First Creek Tributaries (Upstream of I-70) Master Drainageway Plan

BASELINE HYDROLOGY REPORT

FEBRUARY 2019

PREPARED FOR: UDFCD, CITY OF AURORA, SEMSWA, & ARAPAHOE COUNTY

PREPARED BY:

MERRICK®

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DENVER, CO 80211

February 15, 2019

Ms. Teresa Patterson, P.E., C.F.M.
Urban Drainage and Flood Control District
2480 West 26th Avenue, 156-B
Denver, CO 80211

RE: First Creek Tributaries Upstream of I-70 Master Drainageway Plan
Draft Baseline Hydrology Report

Dear Ms. Patterson:

Enclosed is the Baseline Hydrology Report for the First Creek Tributaries Upstream of I-70 Master Drainageway Plan (MDP). This hydrology study was conducted in accordance with the provisions of the Urban Storm Drainage Criteria Manual to generate existing and future land-use peak flow rates and total runoff volumes to be used in the Alternatives and Conceptual design phases of this MDP. The purpose of this project is to address any potential drainage, stability, and water quality issues within the study area. The First Creek drainageway was previously master planned in the *First Creek (Upstream of Buckley Road) Major Drainageway Plan Conceptual Design Report* by Moser and Associates (2010), however, the tributary outfalls were not master planned in detail.

This report provides a description of the study area and summarizes the existing and future hydrology for the project study area. The hydrology presented herein reflects current land-use and land-use/zoning planning completed by the City of Aurora and Arapahoe County. This hydrology study will serve as the basis for evaluating the existing system capacity and development of alternatives for within the study area.

Very truly yours,

Jeanne M. Boyle, P.E., C.F.M.
Project Manager

Clare Steninger, P.E.
Project Engineer

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1.0 INTRODUCTION

1.1 Authorization

This First Creek Tributaries Upstream of I-70 Master Drainageway Plan was authorized by the Urban Drainage and Flood Control District (District), with sponsorship by the City of Aurora (City) and Southeast Metro Stormwater Authority (SEMSWA). Arapahoe County is included as a Project Stakeholder. Agreement Number 18-04.08, dated May 3, 2018, serves as a contract between Merrick and Company (Merrick) and the District for this project.

1.2 Purpose and Scope

The purpose of this study is to provide a master plan for tributaries to First Creek that are upstream of I-70 which provides guidance for future construction projects. The purpose of this study is to provide hydrologic analysis and to develop alternatives and recommendations for stormwater infrastructure improvements that will be needed as development occurs. Key project goals include:

- Clearly define intent of stormwater improvement goals and objectives for future implementation.
- Inform, guide, and provide expectations to manage development effects on stormwater quality, drainageway stabilization, flood risk, etc.
- Integrate proposed improvements with realistic location of future trails, open space, traffic master plans, and development planning.
- Define stream management corridors to provide stormwater conveyance.
- Develop guidance for future vegetation and provide reference for roughness coefficients for maintenance purposes.

The Major Drainageway Plan (MDP) scope includes three phases: 1) the Baseline Hydrology Phase, 2) the Alternatives Evaluation Phase, and 3) the Conceptual Design Phase. The Baseline Hydrology section summarizes the hydrology of the study area including subwatershed delineation, subwatershed characteristics, and flow routing. The Alternatives Analysis section summarizes the alternatives development and analysis and it addresses any potential drainage, stability, and ecological issues within the project site. The Conceptual Design section includes conceptual design for the selected alternatives for the reaches studied under the Alternatives Analysis, as agreed upon by the project sponsors.

This report summarizes the hydrologic study for the existing and future land-use conditions for the First Creek Tributaries Upstream of I-70 Master Drainageway Plan. Specific tasks required for the MDP include the following:

- Gather information on existing and proposed drainage features, existing and future land uses, soils, and topography for the study area.
- Conduct field work to verify gathered data and acquire any missing information.
- Complete existing and future land-use hydrologic models for the 2-, 5-, 10-, 50-, and 100-year events for the study area using CUHP 2005 Version 2.0.0 and EPA SWMM 5.1.012.
- Evaluate the hydraulic capacity of the existing drainage system.
- Develop and analyze alternative outfall systems sketch plans to address any drainage, stability or water quality problems.
- Prepare conceptual plans for the alternatives selected by the project sponsors.

1.3 Planning Process

First Creek upstream of I-70 has been studied several times and the master plans have been updated as the years have passed. However, the tributaries themselves have not been master planned to the same level as First Creek itself.
A kickoff meeting was held with the project sponsors and other stakeholders on June 13, 2018, to establish initial project priorities and discuss project status and areas of difficulty. A progress meeting was held on August 30, 2018, to discuss preliminary tributary delineations and land use values. A progress meeting was held on January 23, 2019, to review and discuss comments for the draft hydrology report and overall discussion for the alternatives phase. Minutes from these meetings can be found in Appendix A.

1.4 Mapping and Surveys

GIS basemaps, including the existing storm drainage infrastructure, roads, pavement, building footprints, land use descriptions, zoning, jurisdictional boundaries, horizontal and vertical controls were provided by the City of Aurora and Arapahoe County through online download. The District supplied topographic mapping in the form of a digital elevation model (DEM) and 1-foot contours based on 2013 LiDAR information. Aerial imaging (dated June 14, 2017) was acquired from ESRI Online database through ArcGIS applications. Soils mapping was acquired from the Natural Resources Conservation Service (NRCS) Web Soil Survey on July 26, 2018.

The mapping is on the Colorado State Plane, Central Coordinate System in U.S. feet. The vertical datum is North American Vertical Datum of 1988. No survey was done for the baseline hydrology analysis.

1.5 Data Collection

Existing drainage studies, master plans, and construction documents were collected from project stakeholders. Digital geographic information systems (GIS) data was downloaded from the Open Data websites for UDFCD, City of Aurora, Arapahoe County, and the Natural Resources Conservation Service. The primary references used for this study are shown in Table 1-1 below. A complete list of references can be found in Section 4 – References.

Table 1-1 Data Collected

Title	Author	Date
Adonea Master Drainage Report	Nolte Associates, Inc	October 2003
Arapahoe County Comprehensive Plan 2018	Arapahoe County Planning Commission	May 2018
ArcGIS files: Basins, District Boundary	Urban Drainage and Flood Control District	July 31, 2018
ArcGIS files: Building Rooftops, City Limits, Driveways, Edge of Pavement, Parcels, Parks Open Space, Ponds, Sidewalks, Storm Fittings, Storm Inlets, Storm Mains, Storm Manholes, Zoning	City of Aurora	July 12, 2018 & August 9, 2018
ArcGIS files: County Boundary, Parks Open Space, Zoning, 2018_CompPlan	Arapahoe County	July 31, 2018 & September 24, 2018
ArcGIS files: Soils	Natural Resources Conservation Service	July 26, 2018
City of Aurora 2016 Zoning Map	City of Aurora Planning and Development Services	March 8, 2016
Drainage Basin Plan for Annexation Study Area: Phase I Development of Alternatives, Volume III Upper South Platte River Basin including First Creek	Simons & Li	1986
First Creek (Upstream of Buckley Road) Major Drainageway Plan - Conceptual Design Report	Moser & Associates	August 2010
First Creek and DFA 0055 Outfall Systems Masterplan Preliminary Design Report	Wright Water Engineers	1990
Master Drainage Report for Harmony	CVL Consultants of Colorado, Inc.	May 2016
Master Drainage Study The Traditions Framework Development Plan	CVL Consultants of Colorado, Inc.	December 11, 2003
Phase II Drainage Report for Sky Ranch II	CVL Consultants of Colorado, Inc.	September 8, 2006
Sky Ranch General Development Plan – Draft	PCS Group, Inc.	November 2018
Sky Ranch Neighborhood B Phase III Drainage Report (E 6th Ave. and Monaghan Rd.)	CVL Consultants of Colorado, Inc.	May 2018
Draft Sky Ranch Neighborhood B Floodplain Modification Study	CVL Consultants of Colorado, Inc.	2018
Topographic Contours and Digital Elevation Model (DEM)	Urban Drainage and Flood Control District	May 30, 2018

1.6 Acknowledgements

This report was prepared with the cooperation of the Urban Drainage and Flood Control District, the City of Aurora, Southeast Metro Stormwater Authority, and Arapahoe County. The representatives who were involved with this study are listed in the following table:

Table 1-2 Project Participants

Participant Name	Organization	Title
Teresa Patterson	UDFCD	Project Manager – Watershed Services
Sarah Young	City of Aurora	Planning Services Manager
Craig Perl	City of Aurora	Senior Engineer
Jonathan Villines	City of Aurora	Design Engineer
Stacey Thompson	SEMSWA	Group Manager, Floodplain and Master Planning
Angela Howard, P.E., CFM	SEMSWA	Master Plan Coordinator
Sue Liu	Arapahoe County	Public Works and Development
Jeanne Boyle, P.E., CFM	Merrick & Company	Project Manager
Clare Steninger, P.E.	Merrick & Company	Project Engineer
Rebecca Hutchinson, E.I.	Merrick & Company	Design Engineer

2.0 STUDY AREA

2.1 Project Area

The First Creek watershed consists of approximately 47.2 square miles and is largely comprised of agricultural and open space land uses with only about 33 percent of the area developed. First Creek is an east bank tributary of the South Platte River that generally flows northwest. Its headwaters are in Arapahoe County, south of Interstate Highway 70 (I-70) and east of Express Highway 470 (E-470).

The study area for this project is in the upper portion of the First Creek watershed upstream of I-70, within the City of Aurora and unincorporated Arapahoe County. The study area is approximately 7.4 square miles and consists of tributaries that are greater than 130 acres at the outfall to First Creek. The study area is roughly bounded by I-70 to the north, East Jewell Ave to the south, E-470 to the west, and South Watkins Road to the east as can be seen on the Watershed and Vicinity Map in Figure 2-1 on the next page and the Study Area Map in Figure B-1 in Appendix B. The historic surface drainage patterns have been influenced by farming and agricultural practices, residential and industrial developments, highways, embankments, and natural channels. I-70 and E-470 interrupt basin continuity, concentrate flow patterns and create, in some cases, inadvertent detention.

The tributaries that are the focus of this study flow generally northwesterly and southwesterly into First Creek at an average slope of approximately 1.4 percent. The highest estimated elevation in the study area is approximately 5,850 feet above mean sea level, located in the southeast corner of Subwatershed 1110 and the lowest point occurs in the northwest corner of the study area in Subwatershed 100 at elevation 5,511 feet.

2.2 Land Use

The study area for the tributaries is approximately 17 percent developed. The majority of the developed area is zoned for Medium Density Residential. The undeveloped areas are currently Agricultural and Open Space. Much of the undeveloped areas are slated for development based on future zoning and master plans in the area.

Land use categories were primarily determined using zoning and comprehensive plans from the currently available City of Aurora zoning GIS shapefiles and the 2018 Arapahoe County Comprehensive Plan. The City of Aurora's Zoning Map (2016) was the basis for the GIS shapefiles, but the shapefiles have been updated to include recently annexed areas and slight zoning updates. See Appendix B for the Zoning Maps for Aurora and Arapahoe County. This zoning data, in conjunction with Table 6-3 from the Urban Storm Drainage Criteria Manual (USDCM), was used to create compatible land use categories and corresponding percent imperviousness values. A summary table of land uses and percent imperviousness values is found in Table 2-1 below. Only the land uses for this study's area of interest were included.

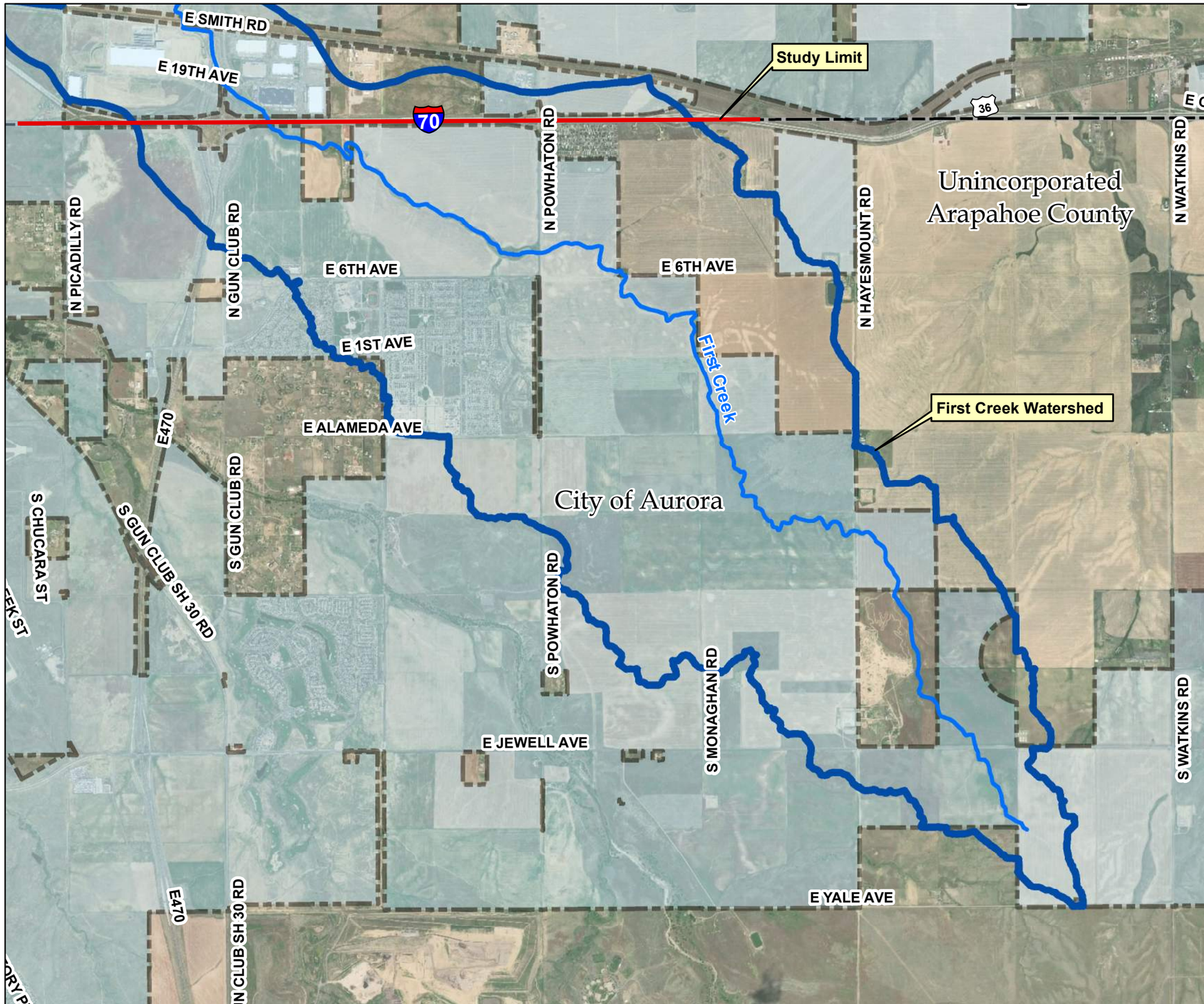
Table 2-1 Land Uses

UDFCD Code	Description	Percent Impervious	Aurora Zoning Code	Arapahoe County Zoning Code
AG	Agricultural	2	-	A-1
OS	Open Space	2	-	O
RR	Rural Residential (2.41+ acre lot size)	10	-	R-A
LDR	Low Density Residential (0.4 - 4 dwellings/acre)	30	-	-
GAS_UTILITY	Natural Gas Well/ Utility Site	50	-	-
MDR	Medium Density Residential (4 - 11 dwellings/acre)	50	E-470 rmed, nep-mres	R-M
SCHOOL	School/Recreation	55	-	-
HDR	High Density Residential (11+ dwellings/acre)	75	-	-
O	Office/Church	85	-	-
COM	Business/Commercial	95	E-470 rac, E-470 r&c, NEP-I70	B-5
MU	Mixed Use	95	-	MU
FR	Freeway	100	-	-

Existing land use was determined using aerial imaging and existing development drainage reports and assigning appropriate land use categories. The percent imperviousness was verified using existing GIS planimetric data that was acquired from City of Aurora's Open Data website on 7/12/2018 and from Arapahoe County's website on 7/31/2018. This data included polygons of building rooftops, sidewalks, driveways, parking areas, and pavement areas. This data was used to verify that the imperviousness assumed in master drainage plans and drainage reports were reasonable for existing development. Other areas not covered by planimetric or existing development were assigned land use categories based on the aerial imaging. Existing land uses are shown on the Existing Land Use Map within the Interactive Hydrology Map (Figure B-1) in Appendix B.

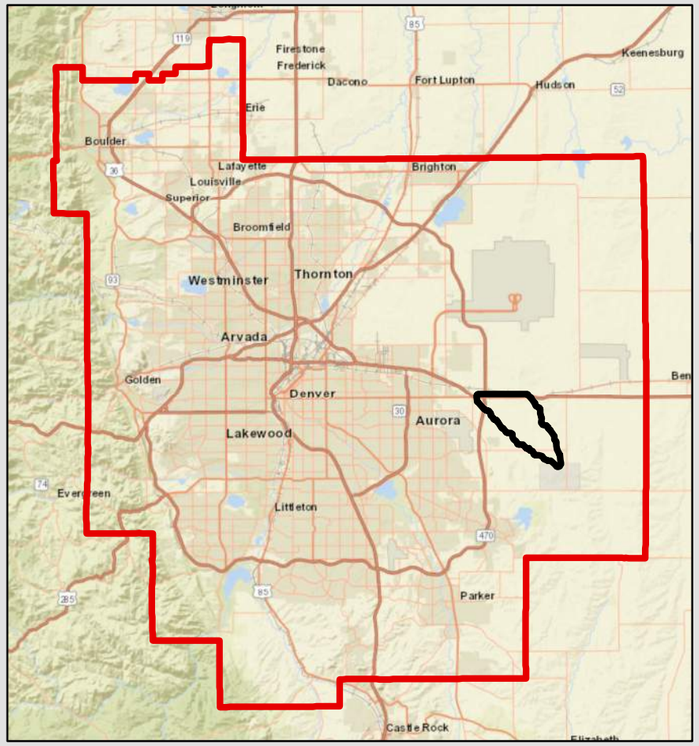
Future land use was primarily assigned based on the zoning and comprehensive plan codes as explained above. Shapefiles of zoning were acquired from City of Aurora's OpenData website on 7/12/2018 and from Arapahoe County's website on 7/31/2018. Where master development plans were available, the overall built-out imperviousness was utilized. Future land uses are shown on the Future Land Use Map within the Interactive Hydrology Map (Figure B-1) in Appendix B.

Additional information regarding subwatershed parameters is provided in detail in Section 3.0 of this report.



Legend

- First Creek
- First Creek Watershed
- City of Aurora
- Arapahoe County



VICINITY MAP

N
W E
S

1 inch = 3,500 feet

0 1,750 3,500

Feet

MERRICK® Merrick and Company 2480 W 26th Ave, Unit B225 Denver, CO 80211 Phone: 303-964-3333	FIRST CREEK TRIBUTARIES (UPSTREAM OF I-70) MASTER DRAINAGEWAY PLAN	WATERSHED AND VICINTY MAP	FEBRUARY 2019	FIGURE 2-1

2.3 Reach Description

As a Major Drainageway Plan, the scope of this study is to focus on the major tributaries of First Creek within the study area. Eleven basins were identified within the study area that are tributary to First Creek with tributary area greater than 130 acres. Each tributary basin was further divided into subwatersheds based on natural and constructed hydraulic breaks or features. The Tributary Map within the Interactive Hydrology Map (Figure B-1) shows the 11 tributaries and 55 subwatersheds. Subwatersheds that flow directly to First Creek were not included as part of this study's scope.

The tributaries were originally identified and named in the *Drainage Basin Plan for Annexation Study Area: Phase I Development of Alternative, Volume III Upper South Platte River Basin including First Creek* (Simons & Li, 1986). Tributaries were named with a "T#" convention sequentially from I-70 moving upstream. These tributaries were also documented in the *First Creek and DFA 0055 Outfall Systems Masterplan Preliminary Design Report* (Wright Water Engineers, 1990). However, the project partners for this study decided that a more distinguishable naming convention was desired. Therefore, each tributary was assigned a name based on notable roadways that bisect or are near each tributary basin. In some cases, the naming convention refers to future roadways proposed in the area.

There are several existing culverts and storm sewer systems in the study area. The City of Aurora's storm GIS data (accessed on 7/12/18) and approved construction plans were used to determine the sizes, lengths, slopes, and materials of the existing culverts and storm sewers. These major structures were included in the hydrology model to simulate actual routed flow conditions, except for the newly constructed culvert at Monaghan Road. Table 2-2 summarizes the existing major road crossing structures inventory within the study area.

Table 2-2 Existing Major Structures Inventory

Tributary	Street Name	Street Classification	Existing Structure	Condition
Harvest	Along Little River Street	Local	48-inch RCP System	Unknown
Harvest	Little River, 1st Avenue, Kellerman Street, Kewaunee Way, 6th Avenue	Local and Minor Arterial	60-inch RCP System	Unknown
Harvest	6th Avenue, E of Harvest Road	Minor Arterial	Twin 12x5-foot RCBC	Good
Harvest	Parallel to 6th Avenue, E of Harvest Road	Minor Arterial	42-inch RCP	Unknown
Harvest	6th Avenue, W of Harvest Road	Minor Arterial	42-inch RCP	Unknown
Harvest	6th Avenue, W of Harvest Road	Minor Arterial	30x19-inch HERCP	Unknown
Powhaton South	Powhaton Road	Major Arterial	Twin 10x6-foot RCBC	Unknown
Powhaton South	Future Alameda Avenue	Minor Arterial	Triple 54-inch RCP	Unknown
Powhaton South	Future 1st Avenue	Local	Twin 54-inch RCP	Unknown
Powhaton South	3rd Avenue	Local	Triple 14x8-foot RCBC	Unknown
Powhaton South	6th Avenue	Major Arterial	Triple 14x8-foot RCBC	Unknown
Monaghan	Monaghan Road	Minor Arterial	6x4-foot RCBC	Newly Constructed
Monaghan	N/A	Sky Ranch Pond D Outlet	8x4-foot RCBC	Newly Constructed

The following narrative provides a description of the existing conditions for each tributary.

Gun Club Tributary (100 Series Subcatchments)

The tributary furthest downstream is the Gun Club Tributary. The Gun Club Tributary consists of 155 contributing acres along the east side of Gun Club Road, just southeast of the E-470/I-70 interchange. This area was originally part of Tributary T2 (Simons & Li, 1986). In existing conditions, runoff from this area flows north through agricultural fields to a channel south of the Gun Club road embankment. The runoff in the channel flows east to the First Creek main channel. The outfall of this tributary is just upstream of the large First Creek culvert under I-70.

Gun Club Tributary Outfall at First Creek

Harvest Tributary (200 Series Subcatchments)

The Harvest Tributary is confluence to the First Creek main channel north of 6th Avenue and slightly east of Harvest Road. The Harvest Tributary has a tributary area of 773 acres and generally flows north and west. This area was originally part of Tributary T4 (Simons & Li, 1986). The upstream end of the tributary path is located at Little River Street and 1st Avenue. Flow from upstream of Alameda Avenue and southwest portions the Adonea development combines in a 60-inch Reinforced Concrete Pipe (RCP) sewer system and continues north and west along 1st Avenue, Kellerman Street, Kewaunee Way, and 6th Avenue. This storm sewer system does not collect any additional flow from street inlets and it outfalls to the tributary on the north side of 6th Avenue just east of Harvest Road (Design Point 219).

Harvest Tributary Culvert Outfall at 6th Avenue

A stormwater detention facility at the southeast corner of 6th Avenue and Harvest Road (Design Point 240) detains runoff from the Traditions development before discharging north through double 12x5-foot Reinforced Concrete Box Culverts (RCBC) under 6th Avenue. However, since this pond is a local pond and not regional, it was not included in the hydrologic modeling. Runoff from the Traditions development combines with the tributary north of 6th Avenue (Design Point 219). This runoff and additional runoff from part of the Cross Creek development and Vista Peak School area combines and flows northwest in a natural channel to the confluence with First Creek. There are several existing local detention ponds in the Traditions development that were also not included in hydrologic modeling.

Powhaton South and Exposition Tributaries (300 Series Subcatchments)

The Powhaton South Tributary has 1,402 contributing acres and is located along Powhaton Road south of First Creek. This area was originally part of Tributary T7 (Simons & Li, 1986). This tributary has two branches: a main alignment and an additional branch in the upper reaches called the Exposition Tributary.

The main tributary originates south of the future Mississippi Avenue east of Powhaton Road. In existing conditions, runoff flows northwest through agricultural land until it combines with runoff from the Exposition Tributary southeast of Powhaton Road and Alameda Avenue in the Harmony development area. The headwaters of the Exposition branch are east of Monaghan Road at about the future Mississippi Avenue. Runoff from this branch flows north and west to confluence with the main stem of the tributary (Design Point 345).

The Harmony development is proposed southeast of Powhaton Road and future Alameda Avenue. This development proposes naturalized channels with 100-year storm event capacity that convey runoff north on the east side of Powhaton Road instead of following existing topography to the west. Runoff then crosses under Powhaton via double 10x6-foot RCBC and enters the Adonea residential development. A 100-year storm event capacity channel continues north through the Adonea development and crosses under 3rd Avenue and 6th Avenue through triple 14x8-foot RCBC at each crossing. Runoff continues north to the confluence with First Creek.

Powhaton South Tributary at 6th Avenue

There are several existing local detention ponds in the Harmony and Adonea developments that were not included in hydrologic modeling as they are not regional.

Powhaton North Tributary (400 Series Subcatchments)

The Powhaton North Tributary has 162 acres tributary to the outfall and is located east of Powhaton Road north of First Creek. This area was originally part of Tributary T6 (Simons & Li, 1986). Runoff from a mobile home development and agricultural fields generally flows to the southwest to a roadside ditch along the east side of Powhaton Road. Runoff continues south in this grass-lined ditch to a sump at a low point. Runoff ponds at the sump and eventually overflows to the south and outfalls to First Creek.

Powhaton North Tributary at Sump Location

Riverwood Tributary (500 Series Subcatchments)

The Riverwood Tributary has 175 contributing acres and is located southwest of the I-70 and Airpark Road interchange. This area was originally part of Tributary T8 (Simons & Li, 1986). The tributary area is divided between the City of Aurora and unincorporated Arapahoe County. In existing conditions, runoff flows southwest across agricultural open space until it outfalls to First Creek.

Monaghan Tributary (600 Series Subcatchments)

The Monaghan Tributary has 369 contributing acres and is bisected by Monaghan Road south of I-70. This area was originally part of Tributary T9 (Simons & Li, 1986). In existing conditions, the majority of the tributary area is agricultural land and runoff generally flows to the southwest. However, this area has been master planned in the *2018 Arapahoe County Comprehensive Plan* (Arapahoe County, 2018) to be mixed residential and commercial. A portion of the Sky Ranch development is currently being constructed in the lower portions of the tributary. A regional detention pond, Pond D, was newly constructed and has been included in this study's model (Pond 1). Runoff from this tributary flows to Pond D before being released through an 8x4-foot RCBC to First Creek.

Example of Terrain in Northeast Portion of Study Area

Titus Tributary (700 Series Subcatchments)

The Titus Tributary has 222 contributing acres and is generally located south of First Creek, from Alameda Avenue to future 6th Avenue, east of Powhaton Road. This area was originally part of Tributary T10 (Simons & Li, 1986). In existing conditions, runoff flows north through agricultural land until it reaches the confluence with First Creek.

1st Avenue Tributary (800 Series Subcatchments)

The 1st Avenue Tributary has 448 contributing acres and is approximately bounded east and west by Hayesmount Road and future Monaghan Road, respectively, and bounded north and south by future 6th Avenue and future Alameda Avenue, respectively. This tributary is named 1st Avenue because the main stem of the tributary is approximately parallel to 1st Avenue to the west. This area was originally part of Tributary T12 (Simons & Li, 1986). In existing conditions, runoff generally flows west through agricultural land until it reaches the confluence with First Creek. This area is included in the drainage planning for the Sky Ranch development in Arapahoe County.

Example of Terrain in Southeast Portion of Study Area

Hayesmount Tributary (900 Series Subcatchments)

The Hayesmount Tributary has 587 contributing acres and is so named because the tributary area is adjacent to Hayesmount Road on the west. The tributary is south of First Creek and is generally bounded to the north and south by future Mississippi Avenue and East Jewell Avenue, respectively. This area was originally part of Tributary T13 (Simons & Li, 1986). In existing conditions, runoff from this tributary generally flows north through agricultural land until it reaches the confluence with First Creek.

Mississippi Tributary (1000 Series Subcatchments)

The Mississippi Tributary has 217 contributing acres and is located east of First Creek and east of Hayesmount Road. Based on the City of Aurora Street grid plan, future Mississippi Avenue will cross the tributary area. This area was originally part of Tributary T14 (Simons & Li, 1986). In existing conditions, runoff from this tributary flows northwest through agricultural land until it reaches the confluence with First Creek.

Florida Tributary (1100 Series Subcatchments)

The Florida Tributary has 253 contributing acres and is located east of First Creek and east of Hayesmount Road. Based on the City of Aurora Street grid plan, future Florida Avenue will cross the tributary area. This area was originally part of Tributary T15 (Simons & Li, 1986). In existing conditions, runoff from this tributary flows northwest through agricultural land. At East Jewell Avenue, flow overtops the roadway and continues northwest until it reaches the confluence with First Creek.

2.4 Flood History

The Flood Insurance Study (FIS) for Arapahoe County (FEMA, 2018) states that major flooding has occurred on the South Platte River and its tributaries since 1844. Periodic flooding occurs along First Creek and tributaries within the study area in the spring and summer when heavy thunderstorms follow either rapid snowmelt or prolonged rainy weather. A major regional flood event of September 2013 caused street flooding and threatened houses across the City of Aurora and within the District. Other recent floods in Aurora occurred on June 16, 1965 and May 6, 1973.

2.5 Environmental Assessment

Environmental assessments will be completed in future submittals of the report.

3.0 HYDROLOGIC ANALYSIS

3.1 Overview

This Baseline Hydrology study was conducted in accordance with the provisions of the *City of Aurora Standards and Specifications* and the *Urban Storm Drainage Criteria Manual (USDCM)* to generate existing and future peak flows for the First Creek Tributaries (Upstream of I-70) Major Drainageway Plan (MDP). The study area was limited to the tributaries to First Creek upstream of I-70 and does not include the main stem of First Creek. The study area is approximately 7.4 square miles and is located generally between East Jewell Avenue to the South, E-470 to the west, I-70 to the north, and Watkins Road to the east. The purpose of this study is to identify and address any potential drainage, stability, and water quality issues for the tributaries to First Creek upstream of I-70 and to provide a master plan for the tributaries which provides guidance for future land development activities and construction projects.

Hydrologic data was collected from UDFCD, City of Aurora, SEMSWA, and Arapahoe County and is discussed in more detail in the following sections. Once the hydrologic data was collected, the *Colorado Urban Hydrograph Procedure* (CUHP) 2005 Version 2.0.0 modeling software was used to generate subwatershed hydrographs for the 2-, 5-, 10-, 25-, 50-, 100-, and 500-year design storms for existing and future land uses. The Environmental Protection Agency's *Stormwater Management Model* (SWMM) 5.1.012 modeling software was used to combine and route individual subwatershed hydrographs through the storm drainage system.

3.2 Design Rainfall

This hydrology study modeled the two-hour storm events for the 2-, 5-, 10-, 25-, 50-, and 100-year return periods. The 500-year return period was analyzed for the hydrology study but will not be used for subsequent phases of this MDP and is only used as a reference.

One-hour rainfall depths for the specified return periods were determined from NOAA Atlas 14 and are included in Table 3-0 in Appendix B. CUHP was utilized to create a two-hour rainfall distribution from the one-hour rainfall depths.

3.3 Subwatershed Characteristics

Eleven major watersheds were identified within the study area that are tributary to First Creek and are greater than 130 acres. Each tributary watershed was further divided into subwatersheds based on natural and constructed hydraulic breaks or features, such as roadways or berms. Subwatershed characteristics used with CUHP were determined from reports and data from UDFCD, City of Aurora, and Arapahoe County. These characteristics are discussed further in the following sections. A summary of these characteristics can be found in Table B-1 in Appendix B.

3.3.1 Subwatershed Delineation

Subwatersheds were initially defined using automated techniques and the digital elevation model (DEM) provided by UDFCD. Adjustments to delineations were verified using 1-foot contours (2013 LIDAR), local drainage reports, master drainage plans, and field investigation. The study area was divided into 11 tributary watersheds and 56 subwatersheds. Subwatersheds were generally delineated so that the subwatershed area was approximately 130 acres and the average area was no more than 100 acres (per standard guidance from UDFCD). Twelve of the subwatersheds exceeded the 130-acre maximum size. In general, these subwatersheds are very uniform in character. More recent versions of CUHP and SWMM have been less sensitive to maximum subwatershed size, and these subwatersheds are very homogenous. Therefore, the slightly larger subwatersheds were not subdivided further. The subwatershed delineation parameters are summarized in Table 3-1 below. Tributaries and subwatersheds can be seen on the Tributaries Map within the Interactive Hydrology Map Figure B-1 in Appendix B.

Table 3-1 Subwatershed Delineation Summary

Watershed	Total Area	Average Subwatershed Area	Minimum Subwatershed Area	Maximum Subwatershed Area	Total No. of Subwatersheds
	(Sq. Mi.)	(Acre)	(Acre)	(Acre)	(Unit)
First Creek Tributaries	7.4	86.2	6.5	175	56

The average slope of the study area is 1.41 percent. The highest elevation of 5849.6 feet is at the upper end of First Creek in the Florida tributary in subwatershed 1110 and the lowest elevation was in the Gun Club Tributary in subwatershed 100 at 5511.1 feet.

3.3.2 Subwatershed Imperviousness

A GIS-based approach was used to determine the land-use and percent imperviousness within each subwatershed. The existing and future land use data described in Section 2.2 were used to create percent imperviousness values for each land use type. Table 2-1 describes the land use zoning categories and corresponding percent imperviousness and are shown on the Land Use Maps within the Interactive Hydrology Map (Figure B-1) in Appendix B.

GIS data representing existing and future land use were intersected with subwatershed polygons in ArcMap (version 10.0) to calculate the area-weighted or composite percent imperviousness value for each subwatershed. Composite imperviousness for each subwatershed, both existing and future land uses, are shown on the Subwatershed Map within the Interactive Hydrology Map (Figure B-1) and the CUHP Input Parameters (Table B-1) in Appendix B.

A historic condition was also considered in this hydrology model. The historic condition assumes all areas within the study area are open space or agricultural land uses with an imperviousness of 2 percent to approximate the condition of the study area prior to any development occurring. This condition was only analyzed for the 100-year storm event. The results are presented in Appendix B and provides a baseline for comparison to the existing and future conditions.

3.3.3 Soil Classification

The soil classification and hydrologic soil group of each subwatershed influences the Horton's infiltration parameters that are inputs for CUHP. The hydrologic soil groups were found from the Natural Resources Conservation Service Web Soil Survey (July 2018). The study area is primarily Type B and C soils, with some Type A in the Powhaton North and Hayesmount Tributaries, and Type D soils in the Monaghan and 1st Avenue Tributaries. The hydrologic soil groups are shown on the Soils Map within the Interactive Hydrology Map (Figure B-1) in Appendix B.

3.3.4 Infiltration and Depression Losses

The Horton's infiltration parameters were determined by weighted interpolation from Table 6-7 in the USDCM based on the percentage of each soil type within each subwatershed.

Depression losses are based on land cover. Referencing Table 6-6 in the USDCM, each subwatershed was given a pervious depression storage value of either 0.35 inches for subwatershed imperviousness values greater than 15%, or 0.4 inches for less than 15%.

3.4 Detention

In existing conditions, the majority of the study area is undeveloped, irrigated farmland, with some light industrial and residential developments. There are several existing development areas, including the Cross Creek, Vista Pointe School, Traditions and Adonea developments. Although local stormwater detention and water quality facilities have been constructed within these developments to reduce discharge to pre-development rates, they are not regional and therefore not considered in this hydrologic analysis. There are proposed developments, such as Harmony, Sand Creek Ranch, and Sky Ranch, that will be required to have local detention and water quality facilities, they will also not be included in this study.

Additionally, no inadvertent storage has been considered, such as that caused by road embankments or low depression areas. Inadvertent detention areas occur at several locations in existing conditions, but future development will likely eliminate these by regrading the area and/or adding culverts; therefore, inadvertent detention was not included in the models.

However, there is a newly constructed regional detention facility within the Sky Ranch subdivision (Pond D) that is considered existing and included in the models. The storage volume stage-storage curve and stage-discharge curve from the *Sky Ranch Neighborhood B Phase III Drainage Report (E 6th Ave. and Monaghan Rd.)* (CVL Consultants, 2018) was included in the hydrologic models for both existing and future conditions. The stage-storage curve and stage-discharge curve for Pond D (i.e. Pond 1 in models) can be found in Table B-3 in Appendix B. The pond location is near the downstream end of the Monaghan Tributary and can be seen on the SWMM Routing Map within the Interactive Hydrology Map (Figure B-1) and the SWMM Routing Schematic (Figure B-2) in Appendix B. There are additional future regional detention basins in the Sky Ranch development that will considered in the Alternatives Analysis section of this study.

3.5 Hydrograph Routing

EPA SWMM 5.1.012 was used to route the individual subwatershed hydrographs through the storm drainage system. The system is represented by subwatersheds, design points, conduits (open channels and pipes), and storage units. The SWMM Routing Map within the Interactive Hydrology Map (Figure B-1) shows the modeled elements graphically within the study area while the SWMM Routing Schematic (Figure B-2) shows the routing elements linearly. These figures illustrate how the system is connected and how runoff is routed. The kinematic wave routing method was used in the SWMM model.

The major routing inputs in the model include conduit geometry, length, slope, Manning's n roughness factor, junction inverts, and detention facility stage-storage and stage-discharge curves. Conduit geometry was defined from City of Aurora stormwater pipe data, master plan information, as-constructed plans, topographic information, and field investigation. Overflow links (diversions) were used to prevent loss of runoff due to flooding of culverts or pipe systems.

Typical Manning's n roughness values for conduits and gutters were increased by 25% as recommended in the USCDM. The resulting Manning's n values used in the model were: 0.016 for concrete pipes and gutters, 0.03 for corrugated metal pipes, 0.014 for high-density polyethylene pipes, and 0.015 for street flow, and 0.05 for natural channels. Example of SWMM parameters and results for the 100-year storm event for the existing and future conditions are shown in Figures B-4 and B-5, respectively, in Appendix B.

3.6 Previous Studies

The First Creek watershed has been studied several times for master planning purposes. The following is a summary of major studies in the First Creek watershed upstream of I-70:

- In 1986, Simons and Li completed an Annexation Drainage Basin Plan for the City of Aurora where the tributaries upstream of I-70 were initially named.
- In 1990, Wright Water Engineers updated the master plan for First Creek in an Outfall Systems Masterplan.
- In 2010, Moser and Associates studied the main stem of First Creek in *First Creek (Upstream of Buckley Road) Major Drainageway Plan Conceptual Design Report*. This MDP included master plans for the main channel of First Creek but did not include master planning for the tributaries.

While the previous studies analyzed First Creek, they did not provide specific improvement recommendations along the tributaries. Each of the previous studies has updated basin delineations and characteristics including land use for more refined subwatershed definitions. With each update, each study used the latest methodologies and software versions available.

3.7 Results of Analysis

The existing, future, and 100-year historic peak discharges and volumes at each design point for the 2-, 5-, 10-, 25-, 50-, 100- and 500-year storm events can be found in Table B-2 in Appendix B. Hydrographs for the 2-, 10-, and 100-year storm events at key design points can be found in Figure B-3 in Appendix B. Peak flow profiles along the length of each tributary for the 2-, 5-, 10-, 25-, 50-, 100-, and historic 100-year storm events are presented in Figure B-4 in Appendix B. The SWMM output results for both the existing and future 100-year conditions is provided in Figures B-5 and B-6, respectively, in Appendix B.

As expected, the future conditions peak flows are typically greater than the peak flows for existing conditions. This increase is primarily due to the increase in land development across the study area without accounting for future local detention or water quality. For the purposes of the baseline hydrology, overflow links were provided when the capacity of existing culverts and storm sewer systems were reached. Further analysis of the hydrology model will be completed as a part of the Alternatives Analysis.

Table 3-2 below compares the 100-year storm event flows between the 2010 Moser MDP and this study. One significant difference between the two studies is that the CUHP 2.0.0 for this study utilizes the NOAA Atlas 14 one-hour point rainfall depth that typically decreased from what was used in the previous studies. As expected, the runoff in this study decreased from previous studies in most cases. However, some anomalies did occur:

- Powhaton South and Titus Tributaries - The runoff from these tributaries increased from the previous study due to changes in future land use and imperviousness in the tributaries, thus increasing the flow.
- Powhaton South Tributary – additionally, adjustments to the subwatershed divides created a larger tributary area, increasing the flow from the previous study.
- Monaghan Tributary – The Moser (2010) MDP did not include detention in the hydrology analysis for this tributary. The addition of Pond D lowers the peak runoff to the outfall compared to the previous study.
- Mississippi and Florida Tributaries – Both of these tributaries plus other areas were included in the Moser DP 1650 outfall peak runoff. Adjustments to subwatershed divides made for the current study do not provide a direct peak runoff correlation for comparison.

Table 3-2 Peak Flow Comparison to Previous Master Plan

Tributary Outfall	Moser (2010)				Merrick (2019)			
	Location	Trib. Area (ac)	Ex. 100-yr Flow (cfs)	Fut. 100-yr Flow (cfs)	Location	Trib. Area (ac)	Ex. 100-yr Flow (cfs)	Fut. 100-yr Flow (cfs)
Gun Club	Basin 150	179	168	685	DP 100	155	169	431
Harvest	DP 7000	737	1,050	1,680	DP 200	773	1,004	1,496
Powhaton South	Link 7115 & Basin 710	1,248	783	1,602	DP 300	1,402	1,212	2,568
Powhaton North	Basin 153	198	203	570	DP 400	162	173	266
Riverwood	DP 7200	224	260	700	DP 500	175	150	374
Monaghan	Basin 160	365	384	1,120	DP 600	369	300	701
Titus	Link 7315 & Basin 730	224	159	210	DP 700	222	211	458
1st Avenue	DP 7400	403	540	1,390	DP 800	448	488	1,060
Hayes-mount	DP 7500	608	650	1,450	DP 900	587	510	989
Mississippi	N/A				DP 1000	217	232	303
Florida	N/A				DP 1100	253	233	277

* Note: DP= Design Point

4.0 REFERENCES

1. *Adonea Master Drainage Report* by Nolte Associates, Inc. Revised October 2003
2. *Arapahoe County Comprehensive Plan 2018* by Arapahoe County Planning Commission, May 2018
3. ArcGIS files: Basins, District Boundary by Urban Drainage and Flood Control District, July 31st, 2018
4. ArcGIS files: Building Rooftops, City Limits, Driveways, Edge of Pavement, Parcels, Parks Open Space, Ponds, Sidewalks, Storm Fittings, Storm Inlets, Storm Mains, Storm Manholes, Zoning by City of Aurora, July 12th, 2018 & August 9, 2018
5. ArcGIS files: County Boundary, Parks Open Space, Zoning, 2018_CompPlan by Arapahoe County, July 31st, 2018, and September 24th, 2018
6. ArcGIS files: Soils by Natural Resources Conservation Service, July 26th, 2018
7. *Aurora Data Center Subdivision Filing No. 1 – Sycamore Aurora Site Plans* by CH2M, Revised June 5th, 2018
8. *City of Aurora 2016 Zoning Map* by City of Aurora Planning and Development Services, March 8, 2016
9. *Drainage Basin Plan for Annexation Study Area: Phase I Development of Alternatives, Volume III Upper South Platte River Basin including First Creek* by Simons & Li, 1986
10. *Final Drainage Report for APS Educational Campus – Filing 1* by JVA Consulting Engineers, January 21st, 2009.
11. *Final Drainage Study Aurora Pumping Station No. 3, Subdivision Filing No.1* by MWH, February 11th, 2008. COA #208031
12. *First Creek (Upstream of Buckley Road) Major Drainageway Plan - Conceptual Design Report* by Moser & Associates, August 2010
13. *First Creek and DFA 0055 Outfall Systems Masterplan Preliminary Design Report* by Wright Water Engineers, 1990
14. *Horizon City Center Framework Development Plan* by Lend Lease Horizon LLC, September 9th, 2008
15. *Horizon City Center Master Drainage Report* by Nolte Associates, Revised June 2005. COA #205179
16. *Horizon City Center Preliminary Utility Report* by URS Corporation, October 2007. COA #472007
17. *Master Drainage Report for Harmony* by CVL Consultants of Colorado, Inc., May 2016. COA #216065
18. *Master Drainage Study The Traditions Framework Development Plan* by CVL Consultants of Colorado, Inc., December 11th, 2003
19. *Phase II Drainage Report for Sky Ranch II* by CVL Consultants of Colorado, Inc., Revised September 8th, 2006
20. *Draft Sky Ranch General Development Plan* by PCS Group Inc., November 2018
21. *Sky Ranch Neighborhood B Phase III Drainage Report (E 6th Ave. and Monaghan Rd.)* by CVL Consultants of Colorado, Inc., May 2018
22. *Sandy Creek Subdivision* by CVL Consultants of Colorado, Inc., Revised July 3rd, 2013. COA #213082
23. *Sun Meadow Master Drainage Report* by CVL of Colorado, Inc., Revised April 5th, 2006. COA #206123
24. *Sunset & Grimm Motocross Oil & Gas Well* by CVL Consultants of Colorado, Inc., October 1st, 2013. COA #214009
25. *Topographic Contours and Digital Elevation Model (DEM)* by Urban Drainage and Flood Control District, May 30th, 2018
26. *Urban Storm Drainage Criteria Manual, Volume 1, 2, and 3* by Urban Drainage and Flood Control District, revised 2017.

APPENDIX A – PROJECT CORRESPONDENCE

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MINUTES

First Creek Tributaries

Master Drainage Plan

Kickoff Meeting, Wednesday, June 13th, 2018, 10:30 pm – at City of Aurora

Attendees:

Name	Organization	Phone	Email
Teresa Patterson	UDFCD	303 455 6277	tpatterson@udfcd.org
Sarah Young	City of Aurora	303 739 7279	syoung@auroragov.org
Craig Perl	City of Aurora	303 739 7532	cperl@auroragov.com
Stacey Thompson	SEMSWA	303 858 8844	sthompson@semswa.org
Sue Liu	Arapahoe County	720 874 6546	sliu@arapahoegov.com
Jeanne Boyle	Merrick	303 800 9036	jeanne.boyle@merrick.com
Colin McKernan	Merrick	303 800 9030	colin.mckernan@merrick.com
Clare Steninger	Merrick	303 800 9074	clare.steninger@merrick.com

1. Introductions
   a. Merrick project team: Jeanne, Colin, and Clare attendees. Other employees will be a part of the project team as necessary.
   b. Sponsors: UDFCD, Aurora, and SEMSWA.
      i. Arapahoe County, development stakeholders, and others as necessary to provide input.
   c. Project communication
      i. Website – launch page should be set up before next progress meeting. Meeting notices will be posted to provide notice to stakeholders.
2. Project Scope – area of interest is tributaries to First Creek upstream of I-70
   a. Phases: hydrology, hydraulics, alternatives analysis, and conceptual design.
   b. Not updating hydrology for the main stem, just the tributaries indicated in the original scope
   c. Naming tributaries – Aurora will check with Open Space and Maintenance if any naming conventions are currently used. Team will decide prior to submitting the hydrology report.
3. Available Data
   a. Mapping, GIS data
      i. Contours – 2013 Lidar.
      ii. COA Open Portal – has GIS data available for download including stormwater, ponds, wastewater, boundaries, planimetrics, etc.
      iii. Arapahoe County – urban land use plan and county transportation system mapping are available
   b. Previous Master Plans and On-going developments
      i. No FHAD has been done for these tributaries, only for the main stem of First Creek. The City and SEMSWA may be interested in adding a FHAD for this area in the future.
      ii. Aurora will send (or direct Merrick to) the MDPs or FDPs for Sky Ranch, Eastern Hills, Harmony.
      iii. IGA for First Creek main channel should be referenced and considered in this study.
   c. Land Use – Existing and Proposed Imperviousness
      i. City has existing imperviousness surface data as GIS layer. Future imperviousness layer not developed. City will send anticipated future development map when finished.
      ii. Use zoning categories, 2018 County Comprehensive Plan, MDPs, and FDPs for future imperviousness values.
         1. County may have GIS for land-use zones.
      iii. Compare Aurora and SEMSWA values for land uses and imperviousness and discuss at next progress meeting.
   d. Regional detention
      i. Pond inventory is available on COA Open Portal. Indicates private vs. public ponds. Private ponds will not be included in baseline hydrology but may be considered for retrofitting in alternatives analysis.
      ii. Regional ponds currently or soon to be built (within the next year) will be included in baseline hydrology. This includes Pond D in Sky Ranch.
      iii. Merrick will determine the ponds within the study limit and the team will discuss at the next progress meeting.
      iv. Other master planned ponds (i.e. Sky Ranch T9 and T12) may be considered in alternatives analysis.
4. Models to Use and Storm Events
   a. CUHP 2005 Version 2.0.0, EPA SWMM 5.0 models
   b. Storm events studied: 2-year to 500-year
5. Project Specifics
   a. Channel improvements near Powhaton Road has redirected a tributary further north.
   b. Neighborhood near Adonea may have major conveyance underground.
   c. Mississippi and Hayesmount area may annex into the City. More information about land use will be in this area is to be determined.
6. Deliverables for Baseline Hydrology
   a. CUHP/SWMM models
   b. Hydrology Report

c. Other deliverables to be discussed for following phases.

7. Billing information
   a. Invoicing – Merrick will send to Teresa
8. Schedule
   a. Anticipated Schedule – see attached anticipated schedule
   b. Next progress meeting – 8 weeks. Approximately week of August 6th
      i. Tributary alignments
      ii. Watershed delineation
      iii. Land use and percent imperviousness values
      iv. Ponds to be included in baseline hydrology
9. Project Goals:
   a. Clearly define intent of improvement goals and objectives.
   b. Inform, guide, and provide expectations of development effects on water quality, stabilization, flood risk, etc.
   c. Potentially provide stream management corridors for more natural stormwater conveyance
   d. Integrate proposed improvements with realistic location of future trails, open space, traffic master plans, and developments

Action Items:

- Aurora – research naming conventions for these tributaries
- Aurora – provide existing impervious surface data
- Aurora – provide MDPs and FDPs for Sky Ranch, Eastern Hills, Harmony, and other developments
- SEMSWA/ Arapahoe County – Plans for Pond D at Sky Ranch. To be used for baseline hydrology model.
- Merrick – set up project website and send link to Teresa
- Merrick – collect data
- Merrick – delineate watersheds, subbasins, and stream network. Verify stream network shown in Appendix A of RFP
- Merrick – determine land use and imperviousness values
- Merrick – determine private, public, and regional detention ponds to be discussed at the next meeting.

FIRST CREEK MDP

Anticipated Schedule

Phase	Task	Weeks to Complete	Approximate Date	Assumptions
Baseline Hydrology	Next Progress Meeting	7	8/6/2018	Starting date is June 18, 2018
	Draft Hydrology Report	10	8/24/2018	Starting date is June 18, 2018
	Sponsor review of Hydrology Report	3	8/27/2018	
	Finalize Hydrology Report	3	9/17/2018	
Alternatives Analysis	Draft Alternatives Report	8	11/12/2018	No work on alternatives until Hydrology is finalized
	Sponsor review of Alternatives Report	3	12/3/2018	
	Finalize Alternatives Report	3	12/31/2018	No work during the week between Christmas and New Years
	Arrange and Hold Public Meeting	3	1/21/2019	Not started until after Alternatives report has been finalized
	Select Best Alternative Plan	3	2/11/2019	
Conceptual Design	Draft Conceptual Design	8	4/8/2019	No work on Conceptual until Best Alternative Plan selected
	Sponsor review of Conceptual Report	3	4/29/2019	
	Final Conceptual Design	3	5/20/2019	

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MINUTES

First Creek Tributaries

Master Drainage Plan

Progress Meeting, Thursday, August 30th, 2018, 3:30 pm – at Merrick

Attendees:

Name	Organization	Phone	Email
Teresa Patterson	UDFCD	303 455 6277	tpatterson@udfcd.org
Craig Perl	City of Aurora	303 739 7532	cperl@auroragov.org
Jon Villines	City of Aurora	303 739 7646	jvilline@auroragov.org
Stacey Thompson	SEMSWA	303 858 8844	sthompson@semswa.org
Jeanne Boyle	Merrick	303 800 9036	jeanne.boyle@merrick.com
Clare Steninger	Merrick	303 800 9074	clare.steninger@merrick.com

A memo was sent to the project team on August 9th, 2018, describing the tributary delineation and land use categories Merrick will base the hydrology on. This meeting was to discuss the items presented in that memo.

1. Tributary Delineation
   a. The tributaries Merrick delineated were similar to the tributaries presented in UDFCD's draft flow paths for tributaries greater than 130 acres. This confirms the main tributary paths are reasonable.
   b. Some of the subcatchments that were delineated were small or had interesting shapes. Merrick will investigate the sizes and shapes based on contours and edit as appropriate.
   c. The upper limits of each tributary should have a subcatchment about 130 acres. The scope of the study dictates that improvements for the tributary will only be investigated when cumulative area meets or exceeds 130 acres. Merrick will revise subcatchment boundaries that were previously split at roadways and edit tributary paths at the upstream reaches of the tributaries to be where 130 acres actually comes together.
   d. Merrick will perform a site visit to clarify determine the actual flow path for several potential split flow locations. If it is not obvious, then the topo data should be used to determine the flow path.
   e. Additional information about the Harmony development and proposed flow paths can be found in the Harmony Master Drainage Study. This may influence subcatchment divides in the Powhaton and Alameda area.
2. Tributary Names
   a. Merrick initially named the tributaries numerically based on the 1986 Simons and Li Drainage Basin Plan. Existing developments did not use these names in their drainage reports. The project team would prefer more descriptive names than numeric values. However, these numbered tributary names will be referenced in the report.
   b. After some discussion, the project team agreed that tributary names should reference major roadways names instead of development names as developments can go through many names before being built.
   c. Merrick will develop names base on streets and send to the project team for review. Teresa will ask Shea about other naming conventions in the area.
3. Land Use
   a. There was a typo in the memo. "OS" should refer to Open Space not Office Space. The percent impervious for this land use is 2%.
   b. The Road land use would likely include the right-of-way (ROW) area and not just the pavement. The 100% imperviousness would be too high if all the ROW area was included. Teresa will investigate typical values for ROW. However, this land use is only found along I-70 and E-470, so this land use could be changed to "Freeway" instead of "Road".
   c. For areas that had both City and County zoning categories, the areas that are currently incorporated into the City used City zoning over County.
   d. The "Mixed Use" from Arapahoe County's Comprehensive Plan does not have specifics as to what the typical density will be. For the Sky Ranch and Prosper development areas, the May 2018 Comprehensive Map land uses will be used. Merrick will digitize the boundaries if GIS data is not available from Arapahoe County.
   e. From aerial imagery, there appears to be an existing oil well site east of Hayesmount. The team decided to include this site in existing and future land use calculations. The Lone Tree well (planned for across the street) will only be used in future land use calculations.
4. Other
   a. The aerial imaging that will be used is 2017 World Imagery from the ESRI (ArcMap) database. This will be referenced in the report.
   b. The regional detention pond southeast of Alameda and Hayesmount originally proposed in the 2010 First Creek MDP was an inline pond and therefore wouldn't influence any of this study's tributaries. An area for the pond will not be made for future land use as it would not be a permanent pool pond.
   c. In the hydrology report, document dates of retrieval for shapefiles used in the bibliography.
   d. For final maps, include labels for jurisdiction.
   e. On final tributary may, show the major basin for First Creek (watershed divide).
5. Anticipated Schedule
   a. Draft report mid-October

Action Items:

- UDFCD – ask Shea about naming conventions
- UDFCD – investigate typical right-of-way imperviousness values
- SEMSWA – investigate if the May 2018 Arapahoe County Comprehensive Plan is available in GIS format.
- Merrick – revise watershed and subcatchment delineations.
- Merrick – continue baseline hydrology model development

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MINUTES

First Creek Tributaries

Master Drainage Plan

Progress Meeting, Wednesday, January 23rd, 2019, 11:00 am – at UDFCD

Attendees:

Name	Organization	Phone	Email
Teresa Patterson	UDFCD	303 455 6277	tpatterson@udfcd.org
Craig Perl	City of Aurora	303 739 7532	cperl@auroragov.org
Jon Villines	City of Aurora	303 739 7646	jvilline@auroragov.org
Stacey Thompson	SEMSWA	303 858 8844	sthompson@semswa.org
Sue Liu	Arapahoe County	720 874 6500	sliu@arapahoegov.com
Jeanne Boyle	Merrick	303 800 9036	jeanne.boyle@merrick.com
Clare Steninger	Merrick	303 800 9074	clare.steninger@merrick.com

Review of Hydrology Comments

Overall, review comments were reasonable and made sense to Merrick. We will update the report and modeling based on these comments. Below is more in-depth discussion of several comments:

1. Sue Liu's (Arapahoe County) comments were not included in the complied list. They will be resent to Teresa and Merrick to be included in the comment response matrix.
2. Sensitivity Analysis - A roughness (Manning's n) or culvert blockage (sedimentation) analysis of hydraulic models to provide information of which reaches are more sensitive to changes could provide helpful information for long term O&M. However, it is not as critical for this study since most of the area is undeveloped. Could be included in future MDPs but won't be part of this scope.
3. Historic run (I=2%) – for studies in developing watersheds, a historic flow condition (i.e. I=2%) illustrates effect of development and helps future developers adhere to discharging at historic rates. A historic run will be included in this study for only the 100-year storm event per sponsor discussion.
4. 500-year storm event – this MDP will not have a FHAD associated with it so the 500-year event hydrology is not required. The 500-year scenario will be run but not used for subsequent phases of this MDP.
    a. For Baseline Hydrology, Merrick will provide the 500-year results in the peak flow and volume table but remove it from the peak flow profiles for clarity.
5. Sky Ranch Zoning – a Phase II drainage report for Sky Ranch shows different zoning/land use in the Monaghan tributary. This report has not been published yet.
    a. Merrick will look at the differences in land use to determine if there are significant changes for what was used in this study (based on Arapahoe County Comp Plan). If there are significant changes, this will be discussed with the sponsors before changing in the modeling.
6. Sky Ranch Pond D –
    a. a comment mentioned that the stage-storage and discharge curves for Pond D were not the ones from the Phase III drainage report. This is incorrect. The curves used were the correct curves from the Phase III report – no changes needed for the model.
    b. Subwatershed 600 has greater area than what Pond D was sized for. Subwatershed 600 will be split into two subwatersheds about at the jurisdictional boundary (depending on development boundaries) so only the area tributary to Pond D will be included in the pond routing.
7. Sky Ranch culvert – there is an existing 4x6 RCBC culvert under Monaghan in the Sky Ranch area. This culvert will be added to the table of existing infrastructure but will not be modeled in the baseline hydrology SWMM model.
8. Future Sky Ranch Ponds – there are other proposed ponds in Sky Ranch that may be regional (Ponds C, G, H). Since they are not existing infrastructure, they aren't included in the baseline hydrology. They will be considered in the alternatives analysis.
9. Depression Storage – for existing and future conditions, subwatersheds with imperviousness less than 15% a value of 0.4 was used for depression storage and for greater than 15% 0.35 was used.
10. Tributary naming – some sponsors are not thrilled with naming tributaries after adjacent roadways as the alignments of the roads could change in the future and would not be unique to this watershed.
    a. A theme (native grasses, trees, crops, animals, etc.) with alphabetical names could make the tributary names more unique.
    b. For now, tributary names shall remain as they are (road based).

Alternatives Analysis Considerations

1. The target storm event for the alternatives is the 100-year.
2. Existing ponds – existing ponds could be considered to be included for maintenance eligibility/ publicly owned, it must show that including them significantly improves the existing infrastructure capacity.
3. Future ponds – include regional detention from Sky Ranch in alternatives. Also look at if there are any regional ponds from the First Creek (main channel) MDP that should be considered.
4. Harmony development – the channels and ponds proposed in Harmony's plans are not eligible for District maintenance. The channels may be too small because they rely on local detention.
    a. Merrick will look at reports and flows assumed as part of the alternatives analysis.
    b. Goal would be to give guidance for this area.

5. Traditions pipe system – since existing local ponds are not included in the hydrology model, it is likely that the pipe system through the Traditions development are undersized. The pipes may have been sized assuming a future detention pond upstream of the development (subwatershed 250). Merrick will analyze:
    a. The capacity of the pipe system (pipe and street flow) without existing or future ponds and what the cost and size pipe would be needed to convey the undetained flow.
        i. Identify sensitive areas for excessive street depths or impacts to properties, etc.
    b. Include existing ponds and how that impacts the alternative design of the pipe system.
    c. Include existing and future ponds (even if not regional) and impacts for the alternative design of the pipe system.

Schedule

1. Finalize Hydrology Report – mid-February 2019
    a. Will be posted on the project website after approval.
2. Alternatives – proposal for budget is almost completed and will be sent to UDFCD. Before Merrick begins work on alternatives, a discussion of approach and categories will be conducted with UDFCD and then distributed to the other sponsors.

TABLE A-1
Response to Draft Hydrology Report Comments

The following are responses to comment received from the project sponsors regarding the draft Baseline Hydrology report for the First Creek Tributaries (Upstream of I-70) Master Drainageway Plan.

Comment Number	Page Label	Subject	Author	Comments	Merrick Action	Merrick Response	Date Changed
1	1	Text Box	SLiu	and Arapahoe County	Agree	Added "Arapahoe County" to the cover.	2/13/2019
2	1	Text Box	SLiu	County Logo	Agree	Added Arapahoe County logo to the cover.	2/13/2019
3	4	Text Box	jvilline	It would probably require a scope change (and maybe a separate contract with RESPEC), but I am curious about the possibility of doing a roughness/sedimentation/culvert blockage sensitivity analysis as part of this and other MDPs going forward. It would provide very useful information at a relatively minor cost. If it doesn't make sense at this stage for this MDP, I understand.	No action	After discussion with the project sponsors, this sensitivity analysis will not be completed as part of this MDP. However sponsors did agree that having something like this in the future would provide useful operations and maintenance information for sensitive reaches.	1/24/2019
4	4	Line	jvilline		Disagree	Didn't omit comma after "June 13, 2018," because sentence continues after date.	N/A
5	5	Note	sthompson	new title: Group Manager, Floodplain and Master Planning	Agree	Changed in text	1/17/2019
6	5	Callout	tclark	there is now a new Phase II Drainage Report for Sly Ranch Filing 2. Only the initial review has been completed as of January 2019.	Agree	Added as a data source to Table 1-1	2/13/2019
7	5	Text Box	ahoward	Angela Howard, P.E., CFM - SEMSWA - Master Plan Coordinator	Agree	Added to text	1/17/2019
8	5	Text Box	SLiu	Draft Sky Ranch Neighborhood B Floodplain Modification Study CVL Consultants of Colorado, Inc	Agree	This study was added to the Data Collected in Table 1-1.	2/13/2019
9	6	Cross-Out	TPatterson		Agree	Deleted sentence.	
10	6	Inserted Text	TPatterson	for this project	Agree	Changed in text	1/17/2019
11	6	Inserted Text	TPatterson	upstream of I-70	Agree	Changed in text	1/17/2019
12	6	Highlight	TPatterson	move I-70 to first boundary in list	Agree	Changed in text	1/17/2019
13	6	Inserted Text	TPatterson	farming and agricultural practices,	Agree	Added to text	1/17/2019
14	6	Highlight	TPatterson	at the I-70 roadway crossing?	No action	Yes, the lowest point in the study area is in Subwatershed 100 at First Creek near the I-70 crossing.	2/7/2019
15	6	Highlight	TPatterson	Is the UPPER First Creek (Study area) really 33% developed? Or is this the entire FC watershed that is 33% developed. Is this based on aerials from a particular date or is it based on aerials plus approved development plans? I would like to focus this discussion to the Study Area (FC U/S of I-70).	Agree	Focusing on the study area, specifically the areas that were delineated for the studied tributaries, the study area is approximately 17% developed. This is based on existing aerial (June 2017) and verified with City of Aurora GIS planimetric data. The percentage was changed in the text.	2/15/2019
16	6	Ellipse	sthompson		Agree	Fixed tense of verb from "concentrates" to "concentrate"	1/17/2019
17	6	Ellipse	sthompson		Agree	Fixed tense of verb from "creates" to "create"	1/17/2019
18	6	Ellipse	sthompson		Agree	Fixed tense of verb from "was" to "were".	1/17/2019
19	6	Callout	jvilline	Future	Disagree	Land Use categories were determined for both existing and future conditions.	N/A
20	6	Callout	jvilline	Is this paragraph a little redundant with the second paragraph in 2.2?	Agree	The second paragraph describes what the basis for determining land use and percent imperviousness was, and the future land use paragraph specifies the date that those data sources were accessed. We have added language to clarify that zoning and resulting land uses were used for the future condition.	2/10/2019

TABLE A-1
Response to Draft Hydrology Report Comments

Comment Number	Page Label	Subject	Author	Comments	Merrick Action	Merrick Response	Date Changed
21	6	Callout	jvilline	Just for my own clarification, this means tributaries that have drainage areas of 130 acres or greater at the outfall to First Creek, not those that have a point-of-origin with 130 acres of tributary area, correct? In other words the point-of-origin would typically have significantly less than 130 acres tributary area, but any discernible channel in the basin would still be considered a 'major drainageway' because it eventually becomes a channel with greater than 130 acres of tributary area prior to the confluence with First Creek. Or is it the case that only channel reaches with greater than 130 acres of tributary area are considered major drainageways?	No action	The tributaries are based on having at least 130 acres tributary at the outfall. To be considered a major drainageway that will be considered for improvements in subsequent phases of this study, a channel would have greater than 130 acres tributary to it. Typically, the upper-most subwatershed is approximately 130 acres, so condutis downstream would be considered a major drainageway.	1/17/2019
22	7	Text Box	SLiu	Include Legend for Arapahoe County	Agree	The Arapahoe County Boundary was added to Figure 2-1.	2/13/2019
23	7	Callout	TPatterson	Thicken the watershed boundary line and remove the black line. The double line is confusing.	Agree	Removed black area of interest line and thickened watershed boundary.	1/17/2019
24	7	Callout	TPatterson	Label as I-70 instead of Colfax	Agree	Labeled as "I-70" instead of "E Colfax Ave"	1/17/2019
25	7	Line	TPatterson	Add and label I-70 as the Study Limit.	Agree	Added line and label with I-70 as Study Limit	1/17/2019
26	7	Line	TPatterson	Cross out Study Area Boundary on Legend	Agree	Removed Study Area Boundary from Watershed Map	1/17/2019
27	7	Text Box	TPatterson	Unincorporated	Agree	Added "Unincorporated" to Arapahoe County on the Watershed Map	1/17/2019
28	8	Text Box	SLiu	under construction	Agree	The 8'x4' RCBC Pond D outlet pipe was labeled as "Newly Constructed" in Table 2-2.	2/13/2019
29	8	Inserted Text	TPatterson	As a Major Drainageway Plan, the scope of this study is to focus on the major tributaries of First Creek within the study area.	Agreed	Added to text	1/17/2019
30	8	Inserted Text	TPatterson	with tributary areas	Agreed	Changed in text	1/17/2019
31	8	Inserted Text	TPatterson	with	Agreed	Changed "in the Interactive Hydrology Map" to "within the Interactive Hydrology Map" throughout the report.	1/17/2019
32	8	Rectangle	TPatterson	Rearrange "The following narrative provides a description…"	Agreed	This sentence was moved to the second column on page 2-2.	2/10/2019
33	8	Inserted Text	TPatterson	Within	Agreed	Changed "for" to "within"	1/17/2019
34	8	Inserted Text	TPatterson	existing	Agreed	Added to text. Also changed Table 2-2 to Existing Major Structure Inventory"	1/17/2019
35	8	Inserted Text	TPatterson	s	Agreed	Added to text.	1/17/2019
36	8	Highlight	TPatterson	What resource did you use for this information? And discuss how this information was used in the hydrology. If it wasn't, maybe this is better suited in the future Hydraulic Analysis Section of the report.	Agree	The City of Aurora's existing storm sewer GIS layer and approved construction plans from the City and Arapahoe County were used to set the sizes, lengths, slopes, and materials of the culverts and storm sewer systems that were modeled for the baseline hydrology. Text was added to the report in section 2.3 to clarify.	2/10/2019
37	8	Cross-Out	TPatterson		Agree	Crossed out "to the outfall"	1/17/2019
38	8	Highlight	TPatterson	Please round these areas to the ones for all reach descriptions.	Agree	Rounded tributary areas to the one's place for all tributary descriptions.	1/17/2019
39	8	Note	sthompson	I didn't see that this tributary was shown/labeled on the hydrology maps.	Agree	This tributary has been labeled on the Interactive Hydrology Map. This tributary only a single subwatershed (ID 100 - 155 ac) so the length of the tributary is limited.	2/10/2019

TABLE A-1
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Comment Number	Page Label	Subject	Author	Comments	Merrick Action	Merrick Response	Date Changed
40	8	Callout	tclark	there is also a 4x6 RCBC (proposed with Sky Ranch Neighborhood B) crossing Monaghan Rd	Agree	This culvert was added to the list of existing structures in Table 2-2. Since this culvert was built after this project kicked off, it is not modeled in the SWMM routing. It will be considered in Alternative Analysis.	2/13/2019
41	8	Callout	tclark	Under Construction/Not yet accepted	Agree	Pond not accepted yet. Teresa said to mark as newly constructed. Changed in table 2-2	1/17/2019
42	8	Callout	TPatterson	List as "Newly Constructed"	Agree	Added to table 2-2	1/17/2019
43	8	Callout	TPatterson	List as "Newly Constructed"	Agree	Added to table 2-2	1/17/2019
44	8	Callout	TPatterson	6'x4' RCBC. There is another culvert for pedestrians only that is set higher.	Agree	The newly constructed 6'x4' drainage culvert was added to Table 2-2. However, the culvert was not included in the SWMM routing because it was not built at the start of this project.	2/13/2019
45	9	Cross-Out	TPatterson	Delete comma	Agree	Deleted comma	1/17/2019
46	9	Inserted Text	TPatterson	and Exposition Tributary	Agree	Added "and Exposistion Tributary" to the reach description title	1/17/2019
47	9	Rectangle	Tpatterson	Rogue picture label?	Agree	Removed label from text	1/17/2019
48	9	Ellipse	ahoward	Delete comma	Agree	Deleted comma	1/17/2019
49	9	Text Box	jvilline	combines	Agree	Fixed tense of verb from "combine to "combines"	1/17/2019
50	10	Highlight	TPatterson	Let's say "major regional flood event" so it's not thought that it was a major event on First Creek.	Agree	Changed in text	1/17/2019
51	10	Text Box	SLiu	a detention pond (Pond G) is proposed at the downstream end of the 1st Avenue Tributary, before in reaches the confluence with First Creek for the Sky Ranch Development. The tributary to this pond is 208-ac – can this pond function as a regional facility and should it be included in the study's model?	No Action	Future regional ponds in Sky Ranch are not included in the baseline hydrology. They will be included in the alternatives analysis.	2/1/2019
52	10	Note	sthompson	Add information about future conditions? This area is included in the Sky Ranch development plans under Arapahoe County land use review.	Agree	A sentence was added to the 1st Avenue tributary description to specify that this area is planned as part of the Sky Ranch development in Arapahoe County.	2/10/2019
53	10	Callout	ahoward	newly constructed	Agree	Added "newly" to text	1/17/2019
54	10	Ellipse	ahoward		Agree	Typo. Changed "in" to "it"	
55	10	Ellipse	ahoward		Agree	Removed extra space before comma.	1/17/2019
56	10	Ellipse	ahoward		Agree	Removed extra space before comma.	1/17/2019
57	11	Cross-Out	TPatterson	500-year only included in studies with FHAD.	Noted	The 500-year CUHP/SWMM was performed for existing and future conditions and peak runoff and volume was included in Table B-2 as a reference. The 500-year will not be included in future phases of this study and text was added to Section 3.2 to specify this.	2/10/2019
58	11	Inserted Text	TPatterson	and	Agree	"and" was added before 100-year.	2/10/2019
59	11	Sticky Note	TPatterson	For studies in developing watersheds we have started adding a historic flow condition (I=2% for all subwatersheds) to illustrate the effect of development. I recognize that it isn't written in the scope, but can you please add it to the hydrology report.	Agree	The historic (I=2%) 100-year storm condition was added to the modeling, appendices and report text.	2/10/2019
60	11	Cross-Out	TPatterson	500-year	Agree	Text was added to the report specifying that the 500-year was run for hydrology but will not be used in future phases of the study.	2/10/2019

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Comment Number	Page Label	Subject	Author	Comments	Merrick Action	Merrick Response	Date Changed
61	11	Text Box	SLiu	A zoning document for the major portion of the Sky Ranch Development was submitted recently, the % imperviousness for the Sky Ranch property may need to be updated per the proposed zones/land uses. This document is attached.	No Action	After review of the Sky Ranch Filing 2 zoning/ land use, the zoning meets the general intent of the 2018 Arapahoe County Comprehensive Plan. The slight changes in land use would not significantly affect the runoff in the tributary outfall channel. Therefore, the comp plan land uses remained in the CUHP analysis.	2/1/2019
62	11	Note	sthompson	and land development activities	Agree	Added "and land development activites" to text.	1/17/2019
63	11	Highlight	TPatterson	Add this table to Appendix B and reference it here.	Agree	The One-Hour Point Rainfall depth table was added to Appendix B as Table B-0.	2/7/2019
64	11	Highlight	TPatterson		No Action	Header was not highlighted for a purpose.	1/24/2019
65	12	Text Box	SLiu	More detention facilities proposed within the Sky Ranch Development - need to determine if they are functioning as regional facility and should they be included in the hydrologic analysis.	No Action	Future regional ponds in Sky Ranch are not included in the baseline hydrology. They will be included in the alternatives analysis.	2/1/2019
66	12	Inserted Text	TPatterson	wave	Agree	Added to text.	1/17/2019
67	12	Inserted Text	TPatterson	stage	Agree	Changed "storage-storage" to "stage-storage"	1/17/2019
68	12	Note	sthompson	Please see comments in the appendix -- it was noted that the stage-storage-discharge curve does not match the design information from the Phase III Drainage Report for Sky Ranch Neighborhood B. Status of construction is not known, but as-built information may be available from the County.	Disagree	The stage-storage and stage-discharge curves that were used in the model were the exact curves from the PhIII report. Subwatershed 600 was split into 600 and 602 to have the tributary area to the pond be closer to what the pond was designed for.	1/24/2019
69	12	Note	sthompson	It is understood that the future Sky Ranch ponds will be included in the Alternatives Analysis, assuming public ownership and maintenance, either by SEMSWA or the Metro District.	Agree	The other proposed ponds within the Sky Ranch development that could be considered regional/sub-regional were not included in the baseline hydrology as they are not existing infrastructure. These ponds will be included in the Alternatives Analysis assuming public ownership.	2/10/2019
70	12	Callout	tclark	There are multiple other ponds proposed within the Sky Ranch Development, three of which will have a tributary area greater than 130 acres (Pond C, G, H) and could be considered regional/sub-regional	No action	See response #69 above	2/10/2019
71	12	Callout	TPatterson	Note in the text that there are future regional detention basins planned in the Sky Ranch Development that will be considered in the Alternatives Analysis.	Agree	Text was added to Section 3.4 specifying that the proposed regional ponds in Sky Ranch will be considered in the Alternatives Analysis.	2/10/2019
72	13	Text Box	SLiu	369, see page 2-4	Disagree	The area of the Monaghan Tributary in Table 3-3 that was highlighted (365 acres) was originally from the Moser 2010 MDP. This study's tributary area (369 acres) is to the right in the table.	2/13/2019
73	13	Text Box	SLiu	448, see page 2-4	Disagree	The area of the 1st Avenue Tributary in Table 3-3 that was highlighted (403 acres) was originally from the Moser 2010 MDP. This study's tributary area (448 acres) is to the right in the table.	2/13/2019
74	13	Cross-Out	TPatterson		Disagree	The 500-year peak flows and volumes are still presented in Table B-2.	
75	13	Inserted Text	TPatterson	and	Disagree	The 500-year peak flows and volumes are still presented in Table B-2.	2/13/2019
76	13	Sticky Note	TPatterson	So many things are changing between the two studies (Trib size, percent imperviousness, and rainfall) it is hard to pinpoint it to one thing. I think that it is better to eliminate the this column and add a paragraph to Section 3.7 that	Agree	The Comparison column from Table 3-3 was removed and text was added to Section 3.7 that discusses the lower rainfall due to using CUHP 2.0.0. Anomalies were also discussed in this section instead of in the table.	2/13/2019

TABLE A-1
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Comment Number	Page Label	Subject	Author	Comments	Merrick Action	Merrick Response	Date Changed
				discusses the trend (decrease due to lower rainfall) and notes the anomalies that occur.			
77	20	Text Box	TPatterson	Please verify slopes of the conveyance elements listed below. They are either very flat or could potentially be steeper than actual conditions.	Agree	The model was reviewed and slopes were altered based on topographic information or construction plans.	2/7/2019
78	20	Text Box	TPatterson	Even though the lines in SWMM representing the conveyance links is purely graphical, the following conveyance element lines are confusing because they geographically backtrack. Please revise the vertices so at least they are not crossing. Simplifying the line is acceptable. Elements: C8, C32, and C65.	Agree	There was an error when the model was converted between PCSWMM and EPASWMM. The nodes have been corrected so they do not geographically backtrack.	2/15/2019
79	20	Text Box	TPatterson	Please include: - Rainfall Distribution table - Overall grading plan from CDs for Sky Ranch Pond D	Agree	The rainfall distribution table was added to Appendix B as Table B-0. The overall grading plan for Sky Ranch Neighborhood B and Pond D are included in Appendix B.	2/7/2019
80	21	Callout	SLiu	Arapahoe County Staff will proivde the latest Zoning documents for this portion of the Sky Ranch	No Action	See response to comment #61 above.	2/7/2019
81	21	Callout	SLiu	change the use to Commercial and Business Park per the recent submitted zoning document	No Action	See response to comment #61 above.	2/7/2019
82	21	Callout	tclark	there are three other ponds with have a greater than 130 acre tributary area that are proposed with the Sky Ranch Development	Disagree	Per UDFCD, don't show future Sky Ranch Ponds on Hydrology Map. They will be included in the Alternatives Analysis	2/10/2019
83	21	Text Box	tclark	Sky Ranch has recently submitted a second filing, The draft General Development Plan (zoning documents) conflicts slightly with the zoning shown in this map.	No Action	See response to comment #61 above.	2/1/2019
84	21	Callout	TPatterson	Do not show these here. We will address these in the alternatives analysis.	Agree	Future Sky Ranch Ponds are not shown on the Hydrology Map as they are not existing infrastructure. They will be included in the Alternatives Analysis.	1/18/2019
85	21	Line	TPatterson	How big is the area D/S of the County boundary? Should this be subdivided? Detention Basin Pond D is U/S of the boundary.	Agree	The area downstream of Pond D and the county boundary is approximately 18 acres. Subwatershed 600 was divided near the county boundary into subwatersheds 600 (downstream) and 602 (tributary to pond). This division was made to better model the actual performance of the pond.	2/7/2019
86	21	Sticky Note	TPatterson	Suggestion: Can controls be added to the map for the Tributary_Paths and Street labels that allow the user to toggle the street and tributary labels on and off? It is hard to geographically place things in this study area without these labels. I originally was going to suggest that they stay on for all layers, but then they cover too much information.	Agree	Links have been created to toggle the street and tributary labels on/off within the Interactive Map Controls.	2/10/2019
87	21	Text Box	TPatterson	Label Gun Club Trib	Agree	Gun Club label was added to Figure B-1.	2/7/2019
88	21	Text Box	TPatterson	Add an additional First Creek label	Agree	Added an additional First Creek label to map	2/7/2019
89	21	Text Box	TPatterson	Label Mississippi Trib	Agree	Added Mississippi Trib label to map	2/7/2019

TABLE A-1
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Comment Number	Page Label	Subject	Author	Comments	Merrick Action	Merrick Response	Date Changed
90	22	Callout	SLiu	unclear what conveyance 15 is.	Agree	Originally, conveyance element 15 was an overflow pipe from Pond 1 (Sky Ranch Pond D) because more area was tributary to the pond than the pond was designed for. However, the subwatershed has been divided to better model this Pond and so an overflow element is not needed. Conveyance element 15 is now a channel connecting the outlet of Pond D to the outfall of the Monaghan tributary at Design Point 600.	2/6/2019
91	22	Callout	TPatterson	since the channel downstream of the detention basin is open channel, I don't understand the need for the overflow. Is this just modeling the pond outfall pipe and overflow separately? I think this should change once the basin is subdivided properly because there will be a conveyance channel downstream of Pond 1.	Agree	The overflow element was removed and element 15 is now an open channel downstream of Pond 1	2/6/2019
92	22	Callout	SLiu	need to determine if the proposed pond in Sky Ranch be included in the model.	No Action	The proposed Sky Ranch ponds will be considered in the alternatives phase of the study but not included in the baseline hydrology.	2/6/2019
93	22	Polygonal Line	TPatterson	Line overflow 30 at future Alameda on SWMM Schematic	Agree	Added overflow link 30 to SWMM Schematic	1/18/2019
94	22	Text Box	TPatterson	30	Agree	Added overflow link 30 to SWMM Schematic	1/18/2019
95	22	Rectangle	TPatterson	May need to modify if Subwatershed 600 is subdivided.	Agree	The SWMM Routing schematic was updated to show the split subwatersheds 600 and 602 and the changes in routing.	2/10/2019
96	22	Callout	tclark	there is another pond with a tributary area greater than 130 acres on this tributary that Sky Ranch is considering sub-regional, this pond MAY be maintained by SEMSWA, however maintenance responsibility has not yet been determined.	No action	Proposed regional ponds in Sky Ranch will be included in the alternatives analysis.	2/10/2019
97	22	Text Box	tclark	there are two other ponds with a tributary area greater than 130 acres on this tributary that Sky Ranch is considering sub-regional, these ponds MAY be maintained by SEMSWA, however maintenance responsibility has not yet been determined.	No action	Proposed regional ponds in Sky Ranch will be included in the alternatives analysis.	2/10/2019
98	22	Callout	TPatterson	Do not show these here. We will address these in the alternatives analysis.	Agree	Proposed regional ponds in Sky Ranch will be included in the alternatives analysis.	2/10/2019
99	23	Sticky Note	TPatterson	Please add tributary names and land mark locations if pertinent to hydrographs. Suggestion: Far more than needed to illustrate hydrograph patterns and changes due to land use changes. Can we limit this to 1 for most with 2 or 3 for the larger tribs at key locations? I would recommend shortening the timeline to 5 hours to provide more value to the page.	Agree	Tributary names and land mark locations were added to the titles of each hydrograph. The number of hydrographs were reduced to 1 for most and 3 for the Monaghan and Powhaton South (larger) tributaries. The timeline for all hydrographs were also shortened to 5 hours for clarity.	2/6/2019
100	31	Line	TPatterson	Cross out 500-year	Agree	The 500-year was removed from all peak flow profiles.	2/10/2019
101	31	Line	TPatterson	No 500-year	Agree	The 500-year was removed from all peak flow profiles.	2/10/2019
102	31	Sticky Note	TPatterson	Add historic 100-year once run.	Agree	The historic (I=2%) 100-year flows were added to the peak flow profiles.	2/10/2019
103	32	Sticky Note	TPatterson	Same comments for this one and the rest.	Agree	The 500-year was removed from all peak flow profiles and the historic 100-year was added.	2/10/2019
104	40	Highlight	TPatterson	This is an improvement channel. The imperviousness will not change in the future.	Agree	The imperviousness of 2.0% was maintained in existing and future conditions for subwatershed 305.	1/29/2019
105	40	Highlight	TPatterson	This is an improvement channel. The imperviousness will not change in the future.	Agree	The imperviousness of 4.9% was maintained in existing and future conditions for subwatershed 320.	1/29/2019

TABLE A-1
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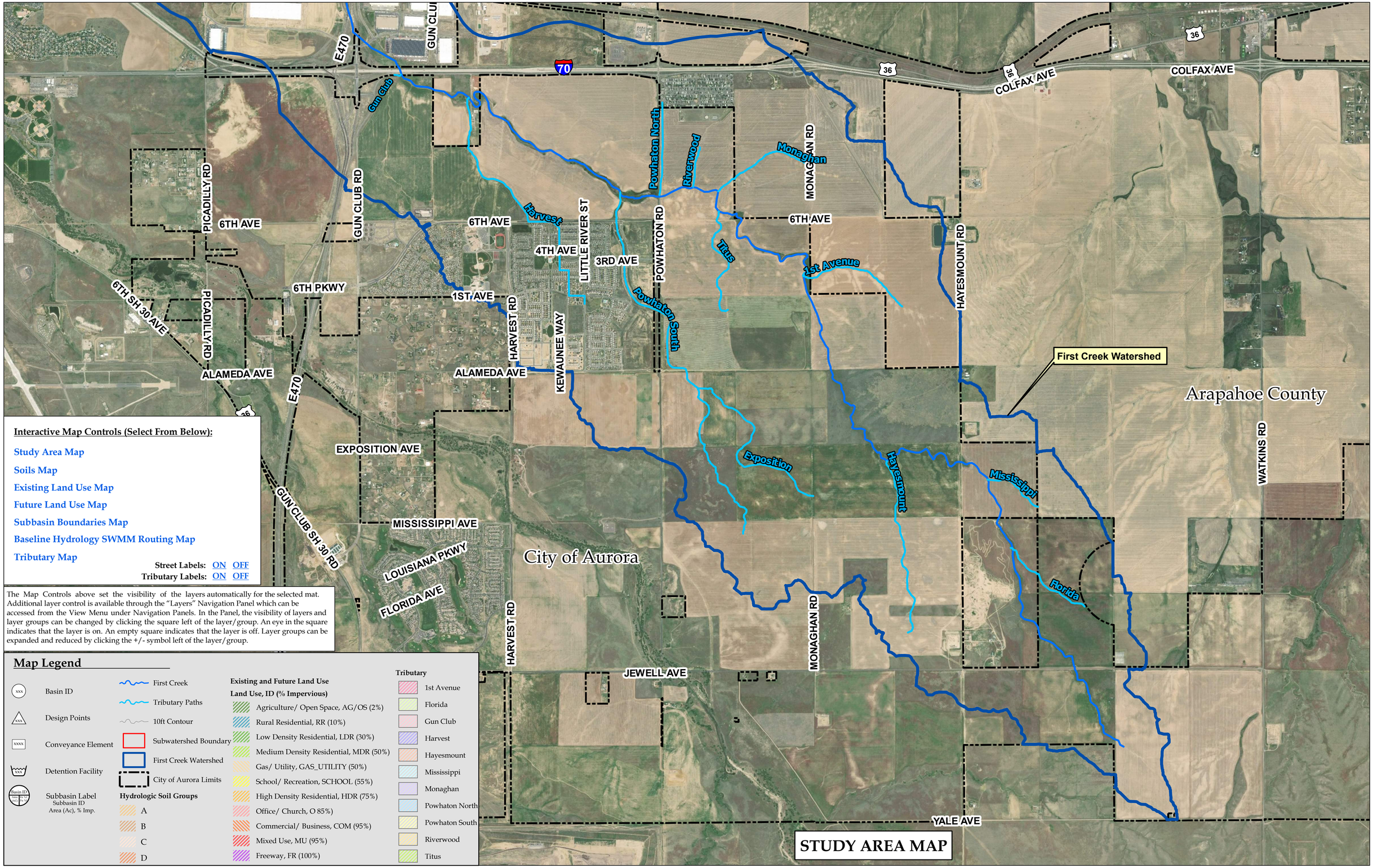
Comment Number	Page Label	Subject	Author	Comments	Merrick Action	Merrick Response	Date Changed
106	40	Rectangle	TPatterson	Values should be between 0.0007 and 0.0018 depending on the soil type.	Agree	All subwatershed have been updated to have decay coefficients between 0.0007 and 0.0018.	1/29/2019
107	41	Callout	SLiu	may need to update	No Action	See response to comment #61 above.	2/7/2019
108	41	Rectangle	TPatterson	Why isn't this one 0.035, too?	Disagree	For subwatershed 1105, the future imperviousness is less than 15% (12.3%) so the future pervious value is 0.4 instead of 0.35.	1/29/2019
109	41	Rectangle	TPatterson	Same comment	Agree	All subwatershed have been updated to have decay coefficients between 0.0007 and 0.0018.	1/29/2019
110	41	Text Box	tclark	I compared to Sky Ranch filing 2, there is conflicting information between this CUHP model and the existing conditions as shown in the Phase II Drainage report.	No Action	See response to comment #61 above.	2/7/2019
111	41	Callout	TPatterson	You determine if this needs updating based on the what's been decided with updating/not updating the land use.	No Action	See response to comment #61 above.	2/7/2019
112	42	Rectangle	TPatterson	Round to nearest integer	Agree	Table B-2: Rounded Contributing Area to the nearest acre.	2/1/2019
113	43	Callout	tclark	the future impervious percentage when compared to the draft Phase II Drainage report for Sky Ranch filing 2 is low	No Action	See response to comment #61 above.	2/7/2019
114	48	Highlight	TPatterson	Even though this is a dummy link, the slope should not be negative.	Agree	Links have been updated so that no slope is negative	1/30/2019

