47	52.8	1.57	3.73
B18	1.78	69.1	1.37	3.15
B19	1.70	54.1	2.59	6.01
B20	1.78	54.0	2.20	5.16
B21	1.26	53.7	1.60	3.73
B22	1.28	60.0	1.15	2.79
B23	0.91	62.9	1.28	2.95
B24	1.13	47.6	1.12	2.92
B25	0.66	65.0	0.57	1.35
B26	1.09	57.2	0.92	2.27
B27	1.12	55.3	0.83	2.07
B28	2.83	35.5	1.92	5.52
B29	0.37	82.2	0.46	0.95
B30	0.32	60.5	0.50	1.14
B31	0.64	63.0	0.49	1.15
B32	1.88	56.5	1.99	4.80
B33	1.68	54.8	2.75	6.33
B34	0.68	65.4	0.61	1.42
B35	2.17	48.6	1.78	4.64
B36	1.44	62.0	1.39	3.23
B37	1.94	52.7	1.96	4.70
B38	0.28	72.0	0.36	0.76
B39	1.21	55.2	1.41	3.28
B40	0.75	48.8	0.76	1.85
B41	0.11	100.0	0.20	0.39
B42	2.90	41.6	1.65	4.95
B43	0.80	59.0	0.88	2.02
B44	0.31	65.2	0.31	0.70
B45	1.22	64.8	1.02	2.38
B46	1.78	55.8	1.76	4.18
B47	1.91	50.8	2.52	5.97
B48	0.54	69.4	0.56	1.26
B49	1.67	52.9	1.74	4.14
B50	1.95	15.4	0.94	3.36
B51	0.21	100.0	0.45	0.85
B52	1.29	54.4	1.40	3.29
B53	0.30	23.5	0.35	0.99
B54	0.53	55.9	0.76	1.75
C0	3.13	27.0	1.67	5.32
C1	1.98	61.4	1.98	4.57
C2	0.98	70.0	0.93	2.08
C3	0.53	69.7	0.78	1.68
C4	0.51	70.2	0.89	1.89
C5	0.64	51.9	0.89	2.08
C6	0.26	68.3	0.43	0.93
C7	0.55	34.8	0.26	0.75
C8	2.23	48.8	1.99	4.96
C9	0.37	57.6	0.36	0.85
C10	1.38	26.1	0.46	1.55
F3-1	2.74	65.0	3.67	8.11
F3-2	2.56	65.0	3.36	7.43
F3-3	1.09	65.0	0.78	1.83
F3-4	2.11	65.0	1.73	4.08
F3-5	7.62	65.0	12.86	28.07
F3-6	2.49	65.0	3.08	6.86
F1-1	0.50	61.1	0.60	1.35
F1-2	1.78	49.8	2.25	5.38
F1-3	0.59	64.6	0.66	1.50
F1-4	1.11	50.9	1.15	2.77
F1-5	1.05	50.2	1.11	2.69
F1-6	0.49	63.2	0.90	1.96
F1-7	1.82	30.9	1.69	4.68
F1-8	1.46	31.8	0.80	2.34
F1-9	0.84	66.0	0.75	1.72
F1-10	1.44	31.8	1.06	3.01
OS1	10.49	5.0	4.57	18.63
OS2a	41.98	5.0	14.05	59.66
OS2b	0.80	5.0	0.21	0.91
OS3a	65.09	5.1	19.40	84.06
OS3b	0.77	5.0	0.13	0.61
OS4a	62.22	5.1	21.32	90.20
OS4b	1.05	5.0	0.19	0.89
OS5a	24.61	5.0	9.45	39.25
OS5b	3.52	5.0	0.76	3.43
OS5c	1.17	5.0	0.23	1.04
OS6	2.97	5.0	0.57	2.60
OF1	0.33	45.0	0.20	0.53
OF2	1.31	45.0	0.80	2.13
OF3	1.06	38.5	0.54	1.56
A240	15.11	14.5	11.77	49.90
A245	33.13	10.2	11.38	55.95
A250	19.44	15.9	8.74	37.46
A260	69.84	16.9	31.81	139.65
B55	0.74	46.1	0.66	1.75
B56	4.26	43.8	3.12	8.19
B57	0.56	56.3	0.56	1.32
B58	0.15	54.6	0.18	0.42
B59	1.36	56.8	1.42	3.32
B59a	2.63	59.4	3.79	8.55
B60	1.55	40.8	1.18	3.17
B61	1.79	60.7	1.35	3.25
B62	0.42	100.0	0.36	0.74
B63	0.94	49.4	0.75	1.94
B64	1.26	60.6	1.42	3.26
B65	1.57	53.7	1.33	3.24
B66	0.27	19.5	0.14	0.50
B66a	1.75	17.5	0.69	2.52
B66b	2.90	15.5	1.27	4.65
B67	0.15	67.7	0.19	0.43
B68	0.05	100.0	0.09	0.18
B69	0.12	67.9	0.19	0.43
B70	0.39	61.9	0.58	1.32
B71	1.22	46.0	1.18	3.05
B72	2.19	17.9	1.22	4.42
B73	2.59	16.3	0.95	3.23
OS4c	6.01	5.0	1.70	7.37

Design Points	Q5 (cfs)	Q100 (cfs)
100	126.69	428.99
101	126.75	459.17
102	5.40	13.74
105	48.94	169.70
106	2.23	5.12
108	44.06	150.29
109	3.91	10.44
110	3.21	7.52
112	1.54	3.73
113	2.06	4.84
120	3.76	8.85
121	1.60	3.73
124	1.12	2.92
125	0.57	1.35
126	1.49	3.62
127	32.90	123.79
128	32.09	121.73
129	3.54	8.09
130	1.88	4.37
132	5.48	12.83
135	2.26	5.69
138	1.09	2.48
142	2.36	6.77
145	17.40	60.37
146	1.76	4.18
147	14.68	53.88
148	12.55	48.62
149	12.01	47.39
150	30.26	116.37
151.1	29.07	112.46
151.2	5.41	12.21
151	29.37	113.08
152	24.47	101.52
153	23.02	97.57
154	48.63	163.06
155	45.79	154.54
156	44.07	150.30
157	44.06	150.29
158	43.74	149.36
159	43.74	149.36
160	43.73	149.36
161	4.47	11.64
162	4.47	11.64
163	4.47	11.64
164	25.61	81.25
165	17.58	42.06
166	14.92	36.02
167	14.92	36.01
168	14.91	36.01
169	25.61	80.32
170	7.57	17.65
171	7.57	17.65
172	7.57	17.65
173	69.79	233.19
174	2.92	7.89
176	1.10	3.23
177	22.90	73.43
178	1.59	3.73
182	44.20	151.31
183	39.76	140.94
184	3.51	8.10
185	2.60	6.49
186	22.90	73.43
187	48.63	165.67
188	22.90	73.39
189	22.91	73.42
190	21.77	70.70
191	21.77	70.71
192	21.77	70.71
193	18.88	63.82
194	18.88	63.82
195	18.88	63.82
196	1.61	3.67
197	51.45	229.46
198	51.33	221.78
199	51.15	182.01

