

STORM DRAIN MASTER PLAN AND CAPITAL IMPROVEMENTS PLAN UPDATE

Prepared for:

SPRINGVILLE CITY

Prepared by:

**Bowen, Collins & Associates
154 East 14000 South
Draper, Utah 84020**



June 2013

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EXECUTIVE SUMMARY

The City of Springville (City) retained Bowen Collins & Associates (BC&A) to prepare this storm drain master plan update for the City's storm drain system. The original storm drainage master plans were prepared by Hansen Allen & Luce (HAL) in 2007 and 2008. Since 2008, Springville City updated their General Plan and surveyed their storm drain trunk lines. Also, the City has experienced growth since 2008.

Springville City retained BC&A to accomplish the following:

1. Reflect impacts of current development
2. Reflect newly adopted General Plan
3. Reflect newly-acquired survey data
4. Migrate the hydrologic model from HEC-HMS to ASSA
5. Update the Master Plans into one document

The updated hydrologic and hydraulic model shows the need for additional storm drain projects to accommodate future development. Chapter 5 shows the Capital Improvement Plan with a total estimated cost of \$33 million to construct all of the projects.

Chapter 6 contains the Impact Fee Facilities Plan (IFFP) and lists all of the projects that are required to accommodate development in the IFFP Growth Area. There are approximately 36 projects that need to be construction for a total estimate cost of approximately \$5.6 million. Roughly 80%, or \$4.5 million, of the total estimate cost is attributable to future development, and is therefore eligible for impact fees under current State of Utah law.

CHAPTER 1 INTRODUCTION

BACKGROUND

The City of Springville (City) retained Bowen Collins & Associates (BC&A) to prepare this storm drain master plan update for the City's storm drain system. The original storm drainage master plans were prepared by Hansen Allen & Luce (HAL) and divided into two reports and one summary document:

1. Storm Drainage Master Plan (Land Drain and Dry Creek Drainages), HAL, Mar 2007.
2. Storm Drainage Master Plan (Spring Creek and Hobble Creek Drainages), HAL, Feb 2008.
3. Storm Drainage Capital Improvements Plan, HAL, Sep 2008.

Since 2008, when the HAL Master Plans were finalized, Springville City updated their General Plan and surveyed their storm drain trunk lines. Also, the City has experienced growth since 2008. Springville City retained BC&A to accomplish the following:

1. Reflect impacts of current development
2. Reflect newly adopted General Plan
3. Reflect newly-acquired survey data
4. Migrate the hydrologic model from HEC-HMS to ASSA
5. Update the Master Plans into one document

This document is a working document. Some of the recommended improvements identified in this report are based on the assumption that development and/or potential annexation will occur in a certain manner. If future growth or development patterns change significantly from those assumed and documented in this report, the recommendations may need to be revised. The status of development should be reviewed at least every five years. This report and the associated recommendations should also be updated every five years.

SCOPE OF SERVICES

The general scope of this project involved an update to the City's storm drain model, and updating the capital facilities projects to meet the present and future storm drain needs of its residents. As part of this project, BC&A completed the following tasks:

- Task A: Prepared for and attended progress coordination meetings.
- Task B: Collected and reviewed existing information pertinent to the City's storm drain system.

Task C: Developed a computer model of the storm drain system.

Task C-1: Migrated the City's existing HEC-HMS model that was developed as part of the HAL Master Plan into an Autodesk Storm and Sanitary Analysis (ASSA) hydrologic/hydraulic computer model. Updated subbasins, based on recent development and the newly-adopted General Plan.

Task C-2: Imported storm drain system hydraulic components including pipes, catch basins, cleanouts, outfalls, detention basins, orifices, open channels, and other storm drain infrastructure from the City's storm drain GIS database into the ASSA computer model.

Task C-3: Provided training to City Personnel on the use of ASSA software and newly updated model.

Task D: Updated the Capital Improvement Project list based on the results of the ASSA model developed as part of Task C.

Task E: Prepared a concise, user-friendly report that summarized the procedures and results of the master plan update.

This report was prepared as part of Task E. It important to note that this study is an update to the current master plan and that much of the text, figures, and information in this report were derived from the HAL Master Plans.

AUTHORIZATION

Springville contracted the services of BC&A to prepare this update to the Storm Drain Master Plan in June of 2012. The facility plan study and associated report were completed in June 2013.

CHAPTER 2 EXISTING STORM DRAINAGE SYSTEM

EAST SPRINGVILLE DRAINAGE

A map of the Study Area is shown on Figure 2-1. Spring Creek and Hobble Creek provide discharge locations for storm drainage facilities in the eastern and northern portions of Springville City. Conveyance of storm drainage to these discharge locations consists of an interwoven network of irrigation ditches and City storm drain piping. In most of Plat A (400 N to 400 S and 400 E to 400 W), the ditch irrigation system is routed through the curbs and gutters resulting in a combined irrigation and storm drainage system. During the irrigation season, which also corresponds to the season for thunderstorms, much of the capacity of the irrigation ditches is unavailable for storm drainage. The existing storm drainage system is shown on Figure 2-2.

Spring Creek

Spring Creek drains the northern portion of Springville City. The two forks of Spring Creek flow from about 700 North 400 East and 900 North 300 East to the northwest where they meet at about 1700 North 1000 West (see Figure 2-1). From this point, it flows westward to Utah Lake. Due to development within Springville City, many portions of Spring Creek have been piped or the channel has been modified.

Hobble Creek

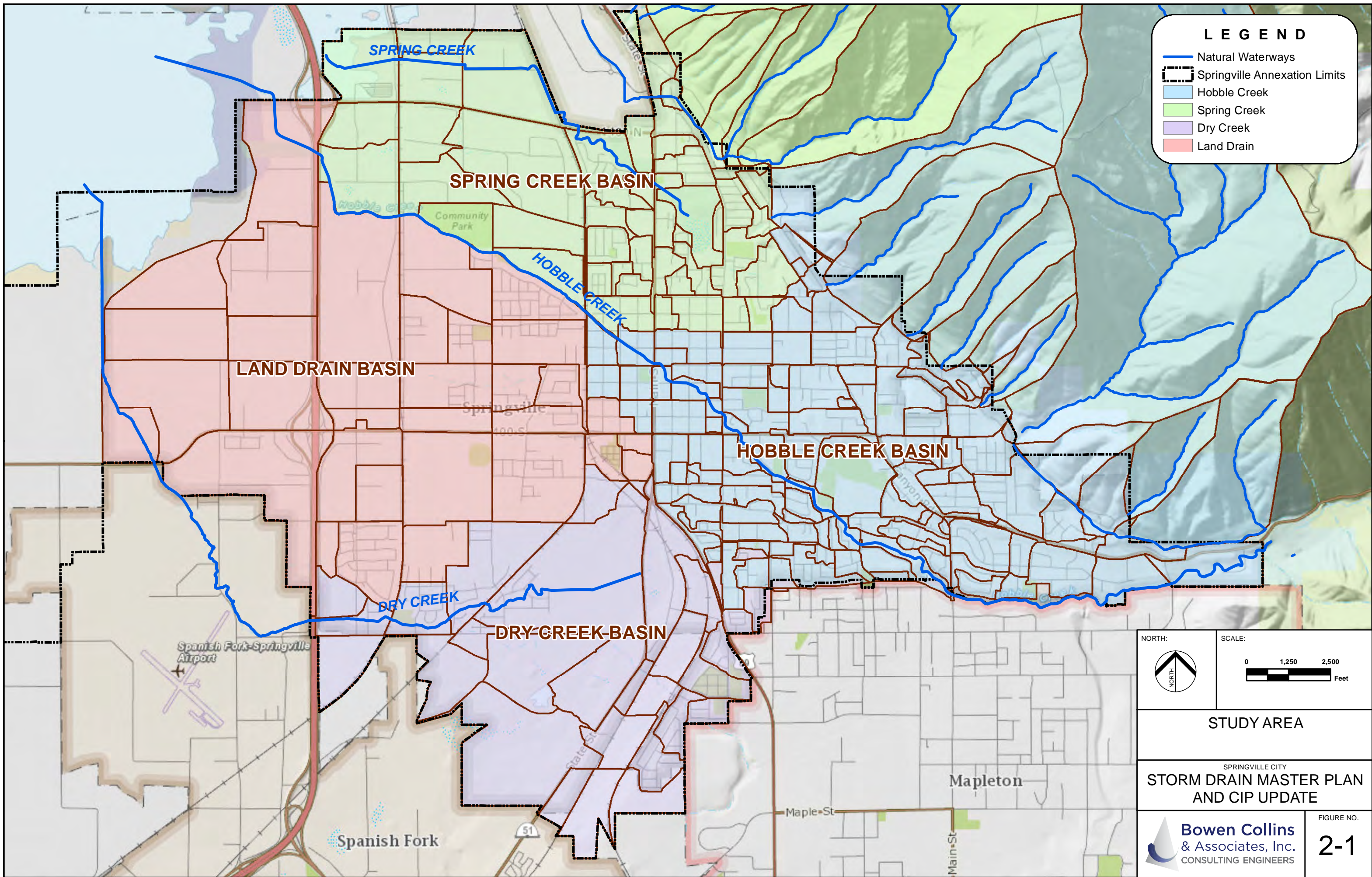
Hobble Creek drains the center portion of the City from the mouth of Hobble Creek Canyon to the northwest part of Plat A. West of about 300 West; rainfall runoff generally runs parallel to or away from Hobble Creek with the elevation of the creek only slightly lower than the surrounding land with berms lining both sides of the creek. As a result, discharging storm water west of 300 West directly into Hobble Creek is difficult without pumping.

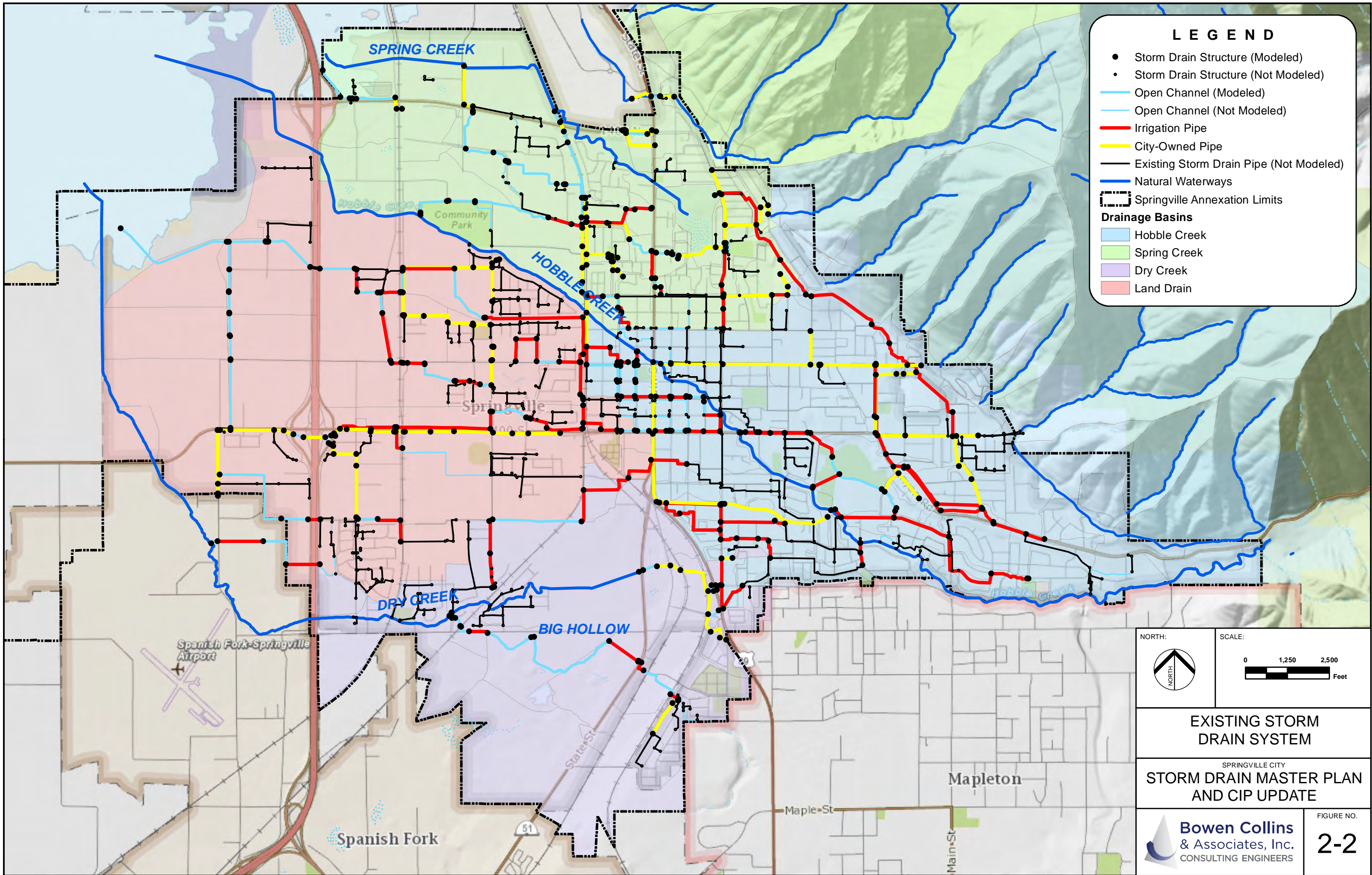
WEST SPRINGVILLE DRAINAGE

The Land Drain system in the west fields area of Springville City and Dry Creek (including Big Hollow) in the southern area of the City provide discharge locations for storm drainage facilities. The land drain conveyances and Dry Creek carry significant base flows from both irrigation and groundwater discharge from springs and land drains. Most of the area tributary to these systems is largely undeveloped or is currently developing. Storm drain facilities have been installed in existing developments conveying rainfall runoff to either the land drain system or to Dry Creek.

Dry Creek And Big Hollow

Dry Creek and Big Hollow drain the southern portion of the City (see Figure 2-1). Big Hollow flows from its headwaters just south of the Springville City boundary in the Evergreen area to the northwest where it flows into Dry Creek at about 1500 South 1200 West. Dry Creek's source is a spring located at about 1200 South Main Street. From this point, it flows westward past Interstate 15 (I-15). After crossing I-15, Dry Creek turns north-northwest until it discharges into



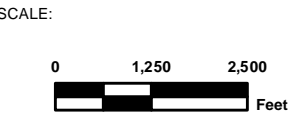
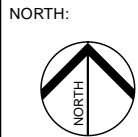


LEGEND

- Storm Drain Structure (Modeled)
- Storm Drain Structure (Not Modeled)
- Open Channel (Modeled)
- - - Open Channel (Not Modeled)
- Irrigation Pipe
- City-Owned Pipe
- Existing Storm Drain Pipe (Not Modeled)
- Natural Waterways
- - - Springville Annexation Limits

Drainage Basins

- Hobbles Creek
- Spring Creek
- Dry Creek
- Land Drain



EXISTING STORM DRAIN SYSTEM

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FIGURE NO.
2-2

Utah Lake. Dry Creek and Big Hollow play an important role in the irrigation of the southern portion of the City with several irrigation ditches flowing into and out of the creeks.

Irrigation Ditches

In the western areas of the City between Hobble Creek and Dry Creek, irrigation ditches (including land drains) are the primary storm water conveyances. These ditches also convey groundwater from an extensive land drain system to Utah Lake. In the developed area of Springville City (east of 400 West), there are five major irrigation ditches controlled by Springville Irrigation Company that collect storm drainage. These ditches are shown on Figure 2-2. Each of these ditches has multiple diversions and can be routed along associated minor ditches, depending on watering schedules. Irrigation ditches and canals are not the preferred conveyances for storm water because they are designed to distribute water rather than collect it. Ditch capacities generally decrease from upstream to downstream, while storm drainage flow rates increase from upstream to downstream. Water quality, debris and sediment, liability issues, and ditch maintenance are problems associated with use of the ditches to convey storm drainage.

The ditch irrigation network for Plat A is operated by the City. A large portion of this system is routed through curbs and gutters. As a result, storm drainage is also conveyed by this system. Areas in Plat A without curb and gutters have open ditches along the road which also results in collection of storm drainage in the irrigation system. The major routes for the Plat A irrigation system and storm drainage system are shown on Figure 2-2.

DETENTION

In the past, Springville City has required developments to limit peak runoff flow rates from a 25-year storm event to 0.15 cfs per acre. In the HAL Master Plans the philosophy was changed to a regional approach where individual developments release undetained flows to regional detention basins. Interim project are required to meet a different standard, as described in the Implementation of Storm Drainage Master Plan Policy (see Appendix C). A summary of the various detention requirements is shown in Table 2-1 below.

**Table 2-1
Detention Requirements for Previous, Future and Interim Projects**

	Previous Projects	Future Projects	Interim Project
Design Event	25-Year	10-Year	25-Year
Detention Requirements	0.15 cfs/acre	None (Detention will occur at regional facilities)	0.15 cfs/acre

CHAPTER 3 COMPUTER MODEL DEVELOPMENT

This section describes the methodology and process behind the development of the storm drainage model. The original HEC-HMS model associated with the HAL Master Plans was migrated over to an ASSA model as part of this master plan update as outlined below:

- **ASSA Model** - The project options in the ASSA model were setup to mimic the hydrologic calculation routines in HEC-HMS.
- **Hydrologic Parameters** - The subbasins and hydrologic parameters entered into the original HEC-HMS model were copied into the ASSA model.
- **Calibration** – The design storm event used in the HAL master plan was entered into the ASSA model. The peak runoff from each of the subbasins in ASSA matched the peak runoff from each of the subbasins in HEC-HMS.

It is important to note that only the hydrologic parameters were migrated into the ASSA model and the hydraulic parameters used in this master plan update were not developed as part of the HAL Master Plans. Subbasins and hydrologic parameters that were adjusted as part of this master plan update were developed using the same methodology as the HAL Master Plans. An outline of the development of the hydrologic parameters is found below.

DRAINAGE DESIGN FREQUENCY

The approach selected by Springville City for determining the drainage design frequency is based upon methodology given in the **Urban Storm Drainage Criteria Manual** (Denver Regional Council of Governments, 2001). This manual defines the urban drainage system as follows:

"Every urban area has two separate and distinct drainage systems, whether or not they are actually planned for and designed. One is the initial system, and the other is the major system. To provide for an orderly urban growth, reduce costs to future generations, and obviate loss of life and major property damage, both systems must be planned and properly engineered."

The *initial storm drainage* system is sometimes referred to as the convenience system in that it is designed to "reduce street maintenance costs, to provide protection against regularly recurring damage from storm runoff (of a 10-year recurrence interval or less), to help create an orderly urban system, and to provide convenience to the urban residents" (Denver Regional Council of Governments, 2001). Storm sewer systems are generally considered part of the initial storm drainage system. In conjunction with the initial storm drainage system, provisions should be made to avoid major property damage or loss of life from a major storm event. Such provisions are considered to comprise the major storm drainage system.

The *major storm drainage* system in newly developing urban areas or business districts should generally be designed for the 100-year event with the objective to eliminate major damage to edifices (homes, buildings, etc.) and to prevent loss of life. This does not mean that storm sewers

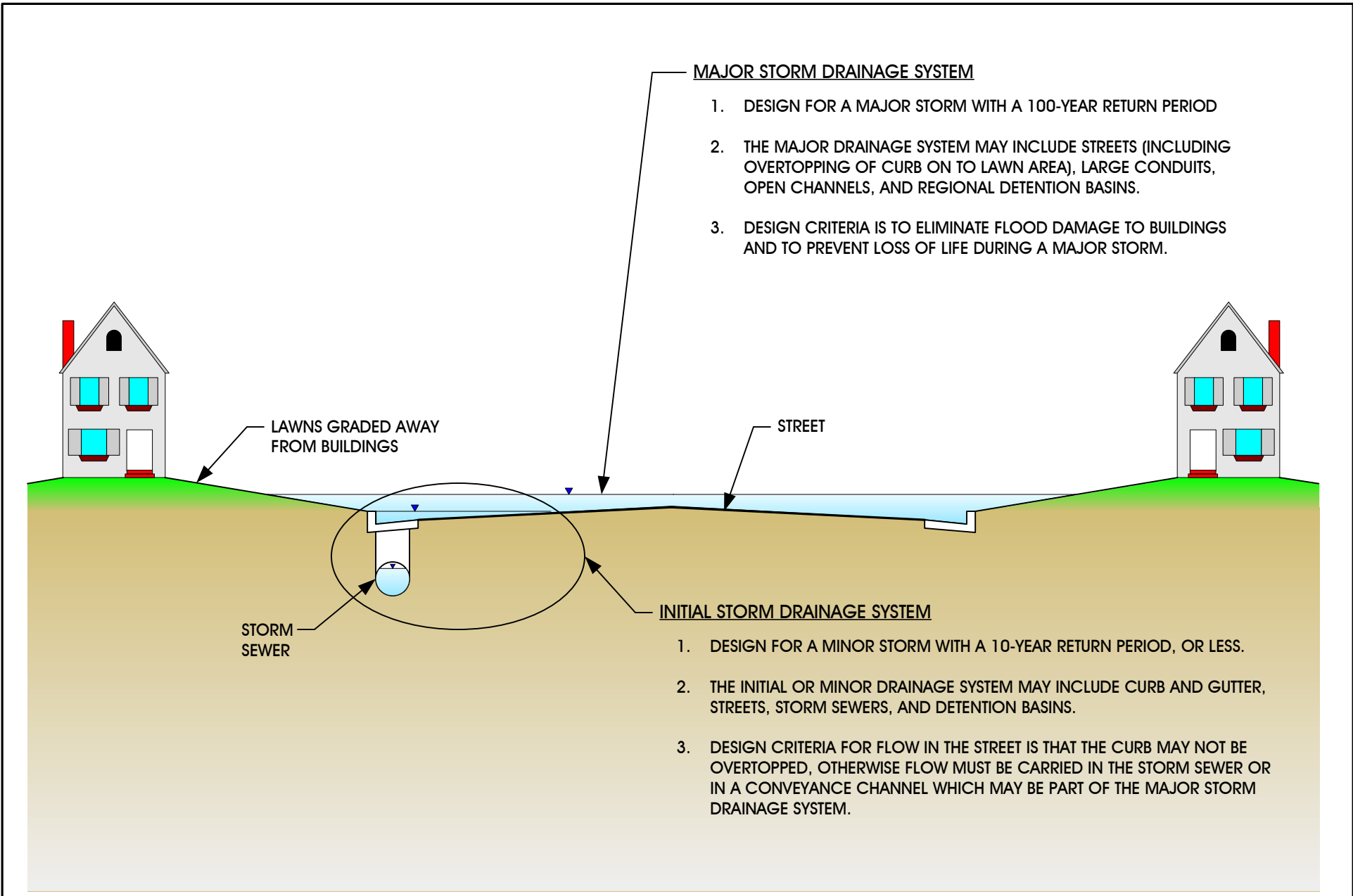
(which are considered part of the initial storm drainage system) should be designed for the 100-year event. It means that the combination of storm sewers and channelized surface flow, which may include using part of the grassed frontage area of a home as part of a 100-year channel (see Figure 3-1), should be designed to accommodate the 100-year event thereby preventing damage to the edifice. There appears to be general agreement among most major flood control agencies that in the design of the major storm drainage system for urban areas the 1 - percent storm (100-year return period) should be used, except in the design of water impoundment structures that exceed a specified capacity.

As water impoundment structures increase in volume and embankment height, the potential for property damage and loss of life increases if the impoundment fails. Selection of a design storm and other design criteria for large impoundment structures should include an evaluation of the risks associated with failure of the impoundment. If failure of the impoundment could result in loss of life or major property damage, the spillway and outlet works for the impoundment should be designed for the 500-year event or the probable maximum flood. Design requirements and other regulations for water impoundments are presented in State of Utah Statutes and Administrative Rules for Dam Safety (UAC, 2005). It is anticipated that all potential detention basins within Springville City will be classified as minor dams because they will have capacities less than 10 acre-feet and embankment heights less than 10 feet. Minor dams that do not pose a significant threat of property damage or loss of life are usually exempted from State regulations for dam safety.

Springville City has selected the 10-year storm event for the design of the initial storm drainage system and the 100-year storm event for design of the major storm drainage system. The 10-year storm event was selected by the City for the design of the initial storm drainage system because:

1. The 10-year storm event is the design frequency selected by most large municipalities along the Wasatch Front, and
2. The 10-year storm event provides a level of protection most likely experienced historically throughout much of Springville City.

Applying the storm drainage criteria (100-year storm event) to the major storm drainage system in Springville City is a more complex issue, because the major storm drainage system in Springville City is very difficult to define and analyze. In most of the newer developments, roadways are lower in elevation than adjacent lots which allow the roadways to carry the runoff that exceeds the capacity of the initial storm drainage system. However, the older sections of Springville City were developed around an existing open-channel irrigation system where ditches along roadways deliver irrigation water to adjacent lots and agricultural land. The ditches along the roadways must be higher than the lots, so the roadways are higher in elevation than adjacent properties. Runoff that exceeds the capacity of the initial storm drainage system will collect in low areas between the homes and the roadways, and in some cases may flow through lots between homes. Determining the local storage in existing lots and identifying flow patterns for the 100-year storm event was not included in this study. Although the 100-year storm event was not analyzed as part of this study, it is recommended that Springville City apply the major drainage system design criteria (100-year storm event) to new development whenever it is appropriate.



DESIGN RAINSTORM

The following data was used to define the design storm for this study:

- Storm Duration: 3 Hours
- Storm Distribution: Modified Farmer and Fletcher
(See Appendix D)
- Recurrence Interval: 10-Year
- Storm Depth (From NOAA Atlas 14): 1.00 inches

DRAINAGE BASIN CHARACTERISTICS

A drainage basin is an area where all rainfall or snowmelt runoff within the basin will collect to a common point. Drainage basins may also be referred to as watersheds or catchments. Subbasins are smaller drainage basins located within a larger drainage basin. Drainage subbasin boundaries depend upon both the topography and the location of storm drainage facilities. The drainage subbasin boundaries delineated for the hydrologic model are shown on Figure 3-2.

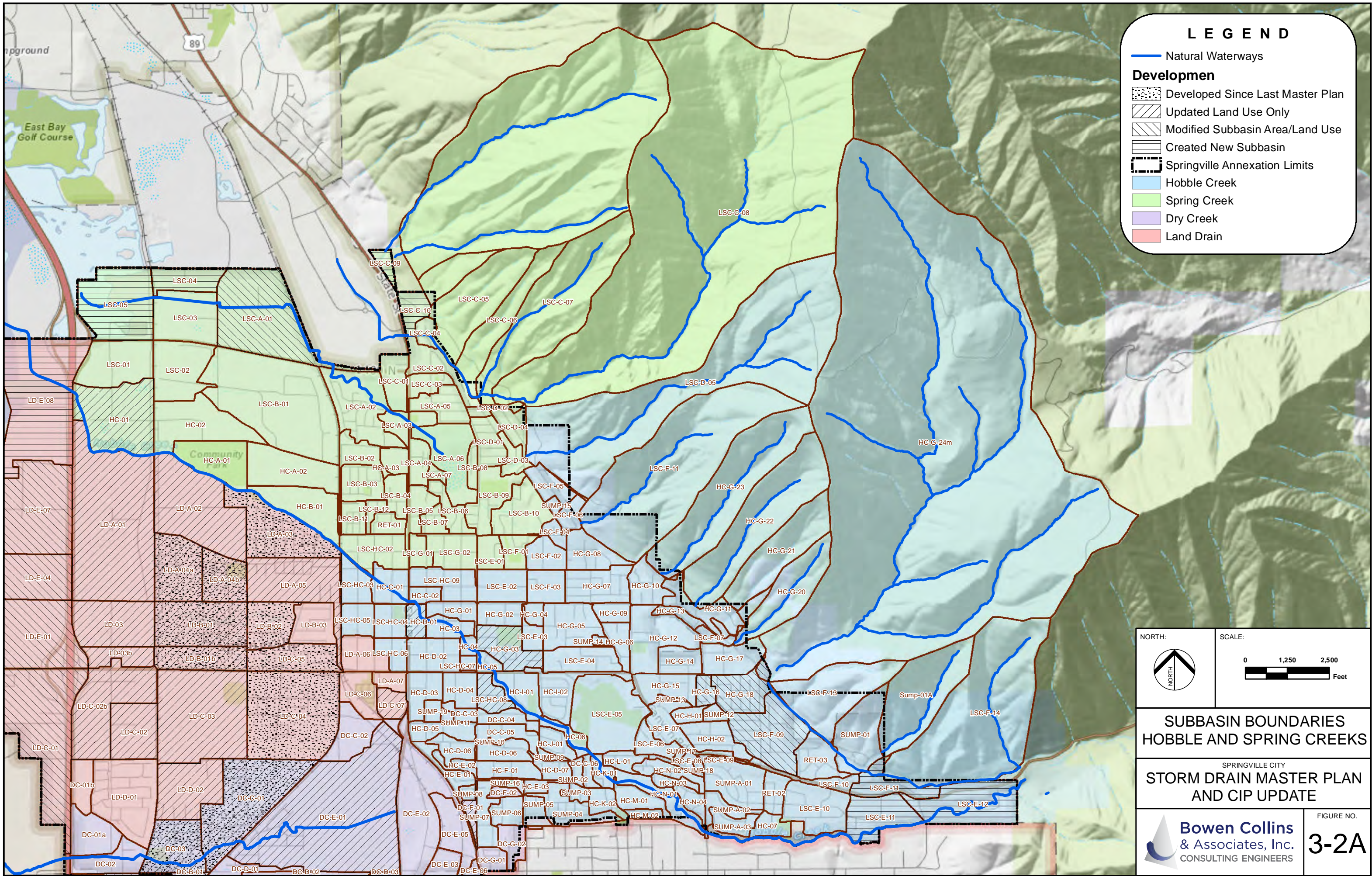
Subbasin characteristics were developed based on field observations, the 2005 and 2011 Springville City aerial photographs, 2-foot contours, and soils coverage from the Soil Survey Geographic (SSURGO) database (NRCS, 2005). Subbasin characteristics included:

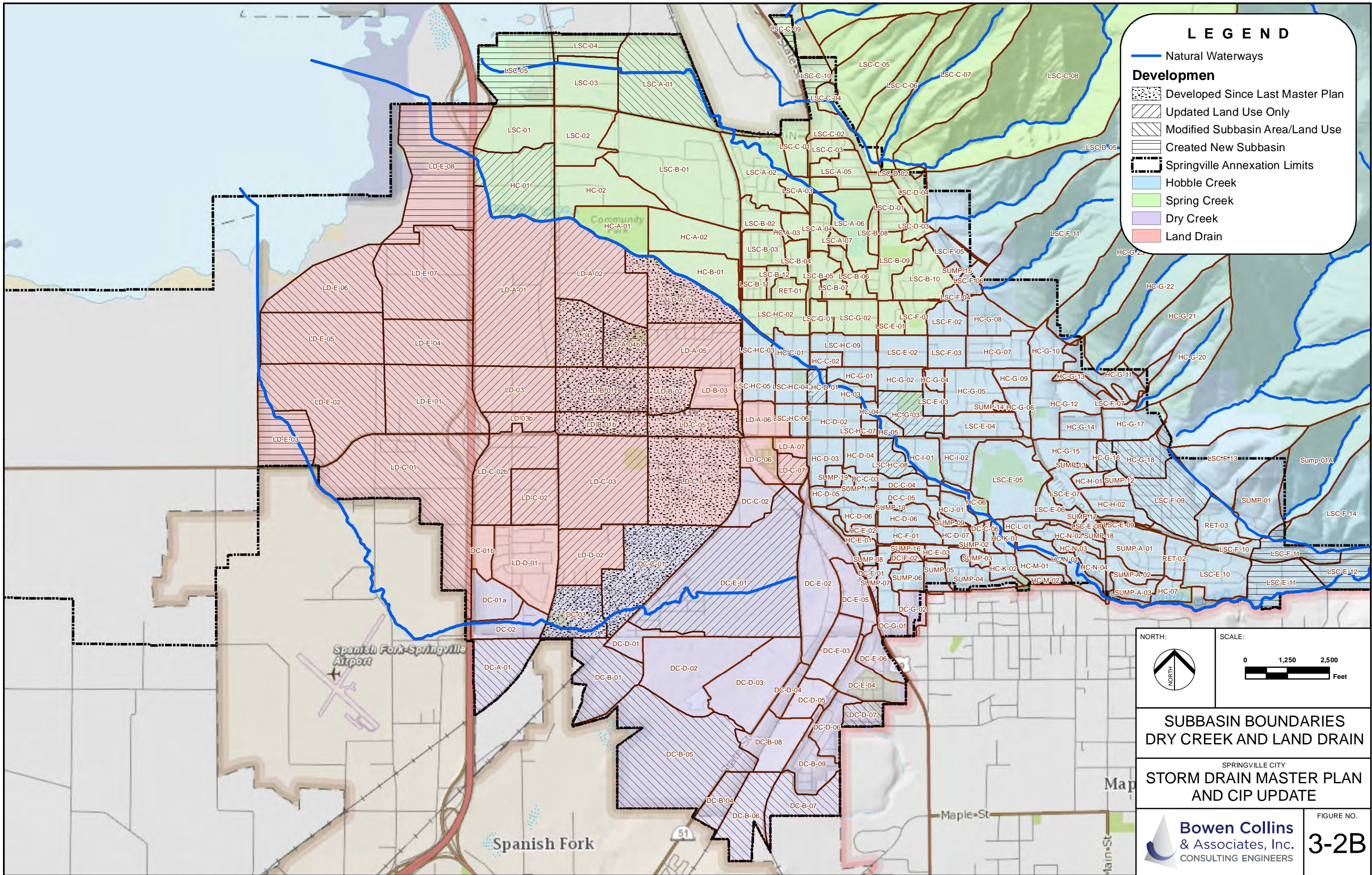
- Subbasin area
- Hydrologic soil type
- Percentage of impervious area
- SCS curve number
- Conveyance characteristics

Hydrologic characteristics of each subbasin are given in the model input files provided in Appendix C. Subbasin numbers are illustrated on Figure 3-2.

Subbasin Area

The majority of the subbasins were delineated by HAL within the GIS database using topographic mapping and the locations of storm drainage facilities. See Figure 3-2 for subbasins that were updated as part of this Master Plan. Digital base mapping of Springville City consisted of 2-foot contours with physical features such as property lines, canals, and streets. Site visits were made to determine drainage patterns in areas where the drainage directions could not be discerned using the available mapping. Subbasins varied in size depending upon the level of development within the subbasin and the locations for which hydrographs were needed. Average subbasin size in developed areas was approximately 23-30 acres. However, in the mostly undeveloped portions of the Land Drain and Dry Creek drainages, the average size was closer to 100-acres.





LEGEND

- Natural Waterways
- Development**
- Developed Since Last Master Plan
- Updated Land Use Only
- Modified Subbasin Area/Land Use
- Created New Subbasin
- Springville Annexation Limits
- Hobble Creek
- Spring Creek
- Dry Creek
- Land Drain

NORTH:

SCALE:

**SUBBASIN BOUNDARIES
DRY CREEK AND LAND DRAIN**

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FIGURE NO.
3-2B

Hydrologic Soil Type

Hydrologic soil type is a general indication of the soil's infiltration capacity. Soils are assigned a hydrologic type of A, B, C, or D by the Natural Resource Conservation Service (NRCS). Soils of hydrologic soil Type A have the highest infiltration rate, and therefore produce the least amount of runoff. Soils of hydrologic soil type D have the lowest infiltration rate, and therefore produce the highest amount of runoff. Soils in the Land Drain and Dry Creek drainages are mostly type D with some type B soils. Each subbasin was assigned a hydrologic soil type based upon the NRCS mapping.

Impervious Area

Impervious areas within each subbasin were estimated using the 2005 and 2011 aerial photography. The impervious area was divided into two components, directly connected impervious areas and unconnected impervious areas. Directly connected impervious areas provide a direct path for runoff from the impervious area to a conveyance such as a pipe, gutter, or channel. Directly connected impervious areas include roadways, parking lots, driveways, and sometimes the roofs of buildings. Runoff from unconnected impervious areas must cross a pervious area before reaching a conveyance. Examples of unconnected impervious areas include sidewalks that are not adjacent to the curb, patios, sheds, and usually some portion of the roof of a house.

It is important to distinguish between directly connected and unconnected impervious areas because runoff from the directly connected impervious areas reaches the drainage conveyance system quickly and usually determines the magnitude of the peak flow rate upstream from detention. Impervious areas such as backyard patios, which drain to grassed or landscaped areas, have much less impact on storm runoff peak flows. Based upon field observations, the directly contributing impervious area for a typical residential lot in Springville City is assumed to include the driveway, and 50 percent of the home and garage area. It is assumed that runoff from the remaining 50 percent of the home and garage area flows over grassed areas before reaching the street. For large commercial structures, it was assumed that 100 percent of the roof area is directly connected impervious area.

SCS Curve Number

Each basin was assigned an SCS curve number. The curve number describes the relationship between precipitation and runoff for the pervious and unconnected impervious portions of the subbasin. Curve numbers range from 0 to 100. Areas with high runoff rates have high curve numbers. Areas that are more pervious have lower curve numbers. For example, parking lots and other impervious surfaces have curve numbers of about 98. Pervious areas such as fields, lawns, and gardens typically have curve numbers between 70 and 85. Curve numbers for each subbasin were estimated using a methodology presented by the Soil Conservation Service (SCS, 1972).

Vegetative cover types in the urban subbasins of Springville consisted mostly of lawns and gardens with some fields. Vegetative cover types in mountain drainage basins included the following:

- **Herbaceous.** This cover type includes a mixture of grass, weeds, and low-growing brush, with brush being the minor element. This cover was found on the ridges and more exposed areas.
- **Pinyon-Juniper.** This cover type includes pinyon, juniper or both with a grass understory and was found only in a couple of areas in the higher elevations of the mountains.
- **Oak-Aspen.** This cover consists of mountain brush mixture of oak brush, aspen, mountain mahogany, bitter brush, maple, and other brush. This was found mostly on the north-facing slopes.

The composite curve numbers for drainage subbasins in urban and mountainous areas were found by area weighting.

SCS Lag Time for Mountain Drainage Basins

The SCS lag time for mountain areas was calculated using a regression equation developed by Simas and Hawkins (1998) in their article entitled "Lag Time Characteristics for Small Watersheds in the U.S." The equation relates lag time to the basin area, slope, and curve number characteristics. The regression equation follows:

$$T_{lag} = 0.0051 \times \text{width}^{0.594} \times \text{slope}^{0.015} \times S_{nat}^{0.313}$$

Where:

width = Watershed area divided by watershed length

slope = Maximum elevation difference divided by longest flow path

$S_{nat} = 1000/CN - 10$

FUTURE LAND USE AND HYDROLOGIC CHARACTERISTICS

Most of the area within Springville City east of 400 West has been developed. However, most of the area in the western area of the City is undeveloped or is currently developing. These undeveloped and developing areas are required by City code to limit peak discharges to 0.15 cfs per acre in a 25-year rainfall event. Detention basin volumes for future development were determined based on a maximum release rate of about 0.15 cfs per acre.

Future hydrologic characteristics were estimated for undeveloped and developing subbasins. Future percentages of impervious areas were estimated by comparing the zoning and land use specified in the newly-adopted General Plan to existing development with similar zoning and land use. Future storm drain piping was assumed be either polyethylene or concrete.

HYDRAULIC CALCULATIONS

Modeled Pipelines

The scope of this storm drain master included a hydraulic analysis of only the storm drain trunk lines. The storm drain trunk lines included in the hydraulic model are shown in Figure 2-2. The storm drain trunk lines included in this model were selected by Springville City based on the minimum network that would provide connectivity to all of the subbasins.

Information on the physical characteristics of the pipes included in the model was collected and assembled by Springville personnel. A basic framework for the model was developed using Springville's GIS records. The City's GIS database included information on the diameter, length, material and location of each pipe included in the model. Rim elevations were collected by a City survey crew. Inverts based on measure downs were included as well.

Open Channels

Storm drainage open channel characteristics were estimated based on survey data provided by the City.

Detention Basins

The stage storage curves and other detention basin data were provided by the City for several detention basins. For the remainders of the detention facilities where stage capacity and discharge data were not available, the collective assumption was made that the detention facilities are detaining to a discharge rate of approximately 0.15 cfs per acre in a 10-year storm event. In some areas the detention basin release rate was modified to accommodate downstream conveyance facilities. See the "Detention" Section in Chapter 2 for additional information regarding previous and interim detention requirements.

CHAPTER 4 SYSTEM EVALUATION

With the development and calibration of a hydraulic storm drain model, it is possible to simulate storm drain system operating conditions for both present and future conditions. The purpose of this chapter is to document the hydraulic performance evaluation of the collection system and identify potential hydraulic deficiencies.

LEVEL OF SERVICE

The level of service for Springville's Storm Drain System is presented below.

Storm Drain Pipelines

Storm drain pipelines should be designed to not pressurize during the design storm event. Storm drain pipelines are also not to be smaller than 15 inches in diameter. It is important to note that roadways become the major storm water conveyance facility during storms that are larger than the 10-year design event.

Open Channels

Open channels should be designed to safely convey the design storm event.

Detention Basins

Detention facilities should be designed to have capacity for the design storm event, with at least one foot of freeboard, and have an emergency overflow that directs water away from private property.

FUTURE CONVEYANCE SYSTEM ANALYSIS

A few of the existing storm drain collection trunk lines in Springville are undersized for ultimate development conditions. Additional trunk lines will need to be constructed, and there are several detention basins that need to be added/modified. Chapter 5 discusses conceptual improvements that will be needed to serve the growing areas of Springville.

CHAPTER 5 BUILDOUT SYSTEM IMPROVEMENTS

The hydraulic model was used to evaluate various alternatives for correcting the identified deficiencies and sizing future storm drain facilities under projected future development conditions. In accordance with instruction from City personnel, the previous Master Plan’s recommended improvements were used as a basis for recommended improvements outlined in this chapter. This chapter describes the storm drain improvements, based on estimated runoff and ground slopes.

RECOMMENDED INFRASTRUCTURE IMPROVEMENTS

Figure 5-1 shows the location of recommended storm drain system improvements that are needed to meet future growth in Springville. Table 5-1 summarizes the cost of the proposed improvements in 2013 dollars.

**Table 5-1
Capital Improvement Plan and Estimated Cost**

ID	PROJECT LOCATION	TOTAL ESTIMATED COST	FLOW (cfs)			DIAMETER (in)	DESCRIPTIONS
			Future Runoff	Irrigation Base Flow	Design		
CW2	750 N 2550 W	\$ 72,000	36.84		36.84	48	Road Culvert
CW3	400 S 2550 W	\$ 72,000	119.556	31	150.56	48	Road Culvert
CW5	400 N 1650 W	\$ 72,000	92.07		92.07	60	Road Culvert
DBW14	700 S 950 W	\$ 192,900	NA		NA	NA	1.7 AF Regional Detention Basin
DBW15	400 S 1400 W	\$ 143,000	NA		NA	NA	1.1 AF Regional Detention Basin
DBW16	700 S 2600 W	\$ 174,000	NA		NA	NA	1.5 AF Regional Detention Basin
DBW17	400 S 2600 W	\$ 182,500	NA		NA	NA	1.6 AF Regional Detention Basin
DBW18	100 N 900 W	\$ 6,000	NA		NA	NA	Modified 8" orifice
DBW19	400 N 1600 W	\$ 196,600	NA		NA	NA	1.7 AF Regional Detention Basin
DBW5	1200 S 2000 W	\$ 334,800	NA		NA	NA	1.1 AF Regional Detention Basin
OCW2	400 N	\$ 2,280	83.92		83.92	NA	Modify Existing Open Channel
OCW6	2550 W #1	\$ 21,240	117.37	51	168.37	NA	Modify Existing Open Channel
PW10	1400 West	\$ 239,500	86.87		86.87	18	New Proposed Pipe
PW19	I15 & 1600 South	\$ 99,700	16.16		16.16	24	New Proposed Pipe

**Table 5-1
Capital Improvement Plan and Estimated Cost
(Continued)**

ID	PROJECT LOCATION	TOTAL ESTIMATED COST	FLOW (cfs)			DIAMETER (in)	DESCRIPTIONS
			Future Runoff	Irrigation Base Flow	Design		
PW20	1000 West	\$ 246,800	12.21		12.21	30	Undersized 24" Pipe
PW23	400 South #1	\$ 155,000	6.57		6.57	30	New Proposed Pipe
PW24	1100 West 600 South	\$ 445,400	14.7		14.7	30	New Proposed Pipe
PW25	1500 West	\$ 847,800	29.74		29.74	48	New Proposed Pipe
PW30	400 South #3	\$ 41,100	84.96		84.96	36	Adverse Slope adjust manhole
PW31	400 South #4	\$ 617,700	34.73	31	65.73	48	New Parallel Pipe
PW32	400 South #5	\$ 132,800	25.93		25.93	48	Undersized 36" Pipe
PW33	100 South	\$ 119,900	29.54		29.54	36	Adverse Slope adjust manhole
PW34	100 North	\$ 98,400	9.03		9.03	24	New Proposed Pipe
PW35	250 North	\$ 63,000	19.05		19.05	24	Undersized 18" Pipe
PW36	400 North	\$ 419,700	32.04		32.04	30	New Proposed Pipe
PW37	750 East #1	\$ 376,200	27.84		27.84	36	New Proposed Pipe
PW38	750 East #2	\$ 223,600	28.95		28.95	42	New Proposed Pipe
PW39	750 East #3	\$ 15,100	9.44		9.44	24	Connection to new Detention Basin
PW43	400 N 1500 W	\$ 48,000	61.89		61.89	36	New Bore Under Rail Road
CW1	1600 s 700 W	\$ 72,000	56.39		56.39	42	Road Culvert
CW10	750 N 2250 W	\$ 72,000	94.59	51	145.59	48	Road Culvert
CW11	750 N 2550 W	\$ 72,000	249.09	51	300.09	48 X 144	Road Box Culvert
CW6	CENTER ST 2550 W	\$ 72,000	133.31	51	184.31	42	Road Culvert
CW7	150 N 2550 W	\$ 72,000	132.26	51	183.26	66	Road Culvert
CW8	300 N 2550 W	\$ 72,000	144.36	51	195.36	66	Road Culvert
CW9	400 N 2550 W	\$ 72,000	143.15	51	194.15	66	Road Culvert
OCW3	I-15#1	\$ 39,220	44.29		44.29	NA	New Proposed Open Channel
OCW4	I-15#2	\$ 1,340	28.37		28.37	NA	New Proposed Open Channel
OCW5	700 N	\$ 22,940	247.06	64	311.06	NA	Modify Existing Open Channel
OCW7	2550 W #2	\$ 7,390	132.7	51	183.7	NA	Modify Existing Open Channel

**Table 5-1
Capital Improvement Plan and Estimated Cost
(Continued)**

ID	PROJECT LOCATION	TOTAL ESTIMATED COST	FLOW (cfs)			DIAMETER (in)	DESCRIPTIONS
			Future Runoff	Irrigation Base Flow	Design		
OCW8	2550 W #3	\$ 6,820	131.6	51	182.6	NA	Modify Existing Open Channel
OCW9	2550 W #4	\$ 6,620	143.6	51	194.6	NA	Modify Existing Open Channel
OCW10	2550 W #5	\$ 8,710	143.16	51	194.16	NA	Modify Existing Open Channel
PW1	2700 South	\$ 387,400	13.32		13.32	18	New Proposed Pipe
PW11	Main St. & 2300 S	\$ 257,300	23.2		23.2	24	Undersized 12" Pipe
PW12	1600 South	\$ 171,700	25		25	36	Undersized 24" Pipe
PW13	300 East	\$ 172,400	22.5		22.5	30	Undersized 18" Pipe
PW14	400 East	\$ 147,200	6.67		6.67	18	Undersized 15" Pipe
PW15	200East &1600 South	\$ 189,800	6.95		6.95	18	New Proposed Pipe
PW16	200 East & 1400 South	\$ 194,700	29.92		29.92	30	New Proposed Pipe
PW17	200 East & 1300 South	\$ 64,900	38.58		38.58	36	Undersized 18" Pipe
PW18	400 West & 1300 South	\$ 442,000	4.7		4.7	18	New Proposed Open Channel
PW2	1000 West	\$ 337,700	11.18		11.18	24	New Proposed Pipe
PW21	1000 South	\$ 327,600	12.33		12.33	30	Undersized 24" Pipe
PW22	400 West	\$ 159,500	13.55		13.55	24	New Proposed Pipe
PW26	400 South #2	\$ 255,300	22.17		22.17	30	New Proposed Pipe
PW3	2600 South	\$ 203,300	24.07		24.07	24	New Proposed Pipe
PW4	350 West	\$ 120,000	46.51		46.51	30	New Proposed Pipe
PW40	I 15 & 500 North	\$ 54,400	33.21		33.21	36	New Proposed Pipe
PW41	3000 West #1	\$ 226,500	19.14		19.14	30	New Proposed Pipe
PW42	3000 West #2	\$ 484,200	39.19		39.19	48	New Proposed Pipe
PW5	2450 South	\$ 372,500	13		13	18	New Proposed Pipe
PW6	950 West &2400 South	\$ 71,700	13		13	24	New Proposed Pipe
PW7	2350 South	\$ 701,600	27.67		27.67	36	New Proposed Pipe
PW8	950 West & 2350 South	\$ 61,400	63.56		63.56	36	New Proposed Pipe
PW9	950 West & 2400 South	\$ 822,100	76.5		76.5	48	New Proposed Pipe
DBW1	2500 S State Rd. 51	\$ 120,400	NA		NA	NA	0.9 AF Regional Detention Basin

**Table 5-1
Capital Improvement Plan and Estimated Cost
(Continued)**

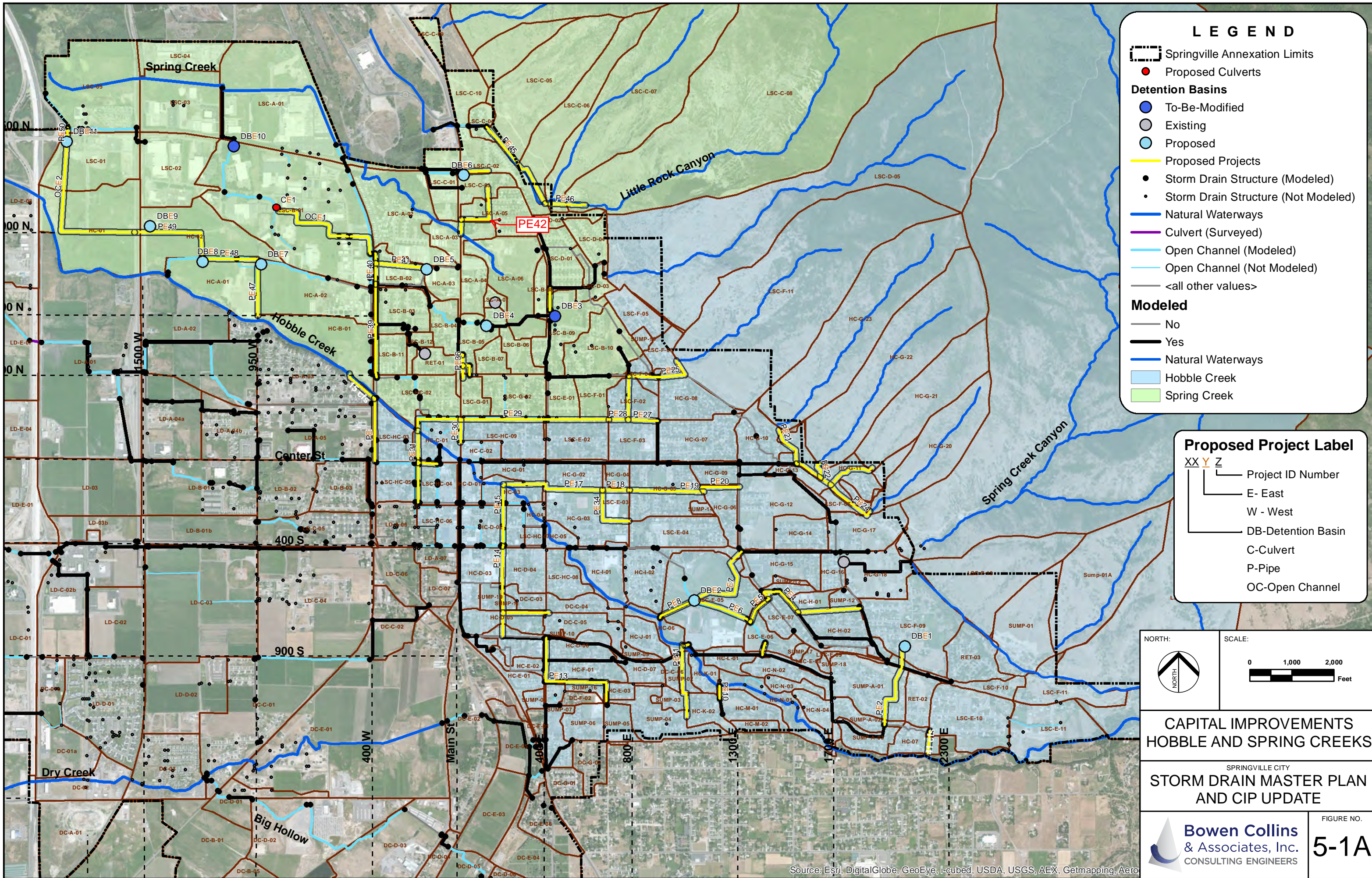
ID	PROJECT LOCATION	TOTAL ESTIMATED COST	FLOW (cfs)			DIAMETER (in)	DESCRIPTIONS
			Future Runoff	Irrigation Base Flow	Design		
DBW10	1800 S 1800 W	\$ 51,900	NA		NA	NA	0.2 AF Regional Detention Basin
DBW11	1400 W Hwy 89	\$ 56,700	NA		NA	NA	0.5 AF Regional Detention Basin
DBW12	Main 1250 S #1	\$ 226,400	NA		NA	NA	2 AF Regional Detention Basin
DBW13	Main 1250 S #2	\$ 212,600	NA		NA	NA	1.9 AF Regional Detention Basin
DBW2	2400 S 1000 W	\$ 209,800	NA		NA	NA	1.8 AF Regional Detention Basin
DBW20	500 N I 15	\$ 190,000	NA		NA	NA	1.6 AF Regional Detention Basin
DBW21	Center 2400 W	\$ 196,600	NA		NA	NA	1.7 AF Regional Detention Basin
DBW22	200 N 2550 W	\$ 158,900	NA		NA	NA	1.3 AF Regional Detention Basin
DBW23	2550 W 700 N	\$ 188,200	NA		NA	NA	1.6 AF Regional Detention Basin
DBW24	Center 3000 W	\$ 229,500	NA		NA	NA	2.1 AF Regional Detention Basin
DBW25	200 N 3000 W	\$ 90,300	NA		NA	NA	0.6 AF Regional Detention Basin
DBW3	1600 S Wallace Dr.	\$ 85,600	NA		NA	NA	0.5 AF Regional Detention Basin
DBW4	1600 S 1950 W	\$ 152,600	NA		NA	NA	1.2 AF Regional Detention Basin
DBW6	1200 S 2000 W	\$ 137,200	NA		NA	NA	3.2 AF Regional Detention Basin
DBW7	1600 S 1050 W	\$ 313,200	NA		NA	NA	3 AF Regional Detention Basin
DBW8	1300 S 600 W	\$ 77,100	NA		NA	NA	0.4 AF Regional Detention Basin
DBW9	900 S 400 W	\$ 6,000	NA		NA	NA	Modified 24" orifice
						NA	
CE1	Spring Creek Place	\$ 72,000	26.29		26.29	NA	Road Culvert
DBE1	850 S 2080 E	\$ 396,900	NA		NA	NA	3.8 AF Regional Detention Basin
DBE2	Spring Acres Arts Park	\$ 264,200	NA		NA	NA	2.4 AF Regional Detention Basin
DBE3	Millpond	\$ 6,000	NA		NA	NA	

**Table 5-1
Capital Improvement Plan and Estimated Cost
(Continued)**

ID	PROJECT LOCATION	TOTAL ESTIMATED COST	FLOW (cfs)			DIAMETER (in)	DESCRIPTIONS
			Future Runoff	Irrigation Base Flow	Design		
DBE4	600 N 200 E	\$ 135,500	NA		NA	NA	1.1 AF Regional Detention Basin
DBE5	900 N 150 W	\$ 376,100	NA		NA	NA	3.6 AF Regional Detention Basin
DBE6	1400 N Main St.	\$ 335,800	NA		NA	NA	3.2 AF Regional Detention Basin
DBE7	900 N 9000 W	\$ 474,900	NA		NA	NA	4.7 AF Regional Detention Basin
DBE8	900 N 1200 W	\$ 471,200	NA		NA	NA	4.6 AF Regional Detention Basin
DBE9	1000 N 1500 W	\$ 467,300	NA		NA	NA	4.6 AF Regional Detention Basin
DBE10	1400 N Mnt. Spr. Pky.	\$ 372,300	NA		NA	NA	3.6 AF Regional Detention Basin
DBE11	1500 N I-15	\$ 670,500	NA		NA	NA	6.8 AF Regional Detention Basin
OCE1	1060 N 750 W	\$ 31,850	33.84		33.84	NA	Modified Existing Open Channel
OCE2	1800 W	\$ 65,780	49.56		49.56	NA	New Proposed Open Channel
PE1	2200 East	\$ 154,300	22.11		22.11	42	New Proposed Pipe
PE2	2080 East Wildflower Way	\$ 338,100	4.87		4.87	18	New Proposed Pipe
PE3	700 South	\$ 296,100	20.17		20.17	24	New Proposed Pipe
PE4	Houtz Ave	\$ 338,700	37.99		37.99	36	New Proposed Pipe
PE5	620 South	\$ 185,900	54.55		54.55	36	Undersized 15" Pipe
PE6	Approx. 700 South	\$ 353,400	70.59	6	76.59	36	New Proposed Pipe
PE7	Approx. 600 South	\$ 432,600	48.96		48.96	36	New Proposed Pipe
PE8	Approx. 700 South	\$ 241,200	57.83	6	63.83	42	Undersized 18" Pipe
PE9	Approx. 1450 East	\$ 59,600	14.15	6	20.15	24	New Proposed Pipe
PE10	1200 East	\$ 70,800	13.79		13.79	24	Undersized 15" Pipe
PE11	1060 East	\$ 374,000	7.04		7.04	24	New Proposed Pipe
PE12	Approx. 800 South	\$ 36,200	19.05		19.05	30	Undersized 18" Pipe
PE13	1000 South	\$ 591,200	12.68		12.68	24	New Proposed Pipe
PE14	200 East	\$ 567,900	47.92		47.92	36	New Proposed Pipe
PE15	200 East	\$ 469,600	60.75		60.75	42	New Proposed Pipe
PE16	700 South	\$ 248,500	34.28		34.28	30	New Proposed Pipe
PE17	100 South	\$ 789,500	83.61		83.61	42	New Proposed Pipe
PE18	100 South	\$ 168,700	35.52		35.52	36	New Proposed Pipe
PE19	100 South	\$ 403,200	26.14		26.14	30	New Proposed Pipe