APPENDIX B – HYDROLOGIC ANALYSIS



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FIRST CREEK TRIBUTARIES (UPSTREAM OF I-70)
MASTER DRAINAGEWAY PLAN

HYDROLOGY MAP

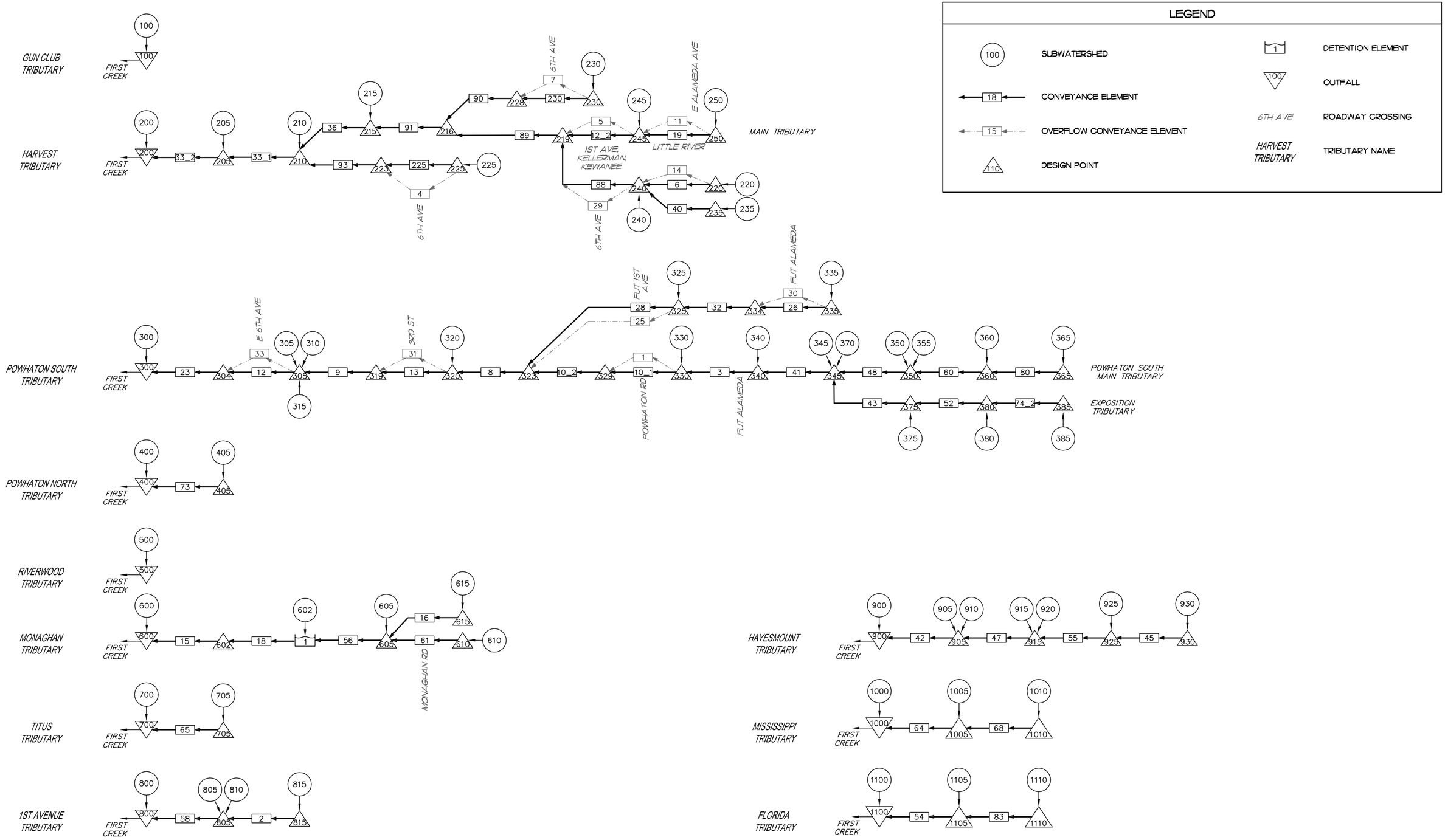
FEBRUARY 2019

1 inch =1,500 feet
0 750 1,500 Feet

N W E S

FIGURE
B-1

SWMM ROUTING SCHEMATIC



Number	Revision Description	By	Date

UDFCS, CITY OF AURORA, SEMSWA, ARAPAHOE COUNTY

FIRST CREEK TRIBUTARIES (Upstream of I-70) MAJOR DRAINAGEWAY PLAN

SWMM ROUTING SCHEMATIC

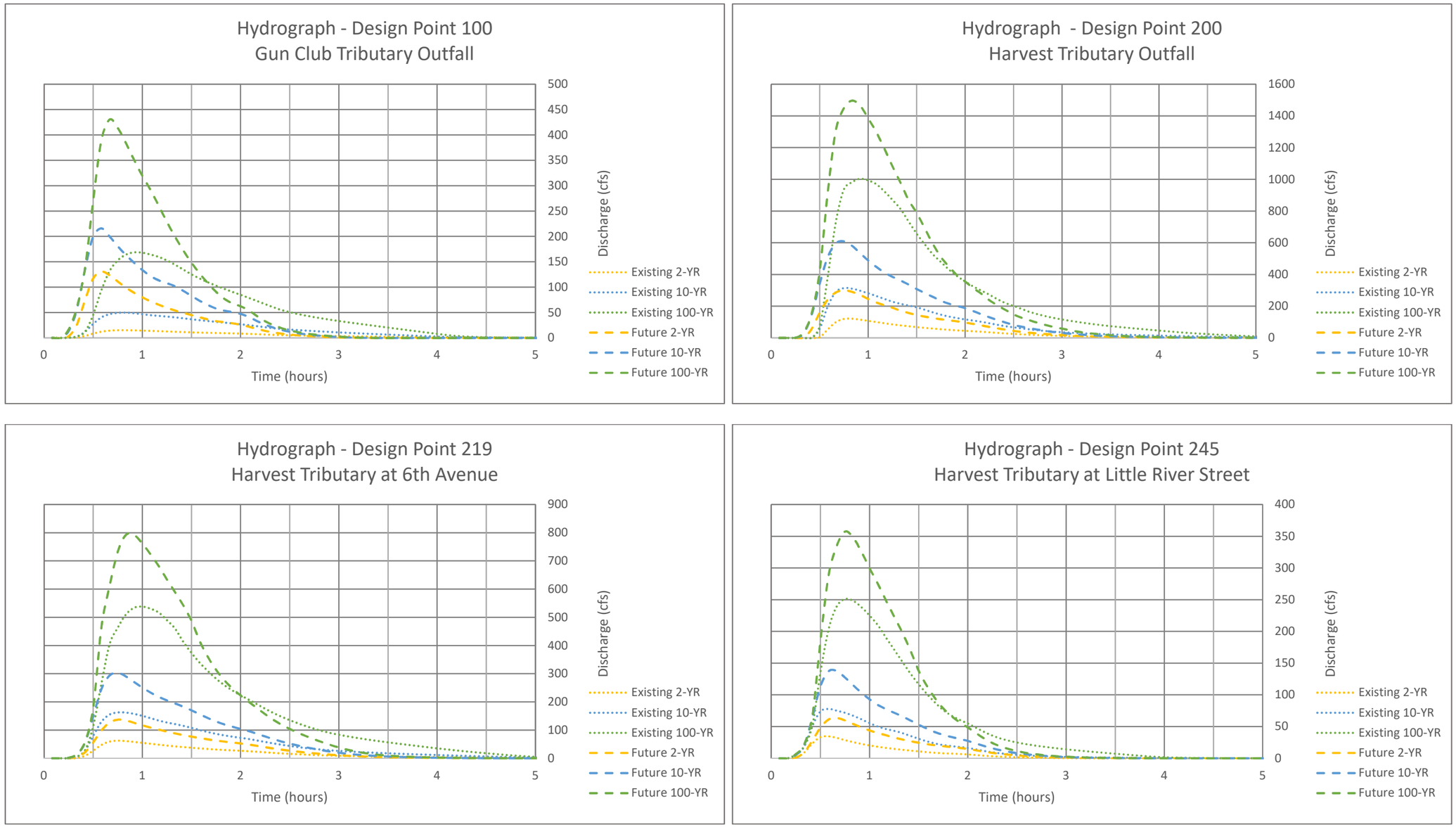
MERRICK
2480 W. 26th Ave Unit B225 Denver, CO 80211 T303.964.3333 F303.964.3355

DESIGN:CS
DETAIL:RH
CHECK:JB
DATE:FEBRUARY, 2019

PROJECT NUMBER 65419888

Figure Number: B-2

FIGURE B-3
2-, 10-, 100-Year Hydrographs



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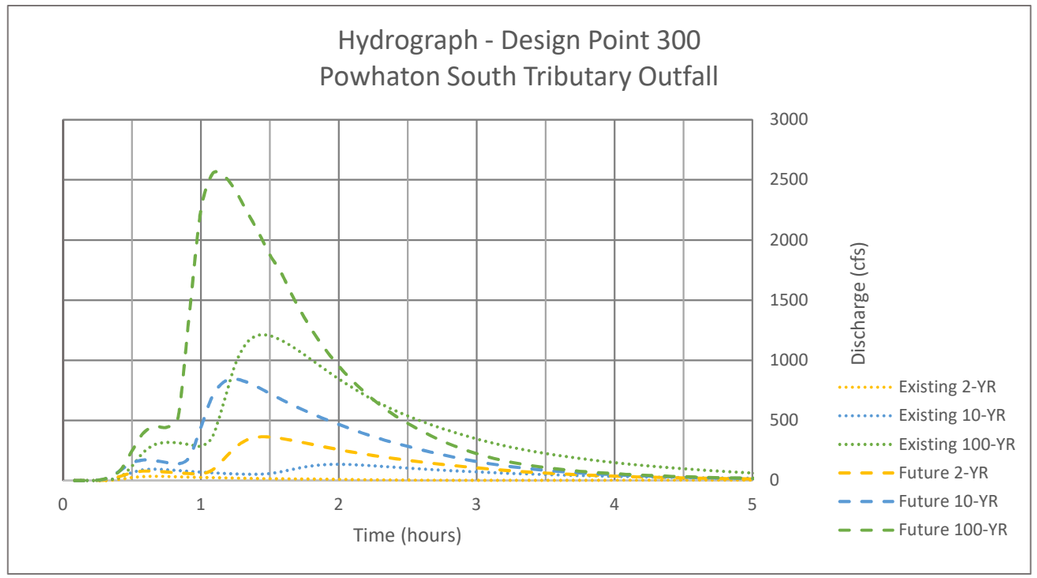

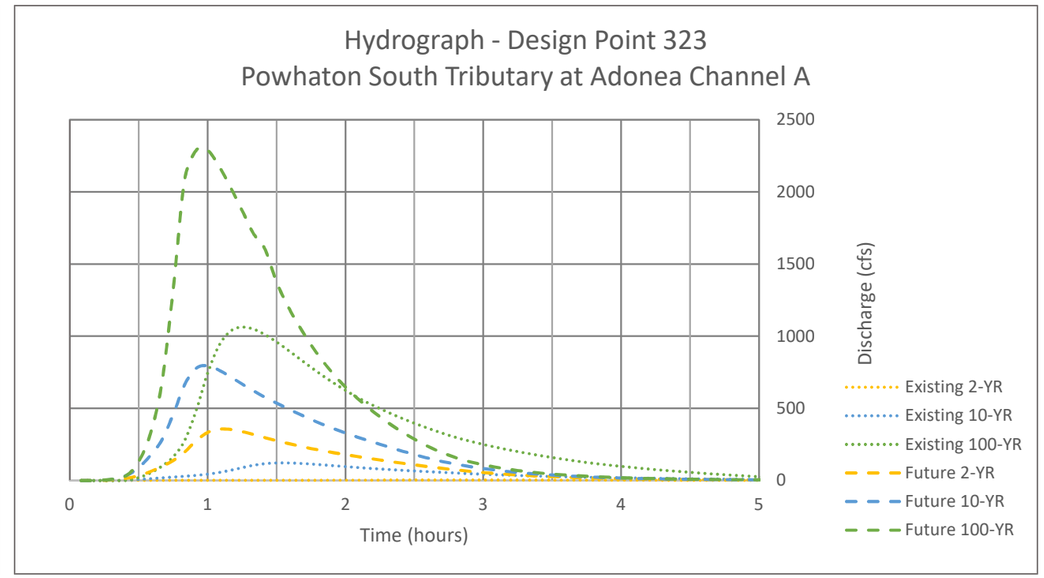

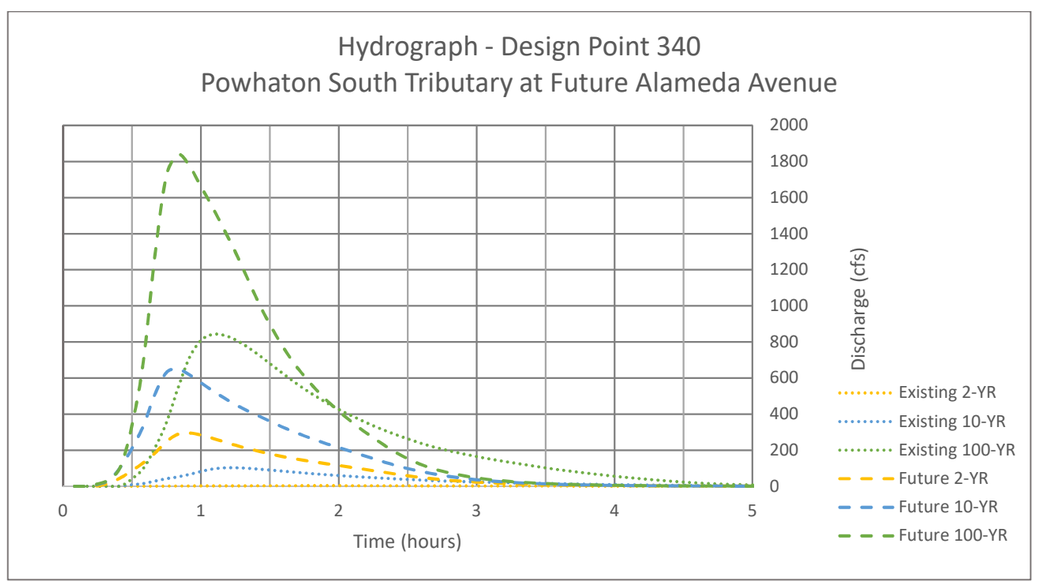

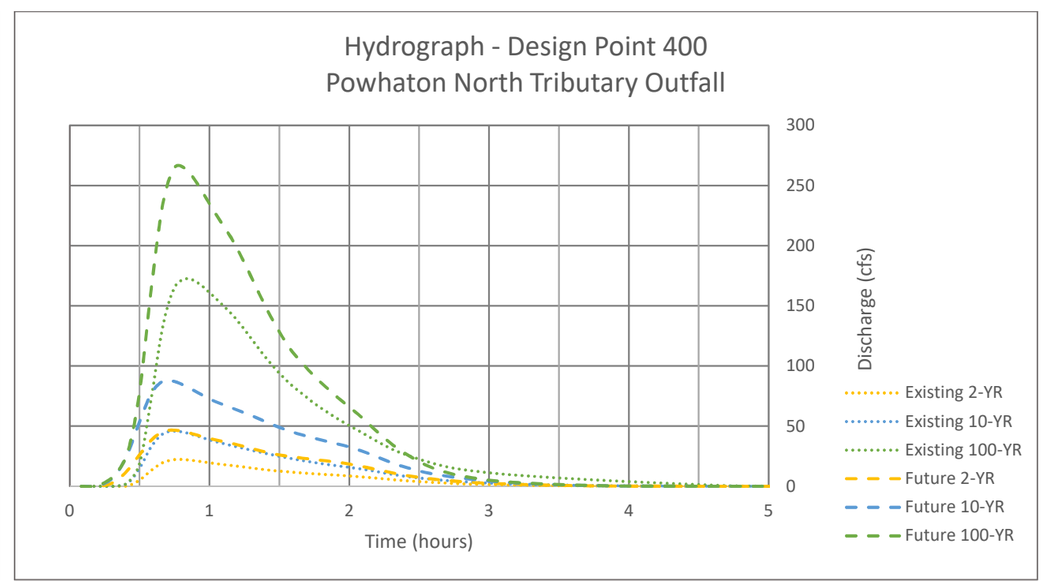

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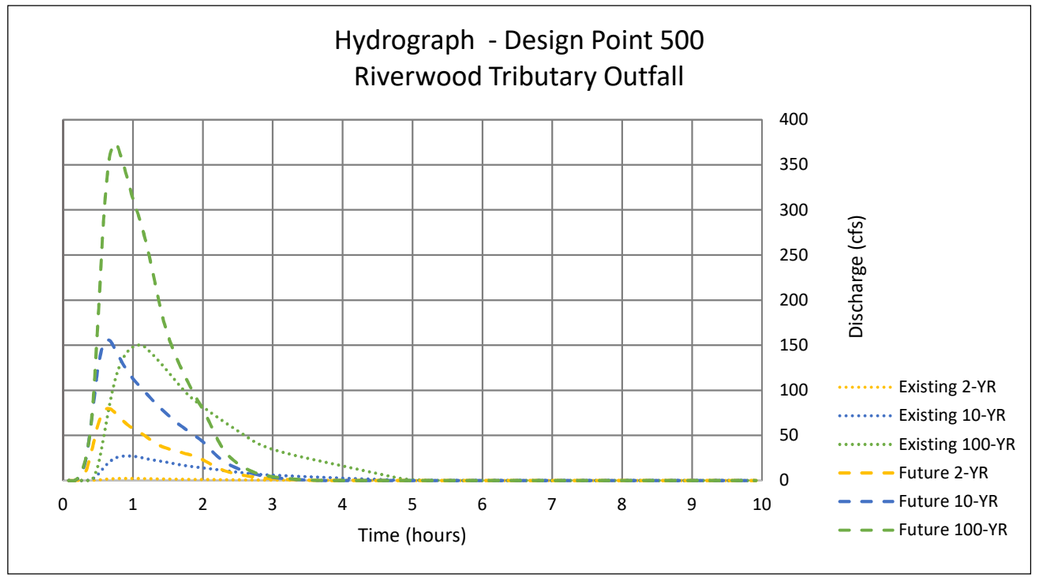

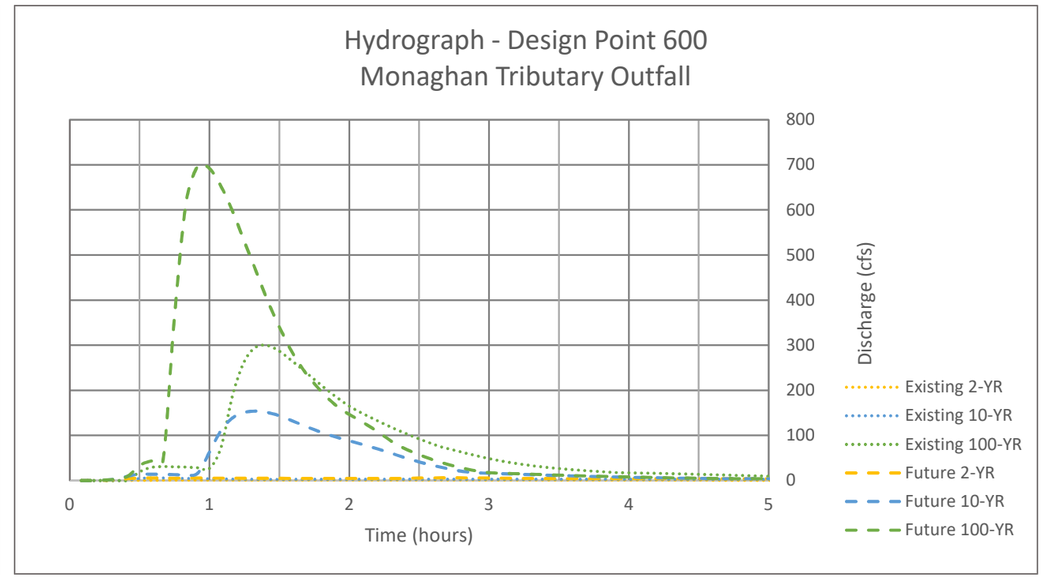

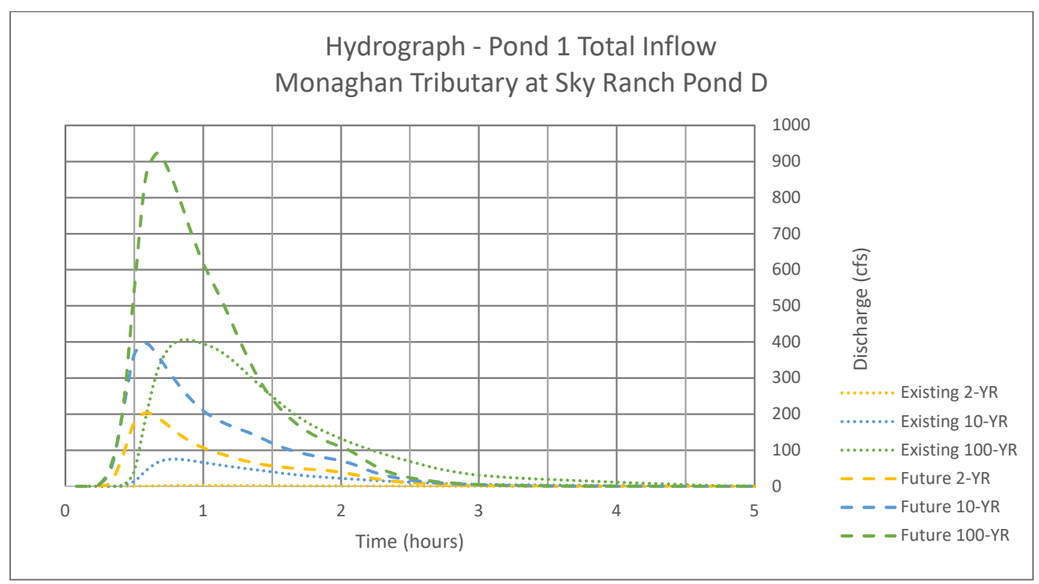

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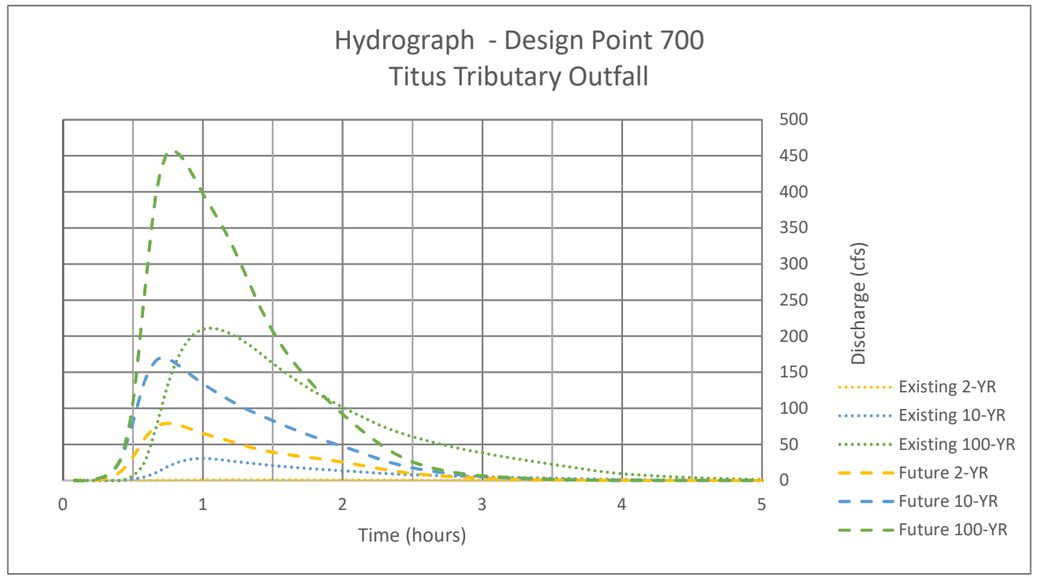

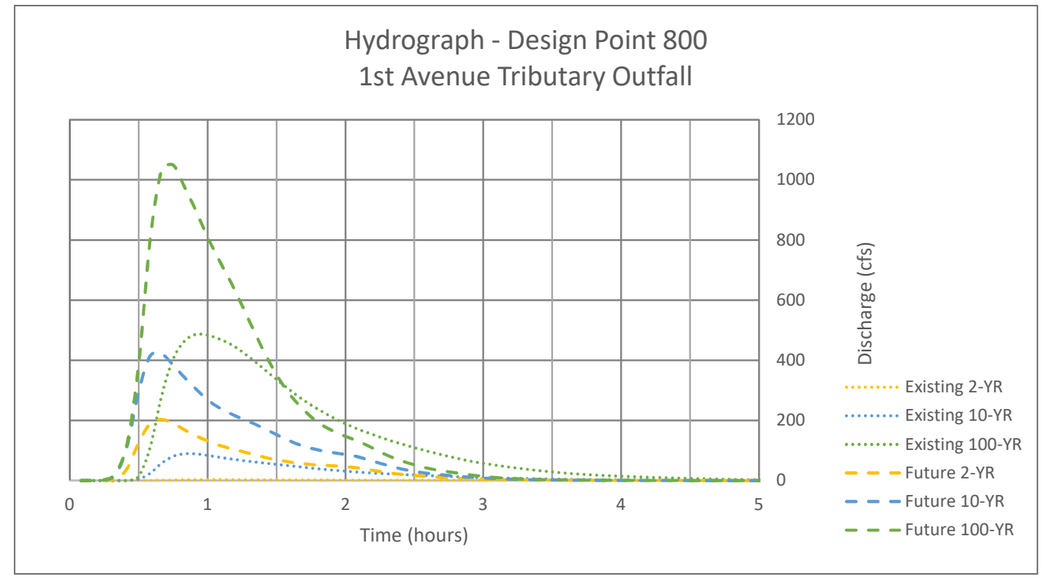

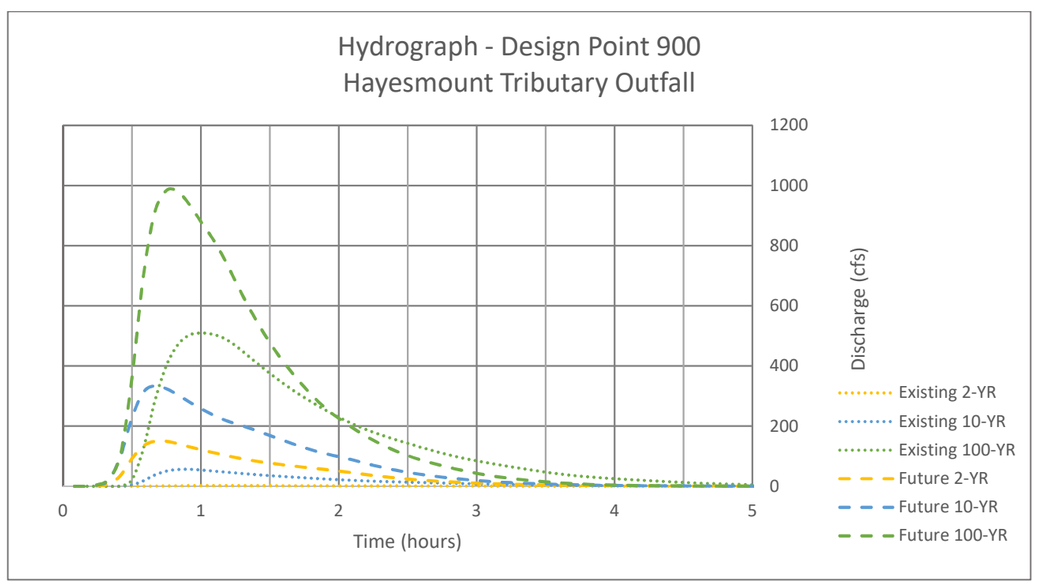

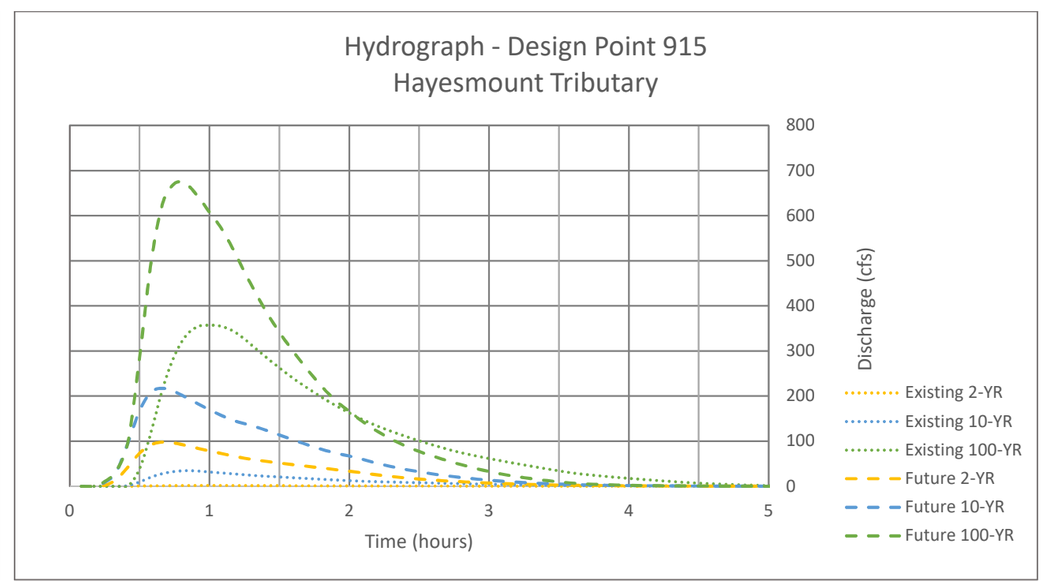

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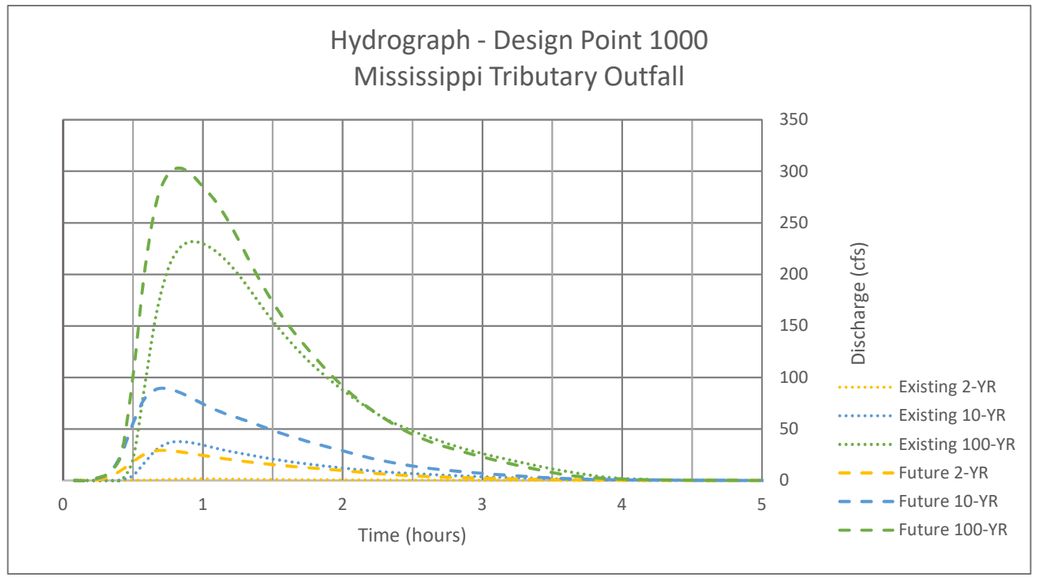
2-, 10-, 100-Year Hydrographs



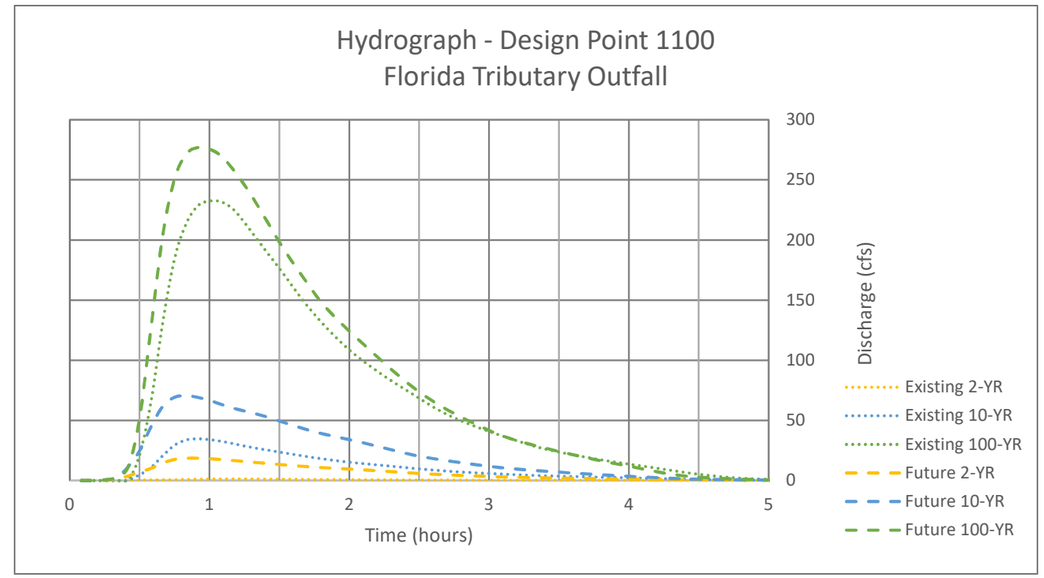
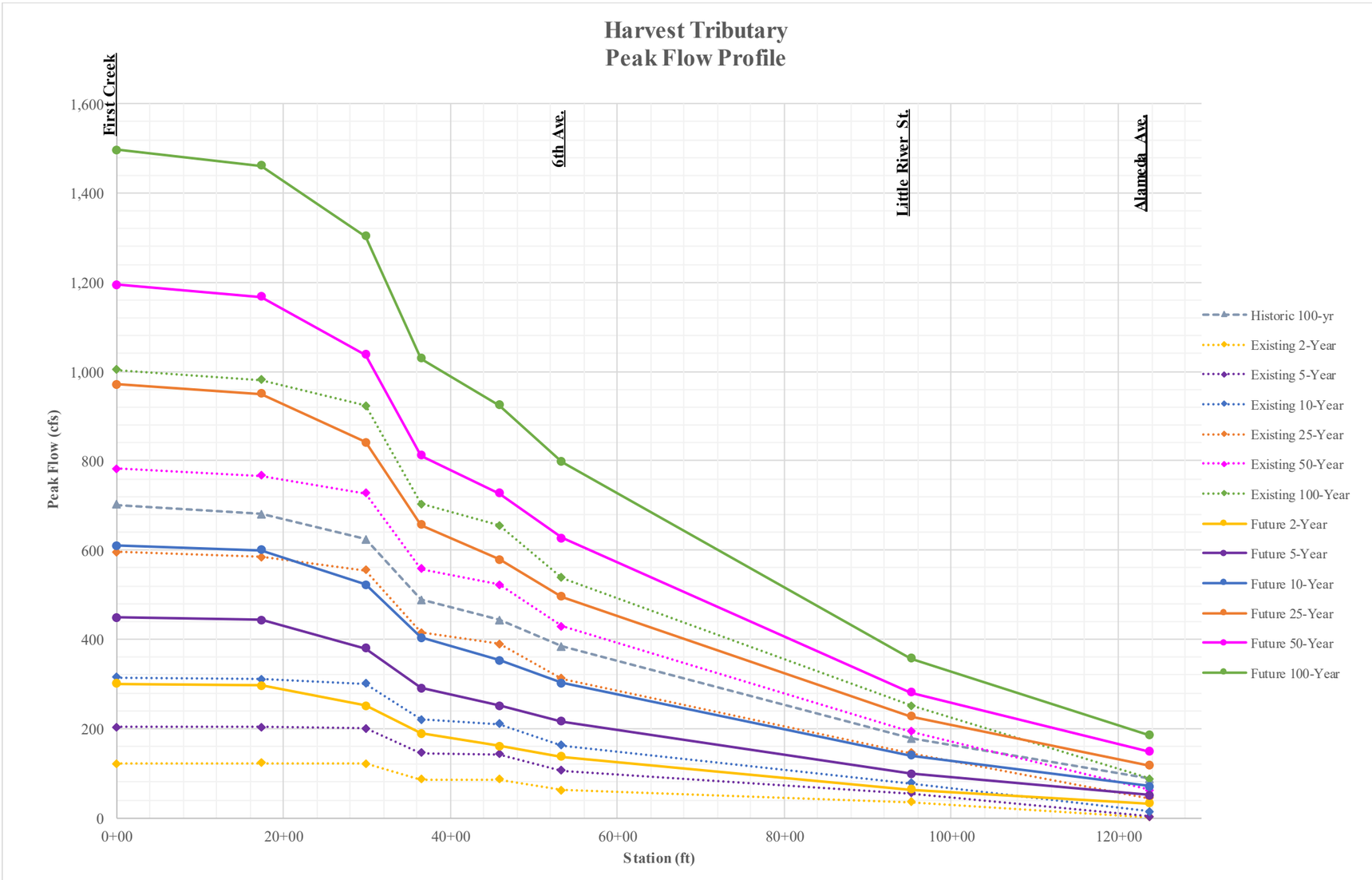


FIGURE B-4
Peak Flow Profiles



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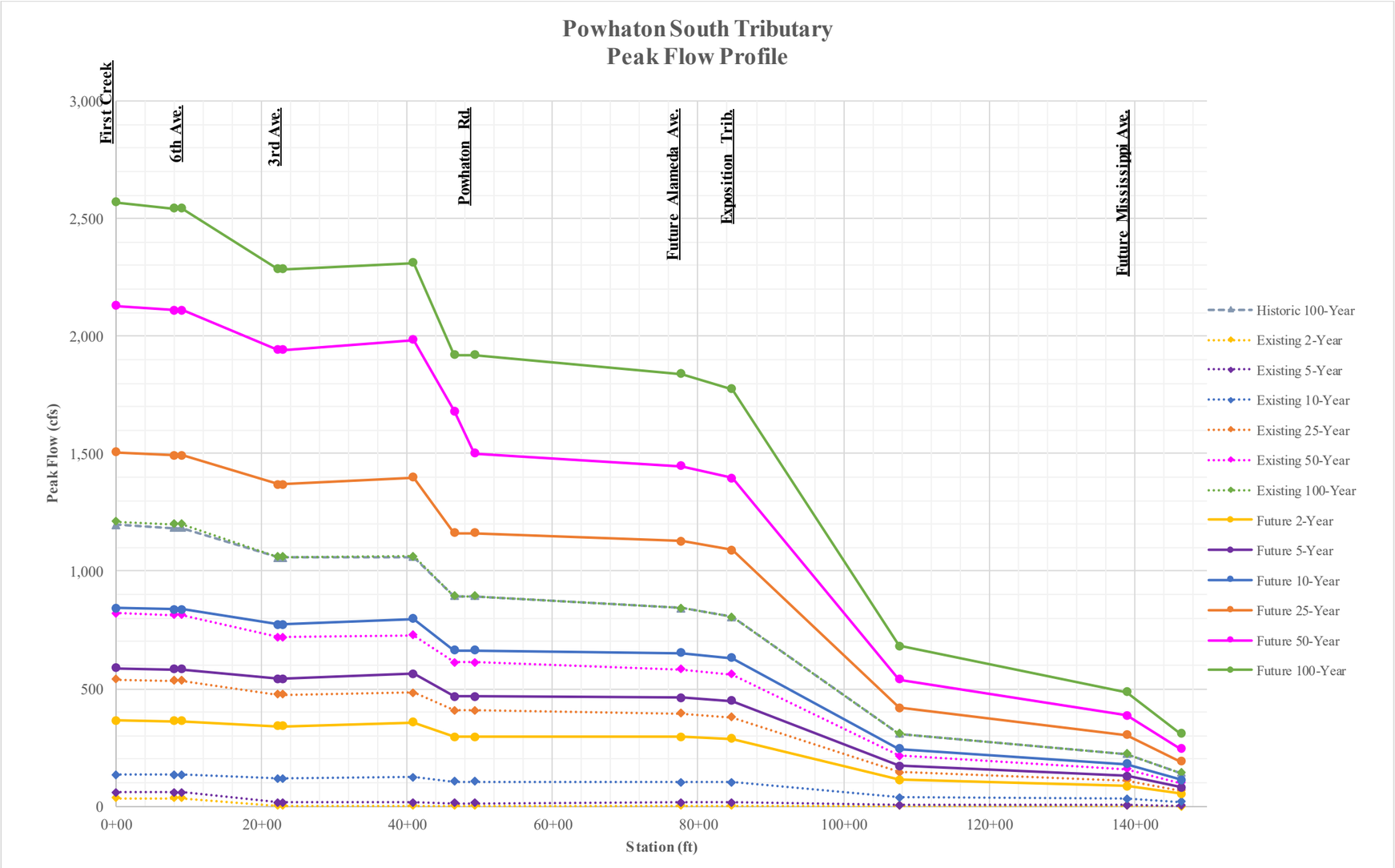

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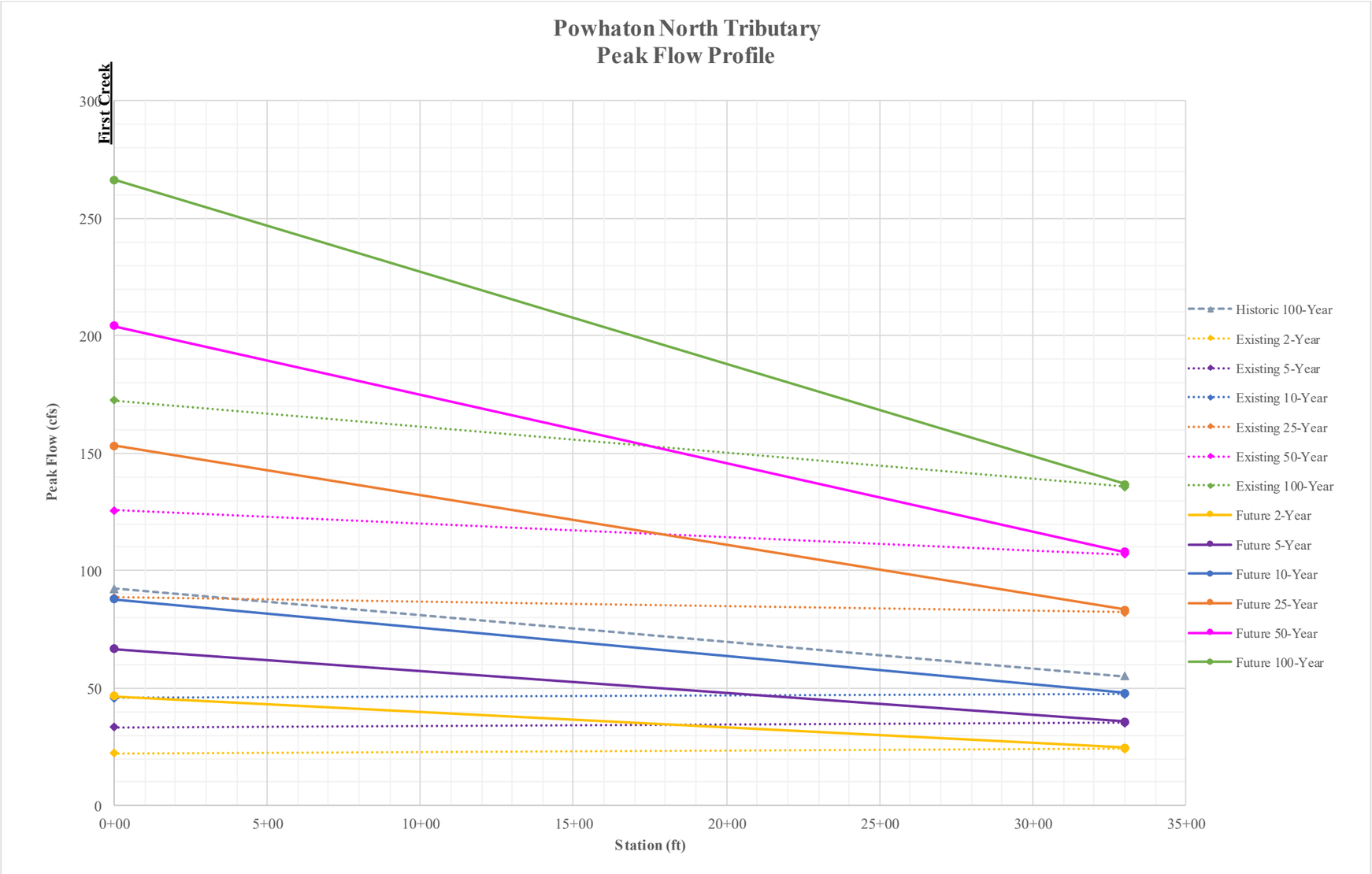

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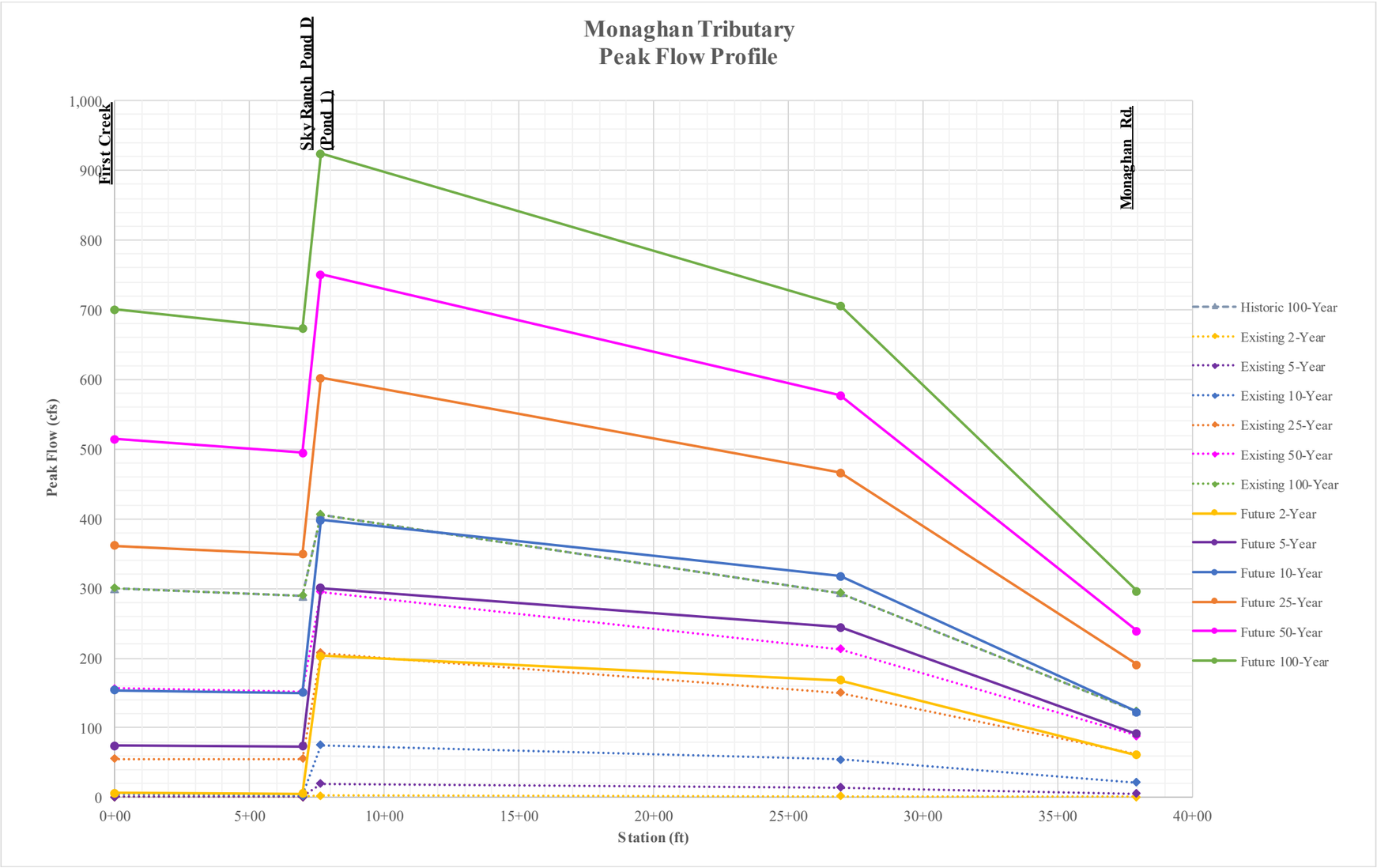

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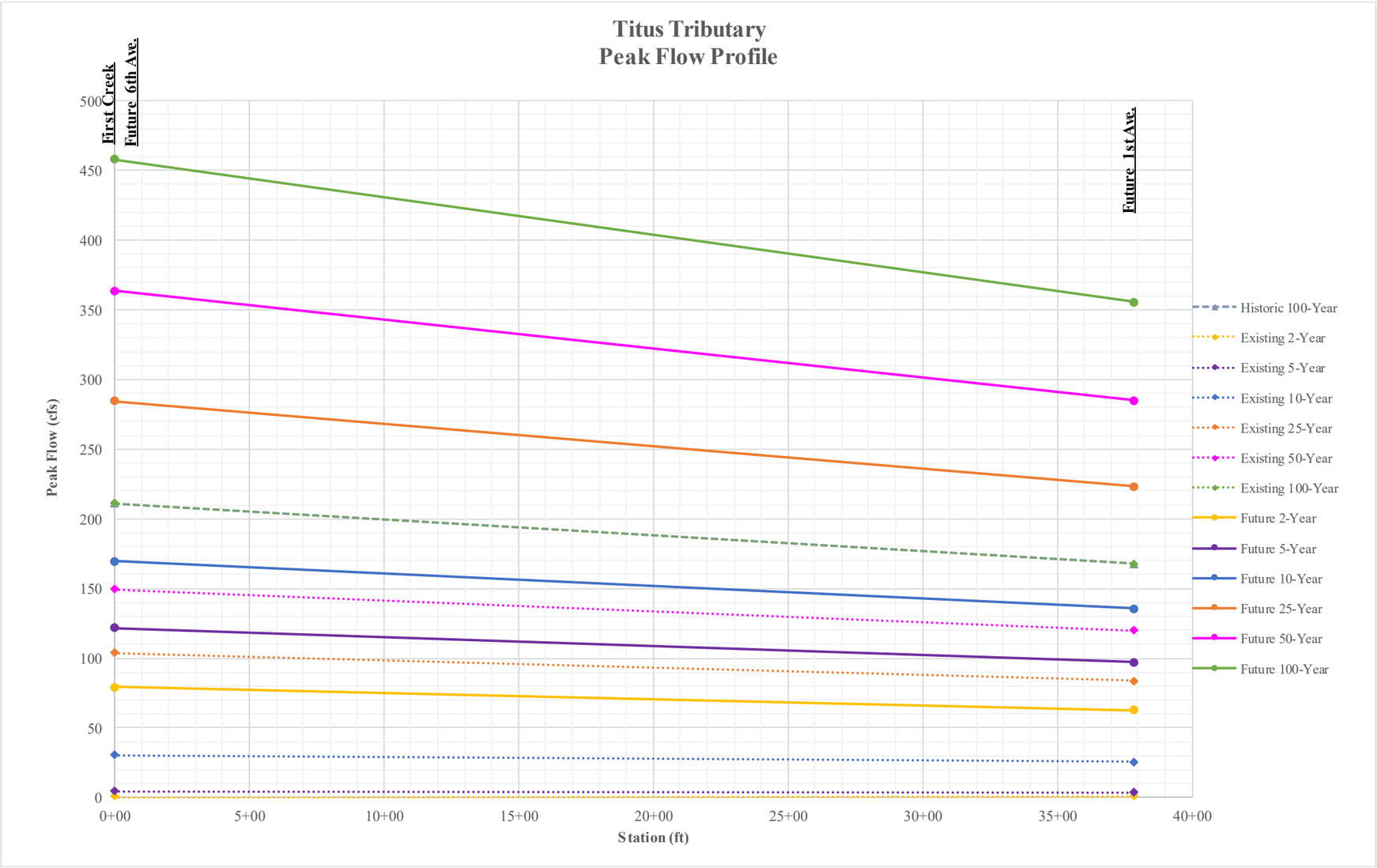

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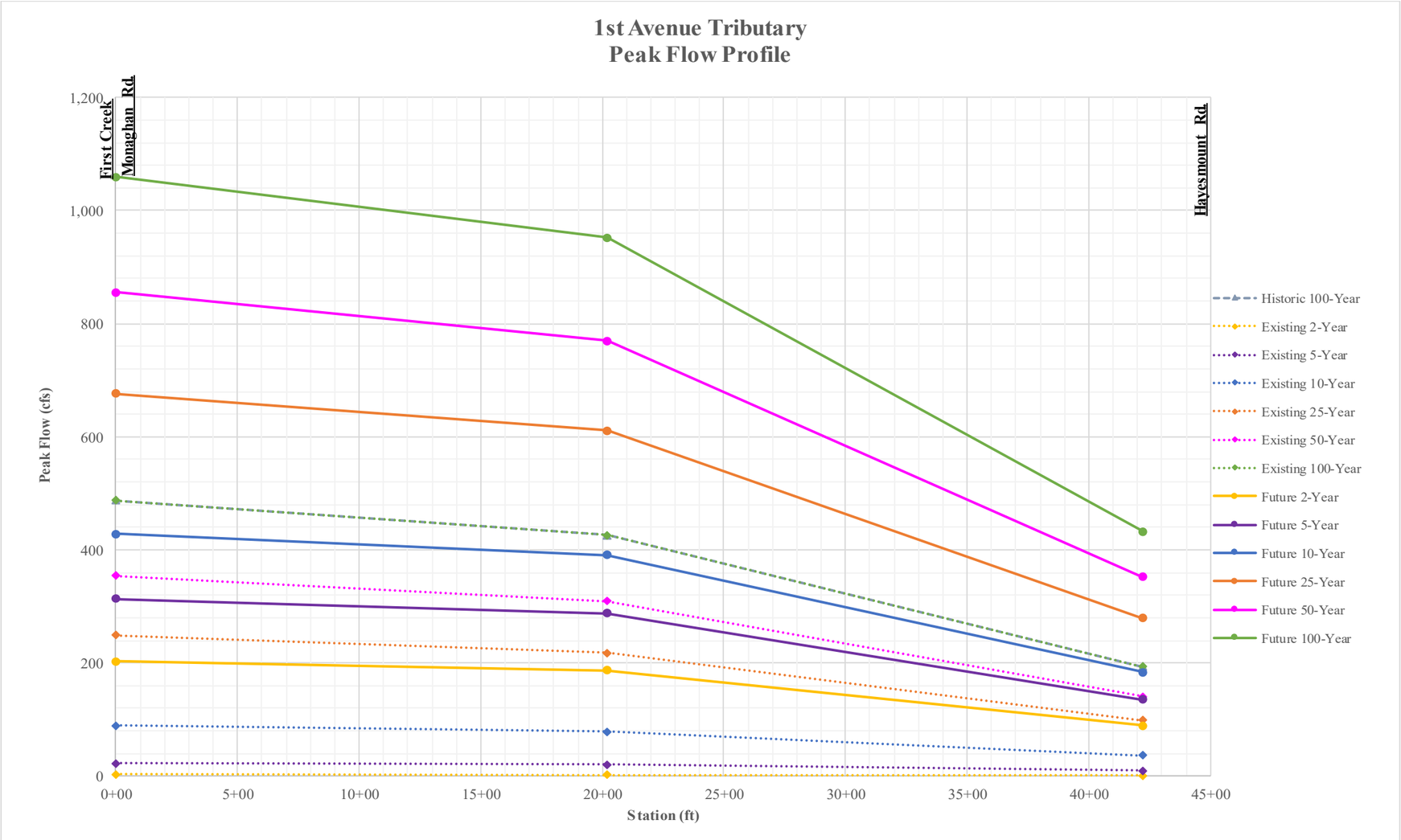

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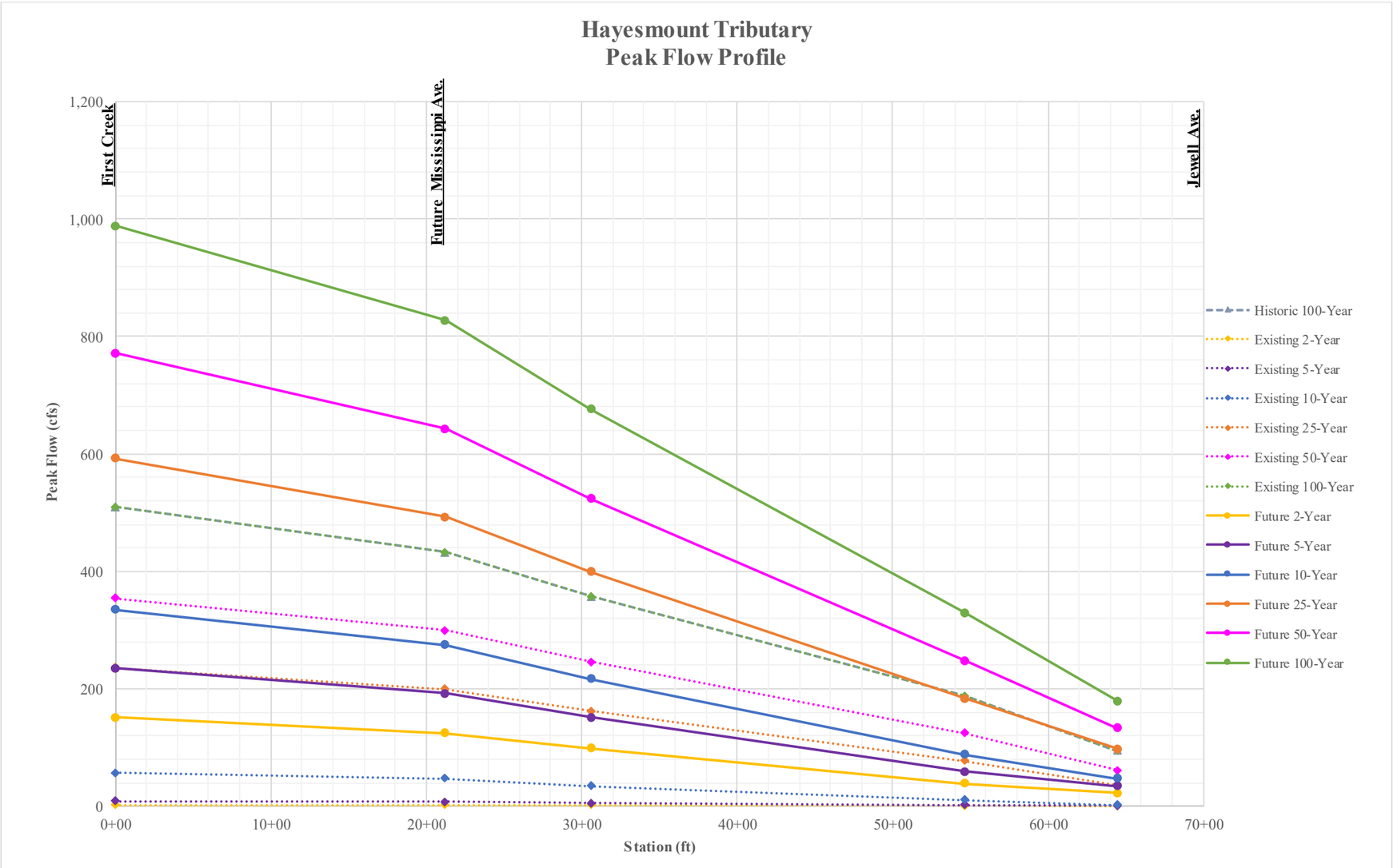

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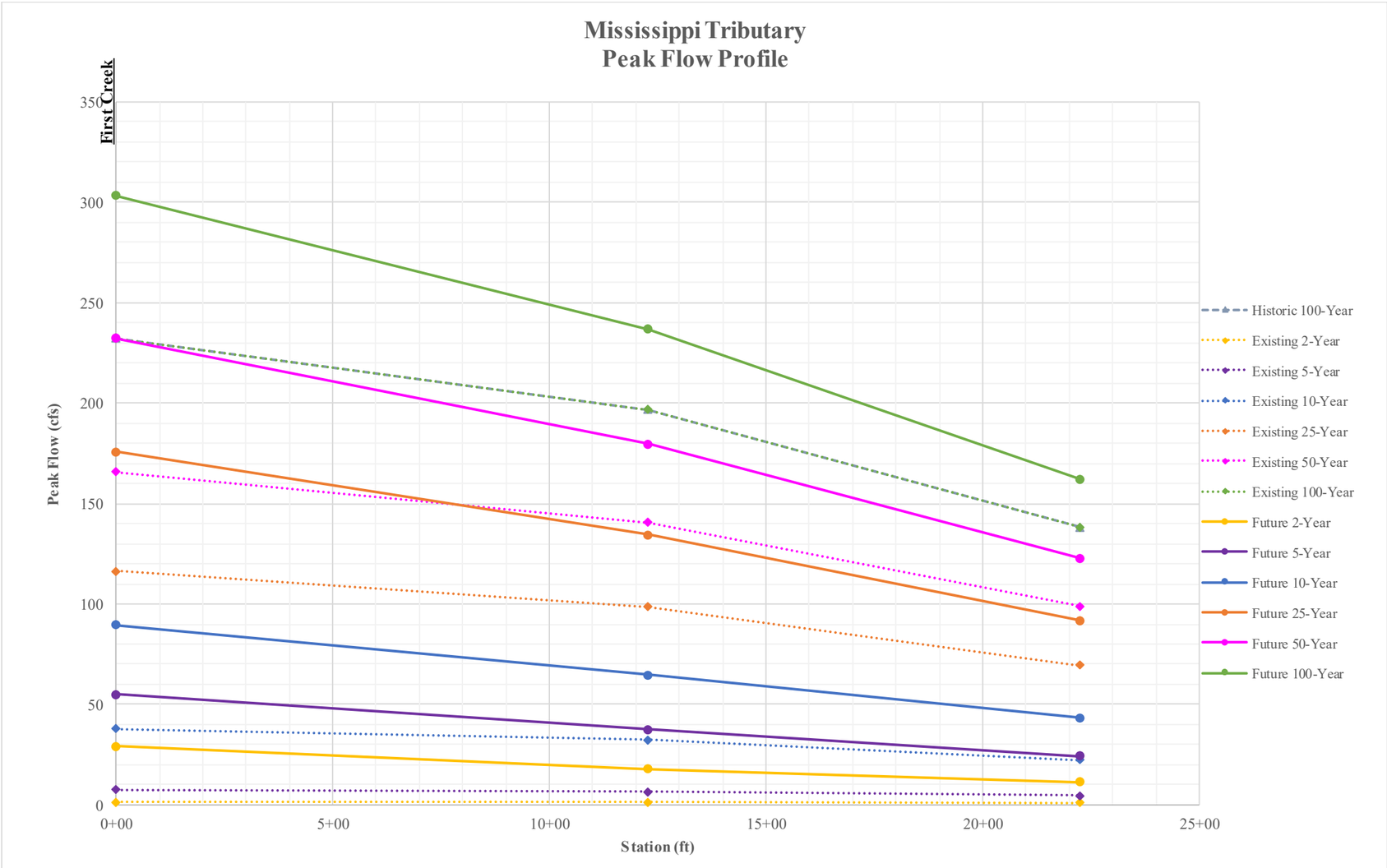

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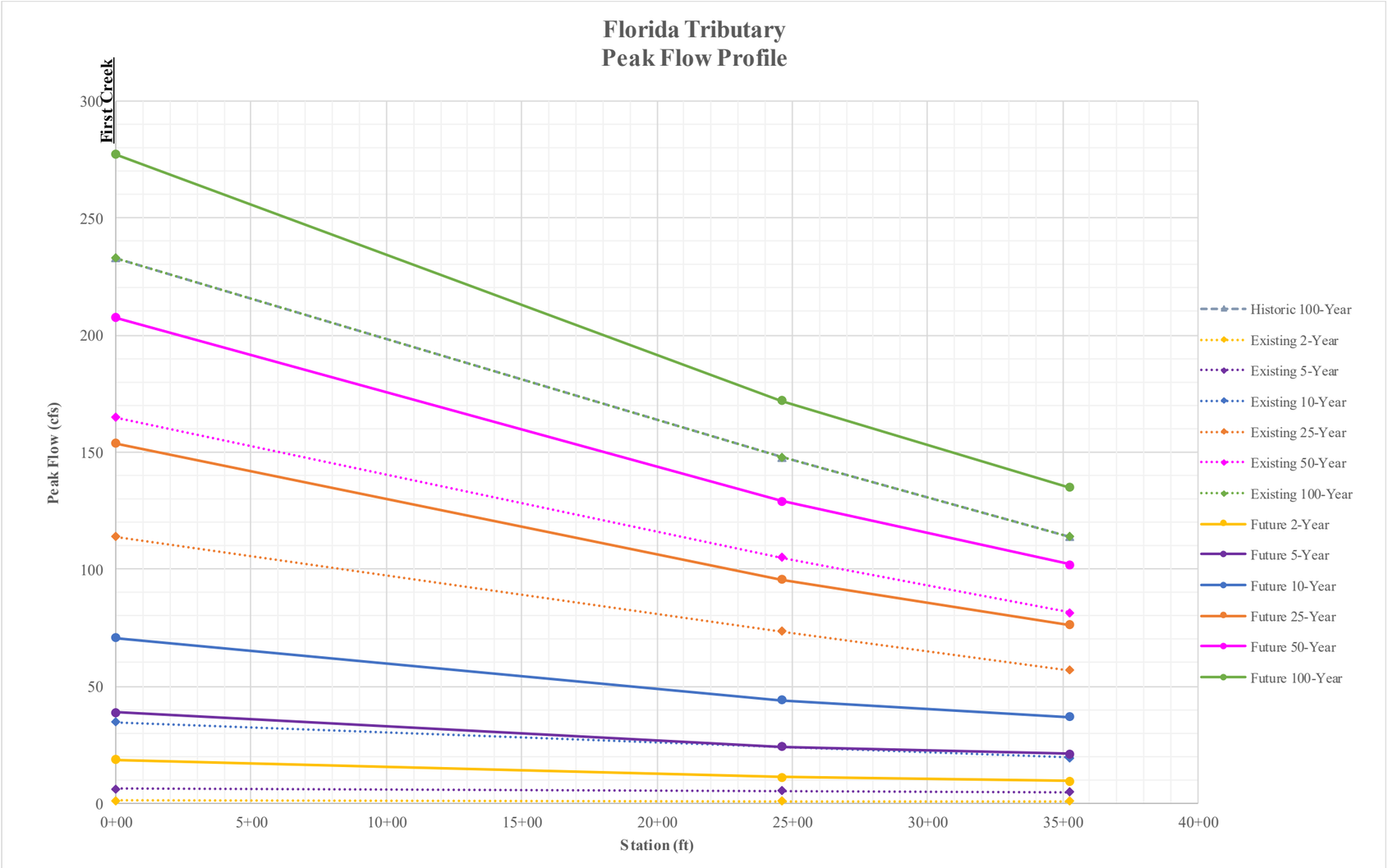


Note: Gun Club and Riverwood Tributaries do not have profiles since they each have a single discharge design point.

TABLE B-0
One Hour Point Rainfall (inches)

Watershed	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year	500-Year
First Creek	0.853	1.14	1.40	1.79	2.13	2.49	3.43

TABLE B-1
CUHP Input Parameters

Subcatchment Name	Area (acre)	Length to Centroid (ft)	Length (ft)	Slope (ft/ft)	Percent Imperviousness			Depression Storage				Horton's Infiltration Parameters		
					Historic Land Use	Existing Land Use	Future Land Use	Historic Pervious	Existing Pervious	Future Pervious	Impervious	Initial Rate (in/hr)	Decay Coefficient (1/seconds)	Final Rate (in/hr)
100	155	2,851	5,586	0.0125	2.0	25.2	95.3	0.4	0.35	0.35	0.1	3.00	0.0018	0.50
200	23	1,096	2,126	0.0150	2.0	2.5	35.3	0.4	0.4	0.35	0.1	3.03	0.0018	0.50
205	64	1,691	3,880	0.0136	2.0	3.8	94.6	0.4	0.4	0.35	0.1	3.00	0.0018	0.50
210	39	756	1,844	0.0195	2.0	2.8	93.1	0.4	0.4	0.35	0.1	3.00	0.0018	0.50
215	44	1,063	2,395	0.0133	2.0	2.2	90.0	0.4	0.4	0.35	0.1	3.00	0.0018	0.50
220	27	960	1,900	0.0065	2.0	50.2	50.5	0.4	0.35	0.35	0.1	3.00	0.0018	0.50
225	84	1,248	3,465	0.0134	2.0	52.1	52.3	0.4	0.35	0.35	0.1	3.45	0.0018	0.53
230	62	1,467	3,131	0.0131	2.0	54.8	55.1	0.4	0.35	0.35	0.1	3.17	0.0018	0.51
235	91	2,751	5,208	0.0080	2.0	29.9	46.5	0.4	0.35	0.35	0.1	3.32	0.0018	0.52
240	171	3,176	6,741	0.0077	2.0	26.5	50.4	0.4	0.35	0.35	0.1	3.02	0.0018	0.50
245	81	1,012	3,144	0.0093	2.0	49.6	50.2	0.4	0.35	0.35	0.1	3.23	0.0018	0.52
250	86	1,581	3,168	0.0088	2.0	2.1	50.0	0.4	0.4	0.35	0.1	3.43	0.0018	0.53
300	19	755	1,796	0.0217	2.0	2.0	50.0	0.4	0.4	0.35	0.1	3.63	0.0018	0.54
305	7	637	1,384	0.0113	2.0	2.0	2.0	0.4	0.4	0.4	0.1	4.44	0.0018	0.60
310	104	1,652	3,648	0.0102	2.0	45.6	50.0	0.4	0.35	0.35	0.1	3.47	0.0018	0.53
315	75	1,222	3,372	0.0142	2.0	2.0	50.2	0.4	0.4	0.35	0.1	3.22	0.0018	0.51
320	16	1,071	2,453	0.0151	2.0	4.9	4.9	0.4	0.4	0.4	0.1	3.49	0.0018	0.53
325	73	1,502	2,802	0.0105	2.0	6.8	50.0	0.4	0.4	0.35	0.1	3.29	0.0018	0.52
330	68	1,252	2,458	0.0074	2.0	2.0	50.1	0.4	0.4	0.35	0.1	3.01	0.0018	0.50
335	125	2,442	4,480	0.0102	2.0	2.1	64.7	0.4	0.4	0.35	0.1	3.94	0.0018	0.56
340	34	322	1,452	0.0146	2.0	2.0	68.3	0.4	0.4	0.35	0.1	3.88	0.0018	0.56
345	75	1,768	3,680	0.0082	2.0	2.0	53.6	0.4	0.4	0.35	0.1	3.82	0.0018	0.56
350	45	1,739	3,460	0.0118	2.0	2.0	50.0	0.4	0.4	0.35	0.1	3.23	0.0018	0.52
355	69	1,662	3,722	0.0116	2.0	2.0	52.6	0.4	0.4	0.35	0.1	4.50	0.0016	0.68
360	93	2,085	4,892	0.0148	2.0	2.0	50.0	0.4	0.4	0.35	0.1	3.28	0.0018	0.53
365	154	2,582	4,732	0.0147	2.0	2.0	50.0	0.4	0.4	0.35	0.1	3.90	0.0018	0.57
370	62	1,745	3,440	0.0140	2.0	2.0	50.8	0.4	0.4	0.35	0.1	3.46	0.0018	0.53
375	149	1,441	3,992	0.0073	2.0	2.0	50.0	0.4	0.4	0.35	0.1	3.58	0.0018	0.54
380	102	2,153	3,768	0.0100	2.0	2.0	50.5	0.4	0.4	0.35	0.1	3.39	0.0018	0.53
385	132	1,880	4,232	0.0167	2.0	2.0	59.9	0.4	0.4	0.35	0.1	3.30	0.0018	0.52

TABLE B-1
CUHP Input Parameters

Subcatchment Name	Area (acre)	Length to Centroid (ft)	Length (ft)	Slope (ft/ft)	Percent Imperviousness			Depression Storage				Horton's Infiltration Parameters		
					Historic Land Use	Existing Land Use	Future Land Use	Historic Pervious	Existing Pervious	Future Pervious	Impervious	Initial Rate (in/hr)	Decay Coefficient (1/seconds)	Final Rate (in/hr)
400	93	2,105	4,718	0.0107	2.0	6.6	50.0	0.4	0.4	0.35	0.1	4.73	0.0009	0.92
405	69	1,615	3,388	0.0124	2.0	51.4	51.9	0.4	0.35	0.35	0.1	3.83	0.0013	0.71
500	175	3,052	6,395	0.0146	2.0	4.6	62.8	0.4	0.4	0.35	0.1	3.09	0.0018	0.51
600	18	302	1,305	0.0240	2.0	2.0	29.4	0.4	0.4	0.35	0.1	3.76	0.0018	0.55
602	90	1,238	3,446	0.0192	2.0	2.0	46.0	0.4	0.4	0.35	0.1	3.00	0.0018	0.50
605	72	840	3,147	0.0181	2.0	2.5	69.0	0.4	0.4	0.35	0.1	3.00	0.0018	0.50
610	136	2,801	4,855	0.0138	2.0	2.0	59.9	0.4	0.4	0.35	0.1	3.00	0.0018	0.50
615	53	478	1,889	0.0134	2.0	2.0	82.2	0.4	0.4	0.35	0.1	3.00	0.0018	0.50
700	59	1,975	4,145	0.0121	2.0	2.0	58.0	0.4	0.4	0.35	0.1	3.51	0.0018	0.53
705	163	1,901	4,520	0.0107	2.0	2.0	50.0	0.4	0.4	0.35	0.1	3.52	0.0018	0.54
800	82	2,573	5,283	0.0161	2.0	2.0	42.0	0.4	0.4	0.35	0.1	3.09	0.0018	0.51
805	156	2,247	4,110	0.0167	2.0	2.0	58.5	0.4	0.4	0.35	0.1	3.00	0.0018	0.50
810	69	1,956	4,190	0.0185	2.0	2.0	47.3	0.4	0.4	0.35	0.1	3.00	0.0018	0.50
815	142	1,455	3,625	0.0202	2.0	2.0	58.8	0.4	0.4	0.35	0.1	3.00	0.0018	0.50
900	78	1,627	3,645	0.0203	2.0	2.0	50.0	0.4	0.4	0.35	0.1	4.06	0.0018	0.57
905	38	837	2,255	0.0250	2.0	2.0	50.0	0.4	0.4	0.35	0.1	3.17	0.0018	0.51
910	41	1,703	3,764	0.0108	2.0	2.0	49.1	0.4	0.4	0.35	0.1	3.12	0.0018	0.51
915	84	1,711	3,511	0.0164	2.0	2.0	50.0	0.4	0.4	0.35	0.1	3.83	0.0018	0.56
920	88	1,741	3,539	0.0164	2.0	2.0	49.7	0.4	0.4	0.35	0.1	3.50	0.0018	0.55
925	123	3,055	5,043	0.0147	2.0	2.0	32.7	0.4	0.4	0.35	0.1	4.26	0.0017	0.62
930	134	2,690	5,078	0.0165	2.0	2.0	36.3	0.4	0.4	0.35	0.1	4.67	0.0014	0.75
1000	34	1,131	2,353	0.0195	2.0	2.0	49.8	0.4	0.4	0.35	0.1	3.36	0.0018	0.52
1005	48	957	2,314	0.0209	2.0	2.0	24.7	0.4	0.4	0.35	0.1	3.31	0.0018	0.52
1010	134	2,227	4,231	0.0158	2.0	2.0	18.8	0.4	0.4	0.35	0.1	3.35	0.0018	0.52
1100	85	1,810	3,310	0.0221	2.0	2.0	21.8	0.4	0.4	0.35	0.1	3.94	0.0018	0.56
1105	40	1,450	2,924	0.0139	2.0	2.0	12.3	0.4	0.4	0.4	0.1	3.62	0.0018	0.54
1110	128	2,372	5,780	0.0145	2.0	2.0	19.7	0.4	0.4	0.35	0.1	3.11	0.0018	0.51

TABLE B-2
Peak Discharge and Total Inflow Volume at Design Points

Design Point	Contributing Area (ac)	Imperviousness (%)			Peak Inflow Discharge (cfs)															Peak Inflow Volume (ac-ft)														
					Historic	Existing Conditions							Future Conditions							Historic	Existing Conditions							Future Conditions						
		Historic	Existing	Future	Q_{100}	Q_2	Q_5	Q_{10}	Q_{25}	Q_{50}	Q_{100}	Q_{500}	Q_2	Q_5	Q_{10}	Q_{25}	Q_{50}	Q_{100}	Q_{500}	V_{100}	V_2	V_5	V_{10}	V_{25}	V_{50}	V_{100}	V_{500}	V_2	V_5	V_{10}	V_{25}	V_{50}	V_{100}	V_{500}
B100	**155**	**2.0**	**25.2**	**95.3**	134	15	31	50	97	129	169	258	131	177	216	300	361	431	601	6.1	2.2	4.4	7.2	12.9	17.3	22.7	35.3	10.3	14.2	17.9	23.4	28.2	33.1	46.7
B1000	**34**	**2.0**	**2.0**	**49.8**	36	0	1	6	18	26	36	59	13	21	29	48	61	76	112	1.3	0.0	0.1	0.6	1.9	2.8	4.0	6.8	1.1	1.7	2.3	3.6	4.6	5.7	8.6
B1005	**48**	**2.0**	**2.0**	**24.7**	63	0	2	11	32	45	63	101	7	14	24	46	61	78	120	1.9	0.0	0.2	0.9	2.7	4.0	5.7	9.5	0.7	1.3	2.1	3.9	5.2	7.0	10.9
B1010	**134**	**2.0**	**2.0**	**18.8**	138	1	4	23	69	99	138	224	11	24	43	92	123	162	252	5.2	0.1	0.5	2.3	7.4	11.0	15.8	26.4	1.3	2.8	5.0	10.0	13.7	18.5	29.3
B1100	**85**	**2.0**	**2.0**	**21.8**	91	1	1	12	45	65	91	150	9	17	30	63	85	112	174	3.1	0.1	0.1	1.1	4.3	6.5	9.5	16.2	1.0	1.8	3.1	6.3	8.6	11.5	18.4
B1105	**40**	**2.0**	**2.0**	**12.3**	34	0	1	5	17	25	34	57	2	3	7	20	27	37	60	1.5	0.0	0.1	0.6	2.1	3.2	4.6	7.7	0.2	0.4	1.0	2.5	3.6	5.0	8.2
B1110	**128**	**2.0**	**2.0**	**19.7**	114	1	5	19	57	81	114	184	10	21	37	76	102	135	209	5.0	0.1	0.6	2.5	7.3	10.8	15.4	25.5	1.4	2.9	5.1	9.9	13.5	18.0	28.4
B200	**23**	**2.0**	**2.5**	**35.3**	22	0	1	4	11	16	22	36	5	8	12	22	28	36	54	0.9	0.0	0.1	0.5	1.4	2.0	2.8	4.7	0.5	0.9	1.3	2.2	2.8	3.7	5.6
B205	**64**	**2.0**	**3.8**	**94.6**	58	1	3	11	30	42	59	94	55	74	92	126	152	182	254	2.5	0.1	0.4	1.4	3.8	5.5	7.8	12.9	4.2	5.8	7.3	9.5	11.5	13.6	19.0
B210	**39**	**2.0**	**2.8**	**93.1**	56	1	3	11	29	41	56	89	48	64	78	106	129	153	213	1.5	0.0	0.2	0.8	2.3	3.3	4.8	7.9	2.5	3.4	4.3	5.7	6.9	8.1	11.4
B215	**44**	**2.0**	**2.2**	**90.0**	50	0	3	9	26	36	50	80	44	60	75	102	124	149	208	1.7	0.0	0.2	0.9	2.6	3.8	5.4	8.9	2.7	3.8	4.8	6.4	7.8	9.2	13.0
B220	**27**	**2.0**	**50.2**	**50.5**	25	9	15	20	33	42	53	77	9	15	21	34	43	53	78	1.1	0.9	1.3	1.9	2.8	3.6	4.5	6.8	0.9	1.4	1.9	2.8	3.6	4.5	6.8
B225	**84**	**2.0**	**52.1**	**52.3**	96	38	58	80	130	165	206	302	38	58	80	131	165	206	303	3.2	2.8	4.3	5.9	9.0	11.4	14.3	21.3	2.9	4.3	5.9	9.0	11.4	14.3	21.3
B230	**62**	**2.0**	**54.8**	**55.1**	63	27	42	57	91	114	142	207	27	42	57	91	115	143	208	2.4	2.2	3.4	4.6	6.9	8.7	10.8	16.0	2.2	3.4	4.6	6.9	8.7	10.8	16.0
B235	**91**	**2.0**	**29.9**	**46.5**	63	9	17	27	53	69	92	141	21	33	47	81	104	132	196	3.5	1.6	2.8	4.4	7.8	10.4	13.6	21.0	2.7	4.2	6.0	9.3	11.9	15.1	22.6
B240	**171**	**2.0**	**26.5**	**50.4**	124	15	29	47	92	122	162	250	47	74	103	171	217	273	402	6.8	2.6	5.0	8.1	14.5	19.3	25.4	39.3	5.6	8.7	12.1	18.4	23.4	29.3	43.6
B245	**81**	**2.0**	**49.6**	**50.2**	96	35	54	76	124	157	197	289	35	55	77	125	159	198	291	3.1	2.6	4.0	5.6	8.5	10.8	13.6	20.3	2.6	4.0	5.6	8.5	10.9	13.7	20.3
B250	**86**	**2.0**	**2.1**	**50.0**	87	1	3	14	44	62	87	141	33	51	71	117	148	185	274	3.3	0.1	0.3	1.4	4.7	7.0	10.1	16.9	2.8	4.2	5.9	9.0	11.5	14.5	21.6
B300	**19**	**2.0**	**2.0**	**50.0**	20	0	0	3	10	15	20	33	8	12	17	27	34	43	63	0.7	0.0	0.0	0.3	1.0	1.5	2.1	3.6	0.6	0.9	1.2	1.9	2.5	3.1	4.6
B305	**7**	**2.0**	**2.0**	**2.0**	5	0	0	1	2	3	5	8	0	0	1	2	3	5	8	0.2	0.0	0.0	0.1	0.3	0.5	0.7	1.2	0.0	0.0	0.1	0.3	0.5	0.7	1.2
B310	**104**	**2.0**	**45.6**	**50.0**	108	35	55	79	133	171	214	319	41	63	88	145	185	231	341	4.0	3.0	4.7	6.6	10.5	13.5	17.1	25.7	3.4	5.1	7.1	11.0	14.0	17.6	26.2
B315	**75**	**2.0**	**2.0**	**50.2**	86	1	3	15	44	62	86	139	32	50	69	113	144	179	263	2.9	0.1	0.3	1.4	4.2	6.2	9.0	14.9	2.4	3.8	5.2	7.9	10.2	12.7	19.0
B320	**16**	**2.0**	**4.9**	**4.9**	13	0	1	2	7	9	13	21	0	1	2	7	9	13	21	0.6	0.0	0.1	0.3	0.9	1.4	2.0	3.3	0.0	0.1	0.3	0.9	1.4	2.0	3.3
B325	**73**	**2.0**	**6.8**	**50.0**	76	2	5	15	41	57	79	126	29	45	62	102	130	162	238	2.8	0.2	0.5	1.6	4.4	6.3	8.9	14.7	2.3	3.6	5.0	7.6	9.8	12.2	18.3
B330	**68**	**2.0**	**2.0**	**50.1**	75	1	4	14	38	55	75	121	28	44	61	99	126	157	230	2.7	0.1	0.4	1.4	4.0	5.8	8.3	13.7	2.2	3.4	4.8	7.3	9.3	11.6	17.3
B335	**125**	**2.0**	**2.1**	**64.7**	107	1	1	14	51	75	107	176	62	90	119	184	230	282	410	4.6	0.1	0.2	1.7	6.4	9.7	14.1	24.0	5.4	7.8	10.3	14.8	18.5	22.7	33.1
B340	**34**	**2.0**	**2.0**	**68.3**	60	0	1	10	31	44	60	98	33	46	61	93	117	137	198	1.3	0.0	0.0	0.5	1.8	2.6	3.8	6.5	1.5	2.2	2.8	4.0	5.0	6.1	8.9
B345	**75**	**2.0**	**2.0**	**53.6**	62	0	1	8	30	44	62	103	27	40	55	91	115	144	212	2.8	0.0	0.1	1.0	3.9	5.8	8.5	14.3	2.6	3.8	5.3	8.0	10.2	12.7	18.9
B350	**45**	**2.0**	**2.0**	**50.0**	36	0	1	6	18	25	36	58	13	21	29	49	62	78	115	1.7	0.0	0.2	0.8	2.5	3.7	5.3	8.9	1.5	2.2	3.1	4.8	6.1	7.6	11.4
B355	**69**	**2.0**	**2.0**	**52.6**	54	0	1	3	23	37	54	92	24	35	48	82	105	133	197	2.2	0.0	0.1	0.4	2.7	4.4	6.9	12.0	2.3	3.3	4.5	6.9	8.8	11.2	16.8
B360	**93**	**2.0**	**2.0**	**50.0**	83	1	3	13	41	59	83	135	31	48	67	111	142	178	263	3.6	0.1	0.3	1.6	5.2	7.6	11.0	18.4	3.0	4.6	6.4	9.8	12.5	15.7	23.5
B365	**154**	**2.0**	**2.0**	**50.0**	141	1	2	18	68	99	141	232	54	81	114	191	244	309	456	5.6	0.1	0.2	2.0	7.8	11.8	17.2	29.3	4.9	7.3	10.2	15.8	20.2	25.4	38.4
B370	**62**	**2.0**	**2.0**	**50.8**	56	0	2	9	28	40	56	91	22	34	47	77	98	122	180	2.3	0.0	0.2	1.0	3.4	5.0	7.2	12.1	2.0	3.1	4.3	6.5	8.3	10.4	15.5
B375	**149**	**2.0**	**2.0**	**50.0**	161	1	4	24	80	115	161	261	61	93	131	215	275	343	507	5.6	0.1	0.4	2.3	8.0	11.9	17.2	28.9	4.8	7.3	10.1	15.6	19.9	25.0	37.4

TABLE B-2
Peak Discharge and Total Inflow Volume at Design Points

Design Point	Contributing Area (ac)	Imperviousness (%)			Peak Inflow Discharge (cfs)																Peak Inflow Volume (ac-ft)															
					Historic	Existing Conditions							Future Conditions							Historic	Existing Conditions							Future Conditions						
		Historic	Existing	Future	Q_{100}	Q_2	Q_5	Q_{10}	Q_{25}	Q_{50}	Q_{100}	Q_{500}	Q_2	Q_5	Q_{10}	Q_{25}	Q_{50}	Q_{100}	Q_{500}	V_{100}	V_2	V_5	V_{10}	V_{25}	V_{50}	V_{100}	V_{500}	V_2	V_5	V_{10}	V_{25}	V_{50}	V_{100}	V_{500}
B380	**102**	**2.0**	**2.0**	**50.5**	94	1	3	15	47	67	94	153	36	56	77	127	162	203	300	3.9	0.1	0.3	1.7	5.6	8.3	12.0	20.1	3.3	5.1	7.0	10.8	13.7	17.3	25.8
B385	**132**	**2.0**	**2.0**	**59.9**	145	1	5	24	73	104	145	235	72	107	143	224	280	346	502	5.1	0.1	0.5	2.3	7.3	10.8	15.6	26.0	5.2	7.8	10.4	15.2	19.1	23.6	34.7
B400	**93**	**2.0**	**6.6**	**50.0**	40	0	1	2	11	24	44	91	26	35	45	78	104	137	217	1.7	0.1	0.2	0.3	1.4	3.1	5.8	12.5	2.8	3.9	5.0	7.4	9.7	12.6	19.9
B405	**69**	**2.0**	**51.4**	**51.9**	55	24	35	47	82	107	136	204	25	36	48	83	108	137	205	2.1	2.2	3.2	4.2	6.6	8.5	10.9	16.4	2.2	3.2	4.3	6.6	8.5	10.9	16.5
B500	**175**	**2.0**	**4.6**	**62.8**	148	2	8	27	75	107	150	242	80	117	155	242	302	374	541	6.9	0.3	1.1	3.8	10.4	15.1	21.4	35.3	7.3	10.8	14.5	20.8	26.0	31.9	46.7
B600	**18**	**2.0**	**2.0**	**29.4**	30	0	0	5	15	22	30	48	4	8	13	24	32	41	63	0.7	0.0	0.0	0.3	0.9	1.4	2.0	3.4	0.3	0.5	0.8	1.4	1.9	2.5	4.0
B602	**90**	**2.0**	**2.0**	**46.0**	116	1	6	22	60	84	116	186	36	60	84	138	177	221	326	3.6	0.1	0.5	1.9	5.2	7.7	11.0	18.1	2.7	4.2	6.0	9.3	11.9	15.0	22.5
B605	**72**	**2.0**	**2.5**	**69.0**	100	1	5	19	52	73	100	160	59	86	112	162	201	246	352	2.8	0.1	0.4	1.5	4.2	6.1	8.7	14.4	3.3	4.8	6.4	9.0	11.1	13.5	19.6
B610	**136**	**2.0**	**2.0**	**59.9**	123	1	6	22	62	89	123	199	61	91	123	190	239	296	429	5.4	0.1	0.7	2.8	7.9	11.6	16.5	27.4	5.5	8.1	11.0	15.9	19.9	24.6	36.2
B615	**53**	**2.0**	**2.0**	**82.2**	90	1	5	18	47	67	90	144	62	86	111	155	190	221	312	2.1	0.0	0.3	1.1	3.1	4.5	6.4	10.5	2.9	4.1	5.2	7.1	8.7	10.4	14.7
B700	**59**	**2.0**	**2.0**	**58.0**	46	0	1	7	22	32	46	75	22	33	45	71	90	112	164	2.2	0.0	0.2	0.9	3.2	4.8	6.9	11.5	2.3	3.3	4.5	6.7	8.4	10.4	15.4
B705	**163**	**2.0**	**2.0**	**50.0**	168	1	4	26	84	120	168	273	63	97	136	223	285	355	526	6.2	0.1	0.4	2.6	8.8	13.1	18.9	31.9	5.2	8.0	11.0	17.0	21.7	27.3	40.8
B800	**82**	**2.0**	**2.0**	**42.0**	65	0	3	11	32	46	65	105	18	29	43	74	95	122	182	3.2	0.1	0.4	1.6	4.7	6.9	9.9	16.4	2.2	3.5	5.1	8.1	10.5	13.3	20.1
B805	**156**	**2.0**	**2.0**	**58.5**	173	1	8	32	88	125	173	277	82	124	167	259	325	402	583	6.1	0.1	0.8	3.2	9.0	13.2	18.8	31.3	6.0	9.1	12.3	17.9	22.5	27.9	40.8
B810	**69**	**2.0**	**2.0**	**47.3**	63	0	3	11	32	46	63	102	21	34	48	80	102	129	190	2.7	0.1	0.4	1.4	4.0	5.9	8.3	13.8	2.1	3.3	4.7	7.2	9.2	11.6	17.3
B815	**142**	**2.0**	**2.0**	**58.8**	193	1	10	37	99	141	193	309	89	136	184	279	352	433	629	5.6	0.1	0.7	2.9	8.2	12.1	17.2	28.4	5.5	8.3	11.2	16.3	20.5	25.3	37.1
B900	**78**	**2.0**	**2.0**	**50.0**	80	1	1	11	39	57	80	132	31	46	65	109	139	174	258	2.8	0.0	0.1	1.0	4.0	6.0	8.7	14.9	2.5	3.7	5.2	8.0	10.3	12.9	19.4
B905	**38**	**2.0**	**2.0**	**50.0**	49	0	2	9	25	36	49	80	18	29	40	63	81	101	149	1.5	0.0	0.2	0.7	2.1	3.1	4.5	7.5	1.2	1.9	2.6	4.0	5.1	6.4	9.5
B910	**41**	**2.0**	**2.0**	**49.1**	31	0	1	5	15	22	31	51	11	18	25	41	53	66	98	1.6	0.0	0.2	0.8	2.4	3.5	5.0	8.2	1.3	2.0	2.9	4.4	5.6	7.0	10.4
B915	**84**	**2.0**	**2.0**	**50.0**	86	1	1	12	42	61	86	141	33	50	70	117	149	187	276	3.1	0.1	0.1	1.2	4.4	6.6	9.6	16.2	2.7	4.1	5.6	8.7	11.1	14.0	21.0
B920	**88**	**2.0**	**2.0**	**49.7**	92	1	2	14	46	66	92	150	35	53	75	124	158	197	292	3.3	0.1	0.2	1.3	4.7	7.0	10.2	17.2	2.8	4.3	5.9	9.2	11.7	14.7	22.1
B925	**123**	**2.0**	**2.0**	**32.7**	94	1	1	9	42	64	94	157	17	26	42	86	115	150	232	4.3	0.1	0.2	1.1	5.6	8.7	13.1	22.5	2.3	3.5	5.5	9.9	13.3	17.6	27.5
B930	**134**	**2.0**	**2.0**	**36.3**	95	0	1	2	35	61	95	168	22	34	47	98	133	179	279	3.9	0.0	0.1	0.2	4.1	7.2	11.9	21.8	2.7	4.0	5.5	9.9	13.4	18.0	28.5
DP100	**155**	**2.0**	**25.2**	**95.3**	134	15	31	50	97	129	169	258	131	177	216	300	361	431	601	6.1	2.2	4.4	7.2	12.9	17.3	22.7	35.3	10.3	14.2	17.9	23.4	28.2	33.1	46.7
DP1000	**217**	**2.0**	**2.0**	**49.8**	232	1	7	38	116	166	232	377	29	55	90	176	232	303	465	8.3	0.2	0.8	3.8	12.0	17.7	25.6	42.7	3.1	5.8	9.4	17.5	23.5	31.3	48.8
DP1005	**183**	**2.0**	**2.0**	**24.7**	197	1	6	32	99	141	197	319	18	37	65	134	180	237	366	7.0	0.1	0.6	3.2	10.1	14.9	21.5	35.9	2.0	4.1	7.1	13.9	19.0	25.4	40.2
DP1100	**253**	**2.0**	**2.0**	**21.8**	233	1	6	35	114	165	233	380	19	39	71	154	207	277	432	9.6	0.2	0.8	4.3	13.8	20.5	29.5	49.4	2.5	5.2	9.2	18.7	25.7	34.7	54.9
DP1105	**168**	**2.0**	**2.0**	**12.3**	148	1	5	24	73	105	148	240	11	24	44	96	129	172	268	6.5	0.1	0.7	3.1	9.5	13.9	20.0	33.1	1.6	3.3	6.1	12.4	17.0	23.0	36.5
DP200	**773**	**2.0**	**2.5**	**35.3**	702	122	203	315	595	783	1,004	1,539	301	450	611	972	1,195	1,496	2,216	30.1	13.0	22.2	35.6	64.1	86.2	113.6	176.8	29.6	44.2	59.8	88.4	111.4	137.8	202.6
DP205	**749**	**2.0**	**3.8**	**94.6**	681	122	203	311	584	767	982	1,504	297	443	600	950	1,168	1,462	2,164	29.2	13.0	22.0	35.0	62.9	84.1	110.8	172.2	29.1	43.3	58.3	86.2	108.6	134.1	197.0
DP210	**686**	**2.0**	**2.8**	**93.1**	623	122	200	300	555	727	924	1,412	251	380	523	841	1,038	1,304	1,940	26.7	12.9	21.6	33.8	58.9	78.6	102.8	159.3	24.9	37.4	51.3	76.7	97.0	120.6	178.0
DP215	**562**	**2.0**	**2.2**	**90.0**	489	87	145	220	415	557	703	1,066	189	291	404	656	811	1,030	1,532	21.9	10.0	17.1	26.9	47.6	63.8	83.8	130.1	19.6	29.7	40.8	62.0	78.9	98.2	145.2
DP216	**518**	**2.0**	**2.2**	**90.0**	443	86	143	211	390	523	655	987	161	251	353	579	727	925	1,382	20.2	9.9	16.8	26.0	45.1	60.2	78.6	121.2	16.8	25.9	35.9	55.9	70.9	89.0	132.3
DP219	**456**	**2.0**	**2.2**	**90.0**	384	62	106	163	312	430	538	813	137	215	303	496	626	797	1,194	17.8	7.7	13.5	21.4	38.4	51.3	67.8	105.3	14.6	22.5	31.3	48.8	62.3	78.0	116.3