Design Points	Q5 (cfs)	Q100 (cfs)
200	26.38	96.84
200A	23.26	88.92
201	22.8	87.40
202	5.76	20.66
203	14.66	61.05
204	14.05	59.66
207	2.24	5.68
208	1.99	4.96
210	20.98	83.08
211	15.28	62.47
212	15.28	62.47
213	15.28	62.47
214	15.28	62.47
215	15.28	62.47
216	15.29	62.47
217	15.29	62.47
218	3.47	8.47
219	3.47	8.47
220	3.47	8.47
221	1.32	3.01
222	2.24	5.68
223	2.24	5.68
224	2.24	5.68
300	4.47	10.75
301	2.73	6.47
316	12.55	48.62
318	1.76	4.18
319	1.76	4.18
400	4.48	11.64
401	0.73	1.73
405	1.11	2.69
410	1.06	3.00
411	5.75	13.66
412	5.15	12.30
413	2.93	6.96
414	2.93	6.96
415	1.11	2.69
417	5.06	13.30
418	2.6	7.03
419	2.6	7.03
420	2.6	7.03
421	1.06	3.00
501	4.93	19.42
502	24.2	100.57
503	23.19	96.59
504.1	21.99	93.28
504.2	21.86	92.82
504.3	21.22	90.35
504	23.05	96.24
505	10.41	43.43
506	20.07	85.88
507	19.4	84.06
513	10.41	43.43
515	29.37	113.08
600	51.24	203.76
601	51.18	188.39
602	48.95	172.09
603	16.38	58.00

N

200 100 0 200 400

ORIGINAL SCALE: 1" = 200'

FILING 2 DRAINAGE MAP
RIDGEGATE DEVELOPMENT
JOB NO. 15950.02
01/11/2024
SHEET 1 OF 6

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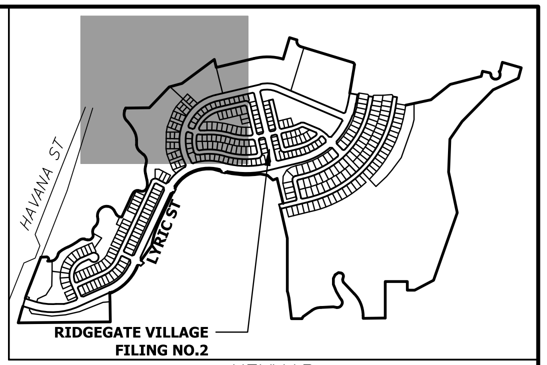
RIDGEGATE SOUTHWEST VILLAGE FILING 2

DRAINAGE MAP



KEYMAP
SCALE: 1"=1000'

EURV POND B SUMMARY TABLE		
		PROPOSED
	AREA (AC)	258.55
	PERCENT IMPERVIOUS (%)	21.9%
VOLUME	WQCV (AC-FT)	2.66
	EURV (AC-FT)	5.12
	100-YEAR VOLUME (AC-FT)	9.10
ELEV	LOWEST ORIFICE ELEV (FT)	6065.37
	WSEL WQCV	6070.59
	WSEL EURV	6072.30
	WSEL 100	6074.70
RELEASE RATES	WQCV (CFS)	1.11
	EURV (CFS)	3.38
	100-YEAR (CFS), INFLOW	420.70
	100-YEAR (CFS), OUTLFOW	349.22

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

LEGEND:

- PROPOSED STORM SEWER
- 6000 PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 6000 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- DRAINAGE BASIN
- A = BASIN DESIGNATION; B = AREA IN ACRES; C = PERCENT IMPERVIOUS
- 1 DESIGN POINT
- HP HIGH POINT
- LP LOW POINT
- DRAINAGE ARROW
- EXISTING DRAINAGE ARROW
- PROPOSED DRAINAGE SWALE
- 100YR 100-YR FLOODPLAIN

FILING 2 DRAINAGE MAP
RIDGEGATE DEVELOPMENT
JOB NO. 15950.02
08/19/2022
SHEET 2 OF 6

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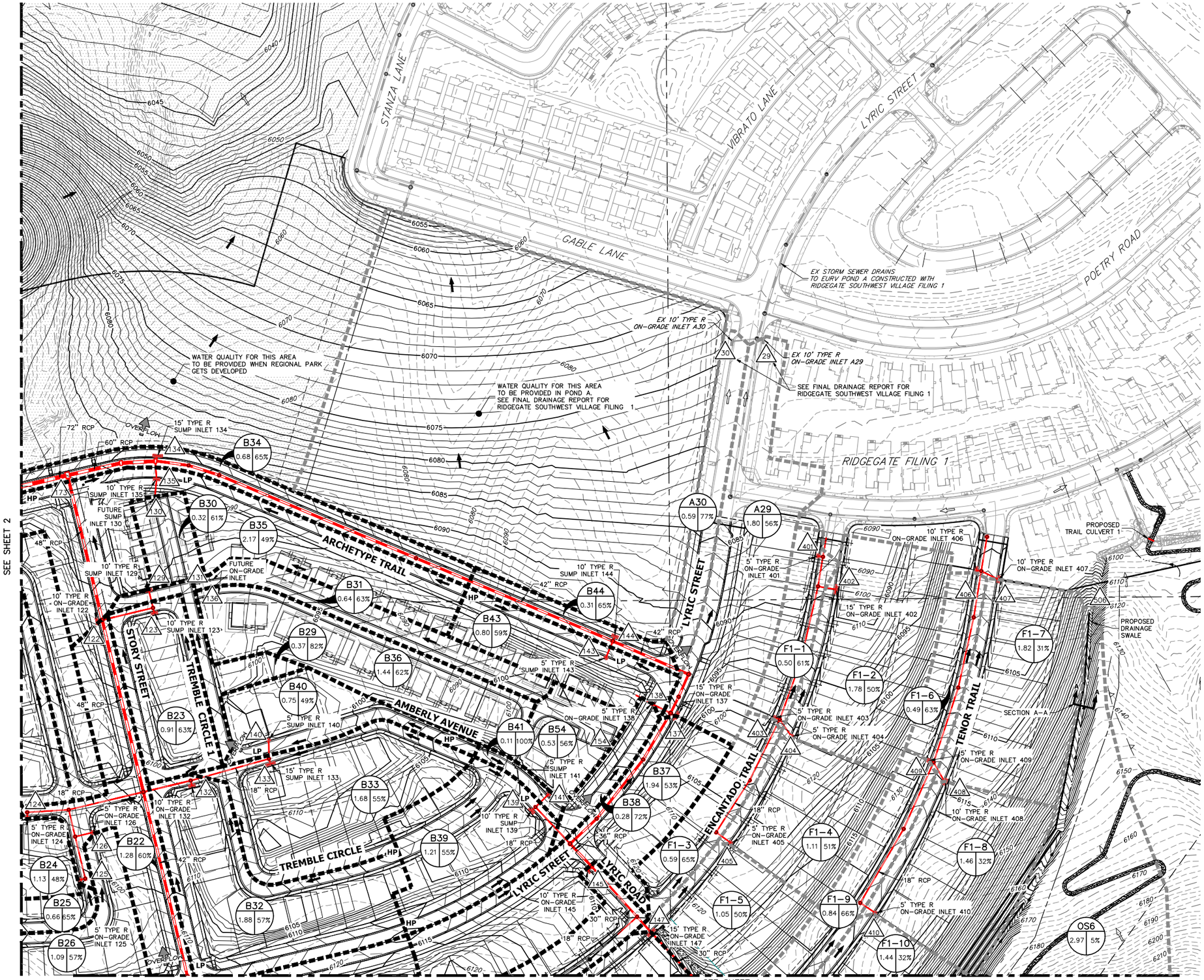
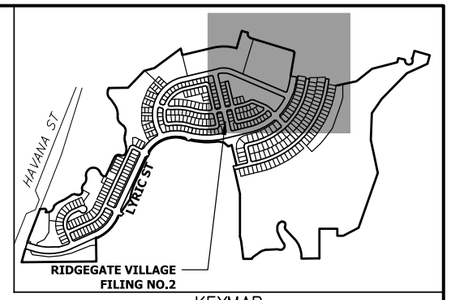
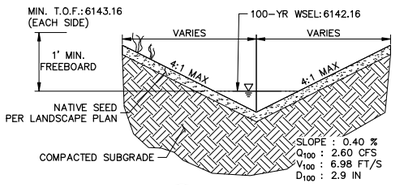
RIDGEGATE SOUTHWEST VILLAGE FILING 2