**Table 5-1
Capital Improvement Plan and Estimated Cost
(Continued)**

ID	PROJECT LOCATION	TOTAL ESTIMATED COST	FLOW (cfs)			DIAMETER (in)	DESCRIPTIONS
			Future Runoff	Irrigation Base Flow	Design		
PE20	100 South	\$ 206,000	19.79		19.79	24	New Proposed Pipe
PE21	1450 East	\$ 169,100	0		0	18	New Proposed Pipe
PE22	Approx. 50 South	\$ 68,100	1.5		1.5	18	New Proposed Pipe
PE23	Approx. 80 South	\$ 175,900	0.6		0.6	18	New Proposed Pipe
PE24	Spring Creek Drive	\$ 408,800	8.52		8.52	18	New Proposed Pipe
PE25	400 North	\$ 263,500	9.43		9.43	18	New Proposed Pipe
PE26	800 East	\$ 209,200	18.63		18.63	24	New Proposed Pipe
PE27	200 North	\$ 127,800	8.34		8.34	18	New Proposed Pipe
PE28	200 North	\$ 103,200	38.96		38.96	30	New Proposed Pipe
PE29	200 North	\$ 1,306,500	61.81		61.81	36	New Proposed Pipe
PE30	Main St. #1	\$ 97,800	6.39		6.39	18	New Proposed Pipe
PE31	200 West	\$ 187,500	22.75		22.75	30	New Proposed Pipe
PE32	200 West	\$ 191,400	14.48		14.48	24	New Proposed Pipe
PE33	Center Street	\$ 106,900	9.81		9.81	24	New Proposed Pipe
PE34	700 East	\$ 306,000	23.59		23.59	30	New Proposed Pipe
PE35	400 East	\$ 137,200	40.95		40.95	36	Undersized 24" Pipe
PE36	Main St. #2	\$ 104,300	7.59		7.59	24	New Proposed Pipe
PE37	Main St. #3	\$ 48,200	20.92		20.92	18	New Proposed Pipe
PE38	Main St. #4	\$ 18,800	20.87		20.87	24	Undersized 15" Pipe
PE39	400 West #1	\$ 448,100	16.73		16.73	24	New Proposed Pipe
PE40	400 West #2	\$ 210,300	44.74		44.74	42	New Proposed Pipe
PE41	900 North	\$ 217,200	7.55		7.55	18	New Proposed Pipe
PE42	1150 North 150 East	\$ 302,900	23.67		23.67	24	New Proposed Pipe
PE43	Main Street	\$ 95,400	23.36		23.36	30	New Proposed Pipe
PE44	1400 North	\$ 143,800	24.18		24.18	30	New Proposed Pipe
PE45	Approx. 300 East	\$ 333,700	16.58		16.58	24	New Proposed Pipe
PE46	Approx. 1250 N	\$ 125,600	12.2		12.2	18	New Proposed Pipe
PE47	900 West	\$ 289,600	20.48		20.48	30	New Proposed Pipe
PE48	900 North	\$ 263,800	12		12	24	New Proposed Pipe
PE49	1000 North	\$ 669,600	25		25	36	New Proposed Pipe
PE50	1-15 & 1500 North	\$ 37,600	8.01		8.01	24	New Proposed Pipe
PE51	400 West	\$ 488,500	15.46		15.46	24	New Proposed Pipe
Total		\$ 33,306,390					



LEGEND

- Springville Annexation Limits
- Proposed Culverts
- Detention Basins**
- To-Be-Modified
- Existing
- Proposed
- Proposed Projects
- Storm Drain Structure (Modeled)
- Storm Drain Structure (Not Modeled)
- Natural Waterways
- Culvert (Surveyed)
- Open Channel (Modeled)
- Open Channel (Not Modeled)
- <all other values>
- Modeled**
- No
- Yes
- Natural Waterways
- Hobble Creek
- Spring Creek

Proposed Project Label

XX Y Z

- Project ID Number
- E - East
- W - West
- DB - Detention Basin
- C - Culvert
- P - Pipe
- OC - Open Channel

NORTH:

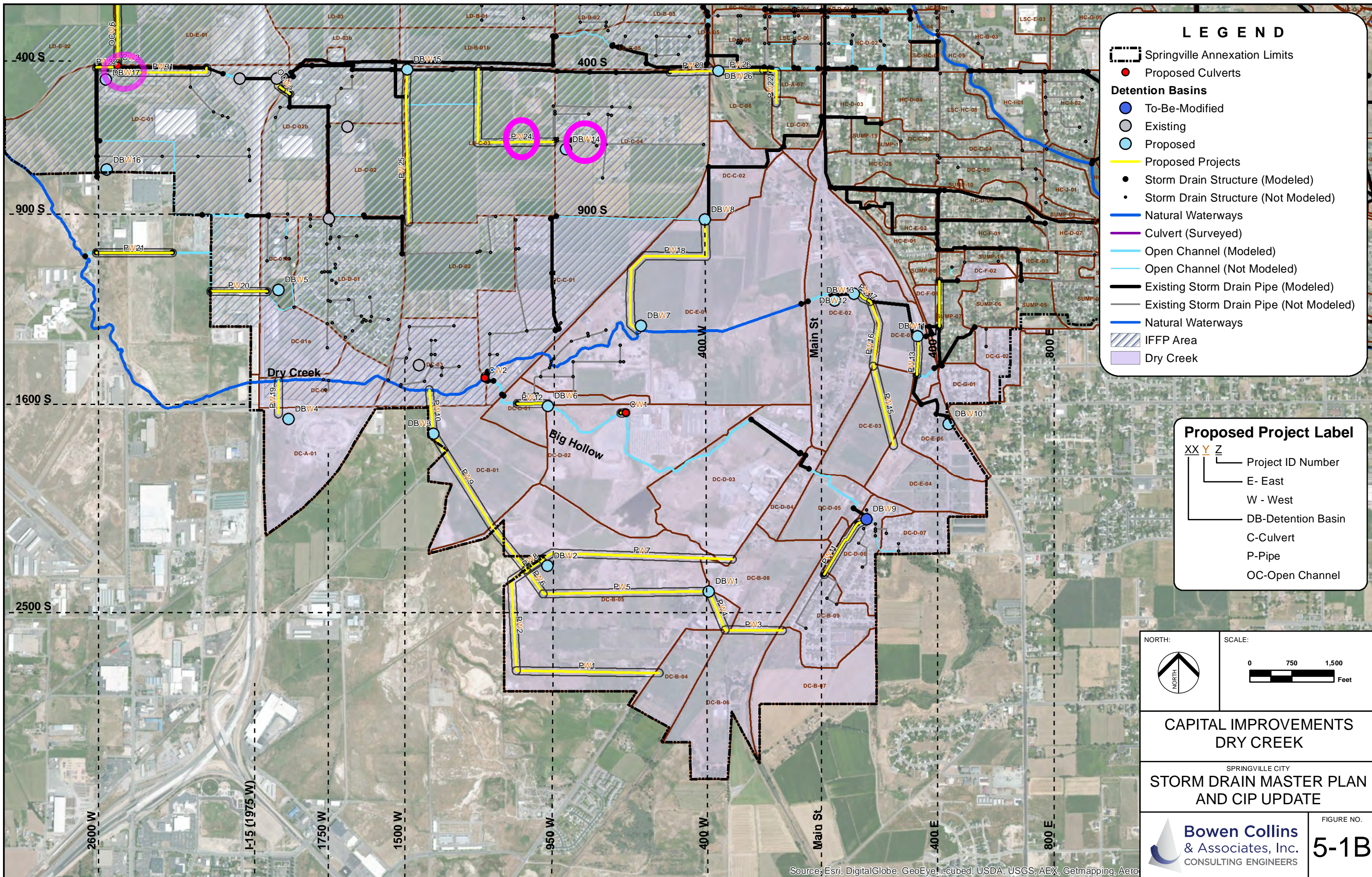
SCALE:

CAPITAL IMPROVEMENTS HOBBLE AND SPRING CREEKS

SPRINGVILLE CITY
STORM DRAIN MASTER PLAN
AND CIP UPDATE

**Bowen Collins
& Associates, Inc.**
CONSULTING ENGINEERS

FIGURE NO.
5-1A



LEGEND

- Springville Annexation Limits
- Proposed Culverts
- Detention Basins**
- To-Be-Modified
- Existing
- Proposed
- Proposed Projects
- Storm Drain Structure (Modeled)
- Storm Drain Structure (Not Modeled)
- Natural Waterways
- Culvert (Surveyed)
- Open Channel (Modeled)
- Open Channel (Not Modeled)
- Existing Storm Drain Pipe (Modeled)
- Existing Storm Drain Pipe (Not Modeled)
- Natural Waterways
- IFFP Area
- Dry Creek

Proposed Project Label

XX Y Z

- Project ID Number
- E- East
- W - West
- DB-Detention Basin
- C-Culvert
- P-Pipe
- OC-Open Channel

NORTH:

SCALE:

CAPITAL IMPROVEMENTS DRY CREEK

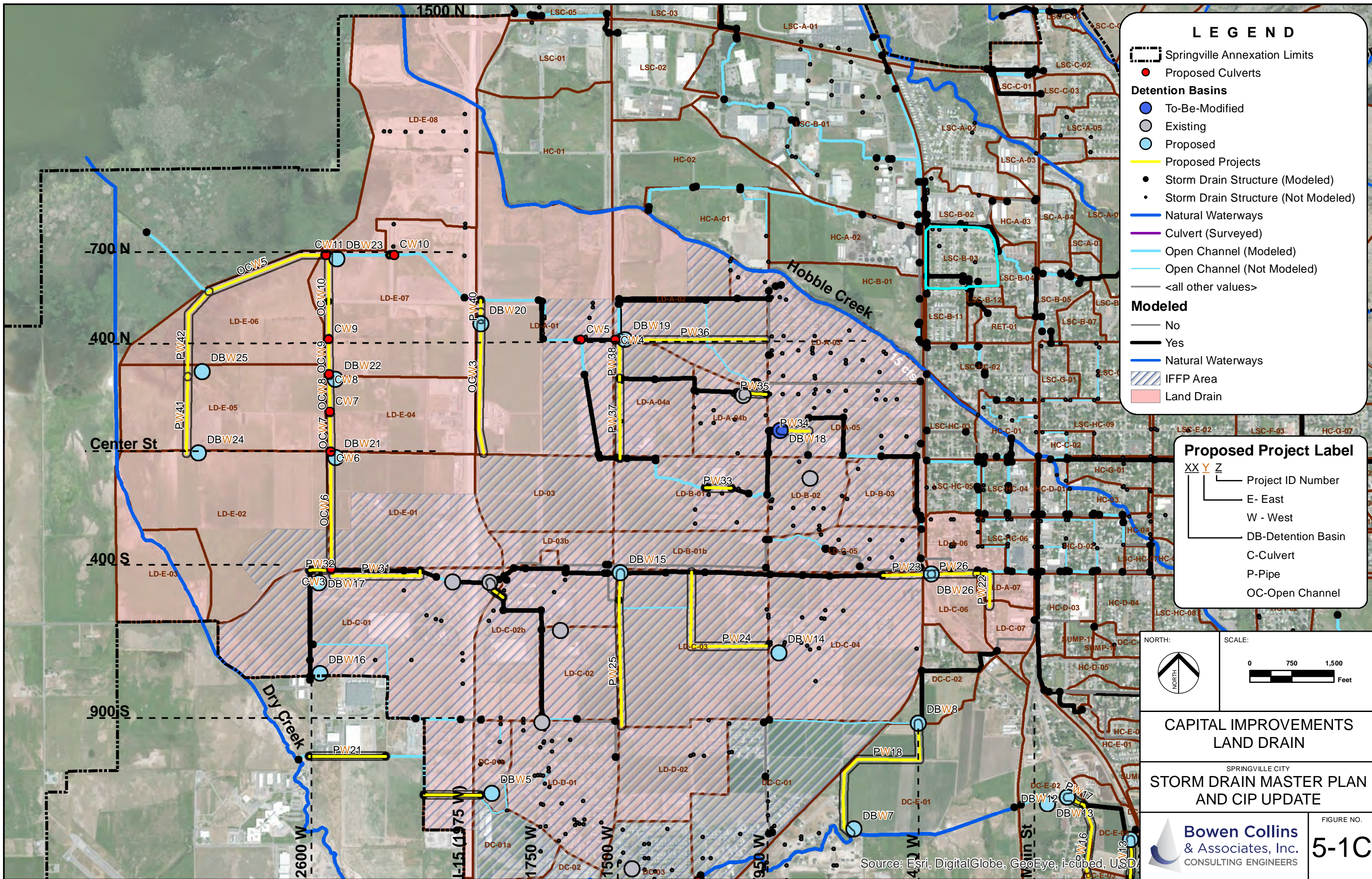
SPRINGVILLE CITY STORM DRAIN MASTER PLAN AND CIP UPDATE

**Bowen Collins
& Associates, Inc.**
CONSULTING ENGINEERS

FIGURE NO.
5-1B

P:\Springville City\2012 SDMP Update\4.0 GIS\4.1 Projects\Report Figures\Figure 5-1B Capital Improvements DC.mxd nwright 7/2/2013

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aero



LEGEND

- Springville Annexation Limits
- Proposed Culverts
- Detention Basins**
- To-Be-Modified
- Existing
- Proposed
- Proposed Projects
- Storm Drain Structure (Modeled)
- Storm Drain Structure (Not Modeled)
- Natural Waterways
- Culvert (Surveyed)
- Open Channel (Modeled)
- Open Channel (Not Modeled)
- <all other values>
- Modeled**
- No
- Yes
- Natural Waterways
- IFFP Area
- Land Drain

Proposed Project Label

XX Y Z

- Project ID Number
- E- East
- W - West
- DB-Detention Basin
- C-Culvert
- P-Pipe
- OC-Open Channel

NORTH:

SCALE:

**CAPITAL IMPROVEMENTS
LAND DRAIN**

SPRINGVILLE CITY
**STORM DRAIN MASTER PLAN
AND CIP UPDATE**

**Bowen Collins
& Associates, Inc.**
CONSULTING ENGINEERS

FIGURE NO.
5-1C

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA

CHAPTER 6 IMPACT FEE FACILITIES PLAN

Recommended storm drain system improvements are identified in Chapter 5. Information from the analysis described above was used to identify recommended improvements that qualify to be used in the calculation of impact fees as outlined in Section 11-36a of the Utah Code. The purpose of this Impact Fee Facilities Plan (IFFP) is to define future projects that are eligible for impact fees, develop cost allocations for those projects related to impact fees, and estimate the value of available capacity in the existing storm drain system facilities that are eligible for reimbursement through impact fees.

EXISTING LEVEL OF SERVICE

See Chapter 4 for the defined level of service for the various storm drain components.

PROPOSED LEVEL OF SERVICE

The Utah Code Ann. § 11-36a-302 (1)(a)(i)(ii) defines the need for a proposed level of service. The proposed level of service the storm drain system is the same as the existing level of service.

TYPES OF RECOMMENDED IMPROVEMENTS

The recommended improvements identified in the SDMP report included only major storm drain facilities (system improvements). Local storm drain facilities (project improvements), typically associated with development projects, are not included in the SDMP report nor are they eligible for impact fees. The SDMP report defines system improvements and project improvements for Springville's Storm Drain System. The definition of system improvements and project improvements is presented below.

- **Major Conveyance Facilities** – Major storm drain conveyance facilities (system improvements) include pipelines or major channels that typically service multiple developments. Local facilities (project improvements) include smaller storm drain conveyance facilities that typically only serve one development and are used to convey storm water runoff to the major conveyance facilities.
- **Regional Detention Facilities** – Based on discussions with Springville City personnel, it was decided that each development would discharge undetained flows into the Storm Drain System and storm drain detention would occur in regional detention basins.

SERVICE AREAS

For the purpose of the IFFP, all of Springville City will be included in one Service Area.

DEMAND ANALYSIS

Chapter 5 above identifies the recommended capital facility projects needed to provide the desired level of storm drain service to various parts of the City at projected full build-out conditions. Most of those projects will be constructed in phases as development occurs. Tables 6-1 lists capital facility projects identified in Chapter 5 that should be constructed within the next 10 years to meet the needs of anticipated development. To satisfy the requirements of state law, demands placed upon existing storm drain facilities by future development were calculated using the process outlined below.

1. **Existing Capacity** – The capacities in existing storm drain pipelines were estimated by entering the survey data provided by City into ASSA (See Chapter 3).
2. **Existing Flow** – The peak flow rates for existing development conditions were estimated using a hydrologic computer model (See Chapter 3).
3. **Existing Deficiencies** – Existing system capacity deficiencies in the storm drain system were identified using the defined level of service, peak flow estimates from the hydrologic computer model, and the estimated capacities for existing system facilities.
4. **Future Flow** - The peak flow rates for the design storm based on projected full build-out conditions were estimated using a hydrologic computer model.
5. **Future Deficiencies** - Future capacity deficiencies in the storm drain system were identified using the defined level of service, peak flow estimates from the hydrologic computer model and the estimated capacities for existing system facilities.
6. **Recommended Improvements** – Needed storm drain projects were identified to meet demands associated with future development (See Chapter 5).

The steps listed above define the “demands placed upon [the] existing public facilities by new development activity; and the proposed means by which the local political subdivision will meet those demands” (Utah Code Ann. § 11-36a-302 (1)(a)(iv)(v)).

ALLOCATED PROJECT COSTS ASSOCIATED WITH NEW DEVELOPMENT

Results from the demand analysis were used to define the proportions of project costs that are needed to serve future development. Two examples of the cost allocation methodology used in this IFFP are presented below:

- **Example 1: Existing Pipeline Undersized for Future Development:** If a storm drain pipe has capacity in existing conditions, but is deficient for future development, the cost to upsize the pipe was allocated 100% to future development.
- **Example 2: No Existing Storm Drain Infrastructure or Existing Pipeline Undersized for Existing Development:** The impervious area was used to allocate costs for areas where there is not existing storm drain infrastructure or the existing storm drain pipeline is undersized for existing development (see Chapter 3). For example, if an existing pipeline is undersized for existing conditions and has an upstream impervious area of 10 acres in existing conditions, and a total projected upstream impervious area of 40 acres in

the future, 75 (30 acres/40 acres) percent of the storm drain improvement costs will be allocated to future growth and 25 percent (10 acres/40 acres) to existing users.

Table 6-1 shows the recommended cost allocations for recommended capital facility projects that should be constructed in the next 6 to 10 years. The table does not include bond costs related to paying for impact fee eligible improvements (if any).

Recommended projects that are anticipated to be constructed outside the 10-year planning window were not included in the impact fee facilities plan presented on Table 6-1. It is also important to remember that recommended improvements summarized in Table 6-1 are system improvements, and do not include any project improvements. As summarized in Table 6-1, the total cost that can be allocated to impact fees (not including applicable bond costs) is approximately \$4.5 million.

REVENUE SOURCES

Several revenue sources were considered to pay for the system improvements. Those revenue sources include grants, bonds, interfund loans, impact fees, the general fund, and anticipated or accepted dedication of system improvements. It is recommended that impact fees be used to equitably allocate the costs between future development and existing users.

VALUE OF EXCESS CAPACITY

In an effort to assist in the development of the Impact Fee Analysis, the percentage of the excess capacity of the existing storm drain system that is eligible for reimbursement through impact fees was estimated. In this report, the term “excess” capacity will be used interchangeably with available capacity. Available capacity, or excess capacity, is defined as the capacity in an existing storm drain pipeline that is available to convey the design flows from anticipated future development. To estimate the value of the excess capacity, the impervious area of development for existing and future conditions was compared.

The calculations associated with the value of excess capacity were completed for Springville City and is presented below. Note, all growth was assumed to occur in IFFP growth area, therefore, all calculations were performed for the IFFP growth area:

1. Estimate replacement value of existing storm drain infrastructure
2. Estimate percentage of impervious area attributable to future development compared to total impervious area at full build-out.
3. Calculate replacement value of excess capacity – This calculation was performed by multiplying the total value of the system (existing replacement value + estimated cost of future projects) by the percentage calculated in step 2, then subtracting the portion of future projects attributable to future development.
4. Calculate the percentage of excess capacity to be sued by future users compared to the total replacement cost.

It should be emphasized that replacement value is only used in the calculation of percent excess capacity. In final calculation of the impact fee, only the actual value of facilities should be used.

Based on the method described above, the percentage of the monetary value of the excess capacity of the existing storm drain system (see step 4 above) that is eligible for reimbursement through impact fees is 70 percent.

IMPACT FEE FACILITIES PLAN CERTIFICATION

The analysis contained in this report has been prepared based on growth and system information provided by the City of Springville. Based on the data and growth assumptions provided and assuming the City follows the improvement plan outlined in this report, BC&A certifies that, to the best of our knowledge and in accordance with Utah Code Ann. § 11-36a-306, this impact fee facilities plan:

1. Includes only the costs for qualifying public facilities that are:
 - a. allowed under the Impact Fees Act; and
 - b. actually incurred; or
 - c. projected to be incurred or encumbered within six years after the day on which each impact fee is paid;
2. Does not include:
 - a. costs for operation or maintenance of public facilities;
 - b. costs for qualifying public facilities that will raise the level of service for the facilities through impact fees, above the level of service that is supported by existing residents;
 - c. an expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with generally accepted cost accounting practices and the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement; and
3. Complies in each and every other relevant respect with the Impact Fees Act.

**Table 6-1
Impact Fee Facilities Plan
Project Costs that can be Allocated to Projected Development**

Project Identifier	Project Name	Construction Year	Total Estimated Cost	Percentage of Cost Attributable to:		Percentage of Cost Attributable to:	
				Existing Development	Future Development	Existing Development	Future Development
CW3	400 S 2550 W		\$72,000	34.2%	65.8%	\$24,631	\$47,369
CW5	400 N 1650 W		\$72,000	0.0%	100.0%	\$0	\$72,000
CW6	CENTER ST 2550 W		\$72,000	0.0%	100.0%	\$0	\$72,000
CW7	150 N 2550 W		\$72,000	0.0%	100.0%	\$0	\$72,000
CW8	300 N 2550 W		\$72,000	0.0%	100.0%	\$0	\$72,000
CW9	400 N 2550 W		\$72,000	0.0%	100.0%	\$0	\$72,000
CW10	750 N 2250 W		\$72,000	0.0%	100.0%	\$0	\$72,000
CW11	750 N 2550 W		\$72,000	0.0%	100.0%	\$0	\$72,000
DBW14	700 S 950 W		\$192,900	26.5%	73.5%	\$51,121	\$141,779
DBW15	400 S 1400 W		\$143,000	0.0%	100.0%	\$0	\$143,000
DBW16	700 S 2600 W		\$174,000	36.9%	63.1%	\$64,122	\$109,878
DBW17	400 S 2600 W		\$182,500	36.9%	63.1%	\$67,255	\$115,245
DBW18	100 N 900 W		\$6,000	0.0%	100.0%	\$0	\$6,000
DBW19	400 N 1600 W		\$196,600	0.0%	100.0%	\$0	\$196,600
DBW5	1200 S 2000 W		\$334,800	0.0%	100.0%	\$0	\$334,800
OCW2	400 N		\$2,280	41.9%	58.1%	\$956	\$1,324
OCW5	700 N		\$22,940	0.0%	100.0%	\$0	\$22,940
OCW6	2550 W #1		\$21,240	0.0%	100.0%	\$0	\$21,240
OCW7	2550 W #2		\$7,390	0.0%	100.0%	\$0	\$7,390
OCW8	2550 W #3		\$6,820	0.0%	100.0%	\$0	\$6,820
OCW9	2550 W #4		\$6,620	0.0%	100.0%	\$0	\$6,620
OCW10	2550 W #5		\$8,710	0.0%	100.0%	\$0	\$8,710
PW20	1000 West		\$246,800	0.0%	100.0%	\$0	\$246,800
PW24	1100 West 600 South		\$445,400	26.5%	73.5%	\$118,037	\$327,363
PW25	1500 West		\$847,800	0.0%	100.0%	\$0	\$847,800
PW30	400 South #3		\$41,100	41.9%	58.1%	\$17,229	\$23,871
PW31	400 South #4		\$617,700	0.0%	100.0%	\$0	\$617,700
PW32	400 South #5		\$132,800	36.9%	63.1%	\$48,939	\$83,861
PW33	100 South		\$119,900	85.5%	14.5%	\$102,500	\$17,400
PW34	100 North		\$98,400	90.7%	9.3%	\$89,249	\$9,151
PW35	250 North		\$63,000	81.8%	18.2%	\$51,545	\$11,455

**Table 6-1
Impact Fee Facilities Plan
Project Costs that can be Allocated to Projected Development
(Continued)**

Project Identifier	Project Name	Construction Year	Total Estimated Cost	Percentage of Cost Attributable to:		Percentage of Cost Attributable to:	
				Existing Development	Future Development	Existing Development	Future Development
PW36	400 North		\$419,700	0.0%	100.0%	\$0	\$419,700
PW37	750 East #1		\$376,200	72.4%	27.6%	\$272,442	\$103,758
PW38	750 East #2		\$223,600	66.0%	34.0%	\$147,536	\$76,064
PW39	750 East #3		\$15,100	0.0%	100.0%	\$0	\$15,100
PW43	400 N 1500 W		\$48,000	0.0%	100.0%	\$0	\$48,000
Total			\$5,577,300			\$1,055,562	\$4,521,738

APPENDIX A
MODEL INPUT AND OUTPUT

EXISTING CONDITION

SN	Element Description ID	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Channel Type	Channel Height (ft)	Channel Width (ft)	Left Overbank Manning's Roughness	Channel Manning's Roughness	Right Overbank Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	Lengthening Factor	Peak Flow (cfs)	Time of Peak Flow Occurrence (days h:mm)	Max Flow Velocity (ft/sec)	Travel Time (min)	Design Flow Capacity (cfs)	Max Flow / Design Flow Ratio	Max Flow Depth / Total Ratio	Total Time Surcharged (min)	Max Flow Depth (ft)	Reported Condition			
1	OCF003	J0675	J0674	377.62	4625.92	0.00	4610.69	0.00	15.23	4.0300	Trapezoidal	2.000	7.00	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	8.40	0 00:47	3.57	1.76	117.27	0.07	0.44	0.00	0.87	Calculated			
2	OCF007	J1072	J0048	609.76	4674.12	0.00	4667.90	0.00	6.22	1.0200	Trapezoidal	3.500	12.00	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	3.91	0 01:01	1.23	8.26	221.25	0.02	0.18	0.00	0.63	Calculated			
3	OCF008	J0986	J0049	1384.27	4664.30	0.00	4642.27	0.00	22.03	1.5900	Trapezoidal	2.000	10.10	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	14.76	0 00:54	4.02	5.74	100.97	0.15	0.34	0.00	0.67	Calculated			
4	OCF009	J0049	J0052	595.87	4642.27	0.00	4637.22	0.00	5.05	0.8500	Trapezoidal	2.000	15.00	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	12.30	0 00:56	2.44	4.07	116.57	0.11	0.38	0.00	0.76	Calculated			
5	OCF011	J0726	J0727	416.39	4594.49	0.00	4586.77	0.00	7.72	1.8500	Trapezoidal	1.000	3.00	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	2.57	0 00:49	3.05	2.28	8.20	0.31	0.77	0.00	0.77	Calculated			
6	OCF018	J0528	J0524	410.07	4571.15	0.00	4570.61	0.00	0.54	0.1300	Trapezoidal	1.000	3.00	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	3.63	0 00:46	1.82	3.76	2.19	1.66	1.00	2.00	1.00	FLOODED			
7	OCF030	J0739	J0470	175.21	4559.09	0.00	4558.21	0.00	0.88	0.5000	Trapezoidal	2.000	5.50	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	0.09	0 00:51	0.09	32.45	22.70	0.00	0.25	0.00	0.48	Calculated			
8	OCF041	J0529	J0745	197.13	4572.33	0.60	4570.78	0.00	1.55	0.7900	Trapezoidal	0.750	4.45	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	0.00	0 00:00	0.00	0.00	6.99	0.00	0.00	0.00	0.00	0.00	Calculated		
9	OCF046	J0750	J0751	162.71	4560.78	0.00	4557.77	0.00	3.01	0.8500	Trapezoidal	1.000	6.50	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	3.85	0 01:18	2.73	0.99	17.59	0.22	0.70	0.00	0.69	Calculated			
10	OCF047	J0751	J0752	262.06	4557.77	0.00	4548.32	0.00	9.45	3.5900	Rectangular	1.000	1.00	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	3.78	0 01:18	3.95	1.11	4.23	0.89	0.96	0.00	0.95	Calculated			
11	OCF050	J0771	J0772	636.66	4528.45	0.00	4519.48	0.00	8.97	1.4100	Trapezoidal	1.000	8.50	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	0.00	0 00:00	0.00	0.00	42.12	0.00	0.50	0.00	0.50	Calculated			
12	OCF051	J0205	J0621	1730.52	4525.16	7.09	4509.12	0.00	16.04	0.9300	Trapezoidal	3.400	14.66	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	0.00	0 00:00	0.00	0.00	263.81	0.00	0.00	0.00	0.00	0.00	Calculated		
13	OCF052	J0206	J0774	839.52	4517.84	0.00	4517.19	0.00	0.65	0.0800	Trapezoidal	3.500	20.30	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	92.71	0 00:02	3.37	4.15	103.43	0.90	0.72	0.00	2.38	Calculated			
14	OCF053	J0965	J0775	1978.44	4515.56	0.00	4509.71	0.00	5.85	0.3000	Trapezoidal	3.500	20.30	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	32.66	0 01:11	2.47	13.35	202.12	0.16	0.69	0.00	2.42	Calculated			
15	OCF054	J0621	J0778	345.72	4509.12	0.00	4506.05	0.00	3.07	0.8900	Trapezoidal	3.400	14.66	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	0.00	0 00:00	0.00	0.00	258.21	0.00	0.00	0.00	0.00	0.00	Calculated		
16	OCF055	J0779	J0780	364.18	4504.25	0.00	4501.37	0.00	2.88	0.7900	Trapezoidal	3.400	14.66	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	0.00	0 00:00	0.00	0.00	243.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Calculated
17	OCF057	J0323	J0325	688.23	4547.93	0.00	4541.10	0.00	6.83	0.9900	Trapezoidal	2.500	6.50	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	3.26	0 01:00	2.11	5.44	74.84	0.04	0.20	0.00	0.50	Calculated			
18	OCF059	J0792	J0301	9.16	4537.63	0.00	4538.89	0.00	-1.26	-13.7600	Trapezoidal	3.000	15.10	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	21.00	0 00:55	1.40	0.11	978.18	0.02	0.49	0.00	1.47	Calculated			
19	OCF060	J0301	J0793	1138.87	4538.89	0.00	4531.24	0.00	7.65	0.6700	Trapezoidal	3.000	15.10	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	21.90	0 00:55	2.92	6.50	216.16	0.10	0.38	0.00	1.14	Calculated			
20	OCF062	J0288	J0796	1211.77	4514.92	0.00	4510.05	0.00	4.87	0.4000	Trapezoidal	4.500	12.00	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	6.25	0 01:05	1.68	12.02	237.81	0.03	0.19	0.00	0.84	Calculated			
21	OCF064	J0799	J0272	625.94	4498.44	0.00	4497.46	0.00	0.98	0.1600	Trapezoidal	9.500	34.30	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	12.86	0 02:31	0.79	13.21	1212.54	0.01	0.28	0.00	2.69	Calculated			
22	OCF065	J0272	J0800	25.78	4497.46	0.00	4497.46	0.00	0.00	0.0000	Trapezoidal	9.500	34.30	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	45.64	0 02:59	0.95	0.45	190.86	0.24	0.33	0.00	3.17	Calculated			
23	OCF066	J0801	J0273	615.78	4497.46	0.00	4498.55	0.00	-1.19	-0.1900	Trapezoidal	6.000	29.04	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	34.67	0 03:00	0.91	11.28	739.60	0.05	0.30	0.00	1.93	Calculated			
24	OCF069	J0593	J0597	1945.39	4521.86	0.00	4513.61	0.00	3.50	0.25	0.4200	Trapezoidal	2.500	3.60	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	5.78	0 03:00	2.26	14.35	15.80	0.37	0.58	0.00	1.46	Calculated		
25	OCF071	J0599	J0815	646.61	4505.21	0.00	4504.14	0.00	1.07	0.1700	Trapezoidal	2.500	12.00	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	5.78	0 03:00	1.50	7.18	54.05	0.11	0.26	0.00	0.65	Calculated			
26	OCF075	J0820	J0821	792.96	4510.75	0.00	4506.61	0.00	4.14	0.5200	Trapezoidal	2.000	8.02	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	2.01	0 01:29	0.68	19.44	54.64	0.04	0.34	0.00	0.78	Calculated			
27	OCF076	J0822	J1085	1073.63	4506.50	0.00	4505.34	0.00	1.16	0.1100	Trapezoidal	2.000	8.02	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	4.57	0 02:39	1.09	16.42	24.86	0.18	0.35	0.00	0.60	Calculated			
28	OCF077	J0823	J0820	2407.87	4519.74	0.00	4510.75	0.00	8.99	0.3700	Trapezoidal	2.000	8.02	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	3.01	0 01:24	1.39	28.87	46.21	0.07	0.19	0.00	0.38	Calculated			
29	OCF079	J0186	J0189	945.98	4533.67	0.00	4528.75	0.00	4.92	0.5200	Trapezoidal	5.000	40.00	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	30.51	0 00:54	1.77	8.91	1016.47	0.03	0.36	0.00	1.79	Calculated			
30	OCF080	J0185	J0834	343.05	4539.17	0.00	4535.41	0.00	3.76	1.1000	Trapezoidal	5.000	30.00	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	119.43	0 00:00	8.11	7.00	911.03	0.13	0.29	0.00	1.20	Calculated			
31	OCF081	J0183	J0836	199.74	4543.62	0.00	4540.80	0.00	2.82	1.4100	Trapezoidal	5.000	30.00	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	24.21	0 00:49	1.87	1.78	1033.97	0.02	0.28	0.00	1.37	Calculated			
32	OCF082	J0837	J0185	131.76	4540.60	0.00	4539.17	0.00	1.43	1.0900	Trapezoidal	5.000	30.00	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	23.87	0 00:51	3.44	0.64	906.55	0.03	0.27	0.00	0.78	Calculated			
33	OCF083	J0842	J0844	259.79	4577.08	0.00	4548.35	0.00	28.73	11.0600	Trapezoidal	3.300	12.01	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	4.38	0 00:41	2.66	1.63	725.07	0.01	0.69	0.00	0.30	Calculated			
34	OCF084	J0604	J0845	1172.32	4495.27	0.00	4495.74	0.00	-0.47	-0.0400	Trapezoidal	5.000	14.30	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	11.66	0 01:09	0.95	20.57	115.10	0.10	0.30	0.00	1.49	Calculated			
35	OCF085	J1083	J0847	292.10	4493.35	0.00	4492.38	0.00	0.97	0.3300	Trapezoidal	5.000	14.30	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	8.90	0 01:37	1.32	3.69	331.26	0.03	0.13	0.00	0.65	Calculated			
36	OCF094	J0868	J0869	584.90	4517.07	0.00	4514.73	0.00	2.34	0.4000	Trapezoidal	2.000	4.50	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1.00	0.00	0 00:00	0.00	0.00	16.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Calculated
37	OCF096	J0277	J0874	1039.92	4496.13	0.00	4493.02	0.00	3.11	0.3000	Trapezoidal	6.000	29.04	0.0000	0.0320	0.0000	0.5000	0.5000	0.0000	0.00	NO	1													

SN	Element ID	X Coordinate	Y Coordinate	Description	Invert Elevation	Ground/Rim (Max) Elevation	Ground/Rim (Max) Offset	Initial Water Elevation	Initial Water Depth	Surcharge Elevation	Surcharge Depth	Ponded Area	Minimum Pipe Cover	Peak Inflow	Peak Lateral Inflow	Peak HGL Elevation	Maximum HGL Attained	Maximum HGL Depth	Maximum Surcharge Depth	Minimum Freeboard Attained	Average HGL Elevation	Average HGL Depth	Time of Maximum Occurrence	Time of Peak Flooding	Total Flooded Volume	Total Time Flooded
					(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft ²)	(inches)	(cfs)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(days hh:mm)	(days hh:mm)	(ac-inches)	(minutes)
1	HC-06b	1612070.03	7227414.42		4604.14	0.00	-4604.14	4604.14	0.00	0.00	0.00	0.00	0.00	0.00	17.05	0.00	4604.58	0.44	0.00	2.06	4604.24	0.10	0 00:49	0 00:00	0.00	0.00
2	J0001	1620688.98	7223057.62		4733.53	4736.61	3.08	4733.53	0.00	4736.61	0.00	0.00	12.96	13.96	13.96	4735.36	1.83	0.00	1.25	4734.11	0.58	0 00:50	0 00:00	0.00	0.00	
3	J0002	1620647.21	7223055.76		4733.31	4736.36	3.05	4733.31	0.00	4736.36	0.00	0.00	12.60	13.93	0.00	4734.37	1.06	0.00	1.99	4733.69	0.38	0 00:50	0 00:00	0.00	0.00	
4	J0003	1619572.54	7223216.86		4718.34	4722.78	4.44	4718.34	0.00	4722.78	0.00	0.00	28.56	13.71	0.00	4719.55	1.21	0.00	3.23	4718.78	0.44	0 00:53	0 00:00	0.00	0.00	
5	J0005	1616676.10	7224876.44		4680.14	4683.04	2.90	4680.14	0.00	4683.04	0.00	0.00	17.40	3.97	0.00	4680.68	0.54	0.00	2.36	4680.39	0.25	0 00:59	0 00:00	0.00	0.00	
6	J0006	1616676.28	7224871.80		4680.20	4682.80	2.60	4680.20	0.00	4682.80	0.00	0.00	7.20	15.07	0.00	4681.38	1.18	0.00	1.42	4680.77	0.57	0 00:59	0 00:00	0.00	0.00	
7	J0011	1618334.58	7223743.34		4704.84	4708.15	3.31	0.00	-4704.84	6.00	-4702.15	0.00	14.95	12.46	0.00	4706.22	1.38	0.00	1.93	4705.40	0.56	0 00:56	0 00:00	0.00	0.00	
8	J0018	1618319.41	7224314.69		4702.08	4707.21	5.13	4702.08	0.00	4707.21	0.00	0.00	36.72	15.06	7.56	4703.21	1.13	0.00	4.00	4702.57	0.49	0 00:55	0 00:00	0.00	0.00	
9	J0019	1615092.90	7224887.50		4657.61	4661.46	3.85	4657.61	0.00	4661.46	0.00	0.00	13.20	10.44	2.70	4658.35	0.74	0.00	3.11	4658.04	0.43	0 01:00	0 00:00	0.00	0.00	
10	J0020	1609599.79	7225346.14		4583.89	4591.54	7.65	4583.89	0.00	4591.54	0.00	0.00	55.80	18.29	5.31	4585.20	1.31	0.00	6.34	4584.81	0.92	0 00:53	0 00:00	0.00	0.00	
11	J0021	1609683.14	7225320.95		4589.26	4592.35	3.09	4589.26	0.00	4592.35	0.00	0.00	18.48	7.54	0.00	4589.83	0.57	0.00	2.52	4589.66	0.40	0 01:19	0 00:00	0.00	0.00	
12	J0022	1609484.28	7227374.69		4576.17	4587.17	11.00	4576.17	0.00	4587.17	0.00	0.00	84.00	43.16	28.63	4578.03	1.86	0.00	9.14	4577.32	1.15	0 00:57	0 00:00	0.00	0.00	
13	J0026	1609495.85	7229513.77		4569.05	0.00	-4569.05	4569.05	0.00	0.00	0.00	0.00	0.00	40.27	10.73	4569.23	0.18	0.00	3.82	4569.17	0.12	0 00:57	0 00:00	0.00	0.00	
14	J0027	1611539.19	7225288.83		4609.45	4614.55	5.10	4609.45	0.00	4614.55	0.00	0.00	37.20	11.43	11.38	4610.35	0.90	0.00	4.20	4609.92	0.47	0 00:48	0 00:00	0.00	0.00	
15	J0029	1611625.53	7225282.86		4610.62	4615.49	4.87	4610.62	0.00	4615.49	0.00	0.00	39.96	0.96	0.00	4610.91	0.29	0.00	4.58	4610.82	0.20	0 01:45	0 00:00	0.00	0.00	
16	J0033	1614695.22	7224895.13		4653.84	4658.07	4.23	4653.84	0.00	4658.07	0.00	0.00	32.76	0.99	0.99	4654.13	0.29	0.00	3.94	4654.05	0.21	0 01:46	0 00:00	0.00	0.00	
17	J0034	1621160.38	7224240.48		4789.51	4792.41	2.90	4789.51	0.00	4792.41	0.00	0.00	19.80	7.68	7.68	4790.44	0.93	0.00	1.97	4789.83	0.32	0 00:50	0 00:00	0.00	0.00	
18	J0035	1620604.37	7224385.34		4768.05	4782.63	14.58	4768.05	0.00	4782.63	0.00	0.00	39.24	7.58	0.00	4768.81	0.76	0.00	13.82	4768.36	0.31	0 00:51	0 00:00	0.00	0.00	
19	J0036	1619643.69	7224700.17		4761.35	4765.88	4.53	4761.35	0.00	4765.88	0.00	0.00	14.76	7.24	0.00	4762.22	0.87	0.00	3.66	4761.68	0.33	0 00:52	0 00:00	0.00	0.00	
20	J0037	1619639.16	7224743.30		4759.67	4765.51	5.84	4759.67	0.00	4765.51	0.00	0.00	18.00	7.24	0.00	4760.43	0.76	0.00	5.08	4759.98	0.31	0 00:52	0 00:00	0.00	0.00	
21	J0038	1619303.57	7225132.98		4755.82	4760.80	4.98	4755.82	0.00	4760.80	0.00	0.00	16.08	7.20	0.00	4758.12	2.30	0.00	2.68	4757.37	1.55	0 00:54	0 00:00	0.00	0.00	
22	J0039	1619283.36	7225169.61		4757.19	4759.69	2.50	4757.19	0.00	4759.69	0.00	0.00	0.00	7.07	0.00	4757.73	0.54	0.00	2.46	4757.41	0.22	0 00:56	0 00:00	0.00	0.00	
23	J0040	1618072.51	7225092.41		4745.37	0.00	-4745.37	4745.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4745.37	0.00	0.00	2.00	4745.37	0.00	0 00:54	0 00:00	0.00	0.00	
24	J0041	1617952.93	7225281.74		4740.44	4743.69	3.25	4740.44	0.00	4743.69	0.00	0.00	8.40	18.42	16.96	4741.72	1.28	0.00	1.97	4740.96	0.52	0 00:51	0 00:00	0.00	0.00	
25	J0042	1617079.03	7226387.01		4724.55	4729.65	5.10	4724.55	0.00	4729.65	0.00	0.00	37.20	21.50	5.61	4729.65	5.10	0.00	0.00	4725.70	1.15	0 00:44	0 00:00	0.00	0.00	
26	J0043	1616968.27	7226396.61		4724.38	4727.72	3.34	4724.38	0.00	4727.72	0.00	0.00	14.76	21.50	0.00	4726.26	1.88	0.00	1.46	4725.15	0.77	0 00:54	0 00:00	0.00	0.00	
27	J0044	1616973.41	7226358.01		4725.46	0.00	-4725.46	4725.46	0.00	0.00	0.00	0.00	0.00	2.37	0.00	4726.27	0.81	0.00	1.19	4725.54	0.08	0 00:54	0 00:00	0.00	0.00	
28	J0045	1616653.33	7226394.37		4719.39	4725.39	6.00	4719.39	0.00	4725.39	0.00	0.00	57.00	0.00	0.00	4719.39	0.00	0.00	6.00	4719.39	0.00	0 00:00	0 00:00	0.00	0.00	
29	J0046	1616812.17	7226199.10		4714.07	4722.12	8.05	4714.07	0.00	4722.12	0.00	0.00	81.60	16.18	16.18	4715.06	0.99	0.00	7.06	4714.42	0.35	0 00:46	0 00:00	0.00	0.00	
30	J0047	1617423.44	7225449.39		4725.58	4730.08	4.50	4725.58	0.00	4730.08	0.00	0.00	39.00	0.00	0.00	4725.58	0.00	0.00	4.50	4725.58	0.00	0 00:00	0 00:00	0.00	0.00	
31	J0048	1616393.79	7225648.93		4667.90	4668.90	1.00	4667.90	0.00	4668.90	0.00	0.00	0.00	18.21	3.39	4669.02	1.12	0.00	2.38	4668.38	0.48	0 00:47	0 00:00	0.00	0.00	
32	J0049	1615052.36	7226169.53		4642.27	4645.17	2.90	4642.27	0.00	4645.17	0.00	0.00	10.80	14.88	4.87	4642.84	0.57	0.00	2.33	4642.63	0.36	0 00:56	0 00:00	0.00	0.00	
33	J0050	1614261.58	7225801.63		4637.13	4642.33	5.20	4637.13	0.00	4642.33	0.00	0.00	44.40	2.41	0.00	4637.00	0.37	0.00	4.83	4637.36	0.23	0 00:56	0 00:00	0.00	0.00	
34	J0052	1614831.55	7226689.02		4637.22	0.00	-4637.22	4637.22	0.00	0.00	0.00	0.00	0.00	12.30	0.00	4638.19	0.97	0.00	1.03	4637.86	0.64	0 01:01	0 00:00	0.00	0.00	
35	J0053	1614095.72	7227412.21		4624.57	4632.47	7.90	4624.57	0.00	4632.47	0.00	0.00	70.80	17.02	10.13	4625.89	1.32	0.00	6.58	4625.39	0.82	0 00:58	0 00:00	0.00	0.00	
36	J0054	1612653.66	7227419.65		4610.78	4614.43	3.65	4610.78	0.00	4614.43	0.00	0.00	11.40	20.92	8.49	4614.43	3.65	0.00	0.00	4613.04	2.26	0 00:47	0 00:57	3.11	32.00	
37	J0055	1612245.21	7227417.87		4606.13	4610.13	4.00	4606.13	0.00	4610.13	0.00	0.00	29.40	11.60	0.00	4610.13	4.00	0.00	0.00	4607.57	1.44	0 00:48	0 00:48	0.00	0.00	
38	J0056	1612068.44	7227419.07		4604.55	0.00	-4604.55	4604.55	0.00	0.00	0.00	0.00	0.00	11.31	0.00	4604.62	0.07	0.00	1.43	4604.55	0.00	0 00:43	0 00:00	0.00	0.00	
39	J0057	1612110.32	7227414.50		4604.38	4609.03	4.65	4604.38	0.00	4609.03	0.00	0.00	24.60	17.18	0.00	4606.09	1.71	0.00	2.94	4605.01	0.63	0 00:49	0 00:00	0.00	0.00	
40	J0059	1612983.80	7227402.13		4606.90	4615.35	8.45	4606.90	0.00	4615.35	0.00	0.00	71.40	17.88	0.00	4608.73	1.83	0.00	6.62	4607.58	0.68	0 00:48	0 00:00	0.00	0.00	
41	J0060	1613410.98	7227400.45		4607.55	4619.10	11.55	4607.55	0.00	4619.10	0.00	0.00	107.40	19.88	19.88	4609.89	2.34	0.00	9.21	4608.43	0.88	0 00:46	0 00:00	0.00	0.00	
42	J0061	1613417.89	7227400.68		4607.72	4619.42	11.70	4607.72	0.00	4619.42	0.00	0.00	110.40	3.82	0.00	4609.89	2.17	0.00	9.53	4608.44	0.72	0 00:46	0 00:00	0.00	0.00	
43	J0071	1614180.14	7227402.37		4628.08	4638.38	10.30	4628.08	0.00	4638.38	0.00	0.00	93.60	0.00	0.00	4628.08	0.00	0.00	10.30	4628.08	0.00	0 00:00	0 00:00	0.00	0.00	
44	J0073	1616430.88	7226769.64		4718.93	4722.80	3.87	4718.93	0.00	4722.80	0.00	0.00	22.44	19.46	0.00	4720.16	1.23	0.00	2.64	4719.47	0.54	0 00:54	0 00:00	0.00	0.00	
45	J007																									

73	J0109	1611627.14	7233063.79	4549.10	4553.80	4.70	4549.10	0.00	4553.80	0.00	0.00	30.60	25.24	0.00	4553.80	4.70	0.00	0.00	4551.55	2.45	0	00:40	0	00:40	0.00	0.00
74	J0113	1612919.53	7234191.54	4689.35	4704.45	15.10	4689.35	0.00	4704.45	0.00	0.00	60.60	1.00	0.00	4689.76	0.41	0.00	14.69	4689.76	0.41	0	00:35	0	00:00	0.00	0.00
75	J0114	1612925.41	7233926.29	4698.80	4703.40	4.60	4698.80	0.00	4703.40	0.00	0.00	40.20	1.00	1.00	4699.32	0.52	0.00	4.08	4699.32	0.52	0	00:39	0	00:00	0.00	0.00
76	J0116	1612699.24	7234119.70	4662.17	4666.37	4.20	4662.17	0.00	4666.37	0.00	0.00	23.40	12.86	11.86	4663.04	0.87	0.00	3.33	4662.68	0.51	0	00:45	0	00:00	0.00	0.00
77	J0127	1611660.35	7232930.88	4548.80	4551.24	2.44	4548.80	0.00	4551.24	0.00	0.00	0.00	5.65	0.00	4549.63	0.83	0.00	1.67	4549.53	0.73	0	03:00	0	00:00	0.00	0.00
78	J0118	1611626.10	7232813.35	4549.10	4552.50	3.40	4549.10	0.00	4552.50	0.00	0.00	16.80	22.38	0.00	4552.50	3.40	0.00	0.00	4551.57	2.47	0	00:44	0	00:44	0.20	17.00
79	J0119	1611652.95	7232811.58	4549.49	0.00	-4549.49	4549.49	0.00	0.00	0.00	0.00	0.00	21.50	0.00	4551.49	2.00	0.00	0.00	4551.30	1.81	0	00:44	0	01:06	26.40	135.00
80	J0123	1611528.37	7231816.83	4559.28	4564.33	5.05	4559.28	0.00	4564.33	0.00	0.00	36.60	26.75	0.00	4564.33	5.05	0.00	0.00	4560.45	1.17	0	00:45	0	00:45	0.00	0.00
81	J0125	1613502.81	7231515.19	4607.38	4612.28	4.90	4607.38	0.00	4612.28	0.00	0.00	25.80	10.48	8.35	4608.03	1.65	0.00	4.25	4607.79	0.41	0	00:46	0	00:00	0.00	0.00
82	J0126	1613036.60	7231509.34	4576.65	4580.65	4.00	4576.65	0.00	4580.65	0.00	0.00	24.00	18.40	7.98	4578.09	0.44	0.00	2.56	4577.37	0.72	0	00:50	0	00:00	0.00	0.00
83	J0128	1611590.26	7231478.57	4563.59	4568.34	4.75	4563.59	0.00	4568.34	0.00	0.00	27.60	34.92	12.92	4568.34	4.75	0.00	0.00	4565.30	1.71	0	00:43	0	00:50	1.87	15.00
84	J0131	1611599.35	7231531.92	4563.17	4568.17	5.00	4563.17	0.00	4568.17	0.00	0.00	33.60	30.30	0.00	4568.17	5.00	0.00	0.00	4564.35	1.18	0	00:44	0	00:44	0.00	0.00
85	J0132	1614447.98	7229436.15	4599.85	4604.15	4.30	4599.85	0.00	4604.15	0.00	0.00	21.60	64.21	17.19	4603.76	3.91	0.00	0.39	4601.26	1.41	0	00:46	0	00:00	0.00	0.00
86	J0133	1614479.27	7229436.94	4600.22	4604.52	4.30	4600.22	0.00	4604.52	0.00	0.00	13.56	67.46	8.94	4604.52	4.30	0.00	0.00	4602.63	2.41	0	00:45	0	00:52	4.50	20.00
87	J0135	1616131.88	7229466.65	4673.25	4678.00	4.75	4673.25	0.00	4678.00	0.00	0.00	42.00	0.00	0.00	4673.25	0.00	0.00	4.75	4673.25	0.00	0	00:00	0	00:00	0.00	0.00
88	J0136	1614186.62	7229431.47	4592.09	4601.94	9.85	4592.09	0.00	4601.94	0.00	0.00	70.20	78.03	11.28	4594.96	2.87	0.00	6.98	4593.97	1.88	0	00:57	0	00:00	0.00	0.00
89	J0137	1614189.66	7230433.23	4596.27	4600.32	4.05	4596.27	0.00	4600.32	0.00	0.00	33.60	9.00	9.00	4600.32	4.05	0.00	0.00	4597.12	0.85	0	00:40	0	00:45	0.51	14.00
90	J0138	1611569.20	7229453.61	4582.06	4589.06	7.00	4582.06	0.00	4589.06	0.00	0.00	32.40	74.34	8.64	4584.34	2.28	0.00	4.72	4583.62	1.56	0	00:57	0	00:00	0.00	0.00
91	J0139	1610017.17	7229466.12	4571.31	4580.71	9.40	4571.31	0.00	4580.71	0.00	0.00	64.80	82.61	16.24	4574.76	3.45	0.00	5.95	4573.43	2.12	0	00:58	0	00:00	0.00	0.00
92	J0140	1615734.13	7223461.85	4688.29	4693.29	5.00	4688.29	0.00	4693.29	0.00	0.00	36.00	2.74	2.74	4688.63	0.34	0.00	4.66	4688.44	0.15	0	00:45	0	00:00	0.00	0.00
93	J0141	1615668.07	7228387.19	4675.34	4678.54	3.20	4675.34	0.00	4678.54	0.00	0.00	0.00	6.09	3.89	4679.02	3.68	0.00	0.63	4678.46	3.12	0	00:50	0	00:00	0.00	0.00
94	J0142	1615673.44	7224126.52	4666.39	0.00	-4666.39	4666.39	0.00	0.00	0.00	0.00	0.00	6.05	0.00	4666.53	0.14	0.00	1.36	4666.46	0.07	0	00:50	0	00:00	0.00	0.00
95	J0148	1619180.13	7227324.45	4779.25	4792.25	13.00	4779.25	0.00	4792.25	0.00	0.00	0.00	8.75	8.75	4779.27	0.02	0.00	12.98	4779.25	0.00	0	00:38	0	00:00	0.00	0.00
96	J0149	1618528.99	7227315.74	4743.89	4753.99	10.10	4743.89	0.00	4753.99	0.00	0.00	85.20	0.03	0.00	4743.90	0.01	0.00	10.09	4743.89	0.00	0	00:36	0	00:00	0.00	0.00
97	J0167	1611583.54	7230524.33	4576.27	4579.37	3.10	4576.27	0.00	4579.37	0.00	0.00	15.60	10.61	10.61	4577.61	1.34	0.00	1.76	4576.98	0.71	0	00:45	0	00:00	0.00	0.00
98	J0168	1611587.33	7231096.51	4567.71	4570.11	2.40	4567.71	0.00	4570.11	0.00	0.00	9.60	10.39	0.00	4570.11	2.40	0.00	0.00	4568.38	0.67	0	00:44	0	00:44	0.38	9.00
99	J0169	1611588.84	7231450.12	4565.52	4568.47	2.95	4565.52	0.00	4568.47	0.00	0.00	13.20	7.66	0.00	4568.47	2.95	0.00	0.00	4566.43	0.91	0	00:43	0	00:43	0.49	15.00
100	J0172	1607512.53	7231473.41	4538.89	4547.64	8.75	4538.89	0.00	4547.64	0.00	0.00	88.20	3.44	0.00	4547.64	8.75	0.00	0.00	4541.11	2.22	0	01:02	0	01:02	0.00	0.00
101	J0173	1607508.24	7229971.47	4545.67	4554.22	8.55	4545.67	0.00	4554.22	0.00	0.00	30.00	6.05	1.72	4554.22	8.55	0.00	0.00	4552.85	7.18	0	01:00	0	01:00	1.29	119.00
102	J0174	1607508.65	7229442.69	4547.44	4556.94	9.50	4547.44	0.00	4556.94	0.00	0.00	96.00	11.45	8.26	4556.94	9.50	0.00	0.00	4555.97	8.53	0	00:45	0	00:50	7.84	134.00
103	J0177	1607381.34	7232965.93	4527.36	4531.31	3.95	4527.36	0.00	4531.31	0.00	0.00	29.40	3.20	0.00	4527.91	0.55	0.00	3.40	4527.82	0.46	0	00:57	0	00:00	0.00	0.00
104	J0178	1607378.50	7233517.54	4521.20	4527.75	6.55	4521.20	0.00	4527.75	0.00	0.00	60.60	3.20	0.00	4527.75	6.55	0.00	0.00	4523.17	1.97	0	00:58	0	00:58	0.00	0.00
105	J0179	1607377.16	7233615.51	4522.59	4524.09	1.50	4522.59	0.00	4524.09	0.00	0.00	0.00	3.20	0.00	4523.27	0.68	0.00	2.82	4523.07	0.48	0	03:00	0	00:00	0.00	0.00
106	J0181	1611357.45	7232939.47	4547.61	4554.51	6.90	4547.61	0.00	4554.51	0.00	0.00	52.80	9.98	7.37	4548.73	1.12	0.00	5.78	4548.48	0.87	0	00:48	0	00:00	0.00	0.00
107	J0182	1610263.03	7232681.74	4544.19	4548.16	3.97	4544.19	0.00	4548.16	0.00	0.00	0.00	39.46	15.78	4546.11	1.92	0.00	2.05	4545.22	1.03	0	00:48	0	00:00	0.00	0.00
108	J0183	1610229.19	7232603.35	4543.62	0.00	-4543.62	4543.62	0.00	0.00	0.00	0.00	0.00	24.22	0.00	4544.34	0.72	0.00	4.28	4544.01	0.39	0	00:49	0	00:00	0.00	0.00
109	J0185	1609906.12	7232769.65	4539.17	0.00	-4539.17	4541.85	2.68	0.00	0.00	0.00	0.00	23.87	0.00	4541.85	2.68	0.00	2.32	4539.59	0.42	0	00:00	0	00:00	0.00	0.00
110	J0186	1609443.71	7232827.42	4533.67	0.00	-4533.67	4533.67	0.00	0.00	0.00	0.00	0.00	32.96	0.00	4534.40	0.73	0.00	4.27	4534.06	0.39	0	00:54	0	00:00	0.00	0.00
111	J0187	1609459.13	7232825.31	4539.13	4543.66	4.53	4539.13	0.00	4543.66	0.00	0.00	0.00	3.77	0.00	4543.88	4.75	0.00	1.78	4543.26	4.13	0	01:19	0	00:00	0.00	0.00
112	J0188	1609455.72	7232010.34	4547.99	4553.19	5.20	4547.99	0.00	4553.19	0.00	0.00	38.40	3.78	0.00	4548.53	0.54	0.00	4.66	4548.40	0.41	0	01:19	0	00:00	0.00	0.00
113	J0189	1608785.16	7233167.97	4528.75	0.00	-4528.75	4528.75	0.00	0.00	0.00	0.00	0.00	34.59	7.56	4531.85	3.10	0.00	1.90	4531.19	2.44	0	01:15	0	00:00	0.00	0.00
114	J0191	1608118.47	7233660.06	4529.01	4535.71	6.70	4529.01	0.00	4535.71	0.00	0.00	40.80	16.56	0.00	4529.94	0.93	0.00	5.77	4529.73	0.72	0	01:16	0	00:00	0.00	0.00
115	J0192	1607509.14	7232730.15	4529.81	4534.61	4.80	4529.81	0.00	4534.61	0.00	0.00	39.60	13.11	0.00	4534.61	4.80	0.00	0.00	4530.64	0.83	0	00:41	0	00:41	0.02	3.00
116	J0193	1607508.97	7232411.86	4533.10	4537.50	4.40	4533.10	0.00	4537.50	0.00	0.00	0.00	24.75	9.80	4537.50	4.40	0.00	0.00	4533.87	0.77	0	00:38	0	00:44	1.25	8.00
117	J0197	1607494.20	7233685.52	4520.42	4527.62	7.20	4520.42	0.00	4527.62	0.00	0.00	50.40	89.85	0.00	4527.62	7.20	0.00	0.00	4522.92	2.50	0	00:44	0	00:44	0.00	0.00
118	J0198	160																								