TABLE B-2
Peak Discharge and Total Inflow Volume at Design Points

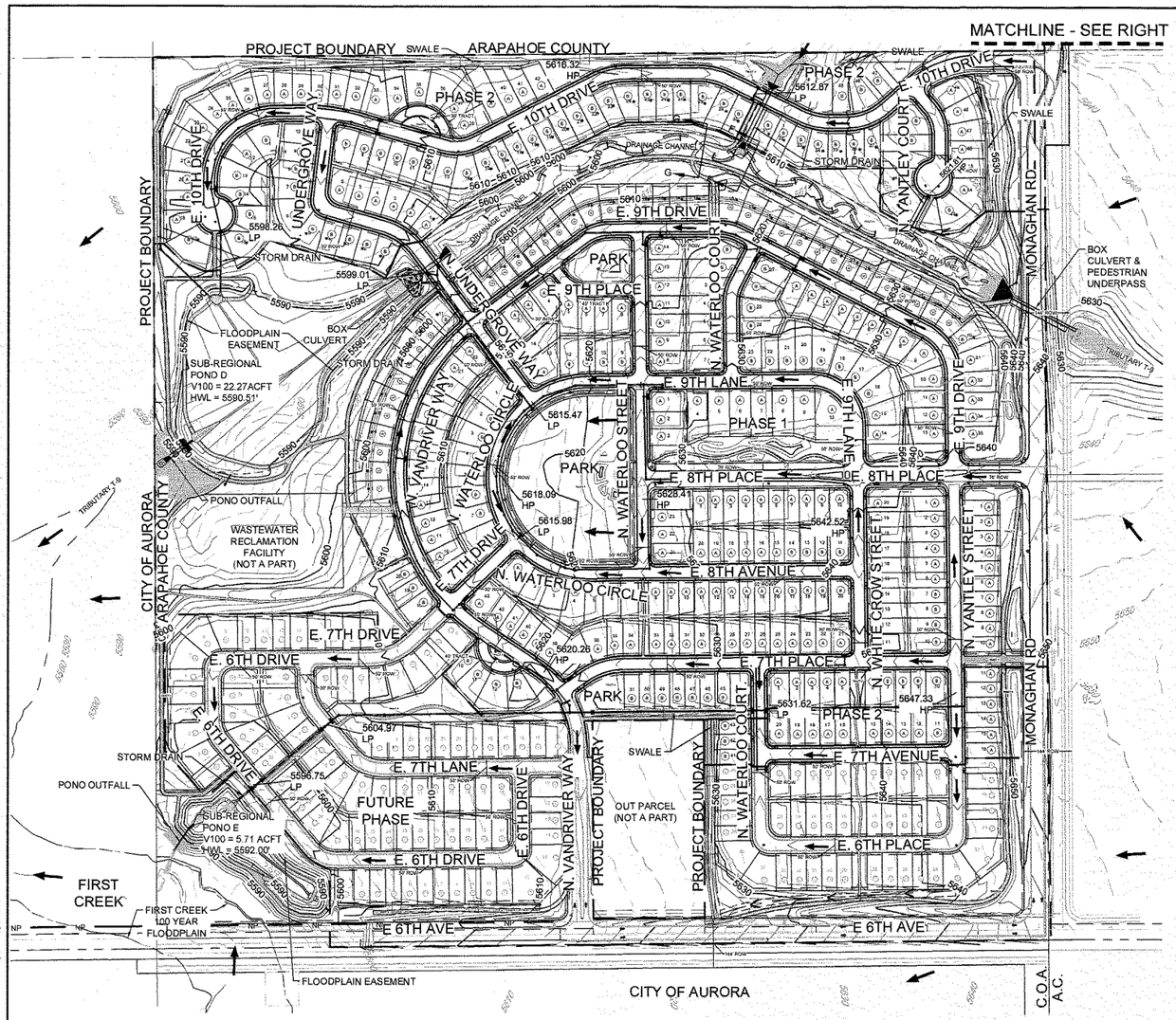
Design Point	Contributing Area (ac)	Imperviousness (%)			Peak Inflow Discharge (cfs)															Peak Inflow Volume (ac-ft)														
					Historic	Existing Conditions							Future Conditions							Historic	Existing Conditions							Future Conditions						
		Historic	Existing	Future	Q_{100}	Q_2	Q_5	Q_{10}	Q_{25}	Q_{50}	Q_{100}	Q_{500}	Q_2	Q_5	Q_{10}	Q_{25}	Q_{50}	Q_{100}	Q_{500}	V_{100}	V_2	V_5	V_{10}	V_{25}	V_{50}	V_{100}	V_{500}	V_2	V_5	V_{10}	V_{25}	V_{50}	V_{100}	V_{500}
DP223	**84**	**2.0**	**2.8**	**93.1**	96	38	58	80	130	165	206	302	38	58	80	131	165	206	303	3.2	2.8	4.3	5.9	9.0	11.4	14.3	21.3	2.9	4.3	5.9	9.0	11.4	14.3	21.3
DP228	**62**	**2.0**	**2.2**	**90.0**	63	27	41	57	90	120	141	207	27	42	57	91	120	142	208	2.4	2.2	3.4	4.6	6.9	8.7	10.8	16.0	2.2	3.4	4.6	6.9	8.7	10.9	16.1
DP240	**289**	**2.0**	**26.5**	**50.4**	210	31	58	90	171	225	296	453	76	120	168	282	359	453	669	11.3	5.1	9.2	14.4	25.1	33.5	43.6	67.2	9.2	14.3	20.0	30.5	39.0	48.8	73.0
DP245	**167**	**2.0**	**49.6**	**50.2**	178	35	54	78	146	193	252	380	64	99	140	228	280	358	538	6.4	2.7	4.3	7.0	13.2	17.8	23.7	37.4	5.4	8.3	11.4	17.8	22.7	28.5	42.4
DP300	**1402**	**2.0**	**2.0**	**50.0**	1,196	35	58	135	538	821	1,212	2,239	364	587	843	1,506	2,129	2,568	4,187	53.3	4.1	8.7	27.7	81.3	118.5	168.8	286.0	49.1	73.4	100.4	151.6	196.1	241.5	362.2
DP304	**1383**	**2.0**	**2.0**	**50.0**	1,184	35	58	134	534	813	1,199	2,215	361	582	836	1,493	2,111	2,542	4,151	52.6	4.1	8.7	27.4	80.1	116.9	166.7	282.4	48.5	72.4	99.1	149.5	193.7	238.5	356.0
DP305	**1383**	**2.0**	**2.0**	**2.0**	1,184	35	58	134	534	813	1,199	2,215	361	582	836	1,493	2,111	2,542	3,894	52.6	4.1	8.7	27.4	80.1	116.9	166.7	282.4	48.5	72.4	99.1	149.5	193.7	238.5	352.9
DP319	**1197**	**2.0**	**2.0**	**50.0**	1,058	3	15	117	476	720	1,060	1,958	342	543	772	1,370	1,941	2,286	3,732	45.4	1.1	3.7	19.4	65.1	96.7	140.0	240.6	42.7	63.2	86.2	129.8	168.5	206.9	306.0
DP320	**1197**	**2.0**	**4.9**	**4.9**	1,058	3	15	117	476	720	1,060	1,958	342	543	772	1,370	1,941	2,286	3,445	45.4	1.1	3.7	19.4	65.1	96.7	140.0	240.6	42.7	63.2	86.2	129.8	168.5	206.9	306.0
DP323	**1181**	**2.0**	**4.9**	**4.9**	1,061	3	17	122	484	727	1,063	1,958	357	564	797	1,398	1,983	2,311	3,471	44.7	1.0	3.6	18.9	63.8	94.8	137.5	236.6	42.0	62.6	85.3	128.3	166.3	204.1	301.7
DP325	**198**	**2.0**	**6.8**	**50.0**	173	2	5	23	83	121	175	289	77	115	157	260	329	413	610	7.5	0.3	0.8	3.4	10.9	16.1	23.2	39.0	7.9	11.5	15.5	22.6	28.5	35.3	51.9
DP329	**983**	**2.0**	**4.9**	**4.9**	894	3	14	104	409	613	894	1,674	295	467	662	1,163	1,682	1,920	2,887	37.2	0.7	2.8	15.5	52.8	78.6	114.2	197.6	34.1	50.9	70.0	105.6	138.1	168.8	249.8
DP330	**983**	**2.0**	**2.0**	**50.1**	894	3	14	104	409	613	894	1,496	295	467	662	1,164	1,501	1,920	2,887	37.2	0.7	2.8	15.5	52.8	78.6	114.2	191.5	34.4	50.9	70.0	105.6	134.1	167.6	249.2
DP334	**125**	**2.0**	**6.8**	**50.0**	107	1	1	14	51	75	107	176	62	90	119	184	230	282	414	4.6	0.1	0.2	1.7	6.4	9.6	14.1	23.9	5.4	7.8	10.3	14.8	18.5	22.7	33.5
DP335	**125**	**2.0**	**2.1**	**64.7**	107	1	1	14	51	75	107	176	62	90	119	184	230	282	410	4.6	0.1	0.2	1.7	6.4	9.7	14.1	24.0	5.4	7.8	10.3	14.8	18.5	22.7	33.1
DP340	**914**	**2.0**	**2.0**	**68.3**	844	3	15	103	394	584	844	1,400	296	462	651	1,127	1,446	1,839	2,745	34.3	0.7	2.4	13.9	48.5	72.4	105.3	177.1	31.6	47.0	64.5	97.6	124.0	155.3	231.4
DP345	**880**	**2.0**	**2.0**	**53.6**	806	3	15	101	379	560	806	1,334	288	449	632	1,089	1,396	1,774	2,641	33.0	0.6	2.4	13.4	46.7	69.7	101.3	170.6	30.1	44.8	61.7	93.6	119.1	149.5	222.5
DP350	**361**	**2.0**	**2.0**	**50.0**	310	1	5	37	145	215	310	514	113	173	243	419	538	682	1,014	13.2	0.2	0.8	4.8	18.3	27.6	40.5	68.7	11.8	17.6	24.3	37.4	47.6	60.2	89.9
DP360	**247**	**2.0**	**2.0**	**50.0**	223	1	4	31	109	158	223	367	84	128	180	302	385	486	718	9.2	0.2	0.5	3.6	13.0	19.4	28.2	47.6	7.9	12.0	16.6	25.7	32.8	41.1	61.7
DP375	**383**	**2.0**	**2.0**	**50.0**	386	2	8	52	184	270	386	636	140	220	310	527	674	852	1,267	14.7	0.3	1.2	6.4	21.2	31.3	45.1	75.5	13.6	20.3	27.7	41.7	52.8	66.0	97.9
DP380	**234**	**2.0**	**2.0**	**50.5**	236	1	7	36	116	167	236	386	97	149	206	338	428	537	789	9.0	0.2	0.9	4.1	13.1	19.3	27.7	46.3	8.7	13.0	17.6	26.1	32.8	41.1	60.5
DP400	**162**	**2.0**	**6.6**	**50.0**	92	22	33	46	89	126	173	283	47	67	88	153	204	266	413	3.8	2.3	3.4	4.6	8.1	11.7	16.7	29.0	5.0	7.1	9.3	14.1	18.3	23.5	36.5
DP500	**175**	**2.0**	**4.6**	**62.8**	148	2	8	27	75	107	150	242	80	117	155	242	302	374	541	6.9	0.3	1.1	3.8	10.4	15.1	21.4	35.3	7.3	10.8	14.5	20.8	26.0	31.9	46.7
DP600	**369**	**2.0**	**2.0**	**29.4**	300	1	1	6	56	157	300	590	6	75	154	362	514	701	967	10.7	0.3	1.0	2.2	9.6	19.5	32.8	62.0	3.5	10.4	17.9	31.3	42.0	54.6	85.3
DP602	**351**	**2.0**	**2.0**	**46.0**	289	1	1	3	55	152	290	563	6	74	150	349	495	672	925	10.0	0.3	1.0	2.0	8.7	18.1	30.7	58.6	3.2	9.9	17.1	29.7	40.2	51.9	81.3
DP605	**261**	**2.0**	**2.5**	**69.0**	293	2	15	55	150	213	293	472	169	244	317	466	577	706	1,018	10.3	0.2	1.4	5.5	15.2	22.3	31.6	52.5	11.7	17.1	22.6	31.9	39.6	48.5	70.3
DP700	**222**	**2.0**	**2.0**	**58.0**	211	1	5	31	104	150	211	346	79	122	170	284	364	458	678	8.4	0.2	0.6	3.6	12.1	17.9	25.9	43.6	7.6	11.4	15.6	23.8	30.2	37.7	56.2
DP800	**448**	**2.0**	**2.0**	**42.0**	488	3	23	89	249	354	488	784	203	314	429	677	855	1,060	1,549	17.7	0.4	2.3	9.3	26.0	38.1	54.3	89.9	15.9	24.2	33.1	49.4	62.6	78.3	115.4
DP805	**366**	**2.0**	**2.0**	**58.5**	426	3	21	79	218	310	426	684	187	288	391	611	770	952	1,384	14.5	0.3	1.9	7.6	21.3	31.3	44.5	73.4	13.7	20.7	28.2	41.4	52.2	64.8	95.4
DP900	**587**	**2.0**	**2.0**	**50.0**	510	2	8	57	236	354	510	852	151	234	334	593	771	989	1,495	20.5	0.4	1.1	6.4	27.3	42.0	62.9	108.3	15.5	23.5	33.1	54.0	70.3	90.5	138.4
DP905	**508**	**2.0**	**2.0**	**50.0**	433	2	7	47	199	300	433	724	124	192	275	493	643	827	1,253	17.7	0.3	1.0	5.4	23.3	35.9	54.3	93.3	13.0	19.8	28.0	46.0	60.2	77.6	119.1
DP915	**429**	**2.0**	**2.0**	**50.0**	357	1	5	35	162	246	357	603	98	151	217	399	523	676	1,029	14.6	0.2	0.6	3.9	18.8	29.4	44.8	77.6	10.5	15.8	22.5	37.7	49.4	64.5	99.1
DP925	**257**	**2.0**	**2.0**	**32.7**	188	1	2	10	77	124	188	324	39	59	88	183	248	329	512	8.2	0.1	0.3	1.3	9.7	15.8	25.0	44.2	4.9	7.5	11.0	19.8	26.6	35.6	55.9
Pond 1	**351**	**2.0**	**2.0**	**46.0**	406	3	20	75	208	296	407	655	203	301	398	602	751	924	1,338	13.9	0.3	1.9	7.3	20.5	30.0	42.7	70.6	14.4	21.3	28.6	41.1	51.6	63.5	93.0

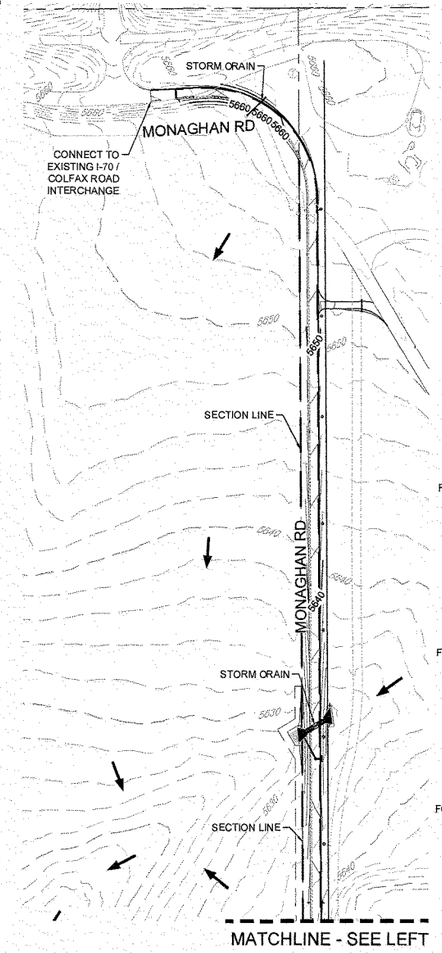
TABLE B-3
Existing Detention Stage-Storage-Discharge Curves

Sky Ranch Pond D		
Stage-Storage Curve		
Stage (ft)	Surface Area (ft^2)	Total Volume (ac-ft)
5,582	308	0
5,583	4,565	0.05
5,584	21,305	0.32
5,585	56,123	1.18
5,586	107,274	3.02
5,587	151,619	5.98
5,588	185,520	9.84
5,589	212,162	14.4
5,590	231,449	19.49
5,591	243,011	24.94
5,592	252,146	30.62

Sky Ranch Pond D								
Stage Discharge Curve								
	Stage		Orifice Release Rates					
	Elevation (ft)	Stage (ft)	WQCV Orifice (cfs)	EURV Orifice (cfs)	100-yr Orifice (cfs)	100-yr Weir (cfs)	100-yr Control (cfs)	Release (cfs)
	5,582	0	0					0
	5,582.25	0.25	0.6					0.6
	5,582.50	0.5	0.69					0.69
	5,582.75	0.75	0.77					0.77
	5,583	1	0.84					0.84
	5,583.25	1.25	0.91					0.91
	5,583.50	1.5	0.98					0.98
	5,583.75	1.75	1.03					1.03
	5,584	2	1.09					1.09
	5,584.25	2.25	1.14					1.14
	5,584.50	2.5	1.19					1.19
	5,584.75	2.75	1.24					1.24
	5,585	3	1.29					1.29
	5,585.25	3.25	1.34					1.34
	5,585.50	3.5	1.38					1.38
	5,585.75	3.75	1.42					1.42
	5,586	4	1.46					1.46
	5,586.25	4.25	1.5					1.5
WQCV	5,586.50	4.5	1.54	0				1.54
	5,586.75	4.75	1.58	0.7				2.28
	5,587	5	1.62	1.06				2.68
	5,587.25	5.25	1.65	1.33				2.98
	5,587.50	5.5	1.69	1.55				3.24
	5,587.75	5.75	1.72	1.74				3.46
	5,588	6	1.76	1.92				3.68
	5,588.25	6.25	1.79	2.08				3.87
	5,588.50	6.5	1.82	2.23				4.05
EURV	5,588.75	6.75	1.86	2.37				4.23
	5,589	7	1.89	2.5	191.11	12.97	12.97	17.36
	5,589.25	7.25	1.92	2.62	335.59	70.22	70.22	74.76
	5,589.50	7.5	1.95	2.74	434.41	152.31	152.31	157
	5,589.75	7.75	1.98	2.86	514.59	253.18	253.18	258.02
	5,590	8	2.01	2.97	583.86	369.81	369.81	374.79
	5,590.25	8.25	2.04	3.07	645.75	500.31	500.31	505.42
100-yr	5,590.50	8.5	2.07	3.17	702.2	643.32	643.32	648.56
	5,590.75	8.75	2.1	3.27	754.44	797.84	754.44	759.81
	5,591	9	2.13	3.37	803.29	963.07	803.29	808.79
	5,591.25	9.25	2.15	3.46	849.33	1138.35	849.33	854.94
	5,591.50	9.5	2.18	3.55	893	1323.14	893	898.73
	5,591.75	9.75	2.21	3.64	934.64	1516.97	934.64	940.49
	5,592	10	2.23	3.73	974.5	1719.44	974.5	980.46

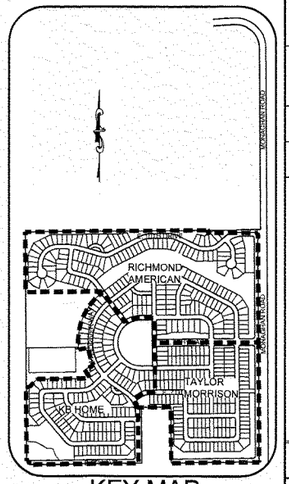
Data from *Sky Ranch Neighborhood B Phase III Drainage Report (E. 6th Ave. and Monaghan Rd.)* by CVL Consultants of Colorado (May, 2018)



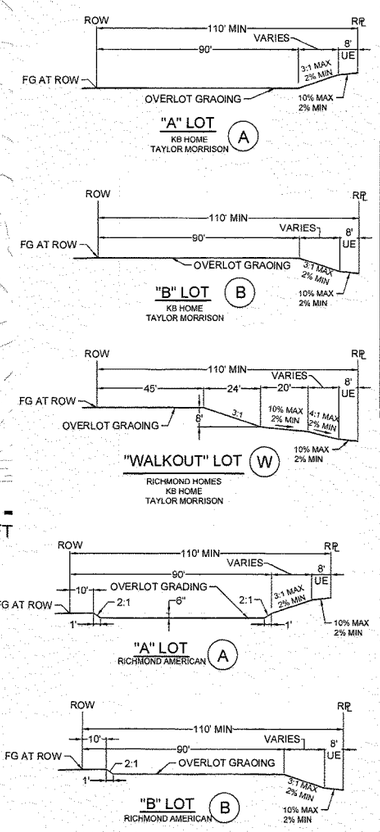


200 100 0 200 400

SCALE: 1" = 200'



KEY MAP
N.T.S.

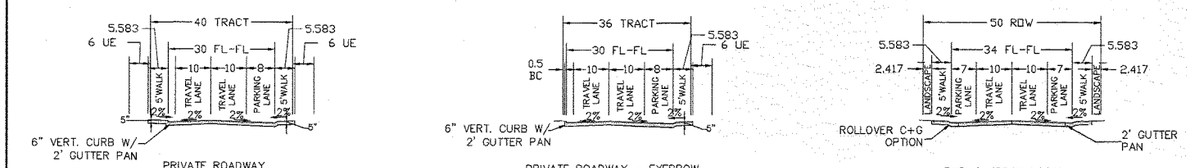


LEGEND

1	BLOCK NUMBER
10	LOT NUMBER
A	LOT TYPE
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	PROPOSED STORM DRAIN (SD)
	PROPOSED STORM DRAIN INLET
4 5 6	PROPOSED STORM DRAIN MANHOLE
1.0%	PROPOSED SLOPE AND DIRECTION
	PROPOSED OVERLAND FLOW
	PHASING LINE
	SIGHT TRIANGLES (30' x 30')

NOTES:

1. ALL TRAILS ARE 6' CRUSHER FINES UNLESS OTHERWISE NOTED.
2. PROPOSEO CONTOURS REPRESENT OVERLOT GRAOING IN LOTS AND FINISH GRADE WITH STREET ROW.
3. NO MORE THAN THREE LOTS SHALL DRAIN THROUGH OOWNHILL LOT. REAR AND SIOE YARO SWALES SHALL BE DESIGNED ACCOROINGLY DURING DEVELOPMENT OF PLOT PLANS, FOLLOWING THE PROPERTY CORNER ELEVATIONS IOENTIFIED HEREIN AND ON THE AOMINISTRATIVE SITE PLAN.
4. SLOPES ON SIOEWALKS AND TRAILS MUST MEET ADA STANDARDS. SLOPES ON SIOEWALKS SHALL BE 5% MAX UNLESS OTHERWISE INDICATED. IF THE ADJACENT ROAOWAY SLOPE EXCEEDS 5%, THE SIDEWALK SLOPE CAN MATCH THE ROADWAY SLOPE, UP TO 7%. SLOPES ON TRAILS, UP TO 8.3%, ARE SHOWN FOR UP TO 200 FEET.
5. LOTS AOJACENT TO THE DRAINAGE CHANNEL ANO PONO O SHALL PROVIDE 2 FEET OF CLEARANCE ABOVE THE 100 YEAR WATER SURFACE ELEVATION FOR THE LOWEST FINISHED FLOOR. LOTS TO BE CONSIDERED ARE INDICATEO WITH AN ASTERISK " (*). PLOT PLANS SHALL VERIFY THAT CRITERIA IS MET.
6. ONSITE ORAINAGE AND UTILITY EASEMENTS SHOWN ARE TO BE OEOICATEO BY THE SKY RANCH FILING 1 PLAT. OFFSITE EASEMENTS ARE TO BE OEOICATEO BY SEPARATE OOCUMENT.



PRIVATE ROADWAY
40' TRACT
NOTE: FLOWLINE OF CURB ELEVATION (PARKING LANE SIDE) = FG CENTERLINE - 0.49'
NOTE: FLOWLINE OF CURB ELEVATION = FG CENTERLINE - 0.37'

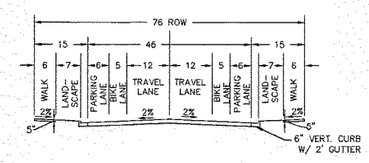
E. 9TH PLACE & N. VANDRIVER WAY EYEBROW

PRIVATE ROADWAY – EYEBROW
36' TRACT
FLOWLINE OF CURB ELEVATION (PARKING LANE SIOE) = FG CENTERLINE - 0.49'
NOTE: FLOWLINE OF CURB ELEVATION = FG CENTERLINE - 0.37'

E. 10TH DRIVE EYEBROW

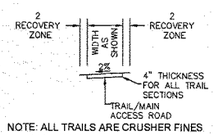
PUBLIC URBAN LOCAL
50' ROW
NOTE: FLOWLINE OF CURB ELEVATION = FG CENTERLINE - 0.47'

ALL STREETS UNLESS OTHERWISE NOTED

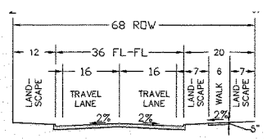


TWO LANE COLLECTOR
76' ROW
NOTE: FLOWLINE OF CURB ELEVATION = FG CENTERLINE - 0.63'

N. VANDRIVER WAY & E. 8TH PLACE

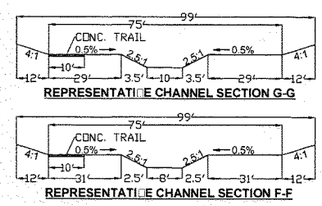


NOTE: ALL TRAILS ARE CRUSHER FINES UNLESS OTHERWISE STATEO.



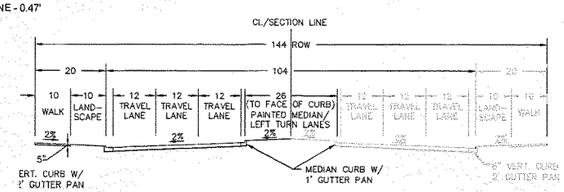
2 LANE COLLECTOR
68' ROW
NOTE: FLOWLINE OF CURB ELEVATION = FG CENTERLINE - 0.49'

E. 10TH DRIVE



REPRESENTATIOE CHANNEL SECTION G-G

REPRESENTATIOE CHANNEL SECTION F-F



SIX LANE PRINCIPAL ARTERIAL
144' ROW
NOTE: FLOWLINE OF CURB ELEVATION = FG CENTERLINE - 1.17'

MONAGHAN ROAD & 6TH AVENUE
THE WEST HALF OF MONAGHAN ROAD &
THE NORTH HALF OF 6TH AVENUE (FROM MONAGHAN ROAD TO APPROX. 615 LF WEST OF N. VANORIVER WAY) WILL BE CONSTRUCTEO WITH FILING 1

CASE NO. P17-014 (A.C.)

Arapahoe County
VALID ONLY IF FIRST PAGE IS SIGNED
JUL 19 2018
REVIEW AND ACCEPTANCE OF CONSTRUCTION PLANS AND SPECIFICATIONS

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UTILITY NOTIFICATION CENTER OF COLORADO

No.	Revisions	Date	Init.	Appr.	Date

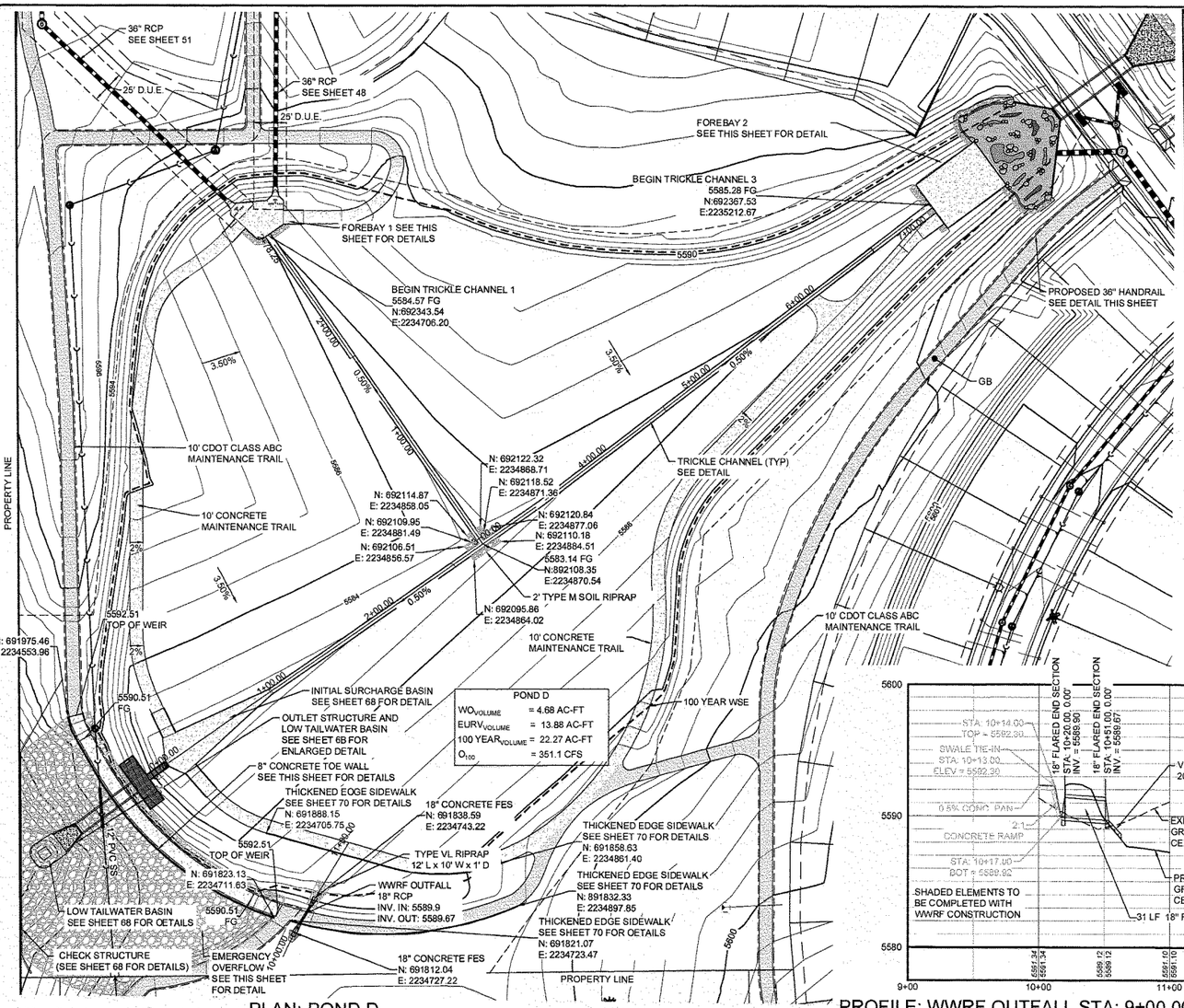
CVL CONSULTANTS
10333 E. Dry Creek Rd
Suite 240
Englewood, CO 80112
Tel: (720) 482-9526
Fax: (720) 482-9546
Contact: Melinda Lundquist, PE

SKY RANCH COMMUNITY AUTHORITY BOARD
Attn: Mark Harding
3450N. EAST QUINCY AVE.
BLDG. 34, BOX 10
WATKINS, CO. 80137

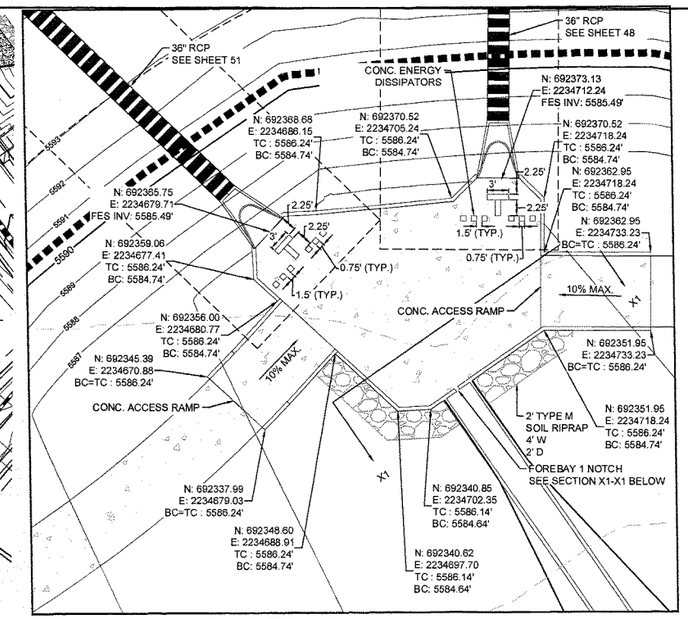
SKY RANCH - FILING 1 - PHASE 1 & 2
ROAD & DRAINAGE CONSTRUCTION PLANS
OVERALL GRADING PLAN

SCALE: AS SHOWN
FILE NO: 8.13.0107307
DRAWN BY: RHR
CHECKED BY: MEL
DATE: JUNE 26, 2018
SHEET NUMBER: 3

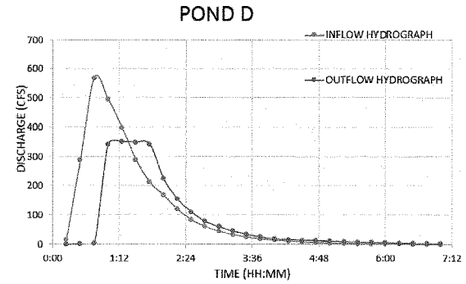
N:\PROJECTS\8\10705 SKY RANCH\CAD\ENGINEERING\SHEET SETS\CONSTRUCTION PLANS - NEIGHBORHOOD B\PHASE 1&2\OVERALL GRADING PLAN.DWG, CLAY0, 7/11/18



PLAN: POND D
HORIZONTAL SCALE: 1" = 50'

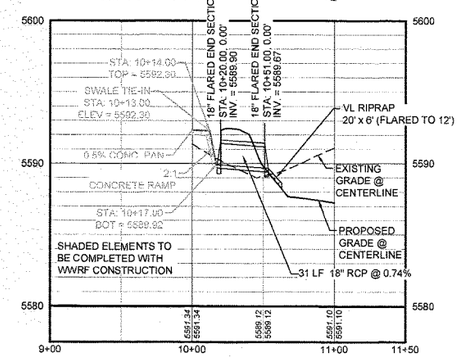


PLAN: FOREBAY 1
HORIZONTAL SCALE: 1" = 10'

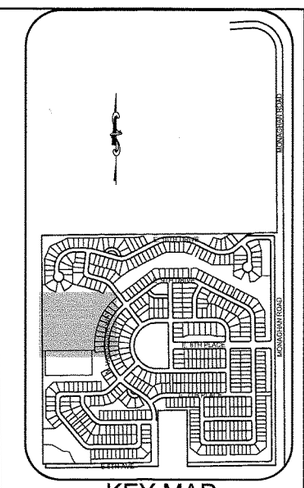


NOTE:
1. SEE DRAINAGE REPORT FOR MORE DETAILS.

Pond D		
Stage (ft)	Storage (Ac-ft)	Discharge (cfs)
5582	0.00	0.00
5583	0.06	0.84
5584	0.35	1.09
5585	1.24	1.29
5586	3.11	1.46
5587	6.08	2.68
5588	9.95	3.68
5589	14.52	17.36
5590	19.61	338.33
5591	25.05	363.42



PROFILE: WWRF OUTFALL STA: 9+00.00 TO 11+50.00
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'

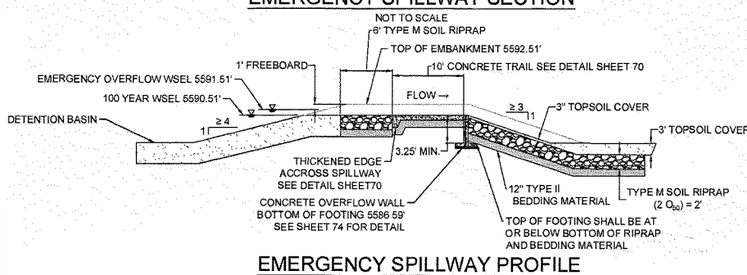


KEY MAP
NTS

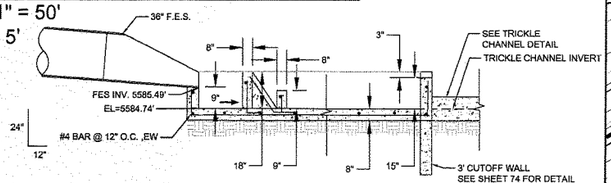
LEGEND

1	BLOCK NUMBER
10	LOT NUMBER
A	LOT TYPE
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	PROPOSED STORM DRAIN (SD)
	PROPOSED STORM DRAIN INLET
	PROPOSED STORM DRAIN MANHOLE
1.0%	PROPOSED SLOPE AND DIRECTION
	PROPOSED OVERLAND FLOW
	PHASING LINE
	AGGREGATE SURFACE TRAIL (W = 30')

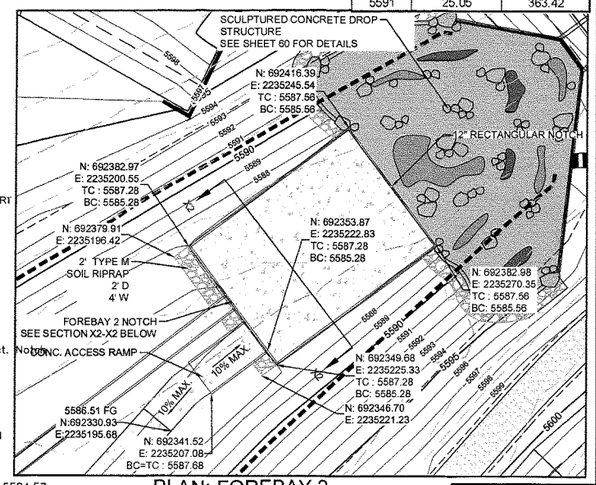
EMERGENCY SPILLWAY SECTION



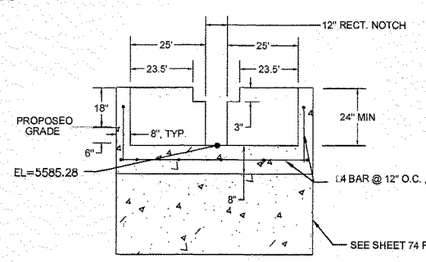
EMERGENCY SPILLWAY PROFILE
NOT TO SCALE



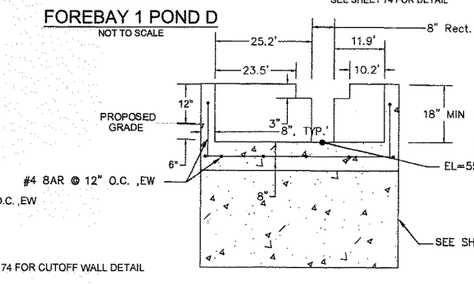
FOREBAY 1 POND D
NOT TO SCALE



PLAN: FOREBAY 2
HORIZONTAL SCALE: 1" = 20'



SECTION X2-X2 (RECT. - NOTCH DETAILS)
NOT TO SCALE



SECTION X1-X1 (RECT. - NOTCH DETAILS)
NOT TO SCALE

PREPARED UNDER THE SUPERVISION OF
COLORADO REGISTERED PROFESSIONAL ENGINEER 49988 6/28/2018
MARK SCHEURER
COLORADO P.E. 49988
VALID ONLY IF FIRST PAGE IS SIGNED
JUL 19 2018

UNCC UTILITY NOTIFICATION CENTER OF COLORADO
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CVL CONSULTANTS
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PCY HOLDINGS, LLC.
ATTN: MARK HARDING
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BLDG. 34, BOX 10
WATKINS, CO. 80137

SKY RANCH - FILING 1 - PHASE 1&2
ROAD & DRAINAGE CONSTRUCTION PLANS
POND D PLAN

SCALE: AS SHOWN
FILE NO: 8.13.0107307
DRAWN BY: TPC
CHECKED BY: MS
DATE: MAY 2018
SHEET NUMBER 67

N:\PROJECTS\3010\7305 SKY RANCH\CAD\ENGINEERING\SHEET SETS\CONSTRUCTION PLANS - NEIGHBORHOOD B\PHASE 1&2\STORM PLAN AND PROFILE\POND D PLAN AND DETAILS.DWG, CLAYG, 6/20/18

FIGURE B-5
Existing Conditions 100-Year SWMM Output

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

FIRST CREEK TRIBUTARIES MDP
BASELINE HYDROLOGY SWMM MODEL
100-YR, EXISTING


*************
Element Count
*************
Number of rain gages ...... 1
Number of subcatchments ... 57
Number of nodes ........... 102
Number of links ........... 102
Number of pollutants ...... 0
Number of land uses ....... 0


****************
Raingage Summary
****************
                                                  Data       Recording
Name                 Data Source                  Type       Interval
-----------------------------------------------------------------------
California_Type_1_1in California_Type_1_1in        INTENSITY    6 min.


********************
Subcatchment Summary
********************
Name                        Area     Width   %Imperv    %Slope Rain Gage            Outlet
-----------------------------------------------------------------------------------------------
-------
100                       154.77   1206.87     95.27    1.9160 California_Type_1_1in B100
1000                       34.21    633.19     49.82    3.6020 California_Type_1_1in B1000
1005                       48.48    912.77     24.73    3.0360 California_Type_1_1in B1005
1010                      134.08   1380.51     18.76    2.8070 California_Type_1_1in B1010
1100                       84.78   1115.60     21.79    3.7800 California_Type_1_1in B1100
1105                       39.65    590.76     12.34    2.3970 California_Type_1_1in B1105
1110                      128.07    965.26     19.65    2.2590 California_Type_1_1in B1110
200                        23.41    479.69     35.27    3.2800 California_Type_1_1in B200
205                        63.55    713.35     94.57    3.2800 California_Type_1_1in B205
210                        39.05    922.35     93.06    3.6980 California_Type_1_1in B210
215                        44.10    802.10     90.03    3.2590 California_Type_1_1in B215
220                        26.63    610.48     50.50    4.0730 California_Type_1_1in B220
225                        84.22   1058.87     52.28    3.6980 California_Type_1_1in B225
230                        62.05    863.38     55.14    3.9450 California_Type_1_1in B230
235                        91.12    762.19     46.46    3.8200 California_Type_1_1in B235
240                       171.44   1107.78     50.36    1.4720 California_Type_1_1in B240
245                        80.85   1120.24     50.22    3.4570 California_Type_1_1in B245
250                        86.18   1184.99     50.00    2.7920 California_Type_1_1in B250
300                        18.67    452.95     50.00    0.5000 California_Type_1_1in B300
305                         6.51    204.73      2.01    7.6490 California_Type_1_1in B305
310                       104.43   1246.91     50.02    4.0900 California_Type_1_1in B310
315                        75.26    972.24     50.22    5.0300 California_Type_1_1in B315
320                        16.37    290.72      4.92    0.5000 California_Type_1_1in B320
325                        72.58   1128.17     50.00    3.4970 California_Type_1_1in B325
330                        68.14   1207.53     50.11    3.4710 California_Type_1_1in B330
335                       125.39   1219.23     64.73    2.5240 California_Type_1_1in B335
340                        34.29   1028.66     68.28    2.0960 California_Type_1_1in B340
345                        74.60    883.04     53.61    2.2660 California_Type_1_1in B345
350                        44.97    566.09     50.00    2.1640 California_Type_1_1in B350
355                        69.00    807.53     52.60    3.0160 California_Type_1_1in B355
360                        93.29    830.66     50.00    2.1620 California_Type_1_1in B360
365                       153.84   1416.18     50.00    2.3800 California_Type_1_1in B365
370                        61.66    780.72     50.84    2.0720 California_Type_1_1in B370
375                       148.86   1624.22     50.00    2.3120 California_Type_1_1in B375
380                       102.12   1180.64     50.47    2.4420 California_Type_1_1in B380
385                       131.80   1356.65     59.95    2.4610 California_Type_1_1in B385
400                        92.70    855.88     50.00    2.2110 California_Type_1_1in B400
405                        69.28    890.75     51.87    3.2540 California_Type_1_1in B405
500                       175.00   1191.94     62.84    2.3860 California_Type_1_1in B500
600                        17.88    596.80     29.39    3.8290 California_Type_1_1in B600
602                        90.36   1142.37     45.99    3.8290 California_Type_1_1in B602
605                        71.84    994.31     69.05    3.0090 California_Type_1_1in B605
610                       136.46   1224.43     59.92    2.4820 California_Type_1_1in B610
615                        52.66   1214.43     82.20    3.0610 California_Type_1_1in B615
700                        59.09    620.93     57.98    2.8110 California_Type_1_1in B700
705                       162.98   1570.75     50.02    2.2830 California_Type_1_1in B705
800                        81.92    675.40     41.96    3.1530 California_Type_1_1in B800
805                       155.55   1648.82     58.48    2.5420 California_Type_1_1in B805
810                        68.87    715.98     47.31    3.2040 California_Type_1_1in B810
815                       141.73   1702.91     58.81    2.7200 California_Type_1_1in B815
900                        78.20    934.68     50.00    3.9870 California_Type_1_1in B900
905                        37.72    728.74     50.00    2.7060 California_Type_1_1in B905
910                        41.31    478.01     49.09    2.6320 California_Type_1_1in B910
915                        84.39   1046.83     50.00    3.1260 California_Type_1_1in B915
920                        88.42   1088.43     49.69    2.8320 California_Type_1_1in B920
925                       123.01   1062.57     32.75    3.9830 California_Type_1_1in B925
930                       133.54   1145.51     36.32    3.5300 California_Type_1_1in B930


************
Node Summary
************
                                                Invert      Max.    Ponded    External
Name                 Type                        Elev.     Depth      Area    Inflow
-----------------------------------------------------------------------------------------
B100                 JUNCTION                 5511.01      0.00       0.0
B1000                JUNCTION                 5686.08      0.00       0.0
B1005                JUNCTION                 5700.10      0.00       0.0
B1010                JUNCTION                 5717.19      3.45       0.0
B1100                JUNCTION                 5708.80      0.00       0.0
B1105                JUNCTION                 5749.60      0.00       0.0
B1110                JUNCTION                 5765.81      3.65       0.0
B200                 JUNCTION                 5516.13      0.00       0.0
B205                 JUNCTION                 5531.84      0.00       0.0
B210                 JUNCTION                 5543.12      0.00       0.0
B215                 JUNCTION                 5551.33      0.00       0.0
B235                 JUNCTION                 5571.48      1.12       0.0
B240                 JUNCTION                 5570.52      0.00       0.0
B245                 JUNCTION                 5600.91      0.00       0.0
B300                 JUNCTION                 5554.12      0.00       0.0
B305                 JUNCTION                 5563.78      0.00       0.0
B310                 JUNCTION                 5563.78      0.00       0.0
B315                 JUNCTION                 5563.78      0.00       0.0
B320                 JUNCTION                 5575.36      0.00       0.0
B325                 JUNCTION                 5600.62      0.00       0.0
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

B330	JUNCTION	5601.85	0.00	0.0
B335	JUNCTION	5612.56	0.00	0.0
B340	JUNCTION	5610.04	0.00	0.0
B345	JUNCTION	5632.10	0.00	0.0
B350	JUNCTION	5643.98	0.00	0.0
B355	JUNCTION	5643.98	0.00	0.0
B360	JUNCTION	5669.91	0.00	0.0
B365	JUNCTION	5672.97	0.94	0.0
B370	JUNCTION	5632.10	0.00	0.0
B375	JUNCTION	5645.12	0.00	0.0
B380	JUNCTION	5659.42	0.00	0.0
B385	JUNCTION	5677.36	1.19	0.0
B400	JUNCTION	5565.43	0.00	0.0
B405	JUNCTION	5593.96	0.93	0.0
B500	JUNCTION	5567.09	0.00	0.0
B600	JUNCTION	5568.84	0.00	0.0
B602	JUNCTION	5582.10	0.00	0.0
B605	JUNCTION	5603.51	0.00	0.0
B610	JUNCTION	5626.02	4.19	0.0
B615	JUNCTION	5635.11	4.43	0.0
B700	JUNCTION	5573.79	0.00	0.0
B705	JUNCTION	5615.99	1.43	0.0
B800	JUNCTION	5605.06	0.00	0.0
B805	JUNCTION	5626.11	0.00	0.0
B810	JUNCTION	5626.11	0.00	0.0
B815	JUNCTION	5650.94	2.09	0.0
B900	JUNCTION	5648.06	0.00	0.0
B905	JUNCTION	5688.47	0.00	0.0
B910	JUNCTION	5688.47	0.00	0.0
B915	JUNCTION	5695.99	0.00	0.0
B920	JUNCTION	5695.99	0.00	0.0
B925	JUNCTION	5740.06	0.00	0.0
B930	JUNCTION	5740.06	0.00	0.0
DP100	JUNCTION	5510.91	0.00	0.0
DP1000	JUNCTION	5685.98	3.11	0.0
DP1005	JUNCTION	5700.00	3.45	0.0
DP1100	JUNCTION	5708.70	1.64	0.0
DP1105	JUNCTION	5749.50	3.65	0.0
DP200	JUNCTION	5516.03	3.98	0.0
DP205	JUNCTION	5531.74	3.98	0.0
DP210	JUNCTION	5543.02	7.06	0.0
DP215	JUNCTION	5551.23	7.06	0.0
DP216	JUNCTION	5563.26	6.64	0.0
DP219	JUNCTION	5569.45	11.00	0.0
DP223	JUNCTION	5572.72	4.58	0.0
DP228	JUNCTION	5569.11	4.75	0.0
DP300	JUNCTION	5554.02	4.57	0.0
DP304	JUNCTION	5562.30	15.00	0.0
DP319	JUNCTION	5566.31	22.70	0.0
DP323	JUNCTION	5578.90	28.23	0.0
DP329	JUNCTION	5596.56	15.77	0.0
DP334	JUNCTION	5604.55	12.95	0.0
DP340	JUNCTION	5609.94	21.85	0.0
DP345	JUNCTION	5632.00	2.32	0.0
DP350	JUNCTION	5643.88	1.89	0.0
DP360	JUNCTION	5669.81	0.94	0.0
DP375	JUNCTION	5645.02	1.98	0.0
DP380	JUNCTION	5659.31	1.98	0.0
DP400	JUNCTION	5565.33	0.93	0.0
DP500	JUNCTION	5566.99	0.00	0.0
DP600	JUNCTION	5568.74	14.67	0.0
DP602	JUNCTION	5580.15	14.67	0.0
DP605	JUNCTION	5603.41	6.49	0.0
DP700	JUNCTION	5573.69	1.43	0.0
DP800	JUNCTION	5604.96	2.49	0.0
DP805	JUNCTION	5626.01	2.49	0.0
DP900	JUNCTION	5647.96	2.09	0.0
DP905	JUNCTION	5688.37	2.71	0.0
DP915	JUNCTION	5695.89	2.71	0.0
DP925	JUNCTION	5739.96	1.29	0.0
B220	DIVIDER	5582.69	4.50	0.0
B225	DIVIDER	5573.55	4.58	0.0
B230	DIVIDER	5579.02	4.50	0.0
B250	DIVIDER	5619.48	5.00	0.0
DP240	DIVIDER	5570.43	11.00	0.0
DP245	DIVIDER	5600.81	8.00	0.0
DP305	DIVIDER	5563.68	14.00	0.0
DP320	DIVIDER	5575.26	14.00	0.0
DP325	DIVIDER	5600.52	10.50	0.0
DP330	DIVIDER	5601.75	12.00	0.0
DP335	DIVIDER	5612.46	5.50	0.0
SU1	STORAGE	5582.00	11.00	0.0

```
************
Link Summary
************
```

Name	From Node	To Node	Type	Length	%Slope	Roughness
C1	DP330	DP329	CONDUIT	284.0	0.5000	0.0150
C10	B925	DP925	CONDUIT	10.0	1.0001	0.0100
C10_1	DP330	DP329	CONDUIT	284.0	0.5000	0.0160
C10_2	DP329	DP323	CONDUIT	489.6	0.1999	0.0500
C1000	B1000	DP1000	CONDUIT	10.0	1.0001	0.0100
C1005	B1005	DP1005	CONDUIT	10.0	1.0001	0.0100
C11	B250	DP245	CONDUIT	2856.0	0.6537	0.0150
C1100	B1100	DP1100	CONDUIT	10.0	1.0001	0.0100
C111	B605	DP605	CONDUIT	10.0	1.0001	0.0100
C12	DP305	DP304	CONDUIT	107.6	0.3532	0.0160
C12_2	DP245	DP219	CONDUIT	4190.0	0.7485	0.0160
C13	DP320	DP319	CONDUIT	72.4	0.3453	0.0160
C14	B220	DP240	CONDUIT	463.0	2.6495	0.0150
C15	DP602	DP600	CONDUIT	697.6	1.6356	0.0100
C16	B615	DP605	CONDUIT	1481.2	2.1406	0.0100
C17	B400	DP400	CONDUIT	10.0	1.0001	0.0100
C19	B250	DP245	CONDUIT	2856.0	0.6537	0.0160
C2	B815	DP805	CONDUIT	2203.8	1.1313	0.0100
C20	B210	DP210	CONDUIT	10.0	1.0001	0.0100
C200	B200	DP200	CONDUIT	10.0	1.0001	0.0100
C205	B205	DP205	CONDUIT	10.0	1.0001	0.0100
C21	B1105	DP1105	CONDUIT	10.0	1.0001	0.0100
C22	B100	DP100	CONDUIT	10.0	1.0001	0.0100
C225	B225	DP223	CONDUIT	215.0	0.3884	0.0130
C23	DP304	DP300	CONDUIT	878.8	0.9415	0.0100
C230	B230	DP228	CONDUIT	584.0	1.6971	0.0160
C24	B215	DP215	CONDUIT	10.0	1.0001	0.0100
C240	B240	DP240	CONDUIT	10.0	1.0001	0.0100
C245	B245	DP245	CONDUIT	10.0	1.0001	0.0100
C25	DP325	DP323	CONDUIT	349.0	1.1165	0.0150
C26	DP335	DP334	CONDUIT	91.8	0.5012	0.0160
C27	B300	DP300	CONDUIT	10.0	1.0001	0.0100
C28	DP325	DP323	CONDUIT	349.0	1.1165	0.0160

FIGURE B-5
Existing Conditions 100-Year SWMM Output

C29	DP240	DP219	CONDUIT	224.0	0.4353	0.0150
C3	DP340	DP330	CONDUIT	2728.7	0.3001	0.0500
C30	DP335	DP334	CONDUIT	91.8	0.5012	0.0150
C305	B305	DP305	CONDUIT	10.0	1.0001	0.0100
C31	DP320	DP319	CONDUIT	72.4	0.3453	0.0150
C310	B310	DP305	CONDUIT	10.0	1.0001	0.0100
C315	B315	DP305	CONDUIT	10.0	1.0001	0.0100
C32	DP334	DP325	CONDUIT	2012.8	0.2000	0.0500
C320	B320	DP320	CONDUIT	10.0	1.0001	0.0100
C325	B325	DP325	CONDUIT	10.0	1.0001	0.0100
C33	DP305	DP304	CONDUIT	107.6	0.3532	0.0150
C33_1	DP210	DP205	CONDUIT	1253.0	0.9003	0.0100
C33_2	DP205	DP200	CONDUIT	1738.4	0.9039	0.0100
C330	B330	DP330	CONDUIT	10.0	1.0001	0.0100
C335	B335	DP335	CONDUIT	10.0	1.0001	0.0100
C340	B340	DP340	CONDUIT	10.0	1.0001	0.0100
C345	B345	DP345	CONDUIT	10.0	1.0001	0.0100
C350	B350	DP350	CONDUIT	10.0	1.0001	0.0100
C355	B355	DP350	CONDUIT	10.0	1.0001	0.0100
C36	DP215	DP210	CONDUIT	661.7	1.2399	0.0100
C360	B360	DP360	CONDUIT	10.0	1.0001	0.0100
C370	B370	DP345	CONDUIT	10.0	1.0001	0.0100
C375	B375	DP375	CONDUIT	10.0	1.0001	0.0100
C380	B380	DP380	CONDUIT	10.0	1.0001	0.0100
C4	B225	DP223	CONDUIT	215.0	0.3884	0.0150
C40	B235	DP240	CONDUIT	551.2	0.1907	0.0100
C41	DP345	DP340	CONDUIT	695.2	0.3645	0.0100
C42	DP905	DP900	CONDUIT	2124.0	1.9029	0.0100
C43	DP375	DP345	CONDUIT	1483.6	0.8776	0.0100
C45	B930	DP925	CONDUIT	10.0	1.0001	0.0500
C47	DP915	DP905	CONDUIT	936.4	0.8028	0.0100
C48	DP350	DP345	CONDUIT	2298.8	0.5169	0.0100
C5	DP245	DP219	CONDUIT	4190.0	0.7485	0.0150
C500	B500	DP500	CONDUIT	10.0	1.0001	0.0100
C52	DP380	DP375	CONDUIT	2912.3	0.4909	0.0100
C54	DP1105	DP1100	CONDUIT	2460.9	1.6582	0.0100
C55	DP925	DP915	CONDUIT	2403.2	1.8341	0.0100
C56	DP605	SU1	CONDUIT	1930.9	1.1087	0.0100
C58	DP805	DP800	CONDUIT	2017.8	1.0429	0.0100
C6	B220	DP240	CONDUIT	463.0	2.6495	0.0160
C60	DP360	DP350	CONDUIT	3128.7	0.8288	0.0100
C600	B600	DP600	CONDUIT	10.0	1.0001	0.0100
C602	B602	SU1	CONDUIT	10.0	1.0001	0.0100
C61	B610	DP605	CONDUIT	1099.8	2.0570	0.0100
C64	DP1005	DP1000	CONDUIT	1227.6	1.1423	0.0100
C65	B705	DP700	CONDUIT	3786.0	1.1173	0.0100
C68	B1010	DP1005	CONDUIT	996.4	1.7251	0.0100
C7	B230	DP228	CONDUIT	600.2	1.6514	0.0160
C700	B700	DP700	CONDUIT	10.0	1.0001	0.0100
C73	B405	DP400	CONDUIT	3301.1	0.8674	0.0100
C74_2	B385	DP380	CONDUIT	2902.1	0.6218	0.0100
C8	DP323	DP320	CONDUIT	1819.4	0.2000	0.0500
C80	B365	DP360	CONDUIT	747.2	0.4227	0.0100
C800	B800	DP800	CONDUIT	10.0	1.0001	0.0100
C805	B805	DP805	CONDUIT	10.0	1.0001	0.0100
C810	B810	DP805	CONDUIT	10.0	1.0001	0.0100
C83	B1110	DP1105	CONDUIT	1066.2	1.5301	0.0100
C88	DP240	DP219	CONDUIT	224.0	0.4353	0.0160
C89	DP219	DP216	CONDUIT	744.9	0.8309	0.0100
C9	DP319	DP305	CONDUIT	1316.5	0.2000	0.0500
C90	DP228	DP216	CONDUIT	448.2	1.3057	0.0100
C900	B900	DP900	CONDUIT	10.0	1.0001	0.0100
C905	B905	DP905	CONDUIT	10.0	1.0001	0.0100
C91	DP216	DP215	CONDUIT	935.4	1.2866	0.0100
C910	B910	DP905	CONDUIT	10.0	1.0001	0.0100
C915	B915	DP915	CONDUIT	10.0	1.0001	0.0100
C920	B920	DP915	CONDUIT	10.0	1.0001	0.0100
C93	DP223	DP210	CONDUIT	1626.4	1.8261	0.0100
C18	SU1	DP602	OUTLET			

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Cross Section Summary
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Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow
C1	TRAPEZOIDAL	6.00	480.00	4.32	110.00	1	8914.80
C10	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C10_1	RECT_CLOSED	6.00	60.00	1.88	10.00	2	599.15
C10_2	Adonea_A	7.00	861.00	6.69	151.00	1	4063.56
C1000	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C1005	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C11	TRAPEZOIDAL	1.00	35.00	0.87	40.00	1	255.61
C1100	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C111	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C12	RECT_CLOSED	8.00	112.00	2.55	14.00	3	1152.43
C12_2	CIRCULAR	5.00	19.63	1.25	5.00	1	183.08
C13	RECT_CLOSED	8.00	112.00	2.55	14.00	3	1139.54
C14	TRAPEZOIDAL	1.00	35.00	0.87	40.00	1	514.62
C15	C15	4.67	397.00	2.67	148.00	1	14505.15
C16	C16	4.43	449.04	2.98	150.00	1	20206.46
C17	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C19	CIRCULAR	4.00	12.57	1.00	4.00	1	94.36
C2	T-C2	2.09	153.72	1.44	105.00	1	3096.78
C20	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C200	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C205	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C21	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C22	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C225	HORIZ_ELLIPSE	1.58	3.30	0.49	2.50	1	14.61
C23	T-C23	4.57	286.45	2.92	94.50	1	8433.45
C230	CIRCULAR	3.50	9.62	0.88	3.50	1	106.49
C24	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C240	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C245	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C25	TRAPEZOIDAL	6.00	480.00	4.32	110.00	1	13321.73
C26	CIRCULAR	4.50	15.90	1.13	4.50	3	113.11
C27	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C28	CIRCULAR	4.50	15.90	1.13	4.50	2	168.83
C29	TRAPEZOIDAL	1.00	35.00	0.87	40.00	1	208.59
C3	Harmony_ChannelA	8.18	507.76	8.69	97.00	1	3494.71
C30	TRAPEZOIDAL	1.00	35.00	0.87	40.00	1	223.81
C305	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C31	TRAPEZOIDAL	6.00	480.00	4.32	110.00	1	7408.42
C310	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C315	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C32	Adonea_B	6.45	280.33	5.92	78.84	1	1219.28
C320	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C325	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C33	TRAPEZOIDAL	6.00	480.00	4.32	110.00	1	7492.22
C33_1	C33_1	2.80	157.92	1.66	94.27	1	3121.91

FIGURE B-5
Existing Conditions 100-Year SWMM Output

C33_2	C33_2	3.98	229.73	2.17	105.00	1	5439.94
C330	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C335	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C340	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C345	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C350	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C355	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C36	C36	7.06	463.83	2.91	158.00	1	15625.78
C360	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C370	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C375	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C380	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C4	TRAPEZOIDAL	3.00	135.00	2.23	60.00	1	1421.75
C40	C40	1.12	70.87	0.86	81.10	1	416.47
C41	C41	2.32	374.37	1.92	191.25	1	5188.10
C42	C42	2.09	66.86	1.74	35.00	1	1982.87
C43	C43	1.32	126.88	0.88	143.00	1	1623.81
C45	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C47	C47	2.71	201.25	1.48	135.00	1	3477.40
C48	C48	1.89	226.46	1.50	148.00	1	3176.14
C5	TRAPEZOIDAL	3.00	135.00	2.23	60.00	1	1973.81
C500	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C52	C52	1.98	115.31	1.75	62.00	1	1746.45
C54	C54	1.64	78.55	0.92	85.00	1	1420.19
C55	C55	1.29	84.09	0.73	115.00	1	1365.82
C56	C56	6.49	697.78	3.92	177.00	1	27130.62
C58	T-C58	2.49	199.45	1.26	157.00	1	3539.14
C6	CIRCULAR	3.50	9.62	0.88	3.50	1	133.06
C60	C60	0.94	84.62	0.60	139.00	1	818.65
C600	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C602	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C61	T-C61	4.19	425.39	2.67	157.00	1	17451.87
C64	C64	3.11	306.56	1.77	172.00	1	7120.20
C65	C65	1.43	101.60	0.92	109.19	1	1510.73
C68	C68	3.45	376.19	2.22	169.00	1	12476.52
C7	TRAPEZOIDAL	1.00	35.00	0.87	40.00	1	380.89
C700	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C73	T-C73	0.93	45.96	0.51	89.44	1	406.86
C74_2	C74_2	1.19	136.35	0.98	137.10	1	1577.08
C8	Adonea_A	7.00	861.00	6.69	151.00	1	4064.24
C80	C80	0.94	121.89	0.83	145.10	1	1039.49
C800	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C805	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C810	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C83	C83	3.65	305.10	2.32	131.00	1	9818.91
C88	RECT_CLOSED	5.00	60.00	1.76	12.00	2	536.88
C89	C89	6.26	318.03	3.46	90.00	1	9854.17
C9	Adonea_A	7.00	861.00	6.69	151.00	1	4064.09
C90	C90	4.75	201.01	2.28	87.00	1	5914.60
C900	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C905	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C91	C91	6.64	312.28	2.49	124.00	1	9666.73
C910	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C915	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C920	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C93	C93	2.05	73.81	1.09	67.00	1	1574.24

****
Transect Summary

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Transect Adonea_A
Area:

0.0155	0.0313	0.0472	0.0632	0.0795
0.0960	0.1126	0.1294	0.1464	0.1636
0.1809	0.1985	0.2162	0.2341	0.2522
0.2705	0.2889	0.3076	0.3264	0.3454
0.3645	0.3839	0.4035	0.4232	0.4431
0.4632	0.4835	0.5039	0.5245	0.5454
0.5664	0.5876	0.6089	0.6305	0.6522
0.6741	0.6962	0.7185	0.7409	0.7636
0.7864	0.8094	0.8326	0.8560	0.8795
0.9032	0.9272	0.9513	0.9755	1.0000

Hrad:

0.0208	0.0416	0.0623	0.0830	0.1036
0.1242	0.1448	0.1653	0.1858	0.2063
0.2267	0.2471	0.2674	0.2878	0.3080
0.3283	0.3485	0.3687	0.3888	0.4089
0.4290	0.4491	0.4691	0.4891	0.5091
0.5290	0.5489	0.5688	0.5886	0.6085
0.6283	0.6480	0.6678	0.6875	0.7072
0.7269	0.7466	0.7662	0.7858	0.8054
0.8249	0.8445	0.8640	0.8835	0.9029
0.9224	0.9418	0.9612	0.9806	1.0000

Width:

0.6366	0.6440	0.6514	0.6588	0.6662
0.6736	0.6811	0.6885	0.6959	0.7033
0.7107	0.7181	0.7256	0.7330	0.7404
0.7478	0.7552	0.7626	0.7701	0.7775
0.7849	0.7923	0.7997	0.8072	0.8146
0.8220	0.8294	0.8368	0.8442	0.8517
0.8591	0.8665	0.8739	0.8813	0.8887
0.8962	0.9036	0.9110	0.9184	0.9258
0.9332	0.9407	0.9481	0.9555	0.9629
0.9703	0.9777	0.9852	0.9926	1.0000

Transect Adonea_B
Area:

0.0085	0.0175	0.0270	0.0369	0.0473
0.0582	0.0696	0.0814	0.0937	0.1065
0.1198	0.1335	0.1477	0.1624	0.1776
0.1932	0.2093	0.2259	0.2429	0.2605
0.2785	0.2969	0.3159	0.3353	0.3552
0.3756	0.3964	0.4178	0.4396	0.4618
0.4846	0.5078	0.5315	0.5557	0.5803
0.6054	0.6308	0.6565	0.6827	0.7091
0.7360	0.7631	0.7907	0.8186	0.8468
0.8754	0.9044	0.9338	0.9653	1.0000

Hrad:

0.0360	0.0701	0.1025	0.1336	0.1635
0.1923	0.2202	0.2474	0.2738	0.2996
0.3248	0.3496	0.3738	0.3977	0.4212
0.4444	0.4672	0.4898	0.5121	0.5342
0.5561	0.5778	0.5993	0.6206	0.6417
0.6627	0.6836	0.7043	0.7250	0.7455
0.7659	0.7862	0.8064	0.8265	0.8469
0.8706	0.8941	0.9174	0.9406	0.9637
0.9865	1.0093	1.0319	1.0544	1.0767
1.0989	1.1210	1.1254	1.0551	1.0000

Width:

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
          0.2414    0.2545    0.2676    0.2806    0.2937
          0.3068    0.3199    0.3330    0.3461    0.3591
          0.3722    0.3853    0.3984    0.4115    0.4246
          0.4376    0.4507    0.4638    0.4769    0.4900
          0.5031    0.5161    0.5292    0.5423    0.5554
          0.5685    0.5816    0.5946    0.6077    0.6208
          0.6339    0.6470    0.6601    0.6731    0.6859
          0.6957    0.7055    0.7153    0.7251    0.7350
          0.7448    0.7546    0.7644    0.7742    0.7840
          0.7938    0.8036    0.8266    0.9133    1.0000

Transect C10
Area:
          0.0008    0.0043    0.0100    0.0166    0.0247
          0.0341    0.0449    0.0563    0.0686    0.0818
          0.0961    0.1113    0.1279    0.1460    0.1656
          0.1859    0.2064    0.2274    0.2485    0.2698
          0.2912    0.3131    0.3351    0.3573    0.3796
          0.4021    0.4249    0.4478    0.4708    0.4943
          0.5179    0.5417    0.5656    0.5895    0.6139
          0.6383    0.6629    0.6877    0.7127    0.7379
          0.7633    0.7890    0.8149    0.8409    0.8670
          0.8934    0.9199    0.9464    0.9731    1.0000
Hrad:
          0.0111    0.0245    0.0481    0.0629    0.0798
          0.0942    0.1123    0.1376    0.1521    0.1670
          0.1807    0.1980    0.2096    0.2185    0.2299
          0.2561    0.2784    0.3021    0.3281    0.3540
          0.3732    0.3964    0.4214    0.4463    0.4696
          0.4920    0.5139    0.5381    0.5621    0.5778
          0.6007    0.6249    0.6489    0.6728    0.6884
          0.7117    0.7339    0.7541    0.7741    0.7925
          0.8112    0.8314    0.8536    0.8757    0.8934
          0.9145    0.9369    0.9592    0.9798    1.0000
Width:
          0.0746    0.1972    0.2247    0.2762    0.3232
          0.3781    0.4183    0.4278    0.4714    0.5118
          0.5557    0.5875    0.6378    0.6984    0.7528
          0.7575    0.7725    0.7830    0.7866    0.7902
          0.8078    0.8165    0.8209    0.8252    0.8320
          0.8401    0.8488    0.8532    0.8575    0.8749
          0.8807    0.8842    0.8877    0.8912    0.9061
          0.9102    0.9155    0.9233    0.9312    0.9408
          0.9501    0.9573    0.9618    0.9663    0.9758
          0.9812    0.9849    0.9886    0.9942    1.0000

Transect C110
Area:
          0.0004    0.0016    0.0036    0.0064    0.0100
          0.0144    0.0196    0.0256    0.0324    0.0400
          0.0484    0.0576    0.0676    0.0784    0.0900
          0.1024    0.1156    0.1296    0.1444    0.1600
          0.1764    0.1936    0.2116    0.2304    0.2500
          0.2704    0.2916    0.3136    0.3364    0.3600
          0.3844    0.4096    0.4356    0.4624    0.4900
          0.5184    0.5476    0.5776    0.6084    0.6400
          0.6724    0.7056    0.7396    0.7744    0.8100
          0.8464    0.8836    0.9216    0.9604    1.0000
Hrad:
          0.0400    0.0799    0.1199    0.1598    0.1998
          0.2398    0.2797    0.3197    0.3596    0.3996
          0.4396    0.4795    0.5195    0.5594    0.5994
          0.6393    0.6793    0.7193    0.7592    0.7992
          0.8391    0.8791    0.9191    0.9590    0.9990
          1.0389    1.0789    1.1189    1.1588    1.1988
          1.2387    1.2787    1.3187    1.3586    1.3986
          1.4385    1.4785    1.5184    1.5584    1.5984
          1.6383    1.6783    1.7182    1.7582    1.7982
          1.8381    1.8781    1.9180    1.9580    1.0000
Width:
          0.0100    0.0200    0.0300    0.0400    0.0500
          0.0600    0.0700    0.0800    0.0900    0.1000
          0.1100    0.1200    0.1300    0.1400    0.1500
          0.1600    0.1700    0.1800    0.1900    0.2000
          0.2100    0.2200    0.2300    0.2400    0.2500
          0.2600    0.2700    0.2800    0.2900    0.3000
          0.3100    0.3200    0.3300    0.3400    0.3500
          0.3600    0.3700    0.3800    0.3900    0.4000
          0.4100    0.4200    0.4300    0.4400    0.4500
          0.4600    0.4700    0.4800    0.4900    1.0000

Transect C111
Area:
          0.0056    0.0136    0.0228    0.0328    0.0436
          0.0552    0.0674    0.0803    0.0937    0.1075
          0.1218    0.1363    0.1515    0.1669    0.1829
          0.1991    0.2161    0.2334    0.2510    0.2691
          0.2873    0.3063    0.3254    0.3450    0.3649
          0.3851    0.4059    0.4268    0.4482    0.4702
          0.4926    0.5155    0.5387    0.5624    0.5865
          0.6113    0.6364    0.6620    0.6880    0.7144
          0.7412    0.7683    0.7962    0.8243    0.8528
          0.8817    0.9107    0.9401    0.9699    1.0000
Hrad:
          0.0232    0.0462    0.0704    0.0932    0.1207
          0.1422    0.1625    0.1826    0.2098    0.2307
          0.2568    0.2761    0.3011    0.3157    0.3432
          0.3706    0.3800    0.4063    0.4235    0.4477
          0.4737    0.4860    0.5131    0.5241    0.5510
          0.5614    0.5882    0.6150    0.6205    0.6432
          0.6558    0.6785    0.6907    0.7125    0.7248
          0.7388    0.7625    0.7725    0.7966    0.8085
          0.8335    0.8465    0.8585    0.8818    0.8948
          0.9199    0.9434    0.9565    0.9791    1.0000
Width:
          0.2420    0.2948    0.3250    0.3533    0.3626
          0.3896    0.4163    0.4409    0.4480    0.4675
          0.4755    0.4951    0.5044    0.5299    0.5342
          0.5385    0.5697    0.5755    0.5937    0.6020
          0.6076    0.6312    0.6351    0.6590    0.6630
          0.6866    0.6905    0.6944    0.7228    0.7315
          0.7516    0.7601    0.7802    0.7897    0.8096
          0.8279    0.8350    0.8573    0.8640    0.8839
          0.8895    0.9109    0.9277    0.9350    0.9532
          0.9586    0.9654    0.9830    0.9906    1.0000

Transect C12
Area:
          0.0025    0.0075    0.0135    0.0216    0.0303
          0.0397    0.0506    0.0625    0.0747    0.0873
          0.1012    0.1162    0.1317    0.1475    0.1639
          0.1813    0.1992    0.2181    0.2373    0.2570
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
        0.2777    0.2985    0.3197    0.3419    0.3642
        0.3865    0.4089    0.4315    0.4542    0.4781
        0.5020    0.5261    0.5503    0.5745    0.5989
        0.6239    0.6496    0.6753    0.7012    0.7271
        0.7532    0.7794    0.8061    0.8335    0.8609
        0.8885    0.9162    0.9439    0.9718    1.0000
Hrad:
        0.0149    0.0404    0.0531    0.0732    0.0980
        0.1095    0.1259    0.1492    0.1741    0.1822
        0.2071    0.2171    0.2422    0.2670    0.2731
        0.2979    0.3058    0.3288    0.3535    0.3580
        0.3846    0.4112    0.4153    0.4420    0.4685
        0.4949    0.5212    0.5474    0.5546    0.5726
        0.5985    0.6244    0.6501    0.6757    0.6989
        0.6966    0.7223    0.7478    0.7732    0.7985
        0.8238    0.8433    0.8414    0.8667    0.8919
        0.9171    0.9421    0.9670    0.9905    1.0000
Width:
        0.1668    0.1877    0.2564    0.2984    0.3125
        0.3661    0.4061    0.4230    0.4334    0.4841
        0.4937    0.5406    0.5492    0.5578    0.6060
        0.6145    0.6578    0.6699    0.6779    0.7250
        0.7287    0.7324    0.7764    0.7798    0.7832
        0.7866    0.7900    0.7934    0.8241    0.8399
        0.8434    0.8470    0.8505    0.8541    0.8604
        0.8992    0.9027    0.9061    0.9095    0.9130
        0.9164    0.9260    0.9599    0.9632    0.9666
        0.9699    0.9732    0.9765    0.9812    1.0000
Transect C15
Area:
        0.0015    0.0048    0.0088    0.0138    0.0196
        0.0260    0.0332    0.0411    0.0497    0.0589
        0.0687    0.0792    0.0902    0.1020    0.1143
        0.1276    0.1416    0.1562    0.1716    0.1878
        0.2047    0.2224    0.2410    0.2601    0.2805
        0.3013    0.3231    0.3457    0.3691    0.3933
        0.4181    0.4437    0.4703    0.4978    0.5259
        0.5545    0.5835    0.6131    0.6430    0.6733
        0.7041    0.7352    0.7669    0.7990    0.8315
        0.8644    0.8978    0.9316    0.9656    1.0000
Hrad:
        0.0194    0.0453    0.0685    0.0869    0.1119
        0.1355    0.1536    0.1732    0.1933    0.2180
        0.2353    0.2560    0.2782    0.2941    0.3134
        0.3221    0.3437    0.3655    0.3745    0.3968
        0.4107    0.4282    0.4469    0.4606    0.4724
        0.4957    0.5057    0.5254    0.5372    0.5594
        0.5766    0.5917    0.6069    0.6218    0.6449
        0.6692    0.6972    0.7136    0.7451    0.7645
        0.7909    0.8148    0.8365    0.8585    0.8861
        0.9088    0.9281    0.9579    0.9833    1.0000
Width:
        0.0770    0.1064    0.1289    0.1589    0.1756
        0.1923    0.2167    0.2372    0.2572    0.2703
        0.2920    0.3094    0.3245    0.3469    0.3646
        0.3960    0.4120    0.4272    0.4581    0.4733
        0.4982    0.5194    0.5391    0.5647    0.5936
        0.6078    0.6389    0.6577    0.6870    0.7028
        0.7251    0.7499    0.7749    0.8004    0.8154
        0.8286    0.8369    0.8591    0.8629    0.8806
        0.8902    0.9023    0.9167    0.9306    0.9383
        0.9511    0.9674    0.9725    0.9819    1.0000
Transect C16
Area:
        0.0019    0.0059    0.0114    0.0180    0.0258
        0.0344    0.0440    0.0545    0.0660    0.0783
        0.0915    0.1054    0.1202    0.1356    0.1519
        0.1688    0.1864    0.2047    0.2237    0.2434
        0.2637    0.2847    0.3063    0.3282    0.3505
        0.3731    0.3959    0.4191    0.4425    0.4662
        0.4901    0.5144    0.5389    0.5638    0.5889
        0.6143    0.6400    0.6661    0.6923    0.7189
        0.7458    0.7729    0.8003    0.8280    0.8560
        0.8842    0.9127    0.9415    0.9706    1.0000
Hrad:
        0.0171    0.0363    0.0559    0.0731    0.0946
        0.1088    0.1297    0.1473    0.1637    0.1828
        0.1988    0.2203    0.2334    0.2541    0.2707
        0.2890    0.3064    0.3256    0.3408    0.3615
        0.3750    0.3963    0.4164    0.4376    0.4611
        0.4866    0.5101    0.5318    0.5555    0.5793
        0.6008    0.6242    0.6464    0.6663    0.6889
        0.7106    0.7330    0.7530    0.7755    0.7958
        0.8155    0.8380    0.8592    0.8799    0.9014
        0.9202    0.9419    0.9623    0.9829    1.0000
Width:
        0.1086    0.1638    0.2040    0.2462    0.2725
        0.3164    0.3398    0.3706    0.4034    0.4286
        0.4606    0.4786    0.5152    0.5342    0.5613
        0.5843    0.6087    0.6290    0.6568    0.6736
        0.7034    0.7187    0.7357    0.7502    0.7604
        0.7670    0.7763    0.7881    0.7968    0.8048
        0.8159    0.8243    0.8338    0.8462    0.8549
        0.8646    0.8733    0.8846    0.8929    0.9034
        0.9145    0.9223    0.9316    0.9411    0.9496
        0.9609    0.9691    0.9784    0.9875    1.0000
Transect C2
Area:
        0.0012    0.0048    0.0100    0.0161    0.0228
        0.0299    0.0378    0.0469    0.0571    0.0678
        0.0787    0.0899    0.1015    0.1143    0.1282
        0.1428    0.1578    0.1732    0.1891    0.2056
        0.2229    0.2408    0.2593    0.2782    0.2981
        0.3191    0.3406    0.3625    0.3847    0.4076
        0.4316    0.4563    0.4816    0.5075    0.5341
        0.5617    0.5897    0.6182    0.6474    0.6775
        0.7082    0.7392    0.7704    0.8019    0.8338
        0.8662    0.8992    0.9326    0.9661    1.0000
Hrad:
        0.0186    0.0349    0.0588    0.0864    0.1133
        0.1399    0.1512    0.1655    0.1879    0.2150
        0.2438    0.2720    0.2888    0.2899    0.3079
        0.3312    0.3571    0.3808    0.4021    0.4188
        0.4342    0.4539    0.4758    0.4955    0.4982
        0.5152    0.5397    0.5650    0.5868    0.5996
        0.6092    0.6275    0.6468    0.6671    0.6671
        0.6935    0.7176    0.7397    0.7493    0.7639
        0.7881    0.8163    0.8434    0.8687    0.8919
        0.9043    0.9293    0.9562    0.9836    1.0000
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
Width:
          0.0656    0.1379    0.1700    0.1869    0.2016
          0.2142    0.2508    0.2841    0.3047    0.3159
          0.3237    0.3315    0.3524    0.3953    0.4176
          0.4323    0.4430    0.4560    0.4714    0.4921
          0.5145    0.5318    0.5462    0.5629    0.5998
          0.6208    0.6326    0.6431    0.6571    0.6814
          0.7102    0.7289    0.7463    0.7625    0.8024
          0.8119    0.8237    0.8377    0.8660    0.8889
          0.9004    0.9072    0.9148    0.9243    0.9358
          0.9588    0.9683    0.9757    0.9824    1.0000

Transect C23
Area:
          0.0012    0.0061    0.0118    0.0193    0.0280
          0.0372    0.0477    0.0595    0.0717    0.0841
          0.0970    0.1119    0.1274    0.1433    0.1596
          0.1770    0.1954    0.2145    0.2339    0.2539
          0.2747    0.2960    0.3178    0.3398    0.3619
          0.3842    0.4075    0.4309    0.4545    0.4782
          0.5019    0.5258    0.5500    0.5747    0.5998
          0.6250    0.6503    0.6757    0.7012    0.7268
          0.7531    0.7798    0.8067    0.8337    0.8608
          0.8881    0.9154    0.9433    0.9715    1.0000
Hrad:
          0.0097    0.0328    0.0555    0.0658    0.0901
          0.1099    0.1180    0.1423    0.1668    0.1908
          0.2044    0.2084    0.2324    0.2561    0.2703
          0.2877    0.2948    0.3187    0.3419    0.3556
          0.3736    0.3921    0.4149    0.4411    0.4672
          0.4847    0.4977    0.5241    0.5504    0.5765
          0.6026    0.6285    0.6442    0.6572    0.6813
          0.7072    0.7330    0.7588    0.7844    0.8099
          0.8118    0.8307    0.8557    0.8806    0.9054
          0.9302    0.9548    0.9586    0.9793    1.0000
Width:
          0.1209    0.1871    0.2134    0.2944    0.3111
          0.3385    0.4048    0.4188    0.4300    0.4412
          0.4752    0.5374    0.5486    0.5598    0.5909
          0.6155    0.6633    0.6734    0.6846    0.7144
          0.7356    0.7552    0.7663    0.7705    0.7747
          0.7930    0.8189    0.8225    0.8260    0.8296
          0.8331    0.8367    0.8538    0.8746    0.8805
          0.8839    0.8873    0.8907    0.8941    0.8974
          0.9277    0.9388    0.9428    0.9468    0.9508
          0.9547    0.9587    0.9840    0.9920    1.0000

Transect C28
Area:
          0.0006    0.0036    0.0086    0.0152    0.0225
          0.0304    0.0392    0.0486    0.0586    0.0696
          0.0812    0.0936    0.1067    0.1202    0.1340
          0.1487    0.1641    0.1800    0.1965    0.2136
          0.2310    0.2492    0.2678    0.2869    0.3066
          0.3269    0.3479    0.3698    0.3924    0.4152
          0.4382    0.4618    0.4856    0.5096    0.5337
          0.5587    0.5843    0.6109    0.6392    0.6693
          0.6999    0.7313    0.7635    0.7961    0.8291
          0.8625    0.8961    0.9302    0.9647    1.0000
Hrad:
          0.0160    0.0311    0.0533    0.0773    0.1053
          0.1297    0.1521    0.1788    0.1975    0.2185
          0.2401    0.2629    0.2843    0.3128    0.3390
          0.3458    0.3721    0.3961    0.4099    0.4383
          0.4663    0.4798    0.5079    0.5244    0.5421
          0.5578    0.5668    0.5949    0.6104    0.6431
          0.6592    0.6875    0.7188    0.7507    0.7824
          0.7811    0.7947    0.8032    0.7677    0.7761
          0.7974    0.8195    0.8334    0.8606    0.8828
          0.9123    0.9392    0.9592    0.9853    1.0000
Width:
          0.0391    0.1157    0.1675    0.1969    0.2140
          0.2348    0.2584    0.2724    0.2975    0.3191
          0.3391    0.3568    0.3760    0.3847    0.3957
          0.4305    0.4415    0.4548    0.4797    0.4876
          0.4955    0.5195    0.5270    0.5468    0.5654
          0.5859    0.6136    0.6246    0.6424    0.6450
          0.6642    0.6711    0.6750    0.6782    0.6822
          0.7146    0.7346    0.7600    0.8324    0.8621
          0.8776    0.8923    0.9162    0.9250    0.9392
          0.9453    0.9540    0.9698    0.9863    1.0000

Transect C32
Area:
          0.0030    0.0085    0.0156    0.0236    0.0331
          0.0435    0.0545    0.0660    0.0786    0.0919
          0.1059    0.1202    0.1349    0.1506    0.1665
          0.1832    0.2005    0.2179    0.2355    0.2541
          0.2730    0.2921    0.3121    0.3325    0.3530
          0.3737    0.3952    0.4172    0.4393    0.4617
          0.4848    0.5084    0.5321    0.5565    0.5816
          0.6068    0.6321    0.6576    0.6832    0.7094
          0.7373    0.7654    0.7936    0.8220    0.8506
          0.8794    0.9093    0.9392    0.9693    1.0000
Hrad:
          0.0208    0.0423    0.0636    0.0845    0.1069
          0.1267    0.1543    0.1688    0.1954    0.2086
          0.2365    0.2640    0.2770    0.3010    0.3244
          0.3372    0.3648    0.3921    0.4068    0.4249
          0.4521    0.4684    0.4837    0.5109    0.5378
          0.5645    0.5670    0.5930    0.6196    0.6381
          0.6468    0.6735    0.7000    0.6977    0.7244
          0.7509    0.7772    0.8035    0.8253    0.8312
          0.8219    0.8481    0.8742    0.9001    0.9259
          0.9247    0.9472    0.9749    0.9895    1.0000
Width:
          0.1479    0.2050    0.2501    0.2854    0.3158
          0.3500    0.3600    0.3991    0.4101    0.4488
          0.4560    0.4633    0.4954    0.5085    0.5216
          0.5520    0.5578    0.5636    0.5870    0.6062
          0.6117    0.6316    0.6535    0.6587    0.6639
          0.6691    0.7046    0.7108    0.7160    0.7304
          0.7567    0.7615    0.7664    0.8044    0.8092
          0.8139    0.8187    0.8234    0.8326    0.8586
          0.9026    0.9076    0.9126    0.9176    0.9226
          0.9552    0.9630    0.9651    0.9802    1.0000