DRAINAGE MAP





KEYMAP
SCALE:1"=1000'



A GRASS SWALE
SCALE: NTS

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

LEGEND:

- PROPOSED STORM SEWER
- 6000 PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 6000 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- DRAINAGE BASIN
- A = BASIN DESIGNATION; B = AREA IN ACRES; C = PERCENT IMPERVIOUS
- 1 DESIGN POINT
- HP HIGH POINT
- LP LOW POINT
- DRAINAGE ARROW
- EXISTING DRAINAGE ARROW
- PROPOSED DRAINAGE SWALE
- 100-YR 100-YR FLOODPLAIN

FILING 2 DRAINAGE MAP
RIDGEGATE DEVELOPMENT
JOB NO. 15950.02
08/19/2022
SHEET 3 OF 6

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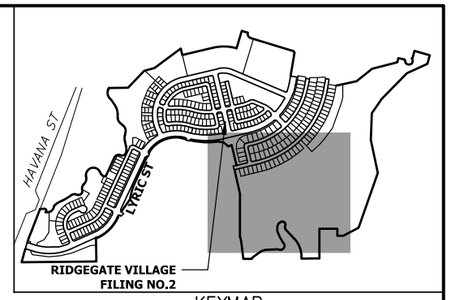
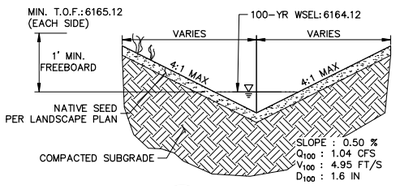
RIDGEGATE SOUTHWEST VILLAGE FILING 2

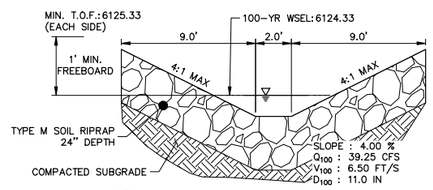
DRAINAGE MAP



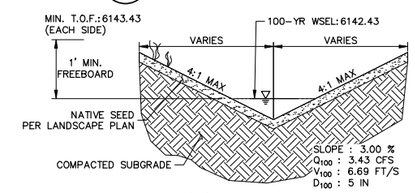
KEYMAP
SCALE: 1"=1000'



B GRASS SWALE
SCALE: NTS

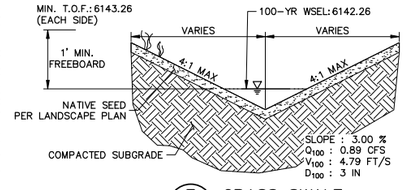


C SOIL RIPRAP LINED SWALE
SCALE: NTS

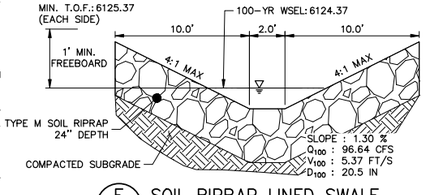


D GRASS SWALE
SCALE: NTS

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



E GRASS SWALE
SCALE: NTS



F SOIL RIPRAP LINED SWALE
SCALE: NTS

LEGEND:

- PROPOSED STORM SEWER
- 6000 PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 6000 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- DRAINAGE BASIN
- A = BASIN DESIGNATION; B = AREA IN ACRES; C = PERCENT IMPERVIOUS
- 1 DESIGN POINT
- HP HIGH POINT
- LP LOW POINT
- DRAINAGE ARROW
- EXISTING DRAINAGE ARROW
- PROPOSED DRAINAGE SWALE
- 100YR 100-YR FLOODPLAIN

FILING 2 DRAINAGE MAP
RIDGEGATE DEVELOPMENT
JOB NO. 15950.02
08/19/2022
SHEET 4 OF 6

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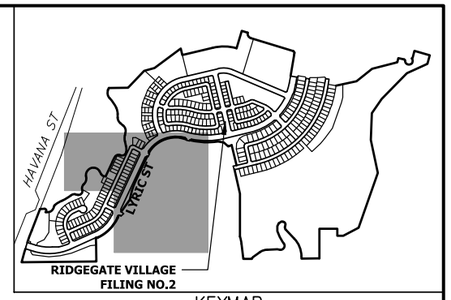
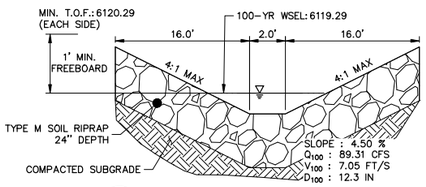
RIDGEGATE SOUTHWEST VILLAGE FILING 2

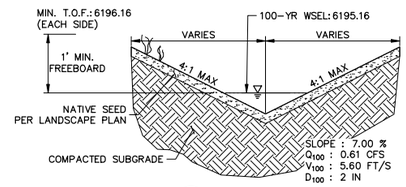
DRAINAGE MAP



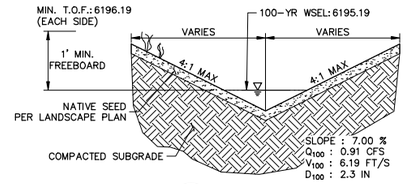
KEYMAP
SCALE: 1"=1000'



G SOIL RIPRAP LINED SWALE
SCALE: NTS



H GRASS SWALE
SCALE: NTS



I GRASS SWALE
SCALE: NTS

LEGEND:

- PROPOSED STORM SEWER
- 6000 PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 6000 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- DRAINAGE BASIN
- A = BASIN DESIGNATION; B = AREA IN ACRES; C = PERCENT IMPERVIOUS
- DESIGN POINT
- HP HIGH POINT
- LP LOW POINT
- DRAINAGE ARROW
- EXISTING DRAINAGE ARROW
- PROPOSED DRAINAGE SWALE
- 100YR 100-YR FLOODPLAIN