150	J0292	1601986.38	7229493.49	4509.28	0.00	-4509.28	4509.28	0.00	0.00	0.00	0.00	0.00	13.43	10.53	4510.00	0.72	0.00	2.78	4509.88	0.60	0	02:23	0	00:00	0.00	0.00
151	J0293	1601692.12	7229484.23	4502.58	4509.73	7.15	4502.58	0.00	4509.73	0.00	0.00	43.80	13.43	0.00	4503.46	0.88	0.00	6.27	4503.29	0.71	0	02:21	0	00:00	0.00	0.00
152	J0301	1605704.84	7227867.17	4538.89	0.00	-4538.89	4538.89	0.00	0.00	0.00	0.00	0.00	21.00	0.00	4539.68	0.79	0.00	2.21	4539.29	0.40	0	00:55	0	00:00	0.00	0.00
153	J0323	1606699.27	7229519.56	4547.93	4550.58	2.65	4547.93	0.00	4550.58	0.00	0.00	1.80	3.29	0.00	4548.29	0.36	0.00	2.29	4548.15	0.22	0	01:00	0	00:00	0.00	0.00
154	J0324	1607312.81	7229515.19	4552.01	4555.46	3.45	4552.01	0.00	4555.46	0.00	0.00	17.40	3.42	0.00	4552.59	0.58	0.00	2.87	4552.39	0.38	0	00:59	0	00:00	0.00	0.00
155	J0325	1606017.59	7229539.55	4541.10	4544.36	3.26	4541.10	0.00	4544.36	0.00	0.00	9.12	3.26	0.00	4541.78	0.68	0.00	2.58	4541.57	0.47	0	01:10	0	00:00	0.00	0.00
156	J0326	1606024.93	7230205.87	4538.78	4542.58	3.80	4538.78	0.00	4542.58	0.00	0.00	15.00	2.58	0.00	4539.69	0.91	0.00	2.89	4539.47	0.69	0	01:11	0	00:00	0.00	0.00
157	J0327	1605409.70	7230201.32	4535.34	4538.19	2.85	4535.34	0.00	4538.19	0.00	0.00	10.20	2.57	0.00	4538.19	2.85	0.00	0.00	4537.41	2.07	0	01:16	0	01:16	0.14	41.00
158	J0328	1604731.74	7229973.21	4526.66	4530.96	4.30	4526.66	0.00	4530.96	0.00	0.00	36.60	0.07	0.00	4527.74	1.08	0.00	3.22	4527.65	0.99	0	01:33	0	00:00	0.00	0.00
159	J0329	1604732.19	7229960.91	4526.54	4531.24	4.70	4526.54	0.00	4531.24	0.00	0.00	41.40	0.07	0.00	4527.74	1.20	0.00	3.50	4527.64	1.10	0	01:33	0	00:00	0.00	0.00
160	J0330	1604731.93	7229966.33	4526.75	4530.85	4.10	4526.75	0.00	4530.85	0.00	0.00	0.00	2.62	0.00	4527.74	0.99	0.00	3.11	4527.65	0.90	0	01:33	0	00:00	0.00	0.00
161	J0331	1604726.86	7229966.36	4526.62	4530.87	4.25	4526.62	0.00	4530.87	0.00	0.00	21.00	2.62	0.00	4527.58	0.96	0.00	3.29	4527.51	0.89	0	01:33	0	00:00	0.00	0.00
162	J0332	1604672.06	7229558.68	4525.86	4531.11	5.25	4525.86	0.00	4531.11	0.00	0.00	31.00	2.62	0.00	4526.32	0.46	0.00	4.79	4526.27	0.41	0	01:38	0	00:00	0.00	0.00
163	J0333	1604692.67	7229578.45	4525.65	4531.20	5.55	4525.65	0.00	4531.20	0.00	0.00	34.60	2.62	0.00	4526.58	0.93	0.00	4.62	4526.50	0.85	0	01:36	0	00:00	0.00	0.00
164	J0334	1604668.77	7228829.61	4520.67	4532.42	11.75	4520.67	0.00	4532.42	0.00	0.00	87.00	6.73	4.59	4521.03	0.36	0.00	11.39	4520.96	0.29	0	00:56	0	00:00	0.00	0.00
165	J0335	1605397.90	7229539.46	4534.12	4537.97	3.85	4534.12	0.00	4537.97	0.00	0.00	27.60	2.10	0.00	4537.97	3.85	0.00	0.00	4536.93	2.81	0	01:10	0	01:10	2.91	104.00
166	J0338	1604026.20	7228944.74	4513.68	4520.88	7.20	4513.68	0.00	4520.88	0.00	0.00	50.40	6.60	0.00	4520.88	7.20	0.00	0.00	4516.35	2.67	0	00:57	0	00:57	0.00	0.00
167	J0339	1599889.23	7227056.68	4503.15	4513.35	10.20	4504.20	1.05	4513.35	0.00	0.00	86.40	8.66	0.00	4509.51	6.36	0.00	3.84	4505.98	2.83	0	01:37	0	00:00	0.00	0.00
168	J0340	1599819.84	7227101.50	4502.48	4509.43	6.95	4504.54	2.06	4507.54	-1.89	0.00	47.40	8.66	0.00	4509.33	6.85	0.00	0.10	4505.88	3.40	0	01:37	0	00:00	0.00	0.00
169	J0341	1599959.01	7227005.63	4503.11	4509.61	6.50	4503.11	0.00	4509.61	0.00	0.00	42.00	8.68	0.00	4509.56	6.45	0.00	0.05	4506.05	2.94	0	01:37	0	00:00	0.00	0.00
170	J0345	1599881.10	7227320.33	4503.00	4505.75	2.75	0.00	-4503.00	6.00	-4499.75	0.00	14.98	9.31	0.00	4505.75	2.75	0.00	0.00	4504.89	1.89	0	01:31	0	01:40	1.41	35.00
171	J0346	1599727.03	7227270.99	4501.56	4506.89	5.33	4501.56	0.00	4506.89	0.00	0.00	0.00	17.47	0.00	4505.83	4.27	0.00	1.23	4504.67	3.11	0	01:40	0	00:00	0.00	0.00
172	J0347	1600155.18	7227519.67	4502.66	4516.81	14.15	4502.66	0.00	4516.81	0.00	0.00	103.80	8.33	0.00	4506.70	4.04	0.00	10.11	4505.07	3.41	0	01:35	0	00:00	0.00	0.00
173	J0348	1601081.21	7227513.62	4505.33	4517.33	12.00	4505.33	0.00	4517.33	0.00	0.00	96.00	11.55	0.00	4506.71	1.38	0.00	10.62	4505.94	0.61	0	01:36	0	00:00	0.00	0.00
174	J0349	1600361.32	7227517.02	4502.60	4512.00	9.40	4502.60	0.00	4512.00	0.00	0.00	46.80	11.53	0.00	4506.70	4.10	0.00	5.30	4505.07	2.67	0	01:35	0	00:00	0.00	0.00
175	J0350	1601078.09	7227440.20	4505.92	4514.22	8.30	4505.92	0.00	4514.22	0.00	0.00	51.60	11.58	0.00	4506.92	1.00	0.00	7.30	4506.39	0.47	0	01:19	0	00:00	0.00	0.00
176	J0351	1601773.38	7227435.62	4507.83	4515.19	7.36	4504.84	-2.99	4515.36	0.17	0.00	40.32	11.58	0.00	4508.95	1.12	0.00	6.24	4508.40	0.57	0	01:17	0	00:00	0.00	0.00
177	J0352	1601818.35	7227436.02	4508.53	4515.33	6.80	4504.96	-3.57	4515.33	0.00	0.00	33.60	11.59	0.00	4509.46	0.93	0.00	5.87	4508.97	0.44	0	01:17	0	00:00	0.00	0.00
178	J0354	1602100.10	7227434.68	4509.44	4517.88	8.00	0.00	-4509.44	4517.88	0.44	0.00	48.00	11.63	0.00	4510.46	1.02	0.00	6.98	4509.93	0.49	0	01:16	0	00:00	0.00	0.00
179	J0355	1602054.11	7227442.06	4508.98	4517.02	8.04	0.00	-4508.98	4517.02	0.05	0.00	48.48	11.59	0.00	4509.97	0.99	0.00	7.05	4509.48	0.50	0	01:16	0	00:00	0.00	0.00
180	J0357	1602851.34	7227442.32	4512.52	4521.37	8.85	4512.52	0.00	4521.37	0.00	0.00	58.20	11.63	0.00	4513.51	0.99	0.00	7.86	4513.04	0.52	0	01:14	0	00:00	0.00	0.00
181	J0358	1604723.93	7227410.07	4530.58	4537.03	6.45	4530.58	0.00	4537.03	0.00	0.00	45.60	11.66	0.00	4531.48	0.90	0.00	5.55	4531.06	0.48	0	01:11	0	00:00	0.00	0.00
182	J0359	1605775.42	7227382.61	4543.08	4547.68	4.60	4543.08	0.00	4547.68	0.00	0.00	29.40	11.69	0.00	4544.13	1.05	0.00	3.55	4543.63	0.55	0	01:10	0	00:00	0.00	0.00
183	J0360	1605300.52	7227391.53	4537.99	4542.89	4.90	4537.99	0.00	4542.89	0.00	0.00	34.80	11.69	0.00	4539.01	1.02	0.00	3.88	4538.52	0.53	0	01:11	0	00:00	0.00	0.00
184	J0361	1606726.02	7227398.00	4557.17	4563.47	6.30	4557.17	0.00	4563.47	0.00	0.00	51.60	11.71	11.71	4558.11	0.94	0.00	5.36	4557.67	0.50	0	01:10	0	00:00	0.00	0.00
185	J0362	1599989.57	7227375.16	4502.39	4505.39	3.00	4502.39	0.00	4505.39	0.00	0.00	0.00	15.98	0.00	4505.40	3.01	0.00	0.00	4504.61	2.22	0	01:16	0	01:30	19.45	103.00
186	J0364	1600642.14	7226774.34	4504.28	4510.93	6.65	4504.28	0.00	4510.93	0.00	0.00	49.80	8.99	0.00	4510.93	6.65	0.00	0.00	4506.58	2.30	0	01:37	0	00:00	0.00	0.00
187	J0365	1600652.51	7224888.21	4507.82	4515.82	8.00	4507.82	0.00	4515.82	0.00	0.00	0.00	9.00	0.00	4509.15	1.33	0.00	6.67	4508.92	1.10	0	00:42	0	00:00	0.00	0.00
188	J0366	1600663.97	7226459.25	4504.75	4512.50	7.75	4504.75	0.00	4512.50	0.00	0.00	63.00	9.60	0.00	4512.50	7.75	0.00	0.00	4506.86	2.11	0	01:37	0	00:00	0.00	0.00
189	J0377	1599966.09	7226774.26	4503.24	4510.64	7.40	4503.24	0.00	4510.64	0.00	0.00	52.80	8.99	0.00	4509.53	6.29	0.00	1.11	4506.13	2.89	0	01:37	0	00:00	0.00	0.00
190	J0442	1598479.56	7227473.98	4499.72	4509.72	10.00	4499.72	0.00	4509.72	0.00	0.00	54.00	11.73	0.00	4500.52	0.80	0.00	9.20	4500.40	0.68	0	01:42	0	00:00	0.00	0.00
191	J0445	1596897.25	7227486.16	4496.01	4505.81	9.80	4496.01	0.00	4505.81	0.00	0.00	75.60	41.91	0.00	4498.91	2.90	0.00	6.90	4498.03	2.02	0	01:04	0	00:00	0.00	0.00
192	J0446	1596523.43	7227488.81	4496.56	4504.11	7.55	4496.56	0.00	4504.11	0.00	0.00	39.00	39.04	0.00	4500.22	3.66	0.00	3.89	4498.57	2.01	0	01:03	0	00:00	0.00	0.00
193	J0447	1596578.24	7227491.29	4495.98	4503.73	7.75	4495.98	0.00	4503.73	0.00	0.00	40.80	36.84	0.00	4500.08	4.16	0.00	3.65	4498.44	2.46	0	01:03	0	00:00	0.00	0.00
194	J0448	1596524.63	7225884.84	4499.11	4508.63	9.52	4499.11	0.00	4508.63	0.00	0.00	78.24	46.12	0.00	4508.63	9.52	0.00	0.00	4501.09	1.98	0	00:45	0	00:45	0.01	

227	J0526	1608522.80	7229393.42	4567.05	4568.50	1.45	4567.05	0.00	4568.50	0.00	0.00	2.40	0.02	0.00	4567.13	0.08	0.00	1.37	4567.11	0.06	0 00:52	0 00:00	0.00	0.00
228	J0527	1608965.43	7228987.33	4573.62	4575.42	1.80	4573.62	0.00	4575.42	0.00	0.00	3.60	0.72	0.00	4573.86	0.24	0.00	1.56	4573.78	0.16	0 01:24	0 00:00	0.00	0.00
229	J0528	1608951.10	7229415.58	4566.83	4573.93	7.10	4566.83	0.00	4573.93	0.00	0.00	8.40	7.53	7.53	4568.17	1.34	0.00	5.76	4567.42	0.59	0 00:46	0 00:00	0.00	0.00
230	J0529	1608949.41	7229502.33	4571.73	4573.33	1.60	4572.24	0.51	4573.33	0.00	0.00	3.00	0.00	0.00	4572.24	0.51	0.00	1.09	4572.23	0.50	0 00:00	0 00:00	0.00	0.00
231	J0530	1609028.79	7229417.92	4566.60	4573.80	7.20	4566.60	0.00	4573.80	0.00	0.00	61.20	7.27	0.00	4567.24	0.64	0.00	6.56	4566.90	0.30	0 00:46	0 00:00	0.00	0.00
232	J0531	1609007.96	7229555.51	4563.71	4573.71	10.00	4563.71	0.00	4573.71	0.00	0.00	96.00	7.27	0.00	4565.14	1.43	0.00	8.57	4564.67	0.96	0 00:46	0 00:00	0.00	0.00
233	J0535	1609716.13	7229466.19	4569.89	0.00	-4569.89	4569.89	0.00	0.00	0.00	0.00	0.00	81.62	0.00	4570.13	0.24	0.00	3.76	4570.05	0.16	0 00:58	0 00:00	0.00	0.00
234	J0551	1609018.99	7229836.59	4562.69	4564.69	2.00	4562.69	0.00	4564.69	0.00	0.00	0.00	7.26	0.00	4564.69	2.00	0.00	0.00	4564.54	1.85	0 00:42	0 00:47	4.46	138.00
235	J0552	1609015.66	7229821.60	4563.00	4567.32	4.32	4563.00	0.00	4567.32	0.00	0.00	27.84	7.26	0.00	4564.78	1.78	0.00	2.54	4564.57	1.57	0 00:47	0 00:00	0.00	0.00
236	J0553	1608536.88	7229509.70	4568.68	4570.28	1.60	4568.68	0.00	4570.28	0.00	0.00	0.00	0.00	0.00	4568.68	0.00	0.00	1.65	4568.68	0.00	0 00:00	0 00:00	0.00	0.00
237	J0554	1608429.79	7229510.77	4567.21	4569.96	2.75	4567.21	0.00	4569.96	0.00	0.00	10.20	0.00	0.00	4567.21	0.00	0.00	2.75	4567.21	0.00	0 00:00	0 00:00	0.00	0.00
238	J0555	1608208.73	7229952.11	4560.99	4561.99	1.00	4560.99	0.00	4561.99	0.00	0.00	0.00	0.00	0.00	4560.99	0.00	0.00	1.25	4560.99	0.00	0 00:00	0 00:00	0.00	0.00
239	J0579	1608754.97	7230525.75	4564.27	0.00	-4564.27	4564.27	0.00	0.00	0.00	0.00	0.00	11.44	11.44	4565.27	1.00	0.00	0.00	4564.99	0.72	0 00:42	0 00:50	2.03	40.00
240	J0580	1608542.27	7230975.57	4558.70	4560.10	1.40	4558.70	0.00	4560.10	0.00	0.00	1.80	3.39	0.00	4559.57	0.87	0.00	0.53	4559.41	0.71	0 01:24	0 00:00	0.00	0.00
241	J0581	1608542.00	7231014.57	4558.50	4560.00	1.50	4558.50	0.00	4560.00	0.00	0.00	3.00	3.38	0.00	4559.11	0.61	0.00	0.89	4559.00	0.50	0 01:25	0 00:00	0.00	0.00
242	J0588	1607512.74	7230983.05	4541.51	4553.01	11.50	4541.51	0.00	4553.01	0.00	0.00	126.00	3.44	0.00	4553.01	11.50	0.00	0.00	4545.07	3.56	0 00:52	0 00:52	0.00	0.00
243	J0590	1607514.45	7231539.00	4541.58	4547.38	5.80	4541.58	0.00	4547.38	0.00	0.00	51.60	7.04	0.00	4547.38	5.80	0.00	0.00	4546.26	4.68	0 00:41	0 00:41	0.02	1.00
244	J0593	1604454.20	7230841.36	4521.86	4525.64	3.78	4521.86	0.00	4525.64	0.00	0.00	15.36	6.04	0.00	4523.91	2.05	0.00	1.73	4523.50	1.64	0 03:00	0 00:00	0.00	0.00
245	J0594	1607395.27	7230853.70	4544.50	4548.21	3.71	4544.50	0.00	4548.21	0.00	0.00	20.40	33.15	33.15	4548.21	3.71	0.00	0.00	4547.87	3.37	0 00:44	0 00:55	11.82	135.00
246	J0595	1607403.31	7229743.67	4551.59	4555.09	3.50	4551.59	0.00	4555.09	0.00	0.00	18.00	0.04	0.00	4551.62	0.03	0.00	3.47	4551.60	0.01	0 01:07	0 00:00	0.00	0.00
247	J0596	1607334.32	7229514.36	4553.27	4555.62	2.35	4553.27	0.00	4555.62	0.00	0.00	4.20	3.42	0.00	4553.69	0.42	0.00	1.93	4553.53	0.26	0 00:56	0 00:00	0.00	0.00
248	J0597	1603571.34	7232297.52	4510.11	4515.21	5.10	4510.11	0.00	4515.21	0.00	0.00	0.00	5.78	0.00	4511.58	1.47	0.00	4.53	4511.15	1.04	0 03:00	0 00:00	0.00	0.00
249	J0599	1602018.72	7232235.53	4505.21	4505.21	0.00	4505.21	0.00	4505.21	0.00	0.00	0.00	5.78	0.00	4506.16	0.95	0.00	1.55	4505.89	0.68	0 03:00	0 00:00	0.00	0.00
250	J0602	1602008.42	7230758.60	4496.48	4503.28	6.80	4496.48	0.00	4503.28	0.00	0.00	63.60	15.24	15.24	4502.74	6.26	0.00	0.54	4498.65	2.17	0 00:59	0 00:00	0.00	0.00
251	J0603	1601846.33	7230763.60	4496.19	0.00	-4496.19	4496.19	0.00	0.00	0.00	0.00	0.00	15.24	0.00	4498.13	1.94	0.00	0.56	4497.30	1.11	0 01:00	0 00:00	0.00	0.00
252	J0604	1601808.49	7237403.23	4495.27	4499.77	4.50	4495.27	0.00	4499.77	0.00	0.00	0.00	15.05	0.00	4497.07	1.80	0.00	3.20	4496.57	1.30	0 01:32	0 00:00	0.00	0.00
253	J0606	1600543.54	7237360.16	4493.78	4499.48	5.70	4493.78	0.00	4499.48	0.00	0.00	43.20	8.90	0.00	4495.60	1.82	0.00	3.88	4495.07	1.29	0 01:35	0 00:00	0.00	0.00
254	J0610	1604115.45	7237122.74	4497.64	4502.45	4.81	4497.64	0.00	0.00	-4502.45	0.00	27.74	7.49	0.00	4499.14	1.50	0.00	3.32	4498.89	1.25	0 01:47	0 00:00	0.00	0.00
255	J0621	1606952.31	7236065.11	4509.12	0.00	-4509.12	4509.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4509.12	0.00	0.00	3.40	4509.12	0.00	0 00:00	0 00:00	0.00	0.00
256	J0623	1604734.19	7235767.44	4506.96	0.00	-4506.96	4506.96	0.00	0.00	0.00	0.00	0.00	7.32	0.00	4508.14	1.18	0.00	33.82	4508.08	1.12	0 01:55	0 00:00	0.00	0.00
257	J0625	1603903.84	7235874.82	4507.11	0.00	-4507.11	4507.11	0.00	0.00	0.00	0.00	0.00	6.08	0.00	4507.59	0.48	0.00	3.02	4507.54	0.43	0 02:54	0 00:00	0.00	0.00
258	J0626	1606832.32	7234814.73	4516.19	0.00	-4516.19	4516.19	0.00	0.00	0.00	0.00	0.00	38.58	0.00	4517.81	1.62	0.00	1.88	4517.32	1.13	0 00:07	0 00:00	0.00	0.00
259	J0631	1612968.82	7223678.27	4640.24	4642.29	2.05	4640.24	0.00	4642.29	0.00	0.00	6.60	0.00	0.00	4640.24	0.00	0.00	2.05	4640.24	0.00	0 00:00	0 00:00	0.00	0.00
260	J0632	1612940.49	7224191.25	4636.68	4639.06	2.38	4636.68	0.00	4639.06	0.00	0.00	10.56	3.46	3.46	4637.34	0.66	0.00	1.72	4636.96	0.28	0 00:46	0 00:00	0.00	0.00
261	J0633	1612618.90	7224254.67	4633.75	4635.95	2.20	4633.75	0.00	4635.95	0.00	0.00	8.40	3.34	0.00	4634.27	0.52	0.00	1.68	4633.98	0.23	0 00:49	0 00:00	0.00	0.00
262	J0634	1611984.66	7224259.98	4623.86	4626.60	2.74	4623.86	0.73	4626.60	0.00	0.00	7.20	3.20	0.00	4624.59	0.73	0.00	2.01	4624.09	0.23	0 00:00	0 00:00	0.00	0.00
263	J0635	1611505.33	7224226.48	4616.57	4621.17	4.60	4616.57	0.00	4621.17	0.00	0.00	27.60	3.19	0.00	4618.00	1.43	0.00	3.17	4617.63	1.06	0 00:51	0 00:00	0.00	0.00
264	J0636	1611489.54	7224511.04	4614.91	4617.76	2.85	4614.91	0.00	4617.76	0.00	0.00	13.80	3.11	0.00	4615.35	0.44	0.00	2.41	4615.10	0.19	0 00:53	0 00:00	0.00	0.00
265	J0637	1611508.04	7224749.30	4607.85	4616.60	8.75	4607.85	0.00	4616.60	0.00	0.00	24.96	6.60	0.00	4613.90	6.05	0.00	2.70	4612.92	5.07	0 03:00	0 00:00	0.00	0.00
266	J0639	1611509.55	7225246.59	4611.27	4614.01	2.74	4611.27	0.00	4614.01	0.00	0.00	14.88	3.69	0.00	4612.19	0.92	0.00	1.82	4611.93	0.66	0 01:08	0 00:00	0.00	0.00
267	J0640	1611496.13	7225261.16	4611.18	4614.03	2.85	4611.18	0.00	4614.03	0.00	0.00	13.80	3.45	0.00	4611.92	0.74	0.00	2.11	4611.73	0.55	0 01:09	0 00:00	0.00	0.00
268	J0642	1609881.39	7225314.88	4590.63	4593.92	3.29	4590.63	0.00	4593.92	0.00	0.00	19.80	7.65	2.51	4591.97	1.34	0.00	1.95	4591.54	0.91	0 01:19	0 00:00	0.00	0.00
269	J0645	1610279.52	7225001.59	4597.38	4598.83	1.45	4597.38	0.00	4598.83	0.00	0.00	7.40	7.74	7.01	4598.83	1.45	0.00	0.00	4597.96	0.58	0 00:43	0 00:50	1.31	28.00
270	J0663	1601966.51	7224156.98	4518.69	4522.59	3.90	4518.69	0.00	4522.59	0.00	0.00	13.44	0.00	0.00	4518.69	0.00	0.00	3.90	4518.69	0.00	0 00:00	0 00:00	0.00	0.00
271	J0664	1601963.39	7224800.47	4518.70	4521.85	3.15	4518.70	0.00	4521.85	0.00	0.00	13.80	0.00	0.00	4518.70	0.00	0.00	3.15	4518.70	0.00	0 00:00	0 00:00	0.00	0.00
272	J0666	1612164.95	7222851.02	4633.29	4636.96	3.67	4633.29	0.00	4636.96	0.00	0.00	20.04	4.37	4.37	4633.94	0.65	0.00	3.02	4633.64	0.35	0 00:50	0 00:00	0.00	0.00
273	J0667	1611578.48	7222162.09	4624.07	4631.17	7.10	4624.07	0.00	4631.17	0.00	0.00													

304	J0745	1608752.36	7229507.75	4570.78	0.00	-4570.78	4570.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.50	4570.78	0.00	0 00:00	0 00:00	0.00	0.00	
305	J0746	1607385.91	7231900.10	4535.54	4542.34	6.80	4535.54	0.00	4542.34	0.00	0.00	69.60	3.20	0.00	4542.34	6.80	0.00	0.00	4536.96	1.42	0 01:02	0 01:02	0.00	0.00
306	J0747	1607384.75	7232319.28	4533.08	4538.18	5.10	4533.08	0.00	4538.18	0.00	0.00	49.20	3.20	0.00	4533.97	0.89	0.00	4.21	4533.83	0.75	0 02:15	0 02:00	0.00	0.00
307	J0749	1609726.95	7231525.75	4561.47	0.00	-4561.47	4561.47	0.00	0.00	0.00	0.00	0.00	31.57	31.57	4562.72	1.25	0.00	0.00	4562.31	0.84	0 00:38	0 03:00	5.28	43.00
308	J0750	1609725.13	7231746.73	4560.78	4561.15	0.37	4560.78	0.00	4561.15	0.00	0.00	0.00	3.94	0.00	4561.26	0.48	0.00	0.77	4561.15	0.37	0 01:18	0 00:00	0.00	0.00
309	J0751	1609562.43	7231745.97	4557.77	4557.77	0.00	4557.77	0.00	4557.77	0.00	0.00	0.00	3.85	0.00	4558.68	0.91	0.00	0.09	4558.40	0.63	0 01:18	0 00:00	0.00	0.00
310	J0752	1609561.10	7232009.03	4548.32	4553.07	4.75	4548.32	0.00	4553.07	0.00	0.00	42.00	3.78	0.00	4549.67	1.35	0.00	3.40	4549.27	0.95	0 01:18	0 00:00	0.00	0.00
311	J0758	1613505.81	7231760.12	4622.82	4627.72	4.90	4622.82	0.00	4627.72	0.00	0.00	39.60	2.43	2.43	4623.24	0.42	0.00	4.48	4623.08	0.26	0 00:45	0 00:00	0.00	0.00
312	J0766	1609587.91	7236389.99	4526.29	4534.49	8.20	4526.29	0.00	4534.49	0.00	0.00	74.40	15.73	15.73	4527.50	1.21	0.00	6.99	4526.72	0.43	0 00:45	0 00:00	0.00	0.00
313	J0767	1608686.95	7236410.59	4516.60	4525.85	9.25	4516.60	0.00	4525.85	0.00	0.00	58.20	16.14	0.00	4523.73	1.13	0.00	2.12	4520.90	4.00	0 00:44	0 00:00	0.00	0.00
314	J0768	1608600.50	7236411.00	4514.53	4522.33	7.80	4514.53	0.00	4522.33	0.00	0.00	28.80	13.19	0.00	4522.33	7.80	0.00	0.00	4520.82	6.29	0 00:42	0 00:42	0.00	0.00
315	J0769	1608584.31	7236423.06	4517.75	0.00	-4517.75	4517.75	0.00	0.00	0.00	0.00	0.00	14.16	0.00	4517.80	0.05	0.00	1.95	4517.79	0.04	0 00:42	0 00:00	0.00	0.00
316	J0770	1609454.07	7236420.89	4530.19	4534.04	3.85	4530.19	0.00	4534.04	0.00	0.00	31.20	0.00	0.00	4530.19	0.00	0.00	3.85	4530.19	0.00	0 00:00	0 00:00	0.00	0.00
317	J0771	1609319.14	7236311.89	4528.45	0.00	-4528.45	4528.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4528.45	0.00	0.00	1.25	4528.45	0.00	0 00:00	0 00:00	0.00	0.00
318	J0772	1608682.78	7236331.35	4519.48	0.00	-4519.48	4519.48	0.00	0.00	0.00	0.00	0.00	16.97	0.00	4521.48	2.00	0.00	0.00	4521.07	1.59	0 00:48	0 00:48	2.46	46.00
319	J0773	1609541.41	7235978.28	4530.98	4530.98	0.00	4530.98	0.00	4530.98	0.00	0.00	0.00	4.27	4.27	4531.71	0.73	0.00	0.77	4531.38	0.40	0 00:42	0 00:00	0.00	0.00
320	J0774	1606889.45	7234815.52	4517.19	0.00	-4517.19	4517.19	0.00	0.00	0.00	0.00	0.00	92.71	0.00	4519.72	2.53	0.00	0.97	4518.80	1.61	0 00:05	0 00:00	0.00	0.00
321	J0775	1605183.48	7235455.38	4509.71	4510.97	1.26	4509.71	0.00	4510.97	0.00	0.00	0.00	32.66	0.00	4513.21	3.50	0.00	0.00	4512.86	3.15	0 01:12	0 01:12	25.49	107.00
322	J0776	1605168.70	7235502.11	4508.94	0.00	-4508.94	4508.94	0.00	0.00	0.00	0.00	0.00	10.29	0.00	4510.19	1.25	0.00	0.00	4510.17	1.23	0 00:07	0 01:28	9.53	171.00
323	J0777	1605101.27	7235507.65	4507.98	0.00	-4507.98	4507.98	0.00	0.00	0.00	0.00	0.00	6.15	0.00	4508.67	0.69	0.00	34.31	4508.54	0.56	0 00:23	0 00:00	0.00	0.00
324	J0778	1606828.35	7236387.84	4506.05	4510.17	4.12	4506.05	0.00	4510.17	0.00	0.00	1.44	0.00	0.00	4506.05	0.00	0.00	4.12	4506.05	0.00	0 00:00	0 00:00	0.00	0.00
325	J0779	1606716.09	7236664.57	4504.25	0.00	-4504.25	4504.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4504.25	0.00	0.00	4.00	4504.25	0.00	0 00:00	0 00:00	0.00	0.00
326	J0787	1604696.46	7229968.23	4526.78	4532.08	5.30	4526.78	0.00	4532.08	0.00	0.00	31.60	2.62	0.00	4527.35	0.57	0.00	4.73	4527.30	0.52	0 01:34	0 00:00	0.00	0.00
327	J0790	1606316.05	7227552.85	4538.18	4547.13	8.95	4538.18	0.00	4547.13	0.00	0.00	81.60	5.72	0.00	4540.16	1.98	0.00	6.97	4539.52	1.34	0 00:56	0 00:00	0.00	0.00
328	J0791	1605820.93	7227837.06	4538.01	4542.01	4.00	4538.01	0.00	4542.01	0.00	0.00	0.00	21.04	17.70	4540.01	2.00	0.00	2.00	4539.33	1.32	0 00:55	0 00:00	0.00	0.00
329	J0792	1605710.37	7227859.87	4537.63	0.00	-4537.63	4537.63	0.00	0.00	0.00	0.00	0.00	21.00	0.00	4539.80	1.17	0.00	1.83	4539.25	1.62	0 00:55	0 00:00	0.00	0.00
330	J0793	1604699.42	7228030.98	4531.24	4533.74	2.50	4531.24	0.00	4533.74	0.00	0.00	0.00	21.90	0.00	4532.91	2.67	0.00	1.33	4532.31	1.07	0 01:12	0 00:00	0.00	0.00
331	J0794	1604649.28	7228030.88	4531.07	4534.94	3.87	4531.07	0.36	4534.94	0.00	0.00	12.12	13.77	0.00	4531.81	1.74	0.00	2.13	4532.26	1.19	0 01:12	0 00:00	0.00	0.00
332	J0796	1602680.12	7229443.70	4510.05	4513.05	3.00	4510.05	0.00	4513.05	0.00	0.00	0.00	6.25	0.00	4511.28	1.23	0.00	3.27	4510.93	0.88	0 02:20	0 00:00	0.00	0.00
333	J0797	1601660.58	7229557.13	4500.97	4511.52	10.55	4500.97	0.00	4511.52	0.00	0.00	84.60	13.43	0.00	4502.33	1.36	0.00	9.19	4502.10	1.13	0 02:26	0 00:00	0.00	0.00
334	J0799	1601415.82	7230969.73	4498.44	4498.44	0.00	4498.44	0.00	4498.44	0.00	0.00	0.00	13.42	0.00	4500.64	2.20	0.00	7.30	4499.78	1.34	0 03:00	0 00:00	0.00	0.00
335	J0800	1601344.67	7231592.46	4497.46	0.00	-4497.46	4497.46	0.00	0.00	0.00	0.00	0.00	45.64	0.00	4500.64	3.18	0.00	6.32	4499.55	2.09	0 02:59	0 00:00	0.00	0.00
336	J0801	1601289.13	7231591.02	4497.36	0.00	-4497.36	4497.36	0.00	0.00	0.00	0.00	0.00	35.28	0.00	4499.96	2.60	0.00	3.40	4499.08	1.72	0 03:00	0 00:00	0.00	0.00
337	J0804	1607327.35	7228546.44	4556.93	4560.33	3.40	4556.93	0.00	4560.33	0.00	0.00	16.80	3.80	0.00	4557.63	0.70	0.00	2.70	4557.38	0.45	0 00:56	0 00:00	0.00	0.00
338	J0815	1602006.63	7231597.93	4504.14	4504.14	0.00	4504.14	0.00	4504.14	0.00	0.00	0.00	5.78	0.00	4504.49	0.35	0.00	2.15	4504.39	0.25	0 03:00	0 00:00	0.00	0.00
339	J0816	1601963.29	7231596.55	4499.36	0.00	-4499.36	4499.36	0.00	0.00	0.00	0.00	0.00	5.78	0.00	4501.14	1.78	0.00	0.72	4500.46	1.10	0 03:00	0 00:00	0.00	0.00
340	J0817	1601955.02	7231593.93	4499.16	0.00	-4499.16	4499.16	0.00	0.00	0.00	0.00	0.00	24.25	0.00	4500.95	1.79	0.00	2.21	4500.33	1.17	0 03:00	0 00:00	0.00	0.00
341	J0819	1604189.48	7234275.26	4510.00	0.00	-4510.00	4510.00	0.00	0.00	0.00	0.00	0.00	4.35	4.35	4511.00	1.00	0.00	0.00	4510.83	0.83	0 01:10	0 02:25	5.95	109.00
342	J0820	1604190.00	7234306.04	4510.75	0.00	-4510.75	4510.75	0.00	0.00	0.00	0.00	0.00	3.18	0.00	4511.02	1.27	0.00	1.73	4510.93	0.18	0 01:29	0 00:00	0.00	0.00
343	J0821	1603397.44	7234325.08	4506.61	0.00	-4506.61	4506.61	0.00	0.00	0.00	0.00	0.00	4.67	2.97	4507.73	0.27	0.00	0.88	4507.30	0.69	0 02:35	0 00:00	0.00	0.00
344	J0822	1603348.48	7234312.05	4506.50	0.00	-4506.50	4506.50	0.00	0.00	0.00	0.00	0.00	4.60	0.00	4507.25	0.75	0.00	1.25	4506.92	0.42	0 02:38	0 00:00	0.00	0.00
345	J0823	1606366.34	7233821.81	4519.74	0.00	-4519.74	4519.74	0.00	0.00	0.00	0.00	0.00	5.82	0.00	4520.26	0.52	0.00	1.48	4520.02	0.28	0 01:17	0 00:00	0.00	0.00
346	J0827	1608946.81	7234060.75	4531.26	4534.36	3.10	4531.26	0.00	4534.36	0.00	0.00	19.20	0.75	0.00	4531.62	0.36	0.00	2.74	4531.29	0.03	0 00:53	0 00:00	0.00	0.00
347	J0829	1608684.25	7234071.36	4529.02	4532.42	3.40	4529.02	0.00	4532.42	0.00	0.00	20.40	5.40	5.40	4532.42	3.40	0.00	0.00	4529.73	0.71	0 00:49	0 00:49	0.00	0.00
348	J0830	1607508.39	7233702.22	4524.54	4527.74	3.20	4524.54	0.00	4527.74	0.00	0.00	23.40	4.33	0.00	4525.82	1.28	0.00	1.92	4525.20	0.66	0 00:53	0 00:00	0.00	0.00
349	J0831	1609438.21	7234080.76	4534.04	4537.44	3.40	4534.04	0.00	4537.44	0.00	0.00	22.20	0.00	0.00	4534.04	0.00	0.00	3.40	4534.04	0.00	0 00:00	0 00:00	0.00	0.00
350	J0832	1609458.61	7234109.90	4534.10	4537.20	3.10	4534.10	0.00	4537.20	0.00	0.00	22.20	0.00	0.00	4534.10	0								

381	J0889	1596862.35	7230981.05	4491.67	0.00	-4491.67	4491.67	0.00	0.00	0.00	0.00	0.00	27.97	0.00	4494.41	2.74	0.00	6.26	4493.12	1.45	0	03:00	0	00:00	0.00	0.00	
382	J0890	1596852.00	7231602.76	4492.79	0.00	-4492.79	4492.79	0.00	0.00	0.00	0.00	0.00	27.61	0.00	4494.29	1.50	0.00	7.50	4493.50	0.71	0	03:00	0	00:00	0.00	0.00	
383	J0891	1596852.40	7231618.69	4492.23	0.00	-4492.23	4492.23	0.00	0.00	0.00	0.00	0.00	27.28	0.00	4493.53	1.30	0.00	7.70	4492.73	0.50	0	03:00	0	00:00	0.00	0.00	
384	J0895	1610008.40	7223443.33	4576.56	4579.33	2.77	4576.56	0.00	4579.33	0.00	0.00	0.00	3.24	9.62	0.00	4577.11	0.55	0.00	2.22	4576.98	0.42	0	00:59	0	00:00	0.00	0.00
385	J0896	1609607.85	7223426.38	4554.00	4556.55	2.55	4554.00	0.00	4556.55	0.00	0.00	0.00	13.14	7.38	4554.32	0.32	0.00	4.18	4554.26	0.26	0	03:00	0	00:00	0.00	0.00	
386	J0897	1609192.43	7223307.09	4546.99	4550.49	3.50	4546.99	0.00	4550.49	0.00	0.00	0.00	13.13	0.00	4548.37	1.38	0.00	3.12	4548.06	1.07	0	03:00	0	00:00	0.00	0.00	
387	J0905	1610005.21	7219616.26	4625.96	4629.96	4.00	4625.96	0.00	4629.96	0.00	0.00	0.00	30.33	0.00	4627.10	1.14	0.00	2.86	4626.47	0.51	0	00:47	0	00:00	0.00	0.00	
388	J0906	1609210.12	7220318.25	4608.98	4608.98	0.00	4608.98	0.00	4608.98	0.00	0.00	0.00	29.43	4.61	4610.55	1.57	0.00	0.93	4609.83	0.85	0	00:52	0	00:00	0.00	0.00	
389	J0907	1609062.82	7220608.04	4600.57	4606.09	5.52	4600.57	0.00	4606.09	0.00	0.00	0.00	24.53	0.00	4603.26	2.69	0.00	2.83	4601.85	1.28	0	00:53	0	00:00	0.00	0.00	
390	J0908	1609148.33	7220558.05	4603.12	4605.82	2.70	4603.12	0.00	4605.82	0.00	0.00	0.00	7.80	24.69	0.00	4605.40	2.28	0.00	0.42	4603.99	0.87	0	00:53	0	00:00	0.00	0.00
391	J0909	1609048.56	7220589.98	4600.48	4605.99	5.51	4600.48	0.00	4605.99	0.00	0.00	0.00	42.12	24.54	0.00	4601.71	1.23	0.00	4.28	4601.17	0.69	0	00:55	0	00:00	0.00	0.00
392	J0910	1608178.93	7221195.11	4573.13	4575.71	2.58	4573.13	0.00	4575.71	0.00	0.00	0.00	34.15	20.56	4574.25	1.12	0.00	1.88	4573.90	0.77	0	01:27	0	00:00	0.00	0.00	
393	J0911	1605947.94	7221320.69	4544.66	0.00	-4544.66	4544.66	0.00	0.00	0.00	0.00	0.00	33.51	0.00	4547.41	2.75	0.00	0.25	4546.49	1.83	0	01:46	0	00:00	0.00	0.00	
394	J0912	1605857.63	7221315.56	4544.84	0.00	-4544.84	4544.84	0.00	0.00	0.00	0.00	0.00	27.29	0.00	4545.90	1.06	0.00	1.94	4545.50	0.66	0	01:49	0	00:00	0.00	0.00	
395	J0913	1604560.60	7221436.03	4534.21	4540.21	6.00	4534.21	0.00	0.00	-4540.21	0.00	36.00	44.05	17.31	4540.21	6.00	0.00	0.00	4537.92	3.71	0	01:34	0	01:34	17.27	86.00	
396	J0914	1604013.96	7221492.38	4531.88	4531.88	0.00	4531.88	0.00	4531.88	0.00	0.00	0.00	22.56	0.00	4532.74	0.86	0.00	2.14	4532.46	0.58	0	01:52	0	00:00	0.00	0.00	
397	J0915	1603768.81	7221623.41	4528.19	0.00	-4528.19	4528.19	0.00	0.00	0.00	0.00	0.00	24.72	2.83	4529.91	1.72	0.00	1.28	4529.35	1.16	0	01:42	0	00:00	0.00	0.00	
398	J0916	1603744.35	7221647.04	4527.50	4527.50	0.00	4527.50	0.00	4527.50	0.00	0.00	0.00	24.58	0.00	4528.28	0.78	0.00	2.22	4528.02	0.52	0	01:42	0	00:00	0.00	0.00	
399	J0917	1603591.88	7221888.02	4522.53	4522.53	0.00	4522.53	0.00	4522.53	0.00	0.00	0.00	24.58	0.00	4524.42	1.89	0.00	2.11	4523.78	1.25	0	01:45	0	00:00	0.00	0.00	
400	J0918	1603491.23	7221885.85	4522.31	4522.31	0.00	4522.31	0.00	4522.31	0.00	0.00	0.00	24.53	0.00	4523.62	1.31	0.00	2.69	4523.16	0.85	0	01:45	0	00:00	0.00	0.00	
401	J0920	1604707.06	7224820.21	4529.46	4537.41	7.95	4529.46	0.00	4537.41	0.00	0.00	0.00	10.88	0.00	4530.54	1.08	0.00	6.87	4530.19	0.73	0	01:21	0	00:00	0.00	0.00	
402	J0921	1604610.99	7224776.56	4529.20	4536.95	7.75	4529.20	0.00	4536.95	0.00	0.00	0.00	6.80	0.00	4530.23	1.03	0.00	6.72	4529.90	0.70	0	01:23	0	00:00	0.00	0.00	
403	J0922	1604635.07	7223807.33	4527.05	4536.55	9.50	4527.05	0.00	4536.55	0.00	0.00	0.00	13.53	6.82	4528.51	1.46	0.00	8.04	4528.03	0.98	0	01:27	0	00:00	0.00	0.00	
404	J0923	1604754.87	7222815.69	4524.46	4534.86	10.40	4524.46	0.00	4534.86	0.00	0.00	0.00	13.39	0.00	4526.75	2.29	0.00	8.11	4526.10	1.64	0	01:28	0	00:00	0.00	0.00	
405	J0931	1599277.37	7232345.08	4493.36	4498.08	4.72	4493.36	0.00	4498.08	0.00	0.00	0.00	35.12	0.00	4494.17	0.81	0.00	4.19	4493.71	0.35	0	03:00	0	00:00	0.00	0.00	
406	J0938	1596855.18	7232276.21	4491.04	0.00	-4491.04	4491.04	0.00	0.00	0.00	0.00	0.00	26.93	0.00	4493.37	2.33	0.00	6.67	4491.75	0.71	0	03:00	0	00:00	0.00	0.00	
407	J0954	1611478.89	7221294.97	4643.97	4649.82	5.85	4643.97	0.00	4649.82	0.00	0.00	0.00	3.62	0.00	4649.82	5.85	0.00	0.00	4645.61	1.64	0	00:40	0	00:00	0.49	32.00	
408	J0965	1606620.59	7234826.39	4515.56	0.00	-4515.56	4515.56	0.00	0.00	0.00	0.00	0.00	37.59	0.00	4516.91	1.35	0.00	2.15	4516.62	1.06	0	01:11	0	00:00	0.00	0.00	
409	J0966	1610304.49	7223307.54	4585.12	4588.92	3.80	4585.12	0.00	4588.92	0.00	0.00	0.00	9.64	3.93	4586.00	0.88	0.00	2.92	4585.78	0.66	0	00:58	0	00:00	0.00	0.00	
410	J0967	1599569.68	7224825.70	4509.69	4514.64	4.95	4509.69	0.00	4514.64	0.00	0.00	0.00	2.44	2.44	4511.20	1.51	0.00	3.44	4510.96	1.27	0	01:43	0	00:00	0.00	0.00	
411	J0970	1599207.65	7224829.70	4510.15	0.00	-4510.15	4510.15	0.00	0.00	0.00	0.00	0.00	2.42	0.00	4510.59	0.44	0.00	2.56	4510.48	0.33	0	01:47	0	00:00	0.00	0.00	
412	J0980	1604339.28	7228846.65	4516.56	0.00	-4516.56	4516.56	0.00	0.00	0.00	0.00	0.00	6.66	0.00	4517.24	0.68	0.00	3.82	4517.11	0.55	0	00:57	0	00:00	0.00	0.00	
413	J0981	1604122.41	7236997.62	4498.66	4506.66	8.00	0.00	-4498.66	0.00	-4506.66	0.00	0.00	7.48	0.00	4499.47	0.81	0.00	7.19	4499.35	0.69	0	01:10	0	00:00	0.00	0.00	
414	J0986	1616310.91	7225721.80	4671.90	4671.90	0.00	4671.90	0.00	4671.90	0.00	0.00	0.00	17.41	0.00	4665.00	0.70	0.00	6.90	4664.62	0.32	0	00:54	0	00:00	0.00	0.00	
415	J1001	1611291.43	7222685.81	4608.09	4609.68	1.59	4608.09	0.00	4609.68	0.00	0.00	0.00	0.33	0.00	4608.27	0.18	0.00	1.82	4608.11	0.02	0	03:00	0	00:00	0.00	0.00	
416	J1002	1611232.41	7222855.99	4608.60	0.00	-4608.60	4608.60	0.00	0.00	0.00	0.00	0.00	0.00	4608.60	0.00	0.00	1.50	4608.60	0.00	0	00:00	0	00:00	0.00	0.00		
417	J1010	1616704.92	7225069.93	4673.37	4678.47	5.10	4673.37	0.00	4678.47	0.00	0.00	0.00	3.97	0.00	4678.47	5.10	0.00	0.00	4674.56	1.19	0	00:47	0	00:00	0.00	0.00	
418	J1013	1614920.84	7225122.90	4645.37	4657.57	12.20	4645.37	0.00	4657.57	0.00	0.00	0.00	10.44	0.00	4652.59	7.22	0.00	4.98	4646.51	1.14	0	01:19	0	00:00	0.00	0.00	
419	J1017	1605849.30	7227825.95	4538.16	0.00	-4538.16	4538.16	0.00	0.00	0.00	0.00	0.00	4.99	0.00	4540.01	1.85	0.00	1.15	4539.34	1.18	0	00:55	0	00:00	0.00	0.00	
420	J1018	1609890.27	7227459.03	4585.57	4588.82	3.25	4585.57	0.00	4588.82	0.00	0.00	0.00	2.78	0.00	4588.33	2.76	0.00	0.69	4587.92	2.35	0	01:26	0	00:00	0.00	0.00	
421	J1020	1599557.80	7223483.25	4514.05	0.00	-4514.05	4514.05	0.00	0.00	0.00	0.00	0.00	2.67	2.67	4514.97	0.92	0.00	1.08	4514.64	0.59	0	02:35	0	00:00	0.00	0.00	
422	J1021	1598552.95	7223487.31	4512.66	0.00	-4512.66	4512.66	0.00	0.00	0.00	0.00	0.00	2.66	0.00	4513.06	0.40	0.00	2.60	4512.88	0.22	0	02:43	0	00:00	0.00	0.00	
423	J1022	1597868.80	7224172.68	4510.09	0.00	-4510.09	4510.09	0.00	0.00	0.00	0.00	0.00	2.59	0.00	4510.96	0.87	0.00	2.13	4510.46	0.37	0	03:00	0	00:00	0.00	0.00	
424	J1023	1607397.27	7228457.25	4558.00	0.00	-4558.00	4558.00	0.00	0.00	0.00	0.00	0.00	3.80	0.00	4558.62	0.62	0.00	1.38	4558.38	0.38	0	00:51	0	00:00	0.00	0.00	
425	J1030	1617067.90	7229420.75	4734.96	4743.41	8.45	4734.96	0.00	4743.41	0.00	0.00	0.00	21.05	10.99	4735.78	0.82	0.00	7.63	4735.45	0.49	0	00:50	0	00:00	0.00	0.00	
426	J1038	1596524.22	7225527.47	45																							

SN	Element Description ID	From (Inlet) Node	To (Outlet) Node	From (Inlet) Node Invert Elevation (ft)	To (Outlet) Node Invert Elevation (ft)	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (inches)	Rectangular Orifice Height (ft)	Rectangular Orifice Width (ft)	Orifice Invert Elevation (ft)	Orifice Invert Offset (ft)	Orifice Coefficient	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)
1	950 W	950 W	J0330	4527.77	4526.75	BOTTOM	CIRCULAR	NO	8.00			4527.77	0.00	0.6140	2.62	0 01:33
2	Cherrington	Cherrington	J0148	4747.31	4779.25	BOTTOM	CIRCULAR	NO	9.14			0.00	-4747.31	0.6140	12.38	0 00:38
3	Millpond_O	Millpond	J0117	4548.69	4548.80	BOTTOM	CIRCULAR	NO	12.00			0.00	-4548.69	0.6140	5.65	0 03:00
4	Orifice-02	SLD-A-03	J0218	4516.66	4517.25	SIDE	CIRCULAR	NO	15.00			4516.66	0.00	0.9800	8.41	0 01:19
5	Orifice-05	Art_Wing	J0252	4517.17	4522.57	BOTTOM	CIRCULAR	NO	7.00			0.00	-4517.17	0.6140	0.00	0 00:00
6	Storehouse	Storehouse	J0346	4504.69	4501.56	SIDE	RECT_CLOSED	NO		1.46	0.42	4504.69	0.00	0.6260	5.16	0 01:28

SN	Element ID	X Coordinate	Y Coordinate	Description	Invert Elevation	Boundary Type	Flap Gate	Fixed Water Elevation	Peak Inflow	Peak Lateral Inflow	Maximum HGL Depth Attained	Maximum HGL Elevation Attained
					(ft)			(ft)	(cfs)	(cfs)	(ft)	(ft)
1	DC-0	1609263.03	7217954.51		0.00	NORMAL	NO		0.00	0.00	0.00	0.00
2	DC-01	1608681.77	7217284.90		0.00	NORMAL	NO		0.00	0.00	0.00	0.00
3	DC02	1607686.48	7217379.69		0.00	NORMAL	NO		1.97	1.97	0.00	0.00
4	DC03	1606549.01	7216645.07		0.00	NORMAL	NO		2.39	2.39	0.00	0.00
5	DC04	1606359.43	7216337.01		0.00	NORMAL	NO		5.38	5.38	0.00	0.00
6	DC05	1607354.72	7218706.74		0.00	NORMAL	NO		9.67	9.67	0.00	0.00
7	DC06	1604819.10	7218872.62		0.00	NORMAL	NO		30.34	30.34	0.00	0.00
8	DC07	1603657.94	7218683.04		0.00	NORMAL	NO		50.76	50.76	0.00	0.00
9	DC08	1602544.16	7221313.44		0.00	NORMAL	NO		9.02	9.02	0.00	0.00
10	DC09	1599700.49	7221123.86		0.00	NORMAL	NO		4.45	4.45	0.00	0.00
11	DC10	1601738.45	7222048.06		0.00	NORMAL	NO		15.00	0.00	0.00	0.00
12	DC11	1599463.51	7221763.69		0.00	NORMAL	NO		5.95	5.95	0.00	0.00
13	DC-11	1606904.79	7223391.06		0.00	NORMAL	NO		0.21	0.21	0.00	0.00
14	DC12	1593126.92	7228711.45		0.00	NORMAL	NO		1.52	1.52	0.00	0.00
15	HC01	1625101.21	7223119.11		0.00	NORMAL	NO		0.00	0.00	0.00	0.00
16	HC02	1622826.36	7222645.19		0.00	NORMAL	NO		0.00	0.00	0.00	0.00
17	HC03	1619692.89	7222477.21		0.00	NORMAL	NO		3.28	0.00	0.00	0.00
18	HC04	1617440.48	7223916.62		0.00	NORMAL	NO		4.37	0.00	0.00	0.00
19	HC04a	1617036.24	7224183.00		0.00	NORMAL	NO		4.10	4.10	0.00	0.00
20	HC-04b	1616611.18	7224592.31		0.00	NORMAL	NO		7.36	7.36	0.00	0.00
21	HC04c	1615729.59	7224608.06		0.00	NORMAL	NO		11.31	5.92	0.14	0.14
22	HC04d	1615210.08	7223868.15		0.00	NORMAL	NO		4.84	4.84	0.00	0.00
23	HC04e	1615084.14	7224592.31		0.00	NORMAL	NO		4.20	4.20	0.00	0.00
24	HC05	1613535.41	7225915.80		0.00	NORMAL	NO		9.17	9.17	0.00	0.00
25	HC06	1612042.25	7227419.79		0.00	NORMAL	NO		66.56	9.65	0.21	0.21
26	HC06b	1612043.80	7227412.68		0.00	NORMAL	NO		6.58	0.00	0.07	0.07
27	HC-07a	1609638.58	7229462.55		0.00	NORMAL	NO		105.96	0.00	0.28	0.28
28	HC07b	1609496.64	7229616.32		0.00	NORMAL	NO		38.27	0.00	0.18	0.18
29	HC-08	1609147.48	7230157.37		0.00	NORMAL	NO		23.37	23.37	0.00	0.00
30	HC-09	1605518.88	7232646.53		0.00	NORMAL	NO		1.79	1.79	0.00	0.00
31	J0051	1614247.44	7225756.96		4634.71	NORMAL	NO		2.41	0.00	0.00	4634.71
32	J0212	1602556.81	7233896.78		4504.67	NORMAL	NO		4.57	0.00	0.00	4504.67
33	J0780	1606557.69	7236985.18		4501.37	NORMAL	NO		0.00	0.00	0.00	4501.37
34	J0782	1603857.07	7238341.76		4495.59	NORMAL	NO		29.50	28.00	1.44	4497.03
35	J0898	1609071.47	7223260.58		4546.67	NORMAL	NO		13.10	0.00	0.00	4546.67