Transect C33
Area:
          0.0022    0.0064    0.0121    0.0186    0.0259
          0.0345    0.0437    0.0533    0.0639    0.0755
          0.0876    0.1000    0.1133    0.1275    0.1424
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

0.1578	0.1742	0.1912	0.2087	0.2275
0.2470	0.2670	0.2880	0.3096	0.3322
0.3560	0.3804	0.4058	0.4316	0.4577
0.4844	0.5114	0.5385	0.5656	0.5928
0.6199	0.6471	0.6742	0.7014	0.7285
0.7557	0.7828	0.8100	0.8371	0.8643
0.8914	0.9186	0.9457	0.9729	1.0000

Hrad:

0.0183	0.0355	0.0560	0.0782	0.0885
0.1094	0.1319	0.1526	0.1580	0.1796
0.2022	0.2242	0.2300	0.2477	0.2657
0.2804	0.2939	0.3138	0.3277	0.3321
0.3529	0.3682	0.3805	0.3981	0.3975
0.4165	0.4326	0.4454	0.4685	0.4826
0.5069	0.5310	0.5559	0.5828	0.6097
0.6364	0.6630	0.6895	0.7159	0.7422
0.7684	0.7945	0.8206	0.8465	0.8723
0.8980	0.9237	0.9492	0.9747	1.0000

Width:

0.1243	0.1888	0.2257	0.2470	0.3047
0.3284	0.3443	0.3628	0.4202	0.4371
0.4501	0.4632	0.5119	0.5345	0.5566
0.5842	0.6155	0.6325	0.6611	0.7112
0.7266	0.7527	0.7857	0.8074	0.8676
0.8876	0.9129	0.9453	0.9550	0.9823
0.9889	0.9955	1.0000	1.0000	1.0000
1.0000	1.0000	1.0000	1.0000	1.0000
1.0000	1.0000	1.0000	1.0000	1.0000
1.0000	1.0000	1.0000	1.0000	1.0000

Transect C33_1

Area:

0.0016	0.0051	0.0095	0.0148	0.0211
0.0280	0.0354	0.0436	0.0523	0.0616
0.0715	0.0822	0.0935	0.1053	0.1176
0.1311	0.1453	0.1601	0.1759	0.1922
0.2095	0.2275	0.2464	0.2665	0.2874
0.3091	0.3320	0.3557	0.3800	0.4047
0.4300	0.4557	0.4819	0.5087	0.5359
0.5636	0.5918	0.6205	0.6495	0.6791
0.7092	0.7397	0.7708	0.8025	0.8345
0.8669	0.8999	0.9332	0.9666	1.0000

Hrad:

0.0168	0.0432	0.0683	0.0831	0.1082
0.1306	0.1498	0.1738	0.1959	0.2160
0.2328	0.2509	0.2698	0.2942	0.3049
0.3152	0.3377	0.3498	0.3676	0.3863
0.3983	0.4149	0.4234	0.4381	0.4537
0.4647	0.4782	0.4952	0.5213	0.5432
0.5679	0.5879	0.6110	0.6320	0.6557
0.6781	0.6970	0.7225	0.7432	0.7647
0.7839	0.8058	0.8230	0.8465	0.8690
0.8885	0.9085	0.9391	0.9696	1.0000

Width:

0.0950	0.1193	0.1394	0.1786	0.1955
0.2148	0.2373	0.2518	0.2679	0.2861
0.3081	0.3286	0.3476	0.3591	0.3870
0.4172	0.4316	0.4591	0.4799	0.4992
0.5276	0.5502	0.5839	0.6102	0.6354
0.6674	0.6964	0.7207	0.7313	0.7474
0.7594	0.7774	0.7910	0.8072	0.8197
0.8333	0.8513	0.8609	0.8761	0.8901
0.9068	0.9202	0.9388	0.9501	0.9623
0.9778	0.9925	0.9950	0.9975	1.0000

Transect C33_2

Area:

0.0017	0.0049	0.0091	0.0137	0.0195
0.0257	0.0323	0.0399	0.0481	0.0566
0.0660	0.0757	0.0862	0.0975	0.1094
0.1219	0.1350	0.1490	0.1641	0.1797
0.1962	0.2133	0.2314	0.2503	0.2701
0.2906	0.3117	0.3335	0.3563	0.3799
0.4041	0.4291	0.4549	0.4817	0.5092
0.5375	0.5666	0.5966	0.6272	0.6586
0.6908	0.7233	0.7564	0.7898	0.8237
0.8581	0.8929	0.9282	0.9638	1.0000

Hrad:

0.0257	0.0465	0.0750	0.1028	0.1173
0.1461	0.1652	0.1805	0.2100	0.2244
0.2514	0.2787	0.2800	0.3087	0.3211
0.3486	0.3579	0.3727	0.3857	0.4102
0.4244	0.4381	0.4602	0.4656	0.4916
0.5059	0.5295	0.5447	0.5602	0.5770
0.5990	0.6151	0.6274	0.6442	0.6656
0.6810	0.6982	0.7160	0.7372	0.7497
0.7762	0.8025	0.8260	0.8555	0.8749
0.9041	0.9253	0.9520	0.9759	1.0000

Width:

0.0675	0.1060	0.1215	0.1338	0.1664
0.1763	0.1960	0.2212	0.2290	0.2523
0.2625	0.2715	0.3078	0.3157	0.3404
0.3494	0.3770	0.3995	0.4251	0.4379
0.4619	0.4866	0.5024	0.5374	0.5491
0.5739	0.5881	0.6118	0.6356	0.6580
0.6742	0.6972	0.7247	0.7475	0.7647
0.7889	0.8113	0.8329	0.8505	0.8783
0.8898	0.9012	0.9156	0.9231	0.9414
0.9491	0.9650	0.9750	0.9876	1.0000

Transect C36

Area:

0.0009	0.0034	0.0063	0.0095	0.0137
0.0183	0.0232	0.0284	0.0343	0.0406
0.0472	0.0544	0.0622	0.0703	0.0788
0.0878	0.0976	0.1077	0.1181	0.1291
0.1408	0.1530	0.1659	0.1797	0.1940
0.2094	0.2255	0.2427	0.2612	0.2809
0.3020	0.3247	0.3487	0.3743	0.4015
0.4304	0.4612	0.4941	0.5289	0.5657
0.6043	0.6443	0.6854	0.7276	0.7707
0.8148	0.8598	0.9056	0.9523	1.0000

Hrad:

0.0236	0.0605	0.0992	0.1246	0.1482
0.1858	0.2196	0.2479	0.2649	0.3006
0.3335	0.3437	0.3700	0.4040	0.4331
0.4387	0.4674	0.5018	0.5322	0.5306
0.5605	0.5842	0.5877	0.6091	0.6340
0.6312	0.6517	0.6499	0.6541	0.6574
0.6556	0.6687	0.6757	0.6823	0.6858
0.6902	0.6952	0.7017	0.7097	0.7243
0.7340	0.7644	0.7923	0.8219	0.8517

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
          0.8794    0.9101    0.9394    0.9698    1.0000
Width:
          0.0386    0.0563    0.0630    0.0761    0.0923
          0.0979    0.1047    0.1136    0.1285    0.1338
          0.1400    0.1567    0.1664    0.1722    0.1798
          0.1982    0.2067    0.2122    0.2192    0.2406
          0.2484    0.2590    0.2794    0.2920    0.3030
          0.3287    0.3430    0.3706    0.3965    0.4247
          0.4580    0.4830    0.5136    0.5463    0.5834
          0.6217    0.6617    0.7026    0.7440    0.7799
          0.8225    0.8421    0.8644    0.8847    0.9044
          0.9262    0.9444    0.9638    0.9819    1.0000

Transect C38
Area:
          0.0025    0.0062    0.0111    0.0169    0.0230
          0.0292    0.0364    0.0441    0.0526    0.0615
          0.0706    0.0797    0.0891    0.0985    0.1090
          0.1200    0.1318    0.1438    0.1559    0.1681
          0.1805    0.1930    0.2063    0.2201    0.2350
          0.2500    0.2652    0.2805    0.2964    0.3127
          0.3305    0.3494    0.3687    0.3882    0.4086
          0.4300    0.4527    0.4757    0.4998    0.5254
          0.5516    0.5807    0.6198    0.6658    0.7166
          0.7699    0.8247    0.8811    0.9395    1.0000
Hrad:
          0.0525    0.0869    0.1199    0.1772    0.2328
          0.2868    0.3015    0.3570    0.3707    0.4271
          0.4828    0.5378    0.5921    0.6458    0.6380
          0.6341    0.6895    0.7443    0.7987    0.8526
          0.9061    0.9591    0.9397    0.9255    0.9787
          1.0316    1.0841    1.1361    1.1858    1.2339
          1.1393    1.1868    1.2337    1.2801    1.3213
          1.2938    1.2357    1.2824    1.2663    1.2570
          1.3069    1.0686    1.0414    1.0771    0.8573
          0.8943    0.9316    0.9681    0.9845    1.0000
Width:
          0.0483    0.0715    0.0922    0.0955    0.0987
          0.1019    0.1209    0.1234    0.1419    0.1440
          0.1461    0.1482    0.1504    0.1525    0.1708
          0.1891    0.1911    0.1931    0.1951    0.1971
          0.1990    0.2010    0.2193    0.2376    0.2399
          0.2422    0.2444    0.2467    0.2586    0.2632
          0.3006    0.3058    0.3110    0.3161    0.3379
          0.3605    0.3659    0.3705    0.3943    0.4176
          0.4216    0.5431    0.6875    0.7829    0.8358
          0.8608    0.8853    0.9101    0.9542    1.0000

Transect C39
Area:
          0.0006    0.0015    0.0044    0.0105    0.0170
          0.0244    0.0322    0.0403    0.0498    0.0601
          0.0721    0.0842    0.0965    0.1089    0.1224
          0.1366    0.1515    0.1674    0.1836    0.1999
          0.2171    0.2345    0.2520    0.2701    0.2894
          0.3094    0.3301    0.3513    0.3726    0.3942
          0.4160    0.4391    0.4628    0.4874    0.5125
          0.5379    0.5636    0.5904    0.6177    0.6463
          0.6755    0.7058    0.7367    0.7685    0.8019
          0.8368    0.8730    0.9121    0.9547    1.0000
Hrad:
          0.0363    0.0647    0.0453    0.0759    0.1182
          0.1458    0.1879    0.2138    0.2353    0.2349
          0.2771    0.3188    0.3599    0.4005    0.4015
          0.4392    0.4399    0.4818    0.5233    0.5552
          0.5788    0.6196    0.6601    0.6506    0.6882
          0.7044    0.7244    0.7638    0.8029    0.8418
          0.8632    0.8624    0.8930    0.8993    0.9366
          0.9737    0.9768    1.0102    1.0308    1.0338
          1.0489    1.0603    1.0925    1.1077    1.0692
          1.0991    1.0788    1.0480    0.9950    1.0000
Width:
          0.0165    0.0235    0.1166    0.1385    0.1443
          0.1673    0.1715    0.1884    0.2117    0.2561
          0.2600    0.2640    0.2680    0.2720    0.3048
          0.3110    0.3443    0.3475    0.3507    0.3599
          0.3749    0.3782    0.3816    0.4150    0.4204
          0.4391    0.4555    0.4596    0.4638    0.4680
          0.4816    0.5089    0.5180    0.5417    0.5469
          0.5522    0.5767    0.5841    0.5988    0.6249
          0.6437    0.6653    0.6740    0.6935    0.7498
          0.7611    0.8090    0.8839    0.9594    1.0000

Transect C40
Area:
          0.0018    0.0065    0.0130    0.0213    0.0308
          0.0414    0.0536    0.0668    0.0813    0.0968
          0.1137    0.1316    0.1498    0.1689    0.1889
          0.2091    0.2294    0.2498    0.2702    0.2911
          0.3125    0.3340    0.3556    0.3772    0.3988
          0.4205    0.4432    0.4659    0.4887    0.5115
          0.5344    0.5573    0.5802    0.6038    0.6278
          0.6518    0.6758    0.6999    0.7241    0.7483
          0.7725    0.7972    0.8224    0.8476    0.8729
          0.8983    0.9236    0.9490    0.9745    1.0000
Hrad:
          0.0137    0.0304    0.0458    0.0604    0.0794
          0.0911    0.1064    0.1275    0.1409    0.1546
          0.1661    0.1883    0.2086    0.2236    0.2410
          0.2658    0.2906    0.3152    0.3397    0.3494
          0.3741    0.3988    0.4234    0.4479    0.4724
          0.4926    0.5009    0.5254    0.5498    0.5743
          0.5986    0.6229    0.6471    0.6459    0.6702
          0.6945    0.7187    0.7428    0.7669    0.7909
          0.8149    0.8132    0.8336    0.8575    0.8814
          0.9052    0.9290    0.9527    0.9764    1.0000
Width:
          0.1313    0.2173    0.2950    0.3558    0.3915
          0.4591    0.5085    0.5292    0.5826    0.6387
          0.6911    0.7056    0.7346    0.7625    0.7908
          0.7935    0.7962    0.7989    0.8016    0.8394
          0.8414    0.8435    0.8455    0.8475    0.8495
          0.8588    0.8899    0.8917    0.8934    0.8951
          0.8969    0.8986    0.9003    0.9386    0.9402
          0.9419    0.9435    0.9452    0.9468    0.9485
          0.9501    0.9825    0.9885    0.9902    0.9918
          0.9935    0.9951    0.9967    0.9984    1.0000

Transect C41
Area:
          0.0016    0.0052    0.0102    0.0166    0.0244
          0.0338    0.0449    0.0578    0.0728    0.0894
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
          0.1068    0.1248    0.1433    0.1624    0.1822
          0.2025    0.2235    0.2450    0.2670    0.2895
          0.3125    0.3360    0.3597    0.3834    0.4071
          0.4308    0.4545    0.4783    0.5020    0.5257
          0.5494    0.5731    0.5968    0.6205    0.6442
          0.6679    0.6916    0.7154    0.7391    0.7628
          0.7865    0.8102    0.8339    0.8577    0.8814
          0.9051    0.9288    0.9526    0.9763    1.0000
Hrad:
          0.0151    0.0295    0.0415    0.0566    0.0675
          0.0800    0.0907    0.1004    0.1084    0.1261
          0.1456    0.1651    0.1842    0.2005    0.2197
          0.2350    0.2525    0.2700    0.2883    0.3056
          0.3239    0.3412    0.3644    0.3883    0.4121
          0.4359    0.4596    0.4834    0.5071    0.5308
          0.5544    0.5781    0.6017    0.6253    0.6489
          0.6725    0.6960    0.7195    0.7430    0.7665
          0.7899    0.8134    0.8368    0.8601    0.8835
          0.9069    0.9302    0.9535    0.9767    1.0000
Width:
          0.1132    0.1781    0.2492    0.2977    0.3674
          0.4291    0.5028    0.5849    0.6814    0.7196
          0.7445    0.7666    0.7893    0.8217    0.8408
          0.8736    0.8969    0.9195    0.9383    0.9599
          0.9773    0.9974    0.9991    0.9992    0.9992
          0.9992    0.9993    0.9993    0.9993    0.9994
          0.9994    0.9994    0.9995    0.9995    0.9995
          0.9996    0.9996    0.9996    0.9996    0.9997
          0.9997    0.9997    0.9998    0.9998    0.9998
          0.9999    0.9999    0.9999    1.0000    1.0000

Transect C42
Area:
          0.0034    0.0104    0.0199    0.0312    0.0442
          0.0589    0.0751    0.0924    0.1107    0.1299
          0.1496    0.1697    0.1907    0.2122    0.2341
          0.2560    0.2779    0.2998    0.3216    0.3435
          0.3654    0.3873    0.4092    0.4311    0.4529
          0.4748    0.4967    0.5186    0.5405    0.5624
          0.5842    0.6061    0.6280    0.6499    0.6718
          0.6936    0.7155    0.7374    0.7593    0.7812
          0.8031    0.8249    0.8468    0.8687    0.8906
          0.9125    0.9344    0.9562    0.9781    1.0000
Hrad:
          0.0147    0.0292    0.0468    0.0605    0.0771
          0.0909    0.1062    0.1242    0.1404    0.1590
          0.1795    0.1970    0.2124    0.2309    0.2535
          0.2765    0.2995    0.3223    0.3450    0.3676
          0.3901    0.4125    0.4348    0.4570    0.4791
          0.5011    0.5230    0.5448    0.5665    0.5880
          0.6095    0.6309    0.6522    0.6734    0.6945
          0.7155    0.7364    0.7573    0.7780    0.7986
          0.8192    0.8396    0.8600    0.8802    0.9004
          0.9205    0.9405    0.9604    0.9803    1.0000
Width:
          0.2504    0.3910    0.4651    0.5625    0.6272
          0.7082    0.7730    0.8132    0.8607    0.8905
          0.9074    0.9370    0.9753    0.9975    1.0000
          1.0000    1.0000    1.0000    1.0000    1.0000
          1.0000    1.0000    1.0000    1.0000    1.0000
          1.0000    1.0000    1.0000    1.0000    1.0000
          1.0000    1.0000    1.0000    1.0000    1.0000
          1.0000    1.0000    1.0000    1.0000    1.0000

Transect C43
Area:
          0.0013    0.0050    0.0102    0.0165    0.0241
          0.0327    0.0422    0.0525    0.0638    0.0758
          0.0889    0.1029    0.1178    0.1336    0.1504
          0.1682    0.1866    0.2053    0.2244    0.2439
          0.2639    0.2844    0.3053    0.3265    0.3481
          0.3702    0.3926    0.4155    0.4386    0.4621
          0.4860    0.5101    0.5347    0.5596    0.5848
          0.6105    0.6363    0.6625    0.6890    0.7159
          0.7430    0.7705    0.7982    0.8262    0.8545
          0.8831    0.9118    0.9409    0.9704    1.0000
Hrad:
          0.0138    0.0337    0.0510    0.0713    0.0907
          0.1055    0.1299    0.1459    0.1640    0.1816
          0.1946    0.2143    0.2306    0.2439    0.2565
          0.2775    0.3007    0.3264    0.3453    0.3716
          0.3884    0.4113    0.4330    0.4563    0.4763
          0.4969    0.5142    0.5401    0.5654    0.5808
          0.6051    0.6243    0.6453    0.6674    0.6835
          0.7084    0.7314    0.7507    0.7709    0.7914
          0.8135    0.8342    0.8553    0.8745    0.8972
          0.9205    0.9410    0.9545    0.9808    1.0000
Width:
          0.0942    0.1502    0.2008    0.2326    0.2663
          0.3105    0.3257    0.3605    0.3899    0.4183
          0.4578    0.4812    0.5118    0.5491    0.5879
          0.6077    0.6218    0.6302    0.6510    0.6576
          0.6806    0.6927    0.7063    0.7167    0.7320
          0.7461    0.7647    0.7704    0.7767    0.7966
          0.8040    0.8179    0.8295    0.8393    0.8564
          0.8625    0.8707    0.8830    0.8944    0.9050
          0.9139    0.9240    0.9335    0.9451    0.9526
          0.9595    0.9692    0.9859    0.9894    1.0000

Transect C45
Area:
          0.0016    0.0058    0.0119    0.0193    0.0281
          0.0380    0.0488    0.0608    0.0740    0.0880
          0.1031    0.1190    0.1359    0.1537    0.1723
          0.1916    0.2119    0.2330    0.2543    0.2762
          0.2985    0.3214    0.3445    0.3679    0.3919
          0.4163    0.4406    0.4649    0.4892    0.5136
          0.5379    0.5622    0.5865    0.6108    0.6352
          0.6595    0.6838    0.7081    0.7325    0.7568
          0.7811    0.8054    0.8297    0.8541    0.8784
          0.9027    0.9270    0.9514    0.9757    1.0000
Hrad:
          0.0121    0.0281    0.0423    0.0581    0.0731
          0.0907    0.1048    0.1174    0.1347    0.1483
          0.1625    0.1770    0.1938    0.2068    0.2251
          0.2401    0.2504    0.2709    0.2922    0.3070
          0.3262    0.3457    0.3641    0.3826    0.3969
          0.4213    0.4457    0.4701    0.4944    0.5187
          0.5430    0.5673    0.5915    0.6158    0.6400
          0.6641    0.6883    0.7124    0.7365    0.7606
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
          0.7846    0.8087    0.8327    0.8566    0.8806
          0.9045    0.9284    0.9523    0.9762    1.0000
Width:
          0.1310    0.2092    0.2846    0.3368    0.3895
          0.4245    0.4724    0.5256    0.5570    0.6018
          0.6438    0.6820    0.7116    0.7539    0.7767
          0.8095    0.8584    0.8724    0.8825    0.9122
          0.9277    0.9420    0.9586    0.9741    1.0000
          1.0000    1.0000    1.0000    1.0000    1.0000
          1.0000    1.0000    1.0000    1.0000    1.0000
          1.0000    1.0000    1.0000    1.0000    1.0000
          1.0000    1.0000    1.0000    1.0000    1.0000
          1.0000    1.0000    1.0000    1.0000    1.0000

Transect C47
Area:
          0.0022    0.0064    0.0121    0.0188    0.0263
          0.0344    0.0433    0.0527    0.0626    0.0731
          0.0842    0.0961    0.1085    0.1212    0.1346
          0.1485    0.1629    0.1778    0.1932    0.2093
          0.2257    0.2427    0.2604    0.2787    0.2976
          0.3172    0.3373    0.3581    0.3797    0.4019
          0.4248    0.4484    0.4727    0.4979    0.5237
          0.5502    0.5777    0.6058    0.6349    0.6647
          0.6953    0.7268    0.7590    0.7918    0.8251
          0.8589    0.8933    0.9283    0.9638    1.0000
Hrad:
          0.0227    0.0457    0.0722    0.0958    0.1228
          0.1477    0.1731    0.1989    0.2250    0.2487
          0.2657    0.2880    0.3176    0.3396    0.3604
          0.3848    0.4033    0.4283    0.4490    0.4681
          0.4951    0.5128    0.5273    0.5476    0.5622
          0.5834    0.6038    0.6180    0.6319    0.6540
          0.6638    0.6856    0.6967    0.7147    0.7306
          0.7452    0.7589    0.7766    0.7868    0.8001
          0.8198    0.8300    0.8501    0.8764    0.8966
          0.9141    0.9398    0.9585    0.9753    1.0000
Width:
          0.0957    0.1404    0.1685    0.1971    0.2149
          0.2341    0.2511    0.2660    0.2794    0.2951
          0.3182    0.3350    0.3427    0.3582    0.3746
          0.3871    0.4051    0.4165    0.4317    0.4485
          0.4574    0.4747    0.4953    0.5105    0.5310
          0.5454    0.5604    0.5813    0.6028    0.6164
          0.6419    0.6561    0.6807    0.6988    0.7190
          0.7407    0.7636    0.7824    0.8095    0.8334
          0.8508    0.8784    0.8953    0.9055    0.9219
          0.9409    0.9516    0.9691    0.9886    1.0000

Transect C48
Area:
          0.0006    0.0032    0.0082    0.0150    0.0235
          0.0333    0.0443    0.0565    0.0696    0.0834
          0.0981    0.1137    0.1302    0.1474    0.1653
          0.1839    0.2032    0.2233    0.2438    0.2650
          0.2869    0.3095    0.3327    0.3567    0.3811
          0.4058    0.4306    0.4554    0.4801    0.5049
          0.5296    0.5544    0.5791    0.6039    0.6287
          0.6534    0.6782    0.7029    0.7277    0.7524
          0.7772    0.8019    0.8267    0.8515    0.8762
          0.9010    0.9257    0.9505    0.9752    1.0000
Hrad:
          0.0120    0.0202    0.0345    0.0490    0.0643
          0.0802    0.0956    0.1103    0.1309    0.1479
          0.1627    0.1780    0.1943    0.2092    0.2282
          0.2426    0.2582    0.2767    0.2915    0.3091
          0.3232    0.3403    0.3538    0.3677    0.3884
          0.4108    0.4357    0.4605    0.4853    0.5100
          0.5348    0.5595    0.5842    0.6088    0.6335
          0.6581    0.6827    0.7072    0.7317    0.7563
          0.7807    0.8052    0.8296    0.8541    0.8784
          0.9028    0.9271    0.9514    0.9757    1.0000
Width:
          0.0543    0.1625    0.2403    0.3105    0.3706
          0.4208    0.4700    0.5190    0.5390    0.5717
          0.6112    0.6475    0.6788    0.7137    0.7339
          0.7681    0.7973    0.8173    0.8473    0.8688
          0.8992    0.9213    0.9528    0.9827    0.9937
          1.0000    1.0000    1.0000    1.0000    1.0000
          1.0000    1.0000    1.0000    1.0000    1.0000
          1.0000    1.0000    1.0000    1.0000    1.0000
          1.0000    1.0000    1.0000    1.0000    1.0000
          1.0000    1.0000    1.0000    1.0000    1.0000

Transect C5
Area:
          0.0050    0.0122    0.0196    0.0274    0.0354
          0.0437    0.0522    0.0611    0.0702    0.0796
          0.0892    0.0992    0.1094    0.1228    0.1402
          0.1578    0.1756    0.1935    0.2117    0.2301
          0.2487    0.2675    0.2864    0.3056    0.3250
          0.3446    0.3644    0.3844    0.4045    0.4249
          0.4456    0.4717    0.4995    0.5275    0.5556
          0.5840    0.6125    0.6412    0.6701    0.6992
          0.7284    0.7578    0.7875    0.8173    0.8473
          0.8774    0.9078    0.9384    0.9691    1.0000
Hrad:
          0.0218    0.0515    0.0801    0.1078    0.1346
          0.1608    0.1862    0.2111    0.2354    0.2592
          0.2825    0.3055    0.3249    0.2205    0.2488
          0.2768    0.3045    0.3320    0.3591    0.3861
          0.4128    0.4392    0.4655    0.4915    0.5173
          0.5428    0.5682    0.5934    0.6184    0.6432
          0.6447    0.5283    0.5557    0.5829    0.6100
          0.6370    0.6638    0.6905    0.7170    0.7434
          0.7696    0.7957    0.8217    0.8475    0.8732
          0.8988    0.9243    0.9497    0.9749    1.0000
Width:
          0.2277    0.2365    0.2453    0.2541    0.2630
          0.2718    0.2806    0.2894    0.2982    0.3071
          0.3159    0.3247    0.3367    0.5572    0.5637
          0.5702    0.5766    0.5831    0.5896    0.5960
          0.6025    0.6090    0.6155    0.6219    0.6284
          0.6349    0.6413    0.6478    0.6543    0.6607
          0.6911    0.8931    0.8990    0.9049    0.9109
          0.9168    0.9228    0.9287    0.9346    0.9406
          0.9465    0.9525    0.9584    0.9644    0.9703
          0.9762    0.9822    0.9881    0.9941    1.0000

Transect C52
Area:
          0.0034    0.0110    0.0213    0.0344    0.0501
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
          0.0671    0.0856    0.1055    0.1266    0.1479
          0.1692    0.1905    0.2118    0.2331    0.2544
          0.2757    0.2970    0.3183    0.3396    0.3609
          0.3822    0.4035    0.4248    0.4461    0.4674
          0.4887    0.5100    0.5314    0.5527    0.5740
          0.5953    0.6166    0.6379    0.6592    0.6805
          0.7018    0.7231    0.7444    0.7657    0.7870
          0.8083    0.8296    0.8509    0.8722    0.8935
          0.9148    0.9361    0.9574    0.9787    1.0000
Hrad:
          0.0122    0.0284    0.0399    0.0536    0.0689
          0.0854    0.0995    0.1153    0.1332    0.1554
          0.1776    0.1997    0.2218    0.2437    0.2657
          0.2876    0.3094    0.3312    0.3529    0.3745
          0.3961    0.4177    0.4392    0.4606    0.4820
          0.5034    0.5247    0.5459    0.5671    0.5882
          0.6093    0.6303    0.6513    0.6722    0.6931
          0.7139    0.7346    0.7553    0.7760    0.7966
          0.8172    0.8377    0.8582    0.8786    0.8989
          0.9192    0.9395    0.9597    0.9799    1.0000
Width:
          0.2906    0.4080    0.5628    0.6788    0.7672
          0.8281    0.9062    0.9637    1.0000    1.0000
          1.0000    1.0000    1.0000    1.0000    1.0000
          1.0000    1.0000    1.0000    1.0000    1.0000
          1.0000    1.0000    1.0000    1.0000    1.0000
          1.0000    1.0000    1.0000    1.0000    1.0000
          1.0000    1.0000    1.0000    1.0000    1.0000
          1.0000    1.0000    1.0000    1.0000    1.0000
          1.0000    1.0000    1.0000    1.0000    1.0000

Transect C54
Area:
          0.0023    0.0066    0.0123    0.0190    0.0261
          0.0345    0.0436    0.0533    0.0636    0.0745
          0.0860    0.0981    0.1110    0.1244    0.1384
          0.1528    0.1679    0.1837    0.1999    0.2165
          0.2337    0.2514    0.2698    0.2886    0.3079
          0.3280    0.3487    0.3700    0.3917    0.4138
          0.4367    0.4601    0.4841    0.5090    0.5344
          0.5604    0.5871    0.6147    0.6428    0.6715
          0.7011    0.7313    0.7623    0.7943    0.8270
          0.8604    0.8948    0.9296    0.9647    1.0000
Hrad:
          0.0221    0.0450    0.0700    0.0984    0.1217
          0.1403    0.1665    0.1901    0.2122    0.2350
          0.2611    0.2770    0.2996    0.3228    0.3467
          0.3712    0.3824    0.4088    0.4330    0.4580
          0.4758    0.4958    0.5152    0.5392    0.5588
          0.5697    0.5889    0.6132    0.6382    0.6548
          0.6719    0.6905    0.7050    0.7170    0.7412
          0.7605    0.7631    0.7864    0.8072    0.8211
          0.8323    0.8529    0.8602    0.8729    0.8935
          0.9019    0.9168    0.9464    0.9752    1.0000
Width:
          0.1024    0.1473    0.1766    0.1930    0.2153
          0.2466    0.2623    0.2806    0.3002    0.3175
          0.3300    0.3546    0.3709    0.3860    0.3998
          0.4123    0.4396    0.4499    0.4622    0.4733
          0.4918    0.5077    0.5243    0.5359    0.5516
          0.5764    0.5930    0.6042    0.6144    0.6327
          0.6506    0.6671    0.6875    0.7108    0.7219
          0.7377    0.7703    0.7826    0.7973    0.8187
          0.8434    0.8585    0.8873    0.9112    0.9267
          0.9552    0.9771    0.9830    0.9896    1.0000

Transect C55
Area:
          0.0006    0.0032    0.0073    0.0122    0.0186
          0.0254    0.0329    0.0411    0.0500    0.0597
          0.0702    0.0812    0.0928    0.1050    0.1180
          0.1316    0.1458    0.1608    0.1764    0.1929
          0.2101    0.2280    0.2465    0.2658    0.2858
          0.3068    0.3287    0.3515    0.3748    0.3990
          0.4240    0.4498    0.4760    0.5029    0.5302
          0.5579    0.5860    0.6148    0.6440    0.6736
          0.7038    0.7347    0.7659    0.7979    0.8301
          0.8629    0.8964    0.9305    0.9650    1.0000
Hrad:
          0.0164    0.0346    0.0563    0.0795    0.0996
          0.1261    0.1505    0.1709    0.1898    0.2081
          0.2333    0.2531    0.2774    0.2923    0.3142
          0.3375    0.3528    0.3746    0.3871    0.4069
          0.4260    0.4432    0.4620    0.4795    0.4994
          0.5071    0.5218    0.5407    0.5613    0.5772
          0.5885    0.6135    0.6373    0.6569    0.6834
          0.7093    0.7307    0.7495    0.7773    0.7959
          0.8149    0.8369    0.8573    0.8788    0.9032
          0.9252    0.9339    0.9599    0.9808    1.0000
Width:
          0.0351    0.0916    0.1303    0.1544    0.1870
          0.2026    0.2195    0.2415    0.2646    0.2882
          0.3021    0.3220    0.3360    0.3607    0.3773
          0.3916    0.4152    0.4310    0.4576    0.4760
          0.4951    0.5164    0.5358    0.5567    0.5748
          0.6075    0.6327    0.6528    0.6707    0.6941
          0.7235    0.7361    0.7498    0.7681    0.7782
          0.7887    0.8041    0.8222    0.8302    0.8479
          0.8652    0.8792    0.8946    0.9088    0.9199
          0.9333    0.9604    0.9697    0.9841    1.0000

Transect C56
Area:
          0.0016    0.0048    0.0090    0.0140    0.0198
          0.0263    0.0337    0.0418    0.0508    0.0605
          0.0710    0.0823    0.0944    0.1073    0.1208
          0.1352    0.1501    0.1659    0.1823    0.1995
          0.2174    0.2360    0.2553    0.2754    0.2961
          0.3176    0.3398    0.3627    0.3863    0.4105
          0.4355    0.4611    0.4874    0.5143    0.5418
          0.5700    0.5986    0.6276    0.6569    0.6866
          0.7165    0.7467    0.7773    0.8081    0.8393
          0.8708    0.9026    0.9347    0.9672    1.0000
Hrad:
          0.0206    0.0423    0.0659    0.0848    0.1047
          0.1256    0.1437    0.1613    0.1781    0.1979
          0.2156    0.2304    0.2497    0.2675    0.2847
          0.3046    0.3214    0.3402    0.3561    0.3739
          0.3935    0.4075    0.4277    0.4447    0.4607
          0.4793    0.4960    0.5143    0.5314    0.5488
          0.5670    0.5855    0.6031    0.6210    0.6414
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
          0.6584    0.6829    0.7093    0.7329    0.7594
          0.7838    0.8090    0.8327    0.8581    0.8811
          0.9058    0.9286    0.9510    0.9745    1.0000
Width:
          0.0802    0.1138    0.1362    0.1650    0.1891
          0.2099    0.2346    0.2596    0.2854    0.3060
          0.3296    0.3574    0.3783    0.4012    0.4247
          0.4440    0.4674    0.4878    0.5123    0.5338
          0.5527    0.5793    0.5973    0.6194    0.6430
          0.6629    0.6853    0.7053    0.7271    0.7482
          0.7682    0.7876    0.8083    0.8283    0.8448
          0.8658    0.8767    0.8849    0.8964    0.9042
          0.9142    0.9230    0.9335    0.9418    0.9526
          0.9613    0.9720    0.9829    0.9925    1.0000

Transect C58
Area:
          0.0013    0.0046    0.0089    0.0139    0.0196
          0.0263    0.0334    0.0413    0.0498    0.0589
          0.0686    0.0788    0.0895    0.1010    0.1129
          0.1255    0.1386    0.1524    0.1670    0.1821
          0.1979    0.2144    0.2319    0.2501    0.2693
          0.2893    0.3102    0.3322    0.3554    0.3797
          0.4049    0.4310    0.4575    0.4846    0.5122
          0.5405    0.5694    0.5988    0.6288    0.6595
          0.6908    0.7229    0.7555    0.7887    0.8225
          0.8569    0.8919    0.9274    0.9634    1.0000
Hrad:
          0.0193    0.0455    0.0699    0.0979    0.1118
          0.1413    0.1671    0.1847    0.2093    0.2316
          0.2550    0.2769    0.2984    0.3194    0.3418
          0.3570    0.3809    0.3940    0.4150    0.4377
          0.4513    0.4679    0.4806    0.4921    0.5068
          0.5213    0.5359    0.5427    0.5540    0.5639
          0.5829    0.6038    0.6270    0.6549    0.6739
          0.6958    0.7228    0.7409    0.7595    0.7898
          0.8068    0.8244    0.8426    0.8690    0.8918
          0.9100    0.9337    0.9576    0.9771    1.0000
Width:
          0.0679    0.1007    0.1276    0.1420    0.1759
          0.1864    0.2002    0.2236    0.2382    0.2546
          0.2690    0.2847    0.3003    0.3163    0.3304
          0.3517    0.3642    0.3870    0.4026    0.4162
          0.4386    0.4586    0.4828    0.5085    0.5317
          0.5553    0.5791    0.6125    0.6420    0.6738
          0.6951    0.7142    0.7299    0.7401    0.7601
          0.7766    0.7875    0.8080    0.8278    0.8348
          0.8561    0.8767    0.8965    0.9075    0.9223
          0.9416    0.9551    0.9684    0.9860    1.0000

Transect C6
Area:
          0.0005    0.0025    0.0080    0.0153    0.0239
          0.0346    0.0467    0.0595    0.0734    0.0888
          0.1050    0.1216    0.1394    0.1582    0.1773
          0.1964    0.2156    0.2349    0.2546    0.2752
          0.2960    0.3171    0.3383    0.3597    0.3812
          0.4031    0.4256    0.4483    0.4710    0.4939
          0.5169    0.5406    0.5647    0.5889    0.6133
          0.6378    0.6624    0.6870    0.7118    0.7368
          0.7624    0.7882    0.8143    0.8405    0.8668
          0.8932    0.9197    0.9463    0.9730    1.0000
Hrad:
          0.0137    0.0171    0.0310    0.0554    0.0678
          0.0848    0.1029    0.1196    0.1405    0.1513
          0.1747    0.1977    0.2179    0.2280    0.2541
          0.2799    0.3057    0.3313    0.3487    0.3621
          0.3863    0.4103    0.4340    0.4574    0.4807
          0.4905    0.5151    0.5396    0.5640    0.5883
          0.6062    0.6185    0.6387    0.6614    0.6859
          0.7102    0.7345    0.7586    0.7827    0.7961
          0.8104    0.8272    0.8501    0.8744    0.8986
          0.9227    0.9468    0.9707    0.9924    1.0000
Width:
          0.0342    0.1515    0.2587    0.2769    0.3532
          0.4240    0.4541    0.4975    0.5231    0.5874
          0.6017    0.6159    0.6759    0.6946    0.6983
          0.7020    0.7058    0.7095    0.7306    0.7605
          0.7669    0.7733    0.7799    0.7867    0.7936
          0.8223    0.8267    0.8311    0.8355    0.8399
          0.8530    0.8745    0.8845    0.8907    0.8945
          0.8983    0.9021    0.9059    0.9097    0.9258
          0.9410    0.9531    0.9581    0.9614    0.9648
          0.9681    0.9715    0.9748    0.9804    1.0000

Transect C60
Area:
          0.0016    0.0059    0.0117    0.0188    0.0266
          0.0356    0.0452    0.0558    0.0672    0.0793
          0.0922    0.1056    0.1198    0.1345    0.1499
          0.1660    0.1827    0.2000    0.2180    0.2366
          0.2556    0.2753    0.2956    0.3163    0.3378
          0.3597    0.3821    0.4053    0.4289    0.4530
          0.4776    0.5025    0.5276    0.5529    0.5786
          0.6045    0.6306    0.6570    0.6837    0.7107
          0.7381    0.7656    0.7937    0.8220    0.8507
          0.8797    0.9092    0.9391    0.9693    1.0000
Hrad:
          0.0153    0.0345    0.0541    0.0764    0.0976
          0.1183    0.1397    0.1574    0.1761    0.1972
          0.2173    0.2363    0.2582    0.2761    0.2953
          0.3120    0.3339    0.3515    0.3687    0.3890
          0.4102    0.4270    0.4465    0.4637    0.4824
          0.5030    0.5197    0.5374    0.5581    0.5769
          0.5965    0.6228    0.6485    0.6722    0.6935
          0.7205    0.7443    0.7657    0.7878    0.8087
          0.8329    0.8453    0.8720    0.8952    0.9091
          0.9318    0.9464    0.9661    0.9829    1.0000
Width:
          0.1058    0.1723    0.2168    0.2460    0.2736
          0.3016    0.3247    0.3551    0.3826    0.4032
          0.4252    0.4481    0.4650    0.4884    0.5088
          0.5333    0.5486    0.5705    0.5927    0.6098
          0.6248    0.6463    0.6636    0.6840    0.7020
          0.7170    0.7372    0.7561    0.7705    0.7872
          0.8027    0.8087    0.8154    0.8243    0.8359
          0.8404    0.8486    0.8592    0.8691    0.8799
          0.8870    0.9066    0.9109    0.9188    0.9363
          0.9445    0.9610    0.9722    0.9863    1.0000

Transect C61
Area:
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
        0.0023    0.0081    0.0151    0.0233    0.0324
        0.0425    0.0534    0.0650    0.0774    0.0905
        0.1044    0.1189    0.1342    0.1500    0.1666
        0.1836    0.2011    0.2192    0.2376    0.2566
        0.2761    0.2959    0.3160    0.3367    0.3577
        0.3792    0.4010    0.4233    0.4459    0.4688
        0.4920    0.5157    0.5397    0.5639    0.5886
        0.6136    0.6390    0.6647    0.6907    0.7172
        0.7440    0.7710    0.7983    0.8262    0.8543
        0.8827    0.9115    0.9407    0.9702    1.0000
Hrad:
        0.0141    0.0400    0.0623    0.0812    0.1019
        0.1197    0.1442    0.1626    0.1804    0.2032
        0.2180    0.2419    0.2565    0.2813    0.2952
        0.3205    0.3340    0.3583    0.3810    0.3957
        0.4181    0.4420    0.4582    0.4815    0.5000
        0.5200    0.5402    0.5617    0.5831    0.6044
        0.6255    0.6444    0.6671    0.6866    0.7072
        0.7244    0.7444    0.7667    0.7881    0.8014
        0.8249    0.8472    0.8683    0.8804    0.9017
        0.9241    0.9361    0.9561    0.9778    1.0000
Width:
        0.1679    0.2044    0.2448    0.2898    0.3214
        0.3576    0.3725    0.4018    0.4309    0.4472
        0.4805    0.4927    0.5243    0.5338    0.5648
        0.5727    0.6018    0.6110    0.6224    0.6470
        0.6584    0.6669    0.6869    0.6959    0.7117
        0.7252    0.7387    0.7500    0.7614    0.7725
        0.7836    0.7974    0.8062    0.8188    0.8299
        0.8448    0.8565    0.8652    0.8748    0.8934
        0.9006    0.9088    0.9183    0.9376    0.9468
        0.9546    0.9733    0.9837    0.9922    1.0000

Transect C62
Area:
        0.0022    0.0060    0.0112    0.0204    0.0330
        0.0466    0.0606    0.0753    0.0904    0.1061
        0.1221    0.1384    0.1555    0.1734    0.1921
        0.2114    0.2309    0.2505    0.2702    0.2901
        0.3101    0.3302    0.3505    0.3709    0.3914
        0.4120    0.4328    0.4537    0.4760    0.4992
        0.5227    0.5467    0.5710    0.5953    0.6198
        0.6443    0.6690    0.6938    0.7186    0.7436
        0.7686    0.7938    0.8190    0.8444    0.8699
        0.8954    0.9211    0.9468    0.9730    1.0000
Hrad:
        0.0203    0.0368    0.0490    0.0487    0.0690
        0.0932    0.1166    0.1393    0.1613    0.1849
        0.2095    0.2285    0.2451    0.2618    0.2784
        0.3000    0.3255    0.3508    0.3759    0.4009
        0.4258    0.4505    0.4750    0.4994    0.5237
        0.5478    0.5718    0.5957    0.5714    0.5883
        0.6051    0.6218    0.6464    0.6710    0.6955
        0.7200    0.7443    0.7686    0.7927    0.8168
        0.8407    0.8646    0.8884    0.9121    0.9357
        0.9592    0.9826    1.0060    1.0038    1.0000
Width:
        0.1105    0.1640    0.2309    0.4210    0.4824
        0.5028    0.5232    0.5435    0.5639    0.5770
        0.5858    0.6091    0.6380    0.6660    0.6936
        0.7084    0.7130    0.7177    0.7223    0.7269
        0.7315    0.7361    0.7407    0.7453    0.7499
        0.7545    0.7591    0.7637    0.8357    0.8511
        0.8666    0.8820    0.8859    0.8896    0.8933
        0.8969    0.9006    0.9042    0.9079    0.9115
        0.9152    0.9189    0.9225    0.9262    0.9298
        0.9335    0.9372    0.9408    0.9691    1.0000

Transect C64
Area:
        0.0017    0.0051    0.0095    0.0149    0.0209
        0.0277    0.0352    0.0432    0.0520    0.0615
        0.0715    0.0824    0.0938    0.1061    0.1190
        0.1326    0.1470    0.1620    0.1777    0.1942
        0.2114    0.2292    0.2478    0.2671    0.2870
        0.3077    0.3290    0.3511    0.3739    0.3975
        0.4217    0.4467    0.4723    0.4986    0.5257
        0.5534    0.5817    0.6108    0.6404    0.6707
        0.7018    0.7334    0.7654    0.7978    0.8305
        0.8636    0.8971    0.9309    0.9653    1.0000
Hrad:
        0.0209    0.0434    0.0680    0.0925    0.1123
        0.1386    0.1564    0.1807    0.1981    0.2199
        0.2399    0.2579    0.2754    0.2948    0.3144
        0.3313    0.3497    0.3692    0.3846    0.4060
        0.4209    0.4401    0.4573    0.4785    0.4919
        0.5119    0.5310    0.5467    0.5654    0.5826
        0.6005    0.6182    0.6356    0.6561    0.6714
        0.6913    0.7100    0.7270    0.7490    0.7660
        0.7847    0.8064    0.8312    0.8563    0.8819
        0.9052    0.9312    0.9519    0.9770    1.0000
Width:
        0.0825    0.1180    0.1407    0.1616    0.1871
        0.2004    0.2255    0.2401    0.2633    0.2804
        0.2989    0.3204    0.3418    0.3609    0.3798
        0.4014    0.4215    0.4400    0.4636    0.4798
        0.5037    0.5224    0.5436    0.5598    0.5852
        0.6029    0.6215    0.6443    0.6634    0.6843
        0.7044    0.7247    0.7454    0.7623    0.7854
        0.8029    0.8218    0.8427    0.8577    0.8782
        0.8970    0.9121    0.9231    0.9336    0.9433
        0.9553    0.9643    0.9787    0.9883    1.0000

Transect C65
Area:
        0.0017    0.0058    0.0111    0.0175    0.0249
        0.0331    0.0423    0.0523    0.0630    0.0745
        0.0869    0.0999    0.1138    0.1284    0.1437
        0.1598    0.1765    0.1941    0.2125    0.2316
        0.2515    0.2721    0.2932    0.3146    0.3365
        0.3587    0.3813    0.4043    0.4275    0.4512
        0.4752    0.4996    0.5244    0.5496    0.5751
        0.6010    0.6273    0.6539    0.6808    0.7081
        0.7358    0.7639    0.7922    0.8209    0.8499
        0.8792    0.9089    0.9389    0.9693    1.0000
Hrad:
        0.0188    0.0369    0.0583    0.0769    0.0995
        0.1165    0.1368    0.1568    0.1758    0.1927
        0.2128    0.2297    0.2470    0.2672    0.2836
        0.3006    0.3168    0.3349    0.3531    0.3658
        0.3848    0.4043    0.4267    0.4506    0.4722
        0.4980    0.5153    0.5422    0.5650    0.5841
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
          0.6073    0.6275    0.6528    0.6675    0.6925
          0.7134    0.7322    0.7556    0.7730    0.7961
          0.8116    0.8363    0.8589    0.8759    0.8992
          0.9204    0.9375    0.9588    0.9761    1.0000
Width:
          0.0920    0.1571    0.1918    0.2289    0.2520
          0.2855    0.3115    0.3353    0.3608    0.3892
          0.4108    0.4377    0.4637    0.4836    0.5097
          0.5347    0.5606    0.5833    0.6054    0.6369
          0.6576    0.6770    0.6911    0.7020    0.7163
          0.7237    0.7435    0.7491    0.7599    0.7757
          0.7856    0.7993    0.8061    0.8261    0.8332
          0.8450    0.8591    0.8677    0.8829    0.8915
          0.9084    0.9150    0.9237    0.9383    0.9462
          0.9560    0.9701    0.9796    0.9933    1.0000

Transect C66
Area:
          0.0014    0.0049    0.0095    0.0148    0.0207
          0.0271    0.0346    0.0425    0.0507    0.0591
          0.0685    0.0783    0.0883    0.0987    0.1099
          0.1216    0.1337    0.1460    0.1586    0.1725
          0.1867    0.2014    0.2168    0.2327    0.2498
          0.2677    0.2863    0.3061    0.3277    0.3504
          0.3749    0.4000    0.4266    0.4544    0.4829
          0.5123    0.5426    0.5738    0.6053    0.6379
          0.6708    0.7048    0.7393    0.7747    0.8105
          0.8470    0.8844    0.9221    0.9609    1.0000
Hrad:
          0.0281    0.0486    0.0761    0.1006    0.1336
          0.1612    0.1743    0.2088    0.2423    0.2649
          0.2806    0.3107    0.3409    0.3523    0.3774
          0.3992    0.4295    0.4585    0.4819    0.4778
          0.5091    0.5187    0.5404    0.5565    0.5628
          0.5703    0.5934    0.5820    0.5841    0.5829
          0.5888    0.6204    0.6232    0.6321    0.6564
          0.6778    0.6865    0.7194    0.7447    0.7637
          0.7926    0.8066    0.8299    0.8530    0.8842
          0.8926    0.9255    0.9441    0.9683    1.0000
Width:
          0.0567    0.1017    0.1254    0.1479    0.1562
          0.1691    0.1996    0.2044    0.2092    0.2232
          0.2443    0.2517    0.2585    0.2797    0.2907
          0.3040    0.3103    0.3171    0.3278    0.3598
          0.3652    0.3866    0.3995    0.4166    0.4423
          0.4681    0.4811    0.5251    0.5605    0.6008
          0.6368    0.6446    0.6846    0.7193    0.7363
          0.7566    0.7912    0.7982    0.8134    0.8358
          0.8469    0.8744    0.8914    0.9089    0.9171
          0.9495    0.9559    0.9770    0.9926    1.0000

Transect C68
Area:
          0.0013    0.0045    0.0088    0.0142    0.0207
          0.0280    0.0364    0.0456    0.0556    0.0665
          0.0782    0.0906    0.1040    0.1180    0.1328
          0.1483    0.1646    0.1814    0.1991    0.2174
          0.2362    0.2556    0.2758    0.2966    0.3180
          0.3400    0.3626    0.3857    0.4094    0.4338
          0.4586    0.4841    0.5104    0.5370    0.5640
          0.5914    0.6190    0.6468    0.6748    0.7030
          0.7315    0.7603    0.7893    0.8186    0.8482
          0.8780    0.9081    0.9384    0.9691    1.0000
Hrad:
          0.0153    0.0362    0.0555    0.0741    0.0926
          0.1123    0.1279    0.1470    0.1657    0.1820
          0.2003    0.2204    0.2356    0.2557    0.2710
          0.2912    0.3077    0.3269    0.3435    0.3622
          0.3849    0.3965    0.4192    0.4354    0.4568
          0.4725    0.4912    0.5104    0.5279    0.5461
          0.5654    0.5806    0.5986    0.6213    0.6426
          0.6671    0.6923    0.7200    0.7442    0.7706
          0.7916    0.8166    0.8383    0.8631    0.8847
          0.9102    0.9334    0.9540    0.9761    1.0000
Width:
          0.0835    0.1235    0.1585    0.1912    0.2232
          0.2495    0.2843    0.3101    0.3355    0.3653
          0.3906    0.4114    0.4417    0.4619    0.4903
          0.5096    0.5350    0.5551    0.5797    0.6003
          0.6140    0.6449    0.6581    0.6814    0.6963
          0.7198    0.7382    0.7559    0.7756    0.7945
          0.8112    0.8339    0.8527    0.8643    0.8778
          0.8866    0.8942    0.8984    0.9069    0.9123
          0.9242    0.9311    0.9416    0.9485    0.9588
          0.9647    0.9728    0.9837    0.9928    1.0000

Transect C7
Area:
          0.0023    0.0071    0.0133    0.0210    0.0295
          0.0395    0.0502    0.0618    0.0744    0.0877
          0.1019    0.1170    0.1326    0.1490    0.1658
          0.1834    0.2020    0.2209    0.2400    0.2601
          0.2811    0.3024    0.3239    0.3457    0.3681
          0.3906    0.4133    0.4360    0.4591    0.4828
          0.5065    0.5303    0.5543    0.5786    0.6034
          0.6284    0.6534    0.6786    0.7040    0.7299
          0.7560    0.7821    0.8085    0.8351    0.8621
          0.8893    0.9167    0.9441    0.9719    1.0000
Hrad:
          0.0182    0.0349    0.0572    0.0722    0.0933
          0.1068    0.1307    0.1439    0.1628    0.1770
          0.1959    0.2166    0.2299    0.2545    0.2715
          0.2914    0.3049    0.3294    0.3499    0.3522
          0.3765    0.4006    0.4246    0.4367    0.4631
          0.4893    0.5155    0.5416    0.5505    0.5765
          0.6024    0.6281    0.6520    0.6611    0.6863
          0.7114    0.7364    0.7589    0.7790    0.7937
          0.8182    0.8426    0.8645    0.8827    0.8977
          0.9222    0.9467    0.9709    0.9827    1.0000
Width:
          0.1283    0.2046    0.2320    0.2909    0.3161
          0.3702    0.3842    0.4297    0.4574    0.4957
          0.5205    0.5403    0.5770    0.5859    0.6111
          0.6298    0.6627    0.6708    0.6861    0.7389
          0.7469    0.7550    0.7628    0.7917    0.7951
          0.7985    0.8018    0.8052    0.8341    0.8375
          0.8409    0.8444    0.8501    0.8753    0.8793
          0.8833    0.8873    0.8942    0.9037    0.9196
          0.9239    0.9283    0.9353    0.9460    0.9604
          0.9643    0.9683    0.9724    0.9890    1.0000

Transect C73
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
Area:
        0.0008  0.0029  0.0056  0.0096  0.0148
        0.0209  0.0276  0.0354  0.0444  0.0546
        0.0652  0.0764  0.0884  0.1016  0.1152
        0.1291  0.1434  0.1583  0.1745  0.1915
        0.2090  0.2277  0.2480  0.2691  0.2909
        0.3132  0.3360  0.3594  0.3831  0.4070
        0.4314  0.4562  0.4813  0.5073  0.5335
        0.5603  0.5878  0.6163  0.6451  0.6745
        0.7046  0.7351  0.7662  0.7978  0.8297
        0.8624  0.8957  0.9297  0.9643  1.0000
Hrad:
        0.0251  0.0428  0.0610  0.0770  0.0975
        0.1179  0.1473  0.1544  0.1659  0.1914
        0.2188  0.2382  0.2585  0.2743  0.3044
        0.3340  0.3605  0.3766  0.3804  0.4046
        0.4223  0.4448  0.4347  0.4570  0.4800
        0.5077  0.5278  0.5560  0.5862  0.6156
        0.6359  0.6660  0.6826  0.7065  0.7365
        0.7469  0.7771  0.7794  0.8106  0.8185
        0.8448  0.8720  0.8861  0.9127  0.9308
        0.9498  0.9622  0.9862  0.9875  1.0000
Width:
        0.0316  0.0673  0.0914  0.1248  0.1519
        0.1783  0.1926  0.2301  0.2684  0.2860
        0.2988  0.3217  0.3429  0.3713  0.3795
        0.3878  0.3990  0.4214  0.4601  0.4746
        0.4964  0.5344  0.5721  0.5905  0.6079
        0.6187  0.6384  0.6481  0.6551  0.6626
        0.6797  0.6861  0.7062  0.7190  0.7252
        0.7509  0.7727  0.7912  0.7963  0.8244
        0.8343  0.8431  0.8647  0.8740  0.8912
        0.9077  0.9306  0.9425  0.9764  1.0000

Transect C74_2
Area:
        0.0019  0.0058  0.0109  0.0172  0.0248
        0.0334  0.0432  0.0544  0.0672  0.0814
        0.0971  0.1141  0.1322  0.1513  0.1714
        0.1925  0.2142  0.2364  0.2589  0.2819
        0.3051  0.3286  0.3524  0.3764  0.4004
        0.4244  0.4483  0.4723  0.4963  0.5203
        0.5443  0.5682  0.5922  0.6162  0.6402
        0.6642  0.6882  0.7121  0.7361  0.7601
        0.7841  0.8081  0.8321  0.8561  0.8800
        0.9040  0.9280  0.9520  0.9760  1.0000
Hrad:
        0.0138  0.0305  0.0463  0.0590  0.0726
        0.0901  0.0992  0.1123  0.1190  0.1323
        0.1426  0.1570  0.1714  0.1850  0.2028
        0.2164  0.2379  0.2559  0.2755  0.2948
        0.3176  0.3348  0.3561  0.3798  0.4039
        0.4279  0.4519  0.4759  0.4999  0.5239
        0.5479  0.5718  0.5957  0.6196  0.6435
        0.6674  0.6913  0.7151  0.7389  0.7627
        0.7865  0.8103  0.8341  0.8578  0.8816
        0.9053  0.9290  0.9527  0.9763  1.0000
Width:
        0.1382  0.1912  0.2450  0.2952  0.3452
        0.3749  0.4396  0.4895  0.5701  0.6217
        0.6878  0.7344  0.7786  0.8256  0.8538
        0.8985  0.9091  0.9323  0.9485  0.9650
        0.9694  0.9902  0.9984  0.9994  0.9994
        0.9994  0.9995  0.9995  0.9995  0.9995
        0.9996  0.9996  0.9996  0.9996  0.9997
        0.9997  0.9997  0.9997  0.9997  0.9998
        0.9998  0.9998  0.9998  0.9999  0.9999
        0.9999  0.9999  1.0000  1.0000  1.0000

Transect C8
Area:
        0.0010  0.0039  0.0095  0.0165  0.0246
        0.0337  0.0437  0.0548  0.0667  0.0792
        0.0927  0.1069  0.1217  0.1374  0.1538
        0.1710  0.1887  0.2070  0.2258  0.2454
        0.2657  0.2865  0.3077  0.3293  0.3512
        0.3735  0.3961  0.4190  0.4421  0.4656
        0.4895  0.5136  0.5381  0.5628  0.5878
        0.6131  0.6388  0.6647  0.6910  0.7177
        0.7446  0.7719  0.7996  0.8275  0.8555
        0.8839  0.9127  0.9416  0.9706  1.0000
Hrad:
        0.0164  0.0250  0.0470  0.0651  0.0896
        0.1067  0.1244  0.1452  0.1670  0.1858
        0.2034  0.2241  0.2434  0.2590  0.2791
        0.2983  0.3172  0.3403  0.3560  0.3752
        0.3934  0.4136  0.4378  0.4591  0.4822
        0.5040  0.5266  0.5507  0.5736  0.5926
        0.6143  0.6357  0.6586  0.6800  0.7017
        0.7199  0.7421  0.7637  0.7793  0.7997
        0.8222  0.8362  0.8574  0.8821  0.9048
        0.9192  0.9415  0.9654  0.9871  1.0000
Width:
        0.0610  0.1612  0.2070  0.2608  0.2814
        0.3241  0.3608  0.3871  0.4098  0.4375
        0.4675  0.4890  0.5128  0.5439  0.5653
        0.5878  0.6100  0.6235  0.6504  0.6705
        0.6922  0.7099  0.7199  0.7338  0.7443
        0.7564  0.7669  0.7748  0.7842  0.7985
        0.8089  0.8196  0.8279  0.8379  0.8472
        0.8608  0.8691  0.8781  0.8938  0.9040
        0.9116  0.9285  0.9373  0.9420  0.9487
        0.9644  0.9714  0.9765  0.9838  1.0000

Transect C80
Area:
        0.0036  0.0101  0.0190  0.0297  0.0424
        0.0564  0.0715  0.0877  0.1050  0.1230
        0.1417  0.1608  0.1805  0.2007  0.2214
        0.2426  0.2642  0.2863  0.3086  0.3309
        0.3532  0.3755  0.3978  0.4201  0.4424
        0.4647  0.4870  0.5093  0.5316  0.5539
        0.5762  0.5985  0.6208  0.6431  0.6654
        0.6877  0.7100  0.7323  0.7546  0.7769
        0.7992  0.8215  0.8439  0.8662  0.8885
        0.9108  0.9331  0.9554  0.9777  1.0000
Hrad:
        0.0153  0.0284  0.0431  0.0573  0.0716
        0.0867  0.1035  0.1176  0.1339  0.1505
        0.1690  0.1864  0.2038  0.2213  0.2361
        0.2555  0.2726  0.2888  0.3111  0.3335
        0.3559  0.3782  0.4006  0.4229  0.4453
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
          0.4676    0.4899    0.5122    0.5345    0.5568
          0.5790    0.6013    0.6235    0.6458    0.6680
          0.6902    0.7124    0.7346    0.7568    0.7789
          0.8011    0.8232    0.8454    0.8675    0.8896
          0.9117    0.9338    0.9559    0.9779    1.0000
Width:
          0.2394    0.3597    0.4450    0.5234    0.5980
          0.6562    0.6968    0.7519    0.7911    0.8248
          0.8453    0.8699    0.8931    0.9139    0.9452
          0.9570    0.9771    0.9990    0.9995    0.9995
          0.9995    0.9995    0.9995    0.9996    0.9996
          0.9996    0.9996    0.9996    0.9996    0.9997
          0.9997    0.9997    0.9997    0.9997    0.9997
          0.9998    0.9998    0.9998    0.9998    0.9998
          0.9998    0.9999    0.9999    0.9999    0.9999
          0.9999    0.9999    1.0000    1.0000    1.0000

Transect C83
Area:
          0.0018    0.0055    0.0105    0.0163    0.0232
          0.0309    0.0394    0.0488    0.0590    0.0699
          0.0817    0.0941    0.1074    0.1215    0.1364
          0.1519    0.1683    0.1855    0.2034    0.2220
          0.2413    0.2615    0.2825    0.3042    0.3266
          0.3498    0.3733    0.3972    0.4213    0.4456
          0.4704    0.4955    0.5207    0.5464    0.5723
          0.5985    0.6250    0.6518    0.6789    0.7063
          0.7340    0.7620    0.7905    0.8192    0.8484
          0.8779    0.9077    0.9381    0.9688    1.0000
Hrad:
          0.0187    0.0387    0.0629    0.0802    0.0969
          0.1212    0.1356    0.1568    0.1779    0.1915
          0.2118    0.2294    0.2471    0.2622    0.2803
          0.2988    0.3145    0.3306    0.3508    0.3669
          0.3822    0.3987    0.4153    0.4315    0.4483
          0.4696    0.4958    0.5180    0.5453    0.5678
          0.5914    0.6189    0.6422    0.6623    0.6899
          0.7103    0.7340    0.7590    0.7816    0.8020
          0.8270    0.8441    0.8677    0.8860    0.9054
          0.9290    0.9434    0.9626    0.9798    1.0000
Width:
          0.0976    0.1424    0.1664    0.2036    0.2394
          0.2553    0.2906    0.3115    0.3316    0.3654
          0.3856    0.4106    0.4348    0.4635    0.4870
          0.5086    0.5352    0.5614    0.5801    0.6052
          0.6316    0.6562    0.6804    0.7051    0.7287
          0.7451    0.7530    0.7669    0.7727    0.7850
          0.7956    0.8007    0.8109    0.8251    0.8296
          0.8426    0.8516    0.8588    0.8686    0.8807
          0.8875    0.9028    0.9110    0.9245    0.9370
          0.9450    0.9621    0.9745    0.9888    1.0000

Transect C86
Area:
          0.0022    0.0062    0.0110    0.0163    0.0229
          0.0300    0.0376    0.0456    0.0541    0.0633
          0.0730    0.0833    0.0939    0.1049    0.1164
          0.1289    0.1418    0.1551    0.1690    0.1834
          0.1984    0.2143    0.2307    0.2477    0.2656
          0.2844    0.3040    0.3239    0.3452    0.3672
          0.3902    0.4139    0.4387    0.4641    0.4908
          0.5185    0.5470    0.5763    0.6065    0.6378
          0.6697    0.7027    0.7366    0.7714    0.8070
          0.8437    0.8814    0.9197    0.9594    1.0000
Hrad:
          0.0289    0.0552    0.0899    0.1125    0.1367
          0.1682    0.1994    0.2273    0.2507    0.2765
          0.2985    0.3293    0.3568    0.3826    0.4037
          0.4145    0.4458    0.4735    0.4895    0.5139
          0.5274    0.5433    0.5731    0.5789    0.6014
          0.6048    0.6343    0.6655    0.6599    0.6645
          0.6923    0.6929    0.7206    0.7288    0.7449
          0.7580    0.7791    0.7986    0.8078    0.8337
          0.8434    0.8696    0.8757    0.9074    0.9147
          0.9310    0.9548    0.9665    0.9845    1.0000
Width:
          0.0757    0.1118    0.1221    0.1452    0.1675
          0.1785    0.1884    0.2004    0.2159    0.2288
          0.2446    0.2528    0.2630    0.2742    0.2883
          0.3110    0.3181    0.3275    0.3451    0.3569
          0.3761    0.3944    0.4025    0.4278    0.4416
          0.4702    0.4791    0.5067    0.5230    0.5526
          0.5636    0.5972    0.6087    0.6368    0.6588
          0.6839    0.7021    0.7216    0.7508    0.7649
          0.7940    0.8080    0.8412    0.8501    0.8823
          0.9062    0.9231    0.9516    0.9746    1.0000

Transect C87
Area:
          0.0004    0.0016    0.0036    0.0064    0.0100
          0.0144    0.0196    0.0256    0.0324    0.0400
          0.0484    0.0576    0.0676    0.0784    0.0900
          0.1024    0.1156    0.1296    0.1444    0.1600
          0.1764    0.1936    0.2116    0.2304    0.2500
          0.2704    0.2916    0.3136    0.3364    0.3600
          0.3844    0.4096    0.4356    0.4624    0.4900
          0.5184    0.5476    0.5776    0.6084    0.6400
          0.6724    0.7056    0.7396    0.7744    0.8100
          0.8464    0.8836    0.9216    0.9604    1.0000
Hrad:
          0.0200    0.0400    0.0600    0.0800    0.1000
          0.1200    0.1400    0.1600    0.1800    0.2000
          0.2200    0.2400    0.2600    0.2800    0.3000
          0.3200    0.3400    0.3600    0.3800    0.4000
          0.4200    0.4400    0.4600    0.4800    0.5000
          0.5200    0.5400    0.5600    0.5800    0.6000
          0.6200    0.6400    0.6600    0.6800    0.7000
          0.7200    0.7400    0.7600    0.7800    0.8000
          0.8200    0.8400    0.8600    0.8800    0.9000
          0.9200    0.9400    0.9600    0.9800    1.0000
Width:
          0.0200    0.0400    0.0600    0.0800    0.1000
          0.1200    0.1400    0.1600    0.1800    0.2000
          0.2200    0.2400    0.2600    0.2800    0.3000
          0.3200    0.3400    0.3600    0.3800    0.4000
          0.4200    0.4400    0.4600    0.4800    0.5000
          0.5200    0.5400    0.5600    0.5800    0.6000
          0.6200    0.6400    0.6600    0.6800    0.7000
          0.7200    0.7400    0.7600    0.7800    0.8000
          0.8200    0.8400    0.8600    0.8800    0.9000
          0.9200    0.9400    0.9600    0.9800    1.0000
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
Transect C88
Area:
          0.0001    0.0005    0.0011    0.0020    0.0031
          0.0045    0.0061    0.0080    0.0101    0.0125
          0.0151    0.0196    0.0266    0.0346    0.0448
          0.0570    0.0702    0.0843    0.0992    0.1150
          0.1317    0.1496    0.1698    0.1906    0.2120
          0.2339    0.2567    0.2810    0.3063    0.3322
          0.3597    0.3884    0.4177    0.4474    0.4773
          0.5075    0.5380    0.5687    0.5996    0.6332
          0.6678    0.7029    0.7383    0.7742    0.8103
          0.8468    0.8836    0.9207    0.9599    1.0000
Hrad:
          0.0209    0.0419    0.0628    0.0837    0.1047
          0.1256    0.1465    0.1674    0.1884    0.2093
          0.2302    0.2275    0.1470    0.1713    0.1598
          0.1885    0.2157    0.2435    0.2713    0.2965
          0.3201    0.3393    0.3452    0.3786    0.4114
          0.4391    0.4647    0.4701    0.5013    0.5322
          0.5319    0.5612    0.5923    0.6292    0.6658
          0.7021    0.7382    0.7741    0.8097    0.7715
          0.8041    0.8364    0.8684    0.9021    0.9359
          0.9695    1.0029    1.0360    1.0166    1.0000
Width:
          0.0060    0.0119    0.0179    0.0239    0.0298
          0.0358    0.0418    0.0478    0.0537    0.0597
          0.0657    0.1447    0.1809    0.2021    0.2803
          0.3023    0.3252    0.3460    0.3656    0.3877
          0.4114    0.4408    0.4918    0.5036    0.5153
          0.5328    0.5525    0.5978    0.6111    0.6244
          0.6762    0.6921    0.7053    0.7112    0.7170
          0.7229    0.7288    0.7347    0.7406    0.8208
          0.8306    0.8404    0.8502    0.8582    0.8658
          0.8735    0.8811    0.8887    0.9442    1.0000

Transect C89
Area:
          0.0021    0.0063    0.0119    0.0186    0.0261
          0.0349    0.0443    0.0544    0.0657    0.0776
          0.0901    0.1028    0.1164    0.1308    0.1458
          0.1614    0.1774    0.1940    0.2110    0.2286
          0.2467    0.2654    0.2844    0.3038    0.3238
          0.3446    0.3658    0.3873    0.4091    0.4313
          0.4542    0.4777    0.5017    0.5261    0.5512
          0.5768    0.6027    0.6291    0.6563    0.6841
          0.7124    0.7411    0.7704    0.8005    0.8316
          0.8634    0.8961    0.9298    0.9647    1.0000
Hrad:
          0.0231    0.0451    0.0683    0.0940    0.1172
          0.1372    0.1641    0.1802    0.2018    0.2275
          0.2555    0.2836    0.2935    0.3192    0.3370
          0.3647    0.3916    0.4108    0.4354    0.4569
          0.4778    0.5013    0.5267    0.5514    0.5618
          0.5831    0.6081    0.6357    0.6626    0.6819
          0.6956    0.7130    0.7367    0.7552    0.7695
          0.7963    0.8160    0.8413    0.8426    0.8647
          0.8865    0.9071    0.9175    0.9332    0.9423
          0.9472    0.9641    0.9571    0.9731    1.0000
Width:
          0.0912    0.1416    0.1765    0.2006    0.2257
          0.2579    0.2735    0.3057    0.3294    0.3451
          0.3562    0.3661    0.4005    0.4135    0.4365
          0.4462    0.4564    0.4756    0.4880    0.5036
          0.5197    0.5325    0.5430    0.5538    0.5794
          0.5939    0.6043    0.6117    0.6194    0.6344
          0.6549    0.6721    0.6829    0.6985    0.7182
          0.7258    0.7400    0.7488    0.7801    0.7923
          0.8046    0.8179    0.8407    0.8590    0.8837
          0.9131    0.9311    0.9737    0.9928    1.0000

Transect C9
Area:
          0.0023    0.0076    0.0144    0.0223    0.0316
          0.0416    0.0528    0.0646    0.0771    0.0902
          0.1040    0.1185    0.1335    0.1492    0.1656
          0.1823    0.1998    0.2179    0.2364    0.2558
          0.2753    0.2952    0.3161    0.3373    0.3588
          0.3810    0.4036    0.4267    0.4506    0.4748
          0.4993    0.5241    0.5492    0.5745    0.5999
          0.6254    0.6510    0.6767    0.7028    0.7292
          0.7556    0.7822    0.8088    0.8356    0.8627
          0.8900    0.9173    0.9448    0.9723    1.0000
Hrad:
          0.0140    0.0356    0.0544    0.0728    0.0913
          0.1113    0.1280    0.1499    0.1678    0.1883
          0.2042    0.2255    0.2442    0.2599    0.2799
          0.3002    0.3147    0.3337    0.3438    0.3676
          0.3913    0.4078    0.4183    0.4420    0.4645
          0.4751    0.4911    0.5139    0.5235    0.5448
          0.5654    0.5863    0.6083    0.6337    0.6589
          0.6839    0.7082    0.7324    0.7479    0.7707
          0.7961    0.8214    0.8467    0.8652    0.8859
          0.9088    0.9341    0.9592    0.9844    1.0000
Width:
          0.1631    0.2137    0.2653    0.3074    0.3470
          0.3754    0.4136    0.4320    0.4608    0.4804
          0.5110    0.5270    0.5482    0.5759    0.5931
          0.6090    0.6366    0.6546    0.6894    0.6973
          0.7052    0.7254    0.7571    0.7645    0.7736
          0.8031    0.8230    0.8314    0.8618    0.8724
          0.8840    0.8949    0.9038    0.9075    0.9112
          0.9151    0.9199    0.9246    0.9403    0.9468
          0.9497    0.9527    0.9556    0.9662    0.9741
          0.9796    0.9823    0.9850    0.9878    1.0000

Transect C90
Area:
          0.0020    0.0056    0.0100    0.0159    0.0227
          0.0300    0.0378    0.0462    0.0557    0.0658
          0.0762    0.0871    0.0985    0.1107    0.1235
          0.1367    0.1504    0.1645    0.1793    0.1947
          0.2106    0.2275    0.2449    0.2628    0.2811
          0.2998    0.3190    0.3389    0.3602    0.3820
          0.4041    0.4269    0.4504    0.4748    0.5000
          0.5260    0.5531    0.5809    0.6092    0.6395
          0.6711    0.7033    0.7370    0.7716    0.8074
          0.8438    0.8814    0.9200    0.9592    1.0000
Hrad:
          0.0257    0.0572    0.0869    0.1032    0.1315
          0.1641    0.1924    0.2198    0.2316    0.2638
          0.2954    0.3222    0.3424    0.3638    0.3893
          0.4184    0.4445    0.4671    0.4876    0.5103
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
            0.5277    0.5438    0.5687    0.5970    0.6233
            0.6492    0.6724    0.6815    0.6836    0.7144
            0.7402    0.7570    0.7712    0.7826    0.8015
            0.8189    0.8252    0.8498    0.8729    0.8360
            0.8654    0.8826    0.8826    0.9067    0.9177
            0.9287    0.9599    0.9701    0.9844    1.0000
Width:
            0.0768    0.0984    0.1156    0.1547    0.1732
            0.1834    0.1968    0.2105    0.2411    0.2498
            0.2582    0.2702    0.2877    0.3043    0.3171
            0.3265    0.3378    0.3517    0.3672    0.3809
            0.3986    0.4178    0.4300    0.4394    0.4500
            0.4607    0.4731    0.4961    0.5257    0.5332
            0.5443    0.5622    0.5824    0.6051    0.6223
            0.6460    0.6689    0.6822    0.6964    0.7639
            0.7743    0.7956    0.8340    0.8501    0.8791
            0.9081    0.9176    0.9481    0.9743    1.0000

Transect C91
Area:
            0.0015    0.0047    0.0087    0.0132    0.0184
            0.0243    0.0308    0.0379    0.0453    0.0532
            0.0618    0.0710    0.0806    0.0905    0.1009
            0.1120    0.1237    0.1357    0.1482    0.1610
            0.1743    0.1887    0.2039    0.2196    0.2357
            0.2523    0.2699    0.2884    0.3076    0.3280
            0.3492    0.3715    0.3944    0.4180    0.4424
            0.4677    0.4942    0.5216    0.5504    0.5806
            0.6126    0.6471    0.6837    0.7226    0.7636
            0.8067    0.8517    0.8990    0.9484    1.0000
Hrad:
            0.0307    0.0679    0.1085    0.1464    0.1731
            0.2028    0.2387    0.2754    0.3122    0.3355
            0.3617    0.3960    0.4319    0.4676    0.4911
            0.5131    0.5432    0.5780    0.6122    0.6423
            0.6646    0.6610    0.6888    0.7213    0.7530
            0.7730    0.7748    0.8012    0.8125    0.8251
            0.8374    0.8579    0.8890    0.9079    0.9330
            0.9483    0.9617    0.9759    0.9824    0.9830
            0.9701    0.9588    0.9476    0.9510    0.9581
            0.9659    0.9724    0.9787    0.9878    1.0000
Width:
            0.0502    0.0695    0.0803    0.0898    0.1059
            0.1196    0.1288    0.1368    0.1440    0.1575
            0.1699    0.1780    0.1850    0.1917    0.2034
            0.2162    0.2253    0.2322    0.2391    0.2475
            0.2590    0.2823    0.2927    0.3008    0.3091
            0.3225    0.3445    0.3560    0.3746    0.3935
            0.4131    0.4291    0.4397    0.4565    0.4704
            0.4896    0.5103    0.5311    0.5570    0.5877
            0.6288    0.6725    0.7195    0.7581    0.7955
            0.8339    0.8750    0.9180    0.9599    1.0000

Transect C93
Area:
            0.0019    0.0063    0.0113    0.0169    0.0239
            0.0317    0.0399    0.0485    0.0579    0.0683
            0.0796    0.0913    0.1033    0.1157    0.1290
            0.1427    0.1572    0.1722    0.1875    0.2037
            0.2207    0.2382    0.2562    0.2746    0.2937
            0.3137    0.3342    0.3552    0.3767    0.3989
            0.4220    0.4456    0.4699    0.4954    0.5217
            0.5485    0.5759    0.6045    0.6343    0.6646
            0.6952    0.7264    0.7584    0.7908    0.8238
            0.8577    0.8920    0.9272    0.9632    1.0000
Hrad:
            0.0188    0.0491    0.0799    0.1033    0.1189
            0.1465    0.1763    0.2051    0.2184    0.2273
            0.2574    0.2869    0.3159    0.3347    0.3549
            0.3786    0.3958    0.4224    0.4462    0.4563
            0.4744    0.4985    0.5226    0.5462    0.5588
            0.5747    0.5994    0.6232    0.6408    0.6518
            0.6722    0.6930    0.7048    0.7076    0.7300
            0.7545    0.7703    0.7678    0.7826    0.8129
            0.8390    0.8506    0.8758    0.9024    0.9135
            0.9357    0.9530    0.9700    0.9850    1.0000
Width:
            0.1020    0.1287    0.1423    0.1642    0.2010
            0.2162    0.2264    0.2366    0.2651    0.3007
            0.3095    0.3183    0.3271    0.3458    0.3634
            0.3769    0.3971    0.4074    0.4200    0.4461
            0.4649    0.4775    0.4899    0.5025    0.5253
            0.5456    0.5573    0.5696    0.5875    0.6117
            0.6275    0.6427    0.6664    0.6997    0.7144
            0.7267    0.7473    0.7870    0.8103    0.8173
            0.8282    0.8537    0.8657    0.8761    0.9017
            0.9164    0.9359    0.9558    0.9779    1.0000

Transect Harmony_ChannelA
Area:
            0.0050    0.0105    0.0164    0.0227    0.0294
            0.0366    0.0461    0.0593    0.0730    0.0872
            0.1018    0.1168    0.1323    0.1481    0.1644
            0.1811    0.1983    0.2158    0.2338    0.2522
            0.2710    0.2902    0.3099    0.3299    0.3504
            0.3714    0.3927    0.4145    0.4367    0.4593
            0.4823    0.5058    0.5296    0.5539    0.5786
            0.6038    0.6293    0.6553    0.6817    0.7086
            0.7358    0.7635    0.7916    0.8201    0.8490
            0.8784    0.9081    0.9383    0.9690    1.0000
Hrad:
            0.0180    0.0346    0.0501    0.0648    0.0788
            0.0922    0.1049    0.1172    0.1348    0.1545
            0.1754    0.1968    0.2185    0.2403    0.2622
            0.2841    0.3060    0.3279    0.3497    0.3714
            0.3931    0.4147    0.4362    0.4577    0.4791
            0.5004    0.5217    0.5430    0.5641    0.5853
            0.6064    0.6274    0.6484    0.6693    0.6902
            0.7111    0.7319    0.7527    0.7735    0.7942
            0.8149    0.8356    0.8562    0.8769    0.8974
            0.9180    0.9385    0.9590    0.9795    1.0000
Width:
            0.1681    0.1816    0.1951    0.2086    0.2221
            0.2356    0.3868    0.4333    0.4468    0.4603
            0.4738    0.4873    0.5008    0.5143    0.5278
            0.5412    0.5547    0.5682    0.5817    0.5952
            0.6087    0.6222    0.6357    0.6492    0.6627
            0.6762    0.6897    0.7032    0.7167    0.7301
            0.7436    0.7571    0.7706    0.7841    0.7976
            0.8111    0.8246    0.8381    0.8516    0.8651
            0.8786    0.8921    0.9056    0.9190    0.9325
            0.9460    0.9595    0.9730    0.9865    1.0000
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

Transect T-C10
Area:

0.0008	0.0043	0.0100	0.0166	0.0247
0.0341	0.0449	0.0563	0.0686	0.0818
0.0961	0.1113	0.1279	0.1460	0.1656
0.1859	0.2064	0.2274	0.2485	0.2698
0.2912	0.3131	0.3351	0.3573	0.3796
0.4021	0.4249	0.4478	0.4708	0.4943
0.5179	0.5417	0.5656	0.5895	0.6139
0.6383	0.6629	0.6877	0.7127	0.7379
0.7633	0.7890	0.8149	0.8409	0.8670
0.8934	0.9199	0.9464	0.9731	1.0000

Hrad:

0.0111	0.0245	0.0481	0.0629	0.0798
0.0942	0.1123	0.1376	0.1521	0.1670
0.1807	0.1980	0.2096	0.2185	0.2299
0.2561	0.2784	0.3021	0.3281	0.3540
0.3732	0.3964	0.4214	0.4463	0.4696
0.4920	0.5139	0.5381	0.5621	0.5778
0.6007	0.6249	0.6489	0.6728	0.6884
0.7117	0.7339	0.7541	0.7741	0.7925
0.8112	0.8314	0.8536	0.8757	0.8934
0.9145	0.9369	0.9592	0.9798	1.0000

Width:

0.0746	0.1972	0.2247	0.2762	0.3232
0.3781	0.4183	0.4278	0.4714	0.5118
0.5557	0.5875	0.6378	0.6984	0.7528
0.7575	0.7725	0.7830	0.7866	0.7902
0.8078	0.8165	0.8209	0.8252	0.8320
0.8401	0.8488	0.8532	0.8575	0.8749
0.8807	0.8842	0.8877	0.8912	0.9061
0.9102	0.9155	0.9233	0.9312	0.9408
0.9501	0.9573	0.9618	0.9663	0.9758
0.9812	0.9849	0.9886	0.9942	1.0000

Transect T-C102
Area:

0.0019	0.0063	0.0127	0.0208	0.0298
0.0398	0.0509	0.0624	0.0748	0.0877
0.1014	0.1156	0.1305	0.1459	0.1620
0.1785	0.1957	0.2134	0.2314	0.2502
0.2694	0.2892	0.3095	0.3302	0.3514
0.3731	0.3952	0.4178	0.4409	0.4644
0.4883	0.5125	0.5371	0.5620	0.5873
0.6128	0.6386	0.6648	0.6910	0.7178
0.7447	0.7719	0.7995	0.8273	0.8554
0.8837	0.9124	0.9413	0.9704	1.0000

Hrad:

0.0165	0.0320	0.0515	0.0731	0.0926
0.1114	0.1329	0.1549	0.1776	0.1955
0.2174	0.2338	0.2562	0.2769	0.2927
0.3133	0.3340	0.3550	0.3725	0.3929
0.4098	0.4295	0.4495	0.4624	0.4886
0.5076	0.5203	0.5459	0.5561	0.5827
0.6021	0.6213	0.6402	0.6670	0.6854
0.7044	0.7316	0.7505	0.7778	0.7920
0.8192	0.8363	0.8539	0.8809	0.8984
0.9155	0.9420	0.9588	0.9740	1.0000

Width:

0.1139	0.1983	0.2474	0.2846	0.3226
0.3581	0.3832	0.4038	0.4217	0.4493
0.4669	0.4953	0.5101	0.5273	0.5541
0.5705	0.5866	0.6017	0.6216	0.6372
0.6577	0.6737	0.6888	0.7144	0.7196
0.7352	0.7598	0.7654	0.7930	0.7971
0.8111	0.8251	0.8391	0.8435	0.8569
0.8701	0.8730	0.8859	0.8886	0.9064
0.9090	0.9231	0.9363	0.9392	0.9522
0.9653	0.9685	0.9818	0.9964	1.0000

Transect T-C108
Area:

0.0001	0.0004	0.0009	0.0026	0.0048
0.0072	0.0100	0.0141	0.0184	0.0228
0.0288	0.0350	0.0414	0.0489	0.0570
0.0652	0.0739	0.0839	0.0940	0.1043
0.1156	0.1277	0.1399	0.1528	0.1668
0.1811	0.1970	0.2135	0.2374	0.2636
0.2914	0.3201	0.3500	0.3815	0.4147
0.4489	0.4846	0.5208	0.5583	0.5960
0.6340	0.6733	0.7129	0.7526	0.7925
0.8331	0.8746	0.9163	0.9581	1.0000

Hrad:

0.0208	0.0417	0.0625	0.0515	0.0876
0.1213	0.1055	0.1413	0.1757	0.2089
0.1979	0.2328	0.2668	0.2561	0.2918
0.3268	0.3141	0.3498	0.3850	0.4197
0.4065	0.4413	0.4757	0.4620	0.4944
0.5265	0.5131	0.4998	0.3856	0.4012
0.4376	0.4530	0.4880	0.5012	0.5159
0.5313	0.5684	0.5845	0.6233	0.6618
0.7002	0.7160	0.7553	0.7944	0.8333
0.8452	0.8841	0.9228	0.9615	1.0000

Width:

0.0048	0.0096	0.0144	0.0502	0.0546
0.0590	0.0947	0.0995	0.1043	0.1091
0.1451	0.1499	0.1547	0.1905	0.1949
0.1993	0.2350	0.2394	0.2438	0.2482
0.2841	0.2889	0.2937	0.3303	0.3369
0.3435	0.3835	0.4269	0.6157	0.6573
0.6661	0.7068	0.7173	0.7614	0.8041
0.8453	0.8528	0.8913	0.8961	0.9009
0.9057	0.9406	0.9441	0.9476	0.9511
0.9859	0.9894	0.9930	0.9965	1.0000

Transect T-C110
Area:

0.0004	0.0016	0.0036	0.0064	0.0100
0.0144	0.0196	0.0256	0.0324	0.0400
0.0484	0.0576	0.0676	0.0784	0.0900
0.1024	0.1156	0.1296	0.1444	0.1600
0.1764	0.1936	0.2116	0.2304	0.2500
0.2704	0.2916	0.3136	0.3364	0.3600
0.3844	0.4096	0.4356	0.4624	0.4900
0.5184	0.5476	0.5776	0.6084	0.6400
0.6724	0.7056	0.7396	0.7744	0.8100
0.8464	0.8836	0.9216	0.9604	1.0000

Hrad:

0.0400	0.0799	0.1199	0.1598	0.1998
0.2398	0.2797	0.3197	0.3596	0.3996
0.4396	0.4795	0.5195	0.5594	0.5994

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
            0.6393    0.6793    0.7193    0.7592    0.7992
            0.8391    0.8791    0.9191    0.9590    0.9990
            1.0389    1.0789    1.1189    1.1588    1.1988
            1.2387    1.2787    1.3187    1.3586    1.3986
            1.4385    1.4785    1.5184    1.5584    1.5984
            1.6383    1.6783    1.7182    1.7582    1.7982
            1.8381    1.8781    1.9180    1.9580    1.0000
Width:
            0.0100    0.0200    0.0300    0.0400    0.0500
            0.0600    0.0700    0.0800    0.0900    0.1000
            0.1100    0.1200    0.1300    0.1400    0.1500
            0.1600    0.1700    0.1800    0.1900    0.2000
            0.2100    0.2200    0.2300    0.2400    0.2500
            0.2600    0.2700    0.2800    0.2900    0.3000
            0.3100    0.3200    0.3300    0.3400    0.3500
            0.3600    0.3700    0.3800    0.3900    0.4000
            0.4100    0.4200    0.4300    0.4400    0.4500
            0.4600    0.4700    0.4800    0.4900    1.0000

Transect T-C111
Area:
            0.0056    0.0136    0.0228    0.0328    0.0436
            0.0552    0.0674    0.0803    0.0937    0.1075
            0.1218    0.1363    0.1515    0.1669    0.1829
            0.1991    0.2161    0.2334    0.2510    0.2691
            0.2873    0.3063    0.3254    0.3450    0.3649
            0.3851    0.4059    0.4268    0.4482    0.4702
            0.4926    0.5155    0.5387    0.5624    0.5865
            0.6113    0.6364    0.6620    0.6880    0.7144
            0.7412    0.7683    0.7962    0.8243    0.8528
            0.8817    0.9107    0.9401    0.9699    1.0000
Hrad:
            0.0232    0.0462    0.0704    0.0932    0.1207
            0.1422    0.1625    0.1826    0.2098    0.2307
            0.2568    0.2761    0.3011    0.3157    0.3432
            0.3706    0.3800    0.4063    0.4235    0.4477
            0.4737    0.4860    0.5131    0.5241    0.5510
            0.5614    0.5882    0.6150    0.6205    0.6432
            0.6558    0.6785    0.6907    0.7125    0.7248
            0.7388    0.7625    0.7725    0.7966    0.8085
            0.8335    0.8465    0.8585    0.8818    0.8948
            0.9199    0.9434    0.9565    0.9791    1.0000
Width:
            0.2420    0.2948    0.3250    0.3533    0.3626
            0.3896    0.4163    0.4409    0.4480    0.4675
            0.4755    0.4951    0.5044    0.5299    0.5342
            0.5385    0.5697    0.5755    0.5937    0.6020
            0.6076    0.6312    0.6351    0.6590    0.6630
            0.6866    0.6905    0.6944    0.7228    0.7315
            0.7516    0.7601    0.7802    0.7897    0.8096
            0.8279    0.8350    0.8573    0.8640    0.8839
            0.8895    0.9109    0.9277    0.9350    0.9532
            0.9586    0.9654    0.9830    0.9906    1.0000

Transect T-C12
Area:
            0.0024    0.0075    0.0135    0.0218    0.0305
            0.0398    0.0510    0.0629    0.0751    0.0877
            0.1018    0.1170    0.1325    0.1483    0.1645
            0.1819    0.2004    0.2193    0.2384    0.2578
            0.2784    0.2992    0.3210    0.3431    0.3654
            0.3877    0.4101    0.4326    0.4557    0.4795
            0.5034    0.5274    0.5516    0.5758    0.6001
            0.6253    0.6508    0.6765    0.7023    0.7281
            0.7541    0.7801    0.8069    0.8342    0.8615
            0.8890    0.9166    0.9442    0.9719    1.0000
Hrad:
            0.0148    0.0402    0.0498    0.0735    0.0982
            0.1093    0.1244    0.1497    0.1744    0.1822
            0.1957    0.2180    0.2431    0.2678    0.2734
            0.2982    0.3051    0.3301    0.3547    0.3715
            0.3847    0.4111    0.4162    0.4428    0.4692
            0.4956    0.5218    0.5479    0.5474    0.5735
            0.5994    0.6253    0.6510    0.6766    0.6963
            0.6976    0.7233    0.7488    0.7743    0.7997
            0.8249    0.8444    0.8420    0.8673    0.8925
            0.9176    0.9427    0.9676    0.9925    1.0000
Width:
            0.1677    0.1888    0.2742    0.3000    0.3140
            0.3677    0.4143    0.4247    0.4351    0.4860
            0.5255    0.5423    0.5508    0.5593    0.6078
            0.6161    0.6632    0.6710    0.6788    0.7009
            0.7307    0.7344    0.7781    0.7815    0.7848
            0.7881    0.7914    0.7947    0.8379    0.8412
            0.8446    0.8480    0.8514    0.8548    0.8655
            0.9000    0.9032    0.9065    0.9097    0.9130
            0.9162    0.9258    0.9603    0.9635    0.9666
            0.9698    0.9730    0.9762    0.9794    1.0000