FILING 2 DRAINAGE MAP
RIDGEGATE DEVELOPMENT
JOB NO. 15950.02
08/19/2022
SHEET 5 OF 6

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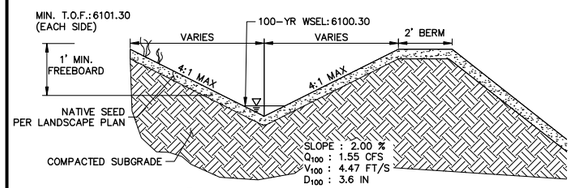
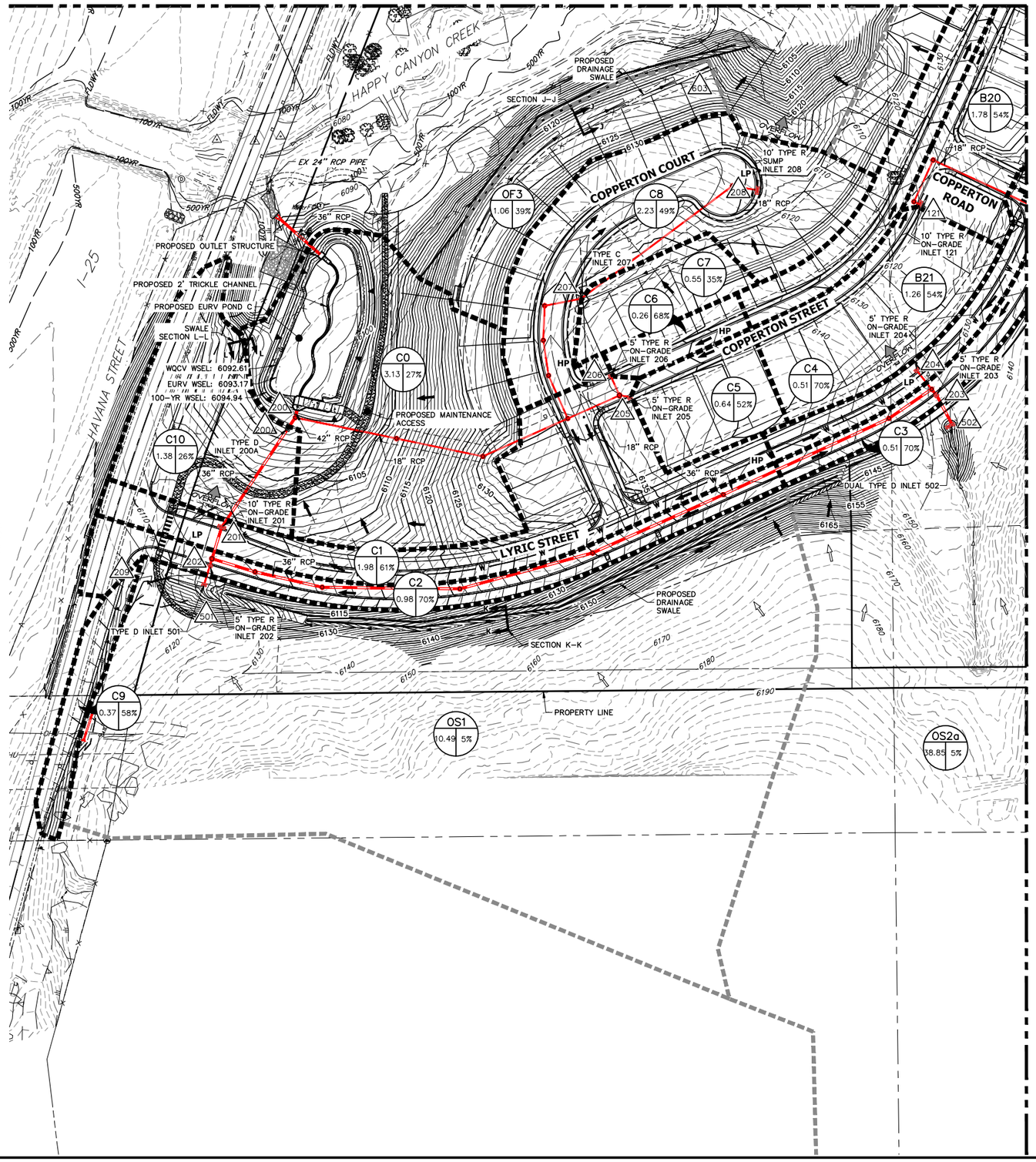
RIDGEGATE SOUTHWEST VILLAGE FILING 2

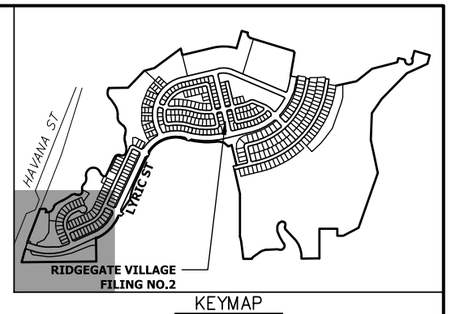
DRAINAGE MAP

EURV POND C SUMMARY TABLE		
		PROPOSED
	AREA (AC)	62.68
	PERCENT IMPERVIOUS (%)	13%
VOLUME	WQCV (AC-FT)	0.44
VOLUME	EURV (AC-FT)	0.70
VOLUME	100-YEAR VOLUME (AC-FT)	1.66
ELEV	LOWEST ORIFICE ELEV (FT)	6089.43
ELEV	WSEL WQCV	6092.61
ELEV	WSEL EURV	6093.17
ELEV	WSEL 100	6094.94
RELEASE RATES	WQCV (CFS)	0.18
RELEASE RATES	EURV (CFS)	0.31
RELEASE RATES	100-YEAR (CFS), INFLOW	99.99
RELEASE RATES	100-YEAR (CFS), OUTLFOW	83.44

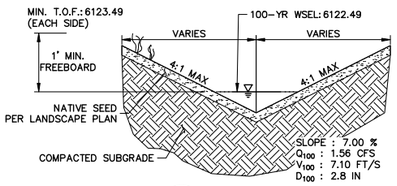


L GRASS SWALE
SCALE: NTS

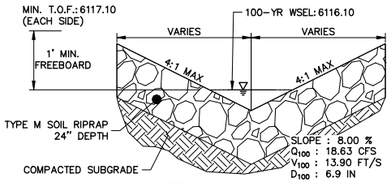




KEYMAP
SCALE: 1"=1000'



J GRASS SWALE
SCALE: NTS



K GRASS SWALE
SCALE: NTS

N

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

LEGEND:

- PROPOSED STORM SEWER
- 6000 PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 6000 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- DRAINAGE BASIN
- A = BASIN DESIGNATION; B = AREA IN ACRES; C = PERCENT IMPERVIOUS
- 1 DESIGN POINT
- HP HIGH POINT
- LP LOW POINT
- DRAINAGE ARROW
- EXISTING DRAINAGE ARROW
- PROPOSED DRAINAGE SWALE
- 100YR 100-YR FLOODPLAIN