36	J0919	1603422.04	7221952.39	4522.00	NORMAL	NO	24.53	0.00	1.23	4523.23
37	J0924	1604697.77	7222791.79	4524.99	NORMAL	NO	13.37	0.00	1.03	4526.02
38	J1014	1614799.24	7225103.10	4644.94	NORMAL	NO	10.44	0.00	1.50	4646.44
39	J1076	1593616.55	7233504.83	4489.16	NORMAL	NO	28.62	15.37	0.69	4489.85
40	J1078	1611334.16	7234488.36	4604.42	NORMAL	NO	0.55	0.00	0.00	4604.42
41	J1081	1599652.40	7238210.87	4491.00	NORMAL	NO	13.54	2.76	0.89	4491.89
42	J1089	1596318.86	7224111.50	4505.02	NORMAL	NO	2.39	0.00	0.00	4505.02
43	LD-E08	1597591.43	7235318.55	0.00	NORMAL	NO	0.47	0.47	0.00	0.00
44	Out-78	1611678.47	7227930.65	0.00	NORMAL	NO	6.14	6.14	0.00	0.00
45	Ret02	1620194.73	7224069.44	0.00	NORMAL	NO	4.51	4.51	0.00	0.00
46	Ret03	1621394.18	7225135.62	0.00	NORMAL	NO	10.40	10.40	0.00	0.00
47	SC1	1602144.96	7238637.62	0.00	NORMAL	NO	14.77	14.77	0.00	0.00
48	SC2	1607310.09	7236102.44	0.00	NORMAL	NO	36.06	36.06	0.00	0.00
49	SC3	1609039.70	7235083.63	0.00	NORMAL	NO	8.06	8.06	0.00	0.00
50	SC4	1609632.03	7234917.77	0.00	NORMAL	NO	32.33	32.33	0.00	0.00
51	SC5	1610082.20	7234514.99	0.00	NORMAL	NO	3.56	3.01	0.00	0.00
52	SC6	1608563.58	7236425.20	0.00	NORMAL	NO	63.76	0.00	0.20	0.20
53	Sump_A01	1618875.86	7224313.64	0.00	NORMAL	NO	14.10	14.10	0.00	0.00
54	Sump_A02	1618739.58	7223543.16	0.00	NORMAL	NO	6.87	6.87	0.00	0.00
55	Sump_A03	1618849.65	7222908.95	0.00	NORMAL	NO	6.68	6.68	0.00	0.00
56	sump01	1622726.32	7225055.38	0.00	NORMAL	NO	6.58	6.58	0.00	0.00
57	Sump02	1614788.38	7224670.45	0.00	NORMAL	NO	3.18	3.18	0.00	0.00
58	Sump03	1614344.19	7223977.51	0.00	NORMAL	NO	4.50	4.50	0.00	0.00
59	Sump04	1614077.68	7223533.32	0.00	NORMAL	NO	9.57	9.57	0.00	0.00
60	Sump05	1613473.58	7223408.95	0.00	NORMAL	NO	2.22	2.22	0.00	0.00
61	Sump06	1612375.89	7223440.15	0.00	NORMAL	NO	3.96	3.96	0.00	0.00
62	Sump07	1611714.58	7223391.18	0.00	NORMAL	NO	2.75	2.75	0.00	0.00
63	Sump08	1611326.09	7223947.54	0.00	NORMAL	NO	2.87	2.87	0.00	0.00
64	Sump09	1613499.92	7224981.98	0.00	NORMAL	NO	0.91	0.91	0.00	0.00
65	Sump10	1611933.26	7225461.72	0.00	NORMAL	NO	0.01	0.01	0.00	0.00
66	Sump11	1610543.51	7226198.40	0.00	NORMAL	NO	0.99	0.99	0.00	0.00
67	Sump12	1618777.19	7226067.23	0.00	NORMAL	NO	2.95	2.95	0.00	0.00
68	Sump13	1617058.08	7226680.25	0.00	NORMAL	NO	1.76	1.76	0.00	0.00
69	Sump14	1615059.12	7228505.97	0.00	NORMAL	NO	1.07	1.07	0.00	0.00
70	Sump15	1613634.41	7232508.89	0.00	NORMAL	NO	1.44	1.44	0.00	0.00
71	Sump16	1612251.72	7224136.08	0.00	NORMAL	NO	0.49	0.49	0.00	0.00
72	Sump17	1617595.92	7225108.96	0.00	NORMAL	NO	0.55	0.55	0.00	0.00
73	Sump18	1618102.36	7224842.42	0.00	NORMAL	NO	1.19	1.19	0.00	0.00
74	Sump19	1610077.12	7226371.63	0.00	NORMAL	NO	1.36	1.36	0.00	0.00

SN	Element Description ID	From (Inlet) Node	To (Outlet) Node	From (Inlet) Node Invert Elevation (ft)	To (Outlet) Node Invert Elevation (ft)	Crest Elevation (ft)	Crest Height (ft)	Outlet Type	Outlet Reference	Flap Gate	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)
1	DC-03	DB-DC-03	DC10	0.00	0.00	0.00	0.00	Rating Curve Table	Depth Above Inlet	NO	15.00	0 00:44
2	HC-07	DB-HC-07	HC03	0.00	0.00	0.00	0.00	Rating Curve Table	Depth Above Inlet	NO	3.28	0 00:50
3	HC-N-04	DB-HC-N-04	HC04	0.00	0.00	0.00	0.00	Rating Curve Table	Depth Above Inlet	NO	4.37	0 00:45
4	LSC-A-07	DB-LSC-A-07	SC5	0.00	0.00	0.00	0.00	Rating Curve Table	Depth Above Inlet	NO	3.56	0 00:45
5	LSC-B06	DB-LSC-B-06	J0182	4544.00	4544.19	0.00	-4544.00	Rating Curve Table	Depth Above Inlet	NO	18.77	0 00:36
6	LSC-B-12	DB-LSC-B-12	J0193	4533.00	4533.10	0.00	-4533.00	Rating Curve Table	Depth Above Inlet	NO	15.00	0 00:40
7	Outlet-09	Stor-15	J1082	4662.51	4662.51	0.00	-4662.51	Rating Curve Table	Depth Above Inlet	NO	3.89	0 00:39
8	Outlet-10	Stor-16	J0365	4507.50	4507.82	0.00	-4507.50	Rating Curve Table	Depth Above Inlet	NO	9.00	0 00:35
9	Outlet-11	Stor-17	J0981	4502.60	4498.66	4502.60	0.00	Rating Curve Table	Depth Above Inlet	NO	7.48	0 01:10

SN	Element Description ID	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (inches)	Pipe Width (inches)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	Lengthening Factor	Peak Flow (cfs)	Time of Peak Flow (days hh:mm)	Max Flow Velocity (ft/sec)	Travel Time (min)	Design Flow Capacity (cfs)	Max Flow / Design Flow Ratio	Max Flow Depth / Total Depth / Surcharged Ratio	Total Time Flow Depth (min)	Max Flow Depth (ft)	Reported Condition	
1	201	J0793	J0794	504.55	4531.43	0.19	4531.07	0.00	0.36	0.0700	CIRCULAR	30.00	30.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	3.99	0 01:11	1.51	5.57	10.96	0.36	0.64	0.00	1.60	Calculated	
2	C001 10 X 4 Culvert	H0874	J0931	283.40	4493.02	0.00	4493.36	0.00	-0.34	-0.1200	Rectangular	48.00	120.00	0.0150	0.5000	0.5000	0.0000	0.00	NO	1.00	35.12	0 03:00	2.81	1.68	174.10	0.20	0.31	0.00	1.25	Calculated	
3	C002 36" Box Culvert	H0884	J0885	19.51	4493.15	0.00	4492.95	0.00	0.20	1.0300	CIRCULAR	36.00	36.00	0.0150	0.5000	0.5000	0.0000	0.00	NO	1.00	25.90	0 03:00	6.89	0.05	58.53	0.44	0.71	0.00	2.13	Calculated	
4	C003	H0888	J0889	23.92	4491.67	0.00	4491.67	0.00	0.00	0.0000	CIRCULAR	36.00	36.00	0.0150	0.5000	0.5000	0.0000	0.00	NO	1.00	27.97	0 03:00	4.30	0.09	3.74	7.48	0.96	0.00	2.87	> CAPACITY	
5	C004 4' X 4.2' box Culvert	J0202	J2025	62.48	4519.38	0.00	4518.07	0.00	1.31	2.1000	Rectangular	48.00	50.04	0.0150	0.5000	0.5000	0.0000	0.00	NO	1.00	146.21	0 00:00	16.65	0.06	242.32	0.60	0.89	0.00	1.98	Calculated	
6	HC06a	J0056	HC06	26.20	4604.55	0.00	4604.55	0.00	0.00	1.7574.6200	CIRCULAR	18.00	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	56.96	0 00:48	50.00	0.01	1392.55	0.04	0.06	0.00	0.01	Calculated	
7	HC07_a	J0535	HC07a	77.63	4569.89	0.00	4569.89	0.00	0.00	5886.7600	CIRCULAR	48.00	48.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	105.96	0 00:58	50.00	0.03	11021.06	0.01	0.06	0.00	0.22	Calculated	
8	HC07_b	J0206	HC07b	102.55	4569.05	0.00	4569.05	0.00	0.00	4455.4400	CIRCULAR	48.00	48.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	38.27	0 00:57	50.00	0.03	9588.05	0.00	0.05	0.00	0.18	Calculated	
9	Link-02	J0793	J0794	50.15	4531.24	0.00	4531.43	0.00	-0.19	-0.3800	CIRCULAR	30.00	30.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	5.79	0 01:10	2.21	0.38	25.25	0.23	0.61	0.00	1.51	Calculated	
10	Link-08	HC06b	HC06b	26.29	4604.14	0.00	4604.14	0.00	0.00	17512.8900	CIRCULAR	18.00	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	6.58	0 01:28	50.00	0.01	1390.11	0.00	0.14	0.00	0.21	Calculated	
11	Link-13	J0142	HC04c	484.80	4666.39	0.00	4666.39	0.00	0.00	4666.39	662.5400	CIRCULAR	18.00	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	6.05	0 00:50	50.00	0.16	325.90	0.02	0.10	0.00	0.14	Calculated
12	Link-14	J0610	J0612	1411.48	4497.64	0.00	4495.59	0.00	2.05	0.1500	CIRCULAR	24.00	24.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	7.47	0 01:46	3.02	7.79	8.62	0.87	0.73	0.00	1.47	Calculated	
13	OCF004	J1002	J0672	190.10	4606.60	0.00	4606.35	1.00	2.25	1.1800	CIRCULAR	18.00	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	0.00	0 00:00	0.00	0.00	11.43	0.00	0.00	0.00	0.00	0.00	Calculated
14	OCF012	J0488	J0729	351.28	4582.20	0.00	4579.08	0.00	3.12	0.8900	CIRCULAR	18.00	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	2.57	0 00:57	4.63	1.26	9.90	0.26	0.39	0.00	0.58	Calculated	
15	OCF013	J0495	J0720	421.96	4577.95	0.00	4573.89	0.00	4.06	0.9600	CIRCULAR	18.00	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	2.56	0 01:23	4.22	1.67	10.30	0.25	0.46	0.00	0.69	Calculated	
16	OCF014	J0481	J0731	402.83	4596.53	0.00	4594.73	0.00	1.80	0.4500	CIRCULAR	18.00	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	4.24	0 00:50	3.97	1.69	7.02	0.60	0.73	0.00	1.05	Calculated	
17	OCF015	J0504	J0505	419.97	4592.59	0.00	4588.80	0.00	3.79	0.9000	CIRCULAR	18.00	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	10.61	0 00:48	6.00	1.17	9.98	1.06	1.00	20.00	15.00	SURCHARGED	
18	OCF017	J0515	J1079	417.28	4576.17	0.00	4574.59	0.00	1.58	0.3800	CIRCULAR	18.00	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	0.72	0 01:23	2.47	2.82	6.46	0.11	0.22	0.00	0.33	Calculated	
19	OCF019	J0521	J0525	477.65	4570.42	0.00	4566.66	0.00	3.76	0.7900	CIRCULAR	18.00	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	3.25	0 00:48	5.49	1.45	9.32	0.35	0.37	0.00	0.56	Calculated	
20	OCF021	J0525	J0174	910.09	4566.66	0.00	4547.44	0.00	19.22	2.1100	CIRCULAR	18.00	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	3.24	0 01:52	2.63	5.77	15.27	0.21	0.66	0.00	0.98	Calculated	
21	OCF029	J0736	J0737	345.06	4555.26	0.00	4549.88	0.00	5.38	1.5600	CIRCULAR	18.00	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	3.88	0 01:25	5.46	1.05	13.12	0.26	0.45	0.00	0.67	Calculated	
22	OCF040	J0527	J0528	437.62	4573.62	0.00	4566.83	0.00	6.79	1.5500	CIRCULAR	18.00	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	0.72	0 01:24	1.78	4.10	13.08	0.05	0.47	0.00	0.70	Calculated	
23	OCF072	J0271	J0817	6.96	4500.49	0.00	4499.16	0.00	1.33	19.1100	CIRCULAR	18.00	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	18.47	0 03:00	10.45	0.01	45.92	0.40	1.00	50.00	15.00	SURCHARGED	
24	OCF073	J0816	J0817	8.68	4499.36	0.00	4499.16	0.00	0.20	2.3000	CIRCULAR	18.00	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	5.77	0 03:00	3.27	0.04	15.94	0.36	1.00	51.00	15.00	SURCHARGED	
25	OCF087	J0454	J0859	309.46	4500.46	0.00	4499.69	0.00	0.77	0.2500	CIRCULAR	18.00	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	11.76	0 01:39	6.65	0.78	5.24	2.24	1.00	98.00	15.00	SURCHARGED	
26	OCF088	J0340	J0346	211.69	4502.48	0.00	4501.56	0.00	0.92	0.4300	CIRCULAR	18.00	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	6.65	0 01:44	6.55	0.54	6.92	1.25	1.00	120.00	15.00	SURCHARGED	
27	OCF089	J0345	J0346	163.35	4503.00	0.00	4501.56	0.00	1.44	0.8800	CIRCULAR	18.00	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	5.92	0 01:18	3.35	0.81	9.86	0.60	1.00	106.00	15.00	SURCHARGED	
28	OCF090	J0358	J0345	118.65	4502.40	0.00	4503.00	0.00	-0.60	-0.5100	CIRCULAR	18.00	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	7.57	0 01:35	4.28	0.46	7.47	1.01	1.00	106.00	15.00	SURCHARGED	
29	OCF091	J0362	J0345	121.54	4502.39	0.00	4503.00	0.00	-0.61	-0.5000	CIRCULAR	18.00	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	4.67	0 01:38	2.64	0.77	7.44	0.63	1.00	106.00	15.00	SURCHARGED	
30	OCF095	J0870	J0871	3138.70	4509.19	0.00	4500.56	0.00	8.63	0.2700	CIRCULAR	18.00	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	2.15	0 02:00	2.50	20.52	5.51	0.39	0.17	0.00	0.07	Calculated	
31	OCF144	J1001	J0672	152.24	4608.09	0.00	4606.35	1.00	1.74	1.1400	CIRCULAR	18.00	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	0.33	0 03:00	2.80	0.91	11.23	0.03	0.12	0.00	0.18	Calculated	
32	OCF-182	J0119	Millpond	180.71	4549.49	0.00	4548.69	0.00	0.80	0.4400	CIRCULAR	18.00	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	8.58	0 00:45	5.13	0.59	6.99	1.23	1.00	132.00	15.00	SURCHARGED	
33	P0009	J0035	J0035	607.45	4789.51	0.00	4778.11	10.06	11.40	1.8800	CIRCULAR	15.00	15.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	7.58	0 00:50	7.92	1.28	8.85	0.86	0.73	0.00	0.91	Calculated	
34	P0010	J0001	J0002	41.82	4733.53	0.00	4733.31	0.00	0.22	0.5300	CIRCULAR	24.00	24.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	13.93	0 00:50	5.21	0.13	16.41	0.85	0.79	0.00	1.59	Calculated	
35	P0011	J0002	J0003	1151.98	4733.31	0.00	4718.40	0.06	14.91	1.2900	CIRCULAR	24.00	24.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	13.71	0 00:50	8.05	2.39	25.74	0.53	0.54	0.00	1.04	Calculated	
36	P0012	J0003	J0011	2029.72	4718.34	0.00	4704.84	0.00	13.50	0.6700	CIRCULAR	24.00	24.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	12.46	0 00:53	6.07	5.57	18.45	0.68	0.63	0.00	1.27	Calculated	
37	P0015	J0018	J0006	1738.54	4702.08	0.00	4680.20	0.00	21.88	1.2600	CIRCULAR	24.00	24.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	15.07	0 00:56	8.29	3.50	25.38	0.59	0.57	0.00	1.12	Calculated	
38	P0020	J0141	J0142	289.38	4678.40	3.06	4666.39	0.00	12.01	4.1500	CIRCULAR	15.00	15.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	6.05	0 00:50	10.17	0.47	13.16	0.46	0.49	0.00	0.61	Calculated	
39	P0029	J0033	J0029	3234.51	4653.84	0.00	4610.66	0.04	43.18	1.3300	CIRCULAR	18.00	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	0.96	0 01:46	4.10	13.15	12.14	0.08	0.19	0.00	0.29	Calculated	
40	P0036	J0685	J0687	317.46	4640.02	0.00																									

82	P0108	J0079	J0078	1739.62	4705.81	0.00	4674.54	0.10	31.27	1.8000	CIRCULAR	30.000	30.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	16.13	0 0051	9.63	3.01	54.99	0.29	0.37	0.00	0.92	Calculated
83	P0109	J0078	J0077	277.16	4674.44	0.00	4669.38	0.05	5.06	1.8300	CIRCULAR	30.000	30.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	21.10	0 0102	6.00	0.77	55.42	0.38	0.71	0.00	1.77	Calculated
84	P0110	J0075	J0076	1514.99	4698.55	0.00	4673.79	4.90	24.76	1.6300	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	19.15	0 0059	9.70	2.60	28.92	0.66	0.60	0.00	1.20	Calculated
85	P0111	J0135	J0076	50.53	4673.25	0.00	4672.99	4.10	0.26	0.5100	CIRCULAR	15.000	15.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	0.00	0 0000	0.00	0.00	4.63	0.00	0.00	0.00	0.00	Calculated
86	P0112	J0077	J0076	23.05	4669.43	0.10	4668.89	0.00	0.54	2.3400	CIRCULAR	30.000	30.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	46.19	0 0050	10.74	0.04	62.78	0.74	0.82	0.00	2.05	Calculated
87	P0113	J0090	J0091	380.70	4743.29	0.00	4716.26	0.45	27.03	7.1000	CIRCULAR	15.000	15.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	11.04	0 0105	14.44	0.44	17.21	0.64	0.60	0.00	0.75	Calculated
88	P0114	J0091	J0092	212.84	4715.81	0.00	4706.25	0.00	9.56	4.4900	CIRCULAR	15.000	15.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	11.04	0 0105	11.67	0.30	13.69	0.81	0.72	0.00	0.90	Calculated
89	P0115	J0092	J0092	615.86	4706.25	0.00	4676.84	2.40	29.41	4.7800	CIRCULAR	15.000	15.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	11.03	0 0105	12.45	0.82	14.12	0.78	0.68	0.00	0.85	Calculated
90	P0116	J0090	J0094	1452.73	4743.34	0.05	4741.46	0.00	1.88	0.1300	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	1.26	0 0105	2.00	12.11	3.78	0.33	0.39	0.00	0.58	Calculated
91	P0117	J1030	J0077	932.34	4734.96	0.00	4669.33	0.00	65.63	7.0400	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	62.01	0 0050	9.42	1.65	60.02	0.35	0.70	0.00	1.41	Calculated
92	P0118	J0076	J0133	1633.35	4668.89	0.00	4600.89	0.67	68.00	4.1600	CIRCULAR	30.000	30.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	21.09	0 0053	14.40	1.89	83.69	0.74	0.82	0.00	2.05	Calculated
93	P0119	J0133	J0132	31.31	4600.22	0.00	4599.85	0.00	0.37	1.1800	CIRCULAR	30.000	30.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	52.53	0 0105	10.83	0.05	44.59	1.18	1.00	17.00	2.50	SURCHARGED
94	P0120	J0132	J0136	261.40	4599.85	0.00	4592.09	0.00	7.76	2.9700	CIRCULAR	30.000	30.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	62.14	0 0048	13.58	0.32	70.67	0.88	1.00	15.00	2.50	SURCHARGED
95	P0123	J0136	J0138	2617.51	4592.09	0.00	4582.36	0.30	9.73	0.3700	CIRCULAR	48.000	48.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	70.01	0 0057	7.76	5.62	87.58	0.80	0.67	0.00	2.69	Calculated
96	P0124	J0046	J0048	715.94	4714.07	0.00	4668.19	0.29	45.88	6.4100	CIRCULAR	15.000	15.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	15.07	0 0046	14.79	0.81	16.35	0.92	0.77	0.00	0.93	Calculated
97	P0125	J0049	J0050	872.18	4642.27	0.00	4637.13	0.00	5.14	0.5900	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	2.41	0 0056	3.94	3.69	8.06	0.30	0.38	0.00	0.56	Calculated
98	P0126	J0052	J0053	1117.61	4637.22	0.00	4624.57	0.00	12.65	1.1300	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	11.44	0 0101	6.25	2.98	24.07	0.48	0.57	0.00	1.14	Calculated
99	P0127	J0053	J0054	1442.08	4628.57	0.00	4611.48	0.70	13.02	0.9100	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	16.59	0 0058	5.96	4.03	21.55	0.77	0.83	0.00	1.66	Calculated
100	P0128	J0071	J0061	762.26	4628.08	0.00	4607.72	0.00	20.36	2.6700	CIRCULAR	30.000	30.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	0.00	0 0000	0.00	0.00	67.04	0.00	0.43	0.00	1.03	Calculated
101	P0129	J0061	J0060	6.91	4607.72	0.00	4607.55	0.00	0.17	2.4600	CIRCULAR	30.000	30.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	3.82	0 0039	2.37	0.05	64.34	0.06	0.90	0.00	2.16	Calculated
102	P0131	J0060	J0059	427.18	4607.65	0.10	4606.90	0.00	0.75	0.1800	CIRCULAR	30.000	30.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	17.88	0 0046	5.09	1.40	17.19	1.04	0.81	0.00	1.92	> CAPACITY
103	P0132	J0059	J0057	873.61	4606.90	0.00	4604.48	0.10	2.42	0.2800	CIRCULAR	30.000	30.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	17.18	0 0048	4.87	2.99	21.59	0.80	0.68	0.00	1.69	Calculated
104	P0133	J0057	HC-06b	40.29	4604.38	0.00	4604.14	0.00	0.24	0.6000	CIRCULAR	30.000	30.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	17.05	0 0049	5.52	0.12	31.66	0.54	0.60	0.00	1.50	Calculated
105	P0134	J0723	J0055	342.42	4610.77	0.00	4606.18	0.05	4.59	1.3400	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	11.60	0 0048	6.65	0.86	12.16	0.95	1.00	35.00	1.50	SURCHARGED
106	P0152	J0639	J0640	19.81	4611.27	0.00	4611.18	0.00	0.09	0.4500	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	3.45	0 0106	3.54	0.09	7.08	0.49	0.55	0.00	0.83	Calculated
107	P0153	J0640	J0642	1615.63	4611.38	0.20	4590.63	0.00	20.75	1.2800	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	3.33	0 0109	3.25	8.29	11.90	0.28	0.62	0.00	0.93	Calculated
108	P0154	J0642	J0021	198.34	4590.77	0.14	4589.31	0.05	1.46	0.7400	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	7.54	0 0119	5.31	0.62	9.01	0.84	0.75	0.00	1.12	Calculated
109	P0155	J0021	J0020	91.96	4589.26	0.00	4583.89	0.00	5.37	5.8400	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	7.54	0 0119	7.44	0.21	25.38	0.30	0.56	0.00	0.84	Calculated
110	P0156	J0027	J0020	1940.29	4609.45	0.00	4583.89	0.00	25.56	1.3200	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	10.80	0 0048	7.43	4.35	25.96	0.42	0.54	0.00	1.06	Calculated
111	P0157	J0633	J0634	634.26	4633.75	0.00	4624.50	0.64	9.25	1.4600	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	3.20	0 0049	5.90	1.79	12.69	0.25	0.35	0.00	0.52	Calculated
112	P0158	J0678	J0677	330.39	4620.29	0.00	4613.82	1.02	6.47	1.9600	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	1.95	0 0042	5.68	0.97	14.70	0.13	0.25	0.00	0.37	Calculated
113	P0159 12" squash	J0636	J0645	1813.07	4614.91	0.00	4597.38	0.00	17.53	0.9700	CIRCULAR	9.960	9.960	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	1.20	0 0053	2.67	11.32	2.15	0.56	0.77	0.00	0.64	Calculated
114	P0161	J0645	J0642	725.06	4597.38	0.00	4590.63	0.00	6.75	0.9300	CIRCULAR	9.960	9.960	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	3.30	0 0059	4.34	2.78	2.11	1.09	1.00	12.00	0.83	SURCHARGED
115	P0162	J0054	J0723	66.05	4610.78	0.00	4610.77	0.00	0.01	0.0200	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	14.42	0 0048	8.21	0.13	1.29	11.16	1.00	35.00	1.50	SURCHARGED
116	P0166	J0474	J0482	481.38	4601.77	3.86	4597.29	0.05	4.48	0.9300	CIRCULAR	15.000	15.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	2.80	0 0050	4.20	1.91	6.23	0.45	0.65	0.00	0.79	Calculated
117	P0170	J0474	J0480	489.35	4601.82	3.91	4597.91	0.00	3.91	0.8000	CIRCULAR	15.000	15.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	2.21	0 0050	3.14	2.60	5.77	0.38	0.71	0.00	0.89	Calculated
118	P0171	J0480	J0483	453.79	4599.01	1.10	4593.60	0.33	5.41	1.1900	CIRCULAR	15.000	15.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	2.17	0 0050	2.40	3.15	7.05	0.31	0.69	0.00	0.86	Calculated
119	P0172	J0483	J0484	65.32	4593.27	0.00	4592.91	0.00	0.36	0.5500	CIRCULAR	15.000	15.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	4.56	0 0050	3.72	0.29	4.80	0.95	1.00	137.00	1.25	SURCHARGED
120	P0173	J0484	J0726	28.69	4593.26	0.35	4594.49	0.00	-1.23	-4.2900	CIRCULAR	15.000	15.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	2.61	0 0047	3.03	0.16	13.38	0.19	0.72	0.00	0.90	Calculated
121	P0174	J0727	J0487	58.68	4586.77	0.00	4584.11	0.00	2.66	4.5300	CIRCULAR	15.000	15.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	2.65	0 0052	3.89	0.25	13.75	0.19	1.00	128.00	1.25	SURCHARGED
122	P0175	J0487	J0728	25.09	4586.66	2.55	4586.37	0.14	0.29	1.1600	CIRCULAR	15.000	15.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	2.77	0 0052	4.02	0.10	6.94	0.40	1.			

254	P0480	J0596	J0324	25.53	4553.27	0.00	4552.01	0.00	1.26	4.9400	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	3.42	0 00:56	5.96	0.07	50.26	0.07	0.25	0.00	0.50	Calculated	
255	P0481	J1094	J0595	309.19	4552.50	0.00	4551.59	0.00	0.91	0.2900	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	0.04	0 00:59	1.02	5.05	12.27	0.00	0.04	0.00	0.07	Calculated	
256	P0482	J0324	J0323	613.55	4552.01	0.00	4547.93	0.00	4.08	0.6600	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	3.29	0 00:59	4.37	2.34	18.45	0.18	0.29	0.00	0.58	Calculated	
257	P0483	J0595	J0594	1110.14	4551.59	0.00	4544.51	0.01	7.08	0.6400	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	0.01	0 01:07	0.00	18.07	0.00	0.00	0.51	0.00	1.01	Calculated	
258	P0484	J0594	J1073	2909.29	4544.41	-0.09	4522.74	0.00	21.67	0.7400	CIRCULAR	15.000	15.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	6.21	0 01:04	6.23	7.78	5.59	1.11	1.00	114.00	1.25	SURCHARGED	
259	P0504	J0218	J0217	96.93	4517.30	0.05	4515.53	0.00	1.77	1.8300	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	8.38	0 01:19	5.48	0.29	14.19	0.59	1.00	129.00	1.50	SURCHARGED	
260	P0505	J0217	J0215	205.72	4515.53	0.00	4514.58	0.00	0.95	0.4600	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	8.38	0 01:19	4.74	0.72	7.14	1.17	1.00	136.00	1.50	SURCHARGED	
261	P0506	J0216	J0268	562.18	4514.11	0.00	4511.88	0.10	2.23	0.4000	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	8.38	0 01:20	4.71	1.99	14.25	0.59	0.55	0.00	1.10	Calculated	
262	P0507	J0268	J0269	2103.50	4511.78	0.00	4503.10	0.10	8.68	0.4100	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	8.38	0 01:08	4.72	7.43	14.53	0.58	0.77	0.00	1.54	Calculated	
263	P0508	J0269	J0270	737.83	4503.00	0.00	4500.78	0.25	2.22	0.3000	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	14.98	0 03:00	4.77	2.58	12.41	1.21	1.00	29.00	2.00	SURCHARGED	
264	P0513	J0233	J0216	1013.16	4519.52	0.00	4514.31	0.20	5.21	0.5100	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	0.00	0 00:00	0.00	7.53	0.00	0.00	0.33	0.00	0.49	Calculated	
265	P0518	J0597	J0599	1625.51	4510.11	0.00	4505.21	0.00	4.90	0.3000	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	5.78	0 03:00	3.82	7.09	5.77	1.00	0.81	0.00	1.21	> CAPACITY	
266	P0520	J0815	J0816	43.36	4504.14	0.00	4499.36	0.00	4.78	11.0200	CIRCULAR	30.000	30.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	5.78	0 03:00	3.76	0.19	136.19	0.04	0.43	0.00	1.06	Calculated	
267	P0523	J0819	J0820	30.78	4510.00	0.00	4510.75	0.00	-0.75	-2.4400	CIRCULAR	12.000	12.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	0.87	0 01:29	1.67	0.31	5.56	0.16	0.63	0.00	0.63	Calculated	
268	P0524	J0821	J0822	50.66	4506.61	0.00	4506.50	0.00	0.11	0.2200	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	4.60	0 02:33	5.51	0.15	4.89	0.94	0.62	0.00	0.93	Calculated	
269	P0534	J0198	J0197	14.20	4520.51	0.00	4520.42	0.00	0.09	0.6300	CIRCULAR	36.000	36.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	89.85	0 00:00	12.71	0.02	53.10	1.69	1.00	34.00	3.00	SURCHARGED	
270	P0535	J0197	J0203	433.00	4520.42	0.00	4520.06	0.00	0.36	0.0800	CIRCULAR	36.000	36.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	32.53	0 00:45	4.60	1.57	19.23	1.69	1.00	17.00	3.00	SURCHARGED	
271	P0536	J0203	J0144	296.93	4520.06	0.00	4519.64	0.00	0.42	0.1400	CIRCULAR	36.000	36.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	45.23	0 00:45	6.96	0.71	25.08	1.80	1.00	0.00	2.59	SURCHARGED	
272	P0537	J0209	J0823	716.93	4521.48	0.00	4519.74	0.00	1.74	0.2400	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	5.82	0 00:57	5.74	2.08	11.14	0.52	0.38	0.00	0.71	Calculated	
273	P0538	J0178	J0179	97.97	4521.20	0.00	4522.59	0.00	-1.39	-1.4200	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	3.20	0 02:18	2.53	0.65	12.51	0.26	0.73	0.00	1.09	Calculated	
274	P0539	J0207	J0209	576.40	4523.10	0.00	4521.48	0.00	1.62	0.2800	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	3.96	0 00:56	3.52	2.73	5.57	0.71	0.80	0.00	1.15	Calculated	
275	P0540	J0208	J0207	152.63	4524.21	0.00	4523.10	0.00	1.11	0.7300	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	3.98	0 00:54	3.92	0.65	8.97	0.44	0.56	0.00	0.84	Calculated	
276	P0541	J0832	J0831	35.58	4534.10	0.00	4534.04	0.00	0.06	0.1700	CIRCULAR	15.000	15.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	0.00	0 00:00	0.00	2.65	0.00	0.00	0.00	0.00	0.00	0.00	Calculated
277	P0542 GRADE BUST	J0831	J0827	546.77	4534.34	0.30	4531.26	0.00	3.08	0.5600	CIRCULAR	15.000	15.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	0.00	0 00:00	0.00	4.85	0.00	0.00	0.14	0.00	0.17	Calculated	
278	P0543	J0827	J0829	263.52	4531.26	0.00	4529.22	0.20	2.04	0.7700	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	0.75	0 00:49	0.68	6.46	9.24	0.08	0.62	0.00	0.92	Calculated	
279	P0545	J0829	J0830	1483.10	4529.02	0.00	4524.54	0.00	4.48	0.3000	CIRCULAR	15.000	15.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	4.33	0 00:50	3.75	6.59	3.55	1.22	1.00	4.00	1.25	SURCHARGED	
280	P0546	J0830	J0208	120.71	4524.54	0.00	4524.21	0.00	0.33	0.2700	CIRCULAR	15.000	15.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	3.98	0 00:53	3.80	0.53	3.37	1.18	0.80	0.00	1.00	> CAPACITY	
281	P0550	J0834	J0186	145.33	4535.41	0.00	4533.67	0.00	1.74	1.2000	CIRCULAR	36.000	36.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	32.96	0 00:01	8.81	0.27	72.98	0.45	0.53	0.00	1.50	Calculated	
282	P0551	J0836	J0837	48.70	4540.80	0.00	4540.60	0.00	0.20	0.4100	CIRCULAR	36.000	36.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	23.86	0 00:51	5.37	0.15	42.74	0.56	0.60	0.00	1.79	Calculated	
283	P0554	J0182	J0183	85.38	4544.19	0.00	4543.62	0.00	0.57	0.6700	CIRCULAR	30.000	30.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	24.82	0 00:49	9.24	0.15	33.51	0.72	0.53	0.00	1.31	Calculated	
284	P0555	J0181	J0182	1201.37	4547.61	0.00	4544.19	0.00	3.42	0.2800	CIRCULAR	30.000	30.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	9.04	0 00:48	3.67	5.46	21.88	0.41	0.61	0.00	1.51	Calculated	
285	P0556	J0117	J0181	303.02	4548.80	0.00	4547.61	0.00	1.19	0.3900	CIRCULAR	30.000	30.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	5.65	0 03:00	3.70	1.36	25.70	0.22	0.35	0.00	0.87	Calculated	
286	P0558	J0841	J0842	16.52	4582.46	0.00	4577.08	0.00	5.38	32.5700	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	4.40	0 00:40	17.52	0.02	59.95	0.07	0.20	0.00	0.30	Calculated	
287	P0560	J0840	J0841	422.47	4625.02	0.00	4582.46	0.00	42.56	10.0700	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	0.00	0 00:00	0.00	33.34	0.00	0.00	0.15	0.00	0.22	Calculated	
288	P0561	J0602	J0603	163.21	4496.48	0.00	4496.19	0.00	0.29	0.1800	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	15.24	0 01:00	8.62	0.32	4.43	3.44	1.00	33.00	1.50	SURCHARGED	
289	P0562	J0603	J0604	381.42	4496.19	0.00	4495.52	0.25	0.67	0.1800	CIRCULAR	30.000	30.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	15.05	0 01:01	4.46	1.43	17.19	0.88	0.65	0.00	1.62	Calculated	
290	P0563	J0845	J0606	107.93	4495.74	0.00	4493.78	0.00	1.96	1.8200	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	8.90	0 01:35	5.34	0.34	12.27	0.73	0.89	0.00	1.34	Calculated	
291	P0565	J0606	J0846	19.80	4494.38	0.60	4494.78	0.00	0.60	0.3000	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	8.90	0 01:36	8.78	0.04	18.29	0.49	0.56	0.00	0.84	Calculated	
292	P0589	J0856	J0857	806.98	4514.96	0.00	4509.70	0.00	5.26	0.6500	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	0.00	0 03:00	0.00	18.26	0.00	0.29	0.00	0.59	0.00	0.59	Calculated
293	P0590	J0857	J0362	1924.89	4509.70	0.00	4502.40	0.01	7.30	0.3800	CIRCULAR	36.000	36.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	13.38	0 01:18	4.15	7.73	41.07	0.33	0.70	0.00	2.09	Calculated	
294	P0594	J0341	J0339	86.46	4503.11	0.00	4503.15	0.00	-0.04	-0.0500	CIRCULAR	36.000	36.000	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	8.66										

340	P0741	J0701	J0702	975.46	4561.61	0.23	4555.11	0.00	6.50	0.6700	CIRCULAR	36.000	36.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	13.09	0 00:58	8.72	1.86	54.45	0.24	0.28	0.00	0.83	Calculated	
341	P0742	J0920	J0921	105.53	4529.46	0.00	4529.20	0.00	0.26	0.2500	CIRCULAR	36.000	36.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	6.80	0 01:19	3.77	0.47	33.11	0.21	0.35	0.00	1.05	Calculated	
342	P0743	J0921	J0922	978.91	4529.20	0.00	4527.74	0.69	1.46	0.1500	CIRCULAR	48.000	48.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	6.71	0 01:24	3.20	5.10	55.47	0.12	0.22	0.00	0.90	Calculated	
343	P0744	J0922	J0923	1008.97	4527.05	0.00	4524.46	0.00	2.59	0.2600	CIRCULAR	30.000	30.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	13.39	0 01:27	3.39	4.96	20.78	0.64	0.75	0.00	1.87	Calculated	
344	P0745	J0923	J0924	61.90	4524.22	-0.24	4524.99	0.00	-0.77	-1.2400	CIRCULAR	30.000	30.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	13.37	0 01:28	3.87	0.27	37.95	0.35	0.66	0.00	1.66	Calculated	
345	P0765	DB-DC-D-06	J0905	283.78	4635.24	0.00	4625.96	0.00	9.28	3.2700	CIRCULAR	48.000	48.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	30.33	0 00:46	11.73	0.40	259.76	0.12	0.26	0.00	1.01	Calculated	
346	P0766	J0709	J0713	1089.58	4665.91	0.00	4647.64	0.75	18.27	1.6800	CIRCULAR	12.000	12.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	5.29	0 00:46	6.82	2.66	4.61	1.15	0.96	0.00	0.96	> CAPACITY	
347	P0767	J0954	J0673	546.05	4643.97	0.00	4632.39	0.00	11.58	2.1200	CIRCULAR	8.040	8.04	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	2.12	0 00:47	6.12	1.49	1.76	1.20	0.97	0.00	0.65	> CAPACITY	
348	P0770	J0671	J1002	125.75	4611.68	4.28	4608.60	0.00	3.08	2.4500	CIRCULAR	18.000	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	0.00	0 00:00	0.00	0.00	16.44	0.00	0.00	0.00	0.00	Calculated	
349	P0780	J0967	J0970	362.06	4510.20	0.51	4510.20	0.05	0.00	0.0000	CIRCULAR	30.000	30.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	2.42	0 01:43	1.93	3.13	0.68	3.55	0.30	0.00	0.75	> CAPACITY	
350	P0792	J0287	J0288	43.76	4515.89	0.00	4514.92	0.00	0.97	2.2200	CIRCULAR	18.000	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	6.48	0 01:00	7.08	0.10	15.64	0.41	0.51	0.00	0.77	> CAPACITY	
351	P0793	J0338	J0287	415.86	4513.68	0.00	4515.89	0.00	-2.21	-0.5300	CIRCULAR	36.000	36.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	6.83	0 00:57	1.46	4.75	48.62	0.14	0.64	0.00	1.93	Calculated	
352	P0795	J0980	J0338	328.09	4516.56	0.00	4513.68	0.00	2.88	0.8800	CIRCULAR	32.040	32.04	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	6.60	0 00:57	3.36	1.63	45.65	0.14	0.63	0.00	1.67	Calculated	
353	P0797	J0981	J0610	136.76	4498.66	0.00	4497.64	0.00	1.02	0.7500	CIRCULAR	30.000	30.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	7.49	0 01:11	3.75	0.61	35.42	0.21	0.46	0.00	1.14	Calculated	
354	P0798	J0193	J0192	318.29	4533.10	0.00	4529.81	0.00	3.29	1.0300	CIRCULAR	18.000	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	13.11	0 00:41	7.46	0.71	10.68	1.23	1.00	13.00	13.00	1.50	SURCHARGED
355	P0799	J0192	J0198	955.03	4529.81	0.00	4522.76	2.25	7.05	0.7400	CIRCULAR	18.000	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	10.50	0 00:44	6.07	2.62	9.03	1.16	1.00	15.00	15.00	1.50	SURCHARGED
356	P0806	J0448	J0986	117.05	4667.90	0.00	4664.30	0.00	3.60	3.0700	CIRCULAR	24.000	24.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	17.41	0 00:47	10.78	0.18	39.66	0.44	0.51	0.00	1.00	Calculated	
357	P0809	J1082	J0954	212.68	4662.51	0.00	4644.52	0.55	17.99	8.4600	CIRCULAR	8.040	8.04	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	3.62	0 00:40	11.00	0.32	3.51	1.03	1.00	24.00	0.67	SURCHARGED	
358	P0811	J0791	J0792	112.89	4538.01	0.00	4537.63	0.00	0.38	0.3400	CIRCULAR	48.000	48.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	21.00	0 00:55	3.18	0.59	83.34	0.25	0.52	0.00	2.07	Calculated	
359	P0816	J0907	J0909	23.01	4600.57	0.00	4600.48	0.00	0.09	0.3900	CIRCULAR	24.000	24.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	24.54	0 00:53	9.05	0.04	14.15	1.73	0.81	0.00	1.62	> CAPACITY	
360	P0819	J0674	J0672	688.22	4610.69	0.00	4605.35	0.00	5.34	0.7800	CIRCULAR	18.000	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	9.31	0 00:54	5.84	1.96	9.25	1.01	0.85	0.00	1.28	> CAPACITY	
361	P0825	J0670	J0101	117.94	4610.49	0.00	4608.09	0.00	2.40	2.0300	CIRCULAR	24.000	24.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	0.33	0 03:00	3.07	0.64	32.27	0.01	0.08	0.00	1.16	Calculated	
362	P0828	J0011	J0018	567.23	4704.90	0.06	4702.15	0.07	2.75	0.4800	CIRCULAR	24.000	24.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	11.02	0 00:56	5.32	1.78	15.75	0.70	0.63	0.00	1.23	Calculated	
363	P0834	J0006	J0005	4.64	4680.20	0.00	4680.34	0.20	-0.14	-0.0200	CIRCULAR	15.000	15.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	3.97	0 00:59	4.48	0.02	11.22	0.35	0.68	0.00	0.85	Calculated	
364	P0835	J0005	J1010	196.83	4680.18	0.04	4673.67	0.30	6.51	3.3100	CIRCULAR	15.000	15.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	3.97	0 00:59	4.33	0.76	11.75	0.34	0.70	0.00	0.88	Calculated	
365	P0839	J0050	J0051	46.85	4637.13	0.00	4634.71	0.00	2.42	5.1700	CIRCULAR	18.000	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	2.41	0 00:56	7.88	0.10	23.87	0.10	0.23	0.00	0.34	Calculated	
366	P0840	J1013	J1014	123.20	4645.37	0.00	4644.94	0.00	0.43	0.3500	CIRCULAR	18.000	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	10.44	0 01:00	5.91	0.35	6.21	1.68	1.00	29.00	1.50	SURCHARGED	
367	P0841	J0019	J1013	291.58	4657.61	0.00	4645.37	0.00	12.24	4.2000	CIRCULAR	18.000	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	10.44	0 01:00	7.39	0.66	21.52	0.48	0.75	0.00	1.12	Calculated	
368	P0842	J0442	J0864	285.83	4499.72	0.00	4496.83	0.00	2.89	1.0100	CIRCULAR	42.000	42.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	11.73	0 01:42	3.62	1.32	101.17	0.12	0.42	0.00	1.44	Calculated	
369	P0844	J0790	J0107	634.82	4538.18	0.00	4538.16	0.00	0.02	0.0000	CIRCULAR	24.000	24.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	4.37	0 01:09	1.57	6.74	1.27	3.44	0.96	0.00	1.90	> CAPACITY	
370	P0847	J1020	J1021	1004.86	4514.05	0.00	4512.66	0.00	1.39	0.1400	CIRCULAR	24.000	24.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	2.66	0 02:35	3.10	5.40	8.41	0.32	0.33	0.00	0.66	Calculated	
371	P0848	J1023	J0804	113.43	4558.00	0.00	4556.93	0.00	1.07	0.9400	CIRCULAR	24.000	24.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	3.80	0 00:51	4.78	0.40	21.97	0.17	0.32	0.00	0.64	Calculated	
372	P0854	J0093	J1030	419.29	4763.79	0.00	4734.96	0.00	28.83	6.8800	CIRCULAR	24.000	24.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	11.07	0 03:00	13.26	0.53	59.32	0.19	0.34	0.00	0.69	Calculated	
373	P0864	J1038	J1039	70.18	4500.66	0.00	4499.95	0.00	0.71	1.0100	CIRCULAR	30.000	30.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	46.12	0 00:45	9.39	0.12	41.26	1.12	1.00	30.00	2.50	SURCHARGED	
374	P0865	J1039	J0448	287.20	4499.95	0.00	4499.11	0.00	0.84	0.2900	CIRCULAR	30.000	30.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	46.12	0 00:45	9.39	0.51	22.18	2.08	1.00	28.00	2.50	SURCHARGED	
375	P0867	J0844	J1041	625.20	4548.35	0.00	4526.78	0.00	21.57	3.4500	CIRCULAR	24.000	24.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	4.31	0 00:45	5.79	1.80	42.02	0.10	0.61	0.00	1.22	Calculated	
376	P0868	J1045	J1046	23.48	4490.30	0.00	4490.25	0.00	0.05	0.2100	CIRCULAR	48.000	48.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	60.13	0 03:00	10.77	0.04	66.29	0.91	0.46	0.00	1.82	Calculated	
377	P0869	J0055	J0056	176.77	4606.18	0.05	4604.55	0.00	1.63	0.9200	CIRCULAR	18.000	18.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	11.31	0 00:48	6.62	0.45	10.09	1.12	0.93	0.00	1.39	> CAPACITY	
378	P0873	J1055	J1058	82.77	4491.48	0.00	4491.25	0.00	0.23	0.2800	CIRCULAR	30.000	30.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	7.93	0 03:00	4.62	0.30	21.62	0.37	0.80	0.00	2.00	Calculated	
379	P0874	J1054	J1057	82.42	4491.50	0.00	4491.25	0.00	0.25	0.3000	CIRCULAR	30.000	30.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	7.94	0 03:00	4.61	0.30	22.59	0.35	0.79	0.00	1.99	Calculated	
380	P0875	J1053	J1056	81.74	4491.58	0.00	4491.25	0.00	0.33	0.4000	CIRCULAR	30.000	30.00	0.0130	0.5000	0.5000	0.0000	0.00	NO	1.00	8.02	0 03:00	4.55	0							

SN	Element Description ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	10 Year Event	Time Series	3-Hour MFF	Cumulative	inches				0	

SN	Element ID	X Coordinate	Y Coordinate	Description	Invert Elevation	Max (Rim) Elevation	Max (Rim) Offset	Initial Water Elevation	Initial Water Depth	Ponded Area	Evaporation Loss	Peak Inflow	Peak Lateral Inflow	Peak Outflow	Peak Exfiltration Flow Rate	Maximum HGL Elevation	Maximum HGL Depth	Average HGL Elevation	Average HGL Depth	Time of Maximum HGL Occurrence	Total Exfiltration Volume	Total Flooded Volume	Total Time Flooded	Total Retention Time
					(ft)	(ft)	(ft)	(ft)	(ft)	(ft ²)		(cfs)	(cfs)	(cfs)	(cfm)	(ft)	(ft)	(ft)	(ft)	(days hh:mm)	(1000-ft ³)	(ac-inches)	(minutes)	(seconds)
1	950 W	1605209.32	7229352.21		4527.77	4532.00	4.23	0.00	-4527.77	0.00	0.00	16.73	16.73	2.62	0.00	4530.08	2.31	4529.76	1.99	0 01:33	0.00	0.00	0.00	0.00
2	Art_Wing	1604316.94	7230343.70		4517.17	4524.00	6.83	0.00	-4517.17	0.00	0.00	2.81	2.81	0.00	0.00	4518.72	1.55	4518.34	1.17	0 03:00	0.00	0.00	0.00	0.00
3	Cherrington	1619258.33	7227077.08		4747.31	4756.00	8.69	0.00	-4747.31	0.00	0.00	17.04	4.94	0.00	0.00	4751.31	4.00	4750.25	2.94	0 03:00	0.00	0.00	0.00	0.00
4	DB-DC-03	1602264.28	7222165.47		0.00	6.00	6.00	0.00	0.00	0.00	0.00	15.03	15.03	15.00	0.00	2.45	2.45	2.28	2.28	0 00:45	0.00	0.00	0.00	0.00
5	DB-DC-D-06	1610237.86	7219423.46		4635.24	4650.44	15.20	4635.24	0.00	0.00	0.00	31.64	26.34	30.33	0.00	4636.21	0.97	4635.70	0.46	0 00:45	0.00	0.00	0.00	0.00
6	DB-HC-07	1620004.62	7222779.94		0.00	6.00	6.00	0.00	0.00	0.00	0.00	3.28	3.28	3.28	0.00	2.39	2.39	1.27	1.27	0 00:50	0.00	0.00	0.00	0.00
7	DB-HC-N-04	1617761.22	7223789.75		0.00	6.00	6.00	0.00	0.00	0.00	0.00	4.37	4.37	4.37	0.00	2.41	2.41	2.24	2.24	0 00:45	0.00	0.00	0.00	0.00
8	DB-LSC-A-07	1610191.36	7233340.28		0.00	6.00	6.00	0.00	0.00	0.00	0.00	3.56	3.56	3.56	0.00	2.40	2.40	2.13	2.13	0 00:37	0.00	0.00	0.00	0.00
9	DB-LSC-B-06	1610660.13	7232449.83		4544.00	4550.00	6.00	0.00	-4544.00	0.00	0.00	17.96	0.00	18.77	0.00	4546.24	2.24	4545.21	1.21	0 00:50	0.00	0.00	0.00	0.00
10	DB-LSC-B-12	1608595.09	7232562.54		4533.00	4538.00	5.00	0.00	-4533.00	0.00	0.00	10.91	10.91	15.00	0.00	4537.85	4.85	4535.43	2.43	0 00:44	0.00	0.00	0.00	0.00
11	Millpond	1611754.66	7232927.32		4548.69	4552.00	3.31	4548.69	0.00	0.00	0.00	71.17	38.18	9.23	0.00	4551.76	3.07	4551.24	2.55	0 03:00	0.00	0.00	0.00	0.00
12	SLD-A-03	1605084.10	7231866.73		4516.66	4520.50	3.84	0.00	-4516.66	0.00	0.00	49.43	49.43	8.41	0.00	4519.93	3.27	4519.51	2.85	0 01:17	0.00	0.00	0.00	0.00
13	Stor-15	1611639.29	7221114.30		4662.51	4666.16	3.65	0.00	-4662.51	0.00	0.00	9.45	9.45	3.89	0.00	4666.16	3.65	4663.67	1.16	0 00:39	0.00	1.08	23.00	0.00
14	Stor-16	1600736.44	7224581.40		4507.50	4518.00	10.50	0.00	-4507.50	0.00	0.00	41.78	41.78	9.00	0.00	4518.00	10.50	4512.80	5.30	0 00:36	0.00	8.60	47.00	0.00
15	Stor-17	1604131.62	7236989.23		4502.60	4512.60	10.00	0.00	-4502.60	0.00	0.00	37.34	37.34	37.34	0.00	4506.12	3.52	4505.44	2.84	0 01:10	0.00	0.00	0.00	0.00
16	Storehouse	1601423.99	7226144.21		4504.69	4512.00	7.31	0.00	-4504.69	0.00	0.00	65.58	65.58	5.16	0.00	4508.28	3.59	4507.86	3.17	0 01:30	0.00	0.00	0.00	0.00

SN	Element Description ID	Area (acres)	Drainage Node ID	Total Precipitation (inches)	Total Runoff (inches)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	DC-01a	37.69	J1020	1.01	0.11	2.67	0 00:00:00
2	DC-01b	22.30	J0967	1.01	0.19	2.45	0 00:00:00
3	DC-02	35.38	DC11	1.01	0.23	5.95	0 00:00:00
4	DC-03	91.16	DB-DC-03	1.01	0.11	15.03	0 00:00:00
5	DC-A-01	63.80	DC09	1.01	0.11	4.45	0 00:00:00
6	DC-B-01	79.39	DC08	1.01	0.18	9.02	0 00:00:00
7	DC-B-02	291.86	DC07	1.01	0.22	50.76	0 00:00:00
8	DC-B-03	74.78	DC04	1.01	0.11	5.38	0 00:00:00
9	DC-B-04	30.05	DC03	1.01	0.12	2.39	0 00:00:00
10	DC-B-05	240.71	DC06	1.01	0.17	30.35	0 00:00:00
11	DC-B-06	60.35	DC02	1.01	0.04	1.97	0 00:00:00
12	DC-B-07	51.46	DC-01	1.01	0.00	0.00	0 00:00:00
13	DC-B-08	54.99	DC05	1.01	0.22	9.67	0 00:00:00
14	DC-B-09	42.40	J0709	1.01	0.24	17.05	0 00:00:00
15	DC-C-01	127.60	J0922	1.01	0.07	6.82	0 00:00:00
	Manually entered initial abstraction = 0.77 for Subarea B. The program crashes when initial abstraction for subarea B is greater than the total precipitation.						
16	DC-C-02	37.40	J0702	1.01	0.05	1.40	0 00:00:00
17	DC-C-03	8.81	J0698	1.01	0.13	0.60	0 00:00:00
18	DC-C-04	16.37	J0698	1.01	0.28	6.32	0 00:00:00
19	DC-C-05	22.37	J0698	1.01	0.18	5.96	0 00:00:00
20	DC-C-06	6.33	J0033	1.01	0.24	0.99	0 00:00:00
21	DC-D-01	26.84	J0915	1.01	0.14	2.83	0 00:00:00
22	DC-D-02	123.57	J0913	1.01	0.20	17.31	0 00:00:00
23	DC-D-03	102.84	J0910	1.01	0.25	20.56	0 00:00:00
24	DC-D-04	15.35	J0906	1.01	0.26	3.62	0 00:00:00
25	DC-D-05	28.00	J0906	1.01	0.10	1.81	0 00:00:00
26	DC-D-06	31.24	DB-DC-D-06	1.01	0.29	15.18	0 00:00:00
27	DC-D-07	28.79	DB-DC-D-06	1.01	0.18	11.16	0 00:00:00
28	DC-E-01	310.60	DC-11	1.01	0.00	0.25	0 00:00:00
29	DC-E-02	114.24	J0896	1.01	0.06	4.87	0 00:00:00
30	DC-E-03	44.34	J0896	1.01	0.03	1.28	0 00:00:00
31	DC-E-04	41.25	J0896	1.01	0.06	1.56	0 00:00:00

32	DC-E-05		36.49	J0966	1.01	0.16	3.93	0 00:00:00
33	DC-E-06		28.35	Stor-15	1.01	0.20	9.46	0 00:00:00
34	DC-F-01		7.74	J0677	1.01	0.00	0.00	0 00:00:00
35	DC-F-02		6.21	J0678	1.01	0.22	1.98	0 00:00:00
36	DC-G-01		13.97	J0675	1.01	0.31	5.48	0 00:00:00
37	DC-G-02		19.99	J0666	1.01	0.18	4.37	0 00:00:00
38	HC-01		102.87	J0847	1.01	0.00	0.06	0 00:00:00
39	HC-02		78.00	J0847	1.01	0.04	3.70	0 00:00:00
40	HC-03		19.43	J0139	1.01	0.26	7.71	0 00:00:00
41	HC-04		6.61	J0504	1.01	0.29	3.32	0 00:00:00
42	HC-05		8.96	Out-78	1.01	0.30	6.14	0 00:00:00
43	HC-06		14.34	HC05	1.01	0.02	0.22	0 00:00:00
44	HC-07		15.31	DB-HC-07	1.01	0.14	3.28	0 00:00:00
45	HC-A-01		52.73	J0821	1.01	0.08	2.98	0 00:00:00
46	HC-A-02		66.40	J0819	1.01	0.10	4.35	0 00:00:00
47	HC-A-03		15.05	J0829	1.01	0.31	5.40	0 00:00:00
48	HC-B-01		56.17	HC-09	1.01	0.03	1.82	0 00:00:00
49	HC-C-01		27.10	HC-08	1.01	0.34	17.43	0 00:00:00
50	HC-C-02		10.74	HC-08	1.01	0.30	5.94	0 00:00:00
51	HC-D-01	Manually entered initial abstraction = 0.77 for Subarea B. The program crashes when initial abstraction for subarea B is greater than the total precipitation.	13.42	J0026	1.01	0.39	10.73	0 00:00:00
52	HC-D-02		37.43	J0022	1.01	0.24	12.57	0 00:00:00
53	HC-D-03		28.04	J0022	1.01	0.38	16.07	0 00:00:00
54	HC-D-04		23.71	J0483	1.01	0.35	36.17	0 00:00:00
55	HC-D-05		23.04	J0020	1.01	0.15	5.31	0 00:00:00
56	HC-D-06		39.85	J0027	1.01	0.20	11.38	0 00:00:00
57	HC-D-07		14.02	J0685	1.01	0.23	4.64	0 00:00:00
58	HC-E-01		18.99	J0642	1.01	0.17	2.51	0 00:00:00
59	HC-E-02		10.91	J0645	1.01	0.33	7.01	0 00:00:00
60	HC-E-03		7.79	J0632	1.01	0.26	3.46	0 00:00:00
61	HC-F-01		22.45	J0687	1.01	0.15	7.47	0 00:00:00
62	HC-G-01		17.87	J0139	1.01	0.28	8.53	0 00:00:00
63	HC-G-02		21.99	J0138	1.01	0.20	7.46	0 00:00:00
64	HC-G-03	Manually entered initial abstraction = 0.77 for Subarea B. The program crashes when initial abstraction for subarea B is greater than the total precipitation.	41.09	J0504	1.01	0.14	11.35	0 00:00:00
65	HC-G-04		8.56	J0138	1.01	0.16	1.18	0 00:00:00