Transect T-C16
Area:
            0.0019    0.0059    0.0114    0.0180    0.0258
            0.0344    0.0440    0.0545    0.0660    0.0783
            0.0915    0.1054    0.1202    0.1356    0.1519
            0.1688    0.1864    0.2047    0.2237    0.2434
            0.2637    0.2847    0.3063    0.3282    0.3505
            0.3731    0.3959    0.4191    0.4425    0.4662
            0.4901    0.5144    0.5389    0.5638    0.5889
            0.6143    0.6400    0.6661    0.6923    0.7189
            0.7458    0.7729    0.8003    0.8280    0.8560
            0.8842    0.9127    0.9415    0.9706    1.0000
Hrad:
            0.0171    0.0363    0.0559    0.0731    0.0946
            0.1088    0.1297    0.1473    0.1637    0.1828
            0.1988    0.2203    0.2334    0.2541    0.2707
            0.2890    0.3064    0.3256    0.3408    0.3615
            0.3750    0.3963    0.4164    0.4376    0.4611
            0.4866    0.5101    0.5318    0.5555    0.5793
            0.6008    0.6242    0.6464    0.6663    0.6889
            0.7106    0.7330    0.7530    0.7755    0.7958
            0.8155    0.8380    0.8592    0.8799    0.9014
            0.9202    0.9419    0.9623    0.9829    1.0000
Width:
            0.1086    0.1638    0.2040    0.2462    0.2725
            0.3164    0.3398    0.3706    0.4034    0.4286
            0.4606    0.4786    0.5152    0.5342    0.5613
            0.5843    0.6087    0.6290    0.6568    0.6736
            0.7034    0.7187    0.7357    0.7502    0.7604
            0.7670    0.7763    0.7881    0.7968    0.8048
            0.8159    0.8243    0.8338    0.8462    0.8549
            0.8646    0.8733    0.8846    0.8929    0.9034
            0.9145    0.9223    0.9316    0.9411    0.9496
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
            0.9609    0.9691    0.9784    0.9875    1.0000

Transect T-C2
Area:
            0.0019    0.0055    0.0104    0.0163    0.0231
            0.0311    0.0398    0.0496    0.0604    0.0723
            0.0852    0.0992    0.1143    0.1303    0.1475
            0.1655    0.1847    0.2047    0.2253    0.2463
            0.2677    0.2893    0.3112    0.3335    0.3561
            0.3788    0.4019    0.4253    0.4490    0.4728
            0.4970    0.5214    0.5461    0.5710    0.5961
            0.6215    0.6471    0.6729    0.6991    0.7254
            0.7519    0.7787    0.8056    0.8328    0.8602
            0.8878    0.9155    0.9434    0.9716    1.0000
Hrad:
            0.0170    0.0402    0.0532    0.0772    0.0868
            0.1083    0.1240    0.1377    0.1524    0.1710
            0.1797    0.1989    0.2110    0.2264    0.2418
            0.2582    0.2716    0.2889    0.3122    0.3343
            0.3585    0.3830    0.4057    0.4267    0.4519
            0.4760    0.4958    0.5193    0.5424    0.5644
            0.5869    0.6096    0.6313    0.6530    0.6754
            0.6973    0.7204    0.7404    0.7629    0.7838
            0.8055    0.8298    0.8505    0.8697    0.8921
            0.9153    0.9377    0.9588    0.9789    1.0000
Width:
            0.1129    0.1380    0.1983    0.2140    0.2693
            0.2910    0.3248    0.3649    0.4017    0.4279
            0.4803    0.5053    0.5486    0.5832    0.6180
            0.6493    0.6888    0.7176    0.7304    0.7456
            0.7552    0.7636    0.7749    0.7892    0.7954
            0.8030    0.8175    0.8256    0.8339    0.8438
            0.8525    0.8608    0.8702    0.8792    0.8872
            0.8956    0.9022    0.9126    0.9197    0.9286
            0.9363    0.9408    0.9493    0.9594    0.9658
            0.9712    0.9773    0.9845    0.9929    1.0000

Transect T-C23
Area:
            0.0026    0.0077    0.0148    0.0238    0.0343
            0.0458    0.0582    0.0715    0.0854    0.1001
            0.1155    0.1314    0.1485    0.1661    0.1840
            0.2026    0.2216    0.2406    0.2597    0.2793
            0.2992    0.3193    0.3394    0.3601    0.3810
            0.4020    0.4231    0.4448    0.4668    0.4889
            0.5113    0.5342    0.5571    0.5803    0.6037
            0.6276    0.6517    0.6759    0.7007    0.7258
            0.7512    0.7770    0.8031    0.8298    0.8567
            0.8842    0.9123    0.9409    0.9701    1.0000
Hrad:
            0.0205    0.0403    0.0555    0.0768    0.0945
            0.1211    0.1412    0.1651    0.1847    0.2056
            0.2320    0.2472    0.2656    0.2923    0.3147
            0.3331    0.3619    0.3904    0.4188    0.4341
            0.4621    0.4900    0.5177    0.5308    0.5583
            0.5855    0.6109    0.6224    0.6479    0.6719
            0.6882    0.7114    0.7367    0.7597    0.7726
            0.7966    0.8198    0.8411    0.8533    0.8741
            0.8863    0.9066    0.9240    0.9353    0.9542
            0.9599    0.9769    0.9802    0.9916    1.0000
Width:
            0.1289    0.1975    0.2751    0.3205    0.3750
            0.3909    0.4260    0.4473    0.4777    0.5029
            0.5137    0.5487    0.5770    0.5859    0.6025
            0.6260    0.6292    0.6324    0.6356    0.6588
            0.6620    0.6653    0.6685    0.6913    0.6946
            0.6979    0.7033    0.7253    0.7304    0.7370
            0.7520    0.7593    0.7639    0.7709    0.7883
            0.7941    0.8005    0.8087    0.8260    0.8345
            0.8513    0.8601    0.8716    0.8892    0.8992
            0.9224    0.9345    0.9604    0.9785    1.0000

Transect T-C28
Area:
            0.0006    0.0036    0.0086    0.0152    0.0225
            0.0304    0.0392    0.0486    0.0586    0.0696
            0.0812    0.0936    0.1067    0.1202    0.1340
            0.1487    0.1641    0.1800    0.1965    0.2136
            0.2310    0.2492    0.2678    0.2869    0.3066
            0.3269    0.3479    0.3698    0.3924    0.4152
            0.4382    0.4618    0.4856    0.5096    0.5337
            0.5587    0.5843    0.6109    0.6392    0.6693
            0.6999    0.7313    0.7635    0.7961    0.8291
            0.8625    0.8961    0.9302    0.9647    1.0000
Hrad:
            0.0160    0.0311    0.0533    0.0773    0.1053
            0.1297    0.1521    0.1788    0.1975    0.2185
            0.2401    0.2629    0.2843    0.3128    0.3390
            0.3458    0.3721    0.3961    0.4099    0.4383
            0.4663    0.4798    0.5079    0.5244    0.5421
            0.5578    0.5668    0.5949    0.6104    0.6431
            0.6592    0.6875    0.7188    0.7507    0.7824
            0.7811    0.7947    0.8032    0.7677    0.7761
            0.7974    0.8195    0.8334    0.8606    0.8828
            0.9123    0.9392    0.9592    0.9853    1.0000
Width:
            0.0391    0.1157    0.1675    0.1969    0.2140
            0.2348    0.2584    0.2724    0.2975    0.3191
            0.3391    0.3568    0.3760    0.3847    0.3957
            0.4305    0.4415    0.4548    0.4797    0.4876
            0.4955    0.5195    0.5270    0.5468    0.5654
            0.5859    0.6136    0.6246    0.6424    0.6450
            0.6642    0.6711    0.6750    0.6782    0.6822
            0.7146    0.7346    0.7600    0.8324    0.8621
            0.8776    0.8923    0.9162    0.9250    0.9392
            0.9453    0.9540    0.9698    0.9863    1.0000

Transect T-C32
Area:
            0.0030    0.0085    0.0156    0.0236    0.0331
            0.0435    0.0545    0.0660    0.0786    0.0919
            0.1059    0.1202    0.1349    0.1506    0.1665
            0.1832    0.2005    0.2179    0.2355    0.2541
            0.2730    0.2921    0.3121    0.3325    0.3530
            0.3737    0.3952    0.4172    0.4393    0.4617
            0.4848    0.5084    0.5321    0.5565    0.5816
            0.6068    0.6321    0.6576    0.6832    0.7094
            0.7373    0.7654    0.7936    0.8220    0.8506
            0.8794    0.9093    0.9392    0.9693    1.0000
Hrad:
            0.0208    0.0423    0.0636    0.0845    0.1069
            0.1267    0.1543    0.1688    0.1954    0.2086
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

0.2365	0.2640	0.2770	0.3010	0.3244
0.3372	0.3648	0.3921	0.4068	0.4249
0.4521	0.4684	0.4837	0.5109	0.5378
0.5645	0.5670	0.5930	0.6196	0.6381
0.6468	0.6735	0.7000	0.6977	0.7244
0.7509	0.7772	0.8035	0.8253	0.8312
0.8219	0.8481	0.8742	0.9001	0.9259
0.9247	0.9472	0.9749	0.9895	1.0000

Width:

0.1479	0.2050	0.2501	0.2854	0.3158
0.3500	0.3600	0.3991	0.4101	0.4488
0.4560	0.4633	0.4954	0.5085	0.5216
0.5520	0.5578	0.5636	0.5870	0.6062
0.6117	0.6316	0.6535	0.6587	0.6639
0.6691	0.7046	0.7108	0.7160	0.7304
0.7567	0.7615	0.7664	0.8044	0.8092
0.8139	0.8187	0.8234	0.8326	0.8586
0.9026	0.9076	0.9126	0.9176	0.9226
0.9552	0.9630	0.9651	0.9802	1.0000

Transect T-C33

Area:

0.0021	0.0062	0.0118	0.0186	0.0261
0.0340	0.0425	0.0525	0.0632	0.0743
0.0858	0.0976	0.1101	0.1238	0.1382
0.1529	0.1679	0.1831	0.1989	0.2158
0.2332	0.2512	0.2697	0.2885	0.3082
0.3287	0.3494	0.3706	0.3924	0.4151
0.4389	0.4630	0.4875	0.5126	0.5385
0.5650	0.5920	0.6198	0.6490	0.6786
0.7086	0.7394	0.7710	0.8028	0.8348
0.8672	0.9002	0.9333	0.9666	1.0000

Hrad:

0.0192	0.0450	0.0637	0.0866	0.1134
0.1397	0.1611	0.1700	0.1949	0.2222
0.2482	0.2730	0.2828	0.2936	0.3199
0.3471	0.3739	0.4003	0.4082	0.4229
0.4475	0.4600	0.4867	0.5083	0.5115
0.5367	0.5612	0.5824	0.5976	0.5917
0.6167	0.6415	0.6632	0.6755	0.6911
0.7122	0.7277	0.7327	0.7425	0.7660
0.7868	0.7953	0.8183	0.8458	0.8731
0.8847	0.9137	0.9426	0.9714	1.0000

Width:

0.1085	0.1389	0.1863	0.2157	0.2315
0.2454	0.2656	0.3111	0.3267	0.3368
0.3479	0.3599	0.3916	0.4242	0.4346
0.4431	0.4516	0.4601	0.4901	0.5132
0.5239	0.5490	0.5570	0.5706	0.6058
0.6155	0.6258	0.6396	0.6599	0.7052
0.7153	0.7254	0.7387	0.7626	0.7831
0.7973	0.8175	0.8503	0.8785	0.8904
0.9051	0.9343	0.9464	0.9528	0.9591
0.9828	0.9871	0.9914	0.9957	1.0000

Transect T-C36

Area:

0.0009	0.0034	0.0063	0.0095	0.0137
0.0183	0.0232	0.0284	0.0343	0.0406
0.0472	0.0544	0.0622	0.0703	0.0788
0.0878	0.0976	0.1077	0.1181	0.1291
0.1408	0.1530	0.1659	0.1797	0.1940
0.2094	0.2255	0.2427	0.2612	0.2809
0.3020	0.3247	0.3487	0.3743	0.4015
0.4304	0.4612	0.4941	0.5289	0.5657
0.6043	0.6443	0.6854	0.7276	0.7707
0.8148	0.8598	0.9056	0.9523	1.0000

Hrad:

0.0236	0.0605	0.0992	0.1246	0.1482
0.1858	0.2196	0.2479	0.2649	0.3006
0.3335	0.3437	0.3700	0.4040	0.4331
0.4387	0.4674	0.5018	0.5322	0.5306
0.5605	0.5842	0.5877	0.6091	0.6340
0.6312	0.6517	0.6499	0.6541	0.6574
0.6556	0.6687	0.6757	0.6823	0.6858
0.6902	0.6952	0.7017	0.7097	0.7243
0.7340	0.7644	0.7923	0.8219	0.8517
0.8794	0.9101	0.9394	0.9698	1.0000

Width:

0.0386	0.0563	0.0630	0.0761	0.0923
0.0979	0.1047	0.1136	0.1285	0.1338
0.1400	0.1567	0.1664	0.1722	0.1798
0.1982	0.2067	0.2122	0.2192	0.2406
0.2484	0.2590	0.2794	0.2920	0.3030
0.3287	0.3430	0.3706	0.3965	0.4247
0.4580	0.4830	0.5136	0.5463	0.5834
0.6217	0.6617	0.7026	0.7440	0.7799
0.8225	0.8421	0.8644	0.8847	0.9044
0.9262	0.9444	0.9638	0.9819	1.0000

Transect T-C38

Area:

0.0025	0.0062	0.0111	0.0169	0.0230
0.0292	0.0364	0.0441	0.0526	0.0615
0.0706	0.0797	0.0891	0.0985	0.1090
0.1200	0.1318	0.1438	0.1559	0.1681
0.1805	0.1930	0.2063	0.2201	0.2350
0.2500	0.2652	0.2805	0.2964	0.3127
0.3305	0.3494	0.3687	0.3882	0.4086
0.4300	0.4527	0.4757	0.4998	0.5254
0.5516	0.5807	0.6198	0.6658	0.7166
0.7699	0.8247	0.8811	0.9395	1.0000

Hrad:

0.0525	0.0869	0.1199	0.1772	0.2328
0.2868	0.3015	0.3570	0.3707	0.4271
0.4828	0.5378	0.5921	0.6458	0.6380
0.6341	0.6895	0.7443	0.7987	0.8526
0.9061	0.9591	0.9397	0.9255	0.9787
1.0316	1.0841	1.1361	1.1858	1.2339
1.1393	1.1868	1.2337	1.2801	1.3213
1.2938	1.2357	1.2824	1.2663	1.2570
1.3069	1.0686	1.0414	1.0771	0.8573
0.8943	0.9316	0.9681	0.9845	1.0000

Width:

0.0483	0.0715	0.0922	0.0955	0.0987
0.1019	0.1209	0.1234	0.1419	0.1440
0.1461	0.1482	0.1504	0.1525	0.1708
0.1891	0.1911	0.1931	0.1951	0.1971
0.1990	0.2010	0.2193	0.2376	0.2399
0.2422	0.2444	0.2467	0.2586	0.2632
0.3006	0.3058	0.3110	0.3161	0.3379
0.3605	0.3659	0.3705	0.3943	0.4176

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
            0.4216    0.5431    0.6875    0.7829    0.8358
            0.8608    0.8853    0.9101    0.9542    1.0000

Transect T-C39
Area:
            0.0010    0.0026    0.0069    0.0157    0.0250
            0.0344    0.0440    0.0538    0.0656    0.0784
            0.0920    0.1059    0.1198    0.1340    0.1483
            0.1629    0.1778    0.1950    0.2125    0.2300
            0.2477    0.2655    0.2834    0.3014    0.3215
            0.3422    0.3632    0.3844    0.4058    0.4273
            0.4490    0.4713    0.4942    0.5174    0.5423
            0.5674    0.5927    0.6183    0.6443    0.6716
            0.7004    0.7296    0.7592    0.7894    0.8206
            0.8537    0.8873    0.9226    0.9599    1.0000
Hrad:
            0.0331    0.0590    0.0480    0.0712    0.1116
            0.1514    0.1906    0.2292    0.2209    0.2439
            0.2809    0.3194    0.3575    0.3952    0.4312
            0.4627    0.4877    0.4695    0.5085    0.5472
            0.5858    0.6241    0.6622    0.6999    0.6531
            0.6867    0.7211    0.7574    0.7935    0.8293
            0.8649    0.8688    0.8995    0.8927    0.9095
            0.9429    0.9760    1.0051    1.0321    0.9821
            1.0121    1.0414    1.0693    1.0694    1.0937
            1.0723    1.0939    1.0542    1.0595    1.0000
Width:
            0.0307    0.0436    0.1814    0.2201    0.2237
            0.2274    0.2311    0.2347    0.2971    0.3214
            0.3277    0.3315    0.3352    0.3390    0.3438
            0.3519    0.3645    0.4153    0.4178    0.4202
            0.4227    0.4252    0.4277    0.4406    0.4919
            0.4981    0.5034    0.5072    0.5110    0.5148
            0.5187    0.5420    0.5490    0.5792    0.5958
            0.6013    0.6068    0.6147    0.6238    0.6834
            0.6917    0.7002    0.7096    0.7378    0.7500
            0.7958    0.8109    0.8750    0.9059    1.0000

Transect T-C41
Area:
            0.0005    0.0035    0.0074    0.0122    0.0181
            0.0258    0.0338    0.0420    0.0507    0.0603
            0.0705    0.0814    0.0933    0.1059    0.1187
            0.1324    0.1463    0.1605    0.1756    0.1915
            0.2080    0.2252    0.2433    0.2619    0.2811
            0.3014    0.3226    0.3441    0.3666    0.3902
            0.4147    0.4397    0.4651    0.4910    0.5180
            0.5455    0.5742    0.6037    0.6333    0.6637
            0.6951    0.7269    0.7597    0.7930    0.8267
            0.8608    0.8951    0.9298    0.9648    1.0000
Hrad:
            0.0223    0.0337    0.0650    0.0842    0.0864
            0.1165    0.1479    0.1784    0.1987    0.2134
            0.2443    0.2476    0.2706    0.2960    0.3241
            0.3405    0.3721    0.3933    0.4073    0.4226
            0.4343    0.4610    0.4666    0.4944    0.5072
            0.5233    0.5371    0.5635    0.5599    0.5819
            0.5910    0.6215    0.6417    0.6705    0.6728
            0.6970    0.7081    0.7250    0.7557    0.7556
            0.7833    0.7977    0.8108    0.8411    0.8689
            0.8928    0.9251    0.9435    0.9758    1.0000
Width:
            0.0404    0.1040    0.1134    0.1448    0.2095
            0.2216    0.2286    0.2357    0.2553    0.2827
            0.2885    0.3288    0.3448    0.3578    0.3743
            0.3888    0.3931    0.4082    0.4313    0.4531
            0.4790    0.4885    0.5214    0.5298    0.5593
            0.5810    0.6005    0.6205    0.6548    0.6705
            0.7016    0.7075    0.7249    0.7322    0.7699
            0.7848    0.8248    0.8327    0.8381    0.8784
            0.8873    0.9113    0.9370    0.9429    0.9557
            0.9641    0.9676    0.9854    0.9888    1.0000

Transect T-C42
Area:
            0.0015    0.0050    0.0098    0.0156    0.0223
            0.0298    0.0382    0.0474    0.0575    0.0684
            0.0800    0.0922    0.1053    0.1190    0.1334
            0.1486    0.1645    0.1813    0.1987    0.2168
            0.2358    0.2555    0.2761    0.2973    0.3194
            0.3422    0.3653    0.3888    0.4128    0.4372
            0.4620    0.4871    0.5126    0.5385    0.5648
            0.5915    0.6185    0.6458    0.6735    0.7015
            0.7299    0.7585    0.7876    0.8169    0.8466
            0.8766    0.9069    0.9376    0.9686    1.0000
Hrad:
            0.0190    0.0396    0.0595    0.0790    0.0998
            0.1213    0.1375    0.1589    0.1746    0.1944
            0.2140    0.2337    0.2510    0.2699    0.2887
            0.3067    0.3221    0.3389    0.3569    0.3752
            0.3885    0.4049    0.4223    0.4377    0.4552
            0.4768    0.4983    0.5231    0.5403    0.5681
            0.5864    0.6144    0.6317    0.6589    0.6757
            0.7011    0.7209    0.7444    0.7645    0.7886
            0.8089    0.8352    0.8510    0.8775    0.8935
            0.9198    0.9359    0.9597    0.9753    1.0000
Width:
            0.0839    0.1284    0.1666    0.2007    0.2267
            0.2497    0.2820    0.3029    0.3340    0.3568
            0.3791    0.4002    0.4254    0.4471    0.4687
            0.4913    0.5179    0.5424    0.5645    0.5860
            0.6154    0.6400    0.6630    0.6887    0.7115
            0.7270    0.7420    0.7519    0.7724    0.7775
            0.7955    0.7999    0.8183    0.8236    0.8420
            0.8492    0.8631    0.8723    0.8854    0.8936
            0.9060    0.9114    0.9283    0.9333    0.9495
            0.9546    0.9702    0.9778    0.9936    1.0000

Transect T-C43
Area:
            0.0013    0.0050    0.0100    0.0163    0.0237
            0.0321    0.0415    0.0516    0.0627    0.0745
            0.0873    0.1011    0.1157    0.1313    0.1478
            0.1653    0.1839    0.2028    0.2222    0.2420
            0.2622    0.2829    0.3041    0.3255    0.3473
            0.3695    0.3921    0.4152    0.4384    0.4620
            0.4860    0.5103    0.5349    0.5599    0.5852
            0.6109    0.6368    0.6630    0.6896    0.7164
            0.7435    0.7710    0.7986    0.8266    0.8549
            0.8834    0.9121    0.9411    0.9705    1.0000
Hrad:
            0.0137    0.0335    0.0507    0.0709    0.0902
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
          0.1049    0.1291    0.1450    0.1630    0.1805
          0.1934    0.2130    0.2293    0.2424    0.2549
          0.2729    0.2902    0.3161    0.3356    0.3621
          0.3796    0.4027    0.4248    0.4484    0.4689
          0.4898    0.5076    0.5337    0.5592    0.5751
          0.5996    0.6192    0.6405    0.6628    0.6794
          0.7044    0.7277    0.7474    0.7679    0.7887
          0.8110    0.8320    0.8534    0.8729    0.8959
          0.9194    0.9401    0.9541    0.9805    1.0000
Width:
          0.0929    0.1482    0.1980    0.2293    0.2627
          0.3062    0.3212    0.3556    0.3845    0.4125
          0.4515    0.4746    0.5047    0.5415    0.5798
          0.6058    0.6337    0.6417    0.6621    0.6684
          0.6909    0.7026    0.7158    0.7259    0.7408
          0.7544    0.7726    0.7780    0.7840    0.8034
          0.8105    0.8241    0.8352    0.8448    0.8614
          0.8672    0.8751    0.8871    0.8980    0.9083
          0.9169    0.9267    0.9358    0.9471    0.9543
          0.9608    0.9702    0.9865    0.9898    1.0000

Transect T-C45
Area:
          0.0006    0.0038    0.0090    0.0153    0.0225
          0.0313    0.0410    0.0513    0.0622    0.0741
          0.0866    0.1000    0.1140    0.1283    0.1431
          0.1587    0.1751    0.1920    0.2095    0.2277
          0.2464    0.2656    0.2854    0.3056    0.3267
          0.3481    0.3701    0.3926    0.4154    0.4388
          0.4628    0.4872    0.5121    0.5374    0.5633
          0.5896    0.6163    0.6432    0.6708    0.6986
          0.7270    0.7559    0.7853    0.8151    0.8452
          0.8758    0.9066    0.9376    0.9687    1.0000
Hrad:
          0.0142    0.0309    0.0494    0.0708    0.0944
          0.1043    0.1305    0.1544    0.1770    0.1902
          0.2154    0.2304    0.2583    0.2774    0.2997
          0.3150    0.3343    0.3582    0.3674    0.3931
          0.4134    0.4295    0.4527    0.4700    0.4876
          0.5097    0.5258    0.5503    0.5722    0.5848
          0.6078    0.6276    0.6455    0.6672    0.6831
          0.7061    0.7285    0.7527    0.7672    0.7908
          0.8019    0.8244    0.8421    0.8649    0.8811
          0.9043    0.9306    0.9583    0.9860    1.0000
Width:
          0.0601    0.1372    0.1818    0.2166    0.2386
          0.3001    0.3144    0.3324    0.3513    0.3895
          0.4023    0.4342    0.4412    0.4624    0.4776
          0.5040    0.5240    0.5360    0.5702    0.5793
          0.5961    0.6184    0.6305    0.6503    0.6700
          0.6830    0.7039    0.7134    0.7260    0.7504
          0.7615    0.7764    0.7933    0.8055    0.8246
          0.8350    0.8460    0.8557    0.8743    0.8835
          0.9066    0.9170    0.9326    0.9424    0.9593
          0.9685    0.9742    0.9784    0.9825    1.0000

Transect T-C47
Area:
          0.0021    0.0064    0.0120    0.0187    0.0261
          0.0342    0.0430    0.0523    0.0621    0.0725
          0.0836    0.0954    0.1076    0.1203    0.1336
          0.1474    0.1618    0.1766    0.1920    0.2080
          0.2243    0.2413    0.2590    0.2772    0.2962
          0.3157    0.3359    0.3568    0.3783    0.4005
          0.4236    0.4472    0.4717    0.4969    0.5228
          0.5495    0.5770    0.6054    0.6346    0.6646
          0.6954    0.7270    0.7592    0.7918    0.8250
          0.8588    0.8931    0.9281    0.9637    1.0000
Hrad:
          0.0229    0.0458    0.0726    0.0965    0.1235
          0.1478    0.1741    0.1993    0.2253    0.2495
          0.2655    0.2905    0.3200    0.3396    0.3611
          0.3848    0.4048    0.4304    0.4471    0.4714
          0.4963    0.5072    0.5281    0.5460    0.5629
          0.5848    0.5996    0.6118    0.6348    0.6446
          0.6662    0.6786    0.6955    0.7123    0.7288
          0.7410    0.7593    0.7691    0.7825    0.8027
          0.8125    0.8334    0.8593    0.8797    0.8974
          0.9233    0.9420    0.9577    0.9765    1.0000
Width:
          0.0943    0.1395    0.1664    0.1944    0.2122
          0.2322    0.2478    0.2634    0.2768    0.2917
          0.3162    0.3298    0.3376    0.3557    0.3714
          0.3845    0.4011    0.4119    0.4309    0.4427
          0.4535    0.4773    0.4921    0.5095    0.5281
          0.5418    0.5621    0.5852    0.5981    0.6235
          0.6380    0.6613    0.6805    0.7000    0.7198
          0.7442    0.7626    0.7900    0.8138    0.8309
          0.8590    0.8751    0.8858    0.9021    0.9210
          0.9315    0.9491    0.9697    0.9872    1.0000

Transect T-C48
Area:
          0.0003    0.0017    0.0043    0.0089    0.0149
          0.0221    0.0306    0.0403    0.0511    0.0628
          0.0753    0.0887    0.1027    0.1176    0.1333
          0.1498    0.1668    0.1840    0.2019    0.2202
          0.2393    0.2589    0.2792    0.3000    0.3213
          0.3431    0.3654    0.3883    0.4115    0.4352
          0.4595    0.4841    0.5091    0.5348    0.5608
          0.5871    0.6139    0.6411    0.6686    0.6966
          0.7252    0.7541    0.7834    0.8132    0.8435
          0.8741    0.9052    0.9366    0.9682    1.0000
Hrad:
          0.0108    0.0312    0.0446    0.0530    0.0727
          0.0903    0.1069    0.1260    0.1451    0.1659
          0.1843    0.2075    0.2267    0.2471    0.2718
          0.2851    0.3118    0.3360    0.3566    0.3756
          0.3952    0.4154    0.4352    0.4565    0.4760
          0.4987    0.5154    0.5374    0.5623    0.5797
          0.5996    0.6245    0.6427    0.6615    0.6870
          0.7073    0.7251    0.7504    0.7705    0.7872
          0.8072    0.8263    0.8491    0.8657    0.8844
          0.9093    0.9366    0.9505    0.9766    1.0000
Width:
          0.0283    0.0557    0.1107    0.1677    0.2054
          0.2454    0.2864    0.3202    0.3524    0.3787
          0.4088    0.4276    0.4531    0.4800    0.5008
          0.5258    0.5353    0.5480    0.5665    0.5867
          0.6060    0.6238    0.6419    0.6574    0.6753
          0.6883    0.7092    0.7230    0.7322    0.7512
          0.7668    0.7757    0.7926    0.8090    0.8167
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
        0.8305    0.8471    0.8548    0.8683    0.8854
        0.8989    0.9132    0.9231    0.9398    0.9542
        0.9633    0.9810    0.9856    0.9915    1.0000

Transect T-C5
Area:
        0.0050    0.0122    0.0196    0.0274    0.0354
        0.0437    0.0522    0.0611    0.0702    0.0796
        0.0892    0.0992    0.1094    0.1228    0.1402
        0.1578    0.1756    0.1935    0.2117    0.2301
        0.2487    0.2675    0.2864    0.3056    0.3250
        0.3446    0.3644    0.3844    0.4045    0.4249
        0.4456    0.4717    0.4995    0.5275    0.5556
        0.5840    0.6125    0.6412    0.6701    0.6992
        0.7284    0.7578    0.7875    0.8173    0.8473
        0.8774    0.9078    0.9384    0.9691    1.0000
Hrad:
        0.0218    0.0515    0.0801    0.1078    0.1346
        0.1608    0.1862    0.2111    0.2354    0.2592
        0.2825    0.3055    0.3249    0.2205    0.2488
        0.2768    0.3045    0.3320    0.3591    0.3861
        0.4128    0.4392    0.4655    0.4915    0.5173
        0.5428    0.5682    0.5934    0.6184    0.6432
        0.6447    0.5283    0.5557    0.5829    0.6100
        0.6370    0.6638    0.6905    0.7170    0.7434
        0.7696    0.7957    0.8217    0.8475    0.8732
        0.8988    0.9243    0.9497    0.9749    1.0000
Width:
        0.2277    0.2365    0.2453    0.2541    0.2630
        0.2718    0.2806    0.2894    0.2982    0.3071
        0.3159    0.3247    0.3367    0.5572    0.5637
        0.5702    0.5766    0.5831    0.5896    0.5960
        0.6025    0.6090    0.6155    0.6219    0.6284
        0.6349    0.6413    0.6478    0.6543    0.6607
        0.6911    0.8931    0.8990    0.9049    0.9109
        0.9168    0.9228    0.9287    0.9346    0.9406
        0.9465    0.9525    0.9584    0.9644    0.9703
        0.9762    0.9822    0.9881    0.9941    1.0000

Transect T-C52
Area:
        0.0011    0.0042    0.0095    0.0160    0.0235
        0.0325    0.0419    0.0520    0.0632    0.0752
        0.0875    0.1003    0.1136    0.1278    0.1428
        0.1583    0.1741    0.1907    0.2082    0.2265
        0.2451    0.2641    0.2843    0.3053    0.3268
        0.3486    0.3711    0.3945    0.4187    0.4431
        0.4676    0.4922    0.5170    0.5427    0.5686
        0.5948    0.6211    0.6480    0.6754    0.7030
        0.7308    0.7594    0.7883    0.8175    0.8468
        0.8767    0.9072    0.9379    0.9687    1.0000
Hrad:
        0.0131    0.0347    0.0487    0.0724    0.0911
        0.1114    0.1373    0.1537    0.1692    0.1949
        0.2202    0.2434    0.2610    0.2775    0.2945
        0.3195    0.3390    0.3545    0.3624    0.3871
        0.4113    0.4275    0.4322    0.4537    0.4761
        0.4981    0.5114    0.5200    0.5431    0.5719
        0.6005    0.6290    0.6428    0.6610    0.6876
        0.7140    0.7361    0.7464    0.7729    0.7992
        0.8204    0.8276    0.8539    0.8800    0.9037
        0.9061    0.9329    0.9596    0.9862    1.0000
Width:
        0.0811    0.1186    0.1924    0.2182    0.2548
        0.2875    0.3009    0.3340    0.3685    0.3806
        0.3921    0.4065    0.4293    0.4544    0.4784
        0.4886    0.5066    0.5305    0.5667    0.5772
        0.5878    0.6094    0.6490    0.6638    0.6770
        0.6903    0.7158    0.7484    0.7603    0.7640
        0.7677    0.7714    0.7927    0.8091    0.8150
        0.8209    0.8315    0.8554    0.8609    0.8665
        0.8774    0.9036    0.9091    0.9147    0.9226
        0.9525    0.9573    0.9621    0.9668    1.0000

Transect T-C54
Area:
        0.0022    0.0065    0.0121    0.0184    0.0256
        0.0338    0.0426    0.0520    0.0621    0.0729
        0.0841    0.0962    0.1089    0.1220    0.1357
        0.1501    0.1651    0.1805    0.1964    0.2129
        0.2300    0.2476    0.2656    0.2845    0.3041
        0.3241    0.3445    0.3656    0.3873    0.4096
        0.4327    0.4565    0.4807    0.5059    0.5317
        0.5581    0.5853    0.6133    0.6419    0.6715
        0.7019    0.7330    0.7651    0.7977    0.8305
        0.8636    0.8972    0.9310    0.9654    1.0000
Hrad:
        0.0215    0.0448    0.0692    0.0978    0.1136
        0.1386    0.1632    0.1853    0.2087    0.2325
        0.2490    0.2713    0.2937    0.3182    0.3395
        0.3546    0.3796    0.4031    0.4226    0.4427
        0.4612    0.4847    0.5024    0.5155    0.5354
        0.5591    0.5806    0.5946    0.6147    0.6300
        0.6406    0.6644    0.6833    0.6880    0.7103
        0.7288    0.7364    0.7565    0.7700    0.7795
        0.7982    0.8085    0.8223    0.8513    0.8789
        0.9024    0.9258    0.9515    0.9737    1.0000
Width:
        0.1043    0.1457    0.1753    0.1890    0.2263
        0.2448    0.2619    0.2818    0.2988    0.3145
        0.3390    0.3558    0.3718    0.3847    0.4009
        0.4246    0.4362    0.4490    0.4660    0.4822
        0.5001    0.5122    0.5303    0.5536    0.5697
        0.5814    0.5951    0.6166    0.6319    0.6520
        0.6774    0.6891    0.7055    0.7374    0.7507
        0.7679    0.7970    0.8130    0.8360    0.8639
        0.8819    0.9093    0.9331    0.9393    0.9467
        0.9585    0.9701    0.9793    0.9918    1.0000

Transect T-C55
Area:
        0.0005    0.0028    0.0066    0.0113    0.0174
        0.0241    0.0314    0.0393    0.0479    0.0572
        0.0672    0.0779    0.0892    0.1011    0.1138
        0.1271    0.1410    0.1556    0.1708    0.1868
        0.2034    0.2208    0.2390    0.2579    0.2773
        0.2976    0.3190    0.3411    0.3638    0.3873
        0.4118    0.4369    0.4629    0.4898    0.5177
        0.5462    0.5752    0.6049    0.6350    0.6655
        0.6966    0.7282    0.7603    0.7931    0.8262
        0.8598    0.8942    0.9291    0.9643    1.0000
Hrad:
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
          0.0187    0.0332    0.0534    0.0812    0.0971
          0.1242    0.1493    0.1716    0.1904    0.2145
          0.2345    0.2545    0.2787    0.2930    0.3159
          0.3401    0.3544    0.3771    0.3929    0.4144
          0.4329    0.4453    0.4659    0.4862    0.5042
          0.5171    0.5276    0.5512    0.5695    0.5842
          0.5987    0.6170    0.6319    0.6472    0.6588
          0.6866    0.7072    0.7294    0.7587    0.7792
          0.8004    0.8245    0.8478    0.8685    0.8941
          0.9177    0.9295    0.9573    0.9802    1.0000
Width:
          0.0267    0.0833    0.1234    0.1397    0.1788
          0.1938    0.2102    0.2289    0.2514    0.2667
          0.2868    0.3061    0.3200    0.3451    0.3603
          0.3736    0.3977    0.4126    0.4348    0.4507
          0.4698    0.4959    0.5130    0.5304    0.5501
          0.5756    0.6046    0.6189    0.6387    0.6629
          0.6877    0.7081    0.7325    0.7568    0.7857
          0.7955    0.8134    0.8294    0.8370    0.8540
          0.8703    0.8832    0.8968    0.9132    0.9241
          0.9369    0.9620    0.9705    0.9838    1.0000

Transect T-C56
Area:
          0.0015    0.0044    0.0082    0.0129    0.0184
          0.0245    0.0314    0.0390    0.0473    0.0565
          0.0663    0.0769    0.0882    0.1004    0.1133
          0.1271    0.1417    0.1571    0.1733    0.1902
          0.2080    0.2265    0.2458    0.2659    0.2868
          0.3085    0.3311    0.3544    0.3786    0.4034
          0.4291    0.4556    0.4827    0.5103    0.5383
          0.5665    0.5952    0.6242    0.6536    0.6833
          0.7134    0.7438    0.7746    0.8057    0.8372
          0.8690    0.9013    0.9338    0.9667    1.0000
Hrad:
          0.0214    0.0433    0.0640    0.0856    0.1056
          0.1246    0.1450    0.1645    0.1817    0.1974
          0.2187    0.2322    0.2528    0.2677    0.2824
          0.3007    0.3152    0.3325    0.3496    0.3658
          0.3826    0.4021    0.4169    0.4329    0.4509
          0.4652    0.4837    0.4992    0.5152    0.5332
          0.5502    0.5682    0.5892    0.6133    0.6400
          0.6661    0.6885    0.7148    0.7380    0.7630
          0.7889    0.8132    0.8353    0.8607    0.8836
          0.9074    0.9297    0.9526    0.9755    1.0000
Width:
          0.0686    0.1012    0.1290    0.1508    0.1740
          0.1969    0.2169    0.2373    0.2606    0.2864
          0.3033    0.3312    0.3491    0.3750    0.4013
          0.4229    0.4497    0.4726    0.4959    0.5201
          0.5439    0.5634    0.5896    0.6144    0.6362
          0.6634    0.6846    0.7101    0.7348    0.7567
          0.7801    0.8019    0.8193    0.8321    0.8411
          0.8506    0.8645    0.8733    0.8857    0.8957
          0.9044    0.9147    0.9274    0.9362    0.9475
          0.9578    0.9694    0.9802    0.9910    1.0000

Transect T-C58
Area:
          0.0011    0.0041    0.0079    0.0124    0.0174
          0.0234    0.0297    0.0368    0.0445    0.0527
          0.0614    0.0707    0.0805    0.0910    0.1020
          0.1136    0.1258    0.1387    0.1522    0.1663
          0.1810    0.1966    0.2129    0.2299    0.2478
          0.2665    0.2861    0.3068    0.3285    0.3511
          0.3748    0.3995    0.4253    0.4520    0.4797
          0.5084    0.5381    0.5687    0.6004    0.6330
          0.6668    0.7015    0.7372    0.7733    0.8099
          0.8470    0.8846    0.9226    0.9611    1.0000
Hrad:
          0.0200    0.0489    0.0735    0.1045    0.1174
          0.1503    0.1774    0.1910    0.2216    0.2442
          0.2656    0.2925    0.3053    0.3316    0.3552
          0.3719    0.3971    0.4139    0.4341    0.4494
          0.4704    0.4819    0.5040    0.5141    0.5318
          0.5465    0.5556    0.5677    0.5757    0.6016
          0.6064    0.6170    0.6352    0.6505    0.6653
          0.6832    0.6975    0.7147    0.7357    0.7464
          0.7600    0.7809    0.8050    0.8315    0.8641
          0.8886    0.9165    0.9471    0.9725    1.0000
Width:
          0.0574    0.0832    0.1076    0.1183    0.1484
          0.1555    0.1674    0.1927    0.2010    0.2157
          0.2313    0.2418    0.2636    0.2745    0.2872
          0.3055    0.3168    0.3351    0.3504    0.3699
          0.3847    0.4080    0.4222    0.4472    0.4658
          0.4875    0.5148    0.5404    0.5705    0.5836
          0.6180    0.6474    0.6695    0.6947    0.7209
          0.7440    0.7714    0.7956    0.8160    0.8481
          0.8773    0.8983    0.9158    0.9300    0.9372
          0.9532    0.9651    0.9741    0.9883    1.0000

Transect T-C6
Area:
          0.0071    0.0143    0.0218    0.0294    0.0373
          0.0453    0.0535    0.0619    0.0706    0.0793
          0.0883    0.0975    0.1069    0.1164    0.1262
          0.1361    0.1462    0.1565    0.1719    0.1896
          0.2076    0.2258    0.2441    0.2627    0.2816
          0.3006    0.3199    0.3394    0.3591    0.3791
          0.3992    0.4196    0.4403    0.4612    0.4893
          0.5178    0.5466    0.5758    0.6053    0.6352
          0.6654    0.6960    0.7269    0.7590    0.7977
          0.8370    0.8769    0.9174    0.9584    1.0000
Hrad:
          0.0487    0.0960    0.1420    0.1867    0.2303
          0.2729    0.3144    0.3551    0.3949    0.4340
          0.4723    0.5100    0.5470    0.5834    0.6192
          0.6546    0.6894    0.7238    0.4751    0.5172
          0.5589    0.6000    0.6408    0.6810    0.7209
          0.7604    0.7995    0.8382    0.8765    0.9145
          0.9522    0.9895    1.0265    0.8026    0.8408
          0.8787    0.9162    0.9534    0.9903    1.0269
          1.0633    1.0993    1.1350    0.9617    0.9961
          1.0302    1.0641    1.0977    1.1310    1.0000
Width:
          0.1468    0.1507    0.1546    0.1585    0.1624
          0.1663    0.1702    0.1741    0.1780    0.1819
          0.1858    0.1897    0.1936    0.1975    0.2014
          0.2053    0.2092    0.2131    0.3603    0.3649
          0.3694    0.3740    0.3785    0.3831    0.3877
          0.3922    0.3968    0.4013    0.4059    0.4104
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
            0.4150    0.4196    0.4241    0.5716    0.5788
            0.5860    0.5932    0.6004    0.6076    0.6148
            0.6221    0.6293    0.6365    0.7871    0.7987
            0.8104    0.8221    0.8338    0.8455    1.0000

Transect T-C60
Area:
            0.0018    0.0062    0.0121    0.0192    0.0271
            0.0362    0.0459    0.0565    0.0680    0.0802
            0.0931    0.1066    0.1208    0.1356    0.1511
            0.1673    0.1841    0.2015    0.2195    0.2380
            0.2572    0.2770    0.2972    0.3182    0.3397
            0.3617    0.3843    0.4076    0.4314    0.4555
            0.4801    0.5049    0.5298    0.5551    0.5806
            0.6065    0.6324    0.6586    0.6853    0.7122
            0.7393    0.7668    0.7947    0.8228    0.8514
            0.8803    0.9097    0.9394    0.9695    1.0000
Hrad:
            0.0169    0.0358    0.0557    0.0778    0.0978
            0.1196    0.1392    0.1575    0.1774    0.1973
            0.2178    0.2368    0.2585    0.2759    0.2952
            0.3130    0.3329    0.3515    0.3712    0.3901
            0.4078    0.4266    0.4471    0.4623    0.4825
            0.5024    0.5173    0.5346    0.5578    0.5766
            0.6000    0.6263    0.6525    0.6753    0.6961
            0.7233    0.7480    0.7701    0.7902    0.8115
            0.8351    0.8536    0.8737    0.8972    0.9105
            0.9347    0.9478    0.9672    0.9841    1.0000
Width:
            0.1072    0.1748    0.2174    0.2472    0.2782
            0.3035    0.3307    0.3599    0.3847    0.4076
            0.4287    0.4516    0.4688    0.4931    0.5134
            0.5360    0.5545    0.5749    0.5930    0.6119
            0.6325    0.6511    0.6667    0.6903    0.7062
            0.7221    0.7452    0.7647    0.7756    0.7922
            0.8023    0.8082    0.8139    0.8238    0.8358
            0.8400    0.8469    0.8566    0.8684    0.8787
            0.8863    0.8991    0.9103    0.9177    0.9357
            0.9423    0.9600    0.9715    0.9853    1.0000

Transect T-C61
Area:
            0.0015    0.0049    0.0097    0.0156    0.0227
            0.0306    0.0395    0.0492    0.0600    0.0716
            0.0839    0.0970    0.1109    0.1256    0.1407
            0.1566    0.1731    0.1903    0.2080    0.2264
            0.2454    0.2649    0.2850    0.3058    0.3271
            0.3489    0.3712    0.3941    0.4177    0.4418
            0.4663    0.4915    0.5172    0.5431    0.5694
            0.5961    0.6230    0.6503    0.6778    0.7057
            0.7339    0.7624    0.7911    0.8201    0.8494
            0.8790    0.9088    0.9389    0.9693    1.0000
Hrad:
            0.0157    0.0382    0.0552    0.0750    0.0952
            0.1136    0.1335    0.1511    0.1652    0.1858
            0.2077    0.2233    0.2426    0.2632    0.2850
            0.3002    0.3202    0.3407    0.3581    0.3784
            0.3970    0.4169    0.4361    0.4530    0.4745
            0.4917    0.5098    0.5306    0.5449    0.5668
            0.5825    0.6029    0.6237    0.6483    0.6691
            0.6915    0.7161    0.7372    0.7597    0.7807
            0.8034    0.8281    0.8496    0.8725    0.8912
            0.9157    0.9409    0.9573    0.9822    1.0000
Width:
            0.0941    0.1284    0.1766    0.2107    0.2403
            0.2720    0.2985    0.3290    0.3665    0.3890
            0.4077    0.4389    0.4617    0.4817    0.4985
            0.5265    0.5458    0.5637    0.5865    0.6041
            0.6240    0.6415    0.6597    0.6813    0.6957
            0.7160    0.7349    0.7496    0.7736    0.7865
            0.8079    0.8228    0.8367    0.8449    0.8577
            0.8683    0.8758    0.8875    0.8972    0.9084
            0.9176    0.9242    0.9343    0.9426    0.9553
            0.9616    0.9672    0.9817    0.9873    1.0000

Transect T-C62
Area:
            0.0023    0.0096    0.0185    0.0281    0.0391
            0.0511    0.0633    0.0757    0.0883    0.1016
            0.1163    0.1313    0.1465    0.1618    0.1774
            0.1931    0.2099    0.2278    0.2458    0.2640
            0.2823    0.3007    0.3193    0.3380    0.3585
            0.3795    0.4007    0.4220    0.4436    0.4653
            0.4874    0.5099    0.5336    0.5576    0.5818
            0.6064    0.6311    0.6564    0.6820    0.7084
            0.7353    0.7626    0.7903    0.8184    0.8473
            0.8769    0.9070    0.9374    0.9683    1.0000
Hrad:
            0.0206    0.0379    0.0655    0.0928    0.1085
            0.1392    0.1694    0.1991    0.2282    0.2342
            0.2564    0.2858    0.3148    0.3435    0.3718
            0.3994    0.3858    0.4151    0.4442    0.4730
            0.5016    0.5300    0.5582    0.5748    0.5600
            0.5872    0.6142    0.6410    0.6676    0.6913
            0.7118    0.7321    0.7266    0.7518    0.7767
            0.8015    0.8216    0.8397    0.8530    0.8630
            0.8838    0.9046    0.9224    0.9363    0.9422
            0.9564    0.9771    0.9978    1.0100    1.0000
Width:
            0.1145    0.2568    0.2850    0.3063    0.3646
            0.3710    0.3774    0.3838    0.3901    0.4375
            0.4572    0.4628    0.4683    0.4738    0.4794
            0.4856    0.5468    0.5510    0.5553    0.5595
            0.5637    0.5680    0.5722    0.5881    0.6407
            0.6464    0.6522    0.6579    0.6637    0.6722
            0.6839    0.6955    0.7336    0.7408    0.7481
            0.7553    0.7668    0.7804    0.7984    0.8199
            0.8310    0.8420    0.8557    0.8732    0.8986
            0.9163    0.9276    0.9388    0.9582    1.0000

Transect T-C64
Area:
            0.0018    0.0052    0.0096    0.0150    0.0211
            0.0278    0.0353    0.0434    0.0522    0.0617
            0.0718    0.0826    0.0941    0.1064    0.1193
            0.1330    0.1474    0.1624    0.1782    0.1946
            0.2118    0.2296    0.2481    0.2674    0.2872
            0.3078    0.3291    0.3511    0.3738    0.3973
            0.4214    0.4463    0.4719    0.4981    0.5251
            0.5527    0.5810    0.6099    0.6396    0.6698
            0.7008    0.7324    0.7645    0.7970    0.8298
            0.8631    0.8967    0.9307    0.9652    1.0000
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
Hrad:
          0.0216    0.0441    0.0686    0.0936    0.1144
          0.1399    0.1585    0.1833    0.2006    0.2219
          0.2426    0.2594    0.2791    0.2974    0.3163
          0.3334    0.3534    0.3691    0.3882    0.4081
          0.4245    0.4470    0.4622    0.4812    0.5014
          0.5156    0.5374    0.5527    0.5691    0.5884
          0.6016    0.6233    0.6404    0.6574    0.6774
          0.6956    0.7147    0.7348    0.7486    0.7737
          0.7853    0.8090    0.8323    0.8582    0.8830
          0.9081    0.9322    0.9550    0.9785    1.0000
Width:
          0.0824    0.1179    0.1410    0.1610    0.1851
          0.1996    0.2236    0.2374    0.2611    0.2787
          0.2967    0.3194    0.3382    0.3588    0.3784
          0.4000    0.4183    0.4412    0.4603    0.4784
          0.5004    0.5152    0.5384    0.5572    0.5745
          0.5988    0.6142    0.6372    0.6588    0.6772
          0.7026    0.7182    0.7390    0.7600    0.7774
          0.7969    0.8153    0.8325    0.8569    0.8683
          0.8950    0.9079    0.9210    0.9307    0.9415
          0.9518    0.9629    0.9752    0.9867    1.0000

Transect T-C65
Area:
          0.0012    0.0043    0.0097    0.0160    0.0237
          0.0325    0.0423    0.0526    0.0639    0.0764
          0.0895    0.1030    0.1169    0.1313    0.1462
          0.1618    0.1788    0.1962    0.2140    0.2322
          0.2507    0.2698    0.2896    0.3100    0.3314
          0.3531    0.3754    0.3981    0.4212    0.4450
          0.4693    0.4943    0.5197    0.5457    0.5721
          0.5988    0.6257    0.6528    0.6802    0.7079
          0.7360    0.7643    0.7929    0.8219    0.8510
          0.8804    0.9100    0.9397    0.9698    1.0000
Hrad:
          0.0169    0.0257    0.0510    0.0689    0.0882
          0.1038    0.1286    0.1501    0.1585    0.1821
          0.2051    0.2290    0.2518    0.2739    0.2924
          0.3054    0.3163    0.3390    0.3624    0.3856
          0.4086    0.4224    0.4408    0.4478    0.4687
          0.4888    0.5091    0.5297    0.5467    0.5653
          0.5789    0.5976    0.6174    0.6346    0.6563
          0.6807    0.7050    0.7284    0.7510    0.7732
          0.7949    0.8164    0.8377    0.8591    0.8836
          0.9080    0.9323    0.9554    0.9777    1.0000
Width:
          0.0698    0.1664    0.1917    0.2324    0.2699
          0.3142    0.3300    0.3518    0.4045    0.4213
          0.4378    0.4511    0.4659    0.4809    0.5015
          0.5317    0.5671    0.5807    0.5926    0.6041
          0.6157    0.6408    0.6591    0.6947    0.7093
          0.7248    0.7397    0.7540    0.7731    0.7897
          0.8135    0.8299    0.8446    0.8627    0.8744
          0.8821    0.8898    0.8983    0.9078    0.9174
          0.9275    0.9376    0.9478    0.9577    0.9640
          0.9703    0.9766    0.9840    0.9920    1.0000

Transect T-C66
Area:
          0.0011    0.0047    0.0095    0.0151    0.0215
          0.0283    0.0360    0.0446    0.0533    0.0622
          0.0719    0.0823    0.0930    0.1039    0.1154
          0.1276    0.1403    0.1534    0.1668    0.1804
          0.1951    0.2105    0.2261    0.2425    0.2595
          0.2771    0.2958    0.3153    0.3355    0.3563
          0.3788    0.4027    0.4271    0.4531    0.4803
          0.5079    0.5369    0.5670    0.5979    0.6296
          0.6620    0.6959    0.7301    0.7655    0.8016
          0.8390    0.8776    0.9170    0.9578    1.0000
Hrad:
          0.0258    0.0475    0.0779    0.1046    0.1414
          0.1736    0.1834    0.2212    0.2580    0.2916
          0.3002    0.3328    0.3657    0.3986    0.4096
          0.4357    0.4598    0.4929    0.5255    0.5515
          0.5413    0.5753    0.6088    0.6131    0.6384
          0.6479    0.6626    0.6702    0.6968    0.6873
          0.6806    0.7142    0.7132    0.7135    0.7483
          0.7538    0.7830    0.7886    0.8163    0.8345
          0.8480    0.8717    0.9013    0.9131    0.9360
          0.9407    0.9653    0.9661    0.9967    1.0000
Width:
          0.0457    0.1004    0.1237    0.1462    0.1536
          0.1640    0.1978    0.2023    0.2068    0.2131
          0.2392    0.2467    0.2533    0.2594    0.2803
          0.2914    0.3036    0.3092    0.3148    0.3244
          0.3578    0.3627    0.3676    0.3919    0.4028
          0.4240    0.4428    0.4670    0.4779    0.5153
          0.5539    0.5607    0.5960    0.6327    0.6391
          0.6711    0.6829    0.7167    0.7301    0.7523
          0.7788    0.7964    0.8080    0.8365    0.8547
          0.8907    0.9079    0.9487    0.9603    1.0000

Transect T-C68
Area:
          0.0013    0.0044    0.0087    0.0140    0.0203
          0.0274    0.0354    0.0443    0.0540    0.0645
          0.0757    0.0878    0.1006    0.1142    0.1285
          0.1435    0.1594    0.1758    0.1930    0.2109
          0.2294    0.2485    0.2682    0.2887    0.3097
          0.3312    0.3534    0.3762    0.3995    0.4234
          0.4478    0.4729    0.4985    0.5247    0.5515
          0.5789    0.6069    0.6354    0.6644    0.6935
          0.7230    0.7527    0.7827    0.8129    0.8435
          0.8742    0.9052    0.9365    0.9681    1.0000
Hrad:
          0.0157    0.0373    0.0600    0.0774    0.0964
          0.1155    0.1321    0.1532    0.1709    0.1901
          0.2080    0.2239    0.2458    0.2625    0.2790
          0.2972    0.3155    0.3336    0.3515    0.3699
          0.3906    0.4084    0.4304    0.4444    0.4669
          0.4856    0.5002    0.5211    0.5453    0.5604
          0.5772    0.5951    0.6142    0.6352    0.6499
          0.6699    0.6860    0.7067    0.7304    0.7575
          0.7800    0.8068    0.8295    0.8554    0.8785
          0.9049    0.9297    0.9512    0.9751    1.0000
Width:
          0.0803    0.1192    0.1450    0.1804    0.2104
          0.2373    0.2682    0.2893    0.3159    0.3393
          0.3640    0.3924    0.4096    0.4352    0.4606
          0.4832    0.5053    0.5272    0.5493    0.5704
          0.5876    0.6088    0.6234    0.6499    0.6634
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
        0.6823    0.7066    0.7222    0.7327    0.7555
        0.7758    0.7947    0.8117    0.8261    0.8487
        0.8642    0.8848    0.8992    0.9096    0.9156
        0.9269    0.9330    0.9435    0.9504    0.9602
        0.9661    0.9737    0.9846    0.9929    1.0000

Transect T-C7
Area:
        0.0023    0.0071    0.0133    0.0210    0.0295
        0.0395    0.0502    0.0618    0.0744    0.0877
        0.1019    0.1170    0.1326    0.1490    0.1658
        0.1834    0.2020    0.2209    0.2400    0.2601
        0.2811    0.3024    0.3239    0.3457    0.3681
        0.3906    0.4133    0.4360    0.4591    0.4828
        0.5065    0.5303    0.5543    0.5786    0.6034
        0.6284    0.6534    0.6786    0.7040    0.7299
        0.7560    0.7821    0.8085    0.8351    0.8621
        0.8893    0.9167    0.9441    0.9719    1.0000
Hrad:
        0.0182    0.0349    0.0572    0.0722    0.0933
        0.1068    0.1307    0.1439    0.1628    0.1770
        0.1959    0.2166    0.2299    0.2545    0.2715
        0.2914    0.3049    0.3294    0.3499    0.3522
        0.3765    0.4006    0.4246    0.4367    0.4631
        0.4893    0.5155    0.5416    0.5505    0.5765
        0.6024    0.6281    0.6520    0.6611    0.6863
        0.7114    0.7364    0.7589    0.7790    0.7937
        0.8182    0.8426    0.8645    0.8827    0.8977
        0.9222    0.9467    0.9709    0.9827    1.0000
Width:
        0.1283    0.2046    0.2320    0.2909    0.3161
        0.3702    0.3842    0.4297    0.4574    0.4957
        0.5205    0.5403    0.5770    0.5859    0.6111
        0.6298    0.6627    0.6708    0.6861    0.7389
        0.7469    0.7550    0.7628    0.7917    0.7951
        0.7985    0.8018    0.8052    0.8341    0.8375
        0.8409    0.8444    0.8501    0.8753    0.8793
        0.8833    0.8873    0.8942    0.9037    0.9196
        0.9239    0.9283    0.9353    0.9460    0.9604
        0.9643    0.9683    0.9724    0.9890    1.0000

Transect T-C73
Area:
        0.0007    0.0027    0.0052    0.0090    0.0139
        0.0197    0.0260    0.0334    0.0420    0.0516
        0.0616    0.0723    0.0840    0.0965    0.1094
        0.1226    0.1362    0.1508    0.1664    0.1825
        0.1994    0.2181    0.2376    0.2577    0.2785
        0.3002    0.3227    0.3458    0.3692    0.3937
        0.4188    0.4444    0.4705    0.4974    0.5244
        0.5521    0.5805    0.6097    0.6393    0.6695
        0.7003    0.7314    0.7631    0.7953    0.8278
        0.8610    0.8947    0.9291    0.9640    1.0000
Hrad:
        0.0249    0.0421    0.0621    0.0695    0.0968
        0.1170    0.1459    0.1522    0.1635    0.1902
        0.2167    0.2364    0.2476    0.2742    0.3038
        0.3327    0.3533    0.3612    0.3789    0.4017
        0.4133    0.4290    0.4352    0.4522    0.4768
        0.4908    0.5099    0.5381    0.5602    0.5758
        0.5957    0.6234    0.6370    0.6677    0.6972
        0.7115    0.7417    0.7484    0.7797    0.7901
        0.8173    0.8458    0.8620    0.8901    0.9082
        0.9307    0.9457    0.9707    0.9747    1.0000
Width:
        0.0297    0.0633    0.0835    0.1296    0.1435
        0.1683    0.1834    0.2195    0.2568    0.2712
        0.2844    0.3061    0.3394    0.3522    0.3602
        0.3685    0.3856    0.4174    0.4391    0.4544
        0.4827    0.5319    0.5460    0.5700    0.5843
        0.6118    0.6330    0.6427    0.6593    0.6839
        0.7032    0.7131    0.7388    0.7450    0.7523
        0.7760    0.7995    0.8147    0.8199    0.8473
        0.8567    0.8647    0.8852    0.8934    0.9114
        0.9251    0.9460    0.9571    0.9891    1.0000

Transect T-C74_2
Area:
        0.0010    0.0037    0.0081    0.0182    0.0306
        0.0441    0.0580    0.0727    0.0878    0.1034
        0.1195    0.1362    0.1532    0.1706    0.1884
        0.2064    0.2250    0.2439    0.2628    0.2824
        0.3026    0.3228    0.3432    0.3643    0.3856
        0.4069    0.4287    0.4511    0.4736    0.4964
        0.5194    0.5427    0.5666    0.5909    0.6152
        0.6399    0.6650    0.6901    0.7152    0.7405
        0.7661    0.7917    0.8173    0.8431    0.8690
        0.8951    0.9212    0.9474    0.9736    1.0000
Hrad:
        0.0114    0.0269    0.0405    0.0429    0.0635
        0.0847    0.1104    0.1285    0.1501    0.1712
        0.1966    0.2153    0.2353    0.2549    0.2801
        0.2987    0.3172    0.3423    0.3674    0.3728
        0.3977    0.4226    0.4411    0.4556    0.4805
        0.5052    0.5177    0.5332    0.5579    0.5728
        0.5974    0.6115    0.6222    0.6465    0.6700
        0.6782    0.7036    0.7288    0.7536    0.7685
        0.7938    0.8192    0.8444    0.8647    0.8874
        0.9082    0.9334    0.9585    0.9837    1.0000
Width:
        0.0922    0.1373    0.2248    0.4497    0.4837
        0.5214    0.5421    0.5670    0.5865    0.6058
        0.6095    0.6338    0.6525    0.6711    0.6744
        0.6928    0.7110    0.7141    0.7172    0.7594
        0.7625    0.7657    0.7798    0.8015    0.8043
        0.8072    0.8299    0.8479    0.8507    0.8685
        0.8714    0.8895    0.9127    0.9159    0.9202
        0.9454    0.9469    0.9485    0.9505    0.9650
        0.9663    0.9676    0.9689    0.9758    0.9799
        0.9862    0.9874    0.9886    0.9899    1.0000

Transect T-C8
Area:
        0.0010    0.0039    0.0095    0.0165    0.0246
        0.0337    0.0437    0.0548    0.0667    0.0792
        0.0927    0.1069    0.1217    0.1374    0.1538
        0.1710    0.1887    0.2070    0.2258    0.2454
        0.2657    0.2865    0.3077    0.3293    0.3512
        0.3735    0.3961    0.4190    0.4421    0.4656
        0.4895    0.5136    0.5381    0.5628    0.5878
        0.6131    0.6388    0.6647    0.6910    0.7177
        0.7446    0.7719    0.7996    0.8275    0.8555
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
          0.8839    0.9127    0.9416    0.9706    1.0000
Hrad:
          0.0164    0.0250    0.0470    0.0651    0.0896
          0.1067    0.1244    0.1452    0.1670    0.1858
          0.2034    0.2241    0.2434    0.2590    0.2791
          0.2983    0.3172    0.3403    0.3560    0.3752
          0.3934    0.4136    0.4378    0.4591    0.4822
          0.5040    0.5266    0.5507    0.5736    0.5926
          0.6143    0.6357    0.6586    0.6800    0.7017
          0.7199    0.7421    0.7637    0.7793    0.7997
          0.8222    0.8362    0.8574    0.8821    0.9048
          0.9192    0.9415    0.9654    0.9871    1.0000
Width:
          0.0610    0.1612    0.2070    0.2608    0.2814
          0.3241    0.3608    0.3871    0.4098    0.4375
          0.4675    0.4890    0.5128    0.5439    0.5653
          0.5878    0.6100    0.6235    0.6504    0.6705
          0.6922    0.7099    0.7199    0.7338    0.7443
          0.7564    0.7669    0.7748    0.7842    0.7985
          0.8089    0.8196    0.8279    0.8379    0.8472
          0.8608    0.8691    0.8781    0.8938    0.9040
          0.9116    0.9285    0.9373    0.9420    0.9487
          0.9644    0.9714    0.9765    0.9838    1.0000

Transect T-C80
Area:
          0.0027    0.0080    0.0144    0.0217    0.0305
          0.0405    0.0512    0.0630    0.0755    0.0888
          0.1030    0.1184    0.1344    0.1510    0.1684
          0.1861    0.2046    0.2235    0.2428    0.2627
          0.2831    0.3043    0.3259    0.3478    0.3698
          0.3922    0.4149    0.4380    0.4612    0.4847
          0.5083    0.5322    0.5563    0.5807    0.6053
          0.6301    0.6552    0.6804    0.7058    0.7316
          0.7576    0.7839    0.8103    0.8368    0.8635
          0.8905    0.9175    0.9448    0.9723    1.0000
Hrad:
          0.0153    0.0383    0.0588    0.0786    0.0896
          0.1089    0.1268    0.1421    0.1642    0.1786
          0.1957    0.2084    0.2269    0.2493    0.2663
          0.2841    0.3042    0.3243    0.3414    0.3651
          0.3773    0.3927    0.4151    0.4403    0.4611
          0.4846    0.5026    0.5257    0.5473    0.5723
          0.5961    0.6139    0.6376    0.6556    0.6791
          0.7022    0.7230    0.7452    0.7623    0.7838
          0.8017    0.8244    0.8491    0.8740    0.8914
          0.9142    0.9376    0.9545    0.9761    1.0000
Width:
          0.1761    0.2094    0.2525    0.2772    0.3410
          0.3721    0.4048    0.4437    0.4603    0.4978
          0.5378    0.5688    0.5933    0.6148    0.6334
          0.6560    0.6737    0.6900    0.7123    0.7226
          0.7515    0.7760    0.7863    0.7909    0.8032
          0.8103    0.8266    0.8341    0.8437    0.8477
          0.8534    0.8676    0.8732    0.8864    0.8921
          0.8979    0.9068    0.9135    0.9264    0.9339
          0.9454    0.9513    0.9546    0.9577    0.9690
          0.9743    0.9787    0.9899    0.9962    1.0000

Transect T-C83
Area:
          0.0018    0.0055    0.0105    0.0163    0.0232
          0.0309    0.0394    0.0488    0.0590    0.0699
          0.0817    0.0941    0.1074    0.1215    0.1364
          0.1519    0.1683    0.1855    0.2034    0.2220
          0.2413    0.2615    0.2825    0.3042    0.3266
          0.3498    0.3733    0.3972    0.4213    0.4456
          0.4704    0.4955    0.5207    0.5464    0.5723
          0.5985    0.6250    0.6518    0.6789    0.7063
          0.7340    0.7620    0.7905    0.8192    0.8484
          0.8779    0.9077    0.9381    0.9688    1.0000
Hrad:
          0.0187    0.0387    0.0629    0.0802    0.0969
          0.1212    0.1356    0.1568    0.1779    0.1915
          0.2118    0.2294    0.2471    0.2622    0.2803
          0.2988    0.3145    0.3306    0.3508    0.3669
          0.3822    0.3987    0.4153    0.4315    0.4483
          0.4696    0.4958    0.5180    0.5453    0.5678
          0.5914    0.6189    0.6422    0.6623    0.6899
          0.7103    0.7340    0.7590    0.7816    0.8020
          0.8270    0.8441    0.8677    0.8860    0.9054
          0.9290    0.9434    0.9626    0.9798    1.0000
Width:
          0.0976    0.1424    0.1664    0.2036    0.2394
          0.2553    0.2906    0.3115    0.3316    0.3654
          0.3856    0.4106    0.4348    0.4635    0.4870
          0.5086    0.5352    0.5614    0.5801    0.6052
          0.6316    0.6562    0.6804    0.7051    0.7287
          0.7451    0.7530    0.7669    0.7727    0.7850
          0.7956    0.8007    0.8109    0.8251    0.8296
          0.8426    0.8516    0.8588    0.8686    0.8807
          0.8875    0.9028    0.9110    0.9245    0.9370
          0.9450    0.9621    0.9745    0.9888    1.0000

Transect T-C86
Area:
          0.0022    0.0062    0.0110    0.0163    0.0229
          0.0300    0.0376    0.0456    0.0541    0.0633
          0.0730    0.0833    0.0939    0.1049    0.1164
          0.1289    0.1418    0.1551    0.1690    0.1834
          0.1984    0.2143    0.2307    0.2477    0.2656
          0.2844    0.3040    0.3239    0.3452    0.3672
          0.3902    0.4139    0.4387    0.4641    0.4908
          0.5185    0.5470    0.5763    0.6065    0.6378
          0.6697    0.7027    0.7366    0.7714    0.8070
          0.8437    0.8814    0.9197    0.9594    1.0000
Hrad:
          0.0289    0.0552    0.0899    0.1125    0.1367
          0.1682    0.1994    0.2273    0.2507    0.2765
          0.2985    0.3293    0.3568    0.3826    0.4037
          0.4145    0.4458    0.4735    0.4895    0.5139
          0.5274    0.5433    0.5731    0.5789    0.6014
          0.6048    0.6343    0.6655    0.6599    0.6645
          0.6923    0.6929    0.7206    0.7288    0.7449
          0.7580    0.7791    0.7986    0.8078    0.8337
          0.8434    0.8696    0.8757    0.9074    0.9147
          0.9310    0.9548    0.9665    0.9845    1.0000
Width:
          0.0757    0.1118    0.1221    0.1452    0.1675
          0.1785    0.1884    0.2004    0.2159    0.2288
          0.2446    0.2528    0.2630    0.2742    0.2883
          0.3110    0.3181    0.3275    0.3451    0.3569
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

0.3761	0.3944	0.4025	0.4278	0.4416
0.4702	0.4791	0.5067	0.5230	0.5526
0.5636	0.5972	0.6087	0.6368	0.6588
0.6839	0.7021	0.7216	0.7508	0.7649
0.7940	0.8080	0.8412	0.8501	0.8823
0.9062	0.9231	0.9516	0.9746	1.0000

Transect T-C87
Area:

0.0004	0.0016	0.0036	0.0064	0.0100
0.0144	0.0196	0.0256	0.0324	0.0400
0.0484	0.0576	0.0676	0.0784	0.0900
0.1024	0.1156	0.1296	0.1444	0.1600
0.1764	0.1936	0.2116	0.2304	0.2500
0.2704	0.2916	0.3136	0.3364	0.3600
0.3844	0.4096	0.4356	0.4624	0.4900
0.5184	0.5476	0.5776	0.6084	0.6400
0.6724	0.7056	0.7396	0.7744	0.8100
0.8464	0.8836	0.9216	0.9604	1.0000

Hrad:

0.0200	0.0400	0.0600	0.0800	0.1000
0.1200	0.1400	0.1600	0.1800	0.2000
0.2200	0.2400	0.2600	0.2800	0.3000
0.3200	0.3400	0.3600	0.3800	0.4000
0.4200	0.4400	0.4600	0.4800	0.5000
0.5200	0.5400	0.5600	0.5800	0.6000
0.6200	0.6400	0.6600	0.6800	0.7000
0.7200	0.7400	0.7600	0.7800	0.8000
0.8200	0.8400	0.8600	0.8800	0.9000
0.9200	0.9400	0.9600	0.9800	1.0000

Width:

0.0200	0.0400	0.0600	0.0800	0.1000
0.1200	0.1400	0.1600	0.1800	0.2000
0.2200	0.2400	0.2600	0.2800	0.3000
0.3200	0.3400	0.3600	0.3800	0.4000
0.4200	0.4400	0.4600	0.4800	0.5000
0.5200	0.5400	0.5600	0.5800	0.6000
0.6200	0.6400	0.6600	0.6800	0.7000
0.7200	0.7400	0.7600	0.7800	0.8000
0.8200	0.8400	0.8600	0.8800	0.9000
0.9200	0.9400	0.9600	0.9800	1.0000

Transect T-C88
Area:

0.0016	0.0040	0.0076	0.0115	0.0165
0.0219	0.0277	0.0344	0.0413	0.0493
0.0577	0.0670	0.0769	0.0871	0.0985
0.1109	0.1239	0.1383	0.1542	0.1709
0.1895	0.2086	0.2282	0.2504	0.2741
0.2983	0.3230	0.3484	0.3746	0.4012
0.4279	0.4551	0.4831	0.5113	0.5396
0.5680	0.5966	0.6254	0.6549	0.6845
0.7143	0.7444	0.7754	0.8065	0.8379
0.8695	0.9013	0.9336	0.9664	1.0000

Hrad:

0.0238	0.0526	0.0680	0.0971	0.1072
0.1364	0.1456	0.1719	0.1995	0.2018
0.2293	0.2332	0.2623	0.2644	0.2893
0.2929	0.3208	0.2981	0.3266	0.3302
0.3400	0.3701	0.3781	0.3833	0.4082
0.4356	0.4616	0.4592	0.4808	0.5115
0.5421	0.5539	0.5848	0.6156	0.6462
0.6762	0.7059	0.7354	0.7531	0.7834
0.8135	0.8238	0.8480	0.8766	0.9049
0.9316	0.9572	0.9738	0.9976	1.0000

Width:

0.0655	0.0843	0.1120	0.1189	0.1544
0.1606	0.1906	0.2002	0.2073	0.2441
0.2515	0.2876	0.2933	0.3294	0.3404
0.3788	0.3864	0.4642	0.4724	0.5175
0.5575	0.5636	0.6037	0.6847	0.7045
0.7196	0.7373	0.7588	0.7793	0.7844
0.7894	0.8217	0.8261	0.8305	0.8350
0.8400	0.8453	0.8505	0.8696	0.8738
0.8780	0.9037	0.9143	0.9201	0.9259
0.9333	0.9416	0.9588	0.9687	1.0000

Transect T-C89
Area:

0.0021	0.0062	0.0118	0.0184	0.0259
0.0346	0.0439	0.0540	0.0652	0.0770
0.0893	0.1019	0.1156	0.1298	0.1448
0.1602	0.1760	0.1925	0.2094	0.2268
0.2449	0.2633	0.2821	0.3014	0.3216
0.3422	0.3631	0.3843	0.4060	0.4282
0.4511	0.4745	0.4984	0.5229	0.5479
0.5732	0.5990	0.6258	0.6530	0.6807
0.7089	0.7378	0.7675	0.7981	0.8296
0.8618	0.8955	0.9298	0.9646	1.0000

Hrad:

0.0232	0.0455	0.0691	0.0951	0.1110
0.1392	0.1654	0.1813	0.2036	0.2306
0.2594	0.2828	0.2971	0.3230	0.3423
0.3700	0.3901	0.4150	0.4379	0.4591
0.4815	0.5071	0.5322	0.5453	0.5651
0.5896	0.6174	0.6447	0.6642	0.6777
0.6961	0.7200	0.7374	0.7542	0.7801
0.8006	0.8175	0.8275	0.8495	0.8711
0.8921	0.8975	0.9076	0.9172	0.9316
0.9316	0.9380	0.9652	0.9760	1.0000

Width:

0.0905	0.1395	0.1737	0.1968	0.2372
0.2527	0.2694	0.3025	0.3249	0.3385
0.3484	0.3643	0.3935	0.4063	0.4274
0.4372	0.4554	0.4679	0.4823	0.4983
0.5128	0.5232	0.5338	0.5566	0.5730
0.5842	0.5916	0.5992	0.6141	0.6350
0.6513	0.6622	0.6790	0.6965	0.7050
0.7186	0.7351	0.7588	0.7712	0.7839
0.7969	0.8247	0.8485	0.8732	0.8937
0.9289	0.9583	0.9656	0.9895	1.0000

Transect T-C9
Area:

0.0023	0.0076	0.0144	0.0223	0.0316
0.0416	0.0528	0.0646	0.0771	0.0902
0.1040	0.1185	0.1335	0.1492	0.1656
0.1823	0.1998	0.2179	0.2364	0.2558
0.2753	0.2952	0.3161	0.3373	0.3588
0.3810	0.4036	0.4267	0.4506	0.4748
0.4993	0.5241	0.5492	0.5745	0.5999
0.6254	0.6510	0.6767	0.7028	0.7292

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
            0.7556    0.7822    0.8088    0.8356    0.8627
            0.8900    0.9173    0.9448    0.9723    1.0000
Hrad:
            0.0140    0.0356    0.0544    0.0728    0.0913
            0.1113    0.1280    0.1499    0.1678    0.1883
            0.2042    0.2255    0.2442    0.2599    0.2799
            0.3002    0.3147    0.3337    0.3438    0.3676
            0.3913    0.4078    0.4183    0.4420    0.4645
            0.4751    0.4911    0.5139    0.5235    0.5448
            0.5654    0.5863    0.6083    0.6337    0.6589
            0.6839    0.7082    0.7324    0.7479    0.7707
            0.7961    0.8214    0.8467    0.8652    0.8859
            0.9088    0.9341    0.9592    0.9844    1.0000
Width:
            0.1631    0.2137    0.2653    0.3074    0.3470
            0.3754    0.4136    0.4320    0.4608    0.4804
            0.5110    0.5270    0.5482    0.5759    0.5931
            0.6090    0.6366    0.6546    0.6894    0.6973
            0.7052    0.7254    0.7571    0.7645    0.7736
            0.8031    0.8230    0.8314    0.8618    0.8724
            0.8840    0.8949    0.9038    0.9075    0.9112
            0.9151    0.9199    0.9246    0.9403    0.9468
            0.9497    0.9527    0.9556    0.9662    0.9741
            0.9796    0.9823    0.9850    0.9878    1.0000

Transect T-C90
Area:
            0.0019    0.0055    0.0099    0.0157    0.0224
            0.0297    0.0374    0.0457    0.0551    0.0651
            0.0754    0.0862    0.0975    0.1095    0.1222
            0.1353    0.1488    0.1628    0.1774    0.1926
            0.2084    0.2251    0.2423    0.2600    0.2781
            0.2966    0.3156    0.3354    0.3565    0.3780
            0.3999    0.4224    0.4456    0.4698    0.4947
            0.5204    0.5473    0.5748    0.6029    0.6328
            0.6641    0.6959    0.7293    0.7640    0.8003
            0.8380    0.8770    0.9171    0.9578    1.0000
Hrad:
            0.0266    0.0592    0.0899    0.1068    0.1360
            0.1699    0.1991    0.2275    0.2396    0.2730
            0.3057    0.3334    0.3543    0.3765    0.4028
            0.4329    0.4599    0.4834    0.5045    0.5281
            0.5461    0.5627    0.5885    0.6177    0.6449
            0.6717    0.6958    0.7052    0.7074    0.7392
            0.7659    0.7833    0.7980    0.8098    0.8293
            0.8474    0.8539    0.8793    0.9033    0.8650
            0.8954    0.9132    0.9133    0.9198    0.9205
            0.9183    0.9515    0.9647    0.9818    1.0000
Width:
            0.0734    0.0940    0.1105    0.1479    0.1655
            0.1753    0.1882    0.2013    0.2305    0.2388
            0.2469    0.2583    0.2751    0.2909    0.3032
            0.3121    0.3230    0.3363    0.3511    0.3642
            0.3811    0.3994    0.4111    0.4200    0.4302
            0.4404    0.4523    0.4743    0.5026    0.5098
            0.5204    0.5375    0.5568    0.5785    0.5950
            0.6176    0.6395    0.6522    0.6658    0.7303
            0.7402    0.7606    0.7973    0.8296    0.8686
            0.9121    0.9213    0.9503    0.9754    1.0000

Transect T-C91
Area:
            0.0015    0.0047    0.0087    0.0132    0.0184
            0.0243    0.0308    0.0379    0.0453    0.0532
            0.0618    0.0710    0.0806    0.0905    0.1009
            0.1120    0.1237    0.1357    0.1482    0.1610
            0.1743    0.1887    0.2039    0.2196    0.2357
            0.2523    0.2699    0.2884    0.3076    0.3280
            0.3492    0.3715    0.3944    0.4180    0.4424
            0.4677    0.4942    0.5216    0.5504    0.5806
            0.6126    0.6471    0.6837    0.7226    0.7636
            0.8067    0.8517    0.8990    0.9484    1.0000
Hrad:
            0.0307    0.0679    0.1085    0.1464    0.1731
            0.2028    0.2387    0.2754    0.3122    0.3355
            0.3617    0.3960    0.4319    0.4676    0.4911
            0.5131    0.5432    0.5780    0.6122    0.6423
            0.6646    0.6610    0.6888    0.7213    0.7530
            0.7730    0.7748    0.8012    0.8125    0.8251
            0.8374    0.8579    0.8890    0.9079    0.9330
            0.9483    0.9617    0.9759    0.9824    0.9830
            0.9701    0.9588    0.9476    0.9510    0.9581
            0.9659    0.9724    0.9787    0.9878    1.0000
Width:
            0.0502    0.0695    0.0803    0.0898    0.1059
            0.1196    0.1288    0.1368    0.1440    0.1575
            0.1699    0.1780    0.1850    0.1917    0.2034
            0.2162    0.2253    0.2322    0.2391    0.2475
            0.2590    0.2823    0.2927    0.3008    0.3091
            0.3225    0.3445    0.3560    0.3746    0.3935
            0.4131    0.4291    0.4397    0.4565    0.4704
            0.4896    0.5103    0.5311    0.5570    0.5877
            0.6288    0.6725    0.7195    0.7581    0.7955
            0.8339    0.8750    0.9180    0.9599    1.0000

Transect T-C93
Area:
            0.0019    0.0062    0.0112    0.0167    0.0235
            0.0311    0.0392    0.0477    0.0569    0.0672
            0.0784    0.0898    0.1017    0.1139    0.1269
            0.1404    0.1547    0.1694    0.1845    0.2004
            0.2171    0.2343    0.2520    0.2702    0.2890
            0.3086    0.3288    0.3494    0.3706    0.3925
            0.4152    0.4384    0.4623    0.4874    0.5133
            0.5396    0.5666    0.5947    0.6241    0.6542
            0.6854    0.7177    0.7508    0.7843    0.8185
            0.8534    0.8889    0.9251    0.9622    1.0000
Hrad:
            0.0194    0.0505    0.0821    0.1062    0.1222
            0.1506    0.1812    0.2108    0.2245    0.2336
            0.2646    0.2949    0.3246    0.3440    0.3647
            0.3892    0.4068    0.4342    0.4586    0.4690
            0.4876    0.5124    0.5372    0.5613    0.5744
            0.5907    0.6161    0.6405    0.6586    0.6699
            0.6909    0.7122    0.7244    0.7273    0.7503
            0.7754    0.7917    0.7892    0.8017    0.8211
            0.8237    0.8344    0.8614    0.8897    0.9033
            0.9274    0.9469    0.9659    0.9830    1.0000
Width:
            0.0977    0.1231    0.1362    0.1572    0.1923
            0.2070    0.2167    0.2264    0.2537    0.2878
            0.2962    0.3046    0.3131    0.3310    0.3478
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

```
  0.3607    0.3800    0.3899    0.4020    0.4270
  0.4450    0.4571    0.4689    0.4810    0.5028
  0.5222    0.5334    0.5452    0.5623    0.5855
  0.6006    0.6152    0.6378    0.6698    0.6837
  0.6955    0.7152    0.7532    0.7782    0.7964
  0.8318    0.8600    0.8715    0.8814    0.9059
  0.9200    0.9386    0.9577    0.9788    1.0000


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

****************
Analysis Options
****************
Flow Units ............... CFS
Process Models:
  Rainfall/Runoff ........ NO
  RDII ................... NO
  Snowmelt ............... NO
  Groundwater ............ NO
  Flow Routing ........... YES
  Ponding Allowed ........ NO
  Water Quality .......... NO
Infiltration Method ...... HORTON
Flow Routing Method ...... KINWAVE
Starting Date ............ 09/01/2018 00:00:00
Ending Date .............. 09/01/2018 10:00:00
Antecedent Dry Days ...... 0.0
Report Time Step ......... 00:05:00
Wet Time Step ............ 00:05:00
Dry Time Step ............ 00:05:00
Routing Time Step ........ 5.00 sec


**************************        Volume         Depth
Runoff Quantity Continuity     acre-feet        inches
**************************     ---------       -------
Total Precipitation ......         0.000         0.000
Evaporation Loss .........         0.000         0.000
Infiltration Loss ........         0.000         0.000
Surface Runoff ...........         0.000         0.000
Final Storage ............         0.000         0.000
Continuity Error (%) .....         0.000


**************************        Volume        Volume
Flow Routing Continuity        acre-feet      10^6 gal
**************************     ---------     ---------
Dry Weather Inflow .......         0.000         0.000
Wet Weather Inflow .......         0.000         0.000
Groundwater Inflow .......         0.000         0.000
RDII Inflow ..............         0.000         0.000
External Inflow ..........       583.280       190.071
External Outflow .........       574.275       187.136
Flooding Loss ............         0.000         0.000
Evaporation Loss .........         0.000         0.000
Exfiltration Loss ........         0.000         0.000
Initial Stored Volume ....         0.000         0.000
Final Stored Volume ......        12.331         4.018
Continuity Error (%) .....        -0.570


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


*************************
Routing Time Step Summary
*************************
Minimum Time Step           :     4.00 sec
Average Time Step           :     5.00 sec
Maximum Time Step           :     5.00 sec
Percent in Steady State     :     0.00
Average Iterations per Step :     1.00
Percent Not Converging      :     0.00


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

--------------------------------------------------------------------------------
                                  Average  Maximum  Maximum  Time of Max    Reported
                                    Depth    Depth      HGL   Occurrence   Max Depth
Node                Type             Feet     Feet     Feet  days hr:min        Feet
--------------------------------------------------------------------------------
B100                JUNCTION         0.00     0.00  5511.01     0  00:00        0.00
B1000               JUNCTION         0.00     0.00  5686.08     0  00:00        0.00
B1005               JUNCTION         0.00     0.00  5700.10     0  00:00        0.00
B1010               JUNCTION         0.11     0.52  5717.71     0  00:55        0.52
B1100               JUNCTION         0.00     0.00  5708.80     0  00:00        0.00
B1105               JUNCTION         0.00     0.00  5749.60     0  00:00        0.00
B1110               JUNCTION         0.14     0.53  5766.35     0  01:05        0.53
B200                JUNCTION         0.00     0.00  5516.13     0  00:00        0.00
B205                JUNCTION         0.00     0.00  5531.84     0  00:00        0.00
B210                JUNCTION         0.00     0.00  5543.12     0  00:00        0.00
B215                JUNCTION         0.00     0.00  5551.33     0  00:00        0.00
B235                JUNCTION         0.15     0.53  5572.01     0  01:00        0.53
B240                JUNCTION         0.00     0.00  5570.52     0  00:00        0.00
B245                JUNCTION         0.00     0.00  5600.91     0  00:00        0.00
B300                JUNCTION         0.00     0.00  5554.12     0  00:00        0.00
B305                JUNCTION         0.00     0.00  5563.78     0  00:00        0.00
B310                JUNCTION         0.00     0.00  5563.78     0  00:00        0.00
B315                JUNCTION         0.00     0.00  5563.78     0  00:00        0.00
B320                JUNCTION         0.00     0.00  5575.36     0  00:00        0.00
B325                JUNCTION         0.00     0.00  5600.62     0  00:00        0.00
B330                JUNCTION         0.00     0.00  5601.85     0  00:00        0.00
B335                JUNCTION         0.00     0.00  5612.56     0  00:00        0.00
B340                JUNCTION         0.00     0.00  5610.04     0  00:00        0.00
B345                JUNCTION         0.00     0.00  5632.10     0  00:00        0.00
B350                JUNCTION         0.00     0.00  5643.98     0  00:00        0.00
B355                JUNCTION         0.00     0.00  5643.98     0  00:00        0.00
B360                JUNCTION         0.00     0.00  5669.91     0  00:00        0.00
B365                JUNCTION         0.08     0.35  5673.32     0  01:00        0.35
B370                JUNCTION         0.00     0.00  5632.10     0  00:00        0.00
B375                JUNCTION         0.00     0.00  5645.12     0  00:00        0.00
```

FIGURE B-5
Existing Conditions 100-Year SWMM Output

B380	JUNCTION	0.00	0.00	5659.42	0	00:00	0.00
B385	JUNCTION	0.09	0.42	5677.78	0	00:55	0.42
B400	JUNCTION	0.00	0.00	5565.43	0	00:00	0.00
B405	JUNCTION	0.10	0.60	5594.56	0	00:40	0.60
B500	JUNCTION	0.00	0.00	5567.09	0	00:00	0.00
B600	JUNCTION	0.00	0.00	5568.84	0	00:00	0.00
B602	JUNCTION	0.00	0.00	5582.10	0	00:00	0.00
B605	JUNCTION	0.00	0.00	5603.51	0	00:00	0.00
B610	JUNCTION	0.13	0.50	5626.52	0	01:00	0.50
B615	JUNCTION	0.05	0.41	5635.51	0	00:40	0.41
B700	JUNCTION	0.00	0.00	5573.79	0	00:00	0.00
B705	JUNCTION	0.12	0.56	5616.54	0	00:55	0.56
B800	JUNCTION	0.00	0.00	5605.06	0	00:00	0.00
B805	JUNCTION	0.00	0.00	5626.11	0	00:00	0.00
B810	JUNCTION	0.00	0.00	5626.11	0	00:00	0.00
B815	JUNCTION	0.11	0.65	5651.58	0	00:50	0.65
B900	JUNCTION	0.00	0.00	5648.06	0	00:00	0.00
B905	JUNCTION	0.00	0.00	5688.47	0	00:00	0.00
B910	JUNCTION	0.00	0.00	5688.47	0	00:00	0.00
B915	JUNCTION	0.00	0.00	5695.99	0	00:00	0.00
B920	JUNCTION	0.00	0.00	5695.99	0	00:00	0.00
B925	JUNCTION	0.00	0.00	5740.06	0	00:00	0.00
B930	JUNCTION	0.00	0.00	5740.06	0	00:00	0.00
DP100	JUNCTION	0.00	0.00	5510.91	0	00:10	0.00
DP1000	JUNCTION	1.76	3.11	5689.09	0	00:10	3.11
DP1005	JUNCTION	0.14	0.68	5700.68	0	00:55	0.68
DP1100	JUNCTION	1.40	1.64	5710.34	0	00:10	1.64
DP1105	JUNCTION	0.15	0.60	5750.10	0	01:01	0.60
DP200	JUNCTION	3.91	3.98	5520.01	0	00:10	3.98
DP205	JUNCTION	0.49	2.05	5533.79	0	00:54	2.05
DP210	JUNCTION	0.53	2.12	5545.14	0	00:56	2.11
DP215	JUNCTION	0.53	2.12	5553.34	0	00:56	2.11
DP216	JUNCTION	0.51	2.07	5565.33	0	00:56	2.06
DP219	JUNCTION	10.00	10.00	5579.45	0	00:00	10.00
DP223	JUNCTION	1.68	2.57	5575.28	0	00:40	2.56
DP228	JUNCTION	3.51	3.74	5572.86	0	00:41	3.74
DP300	JUNCTION	4.49	4.57	5558.60	0	00:10	4.57
DP304	JUNCTION	9.00	9.00	5571.30	0	00:00	9.00
DP319	JUNCTION	16.70	16.70	5583.01	0	00:00	16.70
DP323	JUNCTION	22.23	22.23	5601.13	0	00:00	22.23
DP329	JUNCTION	9.77	9.77	5606.33	0	00:00	9.77
DP334	JUNCTION	11.95	11.95	5616.50	0	00:00	11.95
DP340	JUNCTION	19.80	20.52	5630.46	0	01:07	20.52
DP345	JUNCTION	0.27	1.00	5633.00	0	01:06	1.00
DP350	JUNCTION	0.19	0.69	5644.57	0	01:05	0.69
DP360	JUNCTION	0.13	0.53	5670.34	0	01:00	0.53
DP375	JUNCTION	0.17	0.70	5645.71	0	01:02	0.70
DP380	JUNCTION	0.15	0.67	5659.99	0	01:00	0.67
DP400	JUNCTION	0.86	0.93	5566.26	0	00:10	0.93
DP500	JUNCTION	0.00	0.00	5566.99	0	00:10	0.00
DP600	JUNCTION	14.59	14.67	5583.41	0	00:10	14.67
DP602	JUNCTION	10.26	10.91	5591.06	0	01:23	10.91
DP605	JUNCTION	0.21	0.97	5604.38	0	00:51	0.97
DP700	JUNCTION	1.41	1.43	5575.12	0	00:10	1.43
DP800	JUNCTION	1.89	2.49	5607.45	0	00:10	2.49
DP805	JUNCTION	0.22	1.09	5627.10	0	00:54	1.09
DP900	JUNCTION	2.03	2.09	5650.05	0	00:10	2.09
DP905	JUNCTION	0.24	0.98	5689.36	0	01:02	0.98
DP915	JUNCTION	0.24	0.98	5696.87	0	01:01	0.98
DP925	JUNCTION	0.15	0.58	5740.54	0	01:00	0.58
B220	DIVIDER	3.50	3.50	5586.19	0	00:00	3.50
B225	DIVIDER	1.68	2.57	5576.12	0	00:40	2.57
B230	DIVIDER	3.51	3.75	5582.77	0	00:40	3.75
B250	DIVIDER	4.00	4.00	5623.48	0	00:00	4.00
DP240	DIVIDER	10.00	10.00	5580.43	0	00:00	10.00
DP245	DIVIDER	5.02	5.45	5606.26	0	00:46	5.44
DP305	DIVIDER	8.00	8.00	5571.68	0	00:00	8.00
DP320	DIVIDER	8.00	8.00	5583.26	0	00:00	8.00
DP325	DIVIDER	4.50	4.50	5605.02	0	00:00	4.50
DP330	DIVIDER	6.00	6.00	5607.75	0	00:00	6.00
DP335	DIVIDER	4.50	4.50	5616.96	0	00:00	4.50
SU1	STORAGE	6.44	7.82	5589.82	0	01:23	7.81

****
Node Inflow Summary
****

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Time of Max Occurrence days hr:min		Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
B100	JUNCTION	168.69	168.69	0	00:55	7.41	7.41	0.000
B1000	JUNCTION	36.39	36.39	0	00:50	1.31	1.31	0.000
B1005	JUNCTION	62.86	62.86	0	00:45	1.86	1.86	0.000
B1010	JUNCTION	138.27	138.27	0	00:55	5.15	5.15	0.000
B1100	JUNCTION	91.21	91.21	0	00:50	3.11	3.11	0.000
B1105	JUNCTION	34.47	34.47	0	00:55	1.49	1.49	0.000
B1110	JUNCTION	113.80	113.80	0	01:05	5.02	5.02	0.000
B200	JUNCTION	22.28	22.28	0	00:55	0.927	0.927	0.000
B205	JUNCTION	58.60	58.60	0	01:00	2.55	2.55	0.000
B210	JUNCTION	55.87	55.87	0	00:45	1.55	1.55	0.000
B215	JUNCTION	49.90	49.90	0	00:50	1.75	1.75	0.000
B235	JUNCTION	91.66	91.66	0	01:00	4.42	4.42	0.000
B240	JUNCTION	162.31	162.31	0	01:05	8.27	8.27	0.000
B245	JUNCTION	196.60	196.60	0	00:40	4.43	4.43	0.000
B300	JUNCTION	20.42	20.42	0	00:50	0.699	0.699	0.000
B305	JUNCTION	4.86	4.86	0	00:55	0.23	0.23	0.000
B310	JUNCTION	214.26	214.26	0	00:40	5.56	5.56	0.000
B315	JUNCTION	86.04	86.04	0	00:50	2.92	2.92	0.000
B320	JUNCTION	12.95	12.95	0	01:00	0.636	0.636	0.000
B325	JUNCTION	78.70	78.70	0	00:50	2.91	2.91	0.000
B330	JUNCTION	75.16	75.16	0	00:50	2.69	2.69	0.000
B335	JUNCTION	106.87	106.87	0	01:00	4.6	4.6	0.000
B340	JUNCTION	60.40	60.40	0	00:40	1.25	1.25	0.000
B345	JUNCTION	62.47	62.47	0	01:00	2.76	2.76	0.000
B350	JUNCTION	35.92	35.92	0	01:05	1.74	1.74	0.000
B355	JUNCTION	54.39	54.39	0	00:55	2.24	2.24	0.000
B360	JUNCTION	82.74	82.74	0	01:00	3.58	3.58	0.000
B365	JUNCTION	141.01	141.01	0	01:00	5.61	5.61	0.000
B370	JUNCTION	55.99	55.99	0	00:55	2.34	2.34	0.000
B375	JUNCTION	160.69	160.69	0	00:55	5.6	5.6	0.000
B380	JUNCTION	94.38	94.38	0	01:00	3.91	3.91	0.000
B385	JUNCTION	145.45	145.45	0	00:55	5.08	5.08	0.000
B400	JUNCTION	43.50	43.50	0	00:55	1.88	1.88	0.000
B405	JUNCTION	135.74	135.74	0	00:40	3.54	3.54	0.000
B500	JUNCTION	150.23	150.23	0	01:05	6.98	6.98	0.000
B600	JUNCTION	29.66	29.66	0	00:40	0.658	0.658	0.000
B602	JUNCTION	116.08	116.08	0	00:50	3.57	3.57	0.000
B605	JUNCTION	100.16	100.16	0	00:45	2.85	2.85	0.000

FIGURE B-5
Existing Conditions 100-Year SWMM Output

B610	JUNCTION	123.36	123.36	0	01:00	5.39	5.39	0.000
B615	JUNCTION	89.98	89.98	0	00:40	2.08	2.08	0.000
B700	JUNCTION	45.91	45.91	0	01:05	2.24	2.24	0.000
B705	JUNCTION	167.67	167.67	0	00:55	6.16	6.16	0.000
B800	JUNCTION	64.62	64.62	0	01:05	3.21	3.21	0.000
B805	JUNCTION	173.02	173.02	0	00:55	6.14	6.14	0.000
B810	JUNCTION	63.20	63.20	0	01:00	2.72	2.72	0.000
B815	JUNCTION	192.99	192.99	0	00:50	5.6	5.6	0.000
B900	JUNCTION	80.01	80.01	0	00:50	2.84	2.84	0.000
B905	JUNCTION	49.47	49.47	0	00:45	1.47	1.47	0.000
B910	JUNCTION	31.13	31.13	0	01:05	1.62	1.62	0.000
B915	JUNCTION	86.27	86.27	0	00:55	3.12	3.12	0.000
B920	JUNCTION	92.28	92.28	0	00:55	3.31	3.31	0.000
B925	JUNCTION	93.70	93.70	0	01:05	4.26	4.26	0.000
B930	JUNCTION	94.59	94.59	0	01:00	3.89	3.89	0.000
DP100	JUNCTION	0.00	168.69	0	00:55	0	7.41	0.000
DP1000	JUNCTION	0.00	232.10	0	00:56	0	8.33	0.000
DP1005	JUNCTION	0.00	196.88	0	00:55	0	7.01	0.000
DP1100	JUNCTION	0.00	232.72	0	01:02	0	9.62	0.000
DP1105	JUNCTION	0.00	147.76	0	01:01	0	6.51	0.000
DP200	JUNCTION	0.00	1003.66	0	00:55	0	37	0.000
DP205	JUNCTION	0.00	981.88	0	00:54	0	36.1	0.000
DP210	JUNCTION	0.00	924.06	0	00:52	0	33.5	0.000
DP215	JUNCTION	0.00	703.16	0	00:56	0	27.3	0.000
DP216	JUNCTION	0.00	654.97	0	00:56	0	25.6	0.000
DP219	JUNCTION	0.00	538.08	0	00:59	0	22.1	0.000
DP223	JUNCTION	0.00	205.74	0	00:40	0	4.66	0.000
DP228	JUNCTION	0.00	141.08	0	00:41	0	3.53	0.000
DP300	JUNCTION	0.00	1211.78	0	01:27	0	55	0.000
DP304	JUNCTION	0.00	1199.14	0	01:26	0	54.3	0.000
DP319	JUNCTION	0.00	1059.59	0	01:23	0	45.6	0.000
DP323	JUNCTION	0.00	1062.88	0	01:15	0	44.8	0.000
DP329	JUNCTION	0.00	894.29	0	01:14	0	37.2	0.000
DP334	JUNCTION	0.00	106.85	0	01:00	0	4.6	0.000
DP340	JUNCTION	0.00	843.52	0	01:06	0	34.3	0.000
DP345	JUNCTION	0.00	806.44	0	01:06	0	33	0.000
DP350	JUNCTION	0.00	309.60	0	01:05	0	13.2	0.000
DP360	JUNCTION	0.00	223.43	0	01:00	0	9.19	0.000
DP375	JUNCTION	0.00	386.23	0	01:02	0	14.7	0.000
DP380	JUNCTION	0.00	236.40	0	01:00	0	9.04	0.000
DP400	JUNCTION	0.00	172.60	0	00:50	0	5.43	0.000
DP500	JUNCTION	0.00	150.23	0	01:05	0	6.98	0.000
DP600	JUNCTION	0.00	300.37	0	01:23	0	10.7	0.000
DP602	JUNCTION	0.00	289.53	0	01:23	0	10	0.000
DP605	JUNCTION	0.00	293.30	0	00:51	0	10.3	0.000
DP700	JUNCTION	0.00	211.09	0	01:03	0	8.44	0.000
DP800	JUNCTION	0.00	487.79	0	00:56	0	17.7	0.000
DP805	JUNCTION	0.00	425.89	0	00:54	0	14.5	0.000
DP900	JUNCTION	0.00	509.81	0	00:59	0	20.5	0.000
DP905	JUNCTION	0.00	432.59	0	00:59	0	17.7	0.000
DP915	JUNCTION	0.00	357.46	0	01:01	0	14.6	0.000
DP925	JUNCTION	0.00	187.54	0	01:00	0	8.15	0.000
B220	DIVIDER	52.62	52.62	0	00:40	1.48	1.48	0.000
B225	DIVIDER	205.98	205.98	0	00:40	4.66	4.66	0.000
B230	DIVIDER	141.89	141.89	0	00:40	3.52	3.52	0.000
B250	DIVIDER	87.06	87.06	0	00:55	3.29	3.29	0.000
DP240	DIVIDER	0.00	296.22	0	01:00	0	14.2	0.000
DP245	DIVIDER	0.00	251.61	0	00:46	0	7.72	0.000
DP305	DIVIDER	0.00	1199.15	0	01:26	0	54.3	-0.000
DP320	DIVIDER	0.00	1059.59	0	01:22	0	45.6	0.000
DP325	DIVIDER	0.00	175.06	0	01:08	0	7.57	0.000
DP330	DIVIDER	0.00	894.30	0	01:14	0	37.2	0.000
DP335	DIVIDER	0.00	106.87	0	01:00	0	4.6	0.000
SU1	STORAGE	0.00	406.59	0	00:52	0	13.9	0.010

****
Node Flooding Summary
****

No nodes were flooded.