FILING 2 DRAINAGE MAP
RIDGEGATE DEVELOPMENT
JOB NO. 15950.02
08/19/2022
SHEET 6 OF 6

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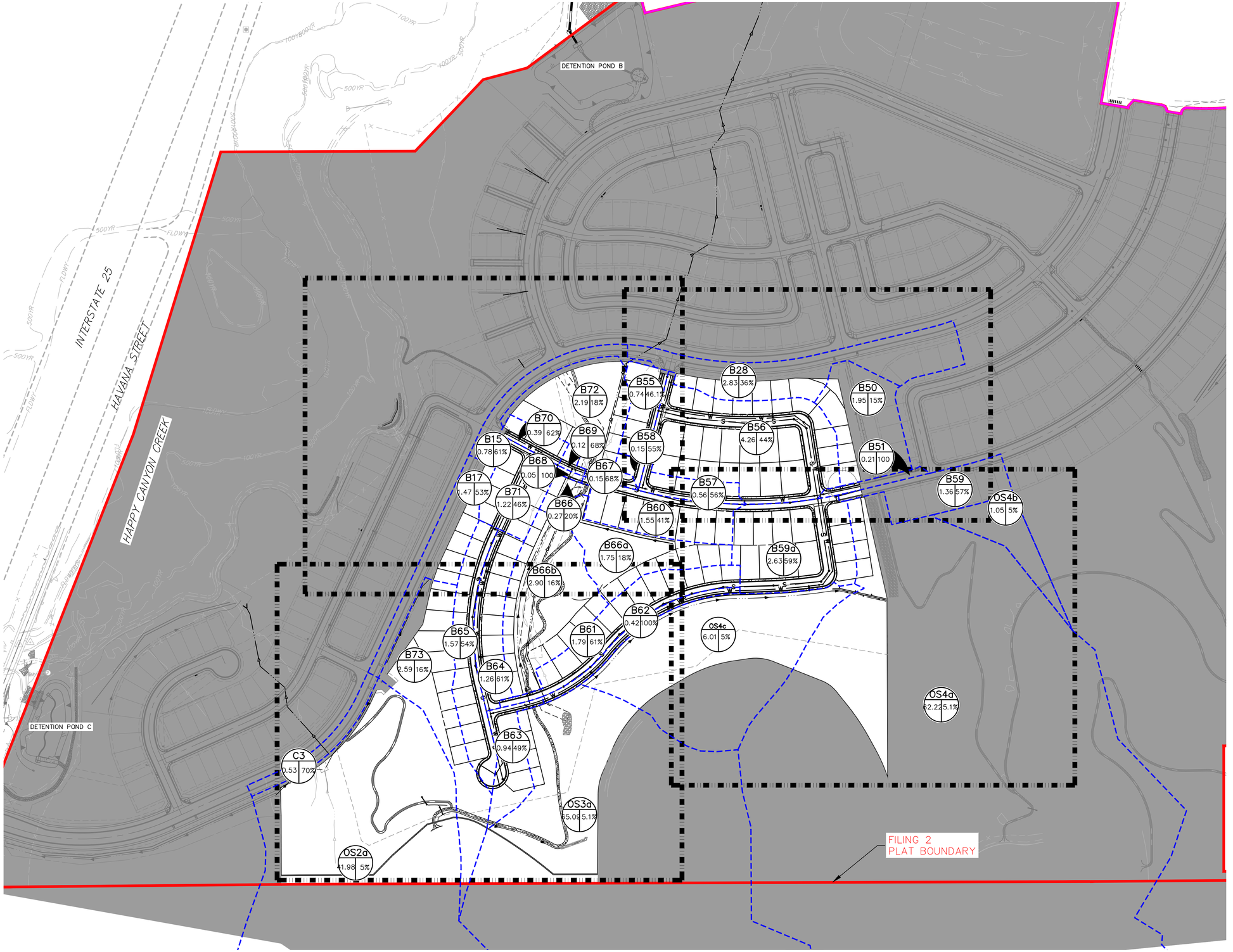
APPENDIX E

DRAINAGE MAPS

RIDGEGATE SOUTHWEST VILLAGE FILING 3

DRAINAGE MAP



BASIN SUMMARY TABLE

Tributary Sub-basin	Area (acres)	Percent Impervious %	Q5 (cfs)	Q100 (cfs)
B15	0.78	61.0	1.09	2.48
B17	1.47	52.8	1.57	3.73
B28	2.83	35.5	1.92	5.52
B50	1.95	15.4	0.94	3.36
B51	0.21	100.0	0.45	0.85
B55	0.74	46.1	0.66	1.75
B56	4.26	43.8	3.12	8.19
B57	0.56	56.3	0.56	1.32
B58	0.15	54.6	0.18	0.42
B59	1.36	56.8	1.42	3.32
B59a	2.63	59.4	3.79	8.55
B60	1.55	40.8	1.18	3.17
B61	1.79	60.7	1.35	3.25
B62	0.42	100.0	0.36	0.74
B63	0.94	49.4	0.75	1.94
B64	1.26	60.6	1.42	3.26
B65	1.57	53.7	1.33	3.24
B66	0.27	19.5	0.14	0.50
B66a	1.75	17.5	0.69	2.52
B66b	2.90	15.5	1.27	4.65
B67	0.15	67.7	0.19	0.43
B68	0.05	100.0	0.09	0.18
B69	0.12	67.9	0.19	0.43
B70	0.39	61.9	0.58	1.32
B71	1.22	46.0	1.18	3.05
B72	2.19	17.9	1.22	4.42
B73	2.59	16.3	0.95	3.23
C3	0.53	69.7	0.78	1.68
OS2a	41.98	5.0	14.05	59.66
OS3a	65.09	5.1	19.40	84.06
OS4a	62.22	5.1	21.32	90.20
OS4b	1.05	5.0	0.19	0.89
OS4c	6.01	5.0	1.70	7.37

150 75 0 150 300

ORIGINAL SCALE: 1" = 150'

FILING 3 DRAINAGE MAP
RIDGEGATE DEVELOPMENT
JOB NO. 15950.03
02/09/2024
SHEET 1 OF 6

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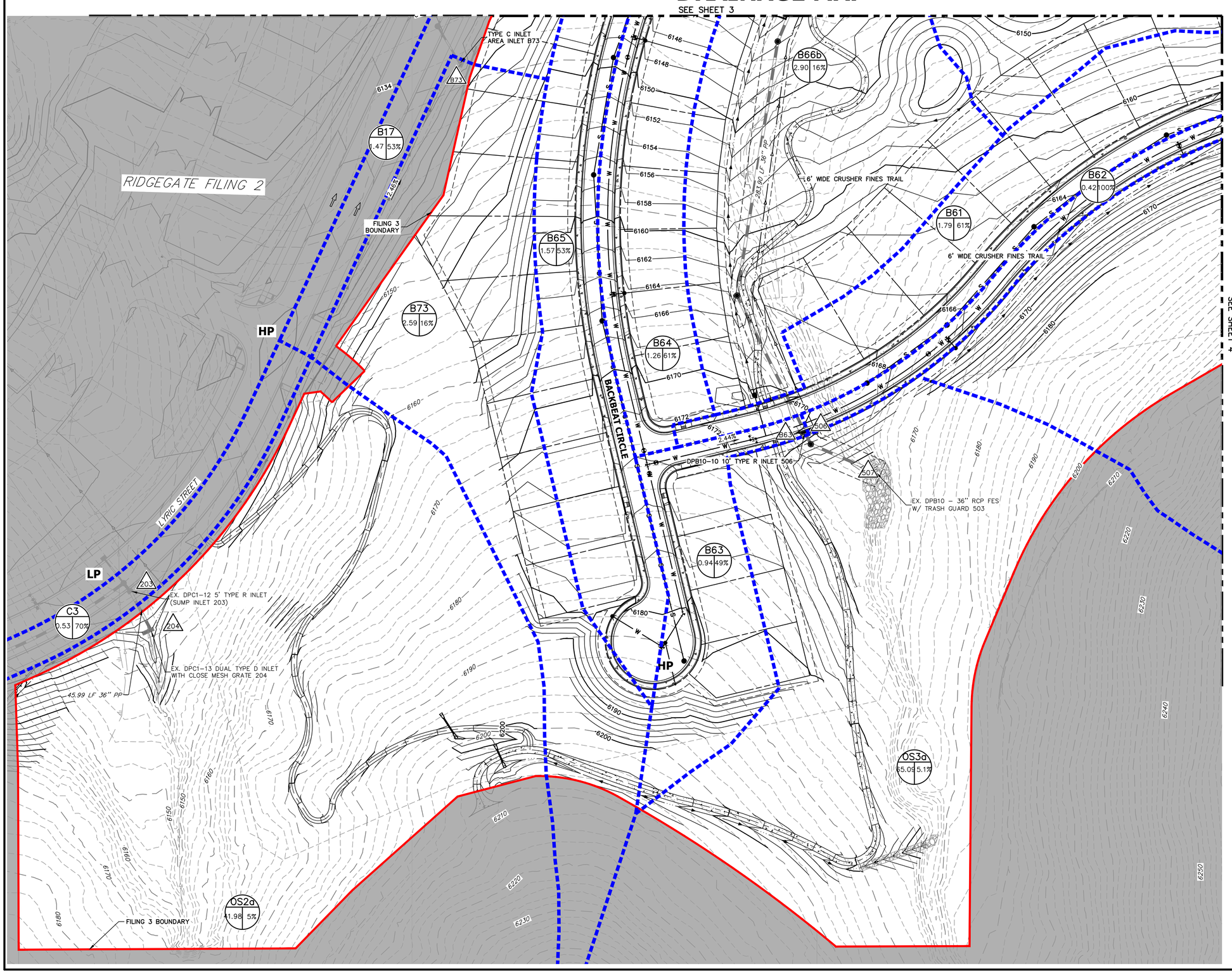
RIDGEGATE SOUTHWEST VILLAGE FILING 3