66	HC-G-05	49.37	J0136	1.01	0.19	11.28	0 00:00:00	
67	HC-G-06	17.69	J0133	1.01	0.20	5.57	0 00:00:00	
68	HC-G-07	44.97	J0132	1.01	0.24	17.19	0 00:00:00	
69	HC-G-08	34.30	J0137	1.01	0.15	9.00	0 00:00:00	
70	HC-G-09	14.07	J0133	1.01	0.20	3.45	0 00:00:00	
71	HC-G-10	28.65	J1030	1.01	0.19	6.57	0 00:00:00	
72	HC-G-11	35.05	J0093	1.01	0.21	10.40	0 00:00:00	
73	HC-G-12	61.94	J0077	1.01	0.12	8.44	0 00:00:00	
74	HC-G-13	22.25	J1030	1.01	0.20	5.23	0 00:00:00	
75	HC-G-14	23.55	J0081	1.01	0.29	7.44	0 00:00:00	
76	HC-G-15	33.60	J0080	1.01	0.26	9.74	0 00:00:00	
77	HC-G-16	23.89	Cherrington	1.01	0.17	4.94	0 00:00:00	
78	HC-G-17	38.35	J0148	1.01	0.18	8.75	0 00:00:00	
79	HC-H-01	9.65	J0042	1.01	0.37	5.61	0 00:00:00	
80	HC-H-02	32.07	J0041	1.01	0.28	16.96	0 00:00:00	
81	HC-I-01	32.21	HC06	1.01	0.17	9.65	0 00:00:00	
82	HC-I-02	39.99	J0060	1.01	0.25	19.88	0 00:00:00	
83	HC-J-01	16.01	HC05	1.01	0.27	9.12	0 00:00:00	
84	HC-K-01	11.96	HC04e	1.01	0.21	4.20	0 00:00:00	
85	HC-K-02	The routing method was changed to kinematic wave. The muskingum kunge method results were unrealistic.	15.53	HC04d	1.01	0.25	4.84	0 00:00:00
86	HC-L-01	13.71	HC04c	1.01	0.25	5.92	0 00:00:00	
87	HC-M-01	21.01	J0141	1.01	0.16	3.89	0 00:00:00	
88	HC-M-02	6.93	J0140	1.01	0.22	2.74	0 00:00:00	
89	HC-N-01	30.43	J0019	1.01	0.12	2.70	0 00:00:00	
90	HC-N-02	18.02	HC-04b	1.01	0.25	7.36	0 00:00:00	
91	HC-N-03	8.88	HC04a	1.01	0.26	4.10	0 00:00:00	
92	HC-N-04	13.01	DB-HC-N-04	1.01	0.21	4.37	0 00:00:00	
93	LD-03	101.86	J0874	1.01	0.01	0.80	0 00:00:00	
94	LD-A-01	258.29	J0874	1.01	0.00	0.26	0 00:00:00	
95	LD-A-02	132.70	J0269	1.01	0.06	7.02	0 00:00:00	
96	LD-A-03	86.94	SLD-A-03	1.01	0.32	49.43	0 00:00:00	
97	LD-A-04a	62.80	J0270	1.01	0.10	4.07	0 00:00:00	
98	LD-A-04b	41.99	Art_Wing	1.01	0.13	2.81	0 00:00:00	
99	LD-A-05	92.52	J0594	1.01	0.29	33.16	0 00:00:00	
100	LD-A-06	29.16	J0470	1.01	0.15	4.01	0 00:00:00	
101	LD-A-07	12.19	J0461	1.01	0.23	5.24	0 00:00:00	
102	LD-B-01	128.60	J0292	1.01	0.14	10.53	0 00:00:00	

103	LD-B-02	42.31	J0334	1.01	0.16	4.59	0 00:00:00
104	LD-B-03	34.62	950 W	1.01	0.31	16.73	0 00:00:00
105	LD-C-01	260.50	J1038	1.01	0.18	63.41	0 00:00:00
106	LD-C-02	155.38	Storehouse	1.01	0.19	65.58	0 00:00:00
107	LD-C-03	166.55	J0856	1.01	0.00	0.00	0 00:00:00
108	LD-C-04	160.98	J0361	1.01	0.07	11.71	0 00:00:00
109	LD-C-05	47.94	J0791	1.01	0.29	17.70	0 00:00:00
110	LD-C-06	29.26	J0457	1.01	0.01	0.37	0 00:00:00
111	LD-C-07	16.86	J0700	1.01	0.13	3.33	0 00:00:00
112	LD-D-01	95.79	Stor-16	1.01	0.30	41.79	0 00:00:00
113	LD-D-02	36.38	J0663	1.01	0.00	0.00	0 00:00:00
114	LD-E-01	131.69	J0886	1.01	0.04	7.89	0 00:00:00
115	LD-E-02	172.27	J1076	1.01	0.03	5.65	0 00:00:00
116	LD-E-03	66.77	DC12	1.01	0.02	1.62	0 00:00:00
117	LD-E-04	82.74	J0888	1.01	0.05	3.09	0 00:00:00
118	LD-E-05	129.06	J1076	1.01	0.06	6.68	0 00:00:00
119	LD-E-06	107.58	J1076	1.01	0.03	3.25	0 00:00:00
120	LD-E-07	164.02	J0873	1.01	0.01	2.18	0 00:00:00
121	LD-E-08	193.04	LD-E08	1.01	0.00	0.55	0 00:00:00
122	LSC-01	63.03	J0847	1.01	0.15	17.63	0 00:00:00
123	LSC-02	62.86	J0602	1.01	0.28	15.24	0 00:00:00
124	LSC-03	66.38	SC1	1.01	0.17	13.96	0 00:00:00
125	LSC-04	32.24	SC1	1.01	0.04	0.82	0 00:00:00
126	LSC-05	101.18	J1081	1.01	0.03	2.76	0 00:00:00
127	LSC-A-01	145.70	J0782	1.01	0.10	28.00	0 00:00:00
128	LSC-A-02	78.03	SC2	1.01	0.28	36.07	0 00:00:00
129	LSC-A-03	14.11	SC3	1.01	0.33	8.06	0 00:00:00
130	LSC-A-04	27.72	SC4	1.01	0.35	14.41	0 00:00:00
131	LSC-A-05	31.04	SC4	1.01	0.32	18.68	0 00:00:00
132	LSC-A-06	59.59	SC5	1.01	0.07	3.01	0 00:00:00
133	LSC-A-07	5.03	DB-LSC-A-07	1.01	0.39	3.56	0 00:00:00
134	LSC-B-01	210.77	Stor-17	1.01	0.30	37.34	0 00:00:00
135	LSC-B-02	25.55	J0203	1.01	0.32	12.71	0 00:00:00
136	LSC-B-03	30.61	J0198	1.01	0.38	22.32	0 00:00:00
137	LSC-B-04	18.09	J0189	1.01	0.32	7.56	0 00:00:00
138	LSC-B-05	21.70	J0834	1.01	0.32	12.08	0 00:00:00
139	LSC-B-06	20.21	J0182	1.01	0.27	10.53	0 00:00:00
140	LSC-B-07	12.40	J0182	1.01	0.23	6.19	0 00:00:00

141	LSC-B-08	9.45	J0181	1.01	0.36	7.37	0 00:00:00
142	LSC-B-09	41.94	Millpond	1.01	0.26	23.82	0 00:00:00
143	LSC-B-10	46.50	Millpond	1.01	0.24	14.36	0 00:00:00
144	LSC-B-11	16.46	J0193	1.01	0.31	9.80	0 00:00:00
145	LSC-B-12	7.97	DB-LSC-B-12	1.01	0.32	5.31	0 00:00:00
146	LSC-C-01	35.12	J1041	1.01	0.23	4.50	0 00:00:00
147	LSC-C-02	32.41	J0766	1.01	0.25	15.73	0 00:00:00
148	LSC-C-03	17.49	J0773	1.01	0.27	4.27	0 00:00:00
149	LSC-C-04	10.47	J0841	1.01	0.20	4.39	0 00:00:00
150	LSC-C-09	9.59	J1041	1.01	0.00	0.00	0 00:00:00
151	LSC-C-10	19.91	J0844	1.01	0.00	0.00	0 00:00:00
152	LSC-D-01	27.76	J0108	1.01	0.35	17.70	0 00:00:00
153	LSC-D-02	9.73	J0107	1.01	0.30	5.79	0 00:00:00
154	LSC-D-03	14.40	J0100	1.01	0.28	7.02	0 00:00:00
155	LSC-D-04	19.50	J0116	1.01	0.30	11.86	0 00:00:00
156	LSC-E-01	17.69	J0128	1.01	0.37	12.92	0 00:00:00
157	LSC-E-02	32.58	J0167	1.01	0.20	10.61	0 00:00:00
158	LSC-E-03	12.10	J0054	1.01	0.35	8.49	0 00:00:00
159	LSC-E-04	37.25	J0053	1.01	0.16	10.13	0 00:00:00
160	LSC-E-05	96.75	J0049	1.01	0.08	4.87	0 00:00:00
161	LSC-E-06	18.43	J0048	1.01	0.13	3.39	0 00:00:00
162	LSC-E-07	31.82	J0046	1.01	0.26	16.18	0 00:00:00
163	LSC-E-08	8.73	J0018	1.01	0.31	5.96	0 00:00:00
164	LSC-E-09	2.79	J0018	1.01	0.40	2.01	0 00:00:00
165	LSC-E-10	57.55	J0001	1.01	0.12	13.96	0 00:00:00
166	LSC-E-11	51.91	HC02	1.01	0.00	0.00	0 00:00:00
167	LSC-E-12	81.37	HC01	1.01	0.00	0.00	0 00:00:00
168	LSC-F-01	18.50	J0126	1.01	0.25	7.99	0 00:00:00
169	LSC-F-02	23.49	J0125	1.01	0.21	4.35	0 00:00:00
170	LSC-F-03	25.65	J0125	1.01	0.21	4.63	0 00:00:00
171	LSC-F-04	10.26	J0758	1.01	0.19	2.43	0 00:00:00
172	LSC-F-05	21.54	J0099	1.01	0.19	6.16	0 00:00:00
173	LSC-F-06	13.36	J0098	1.01	0.21	4.57	0 00:00:00
174	LSC-F-07	7.92	J0089	1.01	0.18	1.96	0 00:00:00
175	LSC-F-08	9.31	J0087	1.01	0.17	2.37	0 00:00:00
176	LSC-F-09	93.77	J0086	1.01	0.12	11.90	0 00:00:00
177	LSC-F-10	16.46	J0034	1.01	0.25	7.68	0 00:00:00
178	LSC-F-11	32.59	HC02	1.01	0.00	0.00	0 00:00:00

179	LSC-G-01	13.51	J0749	1.01	0.29	7.65	0 00:00:00
180	LSC-G-02	35.59	J0749	1.01	0.26	30.81	0 00:00:00
181	LSC-HC-02 HC-B-02	43.12	J0738	1.01	0.24	14.58	0 00:00:00
182	LSC-HC-03 HC-B-03	23.50	J0173	1.01	0.14	1.72	0 00:00:00
183	LSC-HC-04 HC-B-04	12.12	J0528	1.01	0.32	7.54	0 00:00:00
184	LSC-HC-05 HC-B-05	32.00	J0174	1.01	0.24	8.26	0 00:00:00
185	LSC-HC-06 HC-B-06	17.26	J0518	1.01	0.46	15.16	0 00:00:00
186	LSC-HC-07	5.00	J0481	1.01	0.23	2.40	0 00:00:00
187	LSC-HC-08 Manually entered initial abstraction = 0.77 for Subarea B. The program crashes when initial abstraction for subarea B is greater than the total precipitation.HC-B-08	19.52	J0474	1.01	0.13	5.07	0 00:00:00
188	LSC-HC-09 HC-B-09	35.68	J0579	1.01	0.25	11.44	0 00:00:00
189	RET-01	13.71	DB-LSC-B-12	1.01	0.26	5.60	0 00:00:00
190	RET-02	17.57	Ret02	1.01	0.17	4.51	0 00:00:00
191	RET-03	33.45	Ret03	1.01	0.17	10.40	0 00:00:00
192	Sub-207	3.11	J0700	1.01	0.04	0.10	0 00:00:00
193	SUMP-01	63.67	sump01	1.01	0.10	5.58	0 00:00:00
194	SUMP-02	6.93	Sump02	1.01	0.26	3.18	0 00:00:00
195	SUMP-03	7.35	Sump03	1.01	0.29	4.50	0 00:00:00
196	SUMP-04	35.85	Sump04	1.01	0.20	9.57	0 00:00:00
197	SUMP-05	14.17	Sump05	1.01	0.15	2.22	0 00:00:00
198	SUMP-06	18.15	Sump06	1.01	0.21	3.96	0 00:00:00
199	SUMP-07	23.14	Sump07	1.01	0.17	2.75	0 00:00:00
200	SUMP-08	4.54	Sump08	1.01	0.31	2.87	0 00:00:00
201	SUMP-09	4.33	Sump09	1.01	0.20	0.91	0 00:00:00
202	SUMP-10	0.29	Sump10	1.01	0.04	0.01	0 00:00:00
203	SUMP-11	3.02	Sump11	1.01	0.32	0.99	0 00:00:00
204	SUMP-12	6.87	Sump12	1.01	0.27	2.95	0 00:00:00
205	SUMP-13	2.18	Sump13	1.01	0.47	1.76	0 00:00:00
206	SUMP-14	3.15	Sump14	1.01	0.26	1.07	0 00:00:00
207	SUMP-15	3.99	Sump15	1.01	0.23	1.44	0 00:00:00
208	SUMP-16	5.72	Sump16	1.01	0.12	0.49	0 00:00:00
209	SUMP-17	2.50	Sump17	1.01	0.27	0.55	0 00:00:00
210	SUMP-18	2.30	Sump18	1.01	0.35	1.19	0 00:00:00
211	SUMP-19	7.39	Sump19	1.01	0.16	1.36	0 00:00:00
212	SUMP-A-01	50.17	Sump_A01	1.01	0.21	14.10	0 00:00:00
213	SUMP-A-02	16.27	Sump_A02	1.01	0.23	6.87	0 00:00:00
214	SUMP-A-03	16.69	Sump_A03	1.01	0.21	6.68	0 00:00:00

FUTURE EAST

SN	Element Description ID	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Inlet Offset	Outlet Invert Elevation	Outlet Offset	Total Drop	Average Slope (%)	Channel Type	Channel Height (ft)	Channel Width (ft)	Left Overbank Manning's Roughness	Channel Manning's Roughness	Right Overbank Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow	Flap Gate	Lengthening Factor	Peak Flow	Time of Peak Flow (days h:mm:ss)	Max Flow Velocity (ft/sec)	Travel Time (min)	Design Flow Capacity (cfs)	Max Flow / Design Flow Ratio	Max Flow Depth / Total Depth Ratio	Total Time Surcharged	Max Flow Depth	Reported Condition	
																																	Occurrence
1	2032	5006	5005	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(%)		(ft)	(ft)	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	22.08	0 00:50	6.43	0.24	1961.54	0.01	0.08	0.00	0.74	Calculated
2	2103	5089	DB-LSC-01	2133.63	4496.12	0.00	4493.00	0.00	3.12	0.1550	Trapezoidal	5.000	22.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	49.55	0 01:20	1.41	25.21	194.35	0.25	0.92	0.00	4.60	Calculated
3	Link-116	J0142	J1014	1589.92	4661.00	0.00	4644.94	0.00	16.06	1.0100	Trapezoidal	10.000	60.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	58.66	0 01:25	4.65	5.70	6287.17	0.01	0.06	0.00	0.59	Calculated
4	Link-117	Jun-65	SC3	436.78	4525.26	0.00	4524.50	0.00	0.76	0.1700	Trapezoidal	10.000	55.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	57.71	0 00:49	2.64	2.76	2203.80	0.03	0.13	0.00	0.99	Calculated
5	Link-128	Jun-68	J0780	1059.51	4506.00	0.00	4501.37	0.00	4.63	0.4400	Trapezoidal	10.000	55.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	84.13	0 01:07	3.37	5.24	3492.48	0.02	0.16	0.00	1.59	Calculated
6	Link-129	J0768	Jun-68	1334.59	4514.53	0.00	4506.00	0.00	8.53	0.6400	Trapezoidal	10.000	55.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	29.65	0 00:55	3.46	6.43	4223.73	0.01	0.09	0.00	0.82	Calculated
7	Link-125	Jun-03	5089	1746.46	4498.50	0.00	4496.12	0.00	2.38	0.1400	Trapezoidal	5.000	22.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	25.00	0 03:36	1.60	18.19	187.59	0.13	0.56	0.00	2.81	Calculated
8	Link-16	Jun-04	Jun-05	2617.69	4797.00	0.00	4759.00	0.00	38.00	1.4500	Trapezoidal	10.000	60.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	33.47	0 00:52	2.98	14.64	7537.08	0.00	0.06	0.00	0.53	Calculated
9	Link-17	Jun-05	5005	2294.39	4759.00	0.00	4731.50	0.00	27.50	1.2000	Trapezoidal	10.000	60.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	53.32	0 00:56	3.61	10.59	6848.62	0.01	0.07	0.00	0.75	Calculated
10	Link-18	Jun-06	Jun-10	3302.28	4723.00	0.00	4679.00	0.00	44.00	1.3300	Trapezoidal	10.000	60.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	55.19	0 01:09	3.81	14.45	7220.87	0.01	0.07	0.00	0.72	Calculated
11	Link-21	J1014	5011	32.59	4644.94	0.00	4640.32	0.00	4.62	14.1800	Trapezoidal	10.000	60.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	66.33	0 01:25	4.29	0.13	2353.16	0.00	0.07	0.00	0.73	Calculated
12	Link-24	Jun-10	Jun-34	1653.41	4679.00	0.00	4665.00	0.00	14.00	0.8500	Trapezoidal	10.000	60.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	55.21	0 01:18	3.44	8.01	5756.31	0.01	0.07	0.00	0.73	Calculated
13	Link-25	Jun-11	Jun-13	3378.35	4631.00	0.00	4603.00	0.00	28.00	0.8300	Trapezoidal	10.000	60.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	123.43	0 01:38	4.52	12.46	5695.04	0.02	0.12	0.00	1.21	Calculated
14	Link-26	Jun-13	Jun-26	1376.46	4603.00	0.00	4590.00	0.00	13.00	0.9400	Trapezoidal	10.000	60.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	124.81	0 01:43	4.29	5.35	6079.39	0.02	0.13	0.00	1.30	Calculated
15	Link-27	Jun-14	J0026	372.22	4569.89	0.00	4569.05	0.00	0.84	0.2300	Trapezoidal	10.000	60.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	542.53	0 00:01	10.44	0.59	2971.74	0.18	0.23	0.00	1.90	Calculated
16	Link-28	J0026	J0551	852.75	4569.05	0.00	4562.00	0.00	7.05	0.8300	Trapezoidal	10.000	60.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	251.57	0 00:03	7.76	1.83	5687.93	0.04	0.17	0.00	1.58	Calculated
17	Link-29	J0551	2080	936.92	4562.00	0.00	4554.00	0.00	8.00	0.8500	Trapezoidal	10.000	60.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	216.62	0 01:07	6.90	2.26	5780.48	0.04	0.18	0.00	1.75	Calculated
18	Link-30	5084	5085	3752.86	4538.00	0.00	4518.00	0.00	20.00	0.5300	Trapezoidal	10.000	60.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	235.42	0 01:23	4.41	14.18	4566.72	0.05	0.24	0.00	2.38	Calculated
19	Link-31	5085	Jun-19	3747.03	4518.00	0.00	4504.67	0.00	13.33	0.3600	Trapezoidal	10.000	60.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	232.75	0 02:09	4.44	14.07	3731.14	0.06	0.28	0.00	2.37	Calculated
20	Link-32	Jun-19	S11	15740.12	4504.67	0.00	4493.00	0.00	11.67	0.0700	Trapezoidal	10.000	60.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	157.53	0 03:11	2.16	121.45	1703.34	0.09	0.28	0.00	2.84	Calculated
21	Link-35	Jun-21	5084	1283.24	4541.00	0.00	4538.00	0.00	3.00	0.2300	Trapezoidal	10.000	60.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	246.19	0 01:16	3.98	5.37	3024.66	0.08	0.25	0.00	2.46	Calculated
22	Link-37	5016	Jun-14	1653.14	4579.00	0.00	4569.89	0.00	9.11	0.5500	Trapezoidal	10.000	60.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	150.02	0 01:52	3.32	8.30	4643.81	0.03	0.19	0.00	1.89	Calculated
23	Link-38	Jun-24	Jun-11	966.26	4635.00	0.00	4631.00	0.00	4.00	0.4100	Trapezoidal	10.000	60.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	122.85	0 01:32	3.66	4.00	4024.88	0.03	0.15	0.00	1.46	Calculated
24	Link-39	J0051	Jun-24	13.85	4634.71	0.00	4635.00	0.00	-0.29	-2.0900	Trapezoidal	5.000	22.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	55.86	0 01:22	6.57	0.04	735.31	0.08	0.41	0.00	2.04	Calculated
25	Link-40	5005	Jun-06	914.87	4731.50	0.00	4723.00	0.00	8.50	0.9300	Trapezoidal	10.000	60.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	59.78	0 01:02	4.19	3.64	6029.76	0.01	0.07	0.00	0.69	Calculated
26	Link-41	Jun-26	5016	2115.36	4590.00	0.00	4579.00	0.00	11.00	0.5200	Trapezoidal	10.000	60.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	123.99	0 01:48	3.64	9.69	4511.02	0.03	0.15	0.00	1.73	Calculated
27	Link-43	SC5	SC4	273.78	4540.00	0.00	4539.00	0.00	1.00	0.3700	Trapezoidal	10.000	55.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	16.43	0 00:45	1.87	2.44	3192.97	0.01	0.05	0.00	0.55	Calculated
28	Link-44	SC4	Jun-65	496.24	4539.00	0.00	4525.26	0.00	13.74	2.7700	Trapezoidal	10.000	55.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	35.01	0 00:46	3.20	2.58	8791.10	0.00	0.10	0.00	0.93	Calculated
29	Link-45	SC3	SC2	1545.93	4524.50	0.00	4514.00	0.00	10.50	0.6800	Trapezoidal	10.000	55.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	61.57	0 00:53	3.52	7.32	4354.07	0.01	0.11	0.00	1.12	Calculated
30	Link-46	SC2	Jun-68	1841.11	4514.00	0.00	4506.00	0.00	8.00	0.4300	Trapezoidal	10.000	55.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	77.35	0 01:03	3.43	8.95	3482.58	0.02	0.13	0.00	1.26	Calculated
31	Link-47	SC1	S14	2598.24	4495.00	0.00	4494.00	0.00	1.00	0.0400	Trapezoidal	10.000	55.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	77.93	0 02:09	1.44	30.07	1036.47	0.08	0.27	0.00	2.65	Calculated
32	Link-48	J0782	SC1	2046.67	4495.59	0.00	4495.00	0.00	0.59	0.0300	Trapezoidal	10.000	55.00	0.0000	0.0320	0.0000	0.0000	0.0000	0.0000	0.0000	0.00	NO	1.00	85.15	0 01:43	1.70	20.07	897.01	0.09	0.2			

SN	Element ID	X Coordinate	Y Coordinate	Description	Invert Elevation	Ground/Rim (Max) Elevation	Ground/Rim (Max) Offset	Initial Water Elevation	Initial Water Depth	Surcharge Elevation	Surcharge Depth	Ponded Area	Minimum Pipe Cover	Peak Inflow	Peak Lateral Inflow	Maximum HGL Elevation Attained	Maximum HGL Depth Attained	Maximum Surcharge Depth Attained	Minimum Freeboard Attained	Average HGL Elevation Attained	Average HGL Depth Attained	Time of Occurrence	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
					(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft²)	(inches)	(cfs)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(days hh:mm)	(days hh:mm)	(ac-inches)	(minutes)
1	586	1608153.26	7232725.43	Rim artificially raised from 4535.59 to 4537.46. There is a detention basin here, but City indicated it does not function as one.	4531.77	4537.97	6.20	4531.77	0.00	4537.97	0.00	0.00	45.00	6.29	0.00	4532.76	0.99	0.00	5.21	4532.13	0.36	0 00:48	0 00:00	0.00	0.00
2	775	1608155.97	7232639.99		4533.29	4537.46	4.17	4533.29	0.00	4535.59	-1.87	0.00	0.00	35.04	6.29	0.00	4533.29	0.00	0.00	4.17	4533.29	0.00	0 00:00	0 00:00	0.00
3	926	1608255.54	7232507.82	4532.37	4541.47	9.10	4532.37	0.00	4541.47	0.00	0.00	0.00	85.20	6.38	0.00	4533.69	1.32	0.00	7.78	4532.87	0.50	0 00:46	0 00:00	0.00	0.00
4	927	1608257.38	7232637.11	4532.36	4537.46	5.10	4532.36	0.00	4537.46	0.00	0.00	0.00	32.28	6.35	0.00	4533.23	0.87	0.00	4.23	4532.61	0.25	0 00:46	0 00:00	0.00	0.00
5	929	1608259.53	7232673.23	4531.66	4538.96	7.30	4531.66	0.00	4538.96	0.00	0.00	0.00	58.20	6.32	0.00	4533.19	1.53	0.00	5.77	4532.48	0.82	0 00:47	0 00:00	0.00	0.00
6	2080	1608990.48	7230201.23	4554.00	4574.00	20.00	0.00	4554.00	4575.00	0.00	0.00	0.00	120.00	261.42	0.00	4555.97	1.97	0.00	18.03	4555.21	1.21	0 01:09	0 00:00	0.00	0.00
7	4860	1619957.47	7227085.02	4860.16	4864.28	4.12	0.00	4860.16	0.00	-4864.28	0.00	34.44	1.84	0.00	4860.43	0.27	0.00	3.85	4860.26	0.10	0 04:36	0 00:00	0.00	0.00	
8	5001	1624718.77	7223409.95	4831.87	4837.87	6.00	0.00	4831.87	4837.87	0.00	0.00	54.00	2.42	0.00	4842.11	0.34	0.00	5.66	4831.97	0.10	0 05:50	0 00:00	0.00	0.00	
9	5002	1624703.05	7223601.74	4844.35	4850.35	6.00	0.00	4844.35	4850.35	0.00	0.00	54.00	2.42	0.00	4844.65	0.30	0.00	5.70	4844.44	0.09	0 05:50	0 00:00	0.00	0.00	
10	5003	1624787.95	7223686.64	4846.64	4852.64	6.00	0.00	4846.64	4852.64	0.00	0.00	54.00	2.42	0.00	4847.07	0.43	0.00	5.57	4846.77	0.13	0 05:50	0 00:00	0.00	0.00	
11	5004	1624711.43	7223963.34	4905.81	4911.81	6.00	0.00	4905.81	4911.81	0.00	0.00	54.00	2.42	2.42	4906.04	0.23	0.00	5.77	4905.88	0.07	0 05:50	0 00:00	0.00	0.00	
12	5005	1620581.60	7222464.75	4731.50	4739.00	7.50	0.00	4731.50	4739.00	0.00	0.00	0.00	69.46	0.00	4732.34	0.84	0.00	9.16	4731.74	0.24	0 01:01	0 00:00	0.00	0.00	
13	5006	1620600.37	7222531.04	4732.50	4738.09	5.59	0.00	4732.50	4738.09	0.00	0.00	0.00	22.11	0.00	4733.46	0.96	0.00	9.04	4732.69	0.19	0 00:50	0 00:00	0.00	0.00	
14	5007	1614878.32	7223408.60	4662.20	4668.20	6.00	0.00	4662.20	4668.20	0.00	0.00	48.00	7.33	7.33	4663.26	1.06	0.00	4.94	4662.51	0.31	0 00:55	0 00:00	0.00	0.00	
15	5008	1614867.23	7223964.35	4660.13	4669.13	9.00	0.00	4660.13	4669.13	0.00	0.00	84.00	7.23	0.00	4661.17	1.04	0.00	7.96	4660.45	0.32	0 00:56	0 00:00	0.00	0.00	
16	5009	1614788.03	7223965.56	4659.85	4668.85	9.00	0.00	4659.85	4668.85	0.00	0.00	84.00	7.12	0.00	4660.72	0.87	0.00	8.13	4660.12	0.27	0 00:57	0 00:00	0.00	0.00	
17	5010	1614761.57	7224911.73	4651.69	4658.69	7.00	0.00	4651.69	4658.69	0.00	0.00	60.00	6.00	7.04	4652.18	0.49	0.00	6.51	4651.85	0.16	0 00:58	0 00:00	0.00	0.00	
18	5011	1614768.36	7225111.65	4640.32	4653.00	12.68	0.00	4640.32	4653.00	0.00	0.00	32.16	68.59	0.00	4641.41	1.09	0.00	11.59	4640.85	0.53	0 01:28	0 00:00	0.00	0.00	
19	5016	1610521.90	7228919.21	4579.00	4599.00	20.00	0.00	4579.00	4599.00	0.00	0.00	120.00	155.59	8.64	4580.55	1.55	0.00	18.45	4580.01	1.01	0 01:52	0 00:00	0.00	0.00	
20	5017	1611534.74	7228935.23	4588.67	4594.67	6.00	0.00	4588.67	4594.67	0.00	0.00	30.00	84.53	0.00	4591.60	2.93	0.00	3.07	4589.30	0.63	0 00:50	0 00:00	0.00	0.00	
21	5018	1611533.98	7228817.73	4589.63	4595.63	6.00	0.00	4589.63	4595.63	0.00	0.00	30.00	84.41	19.01	4595.63	6.00	0.00	0.00	4590.38	0.75	0 00:49	0 00:00	0.00	0.00	
22	5019	1612879.04	7228789.66	4596.00	4603.40	7.40	0.00	4596.00	4603.40	0.00	0.00	42.00	66.95	8.49	4598.76	2.76	0.00	4.64	4596.66	0.66	0 00:50	0 00:00	0.00	0.00	
23	5020	1613519.93	7228787.33	4598.90	4604.90	6.00	0.00	4598.90	4604.90	0.00	0.00	0.00	36.44	0.00	4600.94	2.04	0.00	3.96	4599.46	0.56	0 00:47	0 00:00	0.00	0.00	
24	5021	1615289.42	7228748.34	4641.50	4654.80	13.30	0.00	4641.50	4654.80	0.00	0.00	129.60	26.46	7.05	4642.62	1.12	0.00	12.18	4641.82	0.32	0 00:46	0 00:00	0.00	0.00	
25	5022	1615225.27	7228856.86	4642.38	4648.38	6.00	0.00	4642.38	4648.38	0.00	0.00	48.00	19.88	0.00	4644.14	1.76	0.00	4.24	4642.82	0.44	0 00:45	0 00:00	0.00	0.00	
26	5023	1616133.09	7228865.11	4677.90	4683.90	6.00	0.00	4677.90	4683.90	0.00	0.00	48.00	20.00	20.00	4678.83	0.93	0.00	5.07	4678.16	0.26	0 00:45	0 00:00	0.00	0.00	
27	5029	1617464.81	7229748.48	4791.13	4797.13	6.00	0.00	4791.13	4797.13	0.00	0.00	54.12	0.00	0.00	4791.13	0.00	0.00	6.00	4791.13	0.00	0 00:00	0 00:00	0.00	0.00	
28	5030	1617176.38	7229941.12	4809.53	4815.53	6.00	0.00	4809.53	4815.53	0.00	0.00	54.00	0.00	0.00	4809.53	0.00	0.00	6.00	4809.53	0.00	0 00:00	0 00:00	0.00	0.00	
29	5031	1617067.90	7230221.73	4860.69	4866.69	6.00	0.00	4860.69	4866.69	0.00	0.00	0.00	0.00	0.00	4860.69	0.00	0.00	7.50	4860.69	0.00	0 00:00	0 00:00	0.00	0.00	
30	5032	1617598.48	7229410.53	4776.11	4782.11	6.00	0.00	4776.11	4782.11	0.00	0.00	54.00	8.75	0.00	4776.64	0.53	0.00	5.47	4776.44	0.33	0 03:46	0 00:00	0.00	0.00	
31	5033	1618051.25	7229073.32	4800.69	4806.69	6.00	0.00	4800.69	4806.69	0.00	0.00	54.00	8.75	0.00	4801.39	0.70	0.00	5.30	4801.13	0.44	0 03:46	0 00:00	0.00	0.00	
32	5034	1618065.39	7229430.23	4826.09	4832.09	6.00	0.00	4826.09	4832.09	0.00	0.00	54.00	1.10	1.10	4826.31	0.22	0.00	5.78	4826.15	0.06	0 05:45	0 00:00	0.00	0.00	
33	5035	1619159.57	7228189.02	4864.23	4870.23	6.00	0.00	4864.23	4870.23	0.00	0.00	54.00	8.54	0.00	4864.86	0.63	0.00	5.37	4864.48	0.15	0 05:45	0 00:00	0.00	0.00	
34	5036	1619229.78	7228292.34	4893.77	4899.77	6.00	0.00	4893.77	4899.77	0.00	0.00	54.00	8.54	8.54	4894.18	0.41	0.00	5.59	4893.94	0.17	0 03:45	0 00:00	0.00	0.00	
35	5037	1619286.31	7229323.89	5039.54	5045.54	6.00	0.00	5039.54	5045.54	0.00	0.00	54.00	0.61	0.61	5039.66	0.12	0.00	5.88	5039.58	0.04	0 05:40	0 00:00	0.00	0.00	
36	5038	1612886.35	7228073.27	4603.24	4609.24	6.00	0.00	4603.24	4609.24	0.00	0.00	42.00	23.84	0.00	4604.73	1.49	0.00	4.51	4603.56	0.32	0 00:50	0 00:00	0.00	0.00	
37	5039	1613508.84	7228059.70	4608.42	4614.42	6.00	0.00	4608.42	4614.42	0.00	0.00	42.00	23.88	23.88	4609.92	1.50	0.00	4.50	4608.74	0.32	0 00:45	0 00:00	0.00	0.00	
38	5059	1615201.56	7226269.51	4645.55	4651.55	6.00	0.00	4645.55	4651.55	0.00	0.00	36.00	48.65	0.00	4647.30	1.75	0.00	4.25	4646.30	0.75	0 00:49	0 00:00	0.00	0.00	
39	5060	1616016.83	7226313.36	4679.00	4685.00	6.00	0.00	4679.00	4685.00	0.00	0.00	36.00	48.74	0.00	4680.26	1.26	0.00	4.74	4679.60	0.80	0 00:49	0 00:00	0.00	0.00	
40	5061	1616086.99	7226719.15	4686.00	4692.00	6.00	0.00	4686.00	4692.00	0.00	0.00	36.00	48.74	0.00	4687.75	1.75	0.00	4.25	4686.80	0.60	0 00:48	0 00:00	0.00	0.00	
41	5062	1615907.07	7227058.94	4694.00	4700.00	6.00																			

81	J0038	1619305.53	7225135.45	4755.82	4760.80	4.98	0.00	-4755.82	4760.80	0.00	0.00	16.08	8.31	0.00	4758.09	2.27	0.00	2.71	4757.33	1.51	0	00-54	0	0000	0.00	0.00	
82	J0039	1619283.36	7225169.61	4757.19	4759.69	2.50	0.00	-4757.19	4759.69	0.00	0.00	0.00	8.11	0.00	4757.77	0.58	0.00	2.42	4757.34	0.15	0	00-55	0	0000	0.00	0.00	
83	J0041	1617952.93	7225281.74	4740.44	4743.69	3.25	0.00	-4740.44	4743.69	0.00	0.00	8.40	19.53	16.96	4741.78	1.34	0.00	1.91	4740.77	0.33	0	00-51	0	0000	0.00	0.00	
84	J0042	1617079.03	7226387.01	4724.55	4729.65	5.10	0.00	-4724.55	4729.65	0.00	0.00	25.20	42.31	7.73	4726.12	1.57	0.00	3.53	4724.98	0.43	0	00-54	0	0000	0.00	0.00	
85	J0046	1616812.17	7226199.10	4722.12	4722.12	8.05	0.00	-4724.07	4722.12	0.00	0.00	60.60	54.64	23.25	4715.24	1.17	0.00	6.88	4714.42	0.35	0	00-53	0	0000	0.00	0.00	
86	J0048	1616393.79	7225648.93	4667.90	4668.90	1.00	0.00	-4667.90	4668.90	0.00	0.00	0.00	66.63	6.28	4669.84	1.94	0.00	1.56	4668.51	0.61	0	00-54	0	0000	0.00	0.00	
87	J0049	1615052.36	7226169.53	4642.27	4645.17	2.90	0.00	-4642.27	4645.17	0.00	0.00	0.00	60.09	0.00	4644.61	2.34	0.00	1.16	4643.88	1.61	0	00-21	0	0000	0.00	0.00	
88	J0050	1614261.58	7225801.63	4637.13	4642.33	5.20	0.00	-4637.13	4642.33	0.00	0.00	20.40	55.95	0.00	4638.80	1.67	0.00	3.53	4638.22	1.09	0	01-26	0	0000	0.00	0.00	
89	J0051	1614247.44	7225756.96	4634.71	4640.71	6.00	0.00	-4634.71	4640.71	0.00	0.00	12.00	55.88	0.00	4637.11	2.40	0.00	3.60	4636.42	1.71	0	01-30	0	0000	0.00	0.00	
90	J0057	1612110.32	7227414.50	4604.38	4609.03	4.65	0.00	-4604.38	4609.03	0.00	0.00	24.60	17.00	0.00	4605.36	0.98	0.00	3.67	4604.62	0.24	0	00-48	0	0000	0.00	0.00	
91	J0059	1612983.80	7227402.13	4606.90	4615.35	8.45	0.00	-4606.90	4615.35	0.00	0.00	71.40	20.09	0.00	4608.74	1.84	0.00	6.61	4607.34	0.44	0	00-48	0	0000	0.00	0.00	
92	J0060	1613415.36	7227395.36	4607.55	4619.10	11.55	0.00	-4607.55	4619.10	0.00	0.00	107.40	20.54	20.54	4609.96	2.41	0.00	9.14	4608.13	0.58	0	00-45	0	0000	0.00	0.00	
93	J0076	1616112.54	7229419.98	4668.89	4677.09	8.20	0.00	-4668.89	4677.09	0.00	0.00	68.40	25.51	1.00	4669.84	1.95	0.00	7.25	4669.48	0.59	0	00-51	0	0000	0.00	0.00	
94	J0077	1616135.58	7229419.74	4669.33	4678.38	9.05	0.00	-4669.33	4678.38	0.00	0.00	77.40	24.58	0.00	4670.83	1.50	0.00	7.55	4670.21	0.88	0	00-50	0	0000	0.00	0.00	
95	J0078	1616134.59	7229142.57	4674.44	4680.09	5.65	0.00	-4674.44	4680.09	0.00	0.00	24.00	1.11	0.00	4674.69	0.25	0.00	5.40	4674.57	0.13	0	01-07	0	0000	0.00	0.00	
96	J0080	1616181.13	7227329.97	4708.97	4715.32	6.35	0.00	-4708.97	4715.32	0.00	0.00	40.20	48.75	14.84	4710.25	1.28	0.00	5.07	4709.58	0.61	0	00-47	0	0000	0.00	0.00	
97	J0081	1617011.45	7227320.66	4716.71	4725.86	9.15	0.00	-4716.71	4725.86	0.00	0.00	76.20	37.25	33.24	4718.71	2.00	0.00	7.15	4717.65	0.94	0	00-47	0	0000	0.00	0.00	
98	J0083	1618279.83	7227312.74	4734.05	4744.94	10.89	0.00	-4734.05	4744.94	0.00	-4738.94	94.70	28.75	9.68	4735.45	1.40	0.00	9.49	4734.79	0.74	0	00-45	0	0000	0.00	0.00	
99	J0089	1618419.97	7228026.80	4743.64	4754.09	10.45	0.00	-4743.64	4754.09	0.00	0.00	95.40	30.77	3.07	4744.58	0.94	0.00	9.51	4744.19	0.55	0	01-04	0	0000	0.00	0.00	
100	J0090	1617330.84	7229205.66	4743.29	4747.79	4.50	0.00	-4743.29	4747.79	0.00	0.00	21.00	1.11	0.00	4743.51	0.22	0.00	4.28	4743.40	0.11	0	01-04	0	0000	0.00	0.00	
101	J0091	1616963.00	7229160.22	4715.81	4722.16	6.35	0.00	-4715.81	4722.16	0.00	0.00	55.80	1.11	0.00	4716.05	0.24	0.00	6.11	4715.94	0.13	0	01-04	0	0000	0.00	0.00	
102	J0092	1616750.17	7229161.30	4709.65	4709.60	3.35	0.00	-4706.25	4709.60	0.00	0.00	25.20	1.11	0.00	4706.49	0.24	0.00	3.11	4706.38	0.13	0	01-06	0	0000	0.00	0.00	
103	J0093	1617487.18	7229417.71	4763.79	4770.44	6.65	0.00	-4763.79	4770.44	0.00	0.00	55.80	18.12	11.18	4764.55	0.76	0.00	5.89	4764.23	0.44	0	00-50	0	0000	0.00	0.00	
104	J1000	1612570.89	7238614.73	4617.97	4617.97	5.00	0.00	-4612.97	4617.97	0.00	0.00	41.40	20.18	7.34	4613.93	0.96	0.00	4.04	4613.18	0.21	0	00-45	0	0000	0.00	0.00	
105	J1005	1611531.74	7234511.85	4610.74	4616.89	6.15	0.00	-4610.74	4616.89	0.00	0.00	49.20	5.68	0.00	4611.17	0.43	0.00	5.72	4610.84	0.10	0	00-45	0	0000	0.00	0.00	
106	J1007	1611246.42	7235237.59	4623.97	4629.27	5.30	0.00	-4623.97	4629.27	0.00	0.00	39.00	5.79	5.79	4624.62	0.65	0.00	4.65	4624.16	0.19	0	00-44	0	0000	0.00	0.00	
107	J1008	1611633.27	7233594.86	4551.45	4558.75	7.30	0.00	-4551.45	4558.75	0.00	0.00	51.60	42.74	17.69	4553.95	2.50	0.00	4.80	4551.96	0.51	0	00-46	0	0000	0.00	0.00	
108	J1009	1611627.14	7233063.79	4549.10	4553.80	4.70	0.00	-4549.10	4553.80	0.00	0.00	0.00	40.95	0.00	4551.91	2.81	0.00	7.19	4551.33	2.23	0	03-03	0	0000	0.00	0.00	
109	J1016	1612699.24	7234119.70	4662.17	4666.37	4.20	0.00	-4662.17	4666.37	0.00	0.00	30.00	13.03	13.03	4663.04	0.87	0.00	3.33	4662.52	0.35	0	00-45	0	0000	0.00	0.00	
110	J1017	1611660.35	7232930.88	4548.80	4552.00	3.20	0.00	-4548.80	4552.00	3.00	0.00	0.00	11.89	0.00	4550.04	1.24	0.00	1.96	4549.91	1.11	0	01-58	0	0000	0.00	0.00	
111	J1018	1611626.10	7232813.35	4549.10	4552.50	3.40	0.00	-4549.10	4552.50	0.00	0.00	16.80	20.14	0.00	4552.50	3.40	0.00	0.00	4551.35	2.25	0	00-48	0	00-48	0.00	0.00	
112	J1019	1611652.95	7232811.58	Artificially adjusted rim to model detention basin	4549.49	4560.00	10.51	0.00	-4549.49	0.00	-4560.00	6.12	20.42	0.00	4551.91	2.42	0.00	8.09	4551.33	1.84	0	03-03	0	0000	0.00	0.00	
113	J1023	1611528.37	7231816.83	4559.28	4564.33	5.05	0.00	-4559.28	4564.33	0.00	0.00	36.60	20.55	0.00	4560.75	1.47	0.00	3.58	4559.61	0.33	0	03-50	0	0000	0.00	0.00	
114	J1025	1613502.81	7231515.19	4607.38	4612.28	4.90	0.00	-4607.38	0.00	-4612.28	25.80	18.78	0.00	4608.42	1.04	0.00	3.86	4607.64	0.26	0	00-45	0	0000	0.00	0.00		
115	J1026	1613056.60	7231509.34	4580.65	4580.65	4.00	0.00	-4576.65	4580.65	0.00	0.00	24.00	7.98	7.98	4577.48	0.83	0.00	3.17	4580.88	0.23	0	00-48	0	0000	0.00	0.00	
116	J1028	1611590.26	7231478.57	SNOUT	4563.59	4568.34	4.75	0.00	-4563.59	4568.34	0.00	0.00	33.00	20.58	12.92	4565.86	2.27	0.00	2.48	4564.04	0.45	0	00-50	0	0000	0.00	0.00
117	J1031	1611599.35	7231531.92	4563.17	4568.17	5.00	0.00	-4563.17	4568.17	0.00	0.00	33.60	20.58	0.00	4564.64	1.47	0.00	3.53	4563.49	0.32	0	00-50	0	0000	0.00	0.00	
118	J1032	1614447.98	7229436.15	4599.85	4604.15	4.30	0.00	-4599.85	4604.15	0.00	0.00	21.60	45.24	17.19	4601.37	1.52	0.00	2.78	4600.57	0.72	0	00-50	0	0000	0.00	0.00	
119	J1033	1614479.27	7229436.94	4600.22	4604.52	4.30	0.00	-4600.22	4604.52	0.00	0.00	13.56	28.55	4.77	4602.02	1.80	0.00	2.50	4601.20	0.98	0	00-51	0	0000	0.00	0.00	
120	J1036	1614186.62	7229431.47	4592.09	4601.94	9.85	0.00	-4592.09	4601.94	0.00	0.00	0.00	57.46	0.00	4594.74	2.65	0.00	7.20	4593.28	1.19	0	00-50	0	0000	0.00	0.00	
121	J1037	1614189.66	7230433.23	4596.27	4600.00	3.74	0.00	-4596.27	0.00	-4600.00	26.82	11.72	11.72	4597.08	0.81	0.00	2.92	4596.47	0.20	0							

168	J0626	1606832.32	7234814.73	4516.19	0.00	-4516.19	0.00	-4516.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.42	0.00	4517.55	1.36	0.00	2.14	4516.80	0.61	0	01:02	0	00:00	0.00	0.00	
169	J0637	1611508.04	7224749.30 SIPHON	4607.85	4616.60	8.75	0.00	-4607.85	4616.60	0.00	0.00	24.96	6.81	0.00	4614.49	6.64	0.00	2.11	4613.34	5.49	0	00:53	0	00:00	0.00	0.00	0.00	0.00	0.00	
170	J0639	1611509.55	7225246.59	4611.27	4614.01	2.74	0.00	-4611.27	4614.01	0.00	0.00	14.88	6.75	0.00	4612.48	1.21	0.00	1.53	4611.69	0.42	0	00:53	0	00:00	0.00	0.00	0.00	0.00	0.00	
171	J0640	1611496.13	7225261.16	4611.18	4614.03	2.85	0.00	-4611.18	4614.03	0.00	0.00	16.20	6.74	0.00	4612.10	0.92	0.00	1.93	4611.51	0.33	0	00:53	0	00:00	0.00	0.00	0.00	0.00	0.00	
172	J0641	1611545.61	7225853.49	4604.00	4610.56	6.56	0.00	-4604.00	0.00	-4610.56	0.00	0.00	0.00	0.00	4604.00	0.00	0.00	6.56	4604.00	0.00	0	00:00	0	00:00	0.00	0.00	0.00	0.00	0.00	
173	J0642	1609881.39	7225314.88	4590.63	4593.92	3.29	0.00	-4590.63	4593.92	0.00	0.00	19.80	8.64	3.02	4592.02	1.39	0.00	1.90	4591.14	0.51	0	00:51	0	00:00	0.00	0.00	0.00	0.00	0.00	
174	J0645	1610279.52	7225001.59	4597.38	4598.83	1.45	0.00	-4597.38	4598.83	0.00	0.00	0.00	7.01	7.01	4598.29	0.91	0.00	0.59	4597.58	0.20	0	00:47	0	00:00	0.00	0.00	0.00	0.00	0.00	
175	J0685	1613420.78	7224696.74	4640.02	4642.32	2.30	0.00	-4640.02	4642.32	0.00	0.00	0.00	9.60	5.85	9.85	4640.99	0.97	0.00	1.33	4640.29	0.27	0	00:45	0	00:00	0.00	0.00	0.00	0.00	0.00
176	J0687	1613127.05	7224784.77	4638.32	4641.05	2.73	0.00	-4638.32	4641.05	0.00	0.00	13.80	13.89	9.36	4639.70	1.38	0.00	1.35	4638.75	0.43	0	00:50	0	00:00	0.00	0.00	0.00	0.00	0.00	
177	J0731	1611015.99	7228340.56	4594.73	4595.98	1.25	0.00	-4594.73	4595.98	0.00	0.00	0.00	2.34	0.00	4595.19	0.46	0.00	1.04	4594.85	0.12	0	00:46	0	00:00	0.00	0.00	0.00	0.00	0.00	
178	J0749	1609726.95	7231525.75 Modified	4558.00	4567.00	9.00	0.00	-4558.00	0.00	-4567.00	0.00	84.00	14.30	14.30	4559.11	1.11	0.00	7.89	4558.27	0.27	0	00:50	0	00:00	0.00	0.00	0.00	0.00	0.00	
179	J0750	1609725.13	7231746.73 Modified	4555.00	4561.15	6.15	0.00	-4555.00	4561.15	0.00	0.00	49.80	14.29	0.00	4556.27	1.27	0.00	4.88	4555.30	0.39	0	00:50	0	00:00	0.00	0.00	0.00	0.00	0.00	
180	J0751	1609561.33	7231748.02	4553.00	4558.00	5.00	0.00	-4553.00	296.20	-4261.80	0.00	36.00	21.00	0.00	4554.45	1.45	0.00	3.55	4553.33	0.33	0	00:50	0	00:00	0.00	0.00	0.00	0.00	0.00	
181	J0752	1609561.10	7232009.03	4549.50	4553.07	3.57	0.00	-4549.50	4553.07	0.00	0.00	18.84	20.92	0.00	4551.08	1.58	0.00	1.99	4549.85	0.35	0	00:51	0	00:00	0.00	0.00	0.00	0.00	0.00	
182	J0758	1612505.81	7231760.12	4622.82	4627.72	4.90	0.00	-4622.82	4627.72	0.00	0.00	39.60	9.33	0.00	4623.57	0.75	0.00	4.15	4623.08	0.26	0	00:45	0	00:00	0.00	0.00	0.00	0.00	0.00	
183	J0766	1609587.91	7236389.99	4526.29	4534.49	8.20	0.00	-4526.29	4534.49	0.00	0.00	0.00	9.50	0.00	4527.71	1.42	0.00	6.78	4526.59	0.30	0	00:44	0	00:00	0.00	0.00	0.00	0.00	0.00	
184	J0767	1608886.95	7236411.00	4516.60	4525.85	9.25	0.00	-4516.60	4525.85	0.00	0.00	58.20	26.57	0.00	4518.11	1.51	0.00	7.74	4516.93	0.33	0	00:48	0	00:00	0.00	0.00	0.00	0.00	0.00	
185	J0768	1608600.50	7236411.00	4514.53	4522.33	7.80	0.00	-4514.53	4522.33	0.00	0.00	0.00	26.58	0.00	4515.28	0.75	0.00	9.25	4514.67	0.14	0	00:52	0	00:00	0.00	0.00	0.00	0.00	0.00	
186	J0772	1608682.78	7236331.35	4519.48	0.00	-4519.48	0.00	-4519.48	0.00	0.00	0.00	0.00	7.12	0.00	4520.44	0.96	0.00	1.04	4519.70	0.22	0	00:48	0	00:00	0.00	0.00	0.00	0.00	0.00	
187	J0773	1609531.50	7235991.01 4530.98	4530.98	4535.41	4.43	0.00	-4530.98	4530.98	-4.43	0.00	0.00	7.09	0.00	4531.88	0.90	0.00	3.53	4531.18	0.20	0	00:44	0	00:00	0.00	0.00	0.00	0.00	0.00	
188	J0774	1606889.45	7234815.52	4517.19	0.00	-4517.19	0.00	-4517.19	0.00	0.00	0.00	0.00	32.09	0.00	4518.87	1.68	0.00	1.82	4517.96	0.77	0	01:04	0	00:00	0.00	0.00	0.00	0.00	0.00	
189	J0775	1605183.48	7235455.38	4509.71	4510.97	1.26	0.00	-4509.71	4510.97	0.00	0.00	0.00	34.17	0.00	4511.44	1.73	0.00	1.77	4510.54	0.83	0	01:22	0	00:00	0.00	0.00	0.00	0.00	0.00	
190	J0776	1605168.70	7235502.11	4508.94	0.00	-4508.94	0.00	-4508.94	0.00	0.00	0.00	0.00	26.36	0.00	4510.55	1.61	0.00	0.89	4509.74	0.80	0	01:24	0	00:00	0.00	0.00	0.00	0.00	0.00	
191	J0777	1605101.27	7235507.65	4507.98	0.00	-4507.98	0.00	-4507.98	0.00	0.00	0.00	0.00	26.36	0.00	4509.39	1.41	0.00	33.59	4508.99	1.01	0	01:30	0	00:00	0.00	0.00	0.00	0.00	0.00	
192	J0778	1606828.35	7236387.84	4506.05	4510.17	4.12	0.00	-4506.05	4510.17	0.00	0.00	1.44	57.02	0.00	4508.19	2.14	0.00	1.98	4507.10	1.05	0	01:05	0	00:00	0.00	0.00	0.00	0.00	0.00	
193	J0779	1606716.09	7236664.57	4504.25	0.00	-4504.25	0.00	-4504.25	0.00	0.00	0.00	0.00	56.88	0.00	4505.88	1.63	0.00	2.37	4504.96	0.71	0	01:05	0	00:00	0.00	0.00	0.00	0.00	0.00	
194	J0780	1606559.07	7236987.25	4501.37	4507.37	6.00	0.00	-4501.37	4529.00	21.63	0.00	0.00	141.64	0.00	4503.42	2.05	0.00	7.95	4502.38	1.01	0	01:22	0	00:00	0.00	0.00	0.00	0.00	0.00	
195	J0782	1603870.05	7238294.20	4495.59	4502.00	6.41	0.00	-4495.59	4517.00	15.00	0.00	0.00	115.99	55.80	4498.42	2.83	0.00	7.17	4497.55	1.96	0	01:47	0	00:00	0.00	0.00	0.00	0.00	0.00	
196	J0829	1608684.25	7234071.36	4529.02	4532.42	3.40	0.00	-4529.02	4532.42	0.00	0.00	0.00	7.55	0.00	4530.08	1.06	0.00	2.34	4529.36	0.34	0	00:41	0	00:00	0.00	0.00	0.00	0.00	0.00	
197	J0834	1609579.48	7232775.57	4538.00	4543.00	5.00	0.00	-4538.00	0.00	-4543.00	0.00	0.00	38.23	15.25	4539.95	1.95	0.00	3.05	4539.09	1.09	0	00:53	0	00:00	0.00	0.00	0.00	0.00	0.00	
198	J0836	1610077.11	7232722.20	4540.80	0.00	-4540.80	0.00	-4540.80	0.00	0.00	0.00	0.00	29.60	8.17	4542.84	2.04	0.00	2.96	4542.01	1.21	0	00:51	0	00:00	0.00	0.00	0.00	0.00	0.00	
199	J0837	1610034.14	7232745.12	4540.60	0.00	-4540.60	0.00	-4540.60	0.00	0.00	0.00	0.00	29.39	0.00	4541.47	0.87	0.00	4.13	4541.12	0.52	0	00:51	0	00:00	0.00	0.00	0.00	0.00	0.00	
200	J0840	1610127.55	7237429.44	4625.02	4626.99	1.97	0.00	-4625.02	4626.99	0.00	0.00	0.00	16.58	0.00	4625.78	0.76	0.00	1.24	4625.31	0.29	0	00:46	0	00:00	0.00	0.00	0.00	0.00	0.00	
201	J0841	1609718.79	7237435.90	4582.46	4585.76	3.30	0.00	-4582.46	4585.76	0.00	0.00	21.60	16.59	5.36	4583.18	0.72	0.00	2.58	4582.79	0.33	0	00:46	0	00:00	0.00	0.00	0.00	0.00	0.00	
202	J0842	1609696.71	7237441.64	4577.08	0.00	-4577.08	0.00	-4577.08	0.00	0.00	0.00	0.00	16.59	0.00	4577.44	0.36	0.00	2.94	4577.24	0.16	0	00:47	0	00:00	0.00	0.00	0.00	0.00	0.00	
203	J0844	1609436.92	7237441.14	4548.35	0.00	-4548.35	0.00	-4548.35	0.00	0.00	0.00	0.00	24.09	18.82	4549.44	1.09	0.00	2.21	4548.87	0.52	0	00:45	0	00:00	0.00	0.00	0.00	0.00	0.00	
204	J0845	1609051.38	7237364.46	4495.74	4495.74	0.00	0.00	-4495.74	4495.74	0.00	0.00	0.00	14.65	0.00	4497.02	1.28	0.00	3.72	4496.27	0.53	0	01:24	0	00:00	0.00	0.00	0.00	0.00	0.00	
205	J0846	1609052.71	7237371.64	4493.78	4495.29	1.51	0.00	-4493.78	4495.29	0.00	0.00	0.00	10.89	0.00	4494.29	0.51	0.00	4.49	4494.02	0.24	0	01:25	0	00:00	0.00	0.00	0.00	0.00	0.00	
206	J0847	1609168.49	7237406.80	4492.38	4495.38	3.00	0.00	-4492.38	4495.38	0.00	0.00	0.00	18.89	0.00	4493.47	1.09	0.00	3.91	4493.16	0.78	0	01:33	0	00:00	0.00	0.00	0.00	0.00	0.00	
207	J0965	1606620.59	7234826.39	4515.56	0.00	-4515.56	0.00	-4515.56	0.00	0.00	0.00	0.00	30.66	0.00	4516.94	1.38	0.00	2.12	4516.17	0.61	0	01:09	0	00:00	0.00	0.00	0.00	0.00	0.00	
208	J0981	1604122.41	7236997.62	4498.66	4505.00	6.34	0.00	-4498.66	4505.00	0.00	0.00	0.00	8.00	0.00	4501.17	1.51	0.00	4.83	4499.61	0.95	0	01:56	0	00:00	0.00	0.00	0.00	0.00	0.00	
209																														