****
Storage Volume Summary
****

Storage Unit	Average Volume 1000 ft3	Avg Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 ft3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maximum Outflow CFS
SU1	563.063	35	0	0	812.519	51	0 01:22	289.53

****
Link Flow Summary
****

Link	Type	Maximum |Flow| CFS	Time of Max Occurrence days hr:min	Maximum |Veloc| ft/sec	Max/ Full Flow	Max/ Full Depth
C1	CONDUIT	0.00	0 00:00	0.00	0.00	0.00
C10	DUMMY	93.70	0 01:05			
C10_1	CONDUIT	894.29	0 01:14	11.18	0.75	0.67
C10_2	CHANNEL	893.73	0 01:16	2.75	0.22	0.43
C1000	DUMMY	36.39	0 00:50			
C1005	DUMMY	62.86	0 00:45			
C11	CONDUIT	0.00	0 00:00	0.00	0.00	0.00
C1100	DUMMY	91.21	0 00:50			
C111	DUMMY	100.16	0 00:45			
C12	CONDUIT	1199.14	0 01:26	9.20	0.35	0.39
C12_2	CONDUIT	198.09	0 01:17	11.46	1.08	1.00
C13	CONDUIT	1059.59	0 01:23	8.77	0.31	0.36
C14	CONDUIT	0.00	0 00:00	0.00	0.00	0.00
C15	CHANNEL	289.49	0 01:23	12.95	0.02	0.19
C16	CHANNEL	89.27	0 00:42	8.79	0.00	0.09
C17	DUMMY	43.50	0 00:55			
C19	CONDUIT	86.27	0 00:59	8.61	0.91	0.75
C2	CHANNEL	192.44	0 00:51	8.04	0.06	0.31
C20	DUMMY	55.87	0 00:45			
C200	DUMMY	22.28	0 00:55			
C205	DUMMY	58.60	0 01:00			
C21	DUMMY	34.47	0 00:55			
C22	DUMMY	168.69	0 00:55			
C225	CONDUIT	16.33	0 00:19	5.50	1.12	1.00
C23	CHANNEL	1199.07	0 01:27	16.34	0.14	0.38
C230	CONDUIT	115.17	0 00:34	13.05	1.08	1.00
C24	DUMMY	49.90	0 00:50			
C240	DUMMY	162.31	0 01:05			

FIGURE B-5
Existing Conditions 100-Year SWMM Output

C245	DUMMY	196.60	0	00:40			
C25	CONDUIT	0.00	0	00:00	0.00	0.00	0.00
C26	CONDUIT	106.85	0	01:00	6.30	0.31	0.39
C27	DUMMY	20.42	0	00:50			
C28	CONDUIT	175.06	0	01:08	10.71	0.52	0.51
C29	CONDUIT	0.00	0	00:00	0.00	0.00	0.00
C3	CHANNEL	831.60	0	01:14	4.42	0.24	0.52
C30	CONDUIT	0.00	0	00:00	0.00	0.00	0.00
C305	DUMMY	4.86	0	00:55			
C31	CONDUIT	0.00	0	00:00	0.00	0.00	0.00
C310	DUMMY	214.26	0	00:40			
C315	DUMMY	86.04	0	00:50			
C32	CHANNEL	104.44	0	01:12	2.39	0.09	0.28
C320	DUMMY	12.95	0	01:00			
C325	DUMMY	78.70	0	00:50			
C33	CONDUIT	0.00	0	00:00	0.00	0.00	0.00
C33_1	CHANNEL	923.76	0	00:53	13.58	0.30	0.62
C33_2	CHANNEL	981.42	0	00:55	14.98	0.18	0.51
C330	DUMMY	75.16	0	00:50			
C335	DUMMY	106.87	0	01:00			
C340	DUMMY	60.40	0	00:40			
C345	DUMMY	62.47	0	01:00			
C350	DUMMY	35.92	0	01:05			
C355	DUMMY	54.39	0	00:55			
C36	CHANNEL	703.14	0	00:56	19.28	0.04	0.30
C360	DUMMY	82.74	0	01:00			
C370	DUMMY	55.99	0	00:55			
C375	DUMMY	160.69	0	00:55			
C380	DUMMY	94.38	0	01:00			
C4	CONDUIT	191.13	0	00:40	5.58	0.13	0.33
C40	CHANNEL	91.58	0	01:01	3.44	0.22	0.48
C41	CHANNEL	806.25	0	01:07	6.65	0.16	0.43
C42	CHANNEL	432.52	0	01:00	16.54	0.22	0.44
C43	CHANNEL	385.89	0	01:05	8.10	0.24	0.53
C45	DUMMY	94.59	0	01:00			
C47	CHANNEL	357.43	0	01:02	9.87	0.10	0.36
C48	CHANNEL	308.55	0	01:10	>50.00	0.10	0.36
C5	CONDUIT	59.45	0	00:58	8.68	0.03	0.13
C500	DUMMY	150.23	0	01:05			
C52	CHANNEL	234.81	0	01:05	6.92	0.13	0.34
C54	CHANNEL	147.60	0	01:06	10.08	0.10	0.36
C55	CHANNEL	187.24	0	01:05	>50.00	0.14	0.45
C56	CHANNEL	292.84	0	00:53	11.12	0.01	0.15
C58	CHANNEL	425.71	0	00:56	10.95	0.12	0.44
C6	CONDUIT	52.54	0	00:40	13.02	0.39	0.44
C60	CHANNEL	221.80	0	01:07	6.48	0.27	0.56
C600	DUMMY	29.66	0	00:40			
C602	DUMMY	116.08	0	00:50			
C61	CHANNEL	123.35	0	01:05	9.60	0.01	0.12
C64	CHANNEL	196.74	0	00:57	8.99	0.03	0.22
C65	CHANNEL	165.31	0	01:02	7.57	0.11	0.38
C68	CHANNEL	137.96	0	00:56	8.88	0.01	0.15
C7	CONDUIT	34.59	0	00:41	4.72	0.09	0.24
C700	DUMMY	45.91	0	01:05			
C73	CHANNEL	130.62	0	00:48	6.54	0.32	0.64
C74_2	CHANNEL	142.11	0	01:01	4.62	0.09	0.35
C8	CHANNEL	1048.75	0	01:23	2.94	0.26	0.47
C80	CHANNEL	140.84	0	01:01	3.85	0.14	0.37
C800	DUMMY	64.62	0	01:05			
C805	DUMMY	173.02	0	00:55			
C810	DUMMY	63.20	0	01:00			
C83	CHANNEL	113.89	0	01:05	8.80	0.01	0.15
C88	CONDUIT	296.20	0	01:00	7.35	0.28	0.34
C89	CHANNEL	538.08	0	01:00	13.95	0.05	0.27
C9	CHANNEL	1053.23	0	01:28	2.93	0.26	0.48
C90	CHANNEL	141.05	0	00:41	11.59	0.02	0.19
C900	DUMMY	80.01	0	00:50			
C905	DUMMY	49.47	0	00:45			
C91	CHANNEL	654.91	0	00:56	19.61	0.07	0.31
C910	DUMMY	31.13	0	01:05			
C915	DUMMY	86.27	0	00:55			
C920	DUMMY	92.28	0	00:55			
C93	CHANNEL	204.99	0	00:41	12.93	0.13	0.41
C18	DUMMY	289.53	0	01:23			

****
Conduit Surcharge Summary
****

Conduit	Hours Full: Both Ends	Hours Full: Upstream	Hours Full: Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
C12_2	0.64	0.64	0.64	0.67	0.64
C225	1.78	1.78	1.78	1.79	1.78
C230	0.48	0.48	0.48	0.50	0.48

Analysis begun on: Wed Feb 06 16:29:10 2019
Analysis ended on: Wed Feb 06 16:29:11 2019
Total elapsed time: 00:00:01

FIGURE B-6
Future Conditions 100-Year SWMM Output

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

FIRST CREEK TRIBUTARIES MDP
BASELINE HYDROLOGY SWMM MODEL
100-YR, FUTURE


*************
Element Count
*************
Number of rain gages ...... 1
Number of subcatchments ... 57
Number of nodes ........... 102
Number of links ........... 102
Number of pollutants ...... 0
Number of land uses ....... 0


****************
Raingage Summary
****************
                                                  Data       Recording
Name                 Data Source                  Type       Interval
-----------------------------------------------------------------------
California_Type_1_1in California_Type_1_1in        INTENSITY    6 min.


********************
Subcatchment Summary
********************
Name                        Area     Width   %Imperv    %Slope Rain Gage            Outlet
-----------------------------------------------------------------------------------------------
-------
100                       154.77   1206.87     95.27    1.9160 California_Type_1_1in B100
1000                       34.21    633.19     49.82    3.6020 California_Type_1_1in B1000
1005                       48.48    912.77     24.73    3.0360 California_Type_1_1in B1005
1010                      134.08   1380.51     18.76    2.8070 California_Type_1_1in B1010
1100                       84.78   1115.60     21.79    3.7800 California_Type_1_1in B1100
1105                       39.65    590.76     12.34    2.3970 California_Type_1_1in B1105
1110                      128.07    965.26     19.65    2.2590 California_Type_1_1in B1110
200                        23.41    479.69     35.27    3.2800 California_Type_1_1in B200
205                        63.55    713.35     94.57    3.2800 California_Type_1_1in B205
210                        39.05    922.35     93.06    3.6980 California_Type_1_1in B210
215                        44.10    802.10     90.03    3.2590 California_Type_1_1in B215
220                        26.63    610.48     50.50    4.0730 California_Type_1_1in B220
225                        84.22   1058.87     52.28    3.6980 California_Type_1_1in B225
230                        62.05    863.38     55.14    3.9450 California_Type_1_1in B230
235                        91.12    762.19     46.46    3.8200 California_Type_1_1in B235
240                       171.44   1107.78     50.36    1.4720 California_Type_1_1in B240
245                        80.85   1120.24     50.22    3.4570 California_Type_1_1in B245
250                        86.18   1184.99     50.00    2.7920 California_Type_1_1in B250
300                        18.67    452.95     50.00    0.5000 California_Type_1_1in B300
305                         6.51    204.73      2.01    7.6490 California_Type_1_1in B305
310                       104.43   1246.91     50.02    4.0900 California_Type_1_1in B310
315                        75.26    972.24     50.22    5.0300 California_Type_1_1in B315
320                        16.37    290.72      4.92    0.5000 California_Type_1_1in B320
325                        72.58   1128.17     50.00    3.4970 California_Type_1_1in B325
330                        68.14   1207.53     50.11    3.4710 California_Type_1_1in B330
335                       125.39   1219.23     64.73    2.5240 California_Type_1_1in B335
340                        34.29   1028.66     68.28    2.0960 California_Type_1_1in B340
345                        74.60    883.04     53.61    2.2660 California_Type_1_1in B345
350                        44.97    566.09     50.00    2.1640 California_Type_1_1in B350
355                        69.00    807.53     52.60    3.0160 California_Type_1_1in B355
360                        93.29    830.66     50.00    2.1620 California_Type_1_1in B360
365                       153.84   1416.18     50.00    2.3800 California_Type_1_1in B365
370                        61.66    780.72     50.84    2.0720 California_Type_1_1in B370
375                       148.86   1624.22     50.00    2.3120 California_Type_1_1in B375
380                       102.12   1180.64     50.47    2.4420 California_Type_1_1in B380
385                       131.80   1356.65     59.95    2.4610 California_Type_1_1in B385
400                        92.70    855.88     50.00    2.2110 California_Type_1_1in B400
405                        69.28    890.75     51.87    3.2540 California_Type_1_1in B405
500                       175.00   1191.94     62.84    2.3860 California_Type_1_1in B500
600                        17.88    596.80     29.39    3.8290 California_Type_1_1in B600
602                        90.36   1142.37     45.99    3.8290 California_Type_1_1in B602
605                        71.84    994.31     69.05    3.0090 California_Type_1_1in B605
610                       136.46   1224.43     59.92    2.4820 California_Type_1_1in B610
615                        52.66   1214.43     82.20    3.0610 California_Type_1_1in B615
700                        59.09    620.93     57.98    2.8110 California_Type_1_1in B700
705                       162.98   1570.75     50.02    2.2830 California_Type_1_1in B705
800                        81.92    675.40     41.96    3.1530 California_Type_1_1in B800
805                       155.55   1648.82     58.48    2.5420 California_Type_1_1in B805
810                        68.87    715.98     47.31    3.2040 California_Type_1_1in B810
815                       141.73   1702.91     58.81    2.7200 California_Type_1_1in B815
900                        78.20    934.68     50.00    3.9870 California_Type_1_1in B900
905                        37.72    728.74     50.00    2.7060 California_Type_1_1in B905
910                        41.31    478.01     49.09    2.6320 California_Type_1_1in B910
915                        84.39   1046.83     50.00    3.1260 California_Type_1_1in B915
920                        88.42   1088.43     49.69    2.8320 California_Type_1_1in B920
925                       123.01   1062.57     32.75    3.9830 California_Type_1_1in B925
930                       133.54   1145.51     36.32    3.5300 California_Type_1_1in B930


************
Node Summary
************
                                              Invert      Max.    Ponded    External
Name                 Type                      Elev.     Depth      Area    Inflow
-----------------------------------------------------------------------------------
B100                 JUNCTION                5511.01      0.00       0.0
B1000                JUNCTION                5686.08      0.00       0.0
B1005                JUNCTION                5700.10      0.00       0.0
B1010                JUNCTION                5717.19      3.45       0.0
B1100                JUNCTION                5708.80      0.00       0.0
B1105                JUNCTION                5749.60      0.00       0.0
B1110                JUNCTION                5765.81      3.65       0.0
B200                 JUNCTION                5516.13      0.00       0.0
B205                 JUNCTION                5531.84      0.00       0.0
B210                 JUNCTION                5543.12      0.00       0.0
B215                 JUNCTION                5551.33      0.00       0.0
B235                 JUNCTION                5571.48      1.12       0.0
B240                 JUNCTION                5570.52      0.00       0.0
B245                 JUNCTION                5600.91      0.00       0.0
B300                 JUNCTION                5554.12      0.00       0.0
B305                 JUNCTION                5563.78      0.00       0.0
B310                 JUNCTION                5563.78      0.00       0.0
B315                 JUNCTION                5563.78      0.00       0.0
B320                 JUNCTION                5575.36      0.00       0.0
B325                 JUNCTION                5600.62      0.00       0.0
```

FIGURE B-6
Future Conditions 100-Year SWMM Output

B330	JUNCTION	5601.85	0.00	0.0
B335	JUNCTION	5612.56	0.00	0.0
B340	JUNCTION	5610.04	0.00	0.0
B345	JUNCTION	5632.10	0.00	0.0
B350	JUNCTION	5643.98	0.00	0.0
B355	JUNCTION	5643.98	0.00	0.0
B360	JUNCTION	5669.91	0.00	0.0
B365	JUNCTION	5672.97	0.94	0.0
B370	JUNCTION	5632.10	0.00	0.0
B375	JUNCTION	5645.12	0.00	0.0
B380	JUNCTION	5659.42	0.00	0.0
B385	JUNCTION	5677.36	1.19	0.0
B400	JUNCTION	5565.43	0.00	0.0
B405	JUNCTION	5593.96	0.93	0.0
B500	JUNCTION	5567.09	0.00	0.0
B600	JUNCTION	5568.84	0.00	0.0
B602	JUNCTION	5582.10	0.00	0.0
B605	JUNCTION	5603.51	0.00	0.0
B610	JUNCTION	5626.02	4.19	0.0
B615	JUNCTION	5635.11	4.43	0.0
B700	JUNCTION	5573.79	0.00	0.0
B705	JUNCTION	5615.99	1.43	0.0
B800	JUNCTION	5605.06	0.00	0.0
B805	JUNCTION	5626.11	0.00	0.0
B810	JUNCTION	5626.11	0.00	0.0
B815	JUNCTION	5650.94	2.09	0.0
B900	JUNCTION	5648.06	0.00	0.0
B905	JUNCTION	5688.47	0.00	0.0
B910	JUNCTION	5688.47	0.00	0.0
B915	JUNCTION	5695.99	0.00	0.0
B920	JUNCTION	5695.99	0.00	0.0
B925	JUNCTION	5740.06	0.00	0.0
B930	JUNCTION	5740.06	0.00	0.0
DP100	JUNCTION	5510.91	0.00	0.0
DP1000	JUNCTION	5685.98	3.11	0.0
DP1005	JUNCTION	5700.00	3.45	0.0
DP1100	JUNCTION	5708.70	1.64	0.0
DP1105	JUNCTION	5749.50	3.65	0.0
DP200	JUNCTION	5516.03	3.98	0.0
DP205	JUNCTION	5531.74	3.98	0.0
DP210	JUNCTION	5543.02	7.06	0.0
DP215	JUNCTION	5551.23	7.06	0.0
DP216	JUNCTION	5563.26	6.64	0.0
DP219	JUNCTION	5569.45	11.00	0.0
DP223	JUNCTION	5572.72	4.58	0.0
DP228	JUNCTION	5569.11	4.75	0.0
DP300	JUNCTION	5554.02	4.57	0.0
DP304	JUNCTION	5562.30	15.00	0.0
DP319	JUNCTION	5566.31	22.70	0.0
DP323	JUNCTION	5578.90	28.23	0.0
DP329	JUNCTION	5596.56	15.77	0.0
DP334	JUNCTION	5604.55	12.95	0.0
DP340	JUNCTION	5609.94	21.85	0.0
DP345	JUNCTION	5632.00	2.32	0.0
DP350	JUNCTION	5643.88	1.89	0.0
DP360	JUNCTION	5669.81	0.94	0.0
DP375	JUNCTION	5645.02	1.98	0.0
DP380	JUNCTION	5659.31	1.98	0.0
DP400	JUNCTION	5565.33	0.93	0.0
DP500	JUNCTION	5566.99	0.00	0.0
DP600	JUNCTION	5568.74	14.67	0.0
DP602	JUNCTION	5580.15	14.67	0.0
DP605	JUNCTION	5603.41	6.49	0.0
DP700	JUNCTION	5573.69	1.43	0.0
DP800	JUNCTION	5604.96	2.49	0.0
DP805	JUNCTION	5626.01	2.49	0.0
DP900	JUNCTION	5647.96	2.09	0.0
DP905	JUNCTION	5688.37	2.71	0.0
DP915	JUNCTION	5695.89	2.71	0.0
DP925	JUNCTION	5739.96	1.29	0.0
B220	DIVIDER	5582.69	4.50	0.0
B225	DIVIDER	5573.55	4.58	0.0
B230	DIVIDER	5579.02	4.50	0.0
B250	DIVIDER	5619.48	5.00	0.0
DP240	DIVIDER	5570.43	11.00	0.0
DP245	DIVIDER	5600.81	8.00	0.0
DP305	DIVIDER	5563.68	14.00	0.0
DP320	DIVIDER	5575.26	14.00	0.0
DP325	DIVIDER	5600.52	10.50	0.0
DP330	DIVIDER	5601.75	12.00	0.0
DP335	DIVIDER	5612.46	5.50	0.0
SU1	STORAGE	5582.00	11.00	0.0

****
Link Summary
****

Name	From Node	To Node	Type	Length	%Slope	Roughness
C1	DP330	DP329	CONDUIT	284.0	0.5000	0.0150
C10	B925	DP925	CONDUIT	10.0	1.0001	0.0100
C10_1	DP330	DP329	CONDUIT	284.0	0.5000	0.0160
C10_2	DP329	DP323	CONDUIT	489.6	0.1999	0.0500
C1000	B1000	DP1000	CONDUIT	10.0	1.0001	0.0100
C1005	B1005	DP1005	CONDUIT	10.0	1.0001	0.0100
C11	B250	DP245	CONDUIT	2856.0	0.6537	0.0150
C1100	B1100	DP1100	CONDUIT	10.0	1.0001	0.0100
C111	B605	DP605	CONDUIT	10.0	1.0001	0.0100
C12	DP305	DP304	CONDUIT	107.6	0.3532	0.0160
C12_2	DP245	DP219	CONDUIT	4190.0	0.7485	0.0160
C13	DP320	DP319	CONDUIT	72.4	0.3453	0.0160
C14	B220	DP240	CONDUIT	463.0	2.6495	0.0150
C15	DP602	DP600	CONDUIT	697.6	1.6356	0.0100
C16	B615	DP605	CONDUIT	1481.2	2.1406	0.0100
C17	B400	DP400	CONDUIT	10.0	1.0001	0.0100
C19	B250	DP245	CONDUIT	2856.0	0.6537	0.0160
C2	B815	DP805	CONDUIT	2203.8	1.1313	0.0100
C20	B210	DP210	CONDUIT	10.0	1.0001	0.0100
C200	B200	DP200	CONDUIT	10.0	1.0001	0.0100
C205	B205	DP205	CONDUIT	10.0	1.0001	0.0100
C21	B1105	DP1105	CONDUIT	10.0	1.0001	0.0100
C22	B100	DP100	CONDUIT	10.0	1.0001	0.0100
C225	B225	DP223	CONDUIT	215.0	0.3884	0.0130
C23	DP304	DP300	CONDUIT	878.8	0.9415	0.0100
C230	B230	DP228	CONDUIT	584.0	1.6971	0.0160
C24	B215	DP215	CONDUIT	10.0	1.0001	0.0100
C240	B240	DP240	CONDUIT	10.0	1.0001	0.0100
C245	B245	DP245	CONDUIT	10.0	1.0001	0.0100
C25	DP325	DP323	CONDUIT	349.0	1.1165	0.0150
C26	DP335	DP334	CONDUIT	91.8	0.5012	0.0160
C27	B300	DP300	CONDUIT	10.0	1.0001	0.0100
C28	DP325	DP323	CONDUIT	349.0	1.1165	0.0160

FIGURE B-6
Future Conditions 100-Year SWMM Output

C29	DP240	DP219	CONDUIT	224.0	0.4353	0.0150
C3	DP340	DP330	CONDUIT	2728.7	0.3001	0.0500
C30	DP335	DP334	CONDUIT	91.8	0.5012	0.0150
C305	B305	DP305	CONDUIT	10.0	1.0001	0.0100
C31	DP320	DP319	CONDUIT	72.4	0.3453	0.0150
C310	B310	DP305	CONDUIT	10.0	1.0001	0.0100
C315	B315	DP305	CONDUIT	10.0	1.0001	0.0100
C32	DP334	DP325	CONDUIT	2012.8	0.2000	0.0500
C320	B320	DP320	CONDUIT	10.0	1.0001	0.0100
C325	B325	DP325	CONDUIT	10.0	1.0001	0.0100
C33	DP305	DP304	CONDUIT	107.6	0.3532	0.0150
C33_1	DP210	DP205	CONDUIT	1253.0	0.9003	0.0100
C33_2	DP205	DP200	CONDUIT	1738.4	0.9039	0.0100
C330	B330	DP330	CONDUIT	10.0	1.0001	0.0100
C335	B335	DP335	CONDUIT	10.0	1.0001	0.0100
C340	B340	DP340	CONDUIT	10.0	1.0001	0.0100
C345	B345	DP345	CONDUIT	10.0	1.0001	0.0100
C350	B350	DP350	CONDUIT	10.0	1.0001	0.0100
C355	B355	DP350	CONDUIT	10.0	1.0001	0.0100
C36	DP215	DP210	CONDUIT	661.7	1.2399	0.0100
C360	B360	DP360	CONDUIT	10.0	1.0001	0.0100
C370	B370	DP345	CONDUIT	10.0	1.0001	0.0100
C375	B375	DP375	CONDUIT	10.0	1.0001	0.0100
C380	B380	DP380	CONDUIT	10.0	1.0001	0.0100
C4	B225	DP223	CONDUIT	215.0	0.3884	0.0150
C40	B235	DP240	CONDUIT	551.2	0.1907	0.0100
C41	DP345	DP340	CONDUIT	695.2	0.3645	0.0100
C42	DP905	DP900	CONDUIT	2124.0	1.9029	0.0100
C43	DP375	DP345	CONDUIT	1483.6	0.8776	0.0100
C45	B930	DP925	CONDUIT	10.0	1.0001	0.0500
C47	DP915	DP905	CONDUIT	936.4	0.8028	0.0100
C48	DP350	DP345	CONDUIT	2298.8	0.5169	0.0100
C5	DP245	DP219	CONDUIT	4190.0	0.7485	0.0150
C500	B500	DP500	CONDUIT	10.0	1.0001	0.0100
C52	DP380	DP375	CONDUIT	2912.3	0.4909	0.0100
C54	DP1105	DP1100	CONDUIT	2460.9	1.6582	0.0100
C55	DP925	DP915	CONDUIT	2403.2	1.8341	0.0100
C56	DP605	SU1	CONDUIT	1930.9	1.1087	0.0100
C58	DP805	DP800	CONDUIT	2017.8	1.0429	0.0100
C6	B220	DP240	CONDUIT	463.0	2.6495	0.0160
C60	DP360	DP350	CONDUIT	3128.7	0.8288	0.0100
C600	B600	DP600	CONDUIT	10.0	1.0001	0.0100
C602	B602	SU1	CONDUIT	10.0	1.0001	0.0100
C61	B610	DP605	CONDUIT	1099.8	2.0570	0.0100
C64	DP1005	DP1000	CONDUIT	1227.6	1.1423	0.0100
C65	B705	DP700	CONDUIT	3786.0	1.1173	0.0100
C68	B1010	DP1005	CONDUIT	996.4	1.7251	0.0100
C7	B230	DP228	CONDUIT	600.2	1.6514	0.0160
C700	B700	DP700	CONDUIT	10.0	1.0001	0.0100
C73	B405	DP400	CONDUIT	3301.1	0.8674	0.0100
C74_2	B385	DP380	CONDUIT	2902.1	0.6218	0.0100
C8	DP323	DP320	CONDUIT	1819.4	0.2000	0.0500
C80	B365	DP360	CONDUIT	747.2	0.4227	0.0100
C800	B800	DP800	CONDUIT	10.0	1.0001	0.0100
C805	B805	DP805	CONDUIT	10.0	1.0001	0.0100
C810	B810	DP805	CONDUIT	10.0	1.0001	0.0100
C83	B1110	DP1105	CONDUIT	1066.2	1.5301	0.0100
C88	DP240	DP219	CONDUIT	224.0	0.4353	0.0160
C89	DP219	DP216	CONDUIT	744.9	0.8309	0.0100
C9	DP319	DP305	CONDUIT	1316.5	0.2000	0.0500
C90	DP228	DP216	CONDUIT	448.2	1.3057	0.0100
C900	B900	DP900	CONDUIT	10.0	1.0001	0.0100
C905	B905	DP905	CONDUIT	10.0	1.0001	0.0100
C91	DP216	DP215	CONDUIT	935.4	1.2866	0.0100
C910	B910	DP905	CONDUIT	10.0	1.0001	0.0100
C915	B915	DP915	CONDUIT	10.0	1.0001	0.0100
C920	B920	DP915	CONDUIT	10.0	1.0001	0.0100
C93	DP223	DP210	CONDUIT	1626.4	1.8261	0.0100
C18	SU1	DP602	OUTLET			

****
Cross Section Summary
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Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow
C1	TRAPEZOIDAL	6.00	480.00	4.32	110.00	1	8914.80
C10	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C10_1	RECT_CLOSED	6.00	60.00	1.88	10.00	2	599.15
C10_2	Adonea_A	7.00	861.00	6.69	151.00	1	4063.56
C1000	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C1005	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C11	TRAPEZOIDAL	1.00	35.00	0.87	40.00	1	255.61
C1100	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C111	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C12	RECT_CLOSED	8.00	112.00	2.55	14.00	3	1152.43
C12_2	CIRCULAR	5.00	19.63	1.25	5.00	1	183.08
C13	RECT_CLOSED	8.00	112.00	2.55	14.00	3	1139.54
C14	TRAPEZOIDAL	1.00	35.00	0.87	40.00	1	514.62
C15	C15	4.67	397.00	2.67	148.00	1	14505.15
C16	C16	4.43	449.04	2.98	150.00	1	20206.46
C17	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C19	CIRCULAR	4.00	12.57	1.00	4.00	1	94.36
C2	T-C2	2.09	153.72	1.44	105.00	1	3096.78
C20	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C200	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C205	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C21	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C22	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C225	HORIZ_ELLIPSE	1.58	3.30	0.49	2.50	1	14.61
C23	T-C23	4.57	286.45	2.92	94.50	1	8433.45
C230	CIRCULAR	3.50	9.62	0.88	3.50	1	106.49
C24	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C240	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C245	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C25	TRAPEZOIDAL	6.00	480.00	4.32	110.00	1	13321.73
C26	CIRCULAR	4.50	15.90	1.13	4.50	3	113.11
C27	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C28	CIRCULAR	4.50	15.90	1.13	4.50	2	168.83
C29	TRAPEZOIDAL	1.00	35.00	0.87	40.00	1	208.59
C3	Harmony_ChannelA	8.18	507.76	8.69	97.00	1	3494.71
C30	TRAPEZOIDAL	1.00	35.00	0.87	40.00	1	223.81
C305	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C31	TRAPEZOIDAL	6.00	480.00	4.32	110.00	1	7408.42
C310	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C315	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C32	Adonea_B	6.45	280.33	5.92	78.84	1	1219.28
C320	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C325	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C33	TRAPEZOIDAL	6.00	480.00	4.32	110.00	1	7492.22
C33_1	C33_1	2.80	157.92	1.66	94.27	1	3121.91

FIGURE B-6
Future Conditions 100-Year SWMM Output

C33_2	C33_2	3.98	229.73	2.17	105.00	1	5439.94
C330	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C335	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C340	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C345	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C350	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C355	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C36	C36	7.06	463.83	2.91	158.00	1	15625.78
C360	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C370	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C375	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C380	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C4	TRAPEZOIDAL	3.00	135.00	2.23	60.00	1	1421.75
C40	C40	1.12	70.87	0.86	81.10	1	416.47
C41	C41	2.32	374.37	1.92	191.25	1	5188.10
C42	C42	2.09	66.86	1.74	35.00	1	1982.87
C43	C43	1.32	126.88	0.88	143.00	1	1623.81
C45	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C47	C47	2.71	201.25	1.48	135.00	1	3477.40
C48	C48	1.89	226.46	1.50	148.00	1	3176.14
C5	TRAPEZOIDAL	3.00	135.00	2.23	60.00	1	1973.81
C500	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C52	C52	1.98	115.31	1.75	62.00	1	1746.45
C54	C54	1.64	78.55	0.92	85.00	1	1420.19
C55	C55	1.29	84.09	0.73	115.00	1	1365.82
C56	C56	6.49	697.78	3.92	177.00	1	27130.62
C58	T-C58	2.49	199.45	1.26	157.00	1	3539.14
C6	CIRCULAR	3.50	9.62	0.88	3.50	1	133.06
C60	C60	0.94	84.62	0.60	139.00	1	818.65
C600	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C602	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C61	T-C61	4.19	425.39	2.67	157.00	1	17451.87
C64	C64	3.11	306.56	1.77	172.00	1	7120.20
C65	C65	1.43	101.60	0.92	109.19	1	1510.73
C68	C68	3.45	376.19	2.22	169.00	1	12476.52
C7	TRAPEZOIDAL	1.00	35.00	0.87	40.00	1	380.89
C700	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C73	T-C73	0.93	45.96	0.51	89.44	1	406.86
C74_2	C74_2	1.19	136.35	0.98	137.10	1	1577.08
C8	Adonea_A	7.00	861.00	6.69	151.00	1	4064.24
C80	C80	0.94	121.89	0.83	145.10	1	1039.49
C800	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C805	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C810	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C83	C83	3.65	305.10	2.32	131.00	1	9818.91
C88	RECT_CLOSED	5.00	60.00	1.76	12.00	2	536.88
C89	C89	6.26	318.03	3.46	90.00	1	9854.17
C9	Adonea_A	7.00	861.00	6.69	151.00	1	4064.09
C90	C90	4.75	201.01	2.28	87.00	1	5914.60
C900	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C905	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C91	C91	6.64	312.28	2.49	124.00	1	9666.73
C910	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C915	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C920	DUMMY	0.00	0.00	0.00	0.00	1	0.00
C93	C93	2.05	73.81	1.09	67.00	1	1574.24

****
Transect Summary

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Transect Adonea_A
Area:

0.0155	0.0313	0.0472	0.0632	0.0795
0.0960	0.1126	0.1294	0.1464	0.1636
0.1809	0.1985	0.2162	0.2341	0.2522
0.2705	0.2889	0.3076	0.3264	0.3454
0.3645	0.3839	0.4035	0.4232	0.4431
0.4632	0.4835	0.5039	0.5245	0.5454
0.5664	0.5876	0.6089	0.6305	0.6522
0.6741	0.6962	0.7185	0.7409	0.7636
0.7864	0.8094	0.8326	0.8560	0.8795
0.9032	0.9272	0.9513	0.9755	1.0000

Hrad:

0.0208	0.0416	0.0623	0.0830	0.1036
0.1242	0.1448	0.1653	0.1858	0.2063
0.2267	0.2471	0.2674	0.2878	0.3080
0.3283	0.3485	0.3687	0.3888	0.4089
0.4290	0.4491	0.4691	0.4891	0.5091
0.5290	0.5489	0.5688	0.5886	0.6085
0.6283	0.6480	0.6678	0.6875	0.7072
0.7269	0.7466	0.7662	0.7858	0.8054
0.8249	0.8445	0.8640	0.8835	0.9029
0.9224	0.9418	0.9612	0.9806	1.0000

Width:

0.6366	0.6440	0.6514	0.6588	0.6662
0.6736	0.6811	0.6885	0.6959	0.7033
0.7107	0.7181	0.7256	0.7330	0.7404
0.7478	0.7552	0.7626	0.7701	0.7775
0.7849	0.7923	0.7997	0.8072	0.8146
0.8220	0.8294	0.8368	0.8442	0.8517
0.8591	0.8665	0.8739	0.8813	0.8887
0.8962	0.9036	0.9110	0.9184	0.9258
0.9332	0.9407	0.9481	0.9555	0.9629
0.9703	0.9777	0.9852	0.9926	1.0000

Transect Adonea_B
Area:

0.0085	0.0175	0.0270	0.0369	0.0473
0.0582	0.0696	0.0814	0.0937	0.1065
0.1198	0.1335	0.1477	0.1624	0.1776
0.1932	0.2093	0.2259	0.2429	0.2605
0.2785	0.2969	0.3159	0.3353	0.3552
0.3756	0.3964	0.4178	0.4396	0.4618
0.4846	0.5078	0.5315	0.5557	0.5803
0.6054	0.6308	0.6565	0.6827	0.7091
0.7360	0.7631	0.7907	0.8186	0.8468
0.8754	0.9044	0.9338	0.9653	1.0000

Hrad:

0.0360	0.0701	0.1025	0.1336	0.1635
0.1923	0.2202	0.2474	0.2738	0.2996
0.3248	0.3496	0.3738	0.3977	0.4212
0.4444	0.4672	0.4898	0.5121	0.5342
0.5561	0.5778	0.5993	0.6206	0.6417
0.6627	0.6836	0.7043	0.7250	0.7455
0.7659	0.7862	0.8064	0.8265	0.8469
0.8706	0.8941	0.9174	0.9406	0.9637
0.9865	1.0093	1.0319	1.0544	1.0767
1.0989	1.1210	1.1254	1.0551	1.0000

Width:

FIGURE B-6
Future Conditions 100-Year SWMM Output

```
            0.2414    0.2545    0.2676    0.2806    0.2937
            0.3068    0.3199    0.3330    0.3461    0.3591
            0.3722    0.3853    0.3984    0.4115    0.4246
            0.4376    0.4507    0.4638    0.4769    0.4900
            0.5031    0.5161    0.5292    0.5423    0.5554
            0.5685    0.5816    0.5946    0.6077    0.6208
            0.6339    0.6470    0.6601    0.6731    0.6859
            0.6957    0.7055    0.7153    0.7251    0.7350
            0.7448    0.7546    0.7644    0.7742    0.7840
            0.7938    0.8036    0.8266    0.9133    1.0000

Transect C10
Area:
            0.0008    0.0043    0.0100    0.0166    0.0247
            0.0341    0.0449    0.0563    0.0686    0.0818
            0.0961    0.1113    0.1279    0.1460    0.1656
            0.1859    0.2064    0.2274    0.2485    0.2698
            0.2912    0.3131    0.3351    0.3573    0.3796
            0.4021    0.4249    0.4478    0.4708    0.4943
            0.5179    0.5417    0.5656    0.5895    0.6139
            0.6383    0.6629    0.6877    0.7127    0.7379
            0.7633    0.7890    0.8149    0.8409    0.8670
            0.8934    0.9199    0.9464    0.9731    1.0000
Hrad:
            0.0111    0.0245    0.0481    0.0629    0.0798
            0.0942    0.1123    0.1376    0.1521    0.1670
            0.1807    0.1980    0.2096    0.2185    0.2299
            0.2561    0.2784    0.3021    0.3281    0.3540
            0.3732    0.3964    0.4214    0.4463    0.4696
            0.4920    0.5139    0.5381    0.5621    0.5778
            0.6007    0.6249    0.6489    0.6728    0.6884
            0.7117    0.7339    0.7541    0.7741    0.7925
            0.8112    0.8314    0.8536    0.8757    0.8934
            0.9145    0.9369    0.9592    0.9798    1.0000
Width:
            0.0746    0.1972    0.2247    0.2762    0.3232
            0.3781    0.4183    0.4278    0.4714    0.5118
            0.5557    0.5875    0.6378    0.6984    0.7528
            0.7575    0.7725    0.7830    0.7866    0.7902
            0.8078    0.8165    0.8209    0.8252    0.8320
            0.8401    0.8488    0.8532    0.8575    0.8749
            0.8807    0.8842    0.8877    0.8912    0.9061
            0.9102    0.9155    0.9233    0.9312    0.9408
            0.9501    0.9573    0.9618    0.9663    0.9758
            0.9812    0.9849    0.9886    0.9942    1.0000

Transect C110
Area:
            0.0004    0.0016    0.0036    0.0064    0.0100
            0.0144    0.0196    0.0256    0.0324    0.0400
            0.0484    0.0576    0.0676    0.0784    0.0900
            0.1024    0.1156    0.1296    0.1444    0.1600
            0.1764    0.1936    0.2116    0.2304    0.2500
            0.2704    0.2916    0.3136    0.3364    0.3600
            0.3844    0.4096    0.4356    0.4624    0.4900
            0.5184    0.5476    0.5776    0.6084    0.6400
            0.6724    0.7056    0.7396    0.7744    0.8100
            0.8464    0.8836    0.9216    0.9604    1.0000
Hrad:
            0.0400    0.0799    0.1199    0.1598    0.1998
            0.2398    0.2797    0.3197    0.3596    0.3996
            0.4396    0.4795    0.5195    0.5594    0.5994
            0.6393    0.6793    0.7193    0.7592    0.7992
            0.8391    0.8791    0.9191    0.9590    0.9990
            1.0389    1.0789    1.1189    1.1588    1.1988
            1.2387    1.2787    1.3187    1.3586    1.3986
            1.4385    1.4785    1.5184    1.5584    1.5984
            1.6383    1.6783    1.7182    1.7582    1.7982
            1.8381    1.8781    1.9180    1.9580    1.0000
Width:
            0.0100    0.0200    0.0300    0.0400    0.0500
            0.0600    0.0700    0.0800    0.0900    0.1000
            0.1100    0.1200    0.1300    0.1400    0.1500
            0.1600    0.1700    0.1800    0.1900    0.2000
            0.2100    0.2200    0.2300    0.2400    0.2500
            0.2600    0.2700    0.2800    0.2900    0.3000
            0.3100    0.3200    0.3300    0.3400    0.3500
            0.3600    0.3700    0.3800    0.3900    0.4000
            0.4100    0.4200    0.4300    0.4400    0.4500
            0.4600    0.4700    0.4800    0.4900    1.0000

Transect C111
Area:
            0.0056    0.0136    0.0228    0.0328    0.0436
            0.0552    0.0674    0.0803    0.0937    0.1075
            0.1218    0.1363    0.1515    0.1669    0.1829
            0.1991    0.2161    0.2334    0.2510    0.2691
            0.2873    0.3063    0.3254    0.3450    0.3649
            0.3851    0.4059    0.4268    0.4482    0.4702
            0.4926    0.5155    0.5387    0.5624    0.5865
            0.6113    0.6364    0.6620    0.6880    0.7144
            0.7412    0.7683    0.7962    0.8243    0.8528
            0.8817    0.9107    0.9401    0.9699    1.0000
Hrad:
            0.0232    0.0462    0.0704    0.0932    0.1207
            0.1422    0.1625    0.1826    0.2098    0.2307
            0.2568    0.2761    0.3011    0.3157    0.3432
            0.3706    0.3800    0.4063    0.4235    0.4477
            0.4737    0.4860    0.5131    0.5241    0.5510
            0.5614    0.5882    0.6150    0.6205    0.6432
            0.6558    0.6785    0.6907    0.7125    0.7248
            0.7388    0.7625    0.7725    0.7966    0.8085
            0.8335    0.8465    0.8585    0.8818    0.8948
            0.9199    0.9434    0.9565    0.9791    1.0000
Width:
            0.2420    0.2948    0.3250    0.3533    0.3626
            0.3896    0.4163    0.4409    0.4480    0.4675
            0.4755    0.4951    0.5044    0.5299    0.5342
            0.5385    0.5697    0.5755    0.5937    0.6020
            0.6076    0.6312    0.6351    0.6590    0.6630
            0.6866    0.6905    0.6944    0.7228    0.7315
            0.7516    0.7601    0.7802    0.7897    0.8096
            0.8279    0.8350    0.8573    0.8640    0.8839
            0.8895    0.9109    0.9277    0.9350    0.9532
            0.9586    0.9654    0.9830    0.9906    1.0000

Transect C12
Area:
            0.0025    0.0075    0.0135    0.0216    0.0303
            0.0397    0.0506    0.0625    0.0747    0.0873
            0.1012    0.1162    0.1317    0.1475    0.1639
            0.1813    0.1992    0.2181    0.2373    0.2570
```

FIGURE B-6
Future Conditions 100-Year SWMM Output

```
          0.2777    0.2985    0.3197    0.3419    0.3642
          0.3865    0.4089    0.4315    0.4542    0.4781
          0.5020    0.5261    0.5503    0.5745    0.5989
          0.6239    0.6496    0.6753    0.7012    0.7271
          0.7532    0.7794    0.8061    0.8335    0.8609
          0.8885    0.9162    0.9439    0.9718    1.0000
Hrad:
          0.0149    0.0404    0.0531    0.0732    0.0980
          0.1095    0.1259    0.1492    0.1741    0.1822
          0.2071    0.2171    0.2422    0.2670    0.2731
          0.2979    0.3058    0.3288    0.3535    0.3580
          0.3846    0.4112    0.4153    0.4420    0.4685
          0.4949    0.5212    0.5474    0.5546    0.5726
          0.5985    0.6244    0.6501    0.6757    0.6989
          0.6966    0.7223    0.7478    0.7732    0.7985
          0.8238    0.8433    0.8414    0.8667    0.8919
          0.9171    0.9421    0.9670    0.9905    1.0000
Width:
          0.1668    0.1877    0.2564    0.2984    0.3125
          0.3661    0.4061    0.4230    0.4334    0.4841
          0.4937    0.5406    0.5492    0.5578    0.6060
          0.6145    0.6578    0.6699    0.6779    0.7250
          0.7287    0.7324    0.7764    0.7798    0.7832
          0.7866    0.7900    0.7934    0.8241    0.8399
          0.8434    0.8470    0.8505    0.8541    0.8604
          0.8992    0.9027    0.9061    0.9095    0.9130
          0.9164    0.9260    0.9599    0.9632    0.9666
          0.9699    0.9732    0.9765    0.9812    1.0000
Transect C15
Area:
          0.0015    0.0048    0.0088    0.0138    0.0196
          0.0260    0.0332    0.0411    0.0497    0.0589
          0.0687    0.0792    0.0902    0.1020    0.1143
          0.1276    0.1416    0.1562    0.1716    0.1878
          0.2047    0.2224    0.2410    0.2601    0.2805
          0.3013    0.3231    0.3457    0.3691    0.3933
          0.4181    0.4437    0.4703    0.4978    0.5259
          0.5545    0.5835    0.6131    0.6430    0.6733
          0.7041    0.7352    0.7669    0.7990    0.8315
          0.8644    0.8978    0.9316    0.9656    1.0000
Hrad:
          0.0194    0.0453    0.0685    0.0869    0.1119
          0.1355    0.1536    0.1732    0.1933    0.2180
          0.2353    0.2560    0.2782    0.2941    0.3134
          0.3221    0.3437    0.3655    0.3745    0.3968
          0.4107    0.4282    0.4469    0.4606    0.4724
          0.4957    0.5057    0.5254    0.5372    0.5594
          0.5766    0.5917    0.6069    0.6218    0.6449
          0.6692    0.6972    0.7136    0.7451    0.7645
          0.7909    0.8148    0.8365    0.8585    0.8861
          0.9088    0.9281    0.9579    0.9833    1.0000
Width:
          0.0770    0.1064    0.1289    0.1589    0.1756
          0.1923    0.2167    0.2372    0.2572    0.2703
          0.2920    0.3094    0.3245    0.3469    0.3646
          0.3960    0.4120    0.4272    0.4581    0.4733
          0.4982    0.5194    0.5391    0.5647    0.5936
          0.6078    0.6389    0.6577    0.6870    0.7028
          0.7251    0.7499    0.7749    0.8004    0.8154
          0.8286    0.8369    0.8591    0.8629    0.8806
          0.8902    0.9023    0.9167    0.9306    0.9383
          0.9511    0.9674    0.9725    0.9819    1.0000
Transect C16
Area:
          0.0019    0.0059    0.0114    0.0180    0.0258
          0.0344    0.0440    0.0545    0.0660    0.0783
          0.0915    0.1054    0.1202    0.1356    0.1519
          0.1688    0.1864    0.2047    0.2237    0.2434
          0.2637    0.2847    0.3063    0.3282    0.3505
          0.3731    0.3959    0.4191    0.4425    0.4662
          0.4901    0.5144    0.5389    0.5638    0.5889
          0.6143    0.6400    0.6661    0.6923    0.7189
          0.7458    0.7729    0.8003    0.8280    0.8560
          0.8842    0.9127    0.9415    0.9706    1.0000
Hrad:
          0.0171    0.0363    0.0559    0.0731    0.0946
          0.1088    0.1297    0.1473    0.1637    0.1828
          0.1988    0.2203    0.2334    0.2541    0.2707
          0.2890    0.3064    0.3256    0.3408    0.3615
          0.3750    0.3963    0.4164    0.4376    0.4611
          0.4866    0.5101    0.5318    0.5555    0.5793
          0.6008    0.6242    0.6464    0.6663    0.6889
          0.7106    0.7330    0.7530    0.7755    0.7958
          0.8155    0.8380    0.8592    0.8799    0.9014
          0.9202    0.9419    0.9623    0.9829    1.0000
Width:
          0.1086    0.1638    0.2040    0.2462    0.2725
          0.3164    0.3398    0.3706    0.4034    0.4286
          0.4606    0.4786    0.5152    0.5342    0.5613
          0.5843    0.6087    0.6290    0.6568    0.6736
          0.7034    0.7187    0.7357    0.7502    0.7604
          0.7670    0.7763    0.7881    0.7968    0.8048
          0.8159    0.8243    0.8338    0.8462    0.8549
          0.8646    0.8733    0.8846    0.8929    0.9034
          0.9145    0.9223    0.9316    0.9411    0.9496
          0.9609    0.9691    0.9784    0.9875    1.0000
Transect C2
Area:
          0.0012    0.0048    0.0100    0.0161    0.0228
          0.0299    0.0378    0.0469    0.0571    0.0678
          0.0787    0.0899    0.1015    0.1143    0.1282
          0.1428    0.1578    0.1732    0.1891    0.2056
          0.2229    0.2408    0.2593    0.2782    0.2981
          0.3191    0.3406    0.3625    0.3847    0.4076
          0.4316    0.4563    0.4816    0.5075    0.5341
          0.5617    0.5897    0.6182    0.6474    0.6775
          0.7082    0.7392    0.7704    0.8019    0.8338
          0.8662    0.8992    0.9326    0.9661    1.0000
Hrad:
          0.0186    0.0349    0.0588    0.0864    0.1133
          0.1399    0.1512    0.1655    0.1879    0.2150
          0.2438    0.2720    0.2888    0.2899    0.3079
          0.3312    0.3571    0.3808    0.4021    0.4188
          0.4342    0.4539    0.4758    0.4955    0.4982
          0.5152    0.5397    0.5650    0.5868    0.5996
          0.6092    0.6275    0.6468    0.6671    0.6671
          0.6935    0.7176    0.7397    0.7493    0.7639
          0.7881    0.8163    0.8434    0.8687    0.8919
          0.9043    0.9293    0.9562    0.9836    1.0000
```

FIGURE B-6
Future Conditions 100-Year SWMM Output

```
Width:
          0.0656    0.1379    0.1700    0.1869    0.2016
          0.2142    0.2508    0.2841    0.3047    0.3159
          0.3237    0.3315    0.3524    0.3953    0.4176
          0.4323    0.4430    0.4560    0.4714    0.4921
          0.5145    0.5318    0.5462    0.5629    0.5998
          0.6208    0.6326    0.6431    0.6571    0.6814
          0.7102    0.7289    0.7463    0.7625    0.8024
          0.8119    0.8237    0.8377    0.8660    0.8889
          0.9004    0.9072    0.9148    0.9243    0.9358
          0.9588    0.9683    0.9757    0.9824    1.0000

Transect C23
Area:
          0.0012    0.0061    0.0118    0.0193    0.0280
          0.0372    0.0477    0.0595    0.0717    0.0841
          0.0970    0.1119    0.1274    0.1433    0.1596
          0.1770    0.1954    0.2145    0.2339    0.2539
          0.2747    0.2960    0.3178    0.3398    0.3619
          0.3842    0.4075    0.4309    0.4545    0.4782
          0.5019    0.5258    0.5500    0.5747    0.5998
          0.6250    0.6503    0.6757    0.7012    0.7268
          0.7531    0.7798    0.8067    0.8337    0.8608
          0.8881    0.9154    0.9433    0.9715    1.0000
Hrad:
          0.0097    0.0328    0.0555    0.0658    0.0901
          0.1099    0.1180    0.1423    0.1668    0.1908
          0.2044    0.2084    0.2324    0.2561    0.2703
          0.2877    0.2948    0.3187    0.3419    0.3556
          0.3736    0.3921    0.4149    0.4411    0.4672
          0.4847    0.4977    0.5241    0.5504    0.5765
          0.6026    0.6285    0.6442    0.6572    0.6813
          0.7072    0.7330    0.7588    0.7844    0.8099
          0.8118    0.8307    0.8557    0.8806    0.9054
          0.9302    0.9548    0.9586    0.9793    1.0000
Width:
          0.1209    0.1871    0.2134    0.2944    0.3111
          0.3385    0.4048    0.4188    0.4300    0.4412
          0.4752    0.5374    0.5486    0.5598    0.5909
          0.6155    0.6633    0.6734    0.6846    0.7144
          0.7356    0.7552    0.7663    0.7705    0.7747
          0.7930    0.8189    0.8225    0.8260    0.8296
          0.8331    0.8367    0.8538    0.8746    0.8805
          0.8839    0.8873    0.8907    0.8941    0.8974
          0.9277    0.9388    0.9428    0.9468    0.9508
          0.9547    0.9587    0.9840    0.9920    1.0000

Transect C28
Area:
          0.0006    0.0036    0.0086    0.0152    0.0225
          0.0304    0.0392    0.0486    0.0586    0.0696
          0.0812    0.0936    0.1067    0.1202    0.1340
          0.1487    0.1641    0.1800    0.1965    0.2136
          0.2310    0.2492    0.2678    0.2869    0.3066
          0.3269    0.3479    0.3698    0.3924    0.4152
          0.4382    0.4618    0.4856    0.5096    0.5337
          0.5587    0.5843    0.6109    0.6392    0.6693
          0.6999    0.7313    0.7635    0.7961    0.8291
          0.8625    0.8961    0.9302    0.9647    1.0000
Hrad:
          0.0160    0.0311    0.0533    0.0773    0.1053
          0.1297    0.1521    0.1788    0.1975    0.2185
          0.2401    0.2629    0.2843    0.3128    0.3390
          0.3458    0.3721    0.3961    0.4099    0.4383
          0.4663    0.4798    0.5079    0.5244    0.5421
          0.5578    0.5668    0.5949    0.6104    0.6431
          0.6592    0.6875    0.7188    0.7507    0.7824
          0.7811    0.7947    0.8032    0.7677    0.7761
          0.7974    0.8195    0.8334    0.8606    0.8828
          0.9123    0.9392    0.9592    0.9853    1.0000
Width:
          0.0391    0.1157    0.1675    0.1969    0.2140
          0.2348    0.2584    0.2724    0.2975    0.3191
          0.3391    0.3568    0.3760    0.3847    0.3957
          0.4305    0.4415    0.4548    0.4797    0.4876
          0.4955    0.5195    0.5270    0.5468    0.5654
          0.5859    0.6136    0.6246    0.6424    0.6450
          0.6642    0.6711    0.6750    0.6782    0.6822
          0.7146    0.7346    0.7600    0.8324    0.8621
          0.8776    0.8923    0.9162    0.9250    0.9392
          0.9453    0.9540    0.9698    0.9863    1.0000

Transect C32
Area:
          0.0030    0.0085    0.0156    0.0236    0.0331
          0.0435    0.0545    0.0660    0.0786    0.0919
          0.1059    0.1202    0.1349    0.1506    0.1665
          0.1832    0.2005    0.2179    0.2355    0.2541
          0.2730    0.2921    0.3121    0.3325    0.3530
          0.3737    0.3952    0.4172    0.4393    0.4617
          0.4848    0.5084    0.5321    0.5565    0.5816
          0.6068    0.6321    0.6576    0.6832    0.7094
          0.7373    0.7654    0.7936    0.8220    0.8506
          0.8794    0.9093    0.9392    0.9693    1.0000
Hrad:
          0.0208    0.0423    0.0636    0.0845    0.1069
          0.1267    0.1543    0.1688    0.1954    0.2086
          0.2365    0.2640    0.2770    0.3010    0.3244
          0.3372    0.3648    0.3921    0.4068    0.4249
          0.4521    0.4684    0.4837    0.5109    0.5378
          0.5645    0.5670    0.5930    0.6196    0.6381
          0.6468    0.6735    0.7000    0.6977    0.7244
          0.7509    0.7772    0.8035    0.8253    0.8312
          0.8219    0.8481    0.8742    0.9001    0.9259
          0.9247    0.9472    0.9749    0.9895    1.0000
Width:
          0.1479    0.2050    0.2501    0.2854    0.3158
          0.3500    0.3600    0.3991    0.4101    0.4488
          0.4560    0.4633    0.4954    0.5085    0.5216
          0.5520    0.5578    0.5636    0.5870    0.6062
          0.6117    0.6316    0.6535    0.6587    0.6639
          0.6691    0.7046    0.7108    0.7160    0.7304
          0.7567    0.7615    0.7664    0.8044    0.8092
          0.8139    0.8187    0.8234    0.8326    0.8586
          0.9026    0.9076    0.9126    0.9176    0.9226
          0.9552    0.9630    0.9651    0.9802    1.0000

Transect C33
Area:
          0.0022    0.0064    0.0121    0.0186    0.0259
          0.0345    0.0437    0.0533    0.0639    0.0755
          0.0876    0.1000    0.1133    0.1275    0.1424
```

FIGURE B-6
Future Conditions 100-Year SWMM Output

```
        0.1578    0.1742    0.1912    0.2087    0.2275
        0.2470    0.2670    0.2880    0.3096    0.3322
        0.3560    0.3804    0.4058    0.4316    0.4577
        0.4844    0.5114    0.5385    0.5656    0.5928
        0.6199    0.6471    0.6742    0.7014    0.7285
        0.7557    0.7828    0.8100    0.8371    0.8643
        0.8914    0.9186    0.9457    0.9729    1.0000
Hrad:
        0.0183    0.0355    0.0560    0.0782    0.0885
        0.1094    0.1319    0.1526    0.1580    0.1796
        0.2022    0.2242    0.2300    0.2477    0.2657
        0.2804    0.2939    0.3138    0.3277    0.3321
        0.3529    0.3682    0.3805    0.3981    0.3975
        0.4165    0.4326    0.4454    0.4685    0.4826
        0.5069    0.5310    0.5559    0.5828    0.6097
        0.6364    0.6630    0.6895    0.7159    0.7422
        0.7684    0.7945    0.8206    0.8465    0.8723
        0.8980    0.9237    0.9492    0.9747    1.0000
Width:
        0.1243    0.1888    0.2257    0.2470    0.3047
        0.3284    0.3443    0.3628    0.4202    0.4371
        0.4501    0.4632    0.5119    0.5345    0.5566
        0.5842    0.6155    0.6325    0.6611    0.7112
        0.7266    0.7527    0.7857    0.8074    0.8676
        0.8876    0.9129    0.9453    0.9550    0.9823
        0.9889    0.9955    1.0000    1.0000    1.0000
        1.0000    1.0000    1.0000    1.0000    1.0000
        1.0000    1.0000    1.0000    1.0000    1.0000
        1.0000    1.0000    1.0000    1.0000    1.0000
Transect C33_1
Area:
        0.0016    0.0051    0.0095    0.0148    0.0211
        0.0280    0.0354    0.0436    0.0523    0.0616
        0.0715    0.0822    0.0935    0.1053    0.1176
        0.1311    0.1453    0.1601    0.1759    0.1922
        0.2095    0.2275    0.2464    0.2665    0.2874
        0.3091    0.3320    0.3557    0.3800    0.4047
        0.4300    0.4557    0.4819    0.5087    0.5359
        0.5636    0.5918    0.6205    0.6495    0.6791
        0.7092    0.7397    0.7708    0.8025    0.8345
        0.8669    0.8999    0.9332    0.9666    1.0000
Hrad:
        0.0168    0.0432    0.0683    0.0831    0.1082
        0.1306    0.1498    0.1738    0.1959    0.2160
        0.2328    0.2509    0.2698    0.2942    0.3049
        0.3152    0.3377    0.3498    0.3676    0.3863
        0.3983    0.4149    0.4234    0.4381    0.4537
        0.4647    0.4782    0.4952    0.5213    0.5432
        0.5679    0.5879    0.6110    0.6320    0.6557
        0.6781    0.6970    0.7225    0.7432    0.7647
        0.7839    0.8058    0.8230    0.8465    0.8690
        0.8885    0.9085    0.9391    0.9696    1.0000
Width:
        0.0950    0.1193    0.1394    0.1786    0.1955
        0.2148    0.2373    0.2518    0.2679    0.2861
        0.3081    0.3286    0.3476    0.3591    0.3870
        0.4172    0.4316    0.4591    0.4799    0.4992
        0.5276    0.5502    0.5839    0.6102    0.6354
        0.6674    0.6964    0.7207    0.7313    0.7474
        0.7594    0.7774    0.7910    0.8072    0.8197
        0.8333    0.8513    0.8609    0.8761    0.8901
        0.9068    0.9202    0.9388    0.9501    0.9623
        0.9778    0.9925    0.9950    0.9975    1.0000
Transect C33_2
Area:
        0.0017    0.0049    0.0091    0.0137    0.0195
        0.0257    0.0323    0.0399    0.0481    0.0566
        0.0660    0.0757    0.0862    0.0975    0.1094
        0.1219    0.1350    0.1490    0.1641    0.1797
        0.1962    0.2133    0.2314    0.2503    0.2701
        0.2906    0.3117    0.3335    0.3563    0.3799
        0.4041    0.4291    0.4549    0.4817    0.5092
        0.5375    0.5666    0.5966    0.6272    0.6586
        0.6908    0.7233    0.7564    0.7898    0.8237
        0.8581    0.8929    0.9282    0.9638    1.0000
Hrad:
        0.0257    0.0465    0.0750    0.1028    0.1173
        0.1461    0.1652    0.1805    0.2100    0.2244
        0.2514    0.2787    0.2800    0.3087    0.3211
        0.3486    0.3579    0.3727    0.3857    0.4102
        0.4244    0.4381    0.4602    0.4656    0.4916
        0.5059    0.5295    0.5447    0.5602    0.5770
        0.5990    0.6151    0.6274    0.6442    0.6656
        0.6810    0.6982    0.7160    0.7372    0.7497
        0.7762    0.8025    0.8260    0.8555    0.8749
        0.9041    0.9253    0.9520    0.9759    1.0000
Width:
        0.0675    0.1060    0.1215    0.1338    0.1664
        0.1763    0.1960    0.2212    0.2290    0.2523
        0.2625    0.2715    0.3078    0.3157    0.3404
        0.3494    0.3770    0.3995    0.4251    0.4379
        0.4619    0.4866    0.5024    0.5374    0.5491
        0.5739    0.5881    0.6118    0.6356    0.6580
        0.6742    0.6972    0.7247    0.7475    0.7647
        0.7889    0.8113    0.8329    0.8505    0.8783
        0.8898    0.9012    0.9156    0.9231    0.9414
        0.9491    0.9650    0.9750    0.9876    1.0000
Transect C36
Area:
        0.0009    0.0034    0.0063    0.0095    0.0137
        0.0183    0.0232    0.0284    0.0343    0.0406
        0.0472    0.0544    0.0622    0.0703    0.0788
        0.0878    0.0976    0.1077    0.1181    0.1291
        0.1408    0.1530    0.1659    0.1797    0.1940
        0.2094    0.2255    0.2427    0.2612    0.2809
        0.3020    0.3247    0.3487    0.3743    0.4015
        0.4304    0.4612    0.4941    0.5289    0.5657
        0.6043    0.6443    0.6854    0.7276    0.7707
        0.8148    0.8598    0.9056    0.9523    1.0000
Hrad:
        0.0236    0.0605    0.0992    0.1246    0.1482
        0.1858    0.2196    0.2479    0.2649    0.3006
        0.3335    0.3437    0.3700    0.4040    0.4331
        0.4387    0.4674    0.5018    0.5322    0.5306
        0.5605    0.5842    0.5877    0.6091    0.6340
        0.6312    0.6517    0.6499    0.6541    0.6574
        0.6556    0.6687    0.6757    0.6823    0.6858
        0.6902    0.6952    0.7017    0.7097    0.7243
        0.7340    0.7644    0.7923    0.8219    0.8517
```

FIGURE B-6
Future Conditions 100-Year SWMM Output

```
            0.8794    0.9101    0.9394    0.9698    1.0000
Width:
            0.0386    0.0563    0.0630    0.0761    0.0923
            0.0979    0.1047    0.1136    0.1285    0.1338
            0.1400    0.1567    0.1664    0.1722    0.1798
            0.1982    0.2067    0.2122    0.2192    0.2406
            0.2484    0.2590    0.2794    0.2920    0.3030
            0.3287    0.3430    0.3706    0.3965    0.4247
            0.4580    0.4830    0.5136    0.5463    0.5834
            0.6217    0.6617    0.7026    0.7440    0.7799
            0.8225    0.8421    0.8644    0.8847    0.9044
            0.9262    0.9444    0.9638    0.9819    1.0000

Transect C38
Area:
            0.0025    0.0062    0.0111    0.0169    0.0230
            0.0292    0.0364    0.0441    0.0526    0.0615
            0.0706    0.0797    0.0891    0.0985    0.1090
            0.1200    0.1318    0.1438    0.1559    0.1681
            0.1805    0.1930    0.2063    0.2201    0.2350
            0.2500    0.2652    0.2805    0.2964    0.3127
            0.3305    0.3494    0.3687    0.3882    0.4086
            0.4300    0.4527    0.4757    0.4998    0.5254
            0.5516    0.5807    0.6198    0.6658    0.7166
            0.7699    0.8247    0.8811    0.9395    1.0000
Hrad:
            0.0525    0.0869    0.1199    0.1772    0.2328
            0.2868    0.3015    0.3570    0.3707    0.4271
            0.4828    0.5378    0.5921    0.6458    0.6380
            0.6341    0.6895    0.7443    0.7987    0.8526
            0.9061    0.9591    0.9397    0.9255    0.9787
            1.0316    1.0841    1.1361    1.1858    1.2339
            1.1393    1.1868    1.2337    1.2801    1.3213
            1.2938    1.2357    1.2824    1.2663    1.2570
            1.3069    1.0686    1.0414    1.0771    0.8573
            0.8943    0.9316    0.9681    0.9845    1.0000
Width:
            0.0483    0.0715    0.0922    0.0955    0.0987
            0.1019    0.1209    0.1234    0.1419    0.1440
            0.1461    0.1482    0.1504    0.1525    0.1708
            0.1891    0.1911    0.1931    0.1951    0.1971
            0.1990    0.2010    0.2193    0.2376    0.2399
            0.2422    0.2444    0.2467    0.2586    0.2632
            0.3006    0.3058    0.3110    0.3161    0.3379
            0.3605    0.3659    0.3705    0.3943    0.4176
            0.4216    0.5431    0.6875    0.7829    0.8358
            0.8608    0.8853    0.9101    0.9542    1.0000

Transect C39
Area:
            0.0006    0.0015    0.0044    0.0105    0.0170
            0.0244    0.0322    0.0403    0.0498    0.0601
            0.0721    0.0842    0.0965    0.1089    0.1224
            0.1366    0.1515    0.1674    0.1836    0.1999
            0.2171    0.2345    0.2520    0.2701    0.2894
            0.3094    0.3301    0.3513    0.3726    0.3942
            0.4160    0.4391    0.4628    0.4874    0.5125
            0.5379    0.5636    0.5904    0.6177    0.6463
            0.6755    0.7058    0.7367    0.7685    0.8019
            0.8368    0.8730    0.9121    0.9547    1.0000
Hrad:
            0.0363    0.0647    0.0453    0.0759    0.1182
            0.1458    0.1879    0.2138    0.2353    0.2349
            0.2771    0.3188    0.3599    0.4005    0.4015
            0.4392    0.4399    0.4818    0.5233    0.5552
            0.5788    0.6196    0.6601    0.6506    0.6882
            0.7044    0.7244    0.7638    0.8029    0.8418
            0.8632    0.8624    0.8930    0.8993    0.9366
            0.9737    0.9768    1.0102    1.0308    1.0338
            1.0489    1.0603    1.0925    1.1077    1.0692
            1.0991    1.0788    1.0480    0.9950    1.0000
Width:
            0.0165    0.0235    0.1166    0.1385    0.1443
            0.1673    0.1715    0.1884    0.2117    0.2561
            0.2600    0.2640    0.2680    0.2720    0.3048
            0.3110    0.3443    0.3475    0.3507    0.3599
            0.3749    0.3782    0.3816    0.4150    0.4204
            0.4391    0.4555    0.4596    0.4638    0.4680
            0.4816    0.5089    0.5180    0.5417    0.5469
            0.5522    0.5767    0.5841    0.5988    0.6249
            0.6437    0.6653    0.6740    0.6935    0.7498
            0.7611    0.8090    0.8839    0.9594    1.0000

Transect C40
Area:
            0.0018    0.0065    0.0130    0.0213    0.0308
            0.0414    0.0536    0.0668    0.0813    0.0968
            0.1137    0.1316    0.1498    0.1689    0.1889
            0.2091    0.2294    0.2498    0.2702    0.2911
            0.3125    0.3340    0.3556    0.3772    0.3988
            0.4205    0.4432    0.4659    0.4887    0.5115
            0.5344    0.5573    0.5802    0.6038    0.6278
            0.6518    0.6758    0.6999    0.7241    0.7483
            0.7725    0.7972    0.8224    0.8476    0.8729
            0.8983    0.9236    0.9490    0.9745    1.0000
Hrad:
            0.0137    0.0304    0.0458    0.0604    0.0794
            0.0911    0.1064    0.1275    0.1409    0.1546
            0.1661    0.1883    0.2086    0.2236    0.2410
            0.2658    0.2906    0.3152    0.3397    0.3494
            0.3741    0.3988    0.4234    0.4479    0.4724
            0.4926    0.5009    0.5254    0.5498    0.5743
            0.5986    0.6229    0.6471    0.6459    0.6702
            0.6945    0.7187    0.7428    0.7669    0.7909
            0.8149    0.8132    0.8336    0.8575    0.8814
            0.9052    0.9290    0.9527    0.9764    1.0000
Width:
            0.1313    0.2173    0.2950    0.3558    0.3915
            0.4591    0.5085    0.5292    0.5826    0.6387
            0.6911    0.7056    0.7346    0.7625    0.7908
            0.7935    0.7962    0.7989    0.8016    0.8394
            0.8414    0.8435    0.8455    0.8475    0.8495
            0.8588    0.8899    0.8917    0.8934    0.8951
            0.8969    0.8986    0.9003    0.9386    0.9402
            0.9419    0.9435    0.9452    0.9468    0.9485
            0.9501    0.9825    0.9885    0.9902    0.9918
            0.9935    0.9951    0.9967    0.9984    1.0000

Transect C41
Area:
            0.0016    0.0052    0.0102    0.0166    0.0244
            0.0338    0.0449    0.0578    0.0728    0.0894
```

FIGURE B-6
Future Conditions 100-Year SWMM Output

0.1068	0.1248	0.1433	0.1624	0.1822
0.2025	0.2235	0.2450	0.2670	0.2895
0.3125	0.3360	0.3597	0.3834	0.4071
0.4308	0.4545	0.4783	0.5020	0.5257
0.5494	0.5731	0.5968	0.6205	0.6442
0.6679	0.6916	0.7154	0.7391	0.7628
0.7865	0.8102	0.8339	0.8577	0.8814
0.9051	0.9288	0.9526	0.9763	1.0000

Hrad:

0.0151	0.0295	0.0415	0.0566	0.0675
0.0800	0.0907	0.1004	0.1084	0.1261
0.1456	0.1651	0.1842	0.2005	0.2197
0.2350	0.2525	0.2700	0.2883	0.3056
0.3239	0.3412	0.3644	0.3883	0.4121
0.4359	0.4596	0.4834	0.5071	0.5308
0.5544	0.5781	0.6017	0.6253	0.6489
0.6725	0.6960	0.7195	0.7430	0.7665
0.7899	0.8134	0.8368	0.8601	0.8835
0.9069	0.9302	0.9535	0.9767	1.0000

Width:

0.1132	0.1781	0.2492	0.2977	0.3674
0.4291	0.5028	0.5849	0.6814	0.7196
0.7445	0.7666	0.7893	0.8217	0.8408
0.8736	0.8969	0.9195	0.9383	0.9599
0.9773	0.9974	0.9991	0.9992	0.9992
0.9992	0.9993	0.9993	0.9993	0.9994
0.9994	0.9994	0.9995	0.9995	0.9995
0.9996	0.9996	0.9996	0.9996	0.9997
0.9997	0.9997	0.9998	0.9998	0.9998
0.9999	0.9999	0.9999	1.0000	1.0000

Transect C42

Area:

0.0034	0.0104	0.0199	0.0312	0.0442
0.0589	0.0751	0.0924	0.1107	0.1299
0.1496	0.1697	0.1907	0.2122	0.2341
0.2560	0.2779	0.2998	0.3216	0.3435
0.3654	0.3873	0.4092	0.4311	0.4529
0.4748	0.4967	0.5186	0.5405	0.5624
0.5842	0.6061	0.6280	0.6499	0.6718
0.6936	0.7155	0.7374	0.7593	0.7812
0.8031	0.8249	0.8468	0.8687	0.8906
0.9125	0.9344	0.9562	0.9781	1.0000

Hrad:

0.0147	0.0292	0.0468	0.0605	0.0771
0.0909	0.1062	0.1242	0.1404	0.1590
0.1795	0.1970	0.2124	0.2309	0.2535
0.2765	0.2995	0.3223	0.3450	0.3676
0.3901	0.4125	0.4348	0.4570	0.4791
0.5011	0.5230	0.5448	0.5665	0.5880
0.6095	0.6309	0.6522	0.6734	0.6945
0.7155	0.7364	0.7573	0.7780	0.7986
0.8192	0.8396	0.8600	0.8802	0.9004
0.9205	0.9405	0.9604	0.9803	1.0000

Width:

0.2504	0.3910	0.4651	0.5625	0.6272
0.7082	0.7730	0.8132	0.8607	0.8905
0.9074	0.9370	0.9753	0.9975	1.0000
1.0000	1.0000	1.0000	1.0000	1.0000
1.0000	1.0000	1.0000	1.0000	1.0000
1.0000	1.0000	1.0000	1.0000	1.0000
1.0000	1.0000	1.0000	1.0000	1.0000
1.0000	1.0000	1.0000	1.0000	1.0000

Transect C43

Area:

0.0013	0.0050	0.0102	0.0165	0.0241
0.0327	0.0422	0.0525	0.0638	0.0758
0.0889	0.1029	0.1178	0.1336	0.1504
0.1682	0.1866	0.2053	0.2244	0.2439
0.2639	0.2844	0.3053	0.3265	0.3481
0.3702	0.3926	0.4155	0.4386	0.4621
0.4860	0.5101	0.5347	0.5596	0.5848
0.6105	0.6363	0.6625	0.6890	0.7159
0.7430	0.7705	0.7982	0.8262	0.8545
0.8831	0.9118	0.9409	0.9704	1.0000

Hrad:

0.0138	0.0337	0.0510	0.0713	0.0907
0.1055	0.1299	0.1459	0.1640	0.1816
0.1946	0.2143	0.2306	0.2439	0.2565
0.2775	0.3007	0.3264	0.3453	0.3716
0.3884	0.4113	0.4330	0.4563	0.4763
0.4969	0.5142	0.5401	0.5654	0.5808
0.6051	0.6243	0.6453	0.6674	0.6835
0.7084	0.7314	0.7507	0.7709	0.7914
0.8135	0.8342	0.8553	0.8745	0.8972
0.9205	0.9410	0.9545	0.9808	1.0000

Width:

0.0942	0.1502	0.2008	0.2326	0.2663
0.3105	0.3257	0.3605	0.3899	0.4183
0.4578	0.4812	0.5118	0.5491	0.5879
0.6077	0.6218	0.6302	0.6510	0.6576
0.6806	0.6927	0.7063	0.7167	0.7320
0.7461	0.7647	0.7704	0.7767	0.7966
0.8040	0.8179	0.8295	0.8393	0.8564
0.8625	0.8707	0.8830	0.8944	0.9050
0.9139	0.9240	0.9335	0.9451	0.9526
0.9595	0.9692	0.9859	0.9894	1.0000

Transect C45

Area:

0.0016	0.0058	0.0119	0.0193	0.0281
0.0380	0.0488	0.0608	0.0740	0.0880
0.1031	0.1190	0.1359	0.1537	0.1723
0.1916	0.2119	0.2330	0.2543	0.2762
0.2985	0.3214	0.3445	0.3679	0.3919
0.4163	0.4406	0.4649	0.4892	0.5136
0.5379	0.5622	0.5865	0.6108	0.6352
0.6595	0.6838	0.7081	0.7325	0.7568
0.7811	0.8054	0.8297	0.8541	0.8784
0.9027	0.9270	0.9514	0.9757	1.0000

Hrad:

0.0121	0.0281	0.0423	0.0581	0.0731
0.0907	0.1048	0.1174	0.1347	0.1483
0.1625	0.1770	0.1938	0.2068	0.2251
0.2401	0.2504	0.2709	0.2922	0.3070
0.3262	0.3457	0.3641	0.3826	0.3969
0.4213	0.4457	0.4701	0.4944	0.5187
0.5430	0.5673	0.5915	0.6158	0.6400
0.6641	0.6883	0.7124	0.7365	0.7606

FIGURE B-6
Future Conditions 100-Year SWMM Output

```
            0.7846    0.8087    0.8327    0.8566    0.8806
            0.9045    0.9284    0.9523    0.9762    1.0000
Width:
            0.1310    0.2092    0.2846    0.3368    0.3895
            0.4245    0.4724    0.5256    0.5570    0.6018
            0.6438    0.6820    0.7116    0.7539    0.7767
            0.8095    0.8584    0.8724    0.8825    0.9122
            0.9277    0.9420    0.9586    0.9741    1.0000
            1.0000    1.0000    1.0000    1.0000    1.0000
            1.0000    1.0000    1.0000    1.0000    1.0000
            1.0000    1.0000    1.0000    1.0000    1.0000
            1.0000    1.0000    1.0000    1.0000    1.0000
            1.0000    1.0000    1.0000    1.0000    1.0000

Transect C47
Area:
            0.0022    0.0064    0.0121    0.0188    0.0263
            0.0344    0.0433    0.0527    0.0626    0.0731
            0.0842    0.0961    0.1085    0.1212    0.1346
            0.1485    0.1629    0.1778    0.1932    0.2093
            0.2257    0.2427    0.2604    0.2787    0.2976
            0.3172    0.3373    0.3581    0.3797    0.4019
            0.4248    0.4484    0.4727    0.4979    0.5237
            0.5502    0.5777    0.6058    0.6349    0.6647
            0.6953    0.7268    0.7590    0.7918    0.8251
            0.8589    0.8933    0.9283    0.9638    1.0000
Hrad:
            0.0227    0.0457    0.0722    0.0958    0.1228
            0.1477    0.1731    0.1989    0.2250    0.2487
            0.2657    0.2880    0.3176    0.3396    0.3604
            0.3848    0.4033    0.4283    0.4490    0.4681
            0.4951    0.5128    0.5273    0.5476    0.5622
            0.5834    0.6038    0.6180    0.6319    0.6540
            0.6638    0.6856    0.6967    0.7147    0.7306
            0.7452    0.7589    0.7766    0.7868    0.8001
            0.8198    0.8300    0.8501    0.8764    0.8966
            0.9141    0.9398    0.9585    0.9753    1.0000
Width:
            0.0957    0.1404    0.1685    0.1971    0.2149
            0.2341    0.2511    0.2660    0.2794    0.2951
            0.3182    0.3350    0.3427    0.3582    0.3746
            0.3871    0.4051    0.4165    0.4317    0.4485
            0.4574    0.4747    0.4953    0.5105    0.5310
            0.5454    0.5604    0.5813    0.6028    0.6164
            0.6419    0.6561    0.6807    0.6988    0.7190
            0.7407    0.7636    0.7824    0.8095    0.8334
            0.8508    0.8784    0.8953    0.9055    0.9219
            0.9409    0.9516    0.9691    0.9886    1.0000

Transect C48
Area:
            0.0006    0.0032    0.0082    0.0150    0.0235
            0.0333    0.0443    0.0565    0.0696    0.0834
            0.0981    0.1137    0.1302    0.1474    0.1653
            0.1839    0.2032    0.2233    0.2438    0.2650
            0.2869    0.3095    0.3327    0.3567    0.3811
            0.4058    0.4306    0.4554    0.4801    0.5049
            0.5296    0.5544    0.5791    0.6039    0.6287
            0.6534    0.6782    0.7029    0.7277    0.7524
            0.7772    0.8019    0.8267    0.8515    0.8762
            0.9010    0.9257    0.9505    0.9752    1.0000
Hrad:
            0.0120    0.0202    0.0345    0.0490    0.0643
            0.0802    0.0956    0.1103    0.1309    0.1479
            0.1627    0.1780    0.1943    0.2092    0.2282
            0.2426    0.2582    0.2767    0.2915    0.3091
            0.3232    0.3403    0.3538    0.3677    0.3884
            0.4108    0.4357    0.4605    0.4853    0.5100
            0.5348    0.5595    0.5842    0.6088    0.6335
            0.6581    0.6827    0.7072    0.7317    0.7563
            0.7807    0.8052    0.8296    0.8541    0.8784
            0.9028    0.9271    0.9514    0.9757    1.0000
Width:
            0.0543    0.1625    0.2403    0.3105    0.3706
            0.4208    0.4700    0.5190    0.5390    0.5717
            0.6112    0.6475    0.6788    0.7137    0.7339
            0.7681    0.7973    0.8173    0.8473    0.8688
            0.8992    0.9213    0.9528    0.9827    0.9937
            1.0000    1.0000    1.0000    1.0000    1.0000
            1.0000    1.0000    1.0000    1.0000    1.0000
            1.0000    1.0000    1.0000    1.0000    1.0000
            1.0000    1.0000    1.0000    1.0000    1.0000
            1.0000    1.0000    1.0000    1.0000    1.0000