DRAINAGE MAP



KEYMAP
SCALE: 1"=1000'

LEGEND:

- PROPOSED STORM SEWER
- 6000 PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 6000 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- DRAINAGE BASIN
- A = BASIN DESIGNATION
  B = AREA IN ACRES
  C = PERCENT IMPERVIOUS
- DESIGN POINT
- HP HIGH POINT
- LP LOW POINT
- DRAINAGE ARROW
- EXISTING DRAINAGE ARROW
- PROPOSED DRAINAGE SWALE
- EXISTING DRAINAGE SWALE

50 25 0 50 100
ORIGINAL SCALE: 1" = 50'

FILING 3 DRAINAGE MAP
RIDGEGATE DEVELOPMENT
JOB NO. 15950.03
02/09/2024
SHEET 2 OF 6

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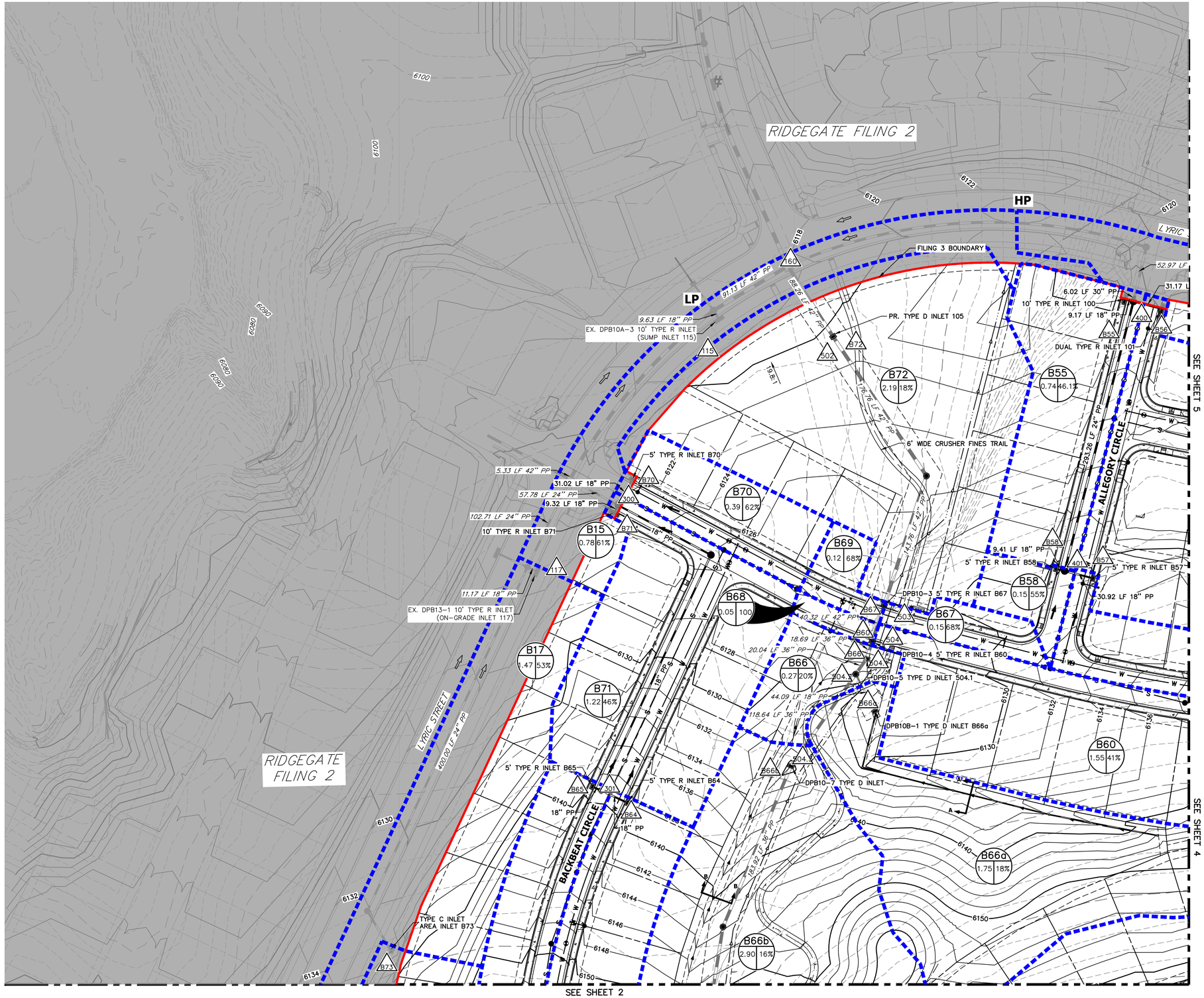
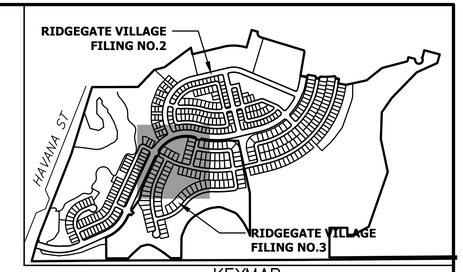
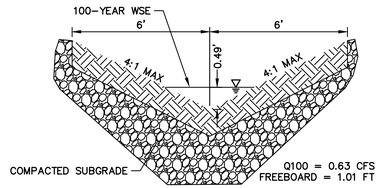
RIDGEGATE SOUTHWEST VILLAGE FILING 3
DRAINAGE MAP

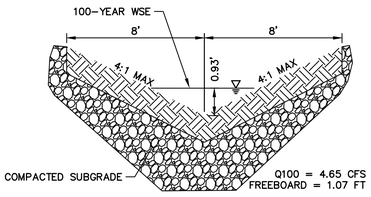




KEYMAP
SCALE: 1"=1000'



GRASS SWALE A-A
SCALE: NTS NOTE: FOUR AREA DRAINS IN SWALE



GRASS SWALE B-B
SCALE: NTS

LEGEND:

- PROPOSED STORM SEWER
- 6000 PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 6000 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- DRAINAGE BASIN
- A = BASIN DESIGNATION; B = AREA IN ACRES; C = PERCENT IMPERVIOUS
- DESIGN POINT
- HP HIGH POINT
- LP LOW POINT
- DRAINAGE ARROW
- EXISTING DRAINAGE ARROW
- PROPOSED DRAINAGE SWALE
- EXISTING DRAINAGE SWALE

50 25 0 50 100
ORIGINAL SCALE: 1" = 50'