255	Jun-66	1609565.28	7231453.44	4558.00	4563.00	5.00	0.00	-4558.00	0.00	-4563.00	0.00	42.00	7.65	7.65	4558.80	0.80	0.00	4.20	4558.19	0.19	0 00:45	0 00:00	0.00	0.00
256	Jun-68	1607257.17	7236563.93	4506.00	4512.00	6.00	4506.00	0.00	4512.00	0.00	0.00	0.00	92.15	0.00	4507.40	1.40	0.00	8.60	4506.50	0.50	0 01:06	0 00:00	0.00	0.00
257	Jun-69	1604693.56	7232944.95	4515.00	4521.00	6.00	0.00	-4515.00	4524.00	3.00	0.00	42.00	22.59	22.59	4516.88	1.88	0.00	4.12	4515.47	0.47	0 00:52	0 00:00	0.00	0.00
258	Jun-70	1600161.22	7237196.81	4493.00	4499.00	6.00	4493.00	0.00	4499.00	0.00	0.00	0.00	8.00	0.00	4494.24	1.24	0.00	4.76	4494.14	1.14	0 01:34	0 00:00	0.00	0.00
259	Jun-71	1619992.40	7225004.66	4765.00	4771.00	6.00	0.00	-4765.00	0.00	-4771.00	0.00	0.00	4.87	0.00	4765.59	0.59	0.00	5.41	4765.31	0.31	0 00:43	0 00:00	0.00	0.00
260	Jun-72	1617519.56	7225883.19	4732.00	4738.00	6.00	4732.00	0.00	4738.00	0.00	0.00	36.00	38.32	0.00	4733.63	1.63	0.00	4.37	4732.43	0.43	0 00:53	0 00:00	0.00	0.00
261	Jun-73	1607490.47	7234180.92	4520.00	4526.00	6.00	4520.00	0.00	4526.00	0.00	0.00	30.00	52.23	0.00	4522.79	2.79	0.00	3.21	4521.20	1.20	0 00:57	0 00:00	0.00	0.00
262	SC1	1602144.45	7238560.42	4495.00	4503.00	8.00	0.00	-4495.00	4510.00	7.00	0.00	0.00	90.11	23.67	4497.66	2.66	0.00	7.34	4496.87	1.87	0 02:09	0 00:00	0.00	0.00
263	SC2	1608262.69	7235777.49	4514.00	4518.00	4.00	0.00	-4514.00	4538.00	20.00	0.00	0.00	369.63	369.11	4515.78	1.78	0.00	8.22	4514.45	0.45	0 06:00	0 00:00	0.00	0.00
264	SC3	1609149.91	7235100.99	4524.50	4530.50	6.00	0.00	-4524.50	4542.00	11.50	0.00	0.00	62.94	7.49	4525.53	1.03	0.00	8.97	4524.80	0.30	0 00:52	0 00:00	0.00	0.00
265	SC4	1609926.22	7234594.54	4539.00	4545.00	6.00	0.00	-4539.00	4545.00	0.00	0.00	0.00	35.67	19.25	4539.48	0.48	0.00	9.52	4539.15	0.15	0 00:46	0 00:00	0.00	0.00
266	SC5	1610151.72	7234439.27	4540.00	4546.00	6.00	0.00	-4540.00	4546.00	0.00	0.00	0.00	17.18	12.64	4540.64	0.64	0.00	9.36	4540.27	0.27	0 00:41	0 00:00	0.00	0.00
267	SJ2	1625125.75	7223095.22	4799.00	0.00	-4799.00	0.00	-4799.00	6.00	6.00	0.00	0.00	46.30	46.30	4799.78	0.78	0.00	9.22	4799.13	0.13	0 00:45	0 00:00	0.00	0.00

SN	Element Description ID	From (Inlet) Node	To (Outlet) Node	From (Inlet) Node Invert Elevation (ft)	To (Outlet) Node Invert Elevation (ft)	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (inches)	Rectangular Orifice Height (ft)	Rectangular Orifice Width (ft)	Orifice Invert Elevation (ft)	Orifice Invert Offset (ft)	Orifice Coefficient	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)
1	Cherrington Modified	DB-Cherrington	J0149	4748.01	4743.89	BOTTOM	CIRCULAR	NO	15.00			4748.01	0.00	0.6140	8.88	0 00:59
2	Millpond_O Originally12"Orifice	Millpond	J0117	4548.69	4548.80	BOTTOM	CIRCULAR	NO	18.00			4548.69	0.00	0.6140	11.89	0 03:03
3	Orifice-13	Stor-26	J0194	4542.83	4542.83	SIDE	CIRCULAR	NO	6.00			4542.83	0.00	0.6140	1.41	0 01:06

SN	Element ID	X Coordinate	Y Coordinate	Description	Invert Elevation	Boundary Type	Flap Gate	Fixed Water Elevation	Peak Inflow	Peak Lateral Inflow	Maximum HGL Depth Attained	Maximum HGL Elevation Attained
					(ft)			(ft)	(cfs)	(cfs)	(ft)	(ft)
1	J1041	1608862.30	7237358.88		4526.78	NORMAL	NO		58.94	38.99	1.07	4527.85
2	J1081	1599652.40	7238210.87		4491.00	NORMAL	NO		78.27	71.56	1.09	4492.09
3	Out-100	1620314.97	7224227.91		0.00	NORMAL	NO		9.39	9.39	0.00	0.00
4	Out-101	1621423.52	7224550.19		0.00	NORMAL	NO		11.74	11.74	0.00	0.00
5	Out-102	1618860.25	7222976.10		0.00	NORMAL	NO		11.34	11.34	0.00	0.00
6	Out-103	1618495.34	7226077.62		0.00	NORMAL	NO		3.85	3.85	0.00	0.00
7	Out-98	1619042.08	7224204.86		0.00	NORMAL	NO		31.21	31.21	0.00	0.00
8	SJ1	1594662.21	7238654.77		4493.00	NORMAL	NO		157.53	0.00	2.84	4495.84
9	SJ4	1599739.47	7238692.24		4494.00	NORMAL	NO		77.93	0.00	2.65	4496.65
10	sump01	1622945.11	7225326.56		0.00	NORMAL	NO		10.95	10.95	0.00	0.00
11	Sump02	1614864.44	7224283.69		0.00	NORMAL	NO		3.91	3.91	0.00	0.00
12	Sump03	1614757.26	7223891.97		0.00	NORMAL	NO		4.94	4.94	0.00	0.00
13	Sump05	1613404.47	7223392.99		0.00	NORMAL	NO		4.78	4.78	0.00	0.00
14	Sump06	1612512.77	7223372.34		0.00	NORMAL	NO		4.83	4.83	0.00	0.00
15	Sump08	1611351.23	7223865.79		0.00	NORMAL	NO		2.87	2.87	0.00	0.00
16	Sump09	1613619.79	7224988.52		0.00	NORMAL	NO		1.16	1.16	0.00	0.00
17	Sump10	1611913.97	7225447.32		0.00	NORMAL	NO		0.21	0.21	0.00	0.00
18	Sump11	1610775.97	7226129.97		0.00	NORMAL	NO		1.93	1.93	0.00	0.00
19	Sump13	1617453.74	7226600.42		0.00	NORMAL	NO		1.76	1.76	0.00	0.00
20	Sump14	1615371.85	7228367.45		0.00	NORMAL	NO		1.80	1.80	0.00	0.00
21	Sump15	1613828.63	7232227.96		0.00	NORMAL	NO		2.21	2.21	0.00	0.00
22	Sump16	1612745.59	7224146.02		0.00	NORMAL	NO		0.98	0.98	0.00	0.00
23	Sump17	1617691.54	7225078.70		0.00	NORMAL	NO		1.09	1.09	0.00	0.00
24	Sump18	1618139.54	7224807.83		0.00	NORMAL	NO		1.28	1.28	0.00	0.00
25	Sump19	1610220.01	7226408.55		0.00	NORMAL	NO		1.89	1.89	0.00	0.00

SN	Element Description ID	From (Inlet) Node	To (Outlet) Node	From (Inlet) Node Invert Elevation (ft)	To (Outlet) Node Invert Elevation (ft)	Crest Elevation (ft)	Crest Height (ft)	Outlet Type	Outlet Reference	Flap Gate	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)
1	HC-07	DB-HC-07	Jun-06	4724.00	4723.00	0.00	-4724.00	Rating Curve Table	Depth Above Inlet	NO	8.43	0 00:48
2	Link-133	DB-CH-A-02	5086	4510.00	4509.64	4510.00	0.00	Rating Curve Table	Depth Above Inlet	NO	12.00	0 00:51
3	Link-135	DB-LSC-01	Jun-70	4493.00	4493.00	4493.00	0.00	Rating Curve Table	Depth Above Inlet	NO	8.00	0 00:59
4	LSC-A-07	DB-LSC-A-07	SC5	4545.00	4540.00	0.00	-4545.00	Rating Curve Table	Depth Above Inlet	NO	5.07	0 00:39
5	LSC-B06	DB-LSC-B-06	J0182	4545.00	4544.19	4545.00	0.00	Rating Curve Table	Depth Above Inlet	NO	20.00	0 00:44
6	OCF185	DB-LSC-B-02	J0981	4502.60	4498.66	4502.60	0.00	Rating Curve Table	Depth Above Inlet	NO	8.00	0 01:10
7	Outlet-10	DC-LSC-E-05	J0049	4642.27	4642.27	4642.27	0.00	Rating Curve Table	Depth Above Inlet	NO	60.09	0 01:21
8	Outlet-11	DIV-HC-G-05	5020	4610.00	4598.90	4610.00	0.00	Rating Curve Table	Depth Above Inlet	NO	10.24	0 00:45
9	Outlet-12	DIV-HC-G-05	J0136	4610.00	4592.09	4610.00	0.00	Rating Curve Table	Depth Above Inlet	NO	10.24	0 00:45
10	Outlet-13	DIV	5099	4600.00	4556.46	4600.00	0.00	Rating Curve Table	Depth Above Inlet	NO	5.29	0 00:45
11	Outlet-16	DIV	Stor-19	4600.00	4535.50	4600.00	0.00	Rating Curve Table	Depth Above Inlet	NO	5.29	0 00:45
12	Outlet-17	Stor-19	J0766	4535.50	4526.29	4535.50	0.00	Rating Curve Table	Depth Above Inlet	NO	19.50	0 00:46
13	Outlet-19	Stor-19	J0773	4535.50	4530.98	4535.50	0.00	Rating Curve Table	Depth Above Inlet	NO	7.09	0 00:46
14	Outlet-20	DB-LSC-05	Jun-02	4500.00	4499.00	4500.00	0.00	Rating Curve Table	Depth Above Inlet	NO	5.00	0 01:43
15	Outlet-21	Stor-23	5087	4502.00	4501.61	4502.00	0.00	Rating Curve Table	Depth Above Inlet	NO	8.00	0 00:47
16	Outlet-22	Stor-24	Jun-71	4764.00	4765.00	4764.00	0.00	Rating Curve Table	Depth Above Inlet	NO	4.87	0 01:14
17	Outlet-23	DIV-LSC-F-09	Stor-24	4800.00	4764.00	4800.00	0.00	Rating Curve Table	Depth Above Inlet	NO	18.15	0 00:50
18	Outlet-24	DIV-LSC-F-09	Jun-39	4800.00	4753.00	4800.00	0.00	Rating Curve Table	Depth Above Inlet	NO	18.15	0 00:50
19	Outlet-25	Stor-27	J0829	4535.00	4529.02	4535.00	0.00	Rating Curve Table	Depth Above Inlet	NO	7.55	0 00:59

SN	Element Description ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	10 Year Event	Time Series	3-Hour MFF	Cumulative	inches				0	

SN	Element ID	X Coordinate	Y Coordinate	Description	Invert Elevation	Max (Rim) Elevation	Max (Rim) Offset	Initial Water Elevation	Initial Water Depth	Ponded Area	Evaporation Loss	Peak Inflow	Peak Lateral Inflow	Peak Outflow	Peak Exfiltration Flow Rate	Maximum HGL Elevation Attained	Maximum HGL Depth Attained	Average HGL Elevation Attained	Average HGL Depth Attained	Time of Maximum HGL Occurrence	Total Exfiltration Volume	Total Flooded Volume	Total Time Flooded	Total Retention Time
					(ft)	(ft)	(ft)	(ft)	(ft)	(ft ²)		(cfs)	(cfs)	(cfs)	(cfm)	(ft)	(ft)	(ft)	(ft)	(days hh:mm)	(1000-ft ³)	(ac-inches)	(minutes)	(seconds)
1	DB-CH-A-02	1604774.16	7234153.98		4510.00	6.00	-4504.00	0.00	-4510.00	0.00	0.00	440.05	439.93	12.00	0.00	4514.62	4.62	4512.87	2.87	0 06:00	0.00	0.00	335.00	0.00
2	DB-Cherrington	1618612.53	7227073.26	DB_Generalization	4748.01	4756.01	8.00	0.00	-4748.01	0.00	0.00	23.38	0.00	8.88	0.00	4750.17	2.16	4748.61	0.60	0 00:59	0.00	0.00	0.00	0.00
3	DB-HC-07	1620004.62	7222779.94		4724.00	4730.00	6.00	0.00	-4724.00	0.00	0.00	6.33	6.33	8.43	0.00	4726.40	2.40	4724.90	0.90	0 00:50	0.00	0.00	0.00	0.00
4	DB-LSC-01	1600154.29	7237065.95		4493.00	4503.00	10.00	0.00	-4493.00	0.00	0.00	56.83	56.17	8.00	0.00	4499.71	6.71	4498.77	5.77	0 05:05	0.00	0.00	0.00	0.00
5	DB-LSC-05	1602137.68	7235052.94		4500.00	4510.00	10.00	0.00	-4500.00	0.00	0.00	16.62	16.62	5.00	0.00	4504.55	4.55	4503.96	3.96	0 03:42	0.00	0.00	0.00	0.00
6	DB-LSC-A-07	1610191.36	7233340.28		4545.00	6.00	-4539.00	0.00	-4545.00	0.00	0.00	3.56	3.56	5.07	0.00	4547.42	2.42	4546.14	1.14	0 00:37	0.00	0.00	335.00	0.00
7	DB-LSC-B-02	1604125.67	7236954.35		4502.60	4512.60	10.00	0.00	-4502.60	0.00	0.00	60.80	56.97	8.00	0.00	4509.14	6.54	4508.16	5.56	0 04:39	0.00	0.00	0.00	0.00
8	DB-LSC-B-06	1610660.13	7232449.83		4545.00	4551.00	6.00	0.00	-4545.00	0.00	0.00	21.73	12.09	20.00	0.00	4546.03	1.03	4545.26	0.26	0 00:50	0.00	0.00	0.00	0.00
9	DC-LSC-E-05	1615062.55	7226165.65		4642.27	4647.27	5.00	4639.10	-3.17	0.00	0.00	189.90	79.44	60.09	0.00	4644.61	2.34	4643.89	1.62	0 01:21	0.00	0.00	0.00	0.00
10	DIV	1609951.79	7235878.96		4600.00	4610.00	10.00	0.00	-4600.00	0.00	0.00	10.57	10.57	10.57	0.00	4601.06	1.06	4600.13	0.13	0 00:45	0.00	0.00	0.00	0.00
11	DIV-HC-G-05	1614024.39	7229000.87		4610.00	10.00	-4600.00	0.00	-4610.00	0.00	0.00	20.54	20.54	20.48	0.00	4612.02	2.02	4610.27	0.27	0 00:45	0.00	0.00	335.00	0.00
12	DIV-LSC-F-09	1619759.77	7225697.90		4800.00	6.00	-4794.00	0.00	-4800.00	0.00	0.00	36.37	36.37	36.29	0.00	4802.54	2.54	4800.41	0.41	0 00:50	0.00	0.00	335.00	0.00
13	Millpond	1611754.66	7232927.32		4548.69	4552.00	3.31	4548.69	0.00	0.00	0.00	97.15	49.83	11.89	0.00	4551.91	3.22	4551.32	2.63	0 03:03	0.00	0.00	0.00	0.00
14	Stor-19	1609586.95	7236271.07		4535.50	4550.00	14.50	0.00	-4535.50	0.00	0.00	29.38	0.00	26.59	0.00	4538.65	3.15	4535.74	0.24	0 00:46	0.00	0.00	0.00	0.00
15	Stor-23	1603385.66	7234219.22		4502.00	4508.00	6.00	0.00	-4502.00	0.00	0.00	61.60	61.60	8.00	0.00	4506.59	4.59	4505.09	3.09	0 01:22	0.00	0.00	0.00	0.00
16	Stor-24	1620066.84	7225074.45		4764.00	6.00	-4758.00	0.00	-4764.00	0.00	0.00	18.15	0.00	4.87	0.00	4767.80	3.80	4766.18	2.18	0 01:14	0.00	0.00	335.00	0.00
17	Stor-26	1608663.97	7232021.94		4542.83	6.00	-4536.83	0.00	-4542.83	0.00	0.00	5.60	5.60	1.41	0.00	4545.37	2.54	4544.02	1.19	0 01:06	0.00	0.00	335.00	0.00
18	Stor-27	1608784.81	7233998.08		4535.00	6.00	-4529.00	0.00	-4535.00	0.00	0.00	17.83	17.83	7.55	0.00	4538.58	3.58	4535.69	0.69	0 00:59	0.00	0.00	335.00	0.00

SN	Element Description ID	Area	Drainage Node ID	Total Precipitation	Total Runoff	Peak Runoff	Time of Concentration
		(acres)		(inches)	(inches)	(cfs)	(days hh:mm:ss)
1	DC-C-03	8.81	5110	1.01	0.36	5.34	0 00:00:00
2	DC-C-04	16.37	Jun-54	1.01	0.58	41.63	0 00:00:00
3	DC-C-05	22.37	Jun-54	1.01	0.28	9.38	0 00:00:00
4	DC-C-06	6.33	J0033	1.01	0.33	1.14	0 00:00:00
5	HC-01 PreviouslyLSC-04. Manually entered initial abstraction = 0.77 for Subarea B. The program crashes when initial abstraction for subarea B is greater than the total precipitation.	102.87	5089	1.01	0.51	171.79	0 00:00:00
6	HC-02 PreviouslyLSC-05	78.00	DB-LSC-05	1.01	0.42	16.63	0 00:00:00
7	HC-03	19.43	5016	1.01	0.30	8.64	0 00:00:00
8	HC-04	6.61	J0504	1.01	0.33	3.71	0 00:00:00
9	HC-05	8.96	Jun-26	1.01	0.32	6.14	0 00:00:00
10	HC-06	14.34	Jun-11	1.01	0.08	1.35	0 00:00:00
11	HC-07	15.31	DB-HC-07	1.01	0.26	6.33	0 00:00:00
12	HC-A-01	52.73	Stor-23	1.01	0.60	61.60	0 00:00:00
13	HC-A-02	66.40	DB-CH-A-02	1.01	0.99	440.05	0 00:00:00
14	HC-A-03	15.05	Stor-27	1.01	0.62	17.83	0 00:00:00
15	HC-B-01	56.17	Jun-69	1.01	0.26	22.59	0 00:00:00
16	HC-B-04 PreviouslyLSC-HC-04	22.67	J0528	1.01	0.34	14.37	0 00:00:00
17	HC-B-05 PreviouslyLSC-HC-05	21.44	Jun-62	1.01	0.33	8.19	0 00:00:00
18	HC-C-01	27.10	J0551	1.01	0.37	17.43	0 00:00:00
19	HC-C-02	10.74	Jun-20	1.01	0.37	6.53	0 00:00:00
20	HC-D-01 Manually entered initial abstraction = 0.77 for Subarea B. The program crashes when initial abstraction for subarea B is greater than the total precipitation.	13.42	J0026	1.01	0.41	10.98	0 00:00:00
21	HC-D-02	37.43	J0022	1.01	0.30	14.45	0 00:00:00
22	HC-D-03	28.04	J0022	1.01	0.40	16.07	0 00:00:00
23	HC-D-04	23.71	Jun-55	1.01	0.35	9.83	0 00:00:00
24	HC-D-05	23.04	J0020	1.01	0.25	9.22	0 00:00:00
25	HC-D-06	39.85	Jun-49	1.01	0.28	18.12	0 00:00:00
26	HC-D-07	14.02	J0685	1.01	0.32	5.85	0 00:00:00
27	HC-E-01	18.99	J0642	1.01	0.26	3.02	0 00:00:00
28	HC-E-02	10.91	J0645	1.01	0.35	7.01	0 00:00:00
29	HC-E-03	7.79	Jun-51	1.01	0.29	3.46	0 00:00:00
30	HC-F-01	22.45	J0687	1.01	0.33	9.36	0 00:00:00
31	HC-G-01	17.87	J0139	1.01	0.31	8.53	0 00:00:00
32	HC-G-02	21.99	J0138	1.01	0.24	7.89	0 00:00:00
33	HC-G-03 Manually entered initial abstraction = 0.77 for Subarea B. The program crashes when initial abstraction for subarea B is greater than the total precipitation.	41.09	5018	1.01	0.25	19.01	0 00:00:00
34	HC-G-04	8.56	Jun-46	1.01	0.30	3.97	0 00:00:00
35	HC-G-05	49.37	DIV-HC-G-05	1.01	0.29	20.54	0 00:00:00
36	HC-G-06	17.69	5021	1.01	0.29	7.05	0 00:00:00
37	HC-G-07	44.97	J0132	1.01	0.26	17.19	0 00:00:00
38	HC-G-08	34.30	J0137	1.01	0.21	11.73	0 00:00:00
39	HC-G-09	14.07	J0133	1.01	0.25	4.77	0 00:00:00
40	HC-G-10	28.65	J1030	1.01	0.22	7.54	0 00:00:00
41	HC-G-11	35.05	J0093	1.01	0.22	10.18	0 00:00:00
42	HC-G-12	61.94	5023	1.01	0.22	20.00	0 00:00:00
43	HC-G-13	22.25	5286	1.01	0.26	7.51	0 00:00:00
44	HC-G-14	23.55	J0081	1.01	0.46	33.25	0 00:00:00
45	HC-G-15	33.60	J0080	1.01	0.35	14.85	0 00:00:00
46	HC-G-17	38.35	J0148	1.01	0.26	15.38	0 00:00:00
47	HC-H-01	9.65	J0042	1.01	0.47	7.73	0 00:00:00
48	HC-H-02	32.07	J0041	1.01	0.30	16.96	0 00:00:00

49	HC-I-01	32.21	Jun-13	1.01	0.31	19.37	0 00:00:00
50	HC-I-02	39.99	J0060	1.01	0.29	20.55	0 00:00:00
51	HC-J-01	16.01	Jun-11	1.01	0.31	10.09	0 00:00:00
52	HC-K-01	11.96	J1014	1.01	0.27	5.39	0 00:00:00
53	HC-K-02	15.53	5007	1.01	0.37	7.34	0 00:00:00
	The routing method was changed to kinematic wave. The muskinghum kunge method results were unrealistic.						
54	HC-L-01	13.71	J0019	1.01	0.32	7.89	0 00:00:00
55	HC-M-01	21.01	J0141	1.01	0.34	11.38	0 00:00:00
56	HC-M-02	6.93	J0140	1.01	0.26	3.31	0 00:00:00
57	HC-N-01	30.43	J0142	1.01	0.30	11.63	0 00:00:00
58	HC-N-02	18.02	Jun-10	1.01	0.29	8.07	0 00:00:00
59	HC-N-03	8.88	Jun-10	1.01	0.29	4.25	0 00:00:00
60	HC-N-04	13.01	Jun-10	1.01	0.39	10.02	0 00:00:00
61	LSC-01	63.03	DB-LSC-01	1.01	0.50	56.17	0 00:00:00
62	LSC-02	62.86	J0602	1.01	0.35	18.72	0 00:00:00
63	LSC-03	66.38	SC1	1.01	0.33	22.10	0 00:00:00
64	LSC-04	32.24	SC1	1.01	0.23	15.44	0 00:00:00
65	LSC-05	101.18	J1081	1.01	0.44	71.57	0 00:00:00
66	LSC-A-01	145.70	J0782	1.01	0.22	55.81	0 00:00:00
67	LSC-A-02	78.03	SC2	1.01	0.74	369.21	0 00:00:00
68	LSC-A-03	14.11	SC3	1.01	0.35	7.49	0 00:00:00
69	LSC-A-04	27.72	SC4	1.01	0.45	19.25	0 00:00:00
70	LSC-A-05	31.04	5098	1.01	0.34	18.68	0 00:00:00
71	LSC-A-06	59.59	SC5	1.01	0.34	12.65	0 00:00:00
72	LSC-A-07	5.03	DB-LSC-A-07	1.01	0.42	3.56	0 00:00:00
73	LSC-B-01	210.77	DB-LSC-B-02	1.01	0.44	56.97	0 00:00:00
74	LSC-B-02	25.55	J0202	1.01	0.36	12.71	0 00:00:00
75	LSC-B-03	30.61	J0198	1.01	0.40	22.32	0 00:00:00
76	LSC-B-04	18.09	J0189	1.01	0.39	9.02	0 00:00:00
77	LSC-B-05	21.70	J0834	1.01	0.39	15.25	0 00:00:00
78	LSC-B-06	20.21	DB-LSC-B-06	1.01	0.33	12.09	0 00:00:00
79	LSC-B-07	12.40	J0836	1.01	0.31	8.18	0 00:00:00
80	LSC-B-08	9.45	J0181	1.01	0.37	7.37	0 00:00:00
81	LSC-B-09	41.94	Millpond	1.01	0.30	27.33	0 00:00:00
82	LSC-B-10	46.50	Millpond	1.01	0.37	22.57	0 00:00:00
83	LSC-B-11	16.46	J0193	1.01	0.32	9.80	0 00:00:00
84	LSC-B-12	7.97	J1064	1.01	0.34	5.31	0 00:00:00
85	LSC-C-01	35.12	J1041	1.01	0.60	32.26	0 00:00:00
86	LSC-C-02	32.41	5095	1.01	0.38	24.32	0 00:00:00
87	LSC-C-03	17.49	DIV	1.01	0.41	10.57	0 00:00:00
88	LSC-C-04	10.47	J0841	1.01	0.27	5.36	0 00:00:00
89	LSC-C-09	9.59	J1041	1.01	0.55	7.25	0 00:00:00
	Manually entered initial abstraction = 0.77 for Subarea B. The program crashes when inital abstraction for subarea B is greater than the total precipitation.						
90	LSC-C-10	19.91	J0844	1.01	0.44	18.82	0 00:00:00
91	LSC-D-01	27.76	J0108	1.01	0.36	17.70	0 00:00:00
92	LSC-D-02	9.73	J0107	1.01	0.31	5.79	0 00:00:00
93	LSC-D-03	14.40	J0100	1.01	0.31	7.34	0 00:00:00
94	LSC-D-04	19.50	J0116	1.01	0.34	13.03	0 00:00:00
95	LSC-E-01	17.69	J0128	1.01	0.39	12.92	0 00:00:00
96	LSC-E-02	32.58	5074	1.01	0.27	15.25	0 00:00:00
97	LSC-E-03	12.10	5019	1.01	0.37	8.49	0 00:00:00
98	LSC-E-04	37.25	5039	1.01	0.35	23.88	0 00:00:00
99	LSC-E-05	96.75	DC-LSC-E-05	1.01	0.49	79.44	0 00:00:00
100	LSC-E-06	18.43	J0048	1.01	0.22	6.28	0 00:00:00
101	LSC-E-07	31.82	J0046	1.01	0.36	23.26	0 00:00:00
102	LSC-E-08	8.73	J0018	1.01	0.32	5.96	0 00:00:00
103	LSC-E-09	2.79	J0018	1.01	0.41	2.01	0 00:00:00
104	LSC-E-10	57.55	5230	1.01	0.21	22.22	0 00:00:00

105	LSC-E-11	Manually entered initial abstraction = 0.77 for Subarea B. The program crashes when initial abstraction for subarea B is greater than the total precipitation.	51.91	Jun-05	1.01	0.27	30.69	0 00:00:00
106	LSC-E-12	Manually entered initial abstraction = 0.77 for Subarea B. The program crashes when initial abstraction for subarea B is greater than the total precipitation.	81.37	SJ2	1.01	0.26	46.30	0 00:00:00
107	LSC-F-01		18.50	J0126	1.01	0.28	7.99	0 00:00:00
108	LSC-F-02		23.49	5071	1.01	0.33	9.60	0 00:00:00
109	LSC-F-03		25.65	5073	1.01	0.26	6.62	0 00:00:00
110	LSC-F-04		10.26	5284	1.01	0.25	3.56	0 00:00:00
111	LSC-F-05		21.54	J1086	1.01	0.27	9.35	0 00:00:00
112	LSC-F-06		13.36	5284	1.01	0.27	5.93	0 00:00:00
113	LSC-F-07		7.92	J0089	1.01	0.27	3.08	0 00:00:00
114	LSC-F-08		44.15	J0153	1.01	0.32	23.72	0 00:00:00
115	LSC-F-09		77.24	DIV-LSC-F-09	1.01	0.32	36.37	0 00:00:00
116	LSC-F-10		16.46	J0034	1.01	0.29	8.72	0 00:00:00
117	LSC-F-11	Manually entered initial abstraction = 0.77 for Subarea B. The program crashes when initial abstraction for subarea B is greater than the total precipitation.	32.59	Jun-05	1.01	0.26	18.75	0 00:00:00
118	LSC-G-01		13.51	Jun-66	1.01	0.31	7.65	0 00:00:00
119	LSC-G-02		35.59	J0749	1.01	0.25	14.31	0 00:00:00
120	LSC-G-16		11.06	J0083	1.01	0.28	4.45	0 00:00:00
121	LSC-HC-02		43.12	J0172	1.01	0.29	17.40	0 00:00:00
122	LSC-HC-03		23.50	Jun-63	1.01	0.31	9.18	0 00:00:00
123	LSC-HC-06		17.26	Jun-57	1.01	0.48	15.15	0 00:00:00
124	LSC-HC-07		5.00	J0481	1.01	0.25	2.40	0 00:00:00
125	LSC-HC-08	Manually entered initial abstraction = 0.77 for Subarea B. The program crashes when initial abstraction for subarea B is greater than the total precipitation.	19.52	J0475	1.01	0.17	6.12	0 00:00:00
126	LSC-HC-09		35.68	5075	1.01	0.31	14.42	0 00:00:00
127	RET-01		13.71	Stor-26	1.01	0.28	5.60	0 00:00:00
128	RET-02		17.57	Out-100	1.01	0.32	9.39	0 00:00:00
129	RET-03		33.45	Out-101	1.01	0.20	11.74	0 00:00:00
130	SUMP-01		63.67	sump01	1.01	0.16	10.95	0 00:00:00
131	SUMP-02		6.93	Sump02	1.01	0.33	3.91	0 00:00:00
132	SUMP-03		7.35	Sump03	1.01	0.33	4.95	0 00:00:00
133	SUMP-04		35.85	Jun-52	1.01	0.23	9.57	0 00:00:00
134	SUMP-05		14.17	Sump05	1.01	0.25	4.78	0 00:00:00
135	SUMP-06		18.15	Sump06	1.01	0.25	4.84	0 00:00:00
136	SUMP-08		4.54	Sump08	1.01	0.33	2.87	0 00:00:00
137	SUMP-09		4.33	Sump09	1.01	0.25	1.16	0 00:00:00
138	SUMP-10	All Street	0.29	Sump10	1.01	0.86	0.21	0 00:00:00
139	SUMP-11		3.02	Sump11	1.01	0.45	1.93	0 00:00:00
140	SUMP-12		6.87	Out-103	1.01	0.35	3.85	0 00:00:00
141	SUMP-13		2.18	Sump13	1.01	0.50	1.76	0 00:00:00
142	SUMP-14		3.15	Sump14	1.01	0.38	1.80	0 00:00:00
143	SUMP-15		3.99	Sump15	1.01	0.33	2.21	0 00:00:00
144	SUMP-16		5.72	Sump16	1.01	0.18	0.98	0 00:00:00
145	SUMP-17		2.50	Sump17	1.01	0.37	1.09	0 00:00:00
146	SUMP-18		2.30	Sump18	1.01	0.38	1.28	0 00:00:00
147	SUMP-19		7.39	Sump19	1.01	0.21	1.89	0 00:00:00
148	SUMP-A-01		50.17	Out-98	1.01	0.38	31.21	0 00:00:00
149	SUMP-A-02		16.27	J0011	1.01	0.29	7.96	0 00:00:00
150	SUMP-A-03		16.69	Out-102	1.01	0.34	11.34	0 00:00:00

SN	Element Description	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Inlet Invert	Outlet Invert Elevation	Outlet Invert	Total Drop	Average Slope	Pipe Shape	Pipe Diameter or Height	Pipe Width	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow	Flap Gate	Lengthening Factor	Peak Flow	Time of Occurrence		Design Flow Capacity	Max Flow / Design Flow Ratio	Max Flow / Total Depth Ratio	Total Time Surcharged	Max Flow Depth	Reported Condition	
																						(ft)	(ft)							(ft)
1	1006	J0475	J0477	579.90	4593.36	0.00	4592.78	0.00	0.58	0.1000	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	6.07	0 00:50	3.52	2.75	7.15	0.85	0.54	0.00	0.93	Calculated
2	1007	J0477	Jun-26	95.32	4592.78	0.00	4590.09	0.00	2.78	2.9000	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	6.12	0 00:50	14.17	0.11	17.88	0.34	0.53	0.00	0.79	Calculated
3	2017	S010	S011	198.93	4651.69	0.00	4640.32	0.00	11.37	7.7200	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	7.00	0 00:58	7.74	0.43	54.08	0.13	0.34	0.00	0.68	Calculated
4	2018	S009	S010	946.54	4659.85	0.00	4651.69	0.00	8.16	0.8600	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	7.04	0 00:57	7.50	0.20	21.00	0.33	0.34	0.00	0.66	Calculated
5	2019	S009	S009	79.21	4660.13	0.00	4659.85	0.00	0.28	0.3500	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	7.12	0 00:56	4.83	0.27	13.45	0.53	0.48	0.00	0.91	Calculated
6	2020	S007	S008	555.86	4662.20	0.00	4660.13	0.00	2.07	0.3700	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	7.23	0 00:55	4.36	0.22	13.81	0.52	0.52	0.00	0.96	Calculated
7	2024	S062	S061	384.49	4694.00	0.00	4688.00	0.00	8.00	2.0800	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	48.74	0 00:48	12.14	0.53	96.21	0.51	0.55	0.00	1.52	Calculated
8	2025	S059	DC-LSC-E-05	179.60	4645.54	-0.01	4642.27	0.00	3.27	1.8200	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	48.61	0 00:49	13.83	0.22	90.14	0.54	0.57	0.00	1.72	Calculated
9	2026	S060	S059	841.00	4679.00	0.00	4645.55	0.00	33.45	3.9800	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	48.65	0 00:49	13.77	1.02	133.02	0.37	0.50	0.00	1.28	Calculated
10	2027	S061	S060	411.81	4686.00	0.00	4679.00	0.00	7.00	1.7000	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	48.74	0 00:48	13.80	0.50	86.96	0.56	0.50	0.00	1.34	Calculated
11	2028	S003	S002	120.06	4846.64	0.00	4844.35	0.00	2.29	1.9100	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	2.42	0 05:50	5.93	0.34	14.51	0.17	0.28	0.00	0.42	Calculated
12	2029	S002	S001	192.44	4844.35	0.00	4831.87	0.00	12.48	6.4900	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	2.42	0 05:50	8.59	0.37	26.75	0.09	0.22	0.00	0.32	Calculated
13	2030	S001	Jun-04	469.51	4831.87	0.00	4797.00	0.00	34.87	7.4300	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	2.42	0 05:50	14.67	0.53	28.63	0.08	0.16	0.00	0.22	Calculated
14	2031	S230	S006	573.85	4733.00	0.00	4732.50	0.00	0.50	0.0900	CIRCULAR	42.000	42.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	22.11	0 00:50	6.09	1.57	29.87	0.74	0.40	0.00	1.34	Calculated
15	2034	S004	S003	267.08	4905.81	0.00	4866.64	0.00	59.17	20.6100	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	2.42	0 05:50	8.41	0.57	47.69	0.05	0.42	0.00	0.33	Calculated
16	2041	S034	S033	452.29	4826.09	0.00	4800.69	0.00	25.40	5.6200	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	1.10	0 05:45	3.79	1.99	24.89	0.04	0.24	0.00	0.37	Calculated
17	2043	S035	S286	1130.85	4864.23	0.00	4807.21	3.26	57.02	5.0400	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	8.52	0 03:45	12.21	1.54	23.59	0.36	0.42	0.00	0.63	Calculated
18	2044	S037	S286	1191.52	5039.54	0.00	4826.09	22.14	213.45	17.9100	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	0.61	0 05:40	8.87	2.24	44.46	0.01	0.08	0.00	0.12	Calculated
19	2045	S032	J0093	111.54	4776.11	0.00	4763.79	0.00	12.32	11.0500	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	8.75	0 03:46	15.08	0.12	34.91	0.25	0.41	0.00	0.54	Calculated
20	2046	S033	S032	564.54	4800.68	-0.01	4776.11	0.00	24.57	4.3500	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	8.75	0 03:46	12.86	0.73	21.92	0.40	0.41	0.00	0.61	Calculated
21	2047	S029	J0093	331.53	4791.12	-0.01	4763.79	0.00	27.33	8.2400	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	0.00	0 00:00	0.00	30.17	0.00	0.25	0.00	0.34	Calculated	
22	2048	S030	S029	348.10	4809.53	0.00	4791.12	-0.01	18.41	5.2900	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	0.00	0 00:00	0.00	24.15	0.00	0.00	0.00	0.00	Calculated	
23	2049	S031	S030	300.86	4866.69	6.00	4809.53	0.00	57.16	19.0000	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	0.00	0 00:00	0.00	45.79	0.00	0.00	0.00	0.00	Calculated	
24	2054	S023	S022	907.86	4677.90	0.00	4642.38	0.00	35.52	3.9100	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	19.88	0 00:45	9.89	1.53	44.75	0.44	0.67	0.00	1.34	Calculated
25	2055	S022	S021	143.51	4642.38	0.00	4641.50	0.00	0.88	0.6100	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	19.61	0 00:45	8.10	0.30	17.71	1.11	0.72	0.00	1.43	> CAPACITY
26	2056	S025	S020	1769.91	4641.50	0.00	4598.90	0.00	42.60	2.4100	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	26.27	0 00:46	10.93	2.70	63.63	0.41	0.63	0.00	1.51	Calculated
27	2057	S019	S018	649.90	4598.90	0.00	4598.90	0.00	0.00	0.0000	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	35.63	0 00:48	6.09	1.75	29.87	0.79	0.85	0.00	2.11	> CAPACITY
28	2058	S038	S019	716.43	4603.24	0.00	4597.40	1.40	5.84	0.8200	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	23.59	0 00:50	7.86	1.52	37.03	0.64	0.59	0.00	1.22	Calculated
29	2059	S039	S038	622.64	4608.42	0.00	4603.24	0.00	5.18	0.8300	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	23.84	0 00:50	8.15	1.27	37.41	0.64	0.60	0.00	1.36	Calculated
30	2060	S019	S018	1345.35	4596.00	0.00	4589.63	0.00	6.37	0.4700	CIRCULAR	42.000	42.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	65.66	0 00:49	7.40	3.03	69.23	0.95	0.89	0.00	2.17	Calculated
31	2061	S018	S017	171.80	4589.63	0.00	4588.67	0.00	0.96	0.5600	CIRCULAR	42.000	42.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	84.53	0 00:49	9.30	3.31	75.21	1.12	0.92	0.00	2.25	> CAPACITY
32	2062	S017	S016	1008.87	4588.67	0.00	4579.00	0.00	9.67	0.9600	CIRCULAR	42.000	42.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	83.71	0 00:51	16.71	1.01	98.50	0.85	0.55	0.00	1.76	Calculated
33	2067	S239	S110	597.18	4594.80	0.00	4592.60	0.00	2.20	0.3700	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	47.96	0 00:55	7.10	1.40	40.48	1.18	0.94	0.00	2.74	> CAPACITY
34	2068	S110	Jun-55	989.98	4592.60	0.00	4587.00	0.00	5.60	0.5700	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	50.04	0 00:56	8.07	2.04	50.16	1.00	0.82	0.00	2.37	Calculated
35	2070	S284	J0125	707.48	4678.50	0.00	4607.38	0.00	71.12	10.0500	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	9.46	0 00:45	10.86	1.09	33.30	0.28	0.53	0.00	0.79	Calculated
36	2071	J0125	S071	1051.84	4607.38	0.00	4582.64	0.00	24.74	2.3500	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00										

87	Link-95	Jun-51	Jun-50	1450.75	4634.00	0.00	4617.00	0.00	17.00	1.1700	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	12.65	0	00:49	7.95	3.04	24.49	0.52	0.53	0.00	0.83	Calculated	
88	Link-96	Jun-50	Jun-53	502.15	4617.00	0.00	4613.00	0.00	4.00	0.8000	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	12.16	0	00:51	5.18	1.62	20.19	0.60	0.71	0.00	1.12	Calculated	
89	Link-97	Jun-53	Jun-53	540.28	4613.00	0.00	4609.45	0.00	3.55	0.6600	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	18.31	0	00:53	7.35	1.23	18.34	1.00	0.75	0.00	1.24	Calculated	
90	Link-98	Jun-54	Jun-54	5239	1100.10	4605.00	0.00	4594.80	0.00	10.20	0.9300	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	34.26	0	06:00	9.73	1.88	39.50	0.87	0.73	0.00	1.70	Calculated
91	Link-99	Jun-55	Jun-56	1056.48	4607.00	0.00	4581.00	0.00	6.00	0.5700	CIRCULAR	42.000	42.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	57.22	0	00:56	7.97	2.21	75.82	0.75	0.70	0.00	2.39	Calculated	
92	OCFO14	0404	07031	402.83	4596.53	0.00	4594.73	0.00	1.80	0.4500	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	2.34	0	00:45	4.13	1.63	7.02	0.33	0.36	0.00	0.52	Calculated	
93	OCFO16 Modified	07050	07051	162.71	4555.00	0.00	4548.30	0.00	2.00	1.2300	CIRCULAR	24.000	24.00	0.0150	0.5000	0.0000	0.0000	0.00	NO	1.00	14.22	0	00:50	6.37	0.43	21.74	0.65	0.68	0.00	1.11	Calculated	
94	P0009	00034	00035	607.45	4789.51	0.00	4778.11	10.06	11.40	1.8500	CIRCULAR	15.000	15.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	8.64	0	00:50	8.12	1.25	8.85	0.98	0.81	0.00	0.89	Calculated	
95	P0012 8 cfs irrigation base flow	00003	00011	2029.72	4718.34	0.00	4704.84	0.00	13.50	0.6700	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	4.86	0	01:22	4.13	8.19	18.45	0.26	0.48	0.00	0.94	Calculated	
96	P0015 8 cfs irrigation base flow	00018	00006	1738.54	4702.08	0.00	4680.20	0.00	21.88	1.2600	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	15.28	0	00:52	8.18	3.54	25.38	0.60	0.58	0.00	1.08	Calculated	
97	P0020 Modified	01041	01042	289.38	4678.40	3.06	4666.39	5.39	12.01	4.1500	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	13.79	0	00:50	12.53	0.38	46.09	0.30	0.38	0.00	0.74	Calculated	
98	P0029	00033	00029	3234.51	4653.84	0.00	4610.66	0.04	43.18	1.3300	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	1.11	0	01:43	4.27	12.62	12.14	0.09	0.20	0.00	0.31	Calculated	
99	P0036	06085	06087	317.46	4640.02	0.00	4638.32	0.00	1.70	0.5400	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	5.78	0	00:45	4.38	1.21	7.69	0.75	0.76	0.00	1.11	Calculated	
100	P0038A	06087	Jun-53	1614.30	4638.40	0.08	4613.00	0.00	25.40	1.5700	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	13.73	0	00:50	9.15	2.94	13.18	1.04	0.93	0.00	1.12	> CAPACITY	
101	P0038B SIPHON	Jun-53	06037	31.58	4613.00	0.00	4612.50	4.65	0.50	1.5800	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	6.81	0	00:51	4.02	1.13	13.22	0.52	1.00	9.00	1.42	SURCHARGED	
102	P0039	06037	06039	497.29	4613.02	5.17	4611.27	0.00	1.75	0.3500	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	6.75	0	00:53	4.06	2.04	6.23	1.08	0.89	0.00	1.15	> CAPACITY	
103	P0041	02029	02027	86.54	4610.62	0.00	4609.47	0.02	1.15	1.3300	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	1.11	0	01:43	2.51	0.57	12.11	0.09	0.48	0.00	0.67	Calculated	
104	P0058	Jun-45	00019	1563.25	4680.00	0.00	4658.86	1.25	21.14	1.3500	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	9.75	0	00:57	7.64	3.41	12.22	0.80	0.68	0.00	1.00	Calculated	
105	P0062A	03041	Jun-72	741.68	4740.44	0.00	4732.00	0.00	8.44	1.1400	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	18.99	0	00:51	7.99	1.55	24.13	0.79	0.73	0.00	1.22	Calculated	
106	P0062b	Jun-72	00042	670.01	4732.00	0.00	4724.55	0.00	7.45	1.1100	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	37.99	0	00:54	9.92	1.13	70.33	0.54	0.53	0.00	1.43	Calculated	
107	P0063	00039	00041	1359.44	4757.19	0.00	4740.99	0.55	16.20	1.1900	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	4.52	0	00:55	5.87	3.86	24.70	0.18	0.33	0.00	0.54	Calculated	
108	P0064	00038	00039	41.98	4755.82	0.00	4757.19	0.00	-1.37	-3.2600	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	8.11	0	00:53	2.47	0.28	120.49	0.07	0.47	0.00	1.33	Calculated	
109	P0066	00039	Jun-39	868.02	4757.19	0.00	4753.00	0.00	4.19	0.4800	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	3.36	0	00:55	2.00	7.23	28.50	0.12	0.37	0.00	0.84	Calculated	
110	P0067	00035	00036	1010.99	4768.05	0.00	4761.65	0.30	6.40	0.6300	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	8.35	0	00:51	5.43	3.10	53.07	0.16	0.27	0.00	0.64	Calculated	
111	P0068	00036	00037	43.37	4761.35	0.00	4761.01	1.34	0.34	0.7800	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	8.35	0	00:51	5.44	0.13	59.06	0.14	0.27	0.00	0.64	Calculated	
112	P0069	00037	00038	533.67	4759.67	0.00	4756.46	0.64	3.21	0.6000	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	8.31	0	00:52	3.31	2.69	51.73	0.16	0.41	0.00	1.08	Calculated	
113	P0074	4860	01052	233.67	4860.16	0.00	4837.39	0.00	22.77	9.7400	CIRCULAR	15.000	15.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	1.84	0	04:37	11.28	0.35	20.17	0.09	0.19	0.00	0.24	Calculated	
114	P0075	01052	01053	400.00	4837.39	0.00	4749.34	0.00	88.05	22.0100	CIRCULAR	15.000	15.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	1.84	0	04:37	5.67	1.18	30.31	0.06	0.50	0.00	0.63	Calculated	
115	P0078	01048	01049	651.19	4779.25	0.00	4743.89	0.00	35.36	5.4300	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	15.36	0	00:45	11.33	0.96	155.42	0.10	0.25	0.00	0.74	Calculated	
116	P0085	01053	01054	400.00	4749.34	0.00	4748.46	0.00	0.88	0.2200	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	23.70	0	00:45	5.26	1.27	19.24	1.23	0.89	0.00	2.21	> CAPACITY	
117	P0089	00083	00085	249.19	4743.89	0.00	4743.00	0.00	9.84	3.9500	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	23.33	0	00:45	11.74	0.35	132.53	0.18	0.37	0.00	1.00	Calculated	
118	P0090	00085	00090	1763.62	4743.89	0.00	4743.64	0.25	0.10	0.0100	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	23.33	0	00:45	1.11	1.13	26.01	0.36	0.26	0.00	0.65	Calculated	
119	P0097	00082	00081	1268.41	4734.05	0.00	4717.01	0.30	17.04	1.3400	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	28.60	0	00:45	9.66	2.19	47.54	0.60	0.61	0.00	1.46	Calculated	
120	P0099	00081	00080	830.37	4716.71	0.00	4708.97	0.00	7.74	0.9300	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	35.20	0	00:48	10.36	1.34	39.60	0.89	0.66	0.00	1.52	Calculated	
121	P0109	00078	00077	277.16	4674.44	0.00	4669.38	0.05	5.06	1.8300	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	1.11	0	01:07	1.21	3.82	55.42	0.02	0.32	0.00	0.71	Calculated	
122	P0112	00077	00076	23.05	4669.43	0.10	4668.89	0.00	0.54	2.3400	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	24.51	0	00:50	10.08	0.04	62.78	0.39	0.50	0.00	1.13	Calculated	
123	P0113	00090	00091	380.70	4743.29	0.00	4716.26	0.45	27.03	7.1000	CIRCULAR	15.000	15.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	1.11	0	01:04	7.83	0.81	17.21	0.06	0.17	0.00	0.21	Calculated	
124	P0114	00091	00092	212.84	4715.81	0.00	4706.25	0.00	9.56	4.4900	CIRCULAR	15.000	15.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	1.11	0	01:05	6.72	0.53	13.69	0.08	0.19	0.00	0.23	Calculated	
125	P0115	00092	00078	615.86	4706.25	0.00	4676.84	2.40	29.41	4.7800	CIRCULAR	15.000	15.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	1.11	0	01:06	6.84	1.50	14.12	0.08	0.19	0.00	0.23	Calculated	
126	P0117	01030	00077	932.34	4734.96	0.00	4669.33	0.00	65.63	7.0400	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	24.24	0	00:50	12.58	1.24	60.02	0.40	0.59	0.00	1.11	Calculated	
1																																

178	P0534	J0198	J0197	14.20	4520.51	0.00	4520.42	0.00	0.09	0.6300	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	62.04	0	00:57	8.78	0.03	53.10	1.17	1.00	17.00	3.00	SURCHARGED
179	P0535	J0197	J0203	433.00	4520.42	0.00	4520.06	0.00	0.36	0.0800	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	33.47	0	00:55	4.83	1.49	19.23	1.74	0.95	0.00	2.83	> CAPACITY
180	P0536	J0203	J1044	296.93	4520.06	0.00	4519.64	0.00	0.42	0.1400	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	33.38	0	00:56	5.73	0.86	25.08	1.33	0.77	0.00	2.27	> CAPACITY
181	P0550	J0834	J0186	145.33	4538.00	0.00	4537.18	0.00	0.82	0.5600	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	37.77	0	00:53	11.75	0.21	50.10	0.75	0.47	0.00	1.27	Calculated
182	P0551	J0836	J0837	48.70	4540.80	0.00	4540.60	0.00	0.20	0.4100	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	29.39	0	00:51	6.25	0.13	42.74	0.69	0.63	0.00	1.65	Calculated
183	P0554	J0182	J0183	85.38	4544.19	0.00	4543.62	0.00	0.57	0.6700	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	24.20	0	00:50	11.01	0.13	33.51	0.72	0.46	0.00	0.99	Calculated
184	P0555	J0181	J0182	1201.37	4547.61	0.00	4544.19	0.00	3.42	0.2800	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	12.83	0	00:53	5.04	3.97	21.88	0.59	0.59	0.00	1.37	Calculated
185	P0556	J0117	J0181	303.02	4548.80	0.00	4547.61	0.00	1.19	0.3900	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	11.89	0	03:03	4.51	1.12	25.70	0.46	0.54	0.00	1.34	Calculated
186	P0558	J0841	J0842	16.52	4582.46	0.00	4577.08	0.00	5.38	32.5700	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	16.59	0	05:46	28.88	0.01	59.95	0.28	0.36	0.00	0.54	Calculated
187	P0560	J0840	J0841	422.47	4625.02	0.00	4582.46	0.00	42.56	10.0700	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	16.57	0	05:46	18.56	0.38	33.34	0.50	0.50	0.00	0.76	Calculated
188	P0561	J0602	J0603	163.21	4496.48	0.00	4496.19	0.00	0.29	0.1800	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	18.70	0	01:00	4.17	0.65	17.29	1.08	0.88	0.00	2.19	> CAPACITY
189	P0563	J0603	J0604	381.42	4496.19	0.00	4493.52	0.25	0.67	0.1800	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	18.57	0	01:00	4.96	1.28	17.19	1.08	0.71	0.00	1.78	> CAPACITY
190	P0563	J0845	J0606	107.93	4495.74	0.00	4493.52	0.00	1.96	1.8200	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	10.89	0	01:24	6.38	0.28	12.27	0.89	0.93	0.00	1.38	Calculated
191	P0565	J0606	J0846	19.80	4494.38	0.60	4493.78	0.00	0.60	3.0300	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	10.89	0	01:25	12.25	0.03	18.29	0.60	0.50	0.00	0.75	Calculated
192	P0797	J0981	J0610	136.76	4498.66	0.00	4497.64	0.00	1.02	0.7500	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	8.08	0	03:37	4.21	0.54	35.42	0.23	0.80	0.00	1.99	Calculated
193	P0798	J0193	J0192	318.29	4533.10	0.00	4529.81	0.00	3.29	1.0300	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	9.70	0	00:42	6.67	0.80	10.68	0.91	0.77	0.00	1.14	Calculated
194	P0799	J0192	J0198	955.03	4529.81	0.00	4522.76	2.25	7.05	0.7400	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	9.57	0	00:53	5.83	2.73	9.03	1.06	0.96	0.00	1.29	> CAPACITY
195	P0806 4 cfs irrigation base flow	J0048	J0986	117.05	4667.90	0.00	4664.30	0.00	3.60	3.0700	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	66.32	0	00:54	13.15	0.15	116.94	0.57	0.67	0.00	1.79	Calculated
196	P0812	J0993	J4860	400.00	4872.57	0.00	4860.16	0.00	12.41	3.1000	CIRCULAR	15.000	15.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	1.84	0	04:36	7.65	0.87	11.38	0.16	0.25	0.00	0.31	Calculated
197	P0813	J0154	DB-Cherrington	82.23	4748.46	0.00	4748.01	0.00	0.45	0.5500	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	23.38	0	00:45	6.84	0.20	30.34	0.77	0.78	0.00	1.95	Calculated
198	P0828 8 cfs irrigation base flow	J0011	J0018	567.23	4704.90	0.06	4702.15	0.07	2.75	0.4800	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	10.34	0	00:54	5.33	1.77	15.75	0.66	0.59	0.00	1.11	Calculated
199	P0834	J0006	J0005	4.64	4680.20	0.00	4680.34	0.20	-0.14	-0.0200	CIRCULAR	15.000	15.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	6.97	0	00:55	6.85	0.01	11.22	0.62	0.77	0.00	0.92	Calculated
200	P0839 Modified	J0050	J0051	46.85	4637.13	0.00	4634.71	0.00	2.42	5.1700	CIRCULAR	42.000	42.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	55.88	0	01:22	9.85	0.08	228.66	0.24	0.58	0.00	2.04	Calculated
201	P0840 Modified	J1013	J1014	123.09	4645.37	0.00	4644.94	0.00	0.43	0.3500	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	14.96	0	00:53	11.48	0.18	24.24	0.62	0.31	0.00	0.74	Calculated
202	P0841	J0019	J1013	291.58	4657.61	0.00	4645.37	0.00	12.24	4.2000	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	14.27	0	00:53	10.33	0.47	21.52	0.66	0.74	0.00	1.03	Calculated
203	P0854	J0093	J1030	419.29	4763.79	0.00	4734.96	0.00	28.83	6.8800	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	18.04	0	00:50	14.85	0.47	59.32	0.30	0.41	0.00	0.76	Calculated
204	P0867	J0844	J1041	625.20	4548.35	0.00	4526.78	0.00	21.57	3.4500	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	23.38	0	00:45	13.52	0.77	42.02	0.56	0.54	0.00	1.05	Calculated
205	P0880	J0194	J1063	249.07	4542.83	0.00	4540.67	2.10	2.16	0.8700	CIRCULAR	15.000	15.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	1.41	0	01:07	3.95	1.05	6.02	0.23	0.33	0.00	0.41	Calculated
206	P0881	J1063	J1062	140.27	4538.57	0.00	4533.84	0.00	4.73	3.3700	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	1.41	0	01:07	5.11	0.46	19.29	0.07	0.24	0.00	0.36	Calculated
207	P0882	J1062	J1064	253.81	4533.84	0.00	4532.63	0.10	1.21	0.4800	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	1.41	0	01:08	2.80	1.51	7.25	0.19	0.58	0.00	0.85	Calculated
208	P0883	J1064	J926	39.75	4532.53	0.00	4532.37	0.00	0.16	0.4000	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	6.38	0	00:45	3.79	0.17	6.66	0.96	0.91	0.00	1.33	Calculated
209	P0884	J926	J927	129.31	4532.37	0.00	4532.36	0.00	0.01	0.0100	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	8.35	0	00:46	3.64	0.59	1.99	3.19	0.55	0.00	1.04	> CAPACITY
210	P0886	J927	J775	101.45	4532.27	0.91	4532.39	-0.90	0.88	0.8700	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	0.00	0	00:00	0.00		1.47	0.00	0.00	0.00	0.00	Calculated
211	P0888	J927	J929	36.18	4532.36	0.00	4531.76	0.10	0.60	1.6600	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	6.32	0	00:46	3.39	0.18	29.13	0.22	0.58	0.00	1.09	Calculated
212	P0889	J586	J0192	644.14	4531.77	0.00	4529.81	0.00	1.96	0.3000	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	6.15	0	00:48	3.40	3.16	12.48	0.49	0.59	0.00	0.94	Calculated
213	P0890	J929	J586	118.40	4532.11	0.45	4531.77	0.00	0.34	0.2900	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	6.29	0	00:46	4.82	0.41	12.12	0.52	0.52	0.00	0.94	Calculated
214	P0907	J0140	J0141	381.11	4688.29	0.00	4675.34	0.00	12.95	3.4000	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	3.25	0	00:45	1.67	3.80	41.70	0.08	0.59	0.00	1.19	Calculated