Transect C5
Area:
            0.0050    0.0122    0.0196    0.0274    0.0354
            0.0437    0.0522    0.0611    0.0702    0.0796
            0.0892    0.0992    0.1094    0.1228    0.1402
            0.1578    0.1756    0.1935    0.2117    0.2301
            0.2487    0.2675    0.2864    0.3056    0.3250
            0.3446    0.3644    0.3844    0.4045    0.4249
            0.4456    0.4717    0.4995    0.5275    0.5556
            0.5840    0.6125    0.6412    0.6701    0.6992
            0.7284    0.7578    0.7875    0.8173    0.8473
            0.8774    0.9078    0.9384    0.9691    1.0000
Hrad:
            0.0218    0.0515    0.0801    0.1078    0.1346
            0.1608    0.1862    0.2111    0.2354    0.2592
            0.2825    0.3055    0.3249    0.2205    0.2488
            0.2768    0.3045    0.3320    0.3591    0.3861
            0.4128    0.4392    0.4655    0.4915    0.5173
            0.5428    0.5682    0.5934    0.6184    0.6432
            0.6447    0.5283    0.5557    0.5829    0.6100
            0.6370    0.6638    0.6905    0.7170    0.7434
            0.7696    0.7957    0.8217    0.8475    0.8732
            0.8988    0.9243    0.9497    0.9749    1.0000
Width:
            0.2277    0.2365    0.2453    0.2541    0.2630
            0.2718    0.2806    0.2894    0.2982    0.3071
            0.3159    0.3247    0.3367    0.5572    0.5637
            0.5702    0.5766    0.5831    0.5896    0.5960
            0.6025    0.6090    0.6155    0.6219    0.6284
            0.6349    0.6413    0.6478    0.6543    0.6607
            0.6911    0.8931    0.8990    0.9049    0.9109
            0.9168    0.9228    0.9287    0.9346    0.9406
            0.9465    0.9525    0.9584    0.9644    0.9703
            0.9762    0.9822    0.9881    0.9941    1.0000

Transect C52
Area:
            0.0034    0.0110    0.0213    0.0344    0.0501
```

FIGURE B-6
Future Conditions 100-Year SWMM Output

0.0671	0.0856	0.1055	0.1266	0.1479
0.1692	0.1905	0.2118	0.2331	0.2544
0.2757	0.2970	0.3183	0.3396	0.3609
0.3822	0.4035	0.4248	0.4461	0.4674
0.4887	0.5100	0.5314	0.5527	0.5740
0.5953	0.6166	0.6379	0.6592	0.6805
0.7018	0.7231	0.7444	0.7657	0.7870
0.8083	0.8296	0.8509	0.8722	0.8935
0.9148	0.9361	0.9574	0.9787	1.0000

Hrad:

0.0122	0.0284	0.0399	0.0536	0.0689
0.0854	0.0995	0.1153	0.1332	0.1554
0.1776	0.1997	0.2218	0.2437	0.2657
0.2876	0.3094	0.3312	0.3529	0.3745
0.3961	0.4177	0.4392	0.4606	0.4820
0.5034	0.5247	0.5459	0.5671	0.5882
0.6093	0.6303	0.6513	0.6722	0.6931
0.7139	0.7346	0.7553	0.7760	0.7966
0.8172	0.8377	0.8582	0.8786	0.8989
0.9192	0.9395	0.9597	0.9799	1.0000

Width:

0.2906	0.4080	0.5628	0.6788	0.7672
0.8281	0.9062	0.9637	1.0000	1.0000
1.0000	1.0000	1.0000	1.0000	1.0000
1.0000	1.0000	1.0000	1.0000	1.0000
1.0000	1.0000	1.0000	1.0000	1.0000
1.0000	1.0000	1.0000	1.0000	1.0000
1.0000	1.0000	1.0000	1.0000	1.0000
1.0000	1.0000	1.0000	1.0000	1.0000
1.0000	1.0000	1.0000	1.0000	1.0000

Transect C54
Area:

0.0023	0.0066	0.0123	0.0190	0.0261
0.0345	0.0436	0.0533	0.0636	0.0745
0.0860	0.0981	0.1110	0.1244	0.1384
0.1528	0.1679	0.1837	0.1999	0.2165
0.2337	0.2514	0.2698	0.2886	0.3079
0.3280	0.3487	0.3700	0.3917	0.4138
0.4367	0.4601	0.4841	0.5090	0.5344
0.5604	0.5871	0.6147	0.6428	0.6715
0.7011	0.7313	0.7623	0.7943	0.8270
0.8604	0.8948	0.9296	0.9647	1.0000

Hrad:

0.0221	0.0450	0.0700	0.0984	0.1217
0.1403	0.1665	0.1901	0.2122	0.2350
0.2611	0.2770	0.2996	0.3228	0.3467
0.3712	0.3824	0.4088	0.4330	0.4580
0.4758	0.4958	0.5152	0.5392	0.5588
0.5697	0.5889	0.6132	0.6382	0.6548
0.6719	0.6905	0.7050	0.7170	0.7412
0.7605	0.7631	0.7864	0.8072	0.8211
0.8323	0.8529	0.8602	0.8729	0.8935
0.9019	0.9168	0.9464	0.9752	1.0000

Width:

0.1024	0.1473	0.1766	0.1930	0.2153
0.2466	0.2623	0.2806	0.3002	0.3175
0.3300	0.3546	0.3709	0.3860	0.3998
0.4123	0.4396	0.4499	0.4622	0.4733
0.4918	0.5077	0.5243	0.5359	0.5516
0.5764	0.5930	0.6042	0.6144	0.6327
0.6506	0.6671	0.6875	0.7108	0.7219
0.7377	0.7703	0.7826	0.7973	0.8187
0.8434	0.8585	0.8873	0.9112	0.9267
0.9552	0.9771	0.9830	0.9896	1.0000

Transect C55
Area:

0.0006	0.0032	0.0073	0.0122	0.0186
0.0254	0.0329	0.0411	0.0500	0.0597
0.0702	0.0812	0.0928	0.1050	0.1180
0.1316	0.1458	0.1608	0.1764	0.1929
0.2101	0.2280	0.2465	0.2658	0.2858
0.3068	0.3287	0.3515	0.3748	0.3990
0.4240	0.4498	0.4760	0.5029	0.5302
0.5579	0.5860	0.6148	0.6440	0.6736
0.7038	0.7347	0.7659	0.7979	0.8301
0.8629	0.8964	0.9305	0.9650	1.0000

Hrad:

0.0164	0.0346	0.0563	0.0795	0.0996
0.1261	0.1505	0.1709	0.1898	0.2081
0.2333	0.2531	0.2774	0.2923	0.3142
0.3375	0.3528	0.3746	0.3871	0.4069
0.4260	0.4432	0.4620	0.4795	0.4994
0.5071	0.5218	0.5407	0.5613	0.5772
0.5885	0.6135	0.6373	0.6569	0.6834
0.7093	0.7307	0.7495	0.7773	0.7959
0.8149	0.8369	0.8573	0.8788	0.9032
0.9252	0.9339	0.9599	0.9808	1.0000

Width:

0.0351	0.0916	0.1303	0.1544	0.1870
0.2026	0.2195	0.2415	0.2646	0.2882
0.3021	0.3220	0.3360	0.3607	0.3773
0.3916	0.4152	0.4310	0.4576	0.4760
0.4951	0.5164	0.5358	0.5567	0.5748
0.6075	0.6327	0.6528	0.6707	0.6941
0.7235	0.7361	0.7498	0.7681	0.7782
0.7887	0.8041	0.8222	0.8302	0.8479
0.8652	0.8792	0.8946	0.9088	0.9199
0.9333	0.9604	0.9697	0.9841	1.0000

Transect C56
Area:

0.0016	0.0048	0.0090	0.0140	0.0198
0.0263	0.0337	0.0418	0.0508	0.0605
0.0710	0.0823	0.0944	0.1073	0.1208
0.1352	0.1501	0.1659	0.1823	0.1995
0.2174	0.2360	0.2553	0.2754	0.2961
0.3176	0.3398	0.3627	0.3863	0.4105
0.4355	0.4611	0.4874	0.5143	0.5418
0.5700	0.5986	0.6276	0.6569	0.6866
0.7165	0.7467	0.7773	0.8081	0.8393
0.8708	0.9026	0.9347	0.9672	1.0000

Hrad:

0.0206	0.0423	0.0659	0.0848	0.1047
0.1256	0.1437	0.1613	0.1781	0.1979
0.2156	0.2304	0.2497	0.2675	0.2847
0.3046	0.3214	0.3402	0.3561	0.3739
0.3935	0.4075	0.4277	0.4447	0.4607
0.4793	0.4960	0.5143	0.5314	0.5488
0.5670	0.5855	0.6031	0.6210	0.6414

FIGURE B-6
Future Conditions 100-Year SWMM Output

```
            0.6584    0.6829    0.7093    0.7329    0.7594
            0.7838    0.8090    0.8327    0.8581    0.8811
            0.9058    0.9286    0.9510    0.9745    1.0000
Width:
            0.0802    0.1138    0.1362    0.1650    0.1891
            0.2099    0.2346    0.2596    0.2854    0.3060
            0.3296    0.3574    0.3783    0.4012    0.4247
            0.4440    0.4674    0.4878    0.5123    0.5338
            0.5527    0.5793    0.5973    0.6194    0.6430
            0.6629    0.6853    0.7053    0.7271    0.7482
            0.7682    0.7876    0.8083    0.8283    0.8448
            0.8658    0.8767    0.8849    0.8964    0.9042
            0.9142    0.9230    0.9335    0.9418    0.9526
            0.9613    0.9720    0.9829    0.9925    1.0000

Transect C58
Area:
            0.0013    0.0046    0.0089    0.0139    0.0196
            0.0263    0.0334    0.0413    0.0498    0.0589
            0.0686    0.0788    0.0895    0.1010    0.1129
            0.1255    0.1386    0.1524    0.1670    0.1821
            0.1979    0.2144    0.2319    0.2501    0.2693
            0.2893    0.3102    0.3322    0.3554    0.3797
            0.4049    0.4310    0.4575    0.4846    0.5122
            0.5405    0.5694    0.5988    0.6288    0.6595
            0.6908    0.7229    0.7555    0.7887    0.8225
            0.8569    0.8919    0.9274    0.9634    1.0000
Hrad:
            0.0193    0.0455    0.0699    0.0979    0.1118
            0.1413    0.1671    0.1847    0.2093    0.2316
            0.2550    0.2769    0.2984    0.3194    0.3418
            0.3570    0.3809    0.3940    0.4150    0.4377
            0.4513    0.4679    0.4806    0.4921    0.5068
            0.5213    0.5359    0.5427    0.5540    0.5639
            0.5829    0.6038    0.6270    0.6549    0.6739
            0.6958    0.7228    0.7409    0.7595    0.7898
            0.8068    0.8244    0.8426    0.8690    0.8918
            0.9100    0.9337    0.9576    0.9771    1.0000
Width:
            0.0679    0.1007    0.1276    0.1420    0.1759
            0.1864    0.2002    0.2236    0.2382    0.2546
            0.2690    0.2847    0.3003    0.3163    0.3304
            0.3517    0.3642    0.3870    0.4026    0.4162
            0.4386    0.4586    0.4828    0.5085    0.5317
            0.5553    0.5791    0.6125    0.6420    0.6738
            0.6951    0.7142    0.7299    0.7401    0.7601
            0.7766    0.7875    0.8080    0.8278    0.8348
            0.8561    0.8767    0.8965    0.9075    0.9223
            0.9416    0.9551    0.9684    0.9860    1.0000

Transect C6
Area:
            0.0005    0.0025    0.0080    0.0153    0.0239
            0.0346    0.0467    0.0595    0.0734    0.0888
            0.1050    0.1216    0.1394    0.1582    0.1773
            0.1964    0.2156    0.2349    0.2546    0.2752
            0.2960    0.3171    0.3383    0.3597    0.3812
            0.4031    0.4256    0.4483    0.4710    0.4939
            0.5169    0.5406    0.5647    0.5889    0.6133
            0.6378    0.6624    0.6870    0.7118    0.7368
            0.7624    0.7882    0.8143    0.8405    0.8668
            0.8932    0.9197    0.9463    0.9730    1.0000
Hrad:
            0.0137    0.0171    0.0310    0.0554    0.0678
            0.0848    0.1029    0.1196    0.1405    0.1513
            0.1747    0.1977    0.2179    0.2280    0.2541
            0.2799    0.3057    0.3313    0.3487    0.3621
            0.3863    0.4103    0.4340    0.4574    0.4807
            0.4905    0.5151    0.5396    0.5640    0.5883
            0.6062    0.6185    0.6387    0.6614    0.6859
            0.7102    0.7345    0.7586    0.7827    0.7961
            0.8104    0.8272    0.8501    0.8744    0.8986
            0.9227    0.9468    0.9707    0.9924    1.0000
Width:
            0.0342    0.1515    0.2587    0.2769    0.3532
            0.4240    0.4541    0.4975    0.5231    0.5874
            0.6017    0.6159    0.6759    0.6946    0.6983
            0.7020    0.7058    0.7095    0.7306    0.7605
            0.7669    0.7733    0.7799    0.7867    0.7936
            0.8223    0.8267    0.8311    0.8355    0.8399
            0.8530    0.8745    0.8845    0.8907    0.8945
            0.8983    0.9021    0.9059    0.9097    0.9258
            0.9410    0.9531    0.9581    0.9614    0.9648
            0.9681    0.9715    0.9748    0.9804    1.0000

Transect C60
Area:
            0.0016    0.0059    0.0117    0.0188    0.0266
            0.0356    0.0452    0.0558    0.0672    0.0793
            0.0922    0.1056    0.1198    0.1345    0.1499
            0.1660    0.1827    0.2000    0.2180    0.2366
            0.2556    0.2753    0.2956    0.3163    0.3378
            0.3597    0.3821    0.4053    0.4289    0.4530
            0.4776    0.5025    0.5276    0.5529    0.5786
            0.6045    0.6306    0.6570    0.6837    0.7107
            0.7381    0.7656    0.7937    0.8220    0.8507
            0.8797    0.9092    0.9391    0.9693    1.0000
Hrad:
            0.0153    0.0345    0.0541    0.0764    0.0976
            0.1183    0.1397    0.1574    0.1761    0.1972
            0.2173    0.2363    0.2582    0.2761    0.2953
            0.3120    0.3339    0.3515    0.3687    0.3890
            0.4102    0.4270    0.4465    0.4637    0.4824
            0.5030    0.5197    0.5374    0.5581    0.5769
            0.5965    0.6228    0.6485    0.6722    0.6935
            0.7205    0.7443    0.7657    0.7878    0.8087
            0.8329    0.8453    0.8720    0.8952    0.9091
            0.9318    0.9464    0.9661    0.9829    1.0000
Width:
            0.1058    0.1723    0.2168    0.2460    0.2736
            0.3016    0.3247    0.3551    0.3826    0.4032
            0.4252    0.4481    0.4650    0.4884    0.5088
            0.5333    0.5486    0.5705    0.5927    0.6098
            0.6248    0.6463    0.6636    0.6840    0.7020
            0.7170    0.7372    0.7561    0.7705    0.7872
            0.8027    0.8087    0.8154    0.8243    0.8359
            0.8404    0.8486    0.8592    0.8691    0.8799
            0.8870    0.9066    0.9109    0.9188    0.9363
            0.9445    0.9610    0.9722    0.9863    1.0000

Transect C61
Area:
```

FIGURE B-6
Future Conditions 100-Year SWMM Output

```
        0.0023    0.0081    0.0151    0.0233    0.0324
        0.0425    0.0534    0.0650    0.0774    0.0905
        0.1044    0.1189    0.1342    0.1500    0.1666
        0.1836    0.2011    0.2192    0.2376    0.2566
        0.2761    0.2959    0.3160    0.3367    0.3577
        0.3792    0.4010    0.4233    0.4459    0.4688
        0.4920    0.5157    0.5397    0.5639    0.5886
        0.6136    0.6390    0.6647    0.6907    0.7172
        0.7440    0.7710    0.7983    0.8262    0.8543
        0.8827    0.9115    0.9407    0.9702    1.0000
Hrad:
        0.0141    0.0400    0.0623    0.0812    0.1019
        0.1197    0.1442    0.1626    0.1804    0.2032
        0.2180    0.2419    0.2565    0.2813    0.2952
        0.3205    0.3340    0.3583    0.3810    0.3957
        0.4181    0.4420    0.4582    0.4815    0.5000
        0.5200    0.5402    0.5617    0.5831    0.6044
        0.6255    0.6444    0.6671    0.6866    0.7072
        0.7244    0.7444    0.7667    0.7881    0.8014
        0.8249    0.8472    0.8683    0.8804    0.9017
        0.9241    0.9361    0.9561    0.9778    1.0000
Width:
        0.1679    0.2044    0.2448    0.2898    0.3214
        0.3576    0.3725    0.4018    0.4309    0.4472
        0.4805    0.4927    0.5243    0.5338    0.5648
        0.5727    0.6018    0.6110    0.6224    0.6470
        0.6584    0.6669    0.6869    0.6959    0.7117
        0.7252    0.7387    0.7500    0.7614    0.7725
        0.7836    0.7974    0.8062    0.8188    0.8299
        0.8448    0.8565    0.8652    0.8748    0.8934
        0.9006    0.9088    0.9183    0.9376    0.9468
        0.9546    0.9733    0.9837    0.9922    1.0000

Transect C62
Area:
        0.0022    0.0060    0.0112    0.0204    0.0330
        0.0466    0.0606    0.0753    0.0904    0.1061
        0.1221    0.1384    0.1555    0.1734    0.1921
        0.2114    0.2309    0.2505    0.2702    0.2901
        0.3101    0.3302    0.3505    0.3709    0.3914
        0.4120    0.4328    0.4537    0.4760    0.4992
        0.5227    0.5467    0.5710    0.5953    0.6198
        0.6443    0.6690    0.6938    0.7186    0.7436
        0.7686    0.7938    0.8190    0.8444    0.8699
        0.8954    0.9211    0.9468    0.9730    1.0000
Hrad:
        0.0203    0.0368    0.0490    0.0487    0.0690
        0.0932    0.1166    0.1393    0.1613    0.1849
        0.2095    0.2285    0.2451    0.2618    0.2784
        0.3000    0.3255    0.3508    0.3759    0.4009
        0.4258    0.4505    0.4750    0.4994    0.5237
        0.5478    0.5718    0.5957    0.5714    0.5883
        0.6051    0.6218    0.6464    0.6710    0.6955
        0.7200    0.7443    0.7686    0.7927    0.8168
        0.8407    0.8646    0.8884    0.9121    0.9357
        0.9592    0.9826    1.0060    1.0038    1.0000
Width:
        0.1105    0.1640    0.2309    0.4210    0.4824
        0.5028    0.5232    0.5435    0.5639    0.5770
        0.5858    0.6091    0.6380    0.6660    0.6936
        0.7084    0.7130    0.7177    0.7223    0.7269
        0.7315    0.7361    0.7407    0.7453    0.7499
        0.7545    0.7591    0.7637    0.8357    0.8511
        0.8666    0.8820    0.8859    0.8896    0.8933
        0.8969    0.9006    0.9042    0.9079    0.9115
        0.9152    0.9189    0.9225    0.9262    0.9298
        0.9335    0.9372    0.9408    0.9691    1.0000

Transect C64
Area:
        0.0017    0.0051    0.0095    0.0149    0.0209
        0.0277    0.0352    0.0432    0.0520    0.0615
        0.0715    0.0824    0.0938    0.1061    0.1190
        0.1326    0.1470    0.1620    0.1777    0.1942
        0.2114    0.2292    0.2478    0.2671    0.2870
        0.3077    0.3290    0.3511    0.3739    0.3975
        0.4217    0.4467    0.4723    0.4986    0.5257
        0.5534    0.5817    0.6108    0.6404    0.6707
        0.7018    0.7334    0.7654    0.7978    0.8305
        0.8636    0.8971    0.9309    0.9653    1.0000
Hrad:
        0.0209    0.0434    0.0680    0.0925    0.1123
        0.1386    0.1564    0.1807    0.1981    0.2199
        0.2399    0.2579    0.2754    0.2948    0.3144
        0.3313    0.3497    0.3692    0.3846    0.4060
        0.4209    0.4401    0.4573    0.4785    0.4919
        0.5119    0.5310    0.5467    0.5654    0.5826
        0.6005    0.6182    0.6356    0.6561    0.6714
        0.6913    0.7100    0.7270    0.7490    0.7660
        0.7847    0.8064    0.8312    0.8563    0.8819
        0.9052    0.9312    0.9519    0.9770    1.0000
Width:
        0.0825    0.1180    0.1407    0.1616    0.1871
        0.2004    0.2255    0.2401    0.2633    0.2804
        0.2989    0.3204    0.3418    0.3609    0.3798
        0.4014    0.4215    0.4400    0.4636    0.4798
        0.5037    0.5224    0.5436    0.5598    0.5852
        0.6029    0.6215    0.6443    0.6634    0.6843
        0.7044    0.7247    0.7454    0.7623    0.7854
        0.8029    0.8218    0.8427    0.8577    0.8782
        0.8970    0.9121    0.9231    0.9336    0.9433
        0.9553    0.9643    0.9787    0.9883    1.0000

Transect C65
Area:
        0.0017    0.0058    0.0111    0.0175    0.0249
        0.0331    0.0423    0.0523    0.0630    0.0745
        0.0869    0.0999    0.1138    0.1284    0.1437
        0.1598    0.1765    0.1941    0.2125    0.2316
        0.2515    0.2721    0.2932    0.3146    0.3365
        0.3587    0.3813    0.4043    0.4275    0.4512
        0.4752    0.4996    0.5244    0.5496    0.5751
        0.6010    0.6273    0.6539    0.6808    0.7081
        0.7358    0.7639    0.7922    0.8209    0.8499
        0.8792    0.9089    0.9389    0.9693    1.0000
Hrad:
        0.0188    0.0369    0.0583    0.0769    0.0995
        0.1165    0.1368    0.1568    0.1758    0.1927
        0.2128    0.2297    0.2470    0.2672    0.2836
        0.3006    0.3168    0.3349    0.3531    0.3658
        0.3848    0.4043    0.4267    0.4506    0.4722
        0.4980    0.5153    0.5422    0.5650    0.5841
```

FIGURE B-6
Future Conditions 100-Year SWMM Output

```
            0.6073    0.6275    0.6528    0.6675    0.6925
            0.7134    0.7322    0.7556    0.7730    0.7961
            0.8116    0.8363    0.8589    0.8759    0.8992
            0.9204    0.9375    0.9588    0.9761    1.0000
Width:
            0.0920    0.1571    0.1918    0.2289    0.2520
            0.2855    0.3115    0.3353    0.3608    0.3892
            0.4108    0.4377    0.4637    0.4836    0.5097
            0.5347    0.5606    0.5833    0.6054    0.6369
            0.6576    0.6770    0.6911    0.7020    0.7163
            0.7237    0.7435    0.7491    0.7599    0.7757
            0.7856    0.7993    0.8061    0.8261    0.8332
            0.8450    0.8591    0.8677    0.8829    0.8915
            0.9084    0.9150    0.9237    0.9383    0.9462
            0.9560    0.9701    0.9796    0.9933    1.0000

Transect C66
Area:
            0.0014    0.0049    0.0095    0.0148    0.0207
            0.0271    0.0346    0.0425    0.0507    0.0591
            0.0685    0.0783    0.0883    0.0987    0.1099
            0.1216    0.1337    0.1460    0.1586    0.1725
            0.1867    0.2014    0.2168    0.2327    0.2498
            0.2677    0.2863    0.3061    0.3277    0.3504
            0.3749    0.4000    0.4266    0.4544    0.4829
            0.5123    0.5426    0.5738    0.6053    0.6379
            0.6708    0.7048    0.7393    0.7747    0.8105
            0.8470    0.8844    0.9221    0.9609    1.0000
Hrad:
            0.0281    0.0486    0.0761    0.1006    0.1336
            0.1612    0.1743    0.2088    0.2423    0.2649
            0.2806    0.3107    0.3409    0.3523    0.3774
            0.3992    0.4295    0.4585    0.4819    0.4778
            0.5091    0.5187    0.5404    0.5565    0.5628
            0.5703    0.5934    0.5820    0.5841    0.5829
            0.5888    0.6204    0.6232    0.6321    0.6564
            0.6778    0.6865    0.7194    0.7447    0.7637
            0.7926    0.8066    0.8299    0.8530    0.8842
            0.8926    0.9255    0.9441    0.9683    1.0000
Width:
            0.0567    0.1017    0.1254    0.1479    0.1562
            0.1691    0.1996    0.2044    0.2092    0.2232
            0.2443    0.2517    0.2585    0.2797    0.2907
            0.3040    0.3103    0.3171    0.3278    0.3598
            0.3652    0.3866    0.3995    0.4166    0.4423
            0.4681    0.4811    0.5251    0.5605    0.6008
            0.6368    0.6446    0.6846    0.7193    0.7363
            0.7566    0.7912    0.7982    0.8134    0.8358
            0.8469    0.8744    0.8914    0.9089    0.9171
            0.9495    0.9559    0.9770    0.9926    1.0000

Transect C68
Area:
            0.0013    0.0045    0.0088    0.0142    0.0207
            0.0280    0.0364    0.0456    0.0556    0.0665
            0.0782    0.0906    0.1040    0.1180    0.1328
            0.1483    0.1646    0.1814    0.1991    0.2174
            0.2362    0.2556    0.2758    0.2966    0.3180
            0.3400    0.3626    0.3857    0.4094    0.4338
            0.4586    0.4841    0.5104    0.5370    0.5640
            0.5914    0.6190    0.6468    0.6748    0.7030
            0.7315    0.7603    0.7893    0.8186    0.8482
            0.8780    0.9081    0.9384    0.9691    1.0000
Hrad:
            0.0153    0.0362    0.0555    0.0741    0.0926
            0.1123    0.1279    0.1470    0.1657    0.1820
            0.2003    0.2204    0.2356    0.2557    0.2710
            0.2912    0.3077    0.3269    0.3435    0.3622
            0.3849    0.3965    0.4192    0.4354    0.4568
            0.4725    0.4912    0.5104    0.5279    0.5461
            0.5654    0.5806    0.5986    0.6213    0.6426
            0.6671    0.6923    0.7200    0.7442    0.7706
            0.7916    0.8166    0.8383    0.8631    0.8847
            0.9102    0.9334    0.9540    0.9761    1.0000
Width:
            0.0835    0.1235    0.1585    0.1912    0.2232
            0.2495    0.2843    0.3101    0.3355    0.3653
            0.3906    0.4114    0.4417    0.4619    0.4903
            0.5096    0.5350    0.5551    0.5797    0.6003
            0.6140    0.6449    0.6581    0.6814    0.6963
            0.7198    0.7382    0.7559    0.7756    0.7945
            0.8112    0.8339    0.8527    0.8643    0.8778
            0.8866    0.8942    0.8984    0.9069    0.9123
            0.9242    0.9311    0.9416    0.9485    0.9588
            0.9647    0.9728    0.9837    0.9928    1.0000

Transect C7
Area:
            0.0023    0.0071    0.0133    0.0210    0.0295
            0.0395    0.0502    0.0618    0.0744    0.0877
            0.1019    0.1170    0.1326    0.1490    0.1658
            0.1834    0.2020    0.2209    0.2400    0.2601
            0.2811    0.3024    0.3239    0.3457    0.3681
            0.3906    0.4133    0.4360    0.4591    0.4828
            0.5065    0.5303    0.5543    0.5786    0.6034
            0.6284    0.6534    0.6786    0.7040    0.7299
            0.7560    0.7821    0.8085    0.8351    0.8621
            0.8893    0.9167    0.9441    0.9719    1.0000
Hrad:
            0.0182    0.0349    0.0572    0.0722    0.0933
            0.1068    0.1307    0.1439    0.1628    0.1770
            0.1959    0.2166    0.2299    0.2545    0.2715
            0.2914    0.3049    0.3294    0.3499    0.3522
            0.3765    0.4006    0.4246    0.4367    0.4631
            0.4893    0.5155    0.5416    0.5505    0.5765
            0.6024    0.6281    0.6520    0.6611    0.6863
            0.7114    0.7364    0.7589    0.7790    0.7937
            0.8182    0.8426    0.8645    0.8827    0.8977
            0.9222    0.9467    0.9709    0.9827    1.0000
Width:
            0.1283    0.2046    0.2320    0.2909    0.3161
            0.3702    0.3842    0.4297    0.4574    0.4957
            0.5205    0.5403    0.5770    0.5859    0.6111
            0.6298    0.6627    0.6708    0.6861    0.7389
            0.7469    0.7550    0.7628    0.7917    0.7951
            0.7985    0.8018    0.8052    0.8341    0.8375
            0.8409    0.8444    0.8501    0.8753    0.8793
            0.8833    0.8873    0.8942    0.9037    0.9196
            0.9239    0.9283    0.9353    0.9460    0.9604
            0.9643    0.9683    0.9724    0.9890    1.0000

Transect C73
```

FIGURE B-6
Future Conditions 100-Year SWMM Output

```
Area:
        0.0008    0.0029    0.0056    0.0096    0.0148
        0.0209    0.0276    0.0354    0.0444    0.0546
        0.0652    0.0764    0.0884    0.1016    0.1152
        0.1291    0.1434    0.1583    0.1745    0.1915
        0.2090    0.2277    0.2480    0.2691    0.2909
        0.3132    0.3360    0.3594    0.3831    0.4070
        0.4314    0.4562    0.4813    0.5073    0.5335
        0.5603    0.5878    0.6163    0.6451    0.6745
        0.7046    0.7351    0.7662    0.7978    0.8297
        0.8624    0.8957    0.9297    0.9643    1.0000
Hrad:
        0.0251    0.0428    0.0610    0.0770    0.0975
        0.1179    0.1473    0.1544    0.1659    0.1914
        0.2188    0.2382    0.2585    0.2743    0.3044
        0.3340    0.3605    0.3766    0.3804    0.4046
        0.4223    0.4448    0.4347    0.4570    0.4800
        0.5077    0.5278    0.5560    0.5862    0.6156
        0.6359    0.6660    0.6826    0.7065    0.7365
        0.7469    0.7771    0.7794    0.8106    0.8185
        0.8448    0.8720    0.8861    0.9127    0.9308
        0.9498    0.9622    0.9862    0.9875    1.0000
Width:
        0.0316    0.0673    0.0914    0.1248    0.1519
        0.1783    0.1926    0.2301    0.2684    0.2860
        0.2988    0.3217    0.3429    0.3713    0.3795
        0.3878    0.3990    0.4214    0.4601    0.4746
        0.4964    0.5344    0.5721    0.5905    0.6079
        0.6187    0.6384    0.6481    0.6551    0.6626
        0.6797    0.6861    0.7062    0.7190    0.7252
        0.7509    0.7727    0.7912    0.7963    0.8244
        0.8343    0.8431    0.8647    0.8740    0.8912
        0.9077    0.9306    0.9425    0.9764    1.0000

Transect C74_2
Area:
        0.0019    0.0058    0.0109    0.0172    0.0248
        0.0334    0.0432    0.0544    0.0672    0.0814
        0.0971    0.1141    0.1322    0.1513    0.1714
        0.1925    0.2142    0.2364    0.2589    0.2819
        0.3051    0.3286    0.3524    0.3764    0.4004
        0.4244    0.4483    0.4723    0.4963    0.5203
        0.5443    0.5682    0.5922    0.6162    0.6402
        0.6642    0.6882    0.7121    0.7361    0.7601
        0.7841    0.8081    0.8321    0.8561    0.8800
        0.9040    0.9280    0.9520    0.9760    1.0000
Hrad:
        0.0138    0.0305    0.0463    0.0590    0.0726
        0.0901    0.0992    0.1123    0.1190    0.1323
        0.1426    0.1570    0.1714    0.1850    0.2028
        0.2164    0.2379    0.2559    0.2755    0.2948
        0.3176    0.3348    0.3561    0.3798    0.4039
        0.4279    0.4519    0.4759    0.4999    0.5239
        0.5479    0.5718    0.5957    0.6196    0.6435
        0.6674    0.6913    0.7151    0.7389    0.7627
        0.7865    0.8103    0.8341    0.8578    0.8816
        0.9053    0.9290    0.9527    0.9763    1.0000
Width:
        0.1382    0.1912    0.2450    0.2952    0.3452
        0.3749    0.4396    0.4895    0.5701    0.6217
        0.6878    0.7344    0.7786    0.8256    0.8538
        0.8985    0.9091    0.9323    0.9485    0.9650
        0.9694    0.9902    0.9984    0.9994    0.9994
        0.9994    0.9995    0.9995    0.9995    0.9995
        0.9996    0.9996    0.9996    0.9996    0.9997
        0.9997    0.9997    0.9997    0.9997    0.9998
        0.9998    0.9998    0.9998    0.9999    0.9999
        0.9999    0.9999    1.0000    1.0000    1.0000

Transect C8
Area:
        0.0010    0.0039    0.0095    0.0165    0.0246
        0.0337    0.0437    0.0548    0.0667    0.0792
        0.0927    0.1069    0.1217    0.1374    0.1538
        0.1710    0.1887    0.2070    0.2258    0.2454
        0.2657    0.2865    0.3077    0.3293    0.3512
        0.3735    0.3961    0.4190    0.4421    0.4656
        0.4895    0.5136    0.5381    0.5628    0.5878
        0.6131    0.6388    0.6647    0.6910    0.7177
        0.7446    0.7719    0.7996    0.8275    0.8555
        0.8839    0.9127    0.9416    0.9706    1.0000
Hrad:
        0.0164    0.0250    0.0470    0.0651    0.0896
        0.1067    0.1244    0.1452    0.1670    0.1858
        0.2034    0.2241    0.2434    0.2590    0.2791
        0.2983    0.3172    0.3403    0.3560    0.3752
        0.3934    0.4136    0.4378    0.4591    0.4822
        0.5040    0.5266    0.5507    0.5736    0.5926
        0.6143    0.6357    0.6586    0.6800    0.7017
        0.7199    0.7421    0.7637    0.7793    0.7997
        0.8222    0.8362    0.8574    0.8821    0.9048
        0.9192    0.9415    0.9654    0.9871    1.0000
Width:
        0.0610    0.1612    0.2070    0.2608    0.2814
        0.3241    0.3608    0.3871    0.4098    0.4375
        0.4675    0.4890    0.5128    0.5439    0.5653
        0.5878    0.6100    0.6235    0.6504    0.6705
        0.6922    0.7099    0.7199    0.7338    0.7443
        0.7564    0.7669    0.7748    0.7842    0.7985
        0.8089    0.8196    0.8279    0.8379    0.8472
        0.8608    0.8691    0.8781    0.8938    0.9040
        0.9116    0.9285    0.9373    0.9420    0.9487
        0.9644    0.9714    0.9765    0.9838    1.0000

Transect C80
Area:
        0.0036    0.0101    0.0190    0.0297    0.0424
        0.0564    0.0715    0.0877    0.1050    0.1230
        0.1417    0.1608    0.1805    0.2007    0.2214
        0.2426    0.2642    0.2863    0.3086    0.3309
        0.3532    0.3755    0.3978    0.4201    0.4424
        0.4647    0.4870    0.5093    0.5316    0.5539
        0.5762    0.5985    0.6208    0.6431    0.6654
        0.6877    0.7100    0.7323    0.7546    0.7769
        0.7992    0.8215    0.8439    0.8662    0.8885
        0.9108    0.9331    0.9554    0.9777    1.0000
Hrad:
        0.0153    0.0284    0.0431    0.0573    0.0716
        0.0867    0.1035    0.1176    0.1339    0.1505
        0.1690    0.1864    0.2038    0.2213    0.2361
        0.2555    0.2726    0.2888    0.3111    0.3335
        0.3559    0.3782    0.4006    0.4229    0.4453
```

FIGURE B-6
Future Conditions 100-Year SWMM Output

```
            0.4676    0.4899    0.5122    0.5345    0.5568
            0.5790    0.6013    0.6235    0.6458    0.6680
            0.6902    0.7124    0.7346    0.7568    0.7789
            0.8011    0.8232    0.8454    0.8675    0.8896
            0.9117    0.9338    0.9559    0.9779    1.0000
Width:
            0.2394    0.3597    0.4450    0.5234    0.5980
            0.6562    0.6968    0.7519    0.7911    0.8248
            0.8453    0.8699    0.8931    0.9139    0.9452
            0.9570    0.9771    0.9990    0.9995    0.9995
            0.9995    0.9995    0.9995    0.9996    0.9996
            0.9996    0.9996    0.9996    0.9996    0.9997
            0.9997    0.9997    0.9997    0.9997    0.9997
            0.9998    0.9998    0.9998    0.9998    0.9998
            0.9998    0.9999    0.9999    0.9999    0.9999
            0.9999    0.9999    1.0000    1.0000    1.0000

Transect C83
Area:
            0.0018    0.0055    0.0105    0.0163    0.0232
            0.0309    0.0394    0.0488    0.0590    0.0699
            0.0817    0.0941    0.1074    0.1215    0.1364
            0.1519    0.1683    0.1855    0.2034    0.2220
            0.2413    0.2615    0.2825    0.3042    0.3266
            0.3498    0.3733    0.3972    0.4213    0.4456
            0.4704    0.4955    0.5207    0.5464    0.5723
            0.5985    0.6250    0.6518    0.6789    0.7063
            0.7340    0.7620    0.7905    0.8192    0.8484
            0.8779    0.9077    0.9381    0.9688    1.0000
Hrad:
            0.0187    0.0387    0.0629    0.0802    0.0969
            0.1212    0.1356    0.1568    0.1779    0.1915
            0.2118    0.2294    0.2471    0.2622    0.2803
            0.2988    0.3145    0.3306    0.3508    0.3669
            0.3822    0.3987    0.4153    0.4315    0.4483
            0.4696    0.4958    0.5180    0.5453    0.5678
            0.5914    0.6189    0.6422    0.6623    0.6899
            0.7103    0.7340    0.7590    0.7816    0.8020
            0.8270    0.8441    0.8677    0.8860    0.9054
            0.9290    0.9434    0.9626    0.9798    1.0000
Width:
            0.0976    0.1424    0.1664    0.2036    0.2394
            0.2553    0.2906    0.3115    0.3316    0.3654
            0.3856    0.4106    0.4348    0.4635    0.4870
            0.5086    0.5352    0.5614    0.5801    0.6052
            0.6316    0.6562    0.6804    0.7051    0.7287
            0.7451    0.7530    0.7669    0.7727    0.7850
            0.7956    0.8007    0.8109    0.8251    0.8296
            0.8426    0.8516    0.8588    0.8686    0.8807
            0.8875    0.9028    0.9110    0.9245    0.9370
            0.9450    0.9621    0.9745    0.9888    1.0000

Transect C86
Area:
            0.0022    0.0062    0.0110    0.0163    0.0229
            0.0300    0.0376    0.0456    0.0541    0.0633
            0.0730    0.0833    0.0939    0.1049    0.1164
            0.1289    0.1418    0.1551    0.1690    0.1834
            0.1984    0.2143    0.2307    0.2477    0.2656
            0.2844    0.3040    0.3239    0.3452    0.3672
            0.3902    0.4139    0.4387    0.4641    0.4908
            0.5185    0.5470    0.5763    0.6065    0.6378
            0.6697    0.7027    0.7366    0.7714    0.8070
            0.8437    0.8814    0.9197    0.9594    1.0000
Hrad:
            0.0289    0.0552    0.0899    0.1125    0.1367
            0.1682    0.1994    0.2273    0.2507    0.2765
            0.2985    0.3293    0.3568    0.3826    0.4037
            0.4145    0.4458    0.4735    0.4895    0.5139
            0.5274    0.5433    0.5731    0.5789    0.6014
            0.6048    0.6343    0.6655    0.6599    0.6645
            0.6923    0.6929    0.7206    0.7288    0.7449
            0.7580    0.7791    0.7986    0.8078    0.8337
            0.8434    0.8696    0.8757    0.9074    0.9147
            0.9310    0.9548    0.9665    0.9845    1.0000
Width:
            0.0757    0.1118    0.1221    0.1452    0.1675
            0.1785    0.1884    0.2004    0.2159    0.2288
            0.2446    0.2528    0.2630    0.2742    0.2883
            0.3110    0.3181    0.3275    0.3451    0.3569
            0.3761    0.3944    0.4025    0.4278    0.4416
            0.4702    0.4791    0.5067    0.5230    0.5526
            0.5636    0.5972    0.6087    0.6368    0.6588
            0.6839    0.7021    0.7216    0.7508    0.7649
            0.7940    0.8080    0.8412    0.8501    0.8823
            0.9062    0.9231    0.9516    0.9746    1.0000

Transect C87
Area:
            0.0004    0.0016    0.0036    0.0064    0.0100
            0.0144    0.0196    0.0256    0.0324    0.0400
            0.0484    0.0576    0.0676    0.0784    0.0900
            0.1024    0.1156    0.1296    0.1444    0.1600
            0.1764    0.1936    0.2116    0.2304    0.2500
            0.2704    0.2916    0.3136    0.3364    0.3600
            0.3844    0.4096    0.4356    0.4624    0.4900
            0.5184    0.5476    0.5776    0.6084    0.6400
            0.6724    0.7056    0.7396    0.7744    0.8100
            0.8464    0.8836    0.9216    0.9604    1.0000
Hrad:
            0.0200    0.0400    0.0600    0.0800    0.1000
            0.1200    0.1400    0.1600    0.1800    0.2000
            0.2200    0.2400    0.2600    0.2800    0.3000
            0.3200    0.3400    0.3600    0.3800    0.4000
            0.4200    0.4400    0.4600    0.4800    0.5000
            0.5200    0.5400    0.5600    0.5800    0.6000
            0.6200    0.6400    0.6600    0.6800    0.7000
            0.7200    0.7400    0.7600    0.7800    0.8000
            0.8200    0.8400    0.8600    0.8800    0.9000
            0.9200    0.9400    0.9600    0.9800    1.0000
Width:
            0.0200    0.0400    0.0600    0.0800    0.1000
            0.1200    0.1400    0.1600    0.1800    0.2000
            0.2200    0.2400    0.2600    0.2800    0.3000
            0.3200    0.3400    0.3600    0.3800    0.4000
            0.4200    0.4400    0.4600    0.4800    0.5000
            0.5200    0.5400    0.5600    0.5800    0.6000
            0.6200    0.6400    0.6600    0.6800    0.7000
            0.7200    0.7400    0.7600    0.7800    0.8000
            0.8200    0.8400    0.8600    0.8800    0.9000
            0.9200    0.9400    0.9600    0.9800    1.0000
```

FIGURE B-6
Future Conditions 100-Year SWMM Output

```
Transect C88
Area:
          0.0001    0.0005    0.0011    0.0020    0.0031
          0.0045    0.0061    0.0080    0.0101    0.0125
          0.0151    0.0196    0.0266    0.0346    0.0448
          0.0570    0.0702    0.0843    0.0992    0.1150
          0.1317    0.1496    0.1698    0.1906    0.2120
          0.2339    0.2567    0.2810    0.3063    0.3322
          0.3597    0.3884    0.4177    0.4474    0.4773
          0.5075    0.5380    0.5687    0.5996    0.6332
          0.6678    0.7029    0.7383    0.7742    0.8103
          0.8468    0.8836    0.9207    0.9599    1.0000
Hrad:
          0.0209    0.0419    0.0628    0.0837    0.1047
          0.1256    0.1465    0.1674    0.1884    0.2093
          0.2302    0.2275    0.1470    0.1713    0.1598
          0.1885    0.2157    0.2435    0.2713    0.2965
          0.3201    0.3393    0.3452    0.3786    0.4114
          0.4391    0.4647    0.4701    0.5013    0.5322
          0.5319    0.5612    0.5923    0.6292    0.6658
          0.7021    0.7382    0.7741    0.8097    0.7715
          0.8041    0.8364    0.8684    0.9021    0.9359
          0.9695    1.0029    1.0360    1.0166    1.0000
Width:
          0.0060    0.0119    0.0179    0.0239    0.0298
          0.0358    0.0418    0.0478    0.0537    0.0597
          0.0657    0.1447    0.1809    0.2021    0.2803
          0.3023    0.3252    0.3460    0.3656    0.3877
          0.4114    0.4408    0.4918    0.5036    0.5153
          0.5328    0.5525    0.5978    0.6111    0.6244
          0.6762    0.6921    0.7053    0.7112    0.7170
          0.7229    0.7288    0.7347    0.7406    0.8208
          0.8306    0.8404    0.8502    0.8582    0.8658
          0.8735    0.8811    0.8887    0.9442    1.0000

Transect C89
Area:
          0.0021    0.0063    0.0119    0.0186    0.0261
          0.0349    0.0443    0.0544    0.0657    0.0776
          0.0901    0.1028    0.1164    0.1308    0.1458
          0.1614    0.1774    0.1940    0.2110    0.2286
          0.2467    0.2654    0.2844    0.3038    0.3238
          0.3446    0.3658    0.3873    0.4091    0.4313
          0.4542    0.4777    0.5017    0.5261    0.5512
          0.5768    0.6027    0.6291    0.6563    0.6841
          0.7124    0.7411    0.7704    0.8005    0.8316
          0.8634    0.8961    0.9298    0.9647    1.0000
Hrad:
          0.0231    0.0451    0.0683    0.0940    0.1172
          0.1372    0.1641    0.1802    0.2018    0.2275
          0.2555    0.2836    0.2935    0.3192    0.3370
          0.3647    0.3916    0.4108    0.4354    0.4569
          0.4778    0.5013    0.5267    0.5514    0.5618
          0.5831    0.6081    0.6357    0.6626    0.6819
          0.6956    0.7130    0.7367    0.7552    0.7695
          0.7963    0.8160    0.8413    0.8426    0.8647
          0.8865    0.9071    0.9175    0.9332    0.9423
          0.9472    0.9641    0.9571    0.9731    1.0000
Width:
          0.0912    0.1416    0.1765    0.2006    0.2257
          0.2579    0.2735    0.3057    0.3294    0.3451
          0.3562    0.3661    0.4005    0.4135    0.4365
          0.4462    0.4564    0.4756    0.4880    0.5036
          0.5197    0.5325    0.5430    0.5538    0.5794
          0.5939    0.6043    0.6117    0.6194    0.6344
          0.6549    0.6721    0.6829    0.6985    0.7182
          0.7258    0.7400    0.7488    0.7801    0.7923
          0.8046    0.8179    0.8407    0.8590    0.8837
          0.9131    0.9311    0.9737    0.9928    1.0000

Transect C9
Area:
          0.0023    0.0076    0.0144    0.0223    0.0316
          0.0416    0.0528    0.0646    0.0771    0.0902
          0.1040    0.1185    0.1335    0.1492    0.1656
          0.1823    0.1998    0.2179    0.2364    0.2558
          0.2753    0.2952    0.3161    0.3373    0.3588
          0.3810    0.4036    0.4267    0.4506    0.4748
          0.4993    0.5241    0.5492    0.5745    0.5999
          0.6254    0.6510    0.6767    0.7028    0.7292
          0.7556    0.7822    0.8088    0.8356    0.8627
          0.8900    0.9173    0.9448    0.9723    1.0000
Hrad:
          0.0140    0.0356    0.0544    0.0728    0.0913
          0.1113    0.1280    0.1499    0.1678    0.1883
          0.2042    0.2255    0.2442    0.2599    0.2799
          0.3002    0.3147    0.3337    0.3438    0.3676
          0.3913    0.4078    0.4183    0.4420    0.4645
          0.4751    0.4911    0.5139    0.5235    0.5448
          0.5654    0.5863    0.6083    0.6337    0.6589
          0.6839    0.7082    0.7324    0.7479    0.7707
          0.7961    0.8214    0.8467    0.8652    0.8859
          0.9088    0.9341    0.9592    0.9844    1.0000
Width:
          0.1631    0.2137    0.2653    0.3074    0.3470
          0.3754    0.4136    0.4320    0.4608    0.4804
          0.5110    0.5270    0.5482    0.5759    0.5931
          0.6090    0.6366    0.6546    0.6894    0.6973
          0.7052    0.7254    0.7571    0.7645    0.7736
          0.8031    0.8230    0.8314    0.8618    0.8724
          0.8840    0.8949    0.9038    0.9075    0.9112
          0.9151    0.9199    0.9246    0.9403    0.9468
          0.9497    0.9527    0.9556    0.9662    0.9741
          0.9796    0.9823    0.9850    0.9878    1.0000

Transect C90
Area:
          0.0020    0.0056    0.0100    0.0159    0.0227
          0.0300    0.0378    0.0462    0.0557    0.0658
          0.0762    0.0871    0.0985    0.1107    0.1235
          0.1367    0.1504    0.1645    0.1793    0.1947
          0.2106    0.2275    0.2449    0.2628    0.2811
          0.2998    0.3190    0.3389    0.3602    0.3820
          0.4041    0.4269    0.4504    0.4748    0.5000
          0.5260    0.5531    0.5809    0.6092    0.6395
          0.6711    0.7033    0.7370    0.7716    0.8074
          0.8438    0.8814    0.9200    0.9592    1.0000
Hrad:
          0.0257    0.0572    0.0869    0.1032    0.1315
          0.1641    0.1924    0.2198    0.2316    0.2638
          0.2954    0.3222    0.3424    0.3638    0.3893
          0.4184    0.4445    0.4671    0.4876    0.5103
```

FIGURE B-6
Future Conditions 100-Year SWMM Output

```
            0.5277    0.5438    0.5687    0.5970    0.6233
            0.6492    0.6724    0.6815    0.6836    0.7144
            0.7402    0.7570    0.7712    0.7826    0.8015
            0.8189    0.8252    0.8498    0.8729    0.8360
            0.8654    0.8826    0.8826    0.9067    0.9177
            0.9287    0.9599    0.9701    0.9844    1.0000
Width:
            0.0768    0.0984    0.1156    0.1547    0.1732
            0.1834    0.1968    0.2105    0.2411    0.2498
            0.2582    0.2702    0.2877    0.3043    0.3171
            0.3265    0.3378    0.3517    0.3672    0.3809
            0.3986    0.4178    0.4300    0.4394    0.4500
            0.4607    0.4731    0.4961    0.5257    0.5332
            0.5443    0.5622    0.5824    0.6051    0.6223
            0.6460    0.6689    0.6822    0.6964    0.7639
            0.7743    0.7956    0.8340    0.8501    0.8791
            0.9081    0.9176    0.9481    0.9743    1.0000

Transect C91
Area:
            0.0015    0.0047    0.0087    0.0132    0.0184
            0.0243    0.0308    0.0379    0.0453    0.0532
            0.0618    0.0710    0.0806    0.0905    0.1009
            0.1120    0.1237    0.1357    0.1482    0.1610
            0.1743    0.1887    0.2039    0.2196    0.2357
            0.2523    0.2699    0.2884    0.3076    0.3280
            0.3492    0.3715    0.3944    0.4180    0.4424
            0.4677    0.4942    0.5216    0.5504    0.5806
            0.6126    0.6471    0.6837    0.7226    0.7636
            0.8067    0.8517    0.8990    0.9484    1.0000
Hrad:
            0.0307    0.0679    0.1085    0.1464    0.1731
            0.2028    0.2387    0.2754    0.3122    0.3355
            0.3617    0.3960    0.4319    0.4676    0.4911
            0.5131    0.5432    0.5780    0.6122    0.6423
            0.6646    0.6610    0.6888    0.7213    0.7530
            0.7730    0.7748    0.8012    0.8125    0.8251
            0.8374    0.8579    0.8890    0.9079    0.9330
            0.9483    0.9617    0.9759    0.9824    0.9830
            0.9701    0.9588    0.9476    0.9510    0.9581
            0.9659    0.9724    0.9787    0.9878    1.0000
Width:
            0.0502    0.0695    0.0803    0.0898    0.1059
            0.1196    0.1288    0.1368    0.1440    0.1575
            0.1699    0.1780    0.1850    0.1917    0.2034
            0.2162    0.2253    0.2322    0.2391    0.2475
            0.2590    0.2823    0.2927    0.3008    0.3091
            0.3225    0.3445    0.3560    0.3746    0.3935
            0.4131    0.4291    0.4397    0.4565    0.4704
            0.4896    0.5103    0.5311    0.5570    0.5877
            0.6288    0.6725    0.7195    0.7581    0.7955
            0.8339    0.8750    0.9180    0.9599    1.0000

Transect C93
Area:
            0.0019    0.0063    0.0113    0.0169    0.0239
            0.0317    0.0399    0.0485    0.0579    0.0683
            0.0796    0.0913    0.1033    0.1157    0.1290
            0.1427    0.1572    0.1722    0.1875    0.2037
            0.2207    0.2382    0.2562    0.2746    0.2937
            0.3137    0.3342    0.3552    0.3767    0.3989
            0.4220    0.4456    0.4699    0.4954    0.5217
            0.5485    0.5759    0.6045    0.6343    0.6646
            0.6952    0.7264    0.7584    0.7908    0.8238
            0.8577    0.8920    0.9272    0.9632    1.0000
Hrad:
            0.0188    0.0491    0.0799    0.1033    0.1189
            0.1465    0.1763    0.2051    0.2184    0.2273
            0.2574    0.2869    0.3159    0.3347    0.3549
            0.3786    0.3958    0.4224    0.4462    0.4563
            0.4744    0.4985    0.5226    0.5462    0.5588
            0.5747    0.5994    0.6232    0.6408    0.6518
            0.6722    0.6930    0.7048    0.7076    0.7300
            0.7545    0.7703    0.7678    0.7826    0.8129
            0.8390    0.8506    0.8758    0.9024    0.9135
            0.9357    0.9530    0.9700    0.9850    1.0000
Width:
            0.1020    0.1287    0.1423    0.1642    0.2010
            0.2162    0.2264    0.2366    0.2651    0.3007
            0.3095    0.3183    0.3271    0.3458    0.3634
            0.3769    0.3971    0.4074    0.4200    0.4461
            0.4649    0.4775    0.4899    0.5025    0.5253
            0.5456    0.5573    0.5696    0.5875    0.6117
            0.6275    0.6427    0.6664    0.6997    0.7144
            0.7267    0.7473    0.7870    0.8103    0.8173
            0.8282    0.8537    0.8657    0.8761    0.9017
            0.9164    0.9359    0.9558    0.9779    1.0000

Transect Harmony_ChannelA
Area:
            0.0050    0.0105    0.0164    0.0227    0.0294
            0.0366    0.0461    0.0593    0.0730    0.0872
            0.1018    0.1168    0.1323    0.1481    0.1644
            0.1811    0.1983    0.2158    0.2338    0.2522
            0.2710    0.2902    0.3099    0.3299    0.3504
            0.3714    0.3927    0.4145    0.4367    0.4593
            0.4823    0.5058    0.5296    0.5539    0.5786
            0.6038    0.6293    0.6553    0.6817    0.7086
            0.7358    0.7635    0.7916    0.8201    0.8490
            0.8784    0.9081    0.9383    0.9690    1.0000
Hrad:
            0.0180    0.0346    0.0501    0.0648    0.0788
            0.0922    0.1049    0.1172    0.1348    0.1545
            0.1754    0.1968    0.2185    0.2403    0.2622
            0.2841    0.3060    0.3279    0.3497    0.3714
            0.3931    0.4147    0.4362    0.4577    0.4791
            0.5004    0.5217    0.5430    0.5641    0.5853
            0.6064    0.6274    0.6484    0.6693    0.6902
            0.7111    0.7319    0.7527    0.7735    0.7942
            0.8149    0.8356    0.8562    0.8769    0.8974
            0.9180    0.9385    0.9590    0.9795    1.0000
Width:
            0.1681    0.1816    0.1951    0.2086    0.2221
            0.2356    0.3868    0.4333    0.4468    0.4603
            0.4738    0.4873    0.5008    0.5143    0.5278
            0.5412    0.5547    0.5682    0.5817    0.5952
            0.6087    0.6222    0.6357    0.6492    0.6627
            0.6762    0.6897    0.7032    0.7167    0.7301
            0.7436    0.7571    0.7706    0.7841    0.7976
            0.8111    0.8246    0.8381    0.8516    0.8651
            0.8786    0.8921    0.9056    0.9190    0.9325
            0.9460    0.9595    0.9730    0.9865    1.0000
```

FIGURE B-6
Future Conditions 100-Year SWMM Output

Transect T-C10
Area:

0.0008	0.0043	0.0100	0.0166	0.0247
0.0341	0.0449	0.0563	0.0686	0.0818
0.0961	0.1113	0.1279	0.1460	0.1656
0.1859	0.2064	0.2274	0.2485	0.2698
0.2912	0.3131	0.3351	0.3573	0.3796
0.4021	0.4249	0.4478	0.4708	0.4943
0.5179	0.5417	0.5656	0.5895	0.6139
0.6383	0.6629	0.6877	0.7127	0.7379
0.7633	0.7890	0.8149	0.8409	0.8670
0.8934	0.9199	0.9464	0.9731	1.0000

Hrad:

0.0111	0.0245	0.0481	0.0629	0.0798
0.0942	0.1123	0.1376	0.1521	0.1670
0.1807	0.1980	0.2096	0.2185	0.2299
0.2561	0.2784	0.3021	0.3281	0.3540
0.3732	0.3964	0.4214	0.4463	0.4696
0.4920	0.5139	0.5381	0.5621	0.5778
0.6007	0.6249	0.6489	0.6728	0.6884
0.7117	0.7339	0.7541	0.7741	0.7925
0.8112	0.8314	0.8536	0.8757	0.8934
0.9145	0.9369	0.9592	0.9798	1.0000

Width:

0.0746	0.1972	0.2247	0.2762	0.3232
0.3781	0.4183	0.4278	0.4714	0.5118
0.5557	0.5875	0.6378	0.6984	0.7528
0.7575	0.7725	0.7830	0.7866	0.7902
0.8078	0.8165	0.8209	0.8252	0.8320
0.8401	0.8488	0.8532	0.8575	0.8749
0.8807	0.8842	0.8877	0.8912	0.9061
0.9102	0.9155	0.9233	0.9312	0.9408
0.9501	0.9573	0.9618	0.9663	0.9758
0.9812	0.9849	0.9886	0.9942	1.0000

Transect T-C102
Area:

0.0019	0.0063	0.0127	0.0208	0.0298
0.0398	0.0509	0.0624	0.0748	0.0877
0.1014	0.1156	0.1305	0.1459	0.1620
0.1785	0.1957	0.2134	0.2314	0.2502
0.2694	0.2892	0.3095	0.3302	0.3514
0.3731	0.3952	0.4178	0.4409	0.4644
0.4883	0.5125	0.5371	0.5620	0.5873
0.6128	0.6386	0.6648	0.6910	0.7178
0.7447	0.7719	0.7995	0.8273	0.8554
0.8837	0.9124	0.9413	0.9704	1.0000

Hrad:

0.0165	0.0320	0.0515	0.0731	0.0926
0.1114	0.1329	0.1549	0.1776	0.1955
0.2174	0.2338	0.2562	0.2769	0.2927
0.3133	0.3340	0.3550	0.3725	0.3929
0.4098	0.4295	0.4495	0.4624	0.4886
0.5076	0.5203	0.5459	0.5561	0.5827
0.6021	0.6213	0.6402	0.6670	0.6854
0.7044	0.7316	0.7505	0.7778	0.7920
0.8192	0.8363	0.8539	0.8809	0.8984
0.9155	0.9420	0.9588	0.9740	1.0000

Width:

0.1139	0.1983	0.2474	0.2846	0.3226
0.3581	0.3832	0.4038	0.4217	0.4493
0.4669	0.4953	0.5101	0.5273	0.5541
0.5705	0.5866	0.6017	0.6216	0.6372
0.6577	0.6737	0.6888	0.7144	0.7196
0.7352	0.7598	0.7654	0.7930	0.7971
0.8111	0.8251	0.8391	0.8435	0.8569
0.8701	0.8730	0.8859	0.8886	0.9064
0.9090	0.9231	0.9363	0.9392	0.9522
0.9653	0.9685	0.9818	0.9964	1.0000

Transect T-C108
Area:

0.0001	0.0004	0.0009	0.0026	0.0048
0.0072	0.0100	0.0141	0.0184	0.0228
0.0288	0.0350	0.0414	0.0489	0.0570
0.0652	0.0739	0.0839	0.0940	0.1043
0.1156	0.1277	0.1399	0.1528	0.1668
0.1811	0.1970	0.2135	0.2374	0.2636
0.2914	0.3201	0.3500	0.3815	0.4147
0.4489	0.4846	0.5208	0.5583	0.5960
0.6340	0.6733	0.7129	0.7526	0.7925
0.8331	0.8746	0.9163	0.9581	1.0000

Hrad:

0.0208	0.0417	0.0625	0.0515	0.0876
0.1213	0.1055	0.1413	0.1757	0.2089
0.1979	0.2328	0.2668	0.2561	0.2918
0.3268	0.3141	0.3498	0.3850	0.4197
0.4065	0.4413	0.4757	0.4620	0.4944
0.5265	0.5131	0.4998	0.3856	0.4012
0.4376	0.4530	0.4880	0.5012	0.5159
0.5313	0.5684	0.5845	0.6233	0.6618
0.7002	0.7160	0.7553	0.7944	0.8333
0.8452	0.8841	0.9228	0.9615	1.0000

Width:

0.0048	0.0096	0.0144	0.0502	0.0546
0.0590	0.0947	0.0995	0.1043	0.1091
0.1451	0.1499	0.1547	0.1905	0.1949
0.1993	0.2350	0.2394	0.2438	0.2482
0.2841	0.2889	0.2937	0.3303	0.3369
0.3435	0.3835	0.4269	0.6157	0.6573
0.6661	0.7068	0.7173	0.7614	0.8041
0.8453	0.8528	0.8913	0.8961	0.9009
0.9057	0.9406	0.9441	0.9476	0.9511
0.9859	0.9894	0.9930	0.9965	1.0000

Transect T-C110
Area:

0.0004	0.0016	0.0036	0.0064	0.0100
0.0144	0.0196	0.0256	0.0324	0.0400
0.0484	0.0576	0.0676	0.0784	0.0900
0.1024	0.1156	0.1296	0.1444	0.1600
0.1764	0.1936	0.2116	0.2304	0.2500
0.2704	0.2916	0.3136	0.3364	0.3600
0.3844	0.4096	0.4356	0.4624	0.4900
0.5184	0.5476	0.5776	0.6084	0.6400
0.6724	0.7056	0.7396	0.7744	0.8100
0.8464	0.8836	0.9216	0.9604	1.0000

Hrad:

0.0400	0.0799	0.1199	0.1598	0.1998
0.2398	0.2797	0.3197	0.3596	0.3996
0.4396	0.4795	0.5195	0.5594	0.5994

FIGURE B-6
Future Conditions 100-Year SWMM Output

0.6393	0.6793	0.7193	0.7592	0.7992
0.8391	0.8791	0.9191	0.9590	0.9990
1.0389	1.0789	1.1189	1.1588	1.1988
1.2387	1.2787	1.3187	1.3586	1.3986
1.4385	1.4785	1.5184	1.5584	1.5984
1.6383	1.6783	1.7182	1.7582	1.7982
1.8381	1.8781	1.9180	1.9580	1.0000

Width:

0.0100	0.0200	0.0300	0.0400	0.0500
0.0600	0.0700	0.0800	0.0900	0.1000
0.1100	0.1200	0.1300	0.1400	0.1500
0.1600	0.1700	0.1800	0.1900	0.2000
0.2100	0.2200	0.2300	0.2400	0.2500
0.2600	0.2700	0.2800	0.2900	0.3000
0.3100	0.3200	0.3300	0.3400	0.3500
0.3600	0.3700	0.3800	0.3900	0.4000
0.4100	0.4200	0.4300	0.4400	0.4500
0.4600	0.4700	0.4800	0.4900	1.0000

Transect T-C111
Area:

0.0056	0.0136	0.0228	0.0328	0.0436
0.0552	0.0674	0.0803	0.0937	0.1075
0.1218	0.1363	0.1515	0.1669	0.1829
0.1991	0.2161	0.2334	0.2510	0.2691
0.2873	0.3063	0.3254	0.3450	0.3649
0.3851	0.4059	0.4268	0.4482	0.4702
0.4926	0.5155	0.5387	0.5624	0.5865
0.6113	0.6364	0.6620	0.6880	0.7144
0.7412	0.7683	0.7962	0.8243	0.8528
0.8817	0.9107	0.9401	0.9699	1.0000

Hrad:

0.0232	0.0462	0.0704	0.0932	0.1207
0.1422	0.1625	0.1826	0.2098	0.2307
0.2568	0.2761	0.3011	0.3157	0.3432
0.3706	0.3800	0.4063	0.4235	0.4477
0.4737	0.4860	0.5131	0.5241	0.5510
0.5614	0.5882	0.6150	0.6205	0.6432
0.6558	0.6785	0.6907	0.7125	0.7248
0.7388	0.7625	0.7725	0.7966	0.8085
0.8335	0.8465	0.8585	0.8818	0.8948
0.9199	0.9434	0.9565	0.9791	1.0000

Width:

0.2420	0.2948	0.3250	0.3533	0.3626
0.3896	0.4163	0.4409	0.4480	0.4675
0.4755	0.4951	0.5044	0.5299	0.5342
0.5385	0.5697	0.5755	0.5937	0.6020
0.6076	0.6312	0.6351	0.6590	0.6630
0.6866	0.6905	0.6944	0.7228	0.7315
0.7516	0.7601	0.7802	0.7897	0.8096
0.8279	0.8350	0.8573	0.8640	0.8839
0.8895	0.9109	0.9277	0.9350	0.9532
0.9586	0.9654	0.9830	0.9906	1.0000

Transect T-C12
Area:

0.0024	0.0075	0.0135	0.0218	0.0305
0.0398	0.0510	0.0629	0.0751	0.0877
0.1018	0.1170	0.1325	0.1483	0.1645
0.1819	0.2004	0.2193	0.2384	0.2578
0.2784	0.2992	0.3210	0.3431	0.3654
0.3877	0.4101	0.4326	0.4557	0.4795
0.5034	0.5274	0.5516	0.5758	0.6001
0.6253	0.6508	0.6765	0.7023	0.7281
0.7541	0.7801	0.8069	0.8342	0.8615
0.8890	0.9166	0.9442	0.9719	1.0000

Hrad:

0.0148	0.0402	0.0498	0.0735	0.0982
0.1093	0.1244	0.1497	0.1744	0.1822
0.1957	0.2180	0.2431	0.2678	0.2734
0.2982	0.3051	0.3301	0.3547	0.3715
0.3847	0.4111	0.4162	0.4428	0.4692
0.4956	0.5218	0.5479	0.5474	0.5735
0.5994	0.6253	0.6510	0.6766	0.6963
0.6976	0.7233	0.7488	0.7743	0.7997
0.8249	0.8444	0.8420	0.8673	0.8925
0.9176	0.9427	0.9676	0.9925	1.0000

Width:

0.1677	0.1888	0.2742	0.3000	0.3140
0.3677	0.4143	0.4247	0.4351	0.4860
0.5255	0.5423	0.5508	0.5593	0.6078
0.6161	0.6632	0.6710	0.6788	0.7009
0.7307	0.7344	0.7781	0.7815	0.7848
0.7881	0.7914	0.7947	0.8379	0.8412
0.8446	0.8480	0.8514	0.8548	0.8655
0.9000	0.9032	0.9065	0.9097	0.9130
0.9162	0.9258	0.9603	0.9635	0.9666
0.9698	0.9730	0.9762	0.9794	1.0000

Transect T-C16
Area:

0.0019	0.0059	0.0114	0.0180	0.0258
0.0344	0.0440	0.0545	0.0660	0.0783
0.0915	0.1054	0.1202	0.1356	0.1519
0.1688	0.1864	0.2047	0.2237	0.2434
0.2637	0.2847	0.3063	0.3282	0.3505
0.3731	0.3959	0.4191	0.4425	0.4662
0.4901	0.5144	0.5389	0.5638	0.5889
0.6143	0.6400	0.6661	0.6923	0.7189
0.7458	0.7729	0.8003	0.8280	0.8560
0.8842	0.9127	0.9415	0.9706	1.0000

Hrad:

0.0171	0.0363	0.0559	0.0731	0.0946
0.1088	0.1297	0.1473	0.1637	0.1828
0.1988	0.2203	0.2334	0.2541	0.2707
0.2890	0.3064	0.3256	0.3408	0.3615
0.3750	0.3963	0.4164	0.4376	0.4611
0.4866	0.5101	0.5318	0.5555	0.5793
0.6008	0.6242	0.6464	0.6663	0.6889
0.7106	0.7330	0.7530	0.7755	0.7958
0.8155	0.8380	0.8592	0.8799	0.9014
0.9202	0.9419	0.9623	0.9829	1.0000

Width:

0.1086	0.1638	0.2040	0.2462	0.2725
0.3164	0.3398	0.3706	0.4034	0.4286
0.4606	0.4786	0.5152	0.5342	0.5613
0.5843	0.6087	0.6290	0.6568	0.6736
0.7034	0.7187	0.7357	0.7502	0.7604
0.7670	0.7763	0.7881	0.7968	0.8048
0.8159	0.8243	0.8338	0.8462	0.8549
0.8646	0.8733	0.8846	0.8929	0.9034
0.9145	0.9223	0.9316	0.9411	0.9496

FIGURE B-6
Future Conditions 100-Year SWMM Output

```
            0.9609    0.9691    0.9784    0.9875    1.0000

Transect T-C2
Area:
            0.0019    0.0055    0.0104    0.0163    0.0231
            0.0311    0.0398    0.0496    0.0604    0.0723
            0.0852    0.0992    0.1143    0.1303    0.1475
            0.1655    0.1847    0.2047    0.2253    0.2463
            0.2677    0.2893    0.3112    0.3335    0.3561
            0.3788    0.4019    0.4253    0.4490    0.4728
            0.4970    0.5214    0.5461    0.5710    0.5961
            0.6215    0.6471    0.6729    0.6991    0.7254
            0.7519    0.7787    0.8056    0.8328    0.8602
            0.8878    0.9155    0.9434    0.9716    1.0000
Hrad:
            0.0170    0.0402    0.0532    0.0772    0.0868
            0.1083    0.1240    0.1377    0.1524    0.1710
            0.1797    0.1989    0.2110    0.2264    0.2418
            0.2582    0.2716    0.2889    0.3122    0.3343
            0.3585    0.3830    0.4057    0.4267    0.4519
            0.4760    0.4958    0.5193    0.5424    0.5644
            0.5869    0.6096    0.6313    0.6530    0.6754
            0.6973    0.7204    0.7404    0.7629    0.7838
            0.8055    0.8298    0.8505    0.8697    0.8921
            0.9153    0.9377    0.9588    0.9789    1.0000
Width:
            0.1129    0.1380    0.1983    0.2140    0.2693
            0.2910    0.3248    0.3649    0.4017    0.4279
            0.4803    0.5053    0.5486    0.5832    0.6180
            0.6493    0.6888    0.7176    0.7304    0.7456
            0.7552    0.7636    0.7749    0.7892    0.7954
            0.8030    0.8175    0.8256    0.8339    0.8438
            0.8525    0.8608    0.8702    0.8792    0.8872
            0.8956    0.9022    0.9126    0.9197    0.9286
            0.9363    0.9408    0.9493    0.9594    0.9658
            0.9712    0.9773    0.9845    0.9929    1.0000

Transect T-C23
Area:
            0.0026    0.0077    0.0148    0.0238    0.0343
            0.0458    0.0582    0.0715    0.0854    0.1001
            0.1155    0.1314    0.1485    0.1661    0.1840
            0.2026    0.2216    0.2406    0.2597    0.2793
            0.2992    0.3193    0.3394    0.3601    0.3810
            0.4020    0.4231    0.4448    0.4668    0.4889
            0.5113    0.5342    0.5571    0.5803    0.6037
            0.6276    0.6517    0.6759    0.7007    0.7258
            0.7512    0.7770    0.8031    0.8298    0.8567
            0.8842    0.9123    0.9409    0.9701    1.0000
Hrad:
            0.0205    0.0403    0.0555    0.0768    0.0945
            0.1211    0.1412    0.1651    0.1847    0.2056
            0.2320    0.2472    0.2656    0.2923    0.3147
            0.3331    0.3619    0.3904    0.4188    0.4341
            0.4621    0.4900    0.5177    0.5308    0.5583
            0.5855    0.6109    0.6224    0.6479    0.6719
            0.6882    0.7114    0.7367    0.7597    0.7726
            0.7966    0.8198    0.8411    0.8533    0.8741
            0.8863    0.9066    0.9240    0.9353    0.9542
            0.9599    0.9769    0.9802    0.9916    1.0000
Width:
            0.1289    0.1975    0.2751    0.3205    0.3750
            0.3909    0.4260    0.4473    0.4777    0.5029
            0.5137    0.5487    0.5770    0.5859    0.6025
            0.6260    0.6292    0.6324    0.6356    0.6588
            0.6620    0.6653    0.6685    0.6913    0.6946
            0.6979    0.7033    0.7253    0.7304    0.7370
            0.7520    0.7593    0.7639    0.7709    0.7883
            0.7941    0.8005    0.8087    0.8260    0.8345
            0.8513    0.8601    0.8716    0.8892    0.8992
            0.9224    0.9345    0.9604    0.9785    1.0000

Transect T-C28
Area:
            0.0006    0.0036    0.0086    0.0152    0.0225
            0.0304    0.0392    0.0486    0.0586    0.0696
            0.0812    0.0936    0.1067    0.1202    0.1340
            0.1487    0.1641    0.1800    0.1965    0.2136
            0.2310    0.2492    0.2678    0.2869    0.3066
            0.3269    0.3479    0.3698    0.3924    0.4152
            0.4382    0.4618    0.4856    0.5096    0.5337
            0.5587    0.5843    0.6109    0.6392    0.6693
            0.6999    0.7313    0.7635    0.7961    0.8291
            0.8625    0.8961    0.9302    0.9647    1.0000
Hrad:
            0.0160    0.0311    0.0533    0.0773    0.1053
            0.1297    0.1521    0.1788    0.1975    0.2185
            0.2401    0.2629    0.2843    0.3128    0.3390
            0.3458    0.3721    0.3961    0.4099    0.4383
            0.4663    0.4798    0.5079    0.5244    0.5421
            0.5578    0.5668    0.5949    0.6104    0.6431
            0.6592    0.6875    0.7188    0.7507    0.7824
            0.7811    0.7947    0.8032    0.7677    0.7761
            0.7974    0.8195    0.8334    0.8606    0.8828
            0.9123    0.9392    0.9592    0.9853    1.0000
Width:
            0.0391    0.1157    0.1675    0.1969    0.2140
            0.2348    0.2584    0.2724    0.2975    0.3191
            0.3391    0.3568    0.3760    0.3847    0.3957
            0.4305    0.4415    0.4548    0.4797    0.4876
            0.4955    0.5195    0.5270    0.5468    0.5654
            0.5859    0.6136    0.6246    0.6424    0.6450
            0.6642    0.6711    0.6750    0.6782    0.6822
            0.7146    0.7346    0.7600    0.8324    0.8621
            0.8776    0.8923    0.9162    0.9250    0.9392
            0.9453    0.9540    0.9698    0.9863    1.0000

Transect T-C32
Area:
            0.0030    0.0085    0.0156    0.0236    0.0331
            0.0435    0.0545    0.0660    0.0786    0.0919
            0.1059    0.1202    0.1349    0.1506    0.1665
            0.1832    0.2005    0.2179    0.2355    0.2541
            0.2730    0.2921    0.3121    0.3325    0.3530
            0.3737    0.3952    0.4172    0.4393    0.4617
            0.4848    0.5084    0.5321    0.5565    0.5816
            0.6068    0.6321    0.6576    0.6832    0.7094
            0.7373    0.7654    0.7936    0.8220    0.8506
            0.8794    0.9093    0.9392    0.9693    1.0000
Hrad:
            0.0208    0.0423    0.0636    0.0845    0.1069
            0.1267    0.1543    0.1688    0.1954    0.2086
```

FIGURE B-6
Future Conditions 100-Year SWMM Output

0.2365	0.2640	0.2770	0.3010	0.3244
0.3372	0.3648	0.3921	0.4068	0.4249
0.4521	0.4684	0.4837	0.5109	0.5378
0.5645	0.5670	0.5930	0.6196	0.6381
0.6468	0.6735	0.7000	0.6977	0.7244
0.7509	0.7772	0.8035	0.8253	0.8312
0.8219	0.8481	0.8742	0.9001	0.9259
0.9247	0.9472	0.9749	0.9895	1.0000

Width:

0.1479	0.2050	0.2501	0.2854	0.3158
0.3500	0.3600	0.3991	0.4101	0.4488
0.4560	0.4633	0.4954	0.5085	0.5216
0.5520	0.5578	0.5636	0.5870	0.6062
0.6117	0.6316	0.6535	0.6587	0.6639
0.6691	0.7046	0.7108	0.7160	0.7304
0.7567	0.7615	0.7664	0.8044	0.8092
0.8139	0.8187	0.8234	0.8326	0.8586
0.9026	0.9076	0.9126	0.9176	0.9226
0.9552	0.9630	0.9651	0.9802	1.0000

Transect T-C33

Area:

0.0021	0.0062	0.0118	0.0186	0.0261
0.0340	0.0425	0.0525	0.0632	0.0743
0.0858	0.0976	0.1101	0.1238	0.1382
0.1529	0.1679	0.1831	0.1989	0.2158
0.2332	0.2512	0.2697	0.2885	0.3082
0.3287	0.3494	0.3706	0.3924	0.4151
0.4389	0.4630	0.4875	0.5126	0.5385
0.5650	0.5920	0.6198	0.6490	0.6786
0.7086	0.7394	0.7710	0.8028	0.8348
0.8672	0.9002	0.9333	0.9666	1.0000

Hrad:

0.0192	0.0450	0.0637	0.0866	0.1134
0.1397	0.1611	0.1700	0.1949	0.2222
0.2482	0.2730	0.2828	0.2936	0.3199
0.3471	0.3739	0.4003	0.4082	0.4229
0.4475	0.4600	0.4867	0.5083	0.5115
0.5367	0.5612	0.5824	0.5976	0.5917
0.6167	0.6415	0.6632	0.6755	0.6911
0.7122	0.7277	0.7327	0.7425	0.7660
0.7868	0.7953	0.8183	0.8458	0.8731
0.8847	0.9137	0.9426	0.9714	1.0000

Width:

0.1085	0.1389	0.1863	0.2157	0.2315
0.2454	0.2656	0.3111	0.3267	0.3368
0.3479	0.3599	0.3916	0.4242	0.4346
0.4431	0.4516	0.4601	0.4901	0.5132
0.5239	0.5490	0.5570	0.5706	0.6058
0.6155	0.6258	0.6396	0.6599	0.7052
0.7153	0.7254	0.7387	0.7626	0.7831
0.7973	0.8175	0.8503	0.8785	0.8904
0.9051	0.9343	0.9464	0.9528	0.9591
0.9828	0.9871	0.9914	0.9957	1.0000

Transect T-C36

Area:

0.0009	0.0034	0.0063	0.0095	0.0137
0.0183	0.0232	0.0284	0.0343	0.0406
0.0472	0.0544	0.0622	0.0703	0.0788
0.0878	0.0976	0.1077	0.1181	0.1291
0.1408	0.1530	0.1659	0.1797	0.1940
0.2094	0.2255	0.2427	0.2612	0.2809
0.3020	0.3247	0.3487	0.3743	0.4015
0.4304	0.4612	0.4941	0.5289	0.5657
0.6043	0.6443	0.6854	0.7276	0.7707
0.8148	0.8598	0.9056	0.9523	1.0000

Hrad:

0.0236	0.0605	0.0992	0.1246	0.1482
0.1858	0.2196	0.2479	0.2649	0.3006
0.3335	0.3437	0.3700	0.4040	0.4331
0.4387	0.4674	0.5018	0.5322	0.5306
0.5605	0.5842	0.5877	0.6091	0.6340
0.6312	0.6517	0.6499	0.6541	0.6574
0.6556	0.6687	0.6757	0.6823	0.6858
0.6902	0.6952	0.7017	0.7097	0.7243
0.7340	0.7644	0.7923	0.8219	0.8517
0.8794	0.9101	0.9394	0.9698	1.0000

Width:

0.0386	0.0563	0.0630	0.0761	0.0923
0.0979	0.1047	0.1136	0.1285	0.1338
0.1400	0.1567	0.1664	0.1722	0.1798
0.1982	0.2067	0.2122	0.2192	0.2406
0.2484	0.2590	0.2794	0.2920	0.3030
0.3287	0.3430	0.3706	0.3965	0.4247
0.4580	0.4830	0.5136	0.5463	0.5834
0.6217	0.6617	0.7026	0.7440	0.7799
0.8225	0.8421	0.8644	0.8847	0.9044
0.9262	0.9444	0.9638	0.9819	1.0000

Transect T-C38

Area:

0.0025	0.0062	0.0111	0.0169	0.0230
0.0292	0.0364	0.0441	0.0526	0.0615
0.0706	0.0797	0.0891	0.0985	0.1090
0.1200	0.1318	0.1438	0.1559	0.1681
0.1805	0.1930	0.2063	0.2201	0.2350
0.2500	0.2652	0.2805	0.2964	0.3127
0.3305	0.3494	0.3687	0.3882	0.4086
0.4300	0.4527	0.4757	0.4998	0.5254
0.5516	0.5807	0.6198	0.6658	0.7166
0.7699	0.8247	0.8811	0.9395	1.0000

Hrad:

0.0525	0.0869	0.1199	0.1772	0.2328
0.2868	0.3015	0.3570	0.3707	0.4271
0.4828	0.5378	0.5921	0.6458	0.6380
0.6341	0.6895	0.7443	0.7987	0.8526
0.9061	0.9591	0.9397	0.9255	0.9787
1.0316	1.0841	1.1361	1.1858	1.2339
1.1393	1.1868	1.2337	1.2801	1.3213
1.2938	1.2357	1.2824	1.2663	1.2570
1.3069	1.0686	1.0414	1.0771	0.8573
0.8943	0.9316	0.9681	0.9845	1.0000

Width:

0.0483	0.0715	0.0922	0.0955	0.0987
0.1019	0.1209	0.1234	0.1419	0.1440
0.1461	0.1482	0.1504	0.1525	0.1708
0.1891	0.1911	0.1931	0.1951	0.1971
0.1990	0.2010	0.2193	0.2376	0.2399
0.2422	0.2444	0.2467	0.2586	0.2632
0.3006	0.3058	0.3110	0.3161	0.3379
0.3605	0.3659	0.3705	0.3943	0.4176

FIGURE B-6
Future Conditions 100-Year SWMM Output

```
            0.4216    0.5431    0.6875    0.7829    0.8358
            0.8608    0.8853    0.9101    0.9542    1.0000

Transect T-C39
Area:
            0.0010    0.0026    0.0069    0.0157    0.0250
            0.0344    0.0440    0.0538    0.0656    0.0784
            0.0920    0.1059    0.1198    0.1340    0.1483
            0.1629    0.1778    0.1950    0.2125    0.2300
            0.2477    0.2655    0.2834    0.3014    0.3215
            0.3422    0.3632    0.3844    0.4058    0.4273
            0.4490    0.4713    0.4942    0.5174    0.5423
            0.5674    0.5927    0.6183    0.6443    0.6716
            0.7004    0.7296    0.7592    0.7894    0.8206
            0.8537    0.8873    0.9226    0.9599    1.0000
Hrad:
            0.0331    0.0590    0.0480    0.0712    0.1116
            0.1514    0.1906    0.2292    0.2209    0.2439
            0.2809    0.3194    0.3575    0.3952    0.4312
            0.4627    0.4877    0.4695    0.5085    0.5472
            0.5858    0.6241    0.6622    0.6999    0.6531
            0.6867    0.7211    0.7574    0.7935    0.8293
            0.8649    0.8688    0.8995    0.8927    0.9095
            0.9429    0.9760    1.0051    1.0321    0.9821
            1.0121    1.0414    1.0693    1.0694    1.0937
            1.0723    1.0939    1.0542    1.0595    1.0000
Width:
            0.0307    0.0436    0.1814    0.2201    0.2237
            0.2274    0.2311    0.2347    0.2971    0.3214
            0.3277    0.3315    0.3352    0.3390    0.3438
            0.3519    0.3645    0.4153    0.4178    0.4202
            0.4227    0.4252    0.4277    0.4406    0.4919
            0.4981    0.5034    0.5072    0.5110    0.5148
            0.5187    0.5420    0.5490    0.5792    0.5958
            0.6013    0.6068    0.6147    0.6238    0.6834
            0.6917    0.7002    0.7096    0.7378    0.7500
            0.7958    0.8109    0.8750    0.9059    1.0000

Transect T-C41
Area:
            0.0005    0.0035    0.0074    0.0122    0.0181
            0.0258    0.0338    0.0420    0.0507    0.0603
            0.0705    0.0814    0.0933    0.1059    0.1187
            0.1324    0.1463    0.1605    0.1756    0.1915
            0.2080    0.2252    0.2433    0.2619    0.2811
            0.3014    0.3226    0.3441    0.3666    0.3902
            0.4147    0.4397    0.4651    0.4910    0.5180
            0.5455    0.5742    0.6037    0.6333    0.6637
            0.6951    0.7269    0.7597    0.7930    0.8267
            0.8608    0.8951    0.9298    0.9648    1.0000
Hrad:
            0.0223    0.0337    0.0650    0.0842    0.0864
            0.1165    0.1479    0.1784    0.1987    0.2134
            0.2443    0.2476    0.2706    0.2960    0.3241
            0.3405    0.3721    0.3933    0.4073    0.4226
            0.4343    0.4610    0.4666    0.4944    0.5072
            0.5233    0.5371    0.5635    0.5599    0.5819
            0.5910    0.6215    0.6417    0.6705    0.6728
            0.6970    0.7081    0.7250    0.7557    0.7556
            0.7833    0.7977    0.8108    0.8411    0.8689
            0.8928    0.9251    0.9435    0.9758    1.0000
Width:
            0.0404    0.1040    0.1134    0.1448    0.2095
            0.2216    0.2286    0.2357    0.2553    0.2827
            0.2885    0.3288    0.3448    0.3578    0.3743
            0.3888    0.3931    0.4082    0.4313    0.4531
            0.4790    0.4885    0.5214    0.5298    0.5593
            0.5810    0.6005    0.6205    0.6548    0.6705
            0.7016    0.7075    0.7249    0.7322    0.7699
            0.7848    0.8248    0.8327    0.8381    0.8784
            0.8873    0.9113    0.9370    0.9429    0.9557
            0.9641    0.9676    0.9854    0.9888    1.0000

Transect T-C42
Area:
            0.0015    0.0050    0.0098    0.0156    0.0223
            0.0298    0.0382    0.0474    0.0575    0.0684
            0.0800    0.0922    0.1053    0.1190    0.1334
            0.1486    0.1645    0.1813    0.1987    0.2168
            0.2358    0.2555    0.2761    0.2973    0.3194
            0.3422    0.3653    0.3888    0.4128    0.4372
            0.4620    0.4871    0.5126    0.5385    0.5648
            0.5915    0.6185    0.6458    0.6735    0.7015
            0.7299    0.7585    0.7876    0.8169    0.8466
            0.8766    0.9069    0.9376    0.9686    1.0000
Hrad:
            0.0190    0.0396    0.0595    0.0790    0.0998
            0.1213    0.1375    0.1589    0.1746    0.1944
            0.2140    0.2337    0.2510    0.2699    0.2887
            0.3067    0.3221    0.3389    0.3569    0.3752
            0.3885    0.4049    0.4223    0.4377    0.4552
            0.4768    0.4983    0.5231    0.5403    0.5681
            0.5864    0.6144    0.6317    0.6589    0.6757
            0.7011    0.7209    0.7444    0.7645    0.7886
            0.8089    0.8352    0.8510    0.8775    0.8935
            0.9198    0.9359    0.9597    0.9753    1.0000
Width:
            0.0839    0.1284    0.1666    0.2007    0.2267
            0.2497    0.2820    0.3029    0.3340    0.3568
            0.3791    0.4002    0.4254    0.4471    0.4687
            0.4913    0.5179    0.5424    0.5645    0.5860
            0.6154    0.6400    0.6630    0.6887    0.7115
            0.7270    0.7420    0.7519    0.7724    0.7775
            0.7955    0.7999    0.8183    0.8236    0.8420
            0.8492    0.8631    0.8723    0.8854    0.8936
            0.9060    0.9114    0.9283    0.9333    0.9495
            0.9546    0.9702    0.9778    0.9936    1.0000

Transect T-C43
Area:
            0.0013    0.0050    0.0100    0.0163    0.0237
            0.0321    0.0415    0.0516    0.0627    0.0745
            0.0873    0.1011    0.1157    0.1313    0.1478
            0.1653    0.1839    0.2028    0.2222    0.2420
            0.2622    0.2829    0.3041    0.3255    0.3473
            0.3695    0.3921    0.4152    0.4384    0.4620
            0.4860    0.5103    0.5349    0.5599    0.5852
            0.6109    0.6368    0.6630    0.6896    0.7164
            0.7435    0.7710    0.7986    0.8266    0.8549
            0.8834    0.9121    0.9411    0.9705    1.0000
Hrad:
            0.0137    0.0335    0.0507    0.0709    0.0902
```

FIGURE B-6
Future Conditions 100-Year SWMM Output

```
          0.1049    0.1291    0.1450    0.1630    0.1805
          0.1934    0.2130    0.2293    0.2424    0.2549
          0.2729    0.2902    0.3161    0.3356    0.3621
          0.3796    0.4027    0.4248    0.4484    0.4689
          0.4898    0.5076    0.5337    0.5592    0.5751
          0.5996    0.6192    0.6405    0.6628    0.6794
          0.7044    0.7277    0.7474    0.7679    0.7887
          0.8110    0.8320    0.8534    0.8729    0.8959
          0.9194    0.9401    0.9541    0.9805    1.0000
Width:
          0.0929    0.1482    0.1980    0.2293    0.2627
          0.3062    0.3212    0.3556    0.3845    0.4125
          0.4515    0.4746    0.5047    0.5415    0.5798
          0.6058    0.6337    0.6417    0.6621    0.6684
          0.6909    0.7026    0.7158    0.7259    0.7408
          0.7544    0.7726    0.7780    0.7840    0.8034
          0.8105    0.8241    0.8352    0.8448    0.8614
          0.8672    0.8751    0.8871    0.8980    0.9083
          0.9169    0.9267    0.9358    0.9471    0.9543
          0.9608    0.9702    0.9865    0.9898    1.0000

Transect T-C45
Area:
          0.0006    0.0038    0.0090    0.0153    0.0225
          0.0313    0.0410    0.0513    0.0622    0.0741
          0.0866    0.1000    0.1140    0.1283    0.1431
          0.1587    0.1751    0.1920    0.2095    0.2277
          0.2464    0.2656    0.2854    0.3056    0.3267
          0.3481    0.3701    0.3926    0.4154    0.4388
          0.4628    0.4872    0.5121    0.5374    0.5633
          0.5896    0.6163    0.6432    0.6708    0.6986
          0.7270    0.7559    0.7853    0.8151    0.8452
          0.8758    0.9066    0.9376    0.9687    1.0000
Hrad:
          0.0142    0.0309    0.0494    0.0708    0.0944
          0.1043    0.1305    0.1544    0.1770    0.1902
          0.2154    0.2304    0.2583    0.2774    0.2997
          0.3150    0.3343    0.3582    0.3674    0.3931
          0.4134    0.4295    0.4527    0.4700    0.4876
          0.5097    0.5258    0.5503    0.5722    0.5848
          0.6078    0.6276    0.6455    0.6672    0.6831
          0.7061    0.7285    0.7527    0.7672    0.7908
          0.8019    0.8244    0.8421    0.8649    0.8811
          0.9043    0.9306    0.9583    0.9860    1.0000
Width:
          0.0601    0.1372    0.1818    0.2166    0.2386
          0.3001    0.3144    0.3324    0.3513    0.3895
          0.4023    0.4342    0.4412    0.4624    0.4776
          0.5040    0.5240    0.5360    0.5702    0.5793
          0.5961    0.6184    0.6305    0.6503    0.6700
          0.6830    0.7039    0.7134    0.7260    0.7504
          0.7615    0.7764    0.7933    0.8055    0.8246
          0.8350    0.8460    0.8557    0.8743    0.8835
          0.9066    0.9170    0.9326    0.9424    0.9593
          0.9685    0.9742    0.9784    0.9825    1.0000