FILING 3 DRAINAGE MAP
RIDGEGATE DEVELOPMENT
JOB NO. 15950.03
02/09/2024
SHEET 3 OF 6

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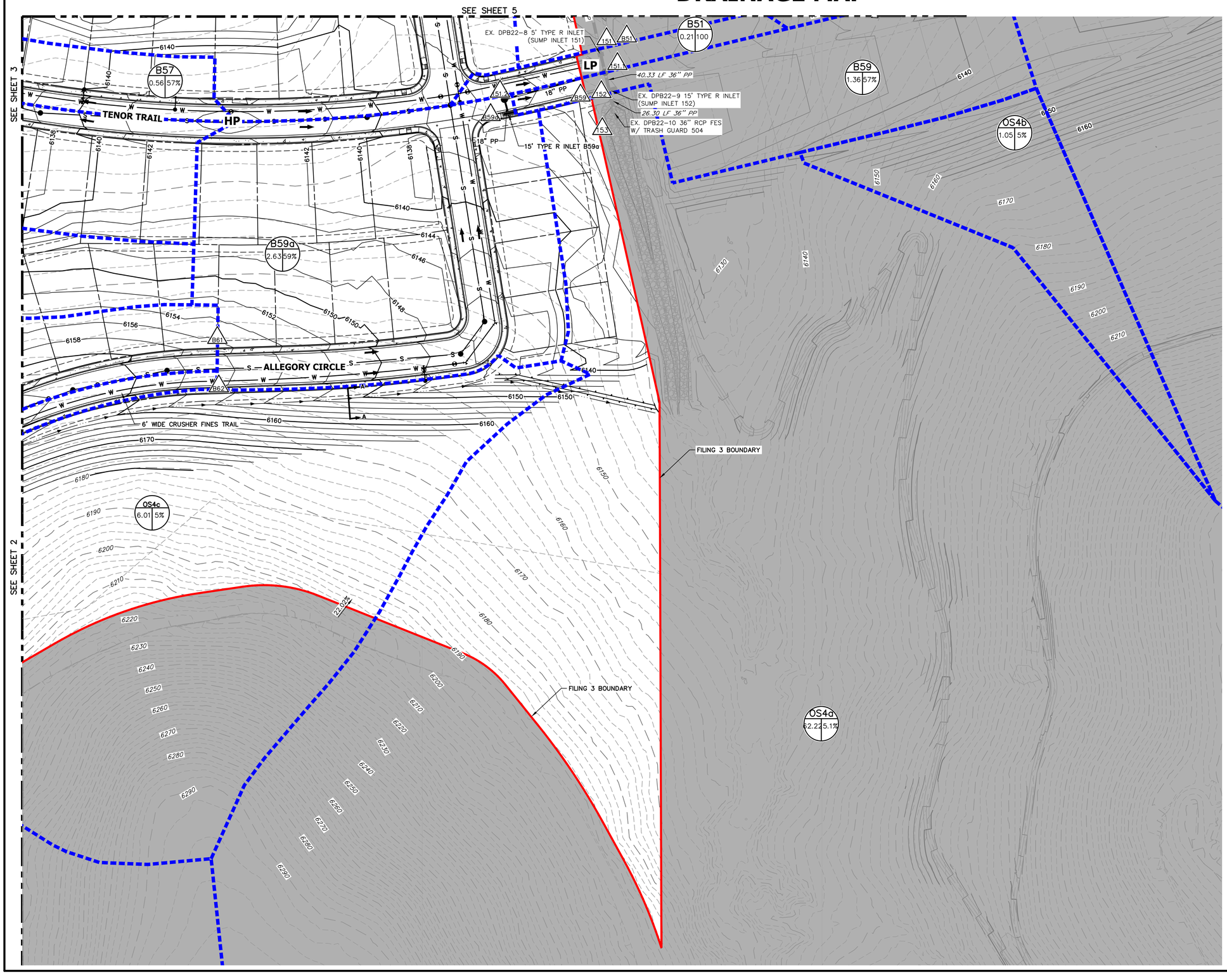
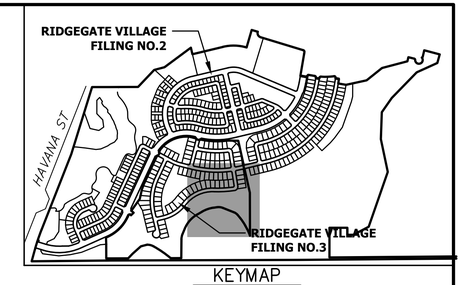
RIDGEGATE SOUTHWEST VILLAGE FILING 3

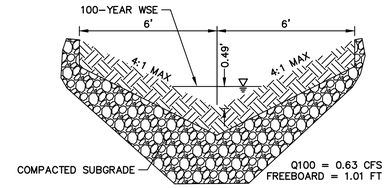
DRAINAGE MAP





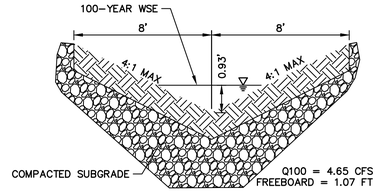
KEYMAP

SCALE: 1"=1000'



GRASS SWALE A-A

SCALE: NTS NOTE: FOUR AREA DRAINS IN SWALE



GRASS SWALE B-B

SCALE: NTS

LEGEND:

- PROPOSED STORM SEWER
- 6000 PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 6000 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- DRAINAGE BASIN
- A / B C — A = BASIN DESIGNATION, B = AREA IN ACRES, C = PERCENT IMPERVIOUS
- 1 — DESIGN POINT
- HP — HIGH POINT
- LP — LOW POINT
- DRAINAGE ARROW
- EXISTING DRAINAGE ARROW
- PROPOSED DRAINAGE SWALE
- EXISTING DRAINAGE SWALE

N

50 25 0 50 100

ORIGINAL SCALE: 1" = 50'