FUTURE WEST

SN	Element Description ID	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Inlet Invert Offset	Outlet Invert Elevation	Outlet Invert Offset	Total Drop	Average Slope (%)	Channel Type	Channel Height	Channel Width	Left Overbank Manning's Roughness	Channel Manning's Roughness	Right Overbank Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow	Flap Gate	Lengthening Factor	Peak Flow	Time of Peak Flow	Max Flow Velocity	Travel Time	Design Flow	Max Flow / Design Flow Ratio	Max Flow Depth / Total Depth Ratio	Total Time	Max Flow Depth	Reported Condition	
				(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(%)	(ft)	(ft)	(ft)										(cfs)	(days hh:mm)	(ft/sec)	(min)	(cfs)			(min)	(ft)	Calculated	
1	36 Modified	J0858	J0345	118.65	4502.40	0.00	4502.00	0.00	0.40	0.3400	Trapezoidal	10.000	50.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.0000	0.00	1.00	88.27	0 01:05	1.59	1.24	2514.95	0.04	0.47	0.00	4.66	Calculated	
2	2021	5118	5119	1364.15	4552.99	0.00	4543.56	0.00	9.43	0.6900	Trapezoidal	5.000	15.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	4.40	0 00:58	1.96	11.60	365.14	0.01	0.09	0.00	0.46	Calculated	
3	2022	5119	Jun-51	632.02	4543.56	0.00	4540.00	-1.00	3.56	0.6600	Trapezoidal	5.000	15.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	4.72	0 01:09	1.69	6.23	280.27	0.02	0.10	0.00	0.51	Calculated	
4	2023	5120	Jun-15	628.34	4537.49	0.00	4535.00	0.00	2.49	0.4000	Trapezoidal	5.000	15.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	4.50	0 01:22	0.85	12.32	277.22	0.02	0.19	0.00	0.93	Calculated	
5	2091	5217	5216	435.57	4499.00	0.00	4498.00	0.00	1.00	0.2300	Trapezoidal	5.000	25.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	55.76	0 00:44	4.59	1.58	326.86	0.17	0.45	0.00	2.25	Calculated	
6	2092	5216	DB-LD-A-01	1876.73	4498.00	0.00	4496.00	0.00	2.00	0.20	1.1700	Trapezoidal	5.000	25.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	44.29	0 00:51	2.04	15.33	222.69	0.20	0.75	0.00	3.73	Calculated
7	Link-25	Jun-11	Jun-18	5175.85	4505.00	0.00	4496.00	0.00	9.00	0.1100	Trapezoidal	10.000	55.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	81.51	0 03:00	2.53	34.10	2203.06	0.04	0.17	0.00	1.74	Calculated	
8	Link-26	Jun-12	Jun-11	6215.79	4505.50	0.00	4505.00	0.00	0.50	0.0100	Trapezoidal	10.000	55.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	135.13	0 03:00	1.81	57.24	473.84	0.29	0.34	0.00	3.42	Calculated	
9	Link-27	J1089	Jun-12	84.04	4505.02	-1.00	4505.50	0.00	-0.48	-0.5700	Trapezoidal	5.000	22.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	11.91	0 01:40	6.12	0.23	399.72	0.03	0.88	0.00	4.39	Calculated	
10	Link-28	Jun-13	Jun-17	2076.95	4520.00	0.00	4519.50	0.00	0.50	0.0200	Trapezoidal	10.000	55.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	170.52	0 02:23	2.41	14.36	819.72	0.21	0.33	0.00	3.28	Calculated	
11	Link-29	Jun-14	Jun-16	1170.99	4521.00	0.00	4520.50	0.00	0.50	0.0400	Trapezoidal	10.000	55.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	93.10	0 02:28	1.16	16.82	1091.70	0.09	0.37	0.00	3.67	Calculated	
12	Link-30	J0919	Jun-14	29.91	4522.00	0.00	4521.00	0.00	1.00	3.3400	Trapezoidal	5.000	22.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	36.84	0 00:50	12.19	0.04	929.15	0.04	0.60	0.00	3.02	Calculated	
13	Link-31	Jun-15	Jun-52	3828.80	4535.00	0.00	4525.00	0.00	10.00	0.2600	Trapezoidal	10.000	55.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	59.21	0 01:45	2.54	25.12	2700.00	0.02	0.13	0.00	1.32	Calculated	
14	Link-32	Jun-16	Jun-13	715.72	4520.50	0.00	4520.00	0.00	0.50	0.0700	Trapezoidal	10.000	55.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	175.38	0 02:11	2.06	5.79	1396.40	0.13	0.39	0.00	3.89	Calculated	
15	Link-33	Jun-17	Jun-12	5998.03	4519.50	0.00	4505.50	0.00	14.00	0.2300	Trapezoidal	10.000	55.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	192.70	0 02:05	3.56	28.08	2552.44	0.08	0.36	0.00	3.56	Calculated	
16	Link-34	Jun-18	S13	1536.97	4496.00	0.00	4493.00	0.00	3.00	0.2000	Trapezoidal	10.000	55.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	48.92	0 03:00	0.98	26.14	2334.12	0.02	0.26	0.00	2.64	Calculated	
17	Link-40	Jun-27	5215	132.82	4496.00	0.00	4495.50	0.00	0.50	0.3800	Trapezoidal	5.000	25.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	28.37	0 01:40	1.64	1.35	418.54	0.07	0.57	0.00	2.71	Calculated	
18	Link-70	5226	Out-80	115.93	4485.94	0.00	4480.00	0.00	5.94	0.1200	Trapezoidal	10.000	50.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	288.50	0 02:08	11.63	0.17	9804.56	0.03	0.18	0.00	1.82	Calculated	
19	Link-71	J1046	5226	2184.76	4490.25	0.00	4485.94	0.00	4.31	0.2000	Trapezoidal	5.000	41.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	246.92	0 02:05	3.36	10.84	933.55	0.26	0.44	0.00	2.21	Calculated	
20	Link-88	Jun-51	5120	635.18	4541.00	0.00	4536.49	-1.00	4.51	0.7100	Trapezoidal	5.000	15.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	5.07	0 01:18	1.93	5.49	327.36	0.02	0.10	0.00	0.48	Calculated	
21	Link-89	Jun-52	Jun-14	1172.32	4525.00	0.00	4521.00	0.00	4.00	0.3400	Trapezoidal	10.000	55.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	70.05	0 01:54	1.52	12.85	3086.05	0.02	0.24	0.00	2.41	Calculated	
22	OCF003	J0675	J0674	377.62	4625.92	0.00	4610.69	0.00	15.23	0.4030	Trapezoidal	2.000	7.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	19.33	0 00:46	3.89	1.62	117.27	0.16	0.53	0.00	1.03	Calculated	
23	OCF057	J0323	J0325	688.23	4547.93	0.00	4541.10	0.00	6.83	0.9900	Trapezoidal	2.500	6.50	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	10.98	0 00:56	3.05	3.76	74.84	0.15	0.43	0.00	1.06	Calculated	
24	OCF062	J0288	J0796	1211.77	4512.00	0.00	4510.05	0.00	1.95	0.1600	Trapezoidal	4.500	12.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	30.32	0 00:56	2.18	9.26	150.48	0.20	0.41	0.00	1.85	Calculated	
25	OCF064	J0799	J0272	625.94	4498.44	0.00	4497.46	0.00	0.98	0.1600	Trapezoidal	9.500	34.30	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	21.06	0 01:02	0.86	12.13	1212.54	0.02	0.25	0.00	2.38	Calculated	
26	OCF065	J0272	J0800	25.78	4497.46	0.00	4497.46	0.00	0.00	0.0000	Trapezoidal	9.500	34.30	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	88.97	0 00:59	2.44	0.18	190.86	0.47	0.30	0.00	2.84	Calculated	
27	OCF066	J0801	J0273	615.78	4497.36	0.00	4496.75	0.00	0.61	0.1000	Trapezoidal	6.000	29.04	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	74.79	0 01:18	1.88	5.46	525.53	0.14	0.42	0.00	2.51	Calculated	
28	OCF073	J0816	J0817	8.68	4499.36	0.00	4499.16	0.00	0.20	2.3000	Trapezoidal	10.000	50.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	81.89	0 01:20	1.91	0.08	6574.88	0.01	0.28	0.00	2.82	Calculated	
29	OCF087 Modified_from_18"	Jun-45	J0859	306.26	4500.00	0.00	4499.69	0.00	0.31	0.1000	Trapezoidal	10.000	50.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	70.14	0 03:00	2.19	2.33	1378.06	0.05	0.22	0.00	2.23	Calculated	
30	OCF088 Modified	J0340	J0346	211.69	4502.48	0.00	4501.44	0.00	1.04	0.4900	Trapezoidal	10.000	50.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	80.04	0 00:45	2.67	1.32	3035.98	0.03	0.49	0.00	4.89	Calculated	
31	OCF089 Modified	J0345	J0346	163.35	4502.00	0.00	4501.56	0.12	0.44	0.2700	Trapezoidal	10.000	50.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	83.84	0 01:05	1.39	1.96	2248.02	0.04	0.51	0.00	5.07	Calculated	
32	OCF091	J0362	J0345	121.54	4502.39	0.00	4503.00	1.00	-0.61	-0.5000	Trapezoidal	10.000	50.00	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00	17.94	0 00:41	1.99	1.02	3068.59	0.01	0.42	0.00	4.16	Calculated	
33	OCF096	J0277	J0874	1039.92	4496.13	0.00	4494.50	0.00	1.63	0.1600	Trapezoidal	6.000	29.04	0.0000	0.0320	0.0000	0.5000	0.0000	0.0000	0.00	NO	1.00											

SN	Element ID	X Coordinate	Y Coordinate	Description	Invert Elevation	Ground/Rim (Max) Elevation	Ground/Rim (Max) Offset	Initial Water Elevation	Initial Water Depth	Surcharge Elevation	Surcharge Depth	Ponded Area	Minimum Pipe Cover	Peak Inflow	Peak Lateral Inflow	Maximum HGL Elevation Attained	Maximum HGL Depth Attained	Maximum Surcharge Depth Attained	Minimum Freeboard Attained	Average HGL Elevation Attained	Average HGL Depth Attained	Time of Maximum Occurrence	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
					(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft ²)	(inches)	(cfs)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(days hh:mm)	(days hh:mm)	(ac-inches)	(minutes)
1	517	1599757.32	7221300.91		4523.00	4526.00	3.00	0.00	-4523.00	0.00	-4526.00	0.00	0.00	9.35	0.00	4524.13	1.13	0.00	1.87	4524.05	1.05	00:05:56	00:00:00	0.00	0.00
2	5118	1607357.25	7224762.62		4552.99	4558.99	6.00	0.00	-4552.99	4558.99	0.00	0.00	0.00	3.97	0.00	4553.41	0.42	0.00	5.58	4553.36	0.37	00:05:56	00:00:00	0.00	0.00
3	5119	1607354.55	7224305.18		4543.56	4549.56	6.00	0.00	-4543.56	4549.56	0.00	0.00	12.00	4.40	0.00	4544.08	0.52	0.00	5.48	4544.00	0.44	01:05:00	00:00:00	0.00	0.00
4	5120	1606140.44	7223421.70		4537.49	4542.49	5.00	0.00	-4537.49	4542.49	0.00	0.00	0.00	5.07	0.00	4537.99	0.50	0.00	4.50	4537.87	0.38	01:22:00	00:00:00	0.00	0.00
5	5129	1610451.85	7222919.71		4599.15	4599.15	6.00	0.00	-4599.15	4599.15	0.00	0.00	42.00	29.92	0.00	4594.45	1.30	0.00	4.70	4599.71	0.56	00:05:51	00:00:00	0.00	0.00
6	5130	1610354.38	7222152.53		4599.13	4605.13	6.00	0.00	-4599.13	4605.13	0.00	0.00	42.12	30.62	23.97	4600.99	1.86	0.00	4.14	4599.87	0.74	00:05:50	00:00:00	0.00	0.00
7	5131	1610715.96	7220737.64		4635.04	4641.04	6.00	0.00	-4635.04	4641.04	0.00	0.00	54.00	7.07	7.07	4635.72	0.68	0.00	5.32	4635.42	0.38	00:05:52	00:00:00	0.00	0.00
8	5161	1607396.04	7218708.25		4609.65	4615.65	6.00	0.00	-4609.65	4615.65	0.00	0.00	48.00	30.11	30.11	4611.12	1.47	0.00	4.53	4610.32	0.67	00:04:48	00:00:00	0.00	0.00
9	5164	1603996.04	7216726.46		4552.59	4558.59	6.00	0.00	-4552.59	4558.59	0.00	0.00	48.00	13.31	0.00	4554.03	1.44	0.00	4.56	4553.28	0.69	01:00:00	00:00:00	0.00	0.00
10	5165	1606541.74	7216686.47		4618.98	4624.98	6.00	0.00	-4618.98	4624.98	0.00	0.00	54.00	13.52	13.52	4619.99	1.01	0.00	4.99	4619.44	0.46	00:05:55	00:00:00	0.00	0.00
11	5166	1608736.08	7217441.94		4672.42	4678.42	6.00	0.00	-4672.42	4678.42	0.00	0.00	48.00	24.07	24.07	4673.46	1.04	0.00	4.96	4672.82	0.40	00:05:55	00:00:00	0.00	0.00
12	5167	1607717.26	7217450.36		4632.25	4638.25	6.00	0.00	-4632.25	4638.25	0.00	0.00	42.00	47.02	23.54	4633.88	1.63	0.00	4.37	4632.88	0.63	00:05:51	00:00:00	0.00	0.00
13	5169	1602520.37	7220941.07		4523.96	4528.96	5.00	0.00	-4523.96	4528.96	0.00	0.00	0.00	94.05	0.00	4527.19	3.23	0.00	1.77	4526.69	2.73	01:48:00	00:00:00	0.00	0.00
14	5173	1599757.32	7221794.55		4520.50	4524.00	3.50	0.00	-4520.50	4521.24	-2.76	0.00	18.00	9.44	0.00	4522.45	1.95	0.00	1.55	4521.99	1.49	01:58:00	00:00:00	0.00	0.00
15	5195	1603305.68	7226130.53		4520.00	4524.00	4.00	0.00	-4520.00	4523.88	-0.12	0.00	18.00	14.70	0.00	4521.52	1.52	0.00	2.48	4521.43	1.43	03:00:00	00:00:00	0.00	0.00
16	5196	1604650.39	7226146.01		4529.05	4535.05	6.00	0.00	-4529.05	4535.05	0.00	0.00	0.00	14.70	0.00	4530.21	1.16	0.00	4.84	4530.18	1.13	01:49:00	00:00:00	0.00	0.00
17	5198	1602027.77	7226953.73		4511.50	4517.82	6.32	0.00	-4511.50	4517.82	0.00	0.00	33.84	26.86	0.00	4513.77	2.27	0.00	4.05	4513.25	1.75	01:16:00	00:00:00	0.00	0.00
18	5199	1602075.95	7224716.34		4513.61	4518.61	5.00	0.00	-4513.61	4518.61	0.00	0.00	18.00	31.63	31.63	4516.60	2.99	0.00	2.01	4514.62	1.01	00:05:51	00:00:00	0.00	0.00
19	5215	1599563.80	7232090.52		4995.50	4501.05	5.55	0.00	-4495.50	4501.05	0.00	0.00	6.60	28.37	0.00	4498.57	3.07	0.00	2.48	4497.78	2.28	00:03:53	00:00:00	0.00	0.00
20	5216	1599528.34	7230001.58		4498.00	4501.59	3.59	0.00	-4498.00	4501.59	0.00	0.00	0.00	55.76	0.00	4500.75	2.75	0.00	2.25	4500.41	2.41	01:04:00	00:00:00	0.00	0.00
21	5217	1599613.22	7229574.36		4499.00	4503.00	4.00	0.00	-4499.00	4503.00	0.00	0.00	0.00	53.26	53.26	4501.32	2.32	0.00	2.68	4500.55	1.55	00:04:00	00:00:00	0.00	0.00
22	5226	1594724.10	7232457.14		4485.94	4492.94	7.00	0.00	-4485.94	4492.94	0.00	0.00	0.00	289.19	10.72	4487.86	1.92	0.00	8.08	4487.36	1.42	02:08:00	00:00:00	0.00	0.00
23	5228	1594342.98	7230939.91		4489.01	4493.01	4.00	0.00	-4489.01	4493.01	0.00	0.00	0.00	36.19	0.00	4492.02	3.01	0.00	0.99	4491.31	2.30	00:05:50	00:00:00	0.00	0.00
24	5229	1594320.62	7229570.44		4493.63	4499.63	6.00	0.00	-4493.63	4499.63	0.00	0.00	0.00	19.14	0.00	4495.33	1.70	0.00	4.30	4495.25	1.62	01:22:00	00:00:00	0.00	0.00
25	5274	1604474.39	7218093.48		4541.05	4547.05	6.00	0.00	-4541.05	4547.05	0.00	0.00	48.00	13.00	0.00	4542.15	1.10	0.00	4.90	4542.04	0.99	01:49:00	00:00:00	0.00	0.00
26	5276	1608402.95	7227429.70		4571.05	4577.05	6.00	0.00	-4571.05	4577.05	0.00	0.00	42.00	22.79	9.59	4572.42	1.37	0.00	4.63	4571.53	0.88	00:06:46	00:00:00	0.00	0.00
27	5280	1604168.51	7218525.71		4536.00	4544.00	18.00	0.00	-4536.00	4549.05	-4.95	0.00	168.00	76.50	0.00	4538.78	2.78	0.00	15.22	4538.33	2.33	01:49:00	00:00:00	0.00	0.00
28	5281	1604439.71	7218705.43		4543.80	4554.00	10.20	0.00	-4543.80	4554.00	0.00	0.00	0.00	63.50	0.00	4545.58	1.78	0.00	8.42	4545.27	1.47	00:05:50	00:00:00	0.00	0.00
29	DB-DC-061	1610237.86	7219423.46		4635.24	4650.44	15.20	0.00	-4635.24	4650.44	0.00	0.00	0.00	17.47	0.00	4635.94	0.70	0.00	14.50	4635.83	0.59	01:06:00	00:00:00	0.00	0.00
30	J0216	1604696.06	7232322.07		4504.16	4522.31	8.20	0.00	-4514.11	4522.31	0.00	0.00	0.00	14.75	0.00	4515.79	1.68	0.00	6.52	4514.68	0.57	00:04:06	00:00:00	0.00	0.00
31	J0233	1604640.71	7231601.55		4519.52	4527.72	8.20	0.00	-4519.52	4527.72	0.00	0.00	0.00	34.41	0.00	4521.23	1.71	0.00	6.49	4520.16	0.64	00:04:06	00:00:00	0.00	0.00
32	J0252	1604648.08	7230626.99		4522.57	4528.37	5.80	0.00	-4522.57	4528.37	0.00	0.00	0.00	19.17	0.00	4524.13	1.56	0.00	4.24	4523.17	0.60	00:05:50	00:00:00	0.00	0.00
33	J0253	1604129.81	7230607.08		4517.13	4522.53	5.40	0.00	-4517.13	4522.53	0.00	0.00	37.20	1.95	0.00	4517.49	0.36	0.00	5.04	4517.48	0.35	03:00:00	00:00:00	0.00	0.00
34	J0255	1603367.12	7230698.51		4511.98	4516.63	4.65	0.00	-4511.98	4516.63	0.00	0.00	25.20	1.95	0.00	4512.44	0.46	0.00	4.19	4512.41	0.43	03:00:00	00:00:00	0.00	0.00
35	J0261	1602662.89	7230891.74		4506.38	4515.18	8.50	0.00	-4506.38	4515.18	0.00	0.00	78.00	1.94	0.00	4507.20	0.52	0.00	7.98	4507.16	0.48	03:00:00	00:00:00	0.00	0.00
36	J0262	1602070.74	7230907.22		4504.39	4508.44	4.05	0.00	-4504.39	4508.44	0.00	0.00	21.60	1.94	0.00	4505.65	1.26	0.00	2.79	4505.30	0.91	01:00:00	00:00:00	0.00	0.00
37	J0263	1602036.43	7230908.09		4504.24	4508.94	4.70	0.00	-4504.24	4508.94	0.00	0.00	14.40	29.26	0.00	4505.65	1.41	0.00	3.29	4505.28	1.04	01:00:00	00:00:00	0.00	0.00
38	J0268	1604133.81	7232330.88		4511.78	4518.48	6.70	0.00	-4511.78	4518.48	0.00	0.00	55.20	13.70	0.00	4513.14	1.36	0.00	5.34	4512.33	0.55	00:05:52	00:00:00	0.00	0.00
39	J0269	1602030.34	7232323.92		4503.00	4509.00	6.00	0.00	-4503.00	4509.00	0.00	0.00	46.80	11.31	0.00	4504.53	1.53	0.00	4.47	4503.71	0.71	00:05:57	00:00:00	0.00	0.00
40	J0272	1601370.45	7231592.57		4497.46	4497.46	0.00	0.00	-4497.46	4497.46	0.00	0.00	0.00	80.32	0.00	4500.32	2.86	0.00	6.64	4499.86	2.40	01:21:00	00:00:00	0.00	0.00
41	J0273	1600678.08	7231608.14	Invert Elevation changed from 4498.55 to 4496.75 to _avoid_adverse_slope	4496.75	4504.25	7.50	0.00	-4496.75	4504.25	0.00	0.00	18.00	74.79	0.00	4499.44	2.69	0.00	4.81	4498.94	2.19	01:24:00	00:00:00	0.00	0.00
42	J0277	1600596.94	7232299.28		4496.13	4502.13	6.00	0.00	-4496.13	4502.13	0.00	0.00	0.00	74.38	0.00	4497.77	1.64	0.00	4.36	4497.43	1.30	01:27:00	00:00:00	0.00	0.00
43	J0278	1600654.74	7232274.83		4495.95	4503.05	7.10	0.00	-4495.95	4503.05	0.00	0.00	37.20	37.28	0.00	4498.47	2.52	0.00	4.58	4498.03	2.08	01:25:00	00:00:00	0.00	0.00
44	J0287	1603610.41	7228952.31	Modified invert from 4515.89 to 4512.68avoid adverse slope	4512.68	4519.49	6.81	0.00	-4512.68	0.00	-4519.49	0.00	45.71												

79	J0365	1600652.51	7224888.21	4507.82	4515.82	8.00	0.00	-4507.82	4515.82	0.00	0.00	0.00	9.00	0.00	4509.13	1.31	0.00	6.69	4509.04	1.22	0	00:43	0	00:00	0.00	0.00
80	J0366	1600663.97	7226459.25	4504.75	4512.50	7.75	0.00	-4504.75	4512.50	0.00	0.00	0.00	19.21	0.00	4512.50	7.75	0.00	0.00	4507.33	2.58	0	00:48	0	00:48	0.00	0.00
81	J0377	1599966.09	7226774.26	4503.24	4510.64	7.40	0.00	-4503.24	4510.64	0.00	0.00	58.80	12.34	0.00	4508.48	5.24	0.00	2.16	4506.84	3.60	0	00:48	0	00:48	0.00	0.00
82	J0442	1598479.56	7227473.98	4497.79	4509.72	11.93	0.00	-4497.79	4509.72	0.00	0.00	77.16	70.10	0.00	4500.91	3.12	0.00	8.81	4500.34	2.55	0	01:50	0	00:00	0.00	0.00
83	J0445	1596897.25	7227486.16	4496.01	4505.81	9.80	0.00	-4496.01	4505.81	0.00	0.00	0.00	10.12	0.00	4500.03	4.02	0.00	5.78	4499.30	3.29	0	01:48	0	00:00	0.00	0.00
84	J0446	1596513.56	7227485.99	4496.56	4504.11	7.55	0.00	-4496.56	4504.11	0.00	0.00	42.60	20.04	0.00	4500.13	3.57	0.00	3.98	4499.41	2.85	0	01:49	0	00:00	0.00	0.00
85	J0447	1596578.24	7227491.29	4496.40	4503.73	7.33	0.00	-4496.40	4503.73	0.00	-4503.73	39.96	24.29	0.00	4500.10	3.70	0.00	3.63	4499.38	2.98	0	01:48	0	00:00	0.00	0.00
86	J0448	1596524.63	7225884.84	4499.11	4508.63	9.52	0.00	-4499.11	4508.63	0.00	0.00	78.24	18.39	0.00	4501.25	2.14	0.00	7.38	4500.87	1.76	0	01:50	0	00:00	0.00	0.00
87	J0470	1607412.67	7228394.79	4558.21	0.00	-4558.21	0.00	-4558.21	0.00	0.00	0.00	0.00	12.69	12.69	4559.79	1.58	0.00	0.42	4558.98	0.77	0	00:50	0	00:00	0.00	0.00
88	J0596	1607334.32	7229514.36	4553.27	4555.62	2.35	0.00	-4553.27	4555.62	0.00	0.00	4.20	11.21	0.00	4554.12	0.85	0.00	1.50	4553.62	0.35	0	00:54	0	00:00	0.00	0.00
89	J0666	1612164.95	7224851.02	4633.29	4636.96	3.67	0.00	-4633.29	4636.96	0.00	0.00	20.04	13.17	13.17	4634.46	1.17	0.00	2.50	4633.74	0.45	0	00:47	0	00:00	0.00	0.00
90	J0668	1611531.88	7222864.68	4603.74	4616.42	12.68	0.00	-4603.74	4616.42	0.00	0.00	116.16	7.18	0.00	4612.34	8.60	0.00	4.08	4611.01	7.27	0	00:47	0	00:00	0.00	0.00
91	J0669	1611502.76	7222858.20	4603.50	4616.12	12.62	0.00	-4603.50	4616.12	0.00	0.00	65.76	8.53	0.00	4612.26	8.76	0.00	3.86	4611.01	7.51	0	00:47	0	00:00	0.00	0.00
92	J0670	1611401.02	7222729.39	4610.49	4615.17	4.68	0.00	-4610.49	4615.17	0.00	0.00	32.16	5.71	0.00	4611.06	0.57	0.00	4.11	4610.73	0.24	0	00:52	0	00:00	0.00	0.00
93	J0671	1611358.10	7222859.75	4607.40	4616.06	8.66	0.00	-4607.40	4616.06	0.00	0.00	34.56	7.62	0.00	4611.82	4.42	0.00	4.24	4611.13	3.73	0	00:51	0	00:00	0.00	0.00
94	J0673	1611210.97	7221473.43	4632.39	4636.14	3.75	0.00	-4632.39	4636.14	0.00	0.00	0.00	3.76	0.00	4632.83	0.44	0.00	3.31	4632.70	0.31	0	01:01	0	00:00	0.00	0.00
95	J0674	1611130.99	7222003.59	4610.69	4614.14	3.45	0.00	-4610.69	4614.14	0.00	0.00	11.40	22.99	0.00	4612.12	1.43	0.00	2.02	4611.37	0.68	0	00:48	0	00:00	0.00	0.00
96	J0675	1611445.36	7222114.88	4625.92	0.00	-4625.92	0.00	-4625.92	0.00	0.00	0.00	19.37	3.26	4626.61	0.69	0.00	1.31	4626.18	0.26	0	00:46	0	00:00	0.00	0.00	
97	J0677	1611530.98	7223665.17	4612.80	4618.82	6.02	0.00	-4612.80	4618.82	0.00	0.00	42.00	6.67	9.88	4614.25	1.45	0.00	4.57	4613.17	0.37	0	00:52	0	00:00	0.00	0.00
98	J0678	1611861.24	7223674.20	4620.29	4621.66	1.37	0.00	-4620.29	4621.66	0.00	0.00	0.00	3.94	3.94	4620.82	0.53	0.00	0.97	4620.50	0.21	0	00:41	0	00:00	0.00	0.00
99	J0700	1608761.61	7226056.00	4576.81	4580.86	4.05	0.00	-4576.81	4580.86	0.00	0.00	12.60	0.55	0.55	4576.99	0.18	0.00	3.87	4576.90	0.09	0	00:49	0	00:00	0.00	0.00
100	J0701	1607421.95	7225699.82	4561.38	4565.26	3.88	0.00	-4561.38	4565.26	0.00	0.00	7.80	0.43	0.00	4561.73	0.35	0.00	3.53	4561.69	0.31	0	01:10	0	00:00	0.00	0.00
101	J0709	1609483.04	7218437.79	4665.91	4672.41	6.50	0.00	-4665.91	4672.41	0.00	0.00	54.00	23.81	23.81	4667.28	1.37	0.00	5.13	4666.41	0.50	0	00:50	0	00:00	0.00	0.00
102	J0713	1610069.32	7219343.71	4646.89	4651.59	4.70	0.00	-4646.89	4651.59	0.00	0.00	23.40	23.20	0.00	4647.79	0.90	0.00	3.80	4647.24	0.35	0	00:50	0	00:00	0.00	0.00
103	J0787	1604696.46	7229968.23	4526.78	4532.08	5.30	0.00	-4526.78	4532.08	0.00	0.00	31.60	5.30	0.00	4527.59	0.81	0.00	4.49	4527.55	0.77	0	03:00	0	00:00	0.00	0.00
104	J0796	1602680.12	7229443.70	4510.05	4513.05	3.00	0.00	-4510.05	4513.05	0.00	0.00	0.00	30.32	0.00	4512.29	2.24	0.00	2.26	4511.40	1.35	0	01:05	0	00:00	0.00	0.00
105	J0797	1601660.58	7229557.13	4500.97	4511.52	10.55	0.00	-4500.97	4511.52	0.00	0.00	84.60	23.11	0.00	4502.88	1.91	0.00	8.64	4502.00	1.03	0	01:00	0	00:00	0.00	0.00
106	J0799	1601415.82	7230969.73	4498.44	4498.44	0.00	0.00	-4498.44	4498.44	0.00	0.00	0.00	23.28	0.00	4500.34	1.90	0.00	7.60	4499.91	1.47	0	01:21	0	00:00	0.00	0.00
107	J0800	1601344.67	7231592.46	4497.46	0.00	-4497.46	0.00	-4497.46	0.00	0.00	0.00	88.97	0.00	4500.28	2.82	0.00	6.68	4499.82	2.36	0	01:22	0	00:00	0.00	0.00	
108	J0801	1601292.88	7231596.40	4497.36	0.00	-4497.36	0.00	-4497.36	0.00	0.00	0.00	78.59	0.00	4499.68	2.32	0.00	3.68	4499.26	1.90	0	01:23	0	00:00	0.00	0.00	
109	J0804	1607327.35	7228546.44	4556.93	4560.33	3.40	0.00	-4556.93	4560.33	0.00	0.00	16.80	12.56	0.00	4558.36	1.43	0.00	1.97	4557.55	0.62	0	00:53	0	00:00	0.00	0.00
110	J0815	1602006.63	7231597.93	4500.00	4504.14	4.14	0.00	-4500.00	4504.14	0.00	0.00	0.00	61.89	0.00	4503.11	3.11	0.00	1.03	4502.52	2.52	0	01:20	0	00:00	0.00	0.00
111	J0816	1601963.29	7231596.55	4499.36	0.00	-4499.36	0.00	-4499.36	0.00	0.00	0.00	61.89	0.00	4502.09	2.73	0.00	7.27	4501.66	2.30	0	01:21	0	00:00	0.00	0.00	
112	J0817	1601955.02	7231593.93	4499.16	0.00	-4499.16	0.00	-4499.16	0.00	0.00	0.00	61.89	0.00	4501.07	2.91	0.00	7.09	4501.64	2.48	0	01:21	0	00:00	0.00	0.00	
113	J0856	1602027.77	7226953.73	4514.96	4516.96	2.00	0.00	-4514.96	4516.96	0.00	0.00	0.00	0.00	0.00	4514.96	0.00	0.00	2.00	4514.96	0.00	0	00:00	0	00:00	0.00	0.00
114	J0858	1599981.63	7227383.36	4502.40	4507.90	5.50	0.00	-4502.40	4507.90	0.00	0.00	0.00	89.76	0.00	4506.86	4.46	0.00	5.54	4506.44	4.04	0	01:37	0	00:00	0.00	0.00
115	J0859	1598773.12	7227387.39	4498.69	4505.19	5.50	0.00	-4498.69	4505.19	0.00	0.00	0.00	70.14	0.00	4501.87	2.18	0.00	7.82	4501.69	2.00	0	00:00	0	00:00	0.00	0.00
116	J0860	1596894.61	7227547.99	4495.01	4499.51	4.50	0.00	-4495.01	4499.51	0.00	0.00	0.00	119.68	0.00	4498.92	3.91	0.00	5.09	4498.32	3.31	0	01:49	0	00:00	0.00	0.00
117	J0864	1598193.80	7227480.82	4496.83	4508.08	11.25	0.00	-4496.83	4508.08	0.00	0.00	87.00	37.72	0.00	4500.74	3.91	0.00	7.34	4500.06	3.23	0	01:49	0	00:00	0.00	0.00
118	J0873	1596852.66	7233103.13	4491.02	4496.00	4.98	0.00	-4491.02	4496.00	-4496.00	0.00	0.00	255.49	0.00	4494.33	3.31	0.00	5.69	4493.32	2.30	0	01:57	0	00:00	0.00	0.00
119	J0874	1599557.19	7232299.46	4494.50	4497.12	2.62	0.00	-4494.50	4497.12	0.00	0.00	0.00	102.27	0.00	4496.97	2.47	0.00	3.53	4496.52	2.02	0	01:33	0	00:00	0.00	0.00
120	J0878	1598026.22	7233105.57	4491.49	0.00	-4491.49	0.00	-4491.49	0.00	0.00	0.00	104.68	0.00	4494.83	3.34	0.00	1.66	4493.89	2.40	0	02:10	0	00:00	0.00	0.00	
121	J0882	1597944.17	7233105.39	4491.25	4494.05	2.80	0.00	-4491.25	4494.05	0.00	0.00	0.00	94.58	0.00	4494.44	3.19	0.00	1.81	4493.38	2.13	0	01:59	0	00:00	0.00	0.00
122	J0884	1596878.65	7230290.78	4493.15	0.00	-4493.15	0.00	-4493.15	0.00	0.00	0.00	132.75	0.00	4497.90	4.75	0.00	4.25	4497.02	3.87	0	00:52	0	00:00	0.00	0.00	
123	J0885	1596878.00	7230310.28	4492.95	0.00	-4492.95	0.00	-4492.95	0.00	0.00	0.00	132.30	0.00	4497.15	4.20	0.00	4.80	4496.25	3.30	0	01:55	0	00:00	0.00	0.00	
124	J0886	1596893.03	7229575.86	4494.00	4496.35	2.35	0.00	-4494.00	449																	

162	J1046	1596785.70	7233103.64	4490.25	4493.26	3.01	0.00	-4490.25	4493.26	0.00	0.00	0.00	248.90	0.00	4492.76	2.51	0.00	2.49	4492.04	1.79	0	02:03	0	00:00	0.00	0.00
163	J1070	1604121.35	7230662.29	4516.03	4524.03	8.00	0.00	-4516.03	4524.03	0.00	0.00	70.80	1.95	0.00	4516.51	0.48	0.00	7.52	4516.49	0.46	0	03:00	0	00:00	0.00	0.00
164	J1075	1603555.80	7227450.42	4517.48	4527.63	10.15	0.00	-4517.48	4527.63	0.00	0.00	79.80	26.98	0.00	4519.22	1.74	0.00	8.41	4518.37	0.89	0	01:00	0	00:00	0.00	0.00
165	J1088	1596511.94	7224172.79	4508.61	0.00	-4508.61	0.00	-4508.61	0.00	0.00	0.00	0.00	12.14	0.00	4510.15	1.54	0.00	2.46	4509.27	0.66	0	03:00	0	00:00	0.00	0.00
166	J1089	1596357.70	7224152.43	4506.02	4513.02	7.00	0.00	-4506.02	4511.02	-2.00	0.00	36.00	12.14	0.00	4510.15	4.13	0.00	2.87	4507.99	1.97	0	03:00	0	00:00	0.00	0.00
167	Jun-11	1593278.41	7228763.87	4505.00	4511.00	6.00	0.00	-4505.00	4511.00	0.00	0.00	0.00	138.82	28.39	4507.20	2.20	0.00	7.80	4505.87	0.87	0	03:00	0	00:00	0.00	0.00
168	Jun-12	1596296.35	7224102.84	4505.50	4522.00	16.50	0.00	-4505.50	4522.00	0.00	0.00	78.00	202.95	0.00	4510.15	4.65	0.00	11.85	4507.59	2.09	0	03:00	0	00:00	0.00	0.00
169	Jun-13	1601759.80	7221869.63	4520.00	4530.50	10.50	0.00	-4520.00	4537.00	6.50	0.00	0.00	183.68	0.00	4523.98	3.98	0.00	6.52	4523.19	3.19	0	02:22	0	00:00	0.00	0.00
170	Jun-14	1603438.34	7221970.50	4521.00	4540.00	19.00	0.00	-4521.00	4540.00	0.00	0.00	108.00	96.48	0.00	4524.52	3.52	0.00	15.48	4523.81	2.81	0	02:18	0	00:00	0.00	0.00
171	Jun-15	1606155.44	7222798.62	4535.00	4547.00	12.00	0.00	-4535.00	4547.00	0.00	0.00	0.00	61.61	0.00	4536.37	1.37	0.00	10.63	4536.13	1.13	0	01:28	0	00:00	0.00	0.00
172	Jun-16	1602445.05	7221733.93	4520.50	4531.00	10.50	0.00	-4520.50	4538.00	7.00	0.00	6.00	178.13	0.00	4524.32	3.82	0.00	6.68	4523.61	3.11	0	02:17	0	00:00	0.00	0.00
173	Jun-17	1599759.17	7221889.40	4519.50	4530.00	10.50	0.00	-4519.50	4533.00	3.00	0.00	6.00	183.40	29.87	4522.19	2.69	0.00	7.81	4521.54	2.04	0	01:58	0	00:00	0.00	0.00
174	Jun-18	1593051.46	7233817.10	4496.00	4502.00	6.00	0.00	-4496.00	4502.00	0.00	0.00	0.00	81.51	0.00	4497.28	1.28	0.00	8.72	4496.36	0.36	0	03:00	0	00:00	0.00	0.00
175	Jun-26	1602029.70	7226689.46	4512.00	4518.00	6.00	0.00	-4512.00	4518.00	0.00	0.00	30.00	29.74	0.00	4514.10	2.10	0.00	3.90	4513.38	1.38	0	00:57	0	00:00	0.00	0.00
176	Jun-27	1599568.31	7231957.78	4496.00	4502.00	6.00	0.00	-4496.00	4502.00	0.00	0.00	0.00	28.37	0.00	4498.60	2.60	0.00	3.40	4497.87	1.87	0	00:53	0	00:00	0.00	0.00
177	Jun-28	1607305.37	7218137.50	4613.00	4619.00	6.00	0.00	-4613.00	4619.00	0.00	0.00	0.00	13.00	0.00	4613.99	0.99	0.00	5.01	4613.89	0.89	0	01:40	0	00:00	0.00	0.00
178	Jun-37	1611137.89	7222686.51	4605.00	4611.00	6.00	0.00	-4605.00	4611.00	0.00	0.00	0.00	9.00	0.00	4605.95	0.95	0.00	5.05	4605.89	0.89	0	02:08	0	00:00	0.00	0.00
179	Jun-39	1604560.71	7221438.38	4534.00	4540.00	6.00	0.00	-4534.00	4540.00	0.00	0.00	0.00	25.00	0.00	4535.78	1.78	0.00	4.22	4535.67	1.67	0	02:25	0	00:00	0.00	0.00
180	Jun-42	1603319.94	7227454.54	4516.00	4522.00	6.00	4516.00	0.00	4522.00	0.00	0.00	0.00	81.18	0.00	4519.11	3.11	0.00	2.89	4517.65	1.65	0	01:00	0	00:00	0.00	0.00
181	Jun-44	1599702.92	7227271.27	4502.00	4508.00	6.00	4502.00	0.00	4508.00	0.00	0.00	0.00	75.87	0.00	4505.47	3.47	0.00	2.53	4505.03	3.03	0	03:00	0	00:00	0.00	0.00
182	Jun-45	1599064.69	7227273.66	4500.00	4506.00	6.00	4500.00	0.00	4506.00	0.00	0.00	0.00	70.16	0.00	4502.27	2.27	0.00	7.73	4502.11	2.11	0	03:00	0	00:00	0.00	0.00
183	Jun-46	1602172.68	7229480.46	4509.09	4514.69	5.60	0.00	-4509.09	4515.00	0.31	0.00	31.20	23.80	0.00	4511.43	2.34	0.00	3.26	4510.77	1.68	0	01:03	0	00:00	0.00	0.00
184	Jun-47	1605408.63	7229970.44	4535.00	4541.00	6.00	4535.00	0.00	4541.00	0.00	0.00	47.40	9.07	0.00	4535.80	0.80	0.00	5.20	4535.41	0.41	0	01:06	0	00:00	0.00	0.00
185	Jun-48	1604220.47	7230607.88	4518.00	4524.00	6.00	0.00	-4518.00	4524.00	0.00	0.00	0.00	1.95	0.00	4518.48	0.48	0.00	5.52	4518.45	0.45	0	03:00	0	00:00	0.00	0.00
186	Jun-50	1607574.11	7227415.14	4564.00	4570.00	6.00	4564.00	0.00	4570.00	0.00	0.00	0.00	6.52	0.00	4564.98	0.98	0.00	5.02	4564.91	0.91	0	01:11	0	00:00	0.00	0.00
187	Jun-51	1606484.38	7224290.55	4541.00	4547.00	6.00	4541.00	0.00	4547.00	0.00	0.00	12.00	4.72	0.00	4541.55	0.55	0.00	5.45	4541.37	0.37	0	01:12	0	00:00	0.00	0.00
188	Jun-52	1604459.98	7222376.39	4525.00	4531.00	6.00	4525.00	0.00	4531.00	0.00	0.00	0.00	73.23	0.00	4526.34	1.34	0.00	8.66	4526.01	1.01	0	01:54	0	00:00	0.00	0.00
189	Out-78	1608626.17	7226846.52	4576.00	4579.50	3.50	0.00	-4576.00	0.00	-4579.50	0.00	18.00	13.96	13.96	4577.34	1.34	0.00	2.16	4576.41	0.41	0	00:45	0	00:00	0.00	0.00
190	SJ3	1592537.98	7234835.62	4493.00	4499.00	6.00	0.00	-4493.00	4499.00	0.00	0.00	0.00	48.92	0.00	4496.99	3.99	0.00	6.01	4493.70	0.70	0	03:00	0	00:00	0.00	0.00

SN	Element Description ID	From (Inlet) Node	To (Outlet) Node	From (Inlet) Node Invert Elevation (ft)	To (Outlet) Node Invert Elevation (ft)	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (inches)	Rectangular Orifice Height (ft)	Rectangular Orifice Width (ft)	Orifice Invert Elevation (ft)	Orifice Invert Offset (ft)	Orifice Coefficient	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)
1	950W Modified_from_8"_to_10"	950W	J0331	4527.77	4526.62	BOTTOM	CIRCULAR	NO	10.00			4527.77	0.00	0.6140	5.30	0 03:00
2	Art Wing	Art Wing	Jun-48	4518.50	4518.00	BOTTOM	CIRCULAR	NO	7.00			4518.00	-0.50	0.6140	1.95	0 03:00
3	Orifice-14 Modified_from_24"_to_18"	DB-DC-D-06	DB-DC-D-06J	4635.00	4635.24	BOTTOM	CIRCULAR	NO	18.00			4631.00	-4.00	0.6140	17.47	0 01:06
4	Storehouse	Storehouse	J0366	4504.69	4504.75	SIDE	RECT_CLOSED	NO		1.46	0.42	4504.69	0.00	0.6260	7.52	0 00:48

SN	Element ID	X Coordinate	Y Coordinate	Description	Invert Elevation	Boundary Type	Flap Gate	Fixed Water Elevation	Peak Inflow	Peak Lateral Inflow	Maximum HGL Depth Attained	Maximum HGL Elevation Attained
					(ft)			(ft)	(cfs)	(cfs)	(ft)	(ft)
1	LD-E08	1597591.43	7235318.55		0.00	NORMAL	NO		108.47	108.47	0.00	0.00
2	Out-80	1594656.20	7232551.11		4480.00	NORMAL	NO		288.50	0.00	1.71	4481.71
3	Sump07	1611714.58	7223391.18		0.00	NORMAL	NO		14.25	14.25	0.00	0.00

SN	Element Description ID	From (Inlet) Node	To (Outlet) Node	From (Inlet) Node Invert Elevation (ft)	To (Outlet) Node Invert Elevation (ft)	Crest Elevation (ft)	Crest Height (ft)	Outlet Type	Outlet Reference	Flap Gate	Peak Flow (cfs)	Time of Peak Flow Occurrence (days hh:mm)
1	2009	DB-J-DC-B-05	Jun-28	4615.69	4613.00	4615.69	0.00	Rating Curve Table	Depth Above Inlet	NO	13.00	0 00:56
2	400N 80cfs	J0454	Jun-45	4500.44	4500.00	0.00	-4500.44	Rating Curve Table	Depth Above Inlet	NO	70.16	0 03:00
3	48cfs	DB-J-LD-A-03	J0815	4499.00	4500.00	4500.00	1.00	Rating Curve Table	Depth Above Inlet	NO	61.89	0 01:20
4	DC-03	DB-DC-03	Jun-13	4519.50	4520.00	0.00	-4519.50	Rating Curve Table	Depth Above Inlet	NO	15.00	0 00:37
5	Link-36	DB-LD-A-01	Jun-27	4496.00	4496.00	4496.00	0.00	Rating Curve Table	Depth Above Inlet	NO	28.37	0 01:39
6	Orifice-03	64	5281	4544.00	4543.80	4544.00	0.00	Rating Curve Table	Depth Above Inlet	NO	63.50	0 00:50
7	Outlet DB-LD-C-04	DB-LD-C-04	5196	4529.05	4529.05	4529.05	0.00	Rating Curve Table	Depth Above Inlet	NO	14.70	0 00:55
8	Outlet-10	DB-LD-E-01	J0886	4499.00	4494.00	4499.00	0.00	Rating Curve Table	Depth Above Inlet	NO	18.65	0 01:13
9	Outlet-11	DB-LD-E-04	J0888	4498.00	4492.00	4498.00	0.00	Rating Curve Table	Depth Above Inlet	NO	13.00	0 00:48
10	Outlet-12	DB-LD-E-07	J0873	4495.00	4491.02	4495.00	0.00	Rating Curve Table	Depth Above Inlet	NO	39.00	0 00:48
11	Outlet-14	DB-LD-E-05	5228	4491.00	4489.01	4489.01	-1.99	Rating Curve Table	Depth Above Inlet	NO	17.15	0 01:43
12	Outlet-15	DB-LD-E-02	5229	4493.63	4493.63	4493.63	0.00	Rating Curve Table	Depth Above Inlet	NO	19.14	0 01:20
13	Outlet-16	DB-LD-C-01	J0445	4505.00	4496.01	4505.00	0.00	Rating Curve Table	Depth Above Inlet	NO	42.28	0 01:04
14	Outlet-18	DB-DC-B-01	5169	4522.96	4523.96	4522.96	0.00	Rating Curve Table	Depth Above Inlet	NO	17.55	0 01:48
15	Outlet-19	DB_J-DC-A-01	517	4520.00	4523.00	4520.00	0.00	Rating Curve Table	Depth Above Inlet	NO	9.35	0 00:52
16	Outlet-20	DB-DC-01	J1020	4514.05	4514.05	4514.05	0.00	Rating Curve Table	Depth Above Inlet	NO	12.21	0 00:46
17	Outlet-21	DB-DC-E-01	Jun-15	4530.64	4535.00	4530.64	0.00	Rating Curve Table	Depth Above Inlet	NO	26.80	0 00:41
18	Outlet-25	DB_J-DC-E-04	J0673	4662.51	4632.39	4662.51	0.00	Rating Curve Table	Depth Above Inlet	NO	3.76	0 01:00
19	Outlet-26	DB_J-DC-E-03	J0895	4577.00	4576.56	0.00	-4577.00	Rating Curve Table	Depth Above Inlet	NO	18.30	0 00:00
20	Outlet-27	DB-DC-E-02	J0896	4554.50	4554.00	0.00	-4554.50	Rating Curve Table	Depth Above Inlet	NO	4.44	0 00:36
21	Outlet-28	DB-J-DC-C-02	5118	4555.00	4552.99	4555.00	0.00	Rating Curve Table	Depth Above Inlet	NO	3.97	0 01:18
22	Outlet-29	DB-J-DC-F-01	Jun-37	4605.35	4605.00	4605.35	0.00	Rating Curve Table	Depth Above Inlet	NO	9.00	0 00:44
23	Outlet-30	DB-J-DC-D-02	Jun-39	4534.21	4534.00	4534.21	0.00	Rating Curve Table	Depth Above Inlet	NO	25.00	0 02:24
24	Outlet-32	DB-J-LD-C-03	J0355	4509.00	4508.98	4509.00	0.00	Rating Curve Table	Depth Above Inlet	NO	18.60	0 01:20
25	Outlet-33	J0346	Jun-44	4501.44	4502.00	4501.44	0.00	Rating Curve Table	Depth Above Inlet	NO	75.87	0 01:37
26	Outlet-35	DB-LD-A-03	J0216	4529.00	4514.11	4516.66	-12.34	Rating Curve Table	Depth Above Inlet	NO	14.75	0 00:45
27	Outlet-40	DB-LD-01	J0365	4507.50	4507.82	4507.50	0.00	Rating Curve Table	Depth Above Inlet	NO	9.00	0 00:35
28	Outlet-43	Div_LD-A-05	J0252	4536.00	4522.57	4536.00	0.00	Rating Curve Table	Depth Above Inlet	NO	19.17	0 00:50
29	Outlet-44	Div_LD-A-05	950W	4536.00	4527.77	4536.00	0.00	Rating Curve Table	Depth Above Inlet	NO	28.75	0 00:50
30	Outlet-45	Stor-40	Jun-42	4526.00	4516.00	0.00	-4526.00	Rating Curve Table	Depth Above Inlet	NO	28.31	0 00:55
31	Outlet-46	Stor-40	DB-J-LD-C-03	4526.00	4509.00	4526.00	0.00	Rating Curve Table	Depth Above Inlet	NO	28.31	0 00:55
32	Outlet-48	DB-LD-A-03	J0233	4529.00	4519.52	0.00	-4529.00	Rating Curve Table	Depth Above Inlet	NO	34.41	0 00:45
33	Outlet-49	Stor-40	Jun-42	4526.00	4516.00	0.00	-4526.00	Rating Curve Table	Depth Above Inlet	NO	14.16	0 00:55
34	Outlet-52	Diverson	J0350	4515.00	4505.92	0.00	-4515.00	Rating Curve Table	Depth Above Inlet	NO	25.63	0 00:45
35	Outlet-53	Diverson	Storehouse	4515.00	4504.69	0.00	-4515.00	Rating Curve Table	Depth Above Inlet	NO	25.63	0 00:45
36	Outlet-54	Diversion	Stor-44	4510.00	4500.00	4510.00	0.00	Rating Curve Table	Depth Above Inlet	NO	71.39	0 00:50
37	Outlet-55	Diversion	DB-LD-C-01	4510.00	4505.00	4510.00	0.00	Rating Curve Table	Depth Above Inlet	NO	107.09	0 00:50
38	Outlet-56	Stor-44	J1039	4500.00	4499.95	0.00	-4500.00	Rating Curve Table	Depth Above Inlet	NO	18.30	0 00:47
39	Outlet-59	Stor-46	Jun-50	4564.00	4564.00	4564.00	0.00	Rating Curve Table	Depth Above Inlet	NO	6.52	0 01:10
40	Outlet-60	DB-LD-B-03	J0334	4527.77	4520.67	4527.77	0.00	Rating Curve Table	Depth Above Inlet	NO	6.31	0 01:09

SN	Element Description ID	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (inches)	Pipe Width (inches)	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow (cfs)	Flap Gate	Lengthening Factor	Peak Flow (cfs)	Time of Peak Flow Occurrence (days h:mm)	Max Flow Velocity (ft/sec)	Travel Time (min)	Design Flow Capacity (cfs)	Max Flow / Design Flow Ratio	Max Flow Depth / Total Depth Ratio	Total Time Surcharge (min)	Max Flow Depth (ft)	Reported Condition
1	2000	5165	5164	2628.15	4618.98	0.00	4552.59	0.00	66.39	2.5300	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	13.31	0 00:55	10.07	4.35	16.70	0.80	0.80	0.00	1.18	Calculated
2	2007	5166	5167	1018.86	4672.42	0.00	4632.25	0.00	40.17	3.9400	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	24.07	0 00:55	11.13	1.53	44.92	0.54	0.00	1.31	Calculated	
3	2008	5167	DB-J-DC-B-05	743.26	4632.25	0.00	4615.69	0.00	16.56	2.2300	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	46.51	0 00:51	10.72	1.16	61.22	0.76	0.83	0.00	2.05	Calculated
4	2010	5274	5280	529.52	4541.05	0.00	4536.00	0.00	5.05	0.9500	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	13.00	0 01:49	4.97	1.78	22.09	0.59	0.78	0.00	1.55	Calculated
5	2011	5280	5169	2927.76	4536.00	0.00	4522.96	-1.00	13.04	0.4500	CIRCULAR	48.000	48.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	76.50	0 01:49	7.82	6.24	92.12	0.83	0.75	0.00	3.00	Calculated
6	2012	5169	Jun-16	793.77	4523.96	0.00	4520.50	0.00	3.46	0.4400	CIRCULAR	48.000	48.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	86.86	0 01:10	11.91	1.11	94.84	0.92	0.87	0.00	3.49	Calculated
7	2013	5131	5130	1460.36	4635.04	0.00	4599.12	-0.01	35.92	2.4600	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	6.95	0 00:52	5.05	4.82	16.47	0.42	0.73	0.00	1.09	Calculated
8	2014	5130	5129	773.35	4599.12	-0.01	4593.15	0.00	5.97	0.7700	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	29.92	0 00:50	9.18	1.40	36.07	0.83	0.63	0.00	1.56	Calculated
9	2015	5129	J0966	414.88	4593.15	0.00	4585.12	0.00	8.03	1.9400	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	29.84	0 00:51	10.06	0.69	57.06	0.52	0.59	0.00	1.43	Calculated
10	2087	5196	5195	1344.79	4529.05	0.00	4520.00	0.00	9.05	0.6700	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	14.70	0 01:28	7.57	2.96	33.65	0.44	0.54	0.00	1.34	Calculated
11	2088	5195	Jun-42	1324.47	4520.00	0.00	4516.00	0.00	4.00	0.3000	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	14.70	0 01:39	4.97	4.44	23.64	0.65	0.65	0.00	1.98	Calculated
12	2089	5199	Jun-26	1884.31	4513.61	0.00	4512.00	0.00	1.61	0.0900	CIRCULAR	42.000	42.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	29.74	0 00:52	4.17	7.53	29.41	1.01	0.70	0.00	2.45	> CAPACITY
13	2090	5198	DB-J-LD-C-03	485.90	4511.50	0.00	4509.00	0.00	2.50	0.5100	CIRCULAR	42.000	42.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	25.38	0 00:56	3.19	2.54	72.17	1.35	0.82	0.00	2.88	Calculated
14	2091	5229	5228	1369.65	4493.63	0.00	4489.01	0.00	4.62	0.3400	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	19.14	0 01:22	6.24	3.66	23.82	0.80	0.92	0.00	2.06	Calculated
15	2097	517	5173	493.64	4523.00	0.00	4520.50	0.00	2.50	0.5100	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	9.44	0 01:31	6.93	1.19	16.10	0.59	0.76	0.00	1.52	Calculated
16	2098	5173	Jun-17	118.04	4520.50	0.00	4519.50	0.00	1.00	0.8500	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	9.42	0 02:06	8.88	0.22	20.82	0.45	0.99	0.00	1.97	Calculated
17	2115	5281	5280	325.34	4543.80	0.00	4536.00	0.00	7.80	2.4000	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	63.56	0 00:51	14.87	3.66	103.27	0.62	0.76	0.00	2.28	Calculated
18	90596	Jun-44	J0454	653.20	4502.00	0.00	4500.46	0.02	1.54	0.2400	CIRCULAR	66.000	66.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	75.61	0 01:37	6.19	1.76	163.05	0.46	0.74	0.00	4.04	Calculated
19	CO01	J0874	J0931	283.40	4494.50	0.00	4493.36	0.00	1.14	0.4000	Rectangular	48.000	120.00	0.0150	0.5000	0.0000	0.0000	0.00	NO	1.00	101.97	0 01:33	5.08	0.93	318.79	0.32	0.52	0.00	2.07	Calculated
20	CO02 36' Box Culvert Modified/RR 51 cfs	J0884	J0885	19.51	4493.15	0.00	4492.95	0.00	0.20	1.0300	CIRCULAR	66.000	66.00	0.0150	0.5000	0.0000	0.0000	0.00	NO	1.00	132.30	0 01:52	6.40	0.05	294.67	0.45	0.81	0.00	4.47	Calculated
21	CO03 Modified/RR 51 cfs	J0888	J0889	23.92	4492.00	0.00	4491.67	0.00	0.33	1.3800	CIRCULAR	66.000	66.00	0.0150	0.5000	0.0000	0.0000	0.00	NO	1.00	144.39	0 01:56	6.45	0.06	341.84	0.42	0.89	0.00	4.92	Calculated
22	Link-101	5161	64	3464.64	4609.65	0.00	4544.00	0.00	65.65	1.8900	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	27.67	0 00:48	9.56	6.04	314.14	0.89	0.87	0.00	1.72	Calculated
23	Link-39	Jun-26	5198	274.39	4512.00	0.00	4511.00	0.00	0.50	0.1800	CIRCULAR	42.000	42.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	26.86	0 00:55	5.43	0.84	42.95	0.63	0.59	0.00	2.08	Calculated
24	Link-41	Jun-28	5274	2831.33	4613.00	0.00	4541.05	0.00	71.95	2.5400	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	13.00	0 01:40	11.08	4.26	16.75	0.78	0.70	0.00	1.05	Calculated
25	Link-46	Out-78	5276	800.92	4576.00	0.00	4571.05	0.00	4.95	0.6200	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	13.55	0 00:46	6.04	2.21	17.78	0.76	0.67	0.00	1.31	Calculated
26	Link-52	Jun-50	J0361	848.26	4564.00	0.00	4557.17	0.00	6.83	0.8100	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	6.52	0 01:11	7.08	2.00	94.43	0.69	0.55	0.00	0.83	Calculated
27	Link-62	J0233	DB-J-LD-A-03	2216.00	4519.50	0.00	4505.50	0.00	30.52	1.3300	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	32.04	0 00:46	7.26	5.09	39.47	0.84	0.84	0.00	2.06	Calculated
28	Link-63	J0263	DB-J-LD-A-03	729.61	4504.24	0.00	4499.00	0.00	5.24	0.7200	CIRCULAR	42.000	42.00	0.0130	0.5000	0.0000	0.0000	0.00	YES	1.00	28.94	0 01:00	4.02	3.02	85.26	0.34	0.70	0.00	1.45	Calculated
29	Link-64	J0269	DB-J-LD-A-03	786.32	4503.00	0.00	4500.78	1.78	2.22	0.2800	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	9.44	0 01:54	3.30	3.97	12.02	0.79	0.88	0.00	1.76	Calculated
30	Link-65	J0291	J0263	1429.48	4509.03	0.00	4504.24	0.00	4.79	0.3400	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	27.82	0 00:58	6.73	3.54	38.61	0.72	0.57	0.00	1.70	Calculated
31	Link-66	5215	J0874	383.20	4495.50	0.00	4494.50	0.00	1.00	0.2600	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	33.23	0 00:56	8.73	0.73	34.07	0.98	0.82	0.00	2.47	Calculated
32	Link-68 IRR 6 cfs + Plat A	Jun-47	950W	504.90	4535.00	0.00	4526.00	-1.77	9.00	1.7800	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	9.07	0 01:06	3.86	2.18	27.07	0.33	0.70	0.00	1.40	Calculated
33	Link-73	5228	5226	1661.84	4489.01	0.00	4485.94	0.00	3.07	0.1800	CIRCULAR	48.000	48.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	39.20	0 00:53	8.33	3.33	61.74	0.63	0.54	0.00	2.15	Calculated
34	Link-81 IRR 31 cfs	J0442	J0445	1740.92	4497.79	0.00	4496.01	0.00	1.78	0.1000	CIRCULAR	48.000	48.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	34.85	0 01:51	3.34	8.69	45.93	0.76	0.89	0.00	3.54	Calculated
35	Link-86	Stor-46	5276	808.88	4564.00	0.00	4471.05	0.00	-7.05	-0.8700	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	22.17	0 00:46	5.44	2.48	38.29	0.58	0.77	0.00	1.90	Calculated
36	Link-99	5164	64	2275.75	4552.59	0.00	4544.00	0.00	8.59	0.3800	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	11.48									