FILING 3 DRAINAGE MAP
RIDGEGATE DEVELOPMENT
JOB NO. 15950.03
02/09/2024
SHEET 4 OF 6

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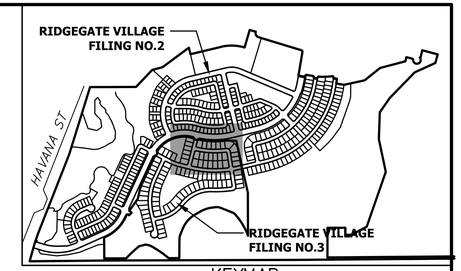
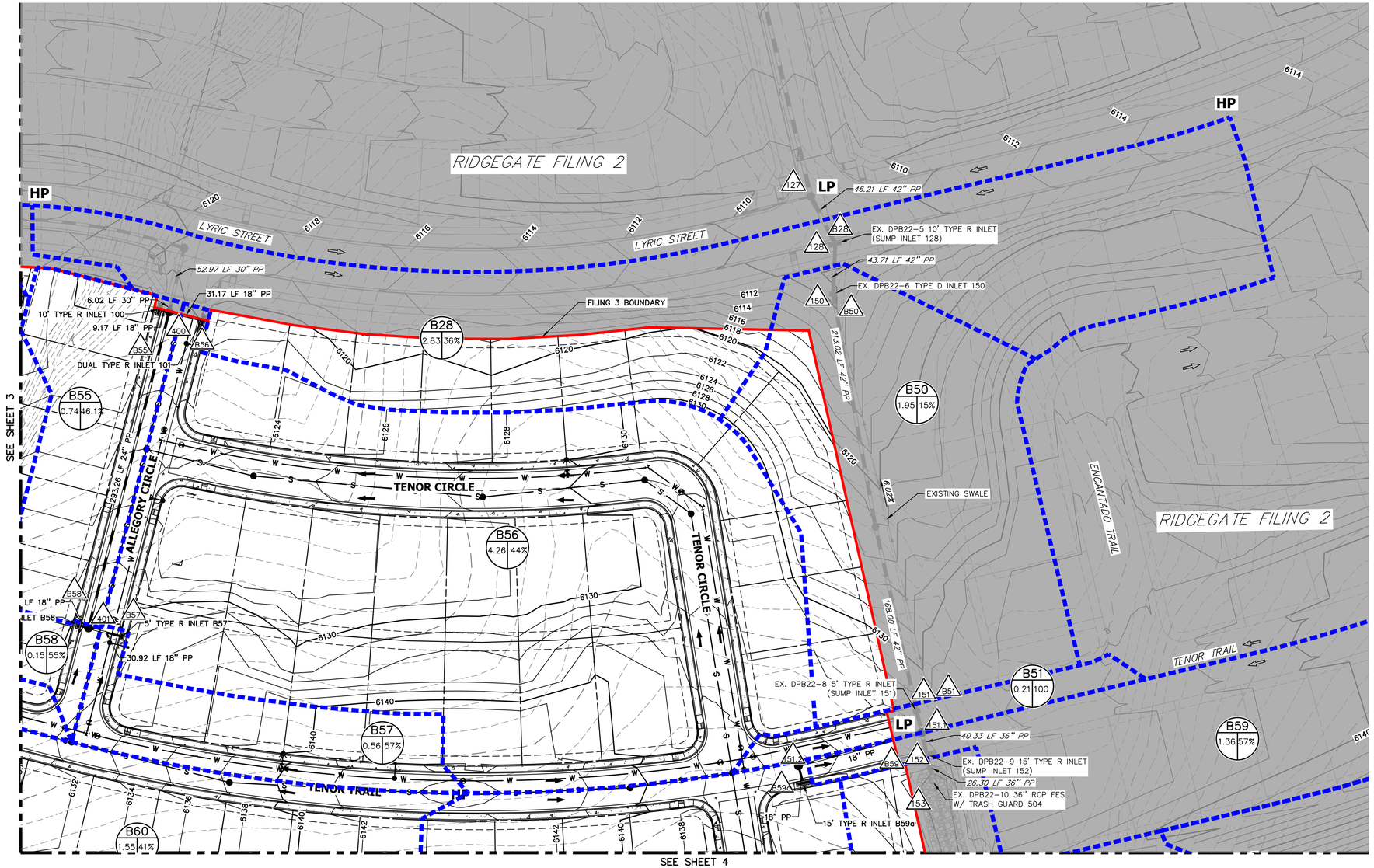
RIDGEGATE SOUTHWEST VILLAGE FILING 3
DRAINAGE MAP



KEYMAP
SCALE: 1"=1000'



LEGEND:

- PROPOSED STORM SEWER
- 6000 PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 6000 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- DRAINAGE BASIN
- A = BASIN DESIGNATION
  B = AREA IN ACRES
  C = PERCENT IMPERVIOUS
- 1 DESIGN POINT
- HP HIGH POINT
- LP LOW POINT
- DRAINAGE ARROW
- EXISTING DRAINAGE ARROW
- PROPOSED DRAINAGE SWALE
- EXISTING DRAINAGE SWALE

N

50 25 0 50 100
ORIGINAL SCALE: 1" = 50'

FILING 3 DRAINAGE MAP
RIDGEGATE DEVELOPMENT
JOB NO. 15950.03
02/09/2024
SHEET 5 OF 6

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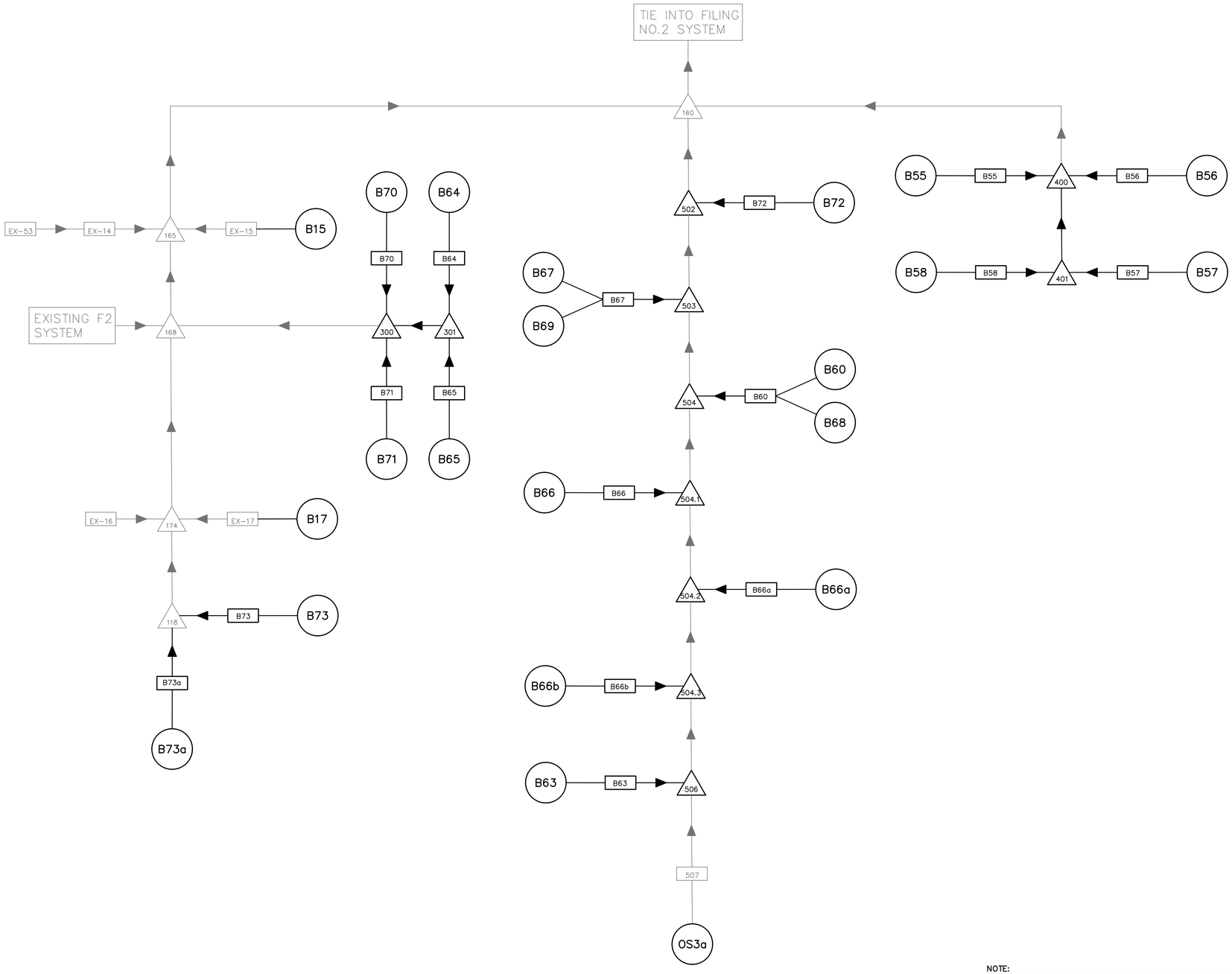
RIDGEGATE SOUTHWEST VILLAGE FILING 3
ROUTING SCHEMATIC



LEGEND:

34	PROPOSED BASIN
1	DESIGN POINT
1	EXISTING DESIGN POINT
50	INLET
50	EXISTING INLET
→	PIPE FLOW DIRECTION
→	EXISTING PIPE FLOW DIRECTION

NOTE:
ALL EXISTING INFRASTRUCTURE TO BE BUILT WITH FILING NO. 2

FILING 3 DRAINAGE MAP
RIDGEGATE DEVELOPMENT
JOB NO. 15950.03
02/09/2024
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