87	P0616	J0377	J0341	231.96	4503.24	0.00	4503.11	0.00	0.13	0.0600	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	12.34	0 00:40	3.11	1.24	9.71	1.27	1.00	139.00	2.50	SURCHARGED
88	P0617	J0364	J0377	676.22	4504.28	0.00	4503.24	0.00	1.04	0.1500	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	10.01	0 03:00	2.49	4.53	16.09	0.62	1.00	134.00	2.50	SURCHARGED
89	P0618	J0366	J0364	348.85	4504.75	0.00	4504.28	0.00	0.47	0.1300	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	10.00	0 03:00	2.73	2.13	15.06	0.66	1.00	112.00	2.50	SURCHARGED
90	P0619	J0365	J0366	1537.36	4507.82	0.00	4504.75	0.00	3.07	0.2000	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	9.79	0 00:44	4.91	5.22	18.33	0.53	0.76	0.00	1.89	Calculated
91	P0653 Modified from 4 30" culverts to a single box culvert	J0878	J0882	82.05	4491.49	0.00	4491.25	0.00	0.24	0.2900	Rectangular	42.000	72.00	0.0150	0.5000	0.0000	0.0000	0.00	NO	1.00	94.58	0 02:10	5.08	0.27	120.28	0.79	0.93	0.00	3.25	Calculated
92	P0656 Modified IRR 51 cfs	J0886	J0887	20.29	4494.00	0.00	4493.44	0.00	0.56	2.7600	CIRCULAR	72.000	72.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	133.37	0 01:50	10.91	0.03	703.58	0.19	0.75	0.00	4.46	Calculated
93	P0659 modified IRR 51 cfs	J0890	J0891	15.93	4492.79	0.00	4492.23	0.00	0.56	3.5200	CIRCULAR	66.000	66.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	143.19	0 02:01	12.14	0.02	629.62	0.23	0.60	0.00	3.30	Calculated
94	P0706	Jun-37	J0966	1299.35	4605.00	0.00	4585.12	0.00	19.88	1.5300	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	9.00	0 02:48	8.29	2.61	12.99	0.69	0.81	0.00	1.21	Calculated
95	P0707	J0895	J0896	400.91	4576.56	0.00	4554.00	0.00	22.56	5.6300	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	19.08	0 00:01	24.47	0.27	97.30	0.20	0.25	0.00	0.63	Calculated
96	P0708	J0897	J0898	129.60	4546.99	0.00	4546.67	0.00	0.32	0.2500	CIRCULAR	42.000	42.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	12.74	0 02:41	5.37	0.40	49.99	0.45	0.45	0.00	1.59	Calculated
97	P0712 Modified	J0713	DB-DC-D-06	186.45	4646.89	0.00	4633.00	0.00	11.89	6.3800	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	23.18	0 00:50	9.51	0.33	57.13	0.41	0.72	0.00	1.44	Calculated
98	P0717	J0906	J0908	370.39	4608.98	0.00	4603.12	0.00	5.86	1.5800	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	28.79	0 00:49	9.77	0.63	28.45	1.01	0.95	0.00	1.89	> CAPACITY
99	P0718	J0908	J0907	99.05	4603.17	0.05	4600.52	-0.05	2.65	2.6800	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	28.74	0 01:20	9.35	0.18	36.65	0.78	0.94	0.00	1.89	Calculated
100	P0719	J0909	J0910	1059.45	4600.48	0.00	4573.13	0.00	27.35	2.5800	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	28.70	0 01:20	12.40	1.42	36.35	0.79	0.79	0.00	1.57	Calculated
101	P0720 modified	J0911	J0912	90.46	4544.66	0.00	4544.84	0.00	-0.18	-0.2000	CIRCULAR	48.000	48.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	56.39	0 01:18	6.21	0.24	64.08	0.88	0.68	0.00	2.71	Calculated
102	P0721 Modified	Jun-39	J0914	599.04	4534.00	0.00	4531.88	0.00	2.12	0.3500	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	25.00	0 02:25	8.12	1.23	39.68	0.63	0.45	0.00	1.35	Calculated
103	P0722	J0915	J0916	34.02	4528.19	0.00	4527.50	0.00	0.69	2.0300	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	37.03	0 00:48	13.74	0.04	58.41	0.63	0.54	0.00	1.34	Calculated
104	P0723	J0917	J0918	100.68	4522.53	0.00	4522.31	0.00	0.22	0.2200	CIRCULAR	48.000	48.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	36.84	0 00:49	7.00	0.24	67.15	0.55	0.56	0.00	2.24	Calculated
105	P0724	J0361	J0359	950.73	4557.17	0.00	4543.23	0.15	13.94	1.4700	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	6.52	0 01:13	7.10	2.23	27.39	0.24	0.33	0.00	0.67	Calculated
106	P0725	J0359	J0360	474.98	4543.06	0.00	4537.99	0.00	5.09	1.0700	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	6.52	0 01:14	6.55	1.21	23.42	0.28	0.36	0.00	0.73	Calculated
107	P0726	J0360	J0358	576.89	4537.99	0.00	4531.23	0.65	6.76	1.1700	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	6.52	0 01:16	6.52	1.47	24.49	0.27	0.37	0.00	0.73	Calculated
108	P0727	J0358	J1075	1168.92	4530.58	0.00	4517.48	0.00	13.10	1.1200	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	26.98	0 00:55	9.10	2.14	43.42	0.62	0.62	0.00	1.53	Calculated
109	P0728 modified	J0357	J0354	759.35	4512.52	0.00	4506.55	-2.89	5.97	0.7900	CIRCULAR	48.000	48.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	78.00	0 00:58	6.36	1.99	91.48	0.85	0.96	0.00	3.81	Calculated
110	P0729 Modified	J0354	J0355	46.59	4506.55	-2.89	4506.49	-2.49	0.06	0.1300	CIRCULAR	48.000	48.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	92.82	0 00:57	7.39	0.11	142.73	0.65	1.00	21.00	4.00	SURCHARGED
111	P0732	J0355	J0352	236.81	4506.49	-2.49	4504.96	-3.57	1.53	0.6500	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	86.93	0 01:12	6.15	0.64	58.15	1.49	1.00	33.00	3.00	SURCHARGED
112	P0733	J0352	J0351	44.97	4504.96	-3.57	4504.84	-2.99	0.12	0.2700	CIRCULAR	48.000	48.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	86.41	0 01:12	7.73	0.10	179.21	0.48	0.97	0.00	3.86	Calculated
113	P0734	J0351	J0350	695.30	4504.84	-2.99	4505.92	0.00	-1.08	-0.1600	CIRCULAR	48.000	48.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	84.80	0 01:09	7.32	1.58	75.29	1.13	0.88	0.00	3.49	> CAPACITY
114	P0735	J0350	J0348	73.49	4505.92	0.00	4505.33	0.00	0.59	0.8000	CIRCULAR	48.000	48.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	91.53	0 00:57	9.73	0.13	128.71	0.71	0.70	0.00	2.81	Calculated
115	P0736	J0348	J0349	719.93	4505.33	0.00	4502.60	0.00	2.73	0.3800	CIRCULAR	66.000	66.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	91.44	0 00:58	6.14	1.95	206.79	0.44	0.66	0.00	3.61	Calculated
116	P0737 Modified	J0349	J0347	206.15	4502.60	0.00	4502.50	0.00	0.10	0.0500	CIRCULAR	66.000	66.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	90.35	0 00:59	4.94	0.70	73.96	1.22	0.83	0.00	4.58	> CAPACITY
117	P0738 modified36	J0347	J0858	229.02	4502.50	0.00	4502.39	-0.01	0.11	0.0500	CIRCULAR	66.000	66.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	89.76	0 01:10	5.67	0.67	70.17	1.28	0.82	0.00	4.49	> CAPACITY
118	P0741 IRR 28 cfs	J0701	DB-J-DC-C-02	971.76	4561.61	0.23	4555.00	0.00	6.61	0.6800	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	0.16	0 01:10	0.04	404.90	55.01	0.00	0.52	0.00	1.56	Calculated
119	P0744 IRR 28 cfs	J0922	J0923	1008.97	4527.05	0.00	4524.46	0.00	2.59	0.2600	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	14.13	0 01:41	3.94	4.27	20.78	0.68	0.76	0.00	1.89	Calculated
120	P0745 IRR 28 cfs	J0923	Jun-52	61.90	4524.22	-0.24	4525.00	0.00	-0.78	-1.2600	CIRCULAR	30.000	30.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	14.05	0 01:42	6.41	0.16	38.31	0.37	0.72	0.00	1.81	Calculated
121	P0765	DB-DC-D-06j	J0905	283.78	4635.24	0.00	4625.96	0.00	9.28	3.2700	CIRCULAR	48.000	48.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	17.47	0 01:06	10.36	0.46	259.76	0.07	0.19	0.00	0.78	Calculated
122	P0766 Modified	J0709	J0713	1089.58	4665.91	0.00	4647.64	0.75	18.27	1.6800	CIRCULAR	24.000	24.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	23.20	0 00:50	10.23	1.78	29.29	0.79	0.68	0.00	1.35	Calculated
123	P0770	J0671	J1002	125.75	4611.68	4.28	4608.60	0.00	3.08	2.4500	CIRCULAR	18.000	18.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	0.28	0 00:51	2.91	0.72	16.44	0.02	0.23	0.00	0.34	Calculated
124	P0792 Modified	J0287	J0288	43.76	4512.68	0.00	4512.00	0.00	0.68	1.5500	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	29.33	0 00:53	13.34	0.05	83.14	0.35	0.56	0.00	1.68	Calculated
125	P0793 Modified IRR 13 cfs	J0338	J0287	415.86	4513.68	0.00	4512.68	0.00	1.00	0.2400	CIRCULAR	36.000	36.00	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	29.52	0 00:53	6.38	1.09	32.71	0.90	0.65	0.00	1.93	Calculated
126	P0795	J0980	J0338	322.04	4516.56	0.00	4513.68	0.00	2.88	0.8900	CIRCULAR	32.040	32.04	0.0130	0.5000	0.0000	0.0000	0.00	NO	1.00	29.80	0 00:52	6.90	0.78	46.07	0.65	0.73	0.00	1.89	Calculated
127	P0816 Modified	J0907	J0909	23.01	4600.57	0.00	4600.48	0.00	0.09	0.3900	CIRCULAR	24.000	24.00	0.0130	0.500															

SN	Element Description ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	10 Year Event	Time Series	3-Hour MFF	Cumulative	inches				0	

SN	Element ID	X Coordinate	Y Coordinate	Description	Invert Elevation	Max (Rim) Elevation	Max (Rim) Offset	Initial Water Elevation	Initial Water Depth	Ponded Area	Evaporation Loss	Peak Inflow	Peak Lateral Inflow	Peak Outflow	Peak Exfiltration Flow Rate	Maximum HGL Elevation	Maximum HGL Depth	Average HGL Elevation	Average HGL Depth	Time of Maximum HGL Occurrence	Total Exfiltration Volume	Total Flooded Volume	Total Time Flooded	Total Retention Time
					(ft)	(ft)	(ft)	(ft)	(ft)	(ft ²)		(cfs)	(cfs)	(cfs)	(cfm)	(ft)	(ft)	(ft)	(ft)	(days hh:mm)	(1000-ft ³)	(ac-inches)	(minutes)	(seconds)
1	64	1604552.00	7218587.50		4544.00	4554.00	10.00	4544.00	0.00	0.00	0.00	147.70	114.91	63.50	0.00	4548.87	4.87	4547.03	3.03	0 01:19	0.00	0.00	0.00	0.00
2	950W	1604903.78	7229977.66		4527.77	4540.00	12.23	0.00	-4527.77	0.00	0.00	28.75	0.00	5.30	0.00	4531.71	3.94	4531.18	3.41	0 03:00	0.00	0.00	0.00	0.00
3	Art Wing	1604239.92	7230602.10		4518.50	4524.50	6.00	0.00	-4518.50	0.00	0.00	36.71	21.84	1.95	0.00	4520.69	2.19	4520.45	1.95	0 03:00	0.00	0.00	0.00	0.00
4	DB_J-DC-A-01	1599939.02	7221208.85		4520.00	4526.00	6.00	0.00	-4520.00	0.00	0.00	44.24	44.24	9.35	0.00	4524.43	4.43	4524.16	4.16	0 01:23	0.00	0.00	0.00	0.00
5	DB_J-DC-E-03	1610015.11	7223443.94		4577.00	4584.38	7.38	4581.97	4.97	0.00	0.00	56.85	19.98	18.30	0.00	4581.97	4.97	4581.89	4.89	0 01:36	0.00	0.00	0.00	0.00
6	DB_J-DC-E-04	1611698.79	7221117.22		4662.51	4666.16	3.65	0.00	-4662.51	0.00	0.00	9.45	9.45	3.76	0.00	4665.94	3.43	4664.06	1.55	0 01:00	0.00	0.00	0.00	0.00
7	DB-DC-01	1599759.49	7223510.57		4514.05	4524.05	10.00	4514.05	0.00	0.00	0.00	53.97	53.97	12.21	0.00	4518.40	4.35	4517.98	3.93	0 01:09	0.00	0.00	0.00	0.00
8	DB-DC-03	1602264.28	7222165.47		4519.50	4530.50	11.00	0.00	-4519.50	0.00	0.00	33.02	33.02	15.00	0.00	4523.98	4.48	4523.48	3.98	0 02:23	0.00	0.00	0.00	0.00
9	DB-DC-B-01	1602717.15	7220907.50		4522.96	4528.96	6.00	4522.96	0.00	0.00	0.00	42.79	42.79	17.55	0.00	4527.19	4.23	4526.88	3.92	0 01:48	0.00	0.00	0.00	0.00
10	DB-DC-D-06	1610236.08	7219417.76	Office_changed_to_18"_from_24"	4635.00	4650.44	15.44	0.00	-4635.00	0.00	0.00	53.81	37.09	17.47	0.00	4639.97	4.97	4638.11	3.11	0 01:06	0.00	0.00	0.00	0.00
11	DB-DC-E-01	1606265.47	7222890.75		4530.64	4538.64	8.00	4530.64	0.00	0.00	0.00	176.81	176.81	26.80	0.00	4536.55	5.91	4536.23	5.59	0 01:19	0.00	0.00	0.00	0.00
12	DB-DC-E-02	1609665.38	7223319.86		4554.50	4560.50	6.00	0.00	-4554.50	0.00	0.00	57.87	57.87	4.44	0.00	4559.37	4.87	4559.08	4.58	0 03:00	0.00	0.00	0.00	0.00
13	DB-J-DC-B-05	1607428.10	7218135.06		4615.69	4621.69	6.00	4615.69	0.00	0.00	0.00	46.51	0.00	13.00	0.00	4619.93	4.24	4619.15	3.46	0 01:14	0.00	0.00	0.00	0.00
14	DB-J-DC-C-02	1607360.03	7224762.62		4555.00	4560.00	5.00	4555.00	0.00	0.00	0.00	20.80	20.79	3.97	0.00	4558.79	3.79	4558.54	3.54	0 01:18	0.00	0.00	0.00	0.00
15	DB-J-DC-D-02	1604560.60	7221436.03		4534.21	4544.21	10.00	4534.21	0.00	0.00	0.00	83.33	68.65	25.00	0.00	4540.35	6.14	4539.41	5.20	0 03:00	0.00	0.00	0.00	0.00
16	DB-J-DC-F-01	1611142.09	7222686.41		4605.35	4611.85	6.50	4605.35	0.00	0.00	0.00	28.66	0.00	10.11	0.00	4609.27	3.92	4608.77	3.42	0 01:24	0.00	0.00	0.00	0.00
17	DB-J-LD-A-03	1602132.52	7231595.67		4499.00	4510.00	11.00	0.00	-4499.00	0.00	0.00	110.82	54.00	61.89	0.00	4503.81	4.81	4502.87	3.87	0 01:20	0.00	0.00	0.00	0.00
18	DB-J-LD-C-03	1602053.89	7227439.19		4509.00	4518.00	9.00	0.00	-4509.00	0.00	0.00	70.56	0.00	18.60	0.00	4513.75	4.75	4513.14	4.14	0 01:20	0.00	0.00	0.00	0.00
19	DB-LD-01	1600656.45	7224777.75		4507.50	4518.00	10.50	0.00	-4507.50	0.00	0.00	53.58	53.58	9.00	0.00	4511.92	4.42	4511.74	4.24	0 01:24	0.00	0.00	0.00	0.00
20	DB-LD-A-01	1599567.00	7231877.91		4496.00	4501.00	5.00	0.00	-4496.00	0.00	0.00	105.62	78.14	39.89	0.00	4500.73	4.73	4500.16	4.16	0 01:39	0.00	0.00	0.00	0.00
21	DB-LD-A-03	1605084.10	7231866.73	DB-LD-A-03	4529.00	4539.00	10.00	0.00	-4529.00	0.00	0.00	49.43	49.43	49.16	0.00	4531.97	2.97	4529.81	0.81	0 00:45	0.00	0.00	0.00	0.00
22	DB-LD-B-03	1605430.98	7229121.09	DB-LD-B-03	4527.77	4532.00	4.23	0.00	-4527.77	0.00	0.00	18.10	18.10	6.31	0.00	4531.45	3.68	4529.98	2.21	0 01:09	0.00	0.00	0.00	0.00
23	DB-LD-C-01	1596682.86	7227261.21		4505.00	4515.00	10.00	0.00	-4505.00	0.00	0.00	107.09	0.00	42.28	0.00	4509.68	4.68	4507.15	2.15	0 01:04	0.00	0.00	0.00	0.00
24	DB-LD-C-04	1604880.16	7226015.97		4529.05	4535.05	6.00	0.00	-4529.05	0.00	0.00	59.13	59.13	14.70	0.00	4533.80	4.75	4533.38	4.33	0 01:30	0.00	0.00	0.00	0.00
25	DB-LD-E-01	1596980.77	7229497.19		4499.00	4510.00	11.00	0.00	-4499.00	0.00	0.00	87.96	87.96	18.65	0.00	4503.78	4.78	4503.22	4.22	0 01:13	0.00	0.00	0.00	0.00
26	DB-LD-E-02	1594535.20	7229575.43		4493.63	4499.63	6.00	4493.63	0.00	0.00	0.00	102.19	102.19	19.14	0.00	4498.65	5.02	4498.23	4.60	0 01:20	0.00	0.00	0.00	0.00
27	DB-LD-E-04	1596975.45	7230890.43		4498.00	4510.00	12.00	4491.67	-6.33	0.00	0.00	65.02	65.02	13.00	0.00	4502.51	4.51	4502.07	4.07	0 01:14	0.00	0.00	0.00	0.00
28	DB-LD-E-05	1594599.68	7231027.81		4491.00	4500.00	9.00	0.00	-4491.00	0.00	0.00	27.70	27.70	17.15	0.00	4495.03	4.03	4494.47	3.47	0 01:43	0.00	0.00	0.00	0.00
29	DB-LD-E-07	1597005.45	7233036.79	DB-LD-02	4495.00	4520.00	25.00	0.00	-4495.00	0.00	0.00	110.02	110.02	39.00	0.00	4499.72	4.72	4497.39	2.39	0 01:08	0.00	0.00	0.00	0.00
30	Div_LD-A-05	1606188.26	7230370.89		4536.00	4546.00	10.00	0.00	-4536.00	0.00	0.00	48.06	48.06	47.92	0.00	4538.93	2.93	4537.01	1.01	0 00:50	0.00	0.00	0.00	0.00
31	Diversion	1598071.21	7226434.50		4510.00	4520.00	10.00	0.00	-4510.00	0.00	0.00	178.50	178.50	178.49	0.00	4514.78	4.78	4512.14	2.14	0 00:50	0.00	0.00	0.00	0.00
32	Diverson	1601613.03	7226400.43		4515.00	4525.00	10.00	0.00	-4515.00	0.00	0.00	51.32	51.32	51.27	0.00	4518.03	3.03	4515.63	0.63	0 00:45	0.00	0.00	0.00	0.00
33	J0346	1599727.03	7227270.99		4501.44	4508.20	6.76	0.00	-4501.44	0.00	0.00	152.78	19.33	85.53	0.00	4506.85	5.41	4506.41	4.97	0 01:37	0.00	0.00	0.00	0.00
34	J0454	1599067.72	7227272.65		4500.44	4505.96	5.52	0.00	-4500.44	0.00	0.00	75.61	0.00	70.16	0.00	4505.08	4.64	4504.36	3.92	0 03:00	0.00	0.00	0.00	0.00
35	Stor-40	1602909.13	7226215.04		4526.00	4536.00	10.00	0.00	-4526.00	0.00	0.00	70.84	70.84	70.78	0.00	4529.13	3.13	4527.16	1.16	0 00:55	0.00	0.00	0.00	0.00
36	Stor-44	1596701.32	7225650.41		4500.00	4506.00	6.00	0.00	-4500.00	0.00	0.00	71.39	0.00	18.30	0.00	4504.62	4.62	4503.80	3.80	0 01:11	0.00	0.00	0.00	0.00
37	Stor-46	1607594.15	7227417.98		4564.00	4571.00	7.00	0.00	-4564.00	0.00	0.00	29.66	7.85	6.52	0.00	4567.91	3.91	4567.31	3.31	0 01:10	0.00	0.00	0.00	0.00
38	Storehouse	1601423.99	7226144.21	DB-LD-C-02	4504.69	4512.00	7.31	0.00	-4504.69	0.00	0.00	28.83	0.00	1.35	0.00	4507.60	2.91	4507.25	2.56	0 03:00	0.00	0.00	0.00	0.00

SN	Element Description ID	Area	Drainage Node ID	Total Precipitation	Total Runoff	Peak Runoff	Time of Concentration
		(acres)		(inches)	(inches)	(cfs)	(days hh:mm:ss)
1	DC-01a	37.69	DB-DC-01	1.01	0.50	33.99	0 00:00:00
2	DC-01b	22.30	DB-DC-01	1.01	0.52	19.98	0 00:00:00
3	DC-02	35.38	Jun-17	1.01	0.54	29.87	0 00:00:00
4	DC-03	58.24	DB-DC-03	1.01	0.27	33.03	0 00:00:00
5	DC-A-01	63.80	DB_J-DC-A-01	1.01	0.44	44.24	0 00:00:00
6	DC-B-01	79.39	DB-DC-B-01	1.01	0.40	42.80	0 00:00:00
7	DC-B-04	30.05	5165	1.01	0.35	13.53	0 00:00:00
8	DC-B-05	240.71	64	1.01	0.37	114.92	0 00:00:00
9	DC-B-06	60.35	5167	1.01	0.23	23.54	0 00:00:00
10	DC-B-07	51.46	5166	1.01	0.27	24.07	0 00:00:00
	Manually entered initial abstraction = 0.77 for Subarea B. The program crashes when initial abstraction for subarea B is greater than the total precipitation.						
11	DC-B-08	54.99	5161	1.01	0.40	30.12	0 00:00:00
12	DC-B-09	42.40	J0709	1.01	0.31	23.82	0 00:00:00
13	DC-C-01	126.18	J0922	1.01	0.19	14.15	0 00:00:00
	Manually entered initial abstraction = 0.77 for Subarea B. The program crashes when initial abstraction for subarea B is greater than the total precipitation.						
14	DC-C-02	37.40	DB-J-DC-C-02	1.01	0.31	20.80	0 00:00:00
15	DC-D-01	26.84	J0915	1.01	0.49	27.75	0 00:00:00
16	DC-D-02	123.57	DB-J-DC-D-02	1.01	0.44	68.65	0 00:00:00
17	DC-D-03	102.84	J0910	1.01	0.43	53.42	0 00:00:00
18	DC-D-04	15.35	J0906	1.01	0.45	9.24	0 00:00:00
19	DC-D-05	28.00	J0906	1.01	0.34	17.42	0 00:00:00
20	DC-D-06	31.24	DB-DC-D-06	1.01	0.35	19.20	0 00:00:00
21	DC-D-07	28.79	DB-DC-D-06	1.01	0.30	17.89	0 00:00:00
22	DC-E-01	310.60	DB-DC-E-01	1.01	0.28	176.84	0 00:00:00
23	DC-E-02	114.24	DB-DC-E-02	1.01	0.28	57.88	0 00:00:00
24	DC-E-03	44.34	5130	1.01	0.29	23.97	0 00:00:00
25	DC-E-04	41.25	5131	1.01	0.16	7.07	0 00:00:00
26	DC-E-05	36.49	DB_J-DC-E-03	1.01	0.38	19.98	0 00:00:00
27	DC-E-06	28.35	DB_J-DC-E-04	1.01	0.20	9.46	0 00:00:00

28	DC-F-01	Manually entered initial abstraction = 0.77 for Subarea B. The program crashes when initial abstraction for subarea B is greater than the total precipitation.	7.74	J0677	1.01	0.28	3.88	0 00:00:00
29	DC-F-02		6.21	J0678	1.01	0.34	3.94	0 00:00:00
30	DC-G-01		13.97	J0675	1.01	0.41	9.26	0 00:00:00
31	DC-G-02		19.99	J0666	1.01	0.34	13.17	0 00:00:00
32	LD-03		77.44	5217	1.01	0.34	53.26	0 00:00:00
33	LD-03b		26.42	J0346	1.01	0.34	19.34	0 00:00:00
34	LD-A-01		258.29	DB-LD-A-01	1.01	0.26	78.14	0 00:00:00
35	LD-A-02		132.70	DB-J-LD-A-03	1.01	0.28	39.63	0 00:00:00
36	LD-A-03		86.94	DB-LD-A-03	1.01	0.30	49.43	0 00:00:00
37	LD-A-04a		62.80	DB-J-LD-A-03	1.01	0.33	31.47	0 00:00:00
38	LD-A-04b		41.99	Art Wing	1.01	0.31	21.85	0 00:00:00
39	LD-A-05		92.52	Div_LD-A-05	1.01	0.34	48.08	0 00:00:00
40	LD-A-06		29.16	J0470	1.01	0.29	12.69	0 00:00:00
41	LD-A-07		12.19	5276	1.01	0.39	9.59	0 00:00:00
42	LD-B-01		83.67	J0291	1.01	0.34	42.41	0 00:00:00
43	LD-B-01b		44.92	J0354	1.01	0.35	26.02	0 00:00:00
44	LD-B-02		42.31	J0334	1.01	0.33	21.13	0 00:00:00
45	LD-B-03		34.62	DB-LD-B-03	1.01	0.32	18.10	0 00:00:00
46	LD-C-01		260.50	Diversion	1.01	0.39	178.50	0 00:00:00
47	LD-C-02		53.48	Diverson	1.01	0.44	51.32	0 00:00:00
48	LD-C-02b		101.91	J0339	1.01	0.43	94.32	0 00:00:00
49	LD-C-03	Manually entered initial abstraction = 0.77 for Subarea B. The program crashes when initial abstraction for subarea B is greater than the total precipitation.	166.55	Stor-40	1.01	0.30	70.84	0 00:00:00
50	LD-C-04		160.98	DB-LD-C-04	1.01	0.27	59.14	0 00:00:00
51	LD-C-05		47.94	J0358	1.01	0.32	20.74	0 00:00:00
52	LD-C-06		29.26	Stor-46	1.01	0.13	7.86	0 00:00:00
53	LD-C-07		16.86	Out-78	1.01	0.37	13.96	0 00:00:00
54	LD-D-01		95.79	DB-LD-01	1.01	0.33	53.58	0 00:00:00
55	LD-D-02	Manually entered initial abstraction = 0.77 for Subarea B. The program crashes when initial abstraction for subarea B is greater than the total precipitation.	70.73	5199	1.01	0.24	31.64	0 00:00:00
56	LD-E-01		131.69	DB-LD-E-01	1.01	0.34	87.97	0 00:00:00
57	LD-E-02		172.27	DB-LD-E-02	1.01	0.33	102.22	0 00:00:00
58	LD-E-03		66.77	Jun-11	1.01	0.32	28.39	0 00:00:00
59	LD-E-04		82.74	DB-LD-E-04	1.01	0.40	65.03	0 00:00:00

60	LD-E-05	129.06	DB-LD-E-05	1.01	0.29	27.70	0 00:00:00
61	LD-E-06	107.58	5226	1.01	0.16	10.72	0 00:00:00
62	LD-E-07	164.02	DB-LD-E-07	1.01	0.36	110.05	0 00:00:00
63	LD-E-08	193.04	LD-E08	1.01	0.35	108.48	0 00:00:00
	Manually entered initial abstraction = 0.77 for Subarea B. The program crashes when initial abstraction for subarea B is greater than the total precipitation.						
64	Sub-207	3.11	J0700	1.01	0.12	0.55	0 00:00:00
65	SUMP-07	23.14	Sump07	1.01	0.36	14.25	0 00:00:00

APPENDIX B
COST ESTIMATE

Table B-1
Conceptual Cost Estimate Unit Cost Summary
Springville Storm Drainage Plan

Description	Unit	Unit Cost
Detention Basins		
Property Acquisition	Acre	\$140,000
Excavation and Hauling	Cubic Yard	\$13
Landscaping (Non-irrigated Native)	Square Foot	\$0.30
Landscaping (Irrigated Turfgrass)	Square Foot	\$2.60
Inlet Apron	Lump Sum	\$12,000
Outlet Structure	Lump Sum	\$16,000
Emergency Spillway	Lump Sum	\$5,000
Riprap	Lump Sum	\$20,000
Storm Drain Pipelines		
Permanent Easement Acquisition	Acre	\$10,000
18-inch RCP	Linear Foot	\$90
24-inch RCP	Linear Foot	\$100
30-inch RCP	Linear Foot	\$120
36-inch RCP ⁽¹⁾	Linear Foot	\$145
42-inch RCP ⁽¹⁾	Linear Foot	\$180
48-inch RCP ⁽¹⁾	Linear Foot	\$215
54-inch RCP ⁽¹⁾	Linear Foot	\$250
60-inch RCP ⁽¹⁾	Linear Foot	\$285
66-inch RCP ⁽¹⁾	Linear Foot	\$320
72-inch RCP ⁽¹⁾	Linear Foot	\$360
78-inch RCP ⁽¹⁾	Linear Foot	\$420
84-inch RCP ⁽¹⁾	Linear Foot	\$470
90-inch RCP ⁽¹⁾	Linear Foot	\$520
96-inch RCP ⁽¹⁾	Linear Foot	\$570
Manhole ⁽¹⁾	Each	\$4,000
Catch Basin ⁽¹⁾	Each	\$2,800
Traffic Control	Linear Foot	\$16
Storm Drain Culvert Road Crossings for Creeks and Washes		
3' X 6' Box Culvert (2-5 feet of cover)	Lump Sum	\$60,000
Channel Construction		
Excavation and Hauling	Cubic Yard	\$14
Landscaping (Non-irrigated Native)	Square Yard	\$2
Riprap	Cubic Yard	\$35
Other		
Boring Cost Factor	Per Linear Foot	3X
Pollution Control Outfall Treatment	Each	\$30,000
Contingency	10%	10 Percent of Construction Cost
Engineering, Legal, and Administration	10%	10 Percent of Construction Cost

(1) - Includes trenching, installation, backfill, and asphalt surface restoration.

(2) - Includes trenching, installation, and backfill w/out asphalt surface restoration

Table B-2
Conceptual Cost Estimate - Pipes
Springville Storm Drainage Capital Facility Plan

Project Identifier	Project Name	Pipe Length (ft)	Diameter (in)	Catch Basin / Inlet Box (EA)	Junction Box / Manhole (EA)	Outlet Works (EA)	Boring Length (ft)	Boring Cost	Contingency (10%)	Engineering, Legal, Admin. (10%)	Estimated Project Cost (includes Contingency, Engineering, Admin, and Legal Fees)
PW1	2700 South	2968.959	18	7	9	0			\$ 32,281	\$ 32,281	\$ 387,400
PW10	1400 West	796.4296	48	1	2	1			\$ 19,954	\$ 19,954	\$ 239,500
PW11	Main St. & 2300 S	1275.108	24	3	4	0			\$ 21,439	\$ 21,439	\$ 257,300
PW12	1600 South	599.0305	36	1	1	1			\$ 14,311	\$ 14,311	\$ 171,700
PW13	300 East	684.1591	30	1	2	1			\$ 14,363	\$ 14,363	\$ 172,400
PW14	400 East	800.4905	18	2	2	0			\$ 12,269	\$ 12,269	\$ 147,200
PW15	200East &1600 South	1460.361	18	3	4	0			\$ 15,815	\$ 15,815	\$ 189,800
PW16	200 East & 1400 South	1188.229	30	2	3	0			\$ 16,228	\$ 16,228	\$ 194,700
PW17	200 East & 1300 South	345.4436	36	0	1	0			\$ 5,409	\$ 5,409	\$ 64,900
PW18	400 West & 1300 South	3232.951	18	8	10	1			\$ 36,837	\$ 36,837	\$ 442,000
PW19	115 & 1600 South	588.508	24	1	1	1			\$ 8,310	\$ 8,310	\$ 99,700
PW2	1000 West	2394.432	24	5	7	0			\$ 28,144	\$ 28,144	\$ 337,700
PW20	1100 South	1004.858	30	2	3	1			\$ 20,566	\$ 20,566	\$ 246,800
PW21	1000 South	1356.162	30	3	4	1			\$ 27,297	\$ 27,297	\$ 327,600
PW22	400 West	800.9265	24	2	2	0			\$ 13,294	\$ 13,294	\$ 159,500
PW23	400 South #1	848.26	18	2	2	0			\$ 12,920	\$ 12,920	\$ 155,000
PW24	1100 West 600 South	2668.886	30	6	8	0			\$ 37,116	\$ 37,116	\$ 445,400
PW25	1500 West	2724.117	42	6	9	0			\$ 70,650	\$ 70,650	\$ 847,800
PW26	400 South #2	808.88	30	2	2	0	126.69	71848.87	\$ 15,291	\$ 15,291	\$ 255,300
PW3	2600 South	1018.855	24	2	3	0			\$ 16,941	\$ 16,941	\$ 203,300
PW30	400 South #3	169.0635	36	0	0	0			\$ 3,424	\$ 3,424	\$ 41,100
PW31	400 South #4	1740.917	48	4	5	0			\$ 51,477	\$ 51,477	\$ 617,700
PW32	400 South #5	383.948	48	0	1	0			\$ 11,065	\$ 11,065	\$ 132,800
PW33	100 South	459.6164	36	1	1	0			\$ 9,988	\$ 9,988	\$ 119,900
PW34	100 North	504.9016	24	1	1	0			\$ 8,203	\$ 8,203	\$ 98,400
PW35	250 North	457.3227	24	1	1	0			\$ 5,253	\$ 5,253	\$ 63,000
PW36	400 North	2508.197	30	6	8	0			\$ 34,978	\$ 34,978	\$ 419,700
PW37	750 East #1	1427.68	36	3	4	0			\$ 31,353	\$ 31,353	\$ 376,200
PW38	750 East #2	731.4004	42	1	2	0			\$ 18,631	\$ 18,631	\$ 223,600
PW39	750 East #3	101.0176	24	0	0	0			\$ 1,255	\$ 1,255	\$ 15,100
PW4	350 West	743.2547	30	1	2	0			\$ 9,999	\$ 9,999	\$ 120,000
PW40	115 & 500 North	209.0445	36	0	0	1			\$ 4,531	\$ 4,531	\$ 54,400
PW41	3000 West #1	1369.652	30	3	4	0			\$ 18,876	\$ 18,876	\$ 226,500
PW42	3000 West #2	1661.846	48	4	5	1			\$ 40,350	\$ 40,350	\$ 484,200
PW43	400 N 1500 W	103.46	36	0	0	0	103.46	45005	\$ 1,500	\$ 1,500	\$ 48,000
PW5	2450 South	2831.322	18	7	9	0			\$ 31,042	\$ 31,042	\$ 372,500
PW6	950 West &2400 South	529.5143	24	1	1	0			\$ 5,975	\$ 5,975	\$ 71,700
PW7	2350 South	3574.019	36	8	11	0			\$ 58,463	\$ 58,463	\$ 701,600
PW8	950 West & 2350 South	325.344	36	0	1	0			\$ 5,117	\$ 5,117	\$ 61,400
PW9	950 West & 2400 South	2927.761	48	7	9	0			\$ 68,507	\$ 68,507	\$ 822,100
PE1	2200 East	548.2267	42	1	1	1			\$ 12,858	\$ 12,858	\$ 154,300
PE2	2080 East Wildflower Way	2057.891	18	5	6	0			\$ 28,175	\$ 28,175	\$ 338,100
PE3	700 South	1492.211	24	3	4	0			\$ 24,674	\$ 24,674	\$ 296,100
PE4	Houtz Ave	1273.343	36	3	4	0			\$ 28,227	\$ 28,227	\$ 338,700
PE5	620 South	711.6922	36	1	2	0			\$ 15,493	\$ 15,493	\$ 185,900
PE6	Approx. 700 South	1438.109	36	3	4	1			\$ 29,451	\$ 29,451	\$ 353,400
PE7	Approx. 600 South	2196.269	36	5	7	0			\$ 36,046	\$ 36,046	\$ 432,600
PE8	Approx. 700 South	919.0262	42	2	3	1			\$ 20,102	\$ 20,102	\$ 241,200
PE9	Approx. 1450 East	297.5974	24	0	0	1			\$ 4,966	\$ 4,966	\$ 59,600
PE10	1200 East	295.3627	24	0	0	1			\$ 5,901	\$ 5,901	\$ 70,800
PE11	1060 East	1781.645	24	4	5	1			\$ 31,167	\$ 31,167	\$ 374,000
PE12	Approx. 800 South	88.0364	30	0	0	1			\$ 3,016	\$ 3,016	\$ 36,200
PE13	1000 South	2933.456	24	7	9	0			\$ 49,268	\$ 49,268	\$ 591,200
PE14	200 East	2129.504	36	5	7	0			\$ 47,326	\$ 47,326	\$ 567,900
PE15	200 East	1466.544	42	3	4	1			\$ 39,132	\$ 39,132	\$ 469,600
PE16	700 South	1100.097	30	2	3	0			\$ 20,707	\$ 20,707	\$ 248,500
PE17	100 South	2475.822	42	6	8	1			\$ 65,791	\$ 65,791	\$ 789,500

Table B-2
Conceptual Cost Estimate - Pipes
Springville Storm Drainage Capital Facility Plan

Project Identifier	Project Name	Pipe Length (ft)	Diameter (in)	Catch Basin / Inlet Box (EA)	Junction Box / Manhole (EA)	Outlet Works (EA)	Boring Length (ft)	Boring Cost	Contingency (10%)	Engineering, Legal, Admin. (10%)	Estimated Project Cost (includes Contingency, Engineering, Admin, and Legal Fees)
PE18	100 South	640.8942	36	1	2	0			\$ 14,059	\$ 14,059	\$ 168,700
PE19	100 South	1769.92	30	4	5	0			\$ 33,603	\$ 33,603	\$ 403,200
PE20	100 South	1033.92	24	2	3	0			\$ 17,165	\$ 17,165	\$ 206,000
PE21	1450 East	979.22	18	2	3	0			\$ 14,090	\$ 14,090	\$ 169,100
PE22	Approx. 50 South	452.2782	18	1	1	0			\$ 5,676	\$ 5,676	\$ 68,100
PE23	Approx. 80 South	1191.512	18	2	3	0			\$ 14,659	\$ 14,659	\$ 175,900
PE24	Spring Creek Drive	2227.996	18	5	7	0			\$ 34,063	\$ 34,063	\$ 408,800
PE25	400 North	1723.111	18	4	5	0			\$ 21,960	\$ 21,960	\$ 263,500
PE26	800 East	1051.845	24	2	3	0			\$ 17,432	\$ 17,432	\$ 209,200
PE27	200 North	702.3704	18	1	2	0			\$ 10,652	\$ 10,652	\$ 127,800
PE28	200 North	459.7864	30	1	1	0			\$ 8,599	\$ 8,599	\$ 103,200
PE29	200 North	4819.93	36	12	16	1			\$ 108,872	\$ 108,872	\$ 1,306,500
PE30	Main St. #1	548.2553	18	1	1	0			\$ 8,152	\$ 8,152	\$ 97,800
PE31	200 West	757.5844	30	1	2	1			\$ 15,628	\$ 15,628	\$ 187,500
PE32	200 West	952.4157	24	2	3	0			\$ 15,951	\$ 15,951	\$ 191,400
PE33	Center Street	451.3181	24	1	1	1			\$ 8,905	\$ 8,905	\$ 106,900
PE34	700 East	1339.065	30	3	4	0			\$ 25,502	\$ 25,502	\$ 306,000
PE35	400 East	531.1054	36	1	1	0			\$ 11,436	\$ 11,436	\$ 137,200
PE36	Main St. #2	645.8053	24	1	2	0			\$ 8,690	\$ 8,690	\$ 104,300
PE37	Main St. #3	294.6065	18	0	0	0			\$ 4,015	\$ 4,015	\$ 48,200
PE38	Main St. #4	105.3881	24	0	0	0			\$ 1,570	\$ 1,570	\$ 18,800
PE39	400 West #1	2224.067	24	5	7	0			\$ 37,339	\$ 37,339	\$ 448,100
PE40	400 West #2	740.1194	42	1	2	1			\$ 17,521	\$ 17,521	\$ 210,300
PE41	900 North	1198.797	18	2	3	0			\$ 18,097	\$ 18,097	\$ 217,200
PE42	1150 North 150 East	1429.384	24	3	4	1			\$ 25,238	\$ 25,238	\$ 302,900
PE43	Main Street	351.1091	30	0	1	1			\$ 7,947	\$ 7,947	\$ 95,400
PE44	1400 North	632.9447	30	1	2	0			\$ 11,981	\$ 11,981	\$ 143,800
PE45	Approx. 300 East	2360.684	24	5	7	0			\$ 27,807	\$ 27,807	\$ 333,700
PE46	Approx. 1250 N	967.3323	18	2	3	0			\$ 10,466	\$ 10,466	\$ 125,600
PE47	900 West	1259.419	30	3	4	0			\$ 24,131	\$ 24,131	\$ 289,600
PE48	900 North	1311.485	24	3	4	0			\$ 21,981	\$ 21,981	\$ 263,800
PE49	1000 North	2183.057	36	5	7	1	103	70645.69	\$ 49,911	\$ 49,911	\$ 669,600
PE50	1-15 & 1500 North	210.1158	24	0	0	0			\$ 3,131	\$ 3,131	\$ 37,600
PE51	400 West	2349.32	24	5	7	1			\$ 40,705	\$ 40,705	\$ 488,500

**Table B-3
Conceptual Cost Estimate - Culverts
Springville Storm Drainage Capital Facility Plan**

Project Identifier	Project Name	Quantity (EA)	Estimated Project Cost (includes Contingency, Engineering, Admin, and Legal Fees)
CW1	1600 s 700 W	1	\$ 72,000
CW10	750 N 2250 W	1	\$ 72,000
CW2	1200W 1500 S	1	\$ 72,000
CW3	400 S 2550 W	1	\$ 72,000
CW5	400 N 1650 W	1	\$ 72,000
CW6	CENTER ST 2550 W	1	\$ 72,000
CW7	150 N 2550 W	1	\$ 72,000
CW8	300 N 2550 W	1	\$ 72,000
CW9	400 N 2550 W	1	\$ 72,000
CW11	750 N 2550 W	1	\$ 72,000
CE1	Spring Creek Place	1	\$ 72,000

**Table B-4
Conceptual Cost Estimate - Open Channel
Springville Storm Drainage Capital Facility Plan**

Project Identifier	Project Name	Channel Length (ft)	Excavation (yd ³)	Rip Rap (yd ³)	Landscaping (yd ²)	Contingency (10%)	Engineering, Legal, Admin. (10%)	Estimated Project Cost (includes Contingency, Engineering, Admin, and Legal Fees)
OCW2	400 N	211.69	120	0	110	\$ 190	\$ 190	\$ 2,280
OCW3	I-15#1	2312.3	2170	0	1150	\$ 3,268	\$ 3,268	\$ 39,220
OCW4	I-15#2	132.82	70	0	70	\$ 112	\$ 112	\$ 1,340
OCW5	700 N	2184.76	1210	0	1090	\$ 1,912	\$ 1,912	\$ 22,940
OCW6	2550 W #1	2024	1120	0	1010	\$ 1,770	\$ 1,770	\$ 21,240
OCW7	2550 W #2	695	390	0	350	\$ 616	\$ 616	\$ 7,390
OCW8	2550 W #3	647	360	0	320	\$ 568	\$ 568	\$ 6,820
OCW9	2550 W #4	622	350	0	310	\$ 552	\$ 552	\$ 6,620
OCW10	2550 W #5	827	460	0	410	\$ 726	\$ 726	\$ 8,710
OCE1	1060 N 750 W	3032.974	1680	0	1510	\$ 2,654	\$ 2,654	\$ 31,850
OCE2	1800 W	3878.982	3640	0	1930	\$ 5,482	\$ 5,482	\$ 65,780

Table B-5
Conceptual Cost Estimate - Detention Basins
Springville Storm Drainage Capital Facility Plan

Project Identifier	Project Name	Volume (acre-ft)	Footprint (acre)	Excavation and Hauling (yd ³)	Landscaping	Inlet Apron	Outlet Structure	Emergency Spillway	Modified Orifice Plat	Land Acquisition	Contingency (10%)	Engineering, Legal, Admin. (10%)	Estimated Project Cost (includes Contingency, Engineering, Admin, and Legal Fees)
DBW1	2500 S State Rd. 51	0.86	0.286667	\$ 23,497	\$ 3,746	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 40,133	\$ 10,000	\$ 10,000	\$ 120,400
DBW10	1800 S 1800 W	0.2	0.073333	\$ 6,011	\$ -	\$ 12,000	\$ 10,000	\$ 5,000	\$ -	\$ 10,267	\$ 4,300	\$ 4,300	\$ 51,900
DBW11	1400 W Hwy 89	0.45	0.15	\$ 12,295	\$ 1,960	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ -	\$ 4,700	\$ 4,700	\$ 56,700
DBW12	Main 1250 S #1	2.0	0.653333	\$ 53,550	\$ 10,570	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 91,467	\$ 18,900	\$ 18,900	\$ 226,400
DBW13	Main 1250 S #2	1.84	0.613333	\$ 50,272	\$ 8,015	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 85,867	\$ 17,700	\$ 17,700	\$ 212,600
DBW14	700 S 950 W	1.63	0.543333	\$ 44,534	\$ 7,100	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 76,067	\$ 16,100	\$ 16,100	\$ 192,900
DBW15	400 S 1400 W	1.1	0.366667	\$ 30,054	\$ 4,792	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 51,333	\$ 11,900	\$ 11,900	\$ 143,000
DBW16	700 S 2600 W	1.43	0.476667	\$ 39,070	\$ 6,229	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 66,733	\$ 14,500	\$ 14,500	\$ 174,000
DBW17	400 S 2600 W	1.52	0.506667	\$ 41,529	\$ 6,621	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 70,933	\$ 15,200	\$ 15,200	\$ 182,500
DBW18	100 N 900 W		0	\$ -	\$ -				\$ 5,000	\$ -	\$ 500	\$ 500	\$ 6,000
DBW19	400 N 1600 W	1.67	0.556667	\$ 45,627	\$ 7,275	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 77,933	\$ 16,400	\$ 16,400	\$ 196,600
DBW2	2400 S 1000 W	1.8	0.603333	\$ 49,452	\$ 7,884	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 84,467	\$ 17,500	\$ 17,500	\$ 209,800
DBW20	500 N I 15	1.6	0.533333	\$ 43,715	\$ 6,970	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 74,667	\$ 15,800	\$ 15,800	\$ 190,000
DBW21	Center 2400 W	1.67	0.556667	\$ 45,627	\$ 7,275	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 77,933	\$ 16,400	\$ 16,400	\$ 196,600
DBW22	200 N 2550 W	1.27	0.423333	\$ 34,699	\$ 5,532	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 59,267	\$ 13,200	\$ 13,200	\$ 158,900
DBW23	2550 W 700 N	1.58	0.526667	\$ 43,168	\$ 6,882	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 73,733	\$ 15,700	\$ 15,700	\$ 188,200
DBW24	Center 3000 W	2.02	0.673333	\$ 55,190	\$ 8,799	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 94,267	\$ 19,100	\$ 19,100	\$ 229,500
DBW25	200 N 3000 W	0.54	0.18	\$ 14,754	\$ 2,352	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 25,200	\$ 7,500	\$ 7,500	\$ 90,300
DBW3	1600 S Wallace Dr.	0.5	0.163333	\$ 13,388	\$ 2,134	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 22,867	\$ 7,100	\$ 7,100	\$ 85,600
DBW4	1600 S 1950 W	1.13	0.376667	\$ 30,873	\$ 10,570	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 52,733	\$ 12,700	\$ 12,700	\$ 152,600
DBW5	1200 S 2000 W	1.1	0.366667	\$ 30,054	\$ -	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 51,333	\$ 11,400	\$ 11,400	\$ 137,200
DBW6	1600 S 1050 W	3.14	1.046667	\$ 85,790	\$ 13,678	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 146,533	\$ 27,900	\$ 27,900	\$ 334,800
DBW7	1300 S 600 W	2.91	0.97	\$ 79,506	\$ 12,676	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 135,800	\$ 26,100	\$ 26,100	\$ 313,200
DBW8	900 S 400 W	0.4	0.133333	\$ 10,929	\$ 1,742	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 18,667	\$ 6,400	\$ 6,400	\$ 77,100
DBW9	2100 S Eldorado Dr.		0	\$ -	\$ -				\$ 5,000	\$ -	\$ 500	\$ 500	\$ 6,000
									\$ -				
DBE1	850 S 2080 E	3.8	1.266667	\$ 103,822	\$ 16,553	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 177,333	\$ 33,100	\$ 33,100	\$ 396,900
DBE2	Spring Acres Arts Park	2.39	0.796667	\$ 65,299	\$ 10,411	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 111,533	\$ 22,000	\$ 22,000	\$ 264,200
DBE3	Millpond		0	\$ -	\$ -				\$ 5,000	\$ -	\$ 500	\$ 500	\$ 6,000
DBE4	600 N 200 E	1.02	0.34	\$ 27,868	\$ 4,443	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 47,600	\$ 11,300	\$ 11,300	\$ 135,500
DBE5	900 N 150 W	3.58	1.193333	\$ 97,812	\$ 15,594	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 167,067	\$ 31,300	\$ 31,300	\$ 376,100
DBE6	1400 N Main St.	3.15	1.05	\$ 86,063	\$ 13,721	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 147,000	\$ 28,000	\$ 28,000	\$ 335,800
DBE7	900 N 9000 W	4.63	1.543333	\$ 126,499	\$ 20,168	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 216,067	\$ 39,600	\$ 39,600	\$ 474,900
DBE8	900 N 1200 W	4.59	1.53	\$ 125,406	\$ 19,994	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 214,200	\$ 39,300	\$ 39,300	\$ 471,200
DBE9	1000 N 1500 W	4.55	1.516667	\$ 124,314	\$ 19,820	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 212,333	\$ 38,900	\$ 38,900	\$ 467,300
DBE10	1400 N Mnt. Spr. Pky.	3.54	1.18	\$ 96,719	\$ 15,420	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 165,200	\$ 31,000	\$ 31,000	\$ 372,300
DBE11	1500 N I-15	6.71	2.236667	\$ 183,328	\$ 29,229	\$ 12,000	\$ 16,000	\$ 5,000	\$ -	\$ 313,133	\$ 55,900	\$ 55,900	\$ 670,500

APPENDIX C
MASTER PLAN IMPLEMENTATION POLICY

Policy # PWSD-042507

Implementation of Storm Drainage Master Plan
(Land Drain and Dry Creek Drainages)

The purpose of this policy is to establish guidelines that will ensure that the Storm Water Master Plan for the Land Drain and Dry Creek Drainages (the “Master Plan”) is properly implemented, while, at the same time, provide the most possible flexibility for developers and land owners to develop and build on their properties.

1. In the event any regional detention basins, outlets or conveyances are within the development boundaries, the developer, prior to receiving final approval, must work with the city to implement the required improvements.

2. Developers are encouraged to present to the City their own resolutions for their developments to meet the requirements of the Master Plan.

3. Temporary Drainage Solutions.

(a) In cases where the City has not yet acquired land or constructed a regional detention basin and necessary infrastructure, the City, in its discretion, may approve temporary drainage facilities providing for on-site detention basins that will allow development to continue pending completion of the required regional detention basins. At minimum, all temporary drainage facilities shall:

- (i) Provide an individual on-site detention basin that is based upon a maximum release of 0.15 cfs/acre in a 25-year event and meets the requirements of the City Engineer;
- (ii) Provide the necessary engineering and construction of the facility so that, once the permanent regional detention basin is acquired, constructed and approved by the City, the use of the individual detention basin may be discontinued;
- (iii) Provide for all necessary pipelines for off-site infrastructure from the development to the location of the regional detention basin or planned inlet; and
- (iv) Not exceed the volume capacity in the conveyances into which the development drains, as determined by the City Engineer.

(b) Property which has been approved for a temporary drainage facility shall be subject to Storm Drain impact fees in accordance with the provisions of the City’s Storm Drainage Impact Fees Ordinance. All costs of providing for temporary drainage facilities shall be the responsibility of the person or entity developing the property.

(c) As determined to be appropriate by the City, all temporary drainage facilities shall be constructed in accordance with the Master Plan.

(d) The person or entity developing the property shall be responsible for complete maintenance of the temporary drainage facility, as determined by the City. This maintenance responsibility shall continue until such time as the permanent detention basin within the same drainage subbasin as the development Storm is installed and approved by the City. The developer shall also, if required by the City, file with the City a 10-year maintenance bond, in a form acceptable to the City, to guarantee proper maintenance of the facility.

(e) Prior to final approval of the temporary drainage facility, to assure that the land on which said temporary drainage facility lies is used for its designated purposes and is properly controlled, the developer shall convey to the City a perpetual easement encumbering the land, or deed for the property on which the temporary drainage facility is located. Should a the proposed permanent detention basin within the drainage subbasin be installed, the City shall, upon written request from the developer, re-convey to the developer the land used for the temporary drainage facility at a cost equal to any and all expenses incurred by the City in the construction or maintenance of the facility, or as a result of the developer's failure to properly construct or maintain the facility.

4. Any person or entity that constructs any portion of the proposed detention basins or infrastructure the City is required to construct as part of the approval of the development, the cost of which exceeds the impact fees for the development, may request an impact fee reimbursement agreement as set forth in Title 14 of the Springville Code, as soon as the City Code is amended to allow for the reimbursement agreement.

5. Any person or entity that constructs any portion of the Master Plan proposed off-site improvements as part of the approval of the development, may request an extension fee agreement as set forth in Title 14 of the Springville Code, as soon as the city Code is amended to allow for the extension fee agreement.

6. The developer shall be required to provide an engineering plan of any temporary drainage facility and off-site improvements for the development, which plan must be approved by the City Engineer.

APPENDIX D
DESIGN STORM

**APPENDIX D
DESIGN STORM**

Below is Modified Farmer-Fletcher storm distribution that was used to develop the hydrologic models for this Master Plan. Salt Lake County developed the modified version of the Farmer-Fletcher distribution by nesting the one-hour (quartile 1) Farmer-Fletcher storm distribution, within the three hour period. The difference between the three-hour and the one-hour rainfall depths is divided equally and is distributed over the first 30 minutes of the storm and from hour 90 minutes to 180 minutes.

**Table C-1
Farmer-Fletcher Modified 3-Hour
Storm Distribution**

Time (min)	Precipitation (Inches)
0	0.0000
5	0.0098
10	0.0098
15	0.0098
20	0.0098
25	0.0098
30	0.0098
35	0.2206
40	0.1742
45	0.1215
50	0.0774
55	0.0464
60	0.0356
65	0.0263
70	0.0201
75	0.0155
80	0.0139
85	0.0124
90	0.0101

Time (min)	Precipitation (Inches)
95	0.0098
100	0.0098
105	0.0098
110	0.0098
115	0.0098
120	0.0098
125	0.0098
130	0.0098
135	0.0098
140	0.0098
145	0.0098
150	0.0098
155	0.0098
160	0.0098
165	0.0098
170	0.0098
175	0.0098
180	0.0098
Total:	1.009