Transect T-C47
Area:
          0.0021    0.0064    0.0120    0.0187    0.0261
          0.0342    0.0430    0.0523    0.0621    0.0725
          0.0836    0.0954    0.1076    0.1203    0.1336
          0.1474    0.1618    0.1766    0.1920    0.2080
          0.2243    0.2413    0.2590    0.2772    0.2962
          0.3157    0.3359    0.3568    0.3783    0.4005
          0.4236    0.4472    0.4717    0.4969    0.5228
          0.5495    0.5770    0.6054    0.6346    0.6646
          0.6954    0.7270    0.7592    0.7918    0.8250
          0.8588    0.8931    0.9281    0.9637    1.0000
Hrad:
          0.0229    0.0458    0.0726    0.0965    0.1235
          0.1478    0.1741    0.1993    0.2253    0.2495
          0.2655    0.2905    0.3200    0.3396    0.3611
          0.3848    0.4048    0.4304    0.4471    0.4714
          0.4963    0.5072    0.5281    0.5460    0.5629
          0.5848    0.5996    0.6118    0.6348    0.6446
          0.6662    0.6786    0.6955    0.7123    0.7288
          0.7410    0.7593    0.7691    0.7825    0.8027
          0.8125    0.8334    0.8593    0.8797    0.8974
          0.9233    0.9420    0.9577    0.9765    1.0000
Width:
          0.0943    0.1395    0.1664    0.1944    0.2122
          0.2322    0.2478    0.2634    0.2768    0.2917
          0.3162    0.3298    0.3376    0.3557    0.3714
          0.3845    0.4011    0.4119    0.4309    0.4427
          0.4535    0.4773    0.4921    0.5095    0.5281
          0.5418    0.5621    0.5852    0.5981    0.6235
          0.6380    0.6613    0.6805    0.7000    0.7198
          0.7442    0.7626    0.7900    0.8138    0.8309
          0.8590    0.8751    0.8858    0.9021    0.9210
          0.9315    0.9491    0.9697    0.9872    1.0000

Transect T-C48
Area:
          0.0003    0.0017    0.0043    0.0089    0.0149
          0.0221    0.0306    0.0403    0.0511    0.0628
          0.0753    0.0887    0.1027    0.1176    0.1333
          0.1498    0.1668    0.1840    0.2019    0.2202
          0.2393    0.2589    0.2792    0.3000    0.3213
          0.3431    0.3654    0.3883    0.4115    0.4352
          0.4595    0.4841    0.5091    0.5348    0.5608
          0.5871    0.6139    0.6411    0.6686    0.6966
          0.7252    0.7541    0.7834    0.8132    0.8435
          0.8741    0.9052    0.9366    0.9682    1.0000
Hrad:
          0.0108    0.0312    0.0446    0.0530    0.0727
          0.0903    0.1069    0.1260    0.1451    0.1659
          0.1843    0.2075    0.2267    0.2471    0.2718
          0.2851    0.3118    0.3360    0.3566    0.3756
          0.3952    0.4154    0.4352    0.4565    0.4760
          0.4987    0.5154    0.5374    0.5623    0.5797
          0.5996    0.6245    0.6427    0.6615    0.6870
          0.7073    0.7251    0.7504    0.7705    0.7872
          0.8072    0.8263    0.8491    0.8657    0.8844
          0.9093    0.9366    0.9505    0.9766    1.0000
Width:
          0.0283    0.0557    0.1107    0.1677    0.2054
          0.2454    0.2864    0.3202    0.3524    0.3787
          0.4088    0.4276    0.4531    0.4800    0.5008
          0.5258    0.5353    0.5480    0.5665    0.5867
          0.6060    0.6238    0.6419    0.6574    0.6753
          0.6883    0.7092    0.7230    0.7322    0.7512
          0.7668    0.7757    0.7926    0.8090    0.8167
```

FIGURE B-6
Future Conditions 100-Year SWMM Output

```
            0.8305    0.8471    0.8548    0.8683    0.8854
            0.8989    0.9132    0.9231    0.9398    0.9542
            0.9633    0.9810    0.9856    0.9915    1.0000

Transect T-C5
Area:
            0.0050    0.0122    0.0196    0.0274    0.0354
            0.0437    0.0522    0.0611    0.0702    0.0796
            0.0892    0.0992    0.1094    0.1228    0.1402
            0.1578    0.1756    0.1935    0.2117    0.2301
            0.2487    0.2675    0.2864    0.3056    0.3250
            0.3446    0.3644    0.3844    0.4045    0.4249
            0.4456    0.4717    0.4995    0.5275    0.5556
            0.5840    0.6125    0.6412    0.6701    0.6992
            0.7284    0.7578    0.7875    0.8173    0.8473
            0.8774    0.9078    0.9384    0.9691    1.0000
Hrad:
            0.0218    0.0515    0.0801    0.1078    0.1346
            0.1608    0.1862    0.2111    0.2354    0.2592
            0.2825    0.3055    0.3249    0.2205    0.2488
            0.2768    0.3045    0.3320    0.3591    0.3861
            0.4128    0.4392    0.4655    0.4915    0.5173
            0.5428    0.5682    0.5934    0.6184    0.6432
            0.6447    0.5283    0.5557    0.5829    0.6100
            0.6370    0.6638    0.6905    0.7170    0.7434
            0.7696    0.7957    0.8217    0.8475    0.8732
            0.8988    0.9243    0.9497    0.9749    1.0000
Width:
            0.2277    0.2365    0.2453    0.2541    0.2630
            0.2718    0.2806    0.2894    0.2982    0.3071
            0.3159    0.3247    0.3367    0.5572    0.5637
            0.5702    0.5766    0.5831    0.5896    0.5960
            0.6025    0.6090    0.6155    0.6219    0.6284
            0.6349    0.6413    0.6478    0.6543    0.6607
            0.6911    0.8931    0.8990    0.9049    0.9109
            0.9168    0.9228    0.9287    0.9346    0.9406
            0.9465    0.9525    0.9584    0.9644    0.9703
            0.9762    0.9822    0.9881    0.9941    1.0000

Transect T-C52
Area:
            0.0011    0.0042    0.0095    0.0160    0.0235
            0.0325    0.0419    0.0520    0.0632    0.0752
            0.0875    0.1003    0.1136    0.1278    0.1428
            0.1583    0.1741    0.1907    0.2082    0.2265
            0.2451    0.2641    0.2843    0.3053    0.3268
            0.3486    0.3711    0.3945    0.4187    0.4431
            0.4676    0.4922    0.5170    0.5427    0.5686
            0.5948    0.6211    0.6480    0.6754    0.7030
            0.7308    0.7594    0.7883    0.8175    0.8468
            0.8767    0.9072    0.9379    0.9687    1.0000
Hrad:
            0.0131    0.0347    0.0487    0.0724    0.0911
            0.1114    0.1373    0.1537    0.1692    0.1949
            0.2202    0.2434    0.2610    0.2775    0.2945
            0.3195    0.3390    0.3545    0.3624    0.3871
            0.4113    0.4275    0.4322    0.4537    0.4761
            0.4981    0.5114    0.5200    0.5431    0.5719
            0.6005    0.6290    0.6428    0.6610    0.6876
            0.7140    0.7361    0.7464    0.7729    0.7992
            0.8204    0.8276    0.8539    0.8800    0.9037
            0.9061    0.9329    0.9596    0.9862    1.0000
Width:
            0.0811    0.1186    0.1924    0.2182    0.2548
            0.2875    0.3009    0.3340    0.3685    0.3806
            0.3921    0.4065    0.4293    0.4544    0.4784
            0.4886    0.5066    0.5305    0.5667    0.5772
            0.5878    0.6094    0.6490    0.6638    0.6770
            0.6903    0.7158    0.7484    0.7603    0.7640
            0.7677    0.7714    0.7927    0.8091    0.8150
            0.8209    0.8315    0.8554    0.8609    0.8665
            0.8774    0.9036    0.9091    0.9147    0.9226
            0.9525    0.9573    0.9621    0.9668    1.0000

Transect T-C54
Area:
            0.0022    0.0065    0.0121    0.0184    0.0256
            0.0338    0.0426    0.0520    0.0621    0.0729
            0.0841    0.0962    0.1089    0.1220    0.1357
            0.1501    0.1651    0.1805    0.1964    0.2129
            0.2300    0.2476    0.2656    0.2845    0.3041
            0.3241    0.3445    0.3656    0.3873    0.4096
            0.4327    0.4565    0.4807    0.5059    0.5317
            0.5581    0.5853    0.6133    0.6419    0.6715
            0.7019    0.7330    0.7651    0.7977    0.8305
            0.8636    0.8972    0.9310    0.9654    1.0000
Hrad:
            0.0215    0.0448    0.0692    0.0978    0.1136
            0.1386    0.1632    0.1853    0.2087    0.2325
            0.2490    0.2713    0.2937    0.3182    0.3395
            0.3546    0.3796    0.4031    0.4226    0.4427
            0.4612    0.4847    0.5024    0.5155    0.5354
            0.5591    0.5806    0.5946    0.6147    0.6300
            0.6406    0.6644    0.6833    0.6880    0.7103
            0.7288    0.7364    0.7565    0.7700    0.7795
            0.7982    0.8085    0.8223    0.8513    0.8789
            0.9024    0.9258    0.9515    0.9737    1.0000
Width:
            0.1043    0.1457    0.1753    0.1890    0.2263
            0.2448    0.2619    0.2818    0.2988    0.3145
            0.3390    0.3558    0.3718    0.3847    0.4009
            0.4246    0.4362    0.4490    0.4660    0.4822
            0.5001    0.5122    0.5303    0.5536    0.5697
            0.5814    0.5951    0.6166    0.6319    0.6520
            0.6774    0.6891    0.7055    0.7374    0.7507
            0.7679    0.7970    0.8130    0.8360    0.8639
            0.8819    0.9093    0.9331    0.9393    0.9467
            0.9585    0.9701    0.9793    0.9918    1.0000

Transect T-C55
Area:
            0.0005    0.0028    0.0066    0.0113    0.0174
            0.0241    0.0314    0.0393    0.0479    0.0572
            0.0672    0.0779    0.0892    0.1011    0.1138
            0.1271    0.1410    0.1556    0.1708    0.1868
            0.2034    0.2208    0.2390    0.2579    0.2773
            0.2976    0.3190    0.3411    0.3638    0.3873
            0.4118    0.4369    0.4629    0.4898    0.5177
            0.5462    0.5752    0.6049    0.6350    0.6655
            0.6966    0.7282    0.7603    0.7931    0.8262
            0.8598    0.8942    0.9291    0.9643    1.0000
Hrad:
```

FIGURE B-6
Future Conditions 100-Year SWMM Output

```
          0.0187    0.0332    0.0534    0.0812    0.0971
          0.1242    0.1493    0.1716    0.1904    0.2145
          0.2345    0.2545    0.2787    0.2930    0.3159
          0.3401    0.3544    0.3771    0.3929    0.4144
          0.4329    0.4453    0.4659    0.4862    0.5042
          0.5171    0.5276    0.5512    0.5695    0.5842
          0.5987    0.6170    0.6319    0.6472    0.6588
          0.6866    0.7072    0.7294    0.7587    0.7792
          0.8004    0.8245    0.8478    0.8685    0.8941
          0.9177    0.9295    0.9573    0.9802    1.0000
Width:
          0.0267    0.0833    0.1234    0.1397    0.1788
          0.1938    0.2102    0.2289    0.2514    0.2667
          0.2868    0.3061    0.3200    0.3451    0.3603
          0.3736    0.3977    0.4126    0.4348    0.4507
          0.4698    0.4959    0.5130    0.5304    0.5501
          0.5756    0.6046    0.6189    0.6387    0.6629
          0.6877    0.7081    0.7325    0.7568    0.7857
          0.7955    0.8134    0.8294    0.8370    0.8540
          0.8703    0.8832    0.8968    0.9132    0.9241
          0.9369    0.9620    0.9705    0.9838    1.0000

Transect T-C56
Area:
          0.0015    0.0044    0.0082    0.0129    0.0184
          0.0245    0.0314    0.0390    0.0473    0.0565
          0.0663    0.0769    0.0882    0.1004    0.1133
          0.1271    0.1417    0.1571    0.1733    0.1902
          0.2080    0.2265    0.2458    0.2659    0.2868
          0.3085    0.3311    0.3544    0.3786    0.4034
          0.4291    0.4556    0.4827    0.5103    0.5383
          0.5665    0.5952    0.6242    0.6536    0.6833
          0.7134    0.7438    0.7746    0.8057    0.8372
          0.8690    0.9013    0.9338    0.9667    1.0000
Hrad:
          0.0214    0.0433    0.0640    0.0856    0.1056
          0.1246    0.1450    0.1645    0.1817    0.1974
          0.2187    0.2322    0.2528    0.2677    0.2824
          0.3007    0.3152    0.3325    0.3496    0.3658
          0.3826    0.4021    0.4169    0.4329    0.4509
          0.4652    0.4837    0.4992    0.5152    0.5332
          0.5502    0.5682    0.5892    0.6133    0.6400
          0.6661    0.6885    0.7148    0.7380    0.7630
          0.7889    0.8132    0.8353    0.8607    0.8836
          0.9074    0.9297    0.9526    0.9755    1.0000
Width:
          0.0686    0.1012    0.1290    0.1508    0.1740
          0.1969    0.2169    0.2373    0.2606    0.2864
          0.3033    0.3312    0.3491    0.3750    0.4013
          0.4229    0.4497    0.4726    0.4959    0.5201
          0.5439    0.5634    0.5896    0.6144    0.6362
          0.6634    0.6846    0.7101    0.7348    0.7567
          0.7801    0.8019    0.8193    0.8321    0.8411
          0.8506    0.8645    0.8733    0.8857    0.8957
          0.9044    0.9147    0.9274    0.9362    0.9475
          0.9578    0.9694    0.9802    0.9910    1.0000

Transect T-C58
Area:
          0.0011    0.0041    0.0079    0.0124    0.0174
          0.0234    0.0297    0.0368    0.0445    0.0527
          0.0614    0.0707    0.0805    0.0910    0.1020
          0.1136    0.1258    0.1387    0.1522    0.1663
          0.1810    0.1966    0.2129    0.2299    0.2478
          0.2665    0.2861    0.3068    0.3285    0.3511
          0.3748    0.3995    0.4253    0.4520    0.4797
          0.5084    0.5381    0.5687    0.6004    0.6330
          0.6668    0.7015    0.7372    0.7733    0.8099
          0.8470    0.8846    0.9226    0.9611    1.0000
Hrad:
          0.0200    0.0489    0.0735    0.1045    0.1174
          0.1503    0.1774    0.1910    0.2216    0.2442
          0.2656    0.2925    0.3053    0.3316    0.3552
          0.3719    0.3971    0.4139    0.4341    0.4494
          0.4704    0.4819    0.5040    0.5141    0.5318
          0.5465    0.5556    0.5677    0.5757    0.6016
          0.6064    0.6170    0.6352    0.6505    0.6653
          0.6832    0.6975    0.7147    0.7357    0.7464
          0.7600    0.7809    0.8050    0.8315    0.8641
          0.8886    0.9165    0.9471    0.9725    1.0000
Width:
          0.0574    0.0832    0.1076    0.1183    0.1484
          0.1555    0.1674    0.1927    0.2010    0.2157
          0.2313    0.2418    0.2636    0.2745    0.2872
          0.3055    0.3168    0.3351    0.3504    0.3699
          0.3847    0.4080    0.4222    0.4472    0.4658
          0.4875    0.5148    0.5404    0.5705    0.5836
          0.6180    0.6474    0.6695    0.6947    0.7209
          0.7440    0.7714    0.7956    0.8160    0.8481
          0.8773    0.8983    0.9158    0.9300    0.9372
          0.9532    0.9651    0.9741    0.9883    1.0000

Transect T-C6
Area:
          0.0071    0.0143    0.0218    0.0294    0.0373
          0.0453    0.0535    0.0619    0.0706    0.0793
          0.0883    0.0975    0.1069    0.1164    0.1262
          0.1361    0.1462    0.1565    0.1719    0.1896
          0.2076    0.2258    0.2441    0.2627    0.2816
          0.3006    0.3199    0.3394    0.3591    0.3791
          0.3992    0.4196    0.4403    0.4612    0.4893
          0.5178    0.5466    0.5758    0.6053    0.6352
          0.6654    0.6960    0.7269    0.7590    0.7977
          0.8370    0.8769    0.9174    0.9584    1.0000
Hrad:
          0.0487    0.0960    0.1420    0.1867    0.2303
          0.2729    0.3144    0.3551    0.3949    0.4340
          0.4723    0.5100    0.5470    0.5834    0.6192
          0.6546    0.6894    0.7238    0.4751    0.5172
          0.5589    0.6000    0.6408    0.6810    0.7209
          0.7604    0.7995    0.8382    0.8765    0.9145
          0.9522    0.9895    1.0265    0.8026    0.8408
          0.8787    0.9162    0.9534    0.9903    1.0269
          1.0633    1.0993    1.1350    0.9617    0.9961
          1.0302    1.0641    1.0977    1.1310    1.0000
Width:
          0.1468    0.1507    0.1546    0.1585    0.1624
          0.1663    0.1702    0.1741    0.1780    0.1819
          0.1858    0.1897    0.1936    0.1975    0.2014
          0.2053    0.2092    0.2131    0.3603    0.3649
          0.3694    0.3740    0.3785    0.3831    0.3877
          0.3922    0.3968    0.4013    0.4059    0.4104
```

FIGURE B-6
Future Conditions 100-Year SWMM Output

0.4150	0.4196	0.4241	0.5716	0.5788
0.5860	0.5932	0.6004	0.6076	0.6148
0.6221	0.6293	0.6365	0.7871	0.7987
0.8104	0.8221	0.8338	0.8455	1.0000

Transect T-C60
Area:

0.0018	0.0062	0.0121	0.0192	0.0271
0.0362	0.0459	0.0565	0.0680	0.0802
0.0931	0.1066	0.1208	0.1356	0.1511
0.1673	0.1841	0.2015	0.2195	0.2380
0.2572	0.2770	0.2972	0.3182	0.3397
0.3617	0.3843	0.4076	0.4314	0.4555
0.4801	0.5049	0.5298	0.5551	0.5806
0.6065	0.6324	0.6586	0.6853	0.7122
0.7393	0.7668	0.7947	0.8228	0.8514
0.8803	0.9097	0.9394	0.9695	1.0000

Hrad:

0.0169	0.0358	0.0557	0.0778	0.0978
0.1196	0.1392	0.1575	0.1774	0.1973
0.2178	0.2368	0.2585	0.2759	0.2952
0.3130	0.3329	0.3515	0.3712	0.3901
0.4078	0.4266	0.4471	0.4623	0.4825
0.5024	0.5173	0.5346	0.5578	0.5766
0.6000	0.6263	0.6525	0.6753	0.6961
0.7233	0.7480	0.7701	0.7902	0.8115
0.8351	0.8536	0.8737	0.8972	0.9105
0.9347	0.9478	0.9672	0.9841	1.0000

Width:

0.1072	0.1748	0.2174	0.2472	0.2782
0.3035	0.3307	0.3599	0.3847	0.4076
0.4287	0.4516	0.4688	0.4931	0.5134
0.5360	0.5545	0.5749	0.5930	0.6119
0.6325	0.6511	0.6667	0.6903	0.7062
0.7221	0.7452	0.7647	0.7756	0.7922
0.8023	0.8082	0.8139	0.8238	0.8358
0.8400	0.8469	0.8566	0.8684	0.8787
0.8863	0.8991	0.9103	0.9177	0.9357
0.9423	0.9600	0.9715	0.9853	1.0000

Transect T-C61
Area:

0.0015	0.0049	0.0097	0.0156	0.0227
0.0306	0.0395	0.0492	0.0600	0.0716
0.0839	0.0970	0.1109	0.1256	0.1407
0.1566	0.1731	0.1903	0.2080	0.2264
0.2454	0.2649	0.2850	0.3058	0.3271
0.3489	0.3712	0.3941	0.4177	0.4418
0.4663	0.4915	0.5172	0.5431	0.5694
0.5961	0.6230	0.6503	0.6778	0.7057
0.7339	0.7624	0.7911	0.8201	0.8494
0.8790	0.9088	0.9389	0.9693	1.0000

Hrad:

0.0157	0.0382	0.0552	0.0750	0.0952
0.1136	0.1335	0.1511	0.1652	0.1858
0.2077	0.2233	0.2426	0.2632	0.2850
0.3002	0.3202	0.3407	0.3581	0.3784
0.3970	0.4169	0.4361	0.4530	0.4745
0.4917	0.5098	0.5306	0.5449	0.5668
0.5825	0.6029	0.6237	0.6483	0.6691
0.6915	0.7161	0.7372	0.7597	0.7807
0.8034	0.8281	0.8496	0.8725	0.8912
0.9157	0.9409	0.9573	0.9822	1.0000

Width:

0.0941	0.1284	0.1766	0.2107	0.2403
0.2720	0.2985	0.3290	0.3665	0.3890
0.4077	0.4389	0.4617	0.4817	0.4985
0.5265	0.5458	0.5637	0.5865	0.6041
0.6240	0.6415	0.6597	0.6813	0.6957
0.7160	0.7349	0.7496	0.7736	0.7865
0.8079	0.8228	0.8367	0.8449	0.8577
0.8683	0.8758	0.8875	0.8972	0.9084
0.9176	0.9242	0.9343	0.9426	0.9553
0.9616	0.9672	0.9817	0.9873	1.0000

Transect T-C62
Area:

0.0023	0.0096	0.0185	0.0281	0.0391
0.0511	0.0633	0.0757	0.0883	0.1016
0.1163	0.1313	0.1465	0.1618	0.1774
0.1931	0.2099	0.2278	0.2458	0.2640
0.2823	0.3007	0.3193	0.3380	0.3585
0.3795	0.4007	0.4220	0.4436	0.4653
0.4874	0.5099	0.5336	0.5576	0.5818
0.6064	0.6311	0.6564	0.6820	0.7084
0.7353	0.7626	0.7903	0.8184	0.8473
0.8769	0.9070	0.9374	0.9683	1.0000

Hrad:

0.0206	0.0379	0.0655	0.0928	0.1085
0.1392	0.1694	0.1991	0.2282	0.2342
0.2564	0.2858	0.3148	0.3435	0.3718
0.3994	0.3858	0.4151	0.4442	0.4730
0.5016	0.5300	0.5582	0.5748	0.5600
0.5872	0.6142	0.6410	0.6676	0.6913
0.7118	0.7321	0.7266	0.7518	0.7767
0.8015	0.8216	0.8397	0.8530	0.8630
0.8838	0.9046	0.9224	0.9363	0.9422
0.9564	0.9771	0.9978	1.0100	1.0000

Width:

0.1145	0.2568	0.2850	0.3063	0.3646
0.3710	0.3774	0.3838	0.3901	0.4375
0.4572	0.4628	0.4683	0.4738	0.4794
0.4856	0.5468	0.5510	0.5553	0.5595
0.5637	0.5680	0.5722	0.5881	0.6407
0.6464	0.6522	0.6579	0.6637	0.6722
0.6839	0.6955	0.7336	0.7408	0.7481
0.7553	0.7668	0.7804	0.7984	0.8199
0.8310	0.8420	0.8557	0.8732	0.8986
0.9163	0.9276	0.9388	0.9582	1.0000

Transect T-C64
Area:

0.0018	0.0052	0.0096	0.0150	0.0211
0.0278	0.0353	0.0434	0.0522	0.0617
0.0718	0.0826	0.0941	0.1064	0.1193
0.1330	0.1474	0.1624	0.1782	0.1946
0.2118	0.2296	0.2481	0.2674	0.2872
0.3078	0.3291	0.3511	0.3738	0.3973
0.4214	0.4463	0.4719	0.4981	0.5251
0.5527	0.5810	0.6099	0.6396	0.6698
0.7008	0.7324	0.7645	0.7970	0.8298
0.8631	0.8967	0.9307	0.9652	1.0000

FIGURE B-6
Future Conditions 100-Year SWMM Output

```
Hrad:
          0.0216    0.0441    0.0686    0.0936    0.1144
          0.1399    0.1585    0.1833    0.2006    0.2219
          0.2426    0.2594    0.2791    0.2974    0.3163
          0.3334    0.3534    0.3691    0.3882    0.4081
          0.4245    0.4470    0.4622    0.4812    0.5014
          0.5156    0.5374    0.5527    0.5691    0.5884
          0.6016    0.6233    0.6404    0.6574    0.6774
          0.6956    0.7147    0.7348    0.7486    0.7737
          0.7853    0.8090    0.8323    0.8582    0.8830
          0.9081    0.9322    0.9550    0.9785    1.0000
Width:
          0.0824    0.1179    0.1410    0.1610    0.1851
          0.1996    0.2236    0.2374    0.2611    0.2787
          0.2967    0.3194    0.3382    0.3588    0.3784
          0.4000    0.4183    0.4412    0.4603    0.4784
          0.5004    0.5152    0.5384    0.5572    0.5745
          0.5988    0.6142    0.6372    0.6588    0.6772
          0.7026    0.7182    0.7390    0.7600    0.7774
          0.7969    0.8153    0.8325    0.8569    0.8683
          0.8950    0.9079    0.9210    0.9307    0.9415
          0.9518    0.9629    0.9752    0.9867    1.0000

Transect T-C65
Area:
          0.0012    0.0043    0.0097    0.0160    0.0237
          0.0325    0.0423    0.0526    0.0639    0.0764
          0.0895    0.1030    0.1169    0.1313    0.1462
          0.1618    0.1788    0.1962    0.2140    0.2322
          0.2507    0.2698    0.2896    0.3100    0.3314
          0.3531    0.3754    0.3981    0.4212    0.4450
          0.4693    0.4943    0.5197    0.5457    0.5721
          0.5988    0.6257    0.6528    0.6802    0.7079
          0.7360    0.7643    0.7929    0.8219    0.8510
          0.8804    0.9100    0.9397    0.9698    1.0000
Hrad:
          0.0169    0.0257    0.0510    0.0689    0.0882
          0.1038    0.1286    0.1501    0.1585    0.1821
          0.2051    0.2290    0.2518    0.2739    0.2924
          0.3054    0.3163    0.3390    0.3624    0.3856
          0.4086    0.4224    0.4408    0.4478    0.4687
          0.4888    0.5091    0.5297    0.5467    0.5653
          0.5789    0.5976    0.6174    0.6346    0.6563
          0.6807    0.7050    0.7284    0.7510    0.7732
          0.7949    0.8164    0.8377    0.8591    0.8836
          0.9080    0.9323    0.9554    0.9777    1.0000
Width:
          0.0698    0.1664    0.1917    0.2324    0.2699
          0.3142    0.3300    0.3518    0.4045    0.4213
          0.4378    0.4511    0.4659    0.4809    0.5015
          0.5317    0.5671    0.5807    0.5926    0.6041
          0.6157    0.6408    0.6591    0.6947    0.7093
          0.7248    0.7397    0.7540    0.7731    0.7897
          0.8135    0.8299    0.8446    0.8627    0.8744
          0.8821    0.8898    0.8983    0.9078    0.9174
          0.9275    0.9376    0.9478    0.9577    0.9640
          0.9703    0.9766    0.9840    0.9920    1.0000

Transect T-C66
Area:
          0.0011    0.0047    0.0095    0.0151    0.0215
          0.0283    0.0360    0.0446    0.0533    0.0622
          0.0719    0.0823    0.0930    0.1039    0.1154
          0.1276    0.1403    0.1534    0.1668    0.1804
          0.1951    0.2105    0.2261    0.2425    0.2595
          0.2771    0.2958    0.3153    0.3355    0.3563
          0.3788    0.4027    0.4271    0.4531    0.4803
          0.5079    0.5369    0.5670    0.5979    0.6296
          0.6620    0.6959    0.7301    0.7655    0.8016
          0.8390    0.8776    0.9170    0.9578    1.0000
Hrad:
          0.0258    0.0475    0.0779    0.1046    0.1414
          0.1736    0.1834    0.2212    0.2580    0.2916
          0.3002    0.3328    0.3657    0.3986    0.4096
          0.4357    0.4598    0.4929    0.5255    0.5515
          0.5413    0.5753    0.6088    0.6131    0.6384
          0.6479    0.6626    0.6702    0.6968    0.6873
          0.6806    0.7142    0.7132    0.7135    0.7483
          0.7538    0.7830    0.7886    0.8163    0.8345
          0.8480    0.8717    0.9013    0.9131    0.9360
          0.9407    0.9653    0.9661    0.9967    1.0000
Width:
          0.0457    0.1004    0.1237    0.1462    0.1536
          0.1640    0.1978    0.2023    0.2068    0.2131
          0.2392    0.2467    0.2533    0.2594    0.2803
          0.2914    0.3036    0.3092    0.3148    0.3244
          0.3578    0.3627    0.3676    0.3919    0.4028
          0.4240    0.4428    0.4670    0.4779    0.5153
          0.5539    0.5607    0.5960    0.6327    0.6391
          0.6711    0.6829    0.7167    0.7301    0.7523
          0.7788    0.7964    0.8080    0.8365    0.8547
          0.8907    0.9079    0.9487    0.9603    1.0000

Transect T-C68
Area:
          0.0013    0.0044    0.0087    0.0140    0.0203
          0.0274    0.0354    0.0443    0.0540    0.0645
          0.0757    0.0878    0.1006    0.1142    0.1285
          0.1435    0.1594    0.1758    0.1930    0.2109
          0.2294    0.2485    0.2682    0.2887    0.3097
          0.3312    0.3534    0.3762    0.3995    0.4234
          0.4478    0.4729    0.4985    0.5247    0.5515
          0.5789    0.6069    0.6354    0.6644    0.6935
          0.7230    0.7527    0.7827    0.8129    0.8435
          0.8742    0.9052    0.9365    0.9681    1.0000
Hrad:
          0.0157    0.0373    0.0600    0.0774    0.0964
          0.1155    0.1321    0.1532    0.1709    0.1901
          0.2080    0.2239    0.2458    0.2625    0.2790
          0.2972    0.3155    0.3336    0.3515    0.3699
          0.3906    0.4084    0.4304    0.4444    0.4669
          0.4856    0.5002    0.5211    0.5453    0.5604
          0.5772    0.5951    0.6142    0.6352    0.6499
          0.6699    0.6860    0.7067    0.7304    0.7575
          0.7800    0.8068    0.8295    0.8554    0.8785
          0.9049    0.9297    0.9512    0.9751    1.0000
Width:
          0.0803    0.1192    0.1450    0.1804    0.2104
          0.2373    0.2682    0.2893    0.3159    0.3393
          0.3640    0.3924    0.4096    0.4352    0.4606
          0.4832    0.5053    0.5272    0.5493    0.5704
          0.5876    0.6088    0.6234    0.6499    0.6634
```

FIGURE B-6
Future Conditions 100-Year SWMM Output

```
            0.6823    0.7066    0.7222    0.7327    0.7555
            0.7758    0.7947    0.8117    0.8261    0.8487
            0.8642    0.8848    0.8992    0.9096    0.9156
            0.9269    0.9330    0.9435    0.9504    0.9602
            0.9661    0.9737    0.9846    0.9929    1.0000

Transect T-C7
Area:
            0.0023    0.0071    0.0133    0.0210    0.0295
            0.0395    0.0502    0.0618    0.0744    0.0877
            0.1019    0.1170    0.1326    0.1490    0.1658
            0.1834    0.2020    0.2209    0.2400    0.2601
            0.2811    0.3024    0.3239    0.3457    0.3681
            0.3906    0.4133    0.4360    0.4591    0.4828
            0.5065    0.5303    0.5543    0.5786    0.6034
            0.6284    0.6534    0.6786    0.7040    0.7299
            0.7560    0.7821    0.8085    0.8351    0.8621
            0.8893    0.9167    0.9441    0.9719    1.0000
Hrad:
            0.0182    0.0349    0.0572    0.0722    0.0933
            0.1068    0.1307    0.1439    0.1628    0.1770
            0.1959    0.2166    0.2299    0.2545    0.2715
            0.2914    0.3049    0.3294    0.3499    0.3522
            0.3765    0.4006    0.4246    0.4367    0.4631
            0.4893    0.5155    0.5416    0.5505    0.5765
            0.6024    0.6281    0.6520    0.6611    0.6863
            0.7114    0.7364    0.7589    0.7790    0.7937
            0.8182    0.8426    0.8645    0.8827    0.8977
            0.9222    0.9467    0.9709    0.9827    1.0000
Width:
            0.1283    0.2046    0.2320    0.2909    0.3161
            0.3702    0.3842    0.4297    0.4574    0.4957
            0.5205    0.5403    0.5770    0.5859    0.6111
            0.6298    0.6627    0.6708    0.6861    0.7389
            0.7469    0.7550    0.7628    0.7917    0.7951
            0.7985    0.8018    0.8052    0.8341    0.8375
            0.8409    0.8444    0.8501    0.8753    0.8793
            0.8833    0.8873    0.8942    0.9037    0.9196
            0.9239    0.9283    0.9353    0.9460    0.9604
            0.9643    0.9683    0.9724    0.9890    1.0000

Transect T-C73
Area:
            0.0007    0.0027    0.0052    0.0090    0.0139
            0.0197    0.0260    0.0334    0.0420    0.0516
            0.0616    0.0723    0.0840    0.0965    0.1094
            0.1226    0.1362    0.1508    0.1664    0.1825
            0.1994    0.2181    0.2376    0.2577    0.2785
            0.3002    0.3227    0.3458    0.3692    0.3937
            0.4188    0.4444    0.4705    0.4974    0.5244
            0.5521    0.5805    0.6097    0.6393    0.6695
            0.7003    0.7314    0.7631    0.7953    0.8278
            0.8610    0.8947    0.9291    0.9640    1.0000
Hrad:
            0.0249    0.0421    0.0621    0.0695    0.0968
            0.1170    0.1459    0.1522    0.1635    0.1902
            0.2167    0.2364    0.2476    0.2742    0.3038
            0.3327    0.3533    0.3612    0.3789    0.4017
            0.4133    0.4290    0.4352    0.4522    0.4768
            0.4908    0.5099    0.5381    0.5602    0.5758
            0.5957    0.6234    0.6370    0.6677    0.6972
            0.7115    0.7417    0.7484    0.7797    0.7901
            0.8173    0.8458    0.8620    0.8901    0.9082
            0.9307    0.9457    0.9707    0.9747    1.0000
Width:
            0.0297    0.0633    0.0835    0.1296    0.1435
            0.1683    0.1834    0.2195    0.2568    0.2712
            0.2844    0.3061    0.3394    0.3522    0.3602
            0.3685    0.3856    0.4174    0.4391    0.4544
            0.4827    0.5319    0.5460    0.5700    0.5843
            0.6118    0.6330    0.6427    0.6593    0.6839
            0.7032    0.7131    0.7388    0.7450    0.7523
            0.7760    0.7995    0.8147    0.8199    0.8473
            0.8567    0.8647    0.8852    0.8934    0.9114
            0.9251    0.9460    0.9571    0.9891    1.0000

Transect T-C74_2
Area:
            0.0010    0.0037    0.0081    0.0182    0.0306
            0.0441    0.0580    0.0727    0.0878    0.1034
            0.1195    0.1362    0.1532    0.1706    0.1884
            0.2064    0.2250    0.2439    0.2628    0.2824
            0.3026    0.3228    0.3432    0.3643    0.3856
            0.4069    0.4287    0.4511    0.4736    0.4964
            0.5194    0.5427    0.5666    0.5909    0.6152
            0.6399    0.6650    0.6901    0.7152    0.7405
            0.7661    0.7917    0.8173    0.8431    0.8690
            0.8951    0.9212    0.9474    0.9736    1.0000
Hrad:
            0.0114    0.0269    0.0405    0.0429    0.0635
            0.0847    0.1104    0.1285    0.1501    0.1712
            0.1966    0.2153    0.2353    0.2549    0.2801
            0.2987    0.3172    0.3423    0.3674    0.3728
            0.3977    0.4226    0.4411    0.4556    0.4805
            0.5052    0.5177    0.5332    0.5579    0.5728
            0.5974    0.6115    0.6222    0.6465    0.6700
            0.6782    0.7036    0.7288    0.7536    0.7685
            0.7938    0.8192    0.8444    0.8647    0.8874
            0.9082    0.9334    0.9585    0.9837    1.0000
Width:
            0.0922    0.1373    0.2248    0.4497    0.4837
            0.5214    0.5421    0.5670    0.5865    0.6058
            0.6095    0.6338    0.6525    0.6711    0.6744
            0.6928    0.7110    0.7141    0.7172    0.7594
            0.7625    0.7657    0.7798    0.8015    0.8043
            0.8072    0.8299    0.8479    0.8507    0.8685
            0.8714    0.8895    0.9127    0.9159    0.9202
            0.9454    0.9469    0.9485    0.9505    0.9650
            0.9663    0.9676    0.9689    0.9758    0.9799
            0.9862    0.9874    0.9886    0.9899    1.0000

Transect T-C8
Area:
            0.0010    0.0039    0.0095    0.0165    0.0246
            0.0337    0.0437    0.0548    0.0667    0.0792
            0.0927    0.1069    0.1217    0.1374    0.1538
            0.1710    0.1887    0.2070    0.2258    0.2454
            0.2657    0.2865    0.3077    0.3293    0.3512
            0.3735    0.3961    0.4190    0.4421    0.4656
            0.4895    0.5136    0.5381    0.5628    0.5878
            0.6131    0.6388    0.6647    0.6910    0.7177
            0.7446    0.7719    0.7996    0.8275    0.8555
```

FIGURE B-6
Future Conditions 100-Year SWMM Output

```
          0.8839    0.9127    0.9416    0.9706    1.0000
Hrad:
          0.0164    0.0250    0.0470    0.0651    0.0896
          0.1067    0.1244    0.1452    0.1670    0.1858
          0.2034    0.2241    0.2434    0.2590    0.2791
          0.2983    0.3172    0.3403    0.3560    0.3752
          0.3934    0.4136    0.4378    0.4591    0.4822
          0.5040    0.5266    0.5507    0.5736    0.5926
          0.6143    0.6357    0.6586    0.6800    0.7017
          0.7199    0.7421    0.7637    0.7793    0.7997
          0.8222    0.8362    0.8574    0.8821    0.9048
          0.9192    0.9415    0.9654    0.9871    1.0000
Width:
          0.0610    0.1612    0.2070    0.2608    0.2814
          0.3241    0.3608    0.3871    0.4098    0.4375
          0.4675    0.4890    0.5128    0.5439    0.5653
          0.5878    0.6100    0.6235    0.6504    0.6705
          0.6922    0.7099    0.7199    0.7338    0.7443
          0.7564    0.7669    0.7748    0.7842    0.7985
          0.8089    0.8196    0.8279    0.8379    0.8472
          0.8608    0.8691    0.8781    0.8938    0.9040
          0.9116    0.9285    0.9373    0.9420    0.9487
          0.9644    0.9714    0.9765    0.9838    1.0000

Transect T-C80
Area:
          0.0027    0.0080    0.0144    0.0217    0.0305
          0.0405    0.0512    0.0630    0.0755    0.0888
          0.1030    0.1184    0.1344    0.1510    0.1684
          0.1861    0.2046    0.2235    0.2428    0.2627
          0.2831    0.3043    0.3259    0.3478    0.3698
          0.3922    0.4149    0.4380    0.4612    0.4847
          0.5083    0.5322    0.5563    0.5807    0.6053
          0.6301    0.6552    0.6804    0.7058    0.7316
          0.7576    0.7839    0.8103    0.8368    0.8635
          0.8905    0.9175    0.9448    0.9723    1.0000
Hrad:
          0.0153    0.0383    0.0588    0.0786    0.0896
          0.1089    0.1268    0.1421    0.1642    0.1786
          0.1957    0.2084    0.2269    0.2493    0.2663
          0.2841    0.3042    0.3243    0.3414    0.3651
          0.3773    0.3927    0.4151    0.4403    0.4611
          0.4846    0.5026    0.5257    0.5473    0.5723
          0.5961    0.6139    0.6376    0.6556    0.6791
          0.7022    0.7230    0.7452    0.7623    0.7838
          0.8017    0.8244    0.8491    0.8740    0.8914
          0.9142    0.9376    0.9545    0.9761    1.0000
Width:
          0.1761    0.2094    0.2525    0.2772    0.3410
          0.3721    0.4048    0.4437    0.4603    0.4978
          0.5378    0.5688    0.5933    0.6148    0.6334
          0.6560    0.6737    0.6900    0.7123    0.7226
          0.7515    0.7760    0.7863    0.7909    0.8032
          0.8103    0.8266    0.8341    0.8437    0.8477
          0.8534    0.8676    0.8732    0.8864    0.8921
          0.8979    0.9068    0.9135    0.9264    0.9339
          0.9454    0.9513    0.9546    0.9577    0.9690
          0.9743    0.9787    0.9899    0.9962    1.0000

Transect T-C83
Area:
          0.0018    0.0055    0.0105    0.0163    0.0232
          0.0309    0.0394    0.0488    0.0590    0.0699
          0.0817    0.0941    0.1074    0.1215    0.1364
          0.1519    0.1683    0.1855    0.2034    0.2220
          0.2413    0.2615    0.2825    0.3042    0.3266
          0.3498    0.3733    0.3972    0.4213    0.4456
          0.4704    0.4955    0.5207    0.5464    0.5723
          0.5985    0.6250    0.6518    0.6789    0.7063
          0.7340    0.7620    0.7905    0.8192    0.8484
          0.8779    0.9077    0.9381    0.9688    1.0000
Hrad:
          0.0187    0.0387    0.0629    0.0802    0.0969
          0.1212    0.1356    0.1568    0.1779    0.1915
          0.2118    0.2294    0.2471    0.2622    0.2803
          0.2988    0.3145    0.3306    0.3508    0.3669
          0.3822    0.3987    0.4153    0.4315    0.4483
          0.4696    0.4958    0.5180    0.5453    0.5678
          0.5914    0.6189    0.6422    0.6623    0.6899
          0.7103    0.7340    0.7590    0.7816    0.8020
          0.8270    0.8441    0.8677    0.8860    0.9054
          0.9290    0.9434    0.9626    0.9798    1.0000
Width:
          0.0976    0.1424    0.1664    0.2036    0.2394
          0.2553    0.2906    0.3115    0.3316    0.3654
          0.3856    0.4106    0.4348    0.4635    0.4870
          0.5086    0.5352    0.5614    0.5801    0.6052
          0.6316    0.6562    0.6804    0.7051    0.7287
          0.7451    0.7530    0.7669    0.7727    0.7850
          0.7956    0.8007    0.8109    0.8251    0.8296
          0.8426    0.8516    0.8588    0.8686    0.8807
          0.8875    0.9028    0.9110    0.9245    0.9370
          0.9450    0.9621    0.9745    0.9888    1.0000

Transect T-C86
Area:
          0.0022    0.0062    0.0110    0.0163    0.0229
          0.0300    0.0376    0.0456    0.0541    0.0633
          0.0730    0.0833    0.0939    0.1049    0.1164
          0.1289    0.1418    0.1551    0.1690    0.1834
          0.1984    0.2143    0.2307    0.2477    0.2656
          0.2844    0.3040    0.3239    0.3452    0.3672
          0.3902    0.4139    0.4387    0.4641    0.4908
          0.5185    0.5470    0.5763    0.6065    0.6378
          0.6697    0.7027    0.7366    0.7714    0.8070
          0.8437    0.8814    0.9197    0.9594    1.0000
Hrad:
          0.0289    0.0552    0.0899    0.1125    0.1367
          0.1682    0.1994    0.2273    0.2507    0.2765
          0.2985    0.3293    0.3568    0.3826    0.4037
          0.4145    0.4458    0.4735    0.4895    0.5139
          0.5274    0.5433    0.5731    0.5789    0.6014
          0.6048    0.6343    0.6655    0.6599    0.6645
          0.6923    0.6929    0.7206    0.7288    0.7449
          0.7580    0.7791    0.7986    0.8078    0.8337
          0.8434    0.8696    0.8757    0.9074    0.9147
          0.9310    0.9548    0.9665    0.9845    1.0000
Width:
          0.0757    0.1118    0.1221    0.1452    0.1675
          0.1785    0.1884    0.2004    0.2159    0.2288
          0.2446    0.2528    0.2630    0.2742    0.2883
          0.3110    0.3181    0.3275    0.3451    0.3569
```

FIGURE B-6
Future Conditions 100-Year SWMM Output

0.3761	0.3944	0.4025	0.4278	0.4416
0.4702	0.4791	0.5067	0.5230	0.5526
0.5636	0.5972	0.6087	0.6368	0.6588
0.6839	0.7021	0.7216	0.7508	0.7649
0.7940	0.8080	0.8412	0.8501	0.8823
0.9062	0.9231	0.9516	0.9746	1.0000

Transect T-C87
Area:

0.0004	0.0016	0.0036	0.0064	0.0100
0.0144	0.0196	0.0256	0.0324	0.0400
0.0484	0.0576	0.0676	0.0784	0.0900
0.1024	0.1156	0.1296	0.1444	0.1600
0.1764	0.1936	0.2116	0.2304	0.2500
0.2704	0.2916	0.3136	0.3364	0.3600
0.3844	0.4096	0.4356	0.4624	0.4900
0.5184	0.5476	0.5776	0.6084	0.6400
0.6724	0.7056	0.7396	0.7744	0.8100
0.8464	0.8836	0.9216	0.9604	1.0000

Hrad:

0.0200	0.0400	0.0600	0.0800	0.1000
0.1200	0.1400	0.1600	0.1800	0.2000
0.2200	0.2400	0.2600	0.2800	0.3000
0.3200	0.3400	0.3600	0.3800	0.4000
0.4200	0.4400	0.4600	0.4800	0.5000
0.5200	0.5400	0.5600	0.5800	0.6000
0.6200	0.6400	0.6600	0.6800	0.7000
0.7200	0.7400	0.7600	0.7800	0.8000
0.8200	0.8400	0.8600	0.8800	0.9000
0.9200	0.9400	0.9600	0.9800	1.0000

Width:

0.0200	0.0400	0.0600	0.0800	0.1000
0.1200	0.1400	0.1600	0.1800	0.2000
0.2200	0.2400	0.2600	0.2800	0.3000
0.3200	0.3400	0.3600	0.3800	0.4000
0.4200	0.4400	0.4600	0.4800	0.5000
0.5200	0.5400	0.5600	0.5800	0.6000
0.6200	0.6400	0.6600	0.6800	0.7000
0.7200	0.7400	0.7600	0.7800	0.8000
0.8200	0.8400	0.8600	0.8800	0.9000
0.9200	0.9400	0.9600	0.9800	1.0000

Transect T-C88
Area:

0.0016	0.0040	0.0076	0.0115	0.0165
0.0219	0.0277	0.0344	0.0413	0.0493
0.0577	0.0670	0.0769	0.0871	0.0985
0.1109	0.1239	0.1383	0.1542	0.1709
0.1895	0.2086	0.2282	0.2504	0.2741
0.2983	0.3230	0.3484	0.3746	0.4012
0.4279	0.4551	0.4831	0.5113	0.5396
0.5680	0.5966	0.6254	0.6549	0.6845
0.7143	0.7444	0.7754	0.8065	0.8379
0.8695	0.9013	0.9336	0.9664	1.0000

Hrad:

0.0238	0.0526	0.0680	0.0971	0.1072
0.1364	0.1456	0.1719	0.1995	0.2018
0.2293	0.2332	0.2623	0.2644	0.2893
0.2929	0.3208	0.2981	0.3266	0.3302
0.3400	0.3701	0.3781	0.3833	0.4082
0.4356	0.4616	0.4592	0.4808	0.5115
0.5421	0.5539	0.5848	0.6156	0.6462
0.6762	0.7059	0.7354	0.7531	0.7834
0.8135	0.8238	0.8480	0.8766	0.9049
0.9316	0.9572	0.9738	0.9976	1.0000

Width:

0.0655	0.0843	0.1120	0.1189	0.1544
0.1606	0.1906	0.2002	0.2073	0.2441
0.2515	0.2876	0.2933	0.3294	0.3404
0.3788	0.3864	0.4642	0.4724	0.5175
0.5575	0.5636	0.6037	0.6847	0.7045
0.7196	0.7373	0.7588	0.7793	0.7844
0.7894	0.8217	0.8261	0.8305	0.8350
0.8400	0.8453	0.8505	0.8696	0.8738
0.8780	0.9037	0.9143	0.9201	0.9259
0.9333	0.9416	0.9588	0.9687	1.0000

Transect T-C89
Area:

0.0021	0.0062	0.0118	0.0184	0.0259
0.0346	0.0439	0.0540	0.0652	0.0770
0.0893	0.1019	0.1156	0.1298	0.1448
0.1602	0.1760	0.1925	0.2094	0.2268
0.2449	0.2633	0.2821	0.3014	0.3216
0.3422	0.3631	0.3843	0.4060	0.4282
0.4511	0.4745	0.4984	0.5229	0.5479
0.5732	0.5990	0.6258	0.6530	0.6807
0.7089	0.7378	0.7675	0.7981	0.8296
0.8618	0.8955	0.9298	0.9646	1.0000

Hrad:

0.0232	0.0455	0.0691	0.0951	0.1110
0.1392	0.1654	0.1813	0.2036	0.2306
0.2594	0.2828	0.2971	0.3230	0.3423
0.3700	0.3901	0.4150	0.4379	0.4591
0.4815	0.5071	0.5322	0.5453	0.5651
0.5896	0.6174	0.6447	0.6642	0.6777
0.6961	0.7200	0.7374	0.7542	0.7801
0.8006	0.8175	0.8275	0.8495	0.8711
0.8921	0.8975	0.9076	0.9172	0.9316
0.9316	0.9380	0.9652	0.9760	1.0000

Width:

0.0905	0.1395	0.1737	0.1968	0.2372
0.2527	0.2694	0.3025	0.3249	0.3385
0.3484	0.3643	0.3935	0.4063	0.4274
0.4372	0.4554	0.4679	0.4823	0.4983
0.5128	0.5232	0.5338	0.5566	0.5730
0.5842	0.5916	0.5992	0.6141	0.6350
0.6513	0.6622	0.6790	0.6965	0.7050
0.7186	0.7351	0.7588	0.7712	0.7839
0.7969	0.8247	0.8485	0.8732	0.8937
0.9289	0.9583	0.9656	0.9895	1.0000

Transect T-C9
Area:

0.0023	0.0076	0.0144	0.0223	0.0316
0.0416	0.0528	0.0646	0.0771	0.0902
0.1040	0.1185	0.1335	0.1492	0.1656
0.1823	0.1998	0.2179	0.2364	0.2558
0.2753	0.2952	0.3161	0.3373	0.3588
0.3810	0.4036	0.4267	0.4506	0.4748
0.4993	0.5241	0.5492	0.5745	0.5999
0.6254	0.6510	0.6767	0.7028	0.7292

FIGURE B-6
Future Conditions 100-Year SWMM Output

```
          0.7556    0.7822    0.8088    0.8356    0.8627
          0.8900    0.9173    0.9448    0.9723    1.0000
Hrad:
          0.0140    0.0356    0.0544    0.0728    0.0913
          0.1113    0.1280    0.1499    0.1678    0.1883
          0.2042    0.2255    0.2442    0.2599    0.2799
          0.3002    0.3147    0.3337    0.3438    0.3676
          0.3913    0.4078    0.4183    0.4420    0.4645
          0.4751    0.4911    0.5139    0.5235    0.5448
          0.5654    0.5863    0.6083    0.6337    0.6589
          0.6839    0.7082    0.7324    0.7479    0.7707
          0.7961    0.8214    0.8467    0.8652    0.8859
          0.9088    0.9341    0.9592    0.9844    1.0000
Width:
          0.1631    0.2137    0.2653    0.3074    0.3470
          0.3754    0.4136    0.4320    0.4608    0.4804
          0.5110    0.5270    0.5482    0.5759    0.5931
          0.6090    0.6366    0.6546    0.6894    0.6973
          0.7052    0.7254    0.7571    0.7645    0.7736
          0.8031    0.8230    0.8314    0.8618    0.8724
          0.8840    0.8949    0.9038    0.9075    0.9112
          0.9151    0.9199    0.9246    0.9403    0.9468
          0.9497    0.9527    0.9556    0.9662    0.9741
          0.9796    0.9823    0.9850    0.9878    1.0000

Transect T-C90
Area:
          0.0019    0.0055    0.0099    0.0157    0.0224
          0.0297    0.0374    0.0457    0.0551    0.0651
          0.0754    0.0862    0.0975    0.1095    0.1222
          0.1353    0.1488    0.1628    0.1774    0.1926
          0.2084    0.2251    0.2423    0.2600    0.2781
          0.2966    0.3156    0.3354    0.3565    0.3780
          0.3999    0.4224    0.4456    0.4698    0.4947
          0.5204    0.5473    0.5748    0.6029    0.6328
          0.6641    0.6959    0.7293    0.7640    0.8003
          0.8380    0.8770    0.9171    0.9578    1.0000
Hrad:
          0.0266    0.0592    0.0899    0.1068    0.1360
          0.1699    0.1991    0.2275    0.2396    0.2730
          0.3057    0.3334    0.3543    0.3765    0.4028
          0.4329    0.4599    0.4834    0.5045    0.5281
          0.5461    0.5627    0.5885    0.6177    0.6449
          0.6717    0.6958    0.7052    0.7074    0.7392
          0.7659    0.7833    0.7980    0.8098    0.8293
          0.8474    0.8539    0.8793    0.9033    0.8650
          0.8954    0.9132    0.9133    0.9198    0.9205
          0.9183    0.9515    0.9647    0.9818    1.0000
Width:
          0.0734    0.0940    0.1105    0.1479    0.1655
          0.1753    0.1882    0.2013    0.2305    0.2388
          0.2469    0.2583    0.2751    0.2909    0.3032
          0.3121    0.3230    0.3363    0.3511    0.3642
          0.3811    0.3994    0.4111    0.4200    0.4302
          0.4404    0.4523    0.4743    0.5026    0.5098
          0.5204    0.5375    0.5568    0.5785    0.5950
          0.6176    0.6395    0.6522    0.6658    0.7303
          0.7402    0.7606    0.7973    0.8296    0.8686
          0.9121    0.9213    0.9503    0.9754    1.0000

Transect T-C91
Area:
          0.0015    0.0047    0.0087    0.0132    0.0184
          0.0243    0.0308    0.0379    0.0453    0.0532
          0.0618    0.0710    0.0806    0.0905    0.1009
          0.1120    0.1237    0.1357    0.1482    0.1610
          0.1743    0.1887    0.2039    0.2196    0.2357
          0.2523    0.2699    0.2884    0.3076    0.3280
          0.3492    0.3715    0.3944    0.4180    0.4424
          0.4677    0.4942    0.5216    0.5504    0.5806
          0.6126    0.6471    0.6837    0.7226    0.7636
          0.8067    0.8517    0.8990    0.9484    1.0000
Hrad:
          0.0307    0.0679    0.1085    0.1464    0.1731
          0.2028    0.2387    0.2754    0.3122    0.3355
          0.3617    0.3960    0.4319    0.4676    0.4911
          0.5131    0.5432    0.5780    0.6122    0.6423
          0.6646    0.6610    0.6888    0.7213    0.7530
          0.7730    0.7748    0.8012    0.8125    0.8251
          0.8374    0.8579    0.8890    0.9079    0.9330
          0.9483    0.9617    0.9759    0.9824    0.9830
          0.9701    0.9588    0.9476    0.9510    0.9581
          0.9659    0.9724    0.9787    0.9878    1.0000
Width:
          0.0502    0.0695    0.0803    0.0898    0.1059
          0.1196    0.1288    0.1368    0.1440    0.1575
          0.1699    0.1780    0.1850    0.1917    0.2034
          0.2162    0.2253    0.2322    0.2391    0.2475
          0.2590    0.2823    0.2927    0.3008    0.3091
          0.3225    0.3445    0.3560    0.3746    0.3935
          0.4131    0.4291    0.4397    0.4565    0.4704
          0.4896    0.5103    0.5311    0.5570    0.5877
          0.6288    0.6725    0.7195    0.7581    0.7955
          0.8339    0.8750    0.9180    0.9599    1.0000

Transect T-C93
Area:
          0.0019    0.0062    0.0112    0.0167    0.0235
          0.0311    0.0392    0.0477    0.0569    0.0672
          0.0784    0.0898    0.1017    0.1139    0.1269
          0.1404    0.1547    0.1694    0.1845    0.2004
          0.2171    0.2343    0.2520    0.2702    0.2890
          0.3086    0.3288    0.3494    0.3706    0.3925
          0.4152    0.4384    0.4623    0.4874    0.5133
          0.5396    0.5666    0.5947    0.6241    0.6542
          0.6854    0.7177    0.7508    0.7843    0.8185
          0.8534    0.8889    0.9251    0.9622    1.0000
Hrad:
          0.0194    0.0505    0.0821    0.1062    0.1222
          0.1506    0.1812    0.2108    0.2245    0.2336
          0.2646    0.2949    0.3246    0.3440    0.3647
          0.3892    0.4068    0.4342    0.4586    0.4690
          0.4876    0.5124    0.5372    0.5613    0.5744
          0.5907    0.6161    0.6405    0.6586    0.6699
          0.6909    0.7122    0.7244    0.7273    0.7503
          0.7754    0.7917    0.7892    0.8017    0.8211
          0.8237    0.8344    0.8614    0.8897    0.9033
          0.9274    0.9469    0.9659    0.9830    1.0000
Width:
          0.0977    0.1231    0.1362    0.1572    0.1923
          0.2070    0.2167    0.2264    0.2537    0.2878
          0.2962    0.3046    0.3131    0.3310    0.3478
```

FIGURE B-6
Future Conditions 100-Year SWMM Output

```
          0.3607     0.3800     0.3899     0.4020     0.4270
          0.4450     0.4571     0.4689     0.4810     0.5028
          0.5222     0.5334     0.5452     0.5623     0.5855
          0.6006     0.6152     0.6378     0.6698     0.6837
          0.6955     0.7152     0.7532     0.7782     0.7964
          0.8318     0.8600     0.8715     0.8814     0.9059
          0.9200     0.9386     0.9577     0.9788     1.0000


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

  ****************
  Analysis Options
  ****************
  Flow Units ............... CFS
  Process Models:
    Rainfall/Runoff ........ NO
    RDII ................... NO
    Snowmelt ............... NO
    Groundwater ............ NO
    Flow Routing ........... YES
    Ponding Allowed ........ NO
    Water Quality .......... NO
  Infiltration Method ...... HORTON
  Flow Routing Method ...... KINWAVE
  Starting Date ............ 09/01/2018 00:00:00
  Ending Date .............. 09/01/2018 10:00:00
  Antecedent Dry Days ...... 0.0
  Report Time Step ......... 00:05:00
  Wet Time Step ............ 00:05:00
  Dry Time Step ............ 00:05:00
  Routing Time Step ........ 5.00 sec


  **************************        Volume         Depth
  Runoff Quantity Continuity     acre-feet        inches
  **************************     ---------       -------
  Total Precipitation ......         0.000         0.000
  Evaporation Loss .........         0.000         0.000
  Infiltration Loss ........         0.000         0.000
  Surface Runoff ...........         0.000         0.000
  Final Storage ............         0.000         0.000
  Continuity Error (%) .....         0.000


  **************************        Volume        Volume
  Flow Routing Continuity        acre-feet      10^6 gal
  **************************     ---------     ---------
  Dry Weather Inflow .......         0.000         0.000
  Wet Weather Inflow .......         0.000         0.000
  Groundwater Inflow .......         0.000         0.000
  RDII Inflow ..............         0.000         0.000
  External Inflow ..........       801.245       261.098
  External Outflow .........       794.865       259.019
  Flooding Loss ............         0.000         0.000
  Evaporation Loss .........         0.000         0.000
  Exfiltration Loss ........         0.000         0.000
  Initial Stored Volume ....         0.000         0.000
  Final Stored Volume ......        11.836         3.857
  Continuity Error (%) .....        -0.681


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


  *************************
  Routing Time Step Summary
  *************************
  Minimum Time Step           :     4.00 sec
  Average Time Step           :     5.00 sec
  Maximum Time Step           :     5.00 sec
  Percent in Steady State     :     0.00
  Average Iterations per Step :     1.01
  Percent Not Converging      :     0.00


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

  --------------------------------------------------------------------------------
                                   Average  Maximum  Maximum  Time of Max    Reported
                                     Depth    Depth      HGL   Occurrence   Max Depth
  Node                 Type          Feet     Feet     Feet  days hr:min        Feet
  --------------------------------------------------------------------------------
  B100                 JUNCTION      0.00     0.00  5511.01     0  00:00        0.00
  B1000                JUNCTION      0.00     0.00  5686.08     0  00:00        0.00
  B1005                JUNCTION      0.00     0.00  5700.10     0  00:00        0.00
  B1010                JUNCTION      0.12     0.56  5717.74     0  00:50        0.56
  B1100                JUNCTION      0.00     0.00  5708.80     0  00:00        0.00
  B1105                JUNCTION      0.00     0.00  5749.60     0  00:00        0.00
  B1110                JUNCTION      0.14     0.58  5766.39     0  00:55        0.58
  B200                 JUNCTION      0.00     0.00  5516.13     0  00:00        0.00
  B205                 JUNCTION      0.00     0.00  5531.84     0  00:00        0.00
  B210                 JUNCTION      0.00     0.00  5543.12     0  00:00        0.00
  B215                 JUNCTION      0.00     0.00  5551.33     0  00:00        0.00
  B235                 JUNCTION      0.14     0.64  5572.11     0  00:50        0.64
  B240                 JUNCTION      0.00     0.00  5570.52     0  00:00        0.00
  B245                 JUNCTION      0.00     0.00  5600.91     0  00:00        0.00
  B300                 JUNCTION      0.00     0.00  5554.12     0  00:00        0.00
  B305                 JUNCTION      0.00     0.00  5563.78     0  00:00        0.00
  B310                 JUNCTION      0.00     0.00  5563.78     0  00:00        0.00
  B315                 JUNCTION      0.00     0.00  5563.78     0  00:00        0.00
  B320                 JUNCTION      0.00     0.00  5575.36     0  00:00        0.00
  B325                 JUNCTION      0.00     0.00  5600.62     0  00:00        0.00
  B330                 JUNCTION      0.00     0.00  5601.85     0  00:00        0.00
  B335                 JUNCTION      0.00     0.00  5612.56     0  00:00        0.00
  B340                 JUNCTION      0.00     0.00  5610.04     0  00:00        0.00
  B345                 JUNCTION      0.00     0.00  5632.10     0  00:00        0.00
  B350                 JUNCTION      0.00     0.00  5643.98     0  00:00        0.00
  B355                 JUNCTION      0.00     0.00  5643.98     0  00:00        0.00
  B360                 JUNCTION      0.00     0.00  5669.91     0  00:00        0.00
  B365                 JUNCTION      0.08     0.50  5673.47     0  00:45        0.50
  B370                 JUNCTION      0.00     0.00  5632.10     0  00:00        0.00
  B375                 JUNCTION      0.00     0.00  5645.12     0  00:00        0.00
```

FIGURE B-6
Future Conditions 100-Year SWMM Output

B380	JUNCTION	0.00	0.00	5659.42	0	00:00	0.00
B385	JUNCTION	0.09	0.60	5677.96	0	00:40	0.60
B400	JUNCTION	0.00	0.00	5565.43	0	00:00	0.00
B405	JUNCTION	0.10	0.60	5594.56	0	00:40	0.60
B500	JUNCTION	0.00	0.00	5567.09	0	00:00	0.00
B600	JUNCTION	0.00	0.00	5568.84	0	00:00	0.00
B602	JUNCTION	0.00	0.00	5582.10	0	00:00	0.00
B605	JUNCTION	0.00	0.00	5603.51	0	00:00	0.00
B610	JUNCTION	0.12	0.73	5626.76	0	00:45	0.73
B615	JUNCTION	0.06	0.61	5635.72	0	00:30	0.61
B700	JUNCTION	0.00	0.00	5573.79	0	00:00	0.00
B705	JUNCTION	0.11	0.76	5616.75	0	00:40	0.76
B800	JUNCTION	0.00	0.00	5605.06	0	00:00	0.00
B805	JUNCTION	0.00	0.00	5626.11	0	00:00	0.00
B810	JUNCTION	0.00	0.00	5626.11	0	00:00	0.00
B815	JUNCTION	0.11	0.89	5651.82	0	00:35	0.89
B900	JUNCTION	0.00	0.00	5648.06	0	00:00	0.00
B905	JUNCTION	0.00	0.00	5688.47	0	00:00	0.00
B910	JUNCTION	0.00	0.00	5688.47	0	00:00	0.00
B915	JUNCTION	0.00	0.00	5695.99	0	00:00	0.00
B920	JUNCTION	0.00	0.00	5695.99	0	00:00	0.00
B925	JUNCTION	0.00	0.00	5740.06	0	00:00	0.00
B930	JUNCTION	0.00	0.00	5740.06	0	00:00	0.00
DP100	JUNCTION	0.00	0.00	5510.91	0	00:10	0.00
DP1000	JUNCTION	1.87	3.11	5689.09	0	00:10	3.11
DP1005	JUNCTION	0.15	0.74	5700.74	0	00:50	0.74
DP1100	JUNCTION	1.44	1.64	5710.34	0	00:10	1.64
DP1105	JUNCTION	0.16	0.64	5750.14	0	00:56	0.64
DP200	JUNCTION	3.91	3.98	5520.01	0	00:10	3.98
DP205	JUNCTION	0.46	2.41	5534.15	0	00:48	2.40
DP210	JUNCTION	0.49	2.51	5545.53	0	00:51	2.51
DP215	JUNCTION	0.49	2.51	5553.74	0	00:51	2.51
DP216	JUNCTION	0.46	2.41	5565.67	0	00:51	2.40
DP219	JUNCTION	10.00	10.00	5579.45	0	00:00	10.00
DP223	JUNCTION	1.68	2.57	5575.28	0	00:40	2.57
DP228	JUNCTION	3.51	3.75	5572.86	0	00:41	3.74
DP300	JUNCTION	4.50	4.57	5558.60	0	00:10	4.57
DP304	JUNCTION	9.00	9.00	5571.30	0	00:00	9.00
DP319	JUNCTION	16.70	16.70	5583.01	0	00:00	16.70
DP323	JUNCTION	22.24	22.54	5601.44	0	00:50	22.54
DP329	JUNCTION	9.85	11.27	5607.82	0	00:56	11.26
DP334	JUNCTION	11.95	11.95	5616.50	0	00:00	11.95
DP340	JUNCTION	19.78	20.91	5630.85	0	00:50	20.91
DP345	JUNCTION	0.26	1.39	5633.39	0	00:49	1.39
DP350	JUNCTION	0.19	0.97	5644.85	0	00:48	0.97
DP360	JUNCTION	0.12	0.74	5670.55	0	00:45	0.74
DP375	JUNCTION	0.17	1.02	5646.04	0	00:48	1.02
DP380	JUNCTION	0.16	1.03	5660.34	0	00:45	1.03
DP400	JUNCTION	0.86	0.93	5566.26	0	00:10	0.93
DP500	JUNCTION	0.00	0.00	5566.99	0	00:10	0.00
DP600	JUNCTION	14.59	14.67	5583.41	0	00:10	14.67
DP602	JUNCTION	10.29	11.32	5591.47	0	00:56	11.32
DP605	JUNCTION	0.20	1.44	5604.85	0	00:36	1.43
DP700	JUNCTION	1.33	1.43	5575.12	0	00:10	1.43
DP800	JUNCTION	1.71	2.49	5607.45	0	00:10	2.49
DP805	JUNCTION	0.22	1.54	5627.55	0	00:40	1.54
DP900	JUNCTION	1.88	2.09	5650.05	0	00:10	2.09
DP905	JUNCTION	0.25	1.33	5689.70	0	00:47	1.33
DP915	JUNCTION	0.25	1.33	5697.22	0	00:46	1.32
DP925	JUNCTION	0.15	0.73	5740.69	0	00:50	0.73
B220	DIVIDER	3.50	3.50	5586.19	0	00:00	3.50
B225	DIVIDER	1.68	2.57	5576.12	0	00:40	2.57
B230	DIVIDER	3.51	3.75	5582.77	0	00:40	3.75
B250	DIVIDER	4.03	4.55	5624.03	0	00:40	4.55
DP240	DIVIDER	10.00	10.00	5580.43	0	00:00	10.00
DP245	DIVIDER	5.05	5.77	5606.58	0	00:45	5.77
DP305	DIVIDER	8.00	8.00	5571.68	0	00:00	8.00
DP320	DIVIDER	8.00	8.00	5583.26	0	00:00	8.00
DP325	DIVIDER	4.51	4.81	5605.33	0	00:49	4.81
DP330	DIVIDER	6.07	7.49	5609.24	0	00:56	7.49
DP335	DIVIDER	4.50	4.50	5616.96	0	00:00	4.50
SU1	STORAGE	6.57	8.55	5590.55	0	00:56	8.55

****
Node Inflow Summary
****

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Time of Max Occurrence days hr:min		Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
B100	JUNCTION	430.97	430.97	0	00:40	10.8	10.8	0.000
B1000	JUNCTION	76.19	76.19	0	00:40	1.87	1.87	0.000
B1005	JUNCTION	78.29	78.29	0	00:45	2.27	2.27	0.000
B1010	JUNCTION	162.30	162.30	0	00:50	6.02	6.02	0.000
B1100	JUNCTION	111.82	111.82	0	00:50	3.76	3.76	0.000
B1105	JUNCTION	37.42	37.42	0	00:55	1.62	1.62	0.000
B1110	JUNCTION	134.91	134.91	0	00:55	5.87	5.87	0.000
B200	JUNCTION	36.18	36.18	0	00:45	1.19	1.19	0.000
B205	JUNCTION	182.06	182.06	0	00:40	4.43	4.43	0.000
B210	JUNCTION	153.08	153.08	0	00:35	2.65	2.65	0.000
B215	JUNCTION	148.54	148.54	0	00:35	3.01	3.01	0.000
B235	JUNCTION	131.87	131.87	0	00:50	4.91	4.91	0.000
B240	JUNCTION	272.67	272.67	0	00:50	9.55	9.55	0.000
B245	JUNCTION	198.12	198.12	0	00:40	4.45	4.45	0.000
B300	JUNCTION	42.59	42.59	0	00:35	1.01	1.01	0.000
B305	JUNCTION	4.86	4.86	0	00:55	0.23	0.23	0.000
B310	JUNCTION	230.85	230.85	0	00:40	5.72	5.72	0.000
B315	JUNCTION	179.18	179.18	0	00:40	4.15	4.15	0.000
B320	JUNCTION	12.95	12.95	0	01:00	0.636	0.636	0.000
B325	JUNCTION	161.82	161.82	0	00:40	3.99	3.99	0.000
B330	JUNCTION	156.86	156.86	0	00:40	3.79	3.79	0.000
B335	JUNCTION	282.44	282.44	0	00:40	7.4	7.4	0.000
B340	JUNCTION	137.47	137.47	0	00:30	1.99	1.99	0.000
B345	JUNCTION	144.49	144.49	0	00:45	4.14	4.14	0.000
B350	JUNCTION	77.87	77.87	0	00:45	2.48	2.48	0.000
B355	JUNCTION	132.56	132.56	0	00:40	3.64	3.64	0.000
B360	JUNCTION	178.38	178.38	0	00:45	5.13	5.13	0.000
B365	JUNCTION	308.63	308.63	0	00:45	8.29	8.29	0.000
B370	JUNCTION	121.61	121.61	0	00:40	3.39	3.39	0.000
B375	JUNCTION	343.06	343.06	0	00:40	8.13	8.13	0.000
B380	JUNCTION	203.42	203.42	0	00:45	5.63	5.63	0.000
B385	JUNCTION	346.13	346.13	0	00:40	7.69	7.69	0.000
B400	JUNCTION	137.15	137.15	0	00:45	4.1	4.1	0.000
B405	JUNCTION	136.92	136.92	0	00:40	3.56	3.56	0.000
B500	JUNCTION	374.15	374.15	0	00:45	10.4	10.4	0.000
B600	JUNCTION	40.92	40.92	0	00:35	0.826	0.826	0.000
B602	JUNCTION	221.23	221.23	0	00:40	4.89	4.89	0.000
B605	JUNCTION	246.38	246.38	0	00:35	4.4	4.4	0.000

FIGURE B-6
Future Conditions 100-Year SWMM Output

B610	JUNCTION	296.24	296.24	0	00:45	8.02	8.02	0.000
B615	JUNCTION	221.02	221.02	0	00:30	3.38	3.38	0.000
B700	JUNCTION	112.24	112.24	0	00:45	3.39	3.39	0.000
B705	JUNCTION	355.44	355.44	0	00:40	8.89	8.89	0.000
B800	JUNCTION	121.81	121.81	0	00:50	4.33	4.33	0.000
B805	JUNCTION	401.96	401.96	0	00:40	9.08	9.08	0.000
B810	JUNCTION	128.79	128.79	0	00:45	3.77	3.77	0.000
B815	JUNCTION	432.82	432.82	0	00:35	8.25	8.25	0.000
B900	JUNCTION	174.46	174.46	0	00:40	4.21	4.21	0.000
B905	JUNCTION	101.30	101.30	0	00:35	2.07	2.07	0.000
B910	JUNCTION	66.37	66.37	0	00:45	2.28	2.28	0.000
B915	JUNCTION	186.66	186.66	0	00:40	4.57	4.57	0.000
B920	JUNCTION	197.17	197.17	0	00:40	4.8	4.8	0.000
B925	JUNCTION	150.45	150.45	0	00:50	5.72	5.72	0.000
B930	JUNCTION	178.61	178.61	0	00:50	5.88	5.88	0.000
DP100	JUNCTION	0.00	430.97	0	00:40	0	10.8	0.000
DP1000	JUNCTION	0.00	303.12	0	00:49	0	10.2	0.000
DP1005	JUNCTION	0.00	236.78	0	00:50	0	8.29	0.000
DP1100	JUNCTION	0.00	277.24	0	00:56	0	11.3	0.000
DP1105	JUNCTION	0.00	171.98	0	00:56	0	7.49	0.000
DP200	JUNCTION	0.00	1496.22	0	00:50	0	44.9	0.000
DP205	JUNCTION	0.00	1461.64	0	00:48	0	43.7	0.000
DP210	JUNCTION	0.00	1303.60	0	00:48	0	39.3	0.000
DP215	JUNCTION	0.00	1029.63	0	00:51	0	32	0.000
DP216	JUNCTION	0.00	925.33	0	00:51	0	29	0.000
DP219	JUNCTION	0.00	797.30	0	00:52	0	25.4	0.000
DP223	JUNCTION	0.00	206.13	0	00:40	0	4.66	0.000
DP228	JUNCTION	0.00	141.70	0	00:41	0	3.54	0.000
DP300	JUNCTION	0.00	2568.23	0	01:06	0	78.7	0.000
DP304	JUNCTION	0.00	2541.89	0	01:06	0	77.7	0.000
DP319	JUNCTION	0.00	2285.75	0	01:03	0	67.4	0.000
DP323	JUNCTION	0.00	2310.64	0	00:57	0	66.5	0.000
DP329	JUNCTION	0.00	1920.27	0	00:56	0	55	0.000
DP334	JUNCTION	0.00	282.26	0	00:40	0	7.4	0.000
DP340	JUNCTION	0.00	1839.19	0	00:50	0	50.6	0.000
DP345	JUNCTION	0.00	1773.54	0	00:49	0	48.7	0.000
DP350	JUNCTION	0.00	682.45	0	00:48	0	19.6	0.000
DP360	JUNCTION	0.00	485.79	0	00:45	0	13.4	0.000
DP375	JUNCTION	0.00	852.14	0	00:46	0	21.5	0.000
DP380	JUNCTION	0.00	536.54	0	00:45	0	13.4	0.000
DP400	JUNCTION	0.00	266.48	0	00:46	0	7.67	0.000
DP500	JUNCTION	0.00	374.15	0	00:45	0	10.4	0.000
DP600	JUNCTION	0.00	700.85	0	00:56	0	17.8	0.000
DP602	JUNCTION	0.00	672.33	0	00:56	0	16.9	0.000
DP605	JUNCTION	0.00	706.17	0	00:36	0	15.8	0.000
DP700	JUNCTION	0.00	458.09	0	00:46	0	12.3	0.000
DP800	JUNCTION	0.00	1060.00	0	00:42	0	25.5	0.000
DP805	JUNCTION	0.00	951.75	0	00:40	0	21.1	0.000
DP900	JUNCTION	0.00	988.61	0	00:47	0	29.5	0.000
DP905	JUNCTION	0.00	827.17	0	00:47	0	25.3	0.000
DP915	JUNCTION	0.00	675.80	0	00:46	0	21	0.000
DP925	JUNCTION	0.00	329.05	0	00:50	0	11.6	0.000
B220	DIVIDER	52.87	52.87	0	00:40	1.48	1.48	0.000
B225	DIVIDER	206.37	206.37	0	00:40	4.66	4.66	0.000
B230	DIVIDER	142.50	142.50	0	00:40	3.53	3.53	0.000
B250	DIVIDER	185.15	185.15	0	00:40	4.72	4.72	0.000
DP240	DIVIDER	0.00	453.02	0	00:50	0	15.9	0.000
DP245	DIVIDER	0.00	357.58	0	00:45	0	9.27	0.000
DP305	DIVIDER	0.00	2541.91	0	01:06	0	77.7	0.000
DP320	DIVIDER	0.00	2285.76	0	01:03	0	67.4	0.000
DP325	DIVIDER	0.00	412.53	0	00:49	0	11.5	0.000
DP330	DIVIDER	0.00	1920.39	0	00:56	0	54.6	0.000
DP335	DIVIDER	0.00	282.44	0	00:40	0	7.4	0.000
SU1	STORAGE	0.00	923.67	0	00:39	0	20.7	0.036

****
Node Flooding Summary
****

No nodes were flooded.

****
Storage Volume Summary
****

Storage Unit	Average Volume 1000 ft3	Avg Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 ft3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maximum Outflow CFS
SU1	577.287	36	0	0	984.311	62	0 00:56	672.33

****
Link Flow Summary
****

Link	Type	Maximum |Flow| CFS	Time of Max Occurrence days hr:min	Maximum |Veloc| ft/sec	Max/ Full Flow	Max/ Full Depth
C1	CONDUIT	721.96	0 00:56	8.41	0.08	0.25
C10	DUMMY	150.45	0 00:50			
C10_1	CONDUIT	1476.22	0 01:24	13.14	1.23	1.00
C10_2	CHANNEL	1918.47	0 00:58	3.63	0.47	0.67
C1000	DUMMY	76.19	0 00:40			
C1005	DUMMY	78.29	0 00:45			
C11	CONDUIT	82.79	0 00:49	7.25	0.32	0.51
C1100	DUMMY	111.82	0 00:50			
C111	DUMMY	246.38	0 00:35			
C12	CONDUIT	2541.89	0 01:06	11.50	0.74	0.66
C12_2	CONDUIT	198.07	0 00:36	11.79	1.08	1.00
C13	CONDUIT	2285.75	0 01:03	11.07	0.67	0.61
C14	CONDUIT	0.00	0 00:00	0.00	0.00	0.00
C15	CHANNEL	672.26	0 00:57	16.28	0.05	0.28
C16	CHANNEL	219.03	0 00:35	11.50	0.01	0.14
C17	DUMMY	137.15	0 00:45			
C19	CONDUIT	102.10	0 01:22	9.24	1.08	1.00
C2	CHANNEL	424.10	0 00:38	10.30	0.14	0.42
C20	DUMMY	153.08	0 00:35			
C200	DUMMY	36.18	0 00:45			
C205	DUMMY	182.06	0 00:40			
C21	DUMMY	37.42	0 00:55			
C22	DUMMY	430.97	0 00:40			
C225	CONDUIT	16.33	0 00:19	5.51	1.12	1.00
C23	CHANNEL	2541.68	0 01:07	21.14	0.30	0.54
C230	CONDUIT	115.14	0 00:34	13.06	1.08	1.00
C24	DUMMY	148.54	0 00:35			
C240	DUMMY	272.67	0 00:50			

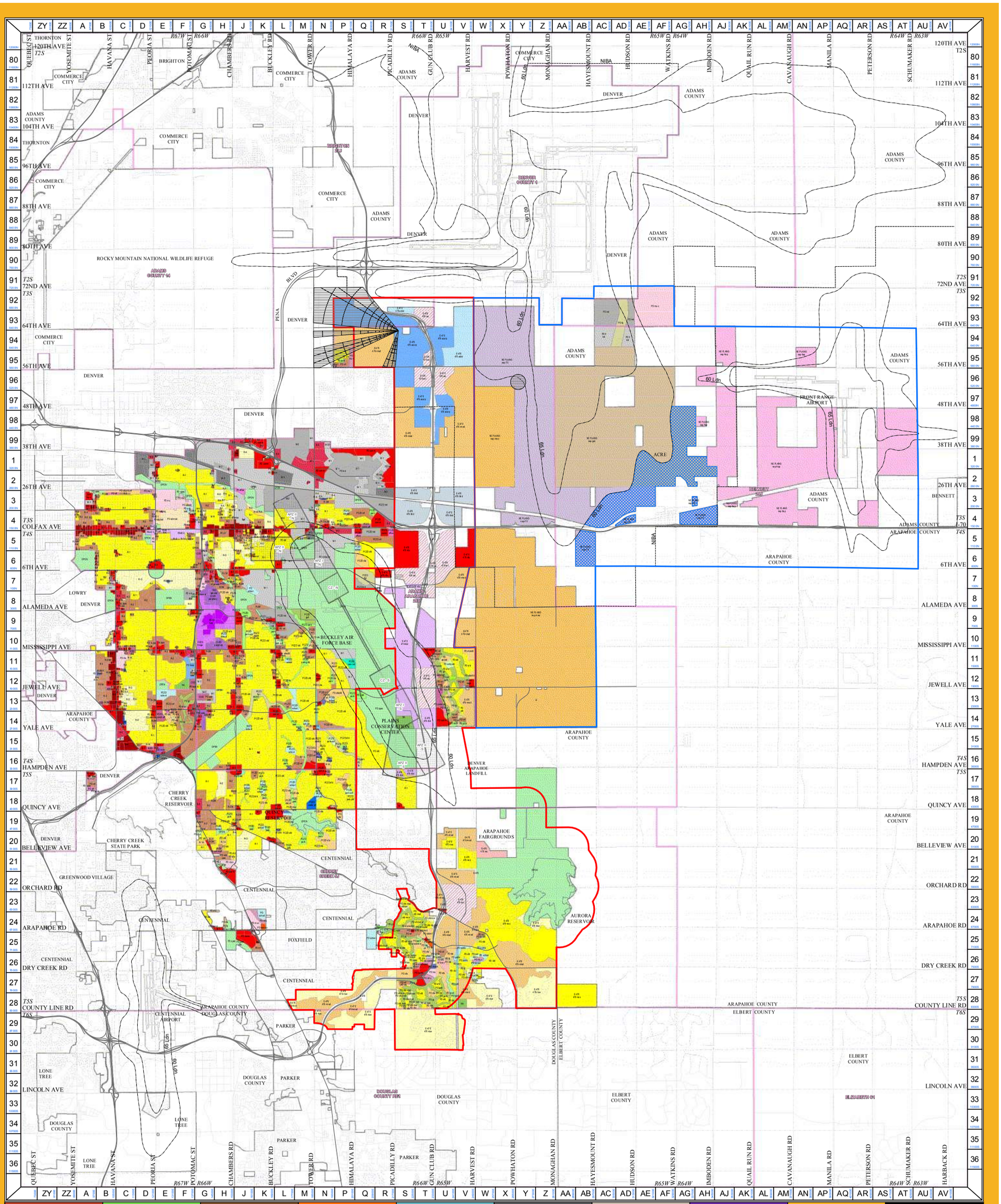
FIGURE B-6
Future Conditions 100-Year SWMM Output

C245	DUMMY	198.12	0	00:40			
C25	CONDUIT	74.78	0	00:50	4.70	0.01	0.05
C26	CONDUIT	282.26	0	00:40	7.95	0.83	0.70
C27	DUMMY	42.59	0	00:35			
C28	CONDUIT	365.28	0	00:43	12.46	1.08	1.00
C29	CONDUIT	0.00	0	00:00	0.00	0.00	0.00
C3	CHANNEL	1794.91	0	00:56	5.69	0.51	0.74
C30	CONDUIT	0.00	0	00:00	0.00	0.00	0.00
C305	DUMMY	4.86	0	00:55			
C31	CONDUIT	0.00	0	00:00	0.00	0.00	0.00
C310	DUMMY	230.85	0	00:40			
C315	DUMMY	179.18	0	00:40			
C32	CHANNEL	268.47	0	00:52	3.16	0.22	0.45
C320	DUMMY	12.95	0	01:00			
C325	DUMMY	161.82	0	00:40			
C33	CONDUIT	0.00	0	00:00	0.00	0.00	0.00
C33_1	CHANNEL	1303.30	0	00:49	15.07	0.42	0.71
C33_2	CHANNEL	1460.85	0	00:50	16.52	0.27	0.60
C330	DUMMY	156.86	0	00:40			
C335	DUMMY	282.44	0	00:40			
C340	DUMMY	137.47	0	00:30			
C345	DUMMY	144.49	0	00:45			
C350	DUMMY	77.87	0	00:45			
C355	DUMMY	132.56	0	00:40			
C36	CHANNEL	1029.56	0	00:51	21.06	0.07	0.36
C360	DUMMY	178.38	0	00:45			
C370	DUMMY	121.61	0	00:40			
C375	DUMMY	343.06	0	00:40			
C380	DUMMY	203.42	0	00:45			
C4	CONDUIT	191.52	0	00:40	5.58	0.13	0.33
C40	CHANNEL	131.52	0	00:51	3.89	0.32	0.57
C41	CHANNEL	1773.07	0	00:50	9.06	0.34	0.60
C42	CHANNEL	826.85	0	00:48	21.27	0.42	0.62
C43	CHANNEL	850.80	0	00:48	10.46	0.52	0.74
C45	DUMMY	178.61	0	00:50			
C47	CHANNEL	675.48	0	00:47	11.67	0.19	0.49
C48	CHANNEL	678.41	0	00:52	>50.00	0.21	0.51
C5	CONDUIT	163.84	0	00:53	9.64	0.08	0.25
C500	DUMMY	374.15	0	00:45			
C52	CHANNEL	532.15	0	00:48	9.58	0.30	0.52
C54	CHANNEL	171.66	0	00:59	10.55	0.12	0.39
C55	CHANNEL	327.42	0	00:52	>50.00	0.24	0.57
C56	CHANNEL	703.30	0	00:39	14.11	0.03	0.22
C58	CHANNEL	944.93	0	00:42	12.90	0.27	0.62
C6	CONDUIT	52.80	0	00:40	13.04	0.40	0.44
C60	CHANNEL	479.61	0	00:49	8.34	0.59	0.78
C600	DUMMY	40.92	0	00:35			
C602	DUMMY	221.23	0	00:40			
C61	CHANNEL	296.21	0	00:45	12.21	0.02	0.17
C64	CHANNEL	236.53	0	00:52	9.41	0.03	0.24
C65	CHANNEL	347.27	0	00:47	9.50	0.23	0.52
C68	CHANNEL	161.95	0	00:51	9.30	0.01	0.16
C7	CONDUIT	35.21	0	00:41	4.67	0.09	0.25
C700	DUMMY	112.24	0	00:45			
C73	CHANNEL	131.79	0	00:48	6.56	0.32	0.64
C74_2	CHANNEL	333.31	0	00:45	6.32	0.21	0.49
C8	CHANNEL	2272.85	0	01:03	3.90	0.56	0.73
C80	CHANNEL	308.16	0	00:45	5.27	0.30	0.53
C800	DUMMY	121.81	0	00:50			
C805	DUMMY	401.96	0	00:40			
C810	DUMMY	128.79	0	00:45			
C83	CHANNEL	134.72	0	00:56	9.26	0.01	0.16
C88	CONDUIT	452.96	0	00:50	8.47	0.42	0.45
C89	CHANNEL	797.24	0	00:52	15.72	0.08	0.32
C9	CHANNEL	2274.70	0	01:07	3.88	0.56	0.73
C90	CHANNEL	141.66	0	00:41	11.61	0.02	0.19
C900	DUMMY	174.46	0	00:40			
C905	DUMMY	101.30	0	00:35			
C91	CHANNEL	925.22	0	00:52	21.59	0.10	0.36
C910	DUMMY	66.37	0	00:45			
C915	DUMMY	186.66	0	00:40			
C920	DUMMY	197.17	0	00:40			
C93	CHANNEL	205.40	0	00:41	12.94	0.13	0.41
C18	DUMMY	672.33	0	00:56			

****
Conduit Surcharge Summary
****

Conduit	Hours Full: Both Ends	Hours Full: Upstream	Hours Full: Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
C10_1	0.70	0.70	0.70	0.71	0.70
C12_2	0.89	0.89	0.89	0.91	0.89
C19	0.83	0.83	0.83	0.10	0.83
C225	1.78	1.78	1.78	1.79	1.78
C230	0.49	0.49	0.49	0.50	0.49
C28	0.45	0.45	0.45	0.46	0.45

Analysis begun on: Wed Feb 06 16:31:24 2019
Analysis ended on: Wed Feb 06 16:31:25 2019
Total elapsed time: 00:00:01



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City of Aurora, Colorado

2016 Zoning Map

March 8, 2016

Aurora Worth Discovering!

Legend

Buckley APZ
School District Boundary
E-470 Boundary Area
NE Plains Boundary Area
Airport Noise LDN
Airport Influence Area
Restricted Building Height

Zoning Classifications

P-1
B-1, comm
B-2
B-3
B-4, B-R
AOD,COD, comm/ off/showrm
day care
lodging
self storage, kennel
office
mixed use, mu-comm
mu residential
mu industrial
mu office
MOD, light ind
M-1
M-2, ind
M-3
R-A,R-E,R-O,low den
R-1, M-H, sfd
R-1A, sfa
R-2, mf, assisted lvg
FBAD
PD, ed-med
CCZD, core
CCZD, fringe
CCZD, periphery
well, other
fire station, esmt
water treatment
cemetery
church
hospital
recreation ctr
school
SIR
TOD
floodplain
landscape buffer
open space
golf course
park, greenbelt
park maintenance
pvt open,pvt park
park/school
Natural Area
NE PLAINS nep-resover
NE PLAINS, nep-frap
NE PLAINS, nep-gen
NE PLAINS, nep-i70
NE PLAINS, nep-mres
E-470, 470-acorp
E-470, 470-adist
E-470, 470-ilind
E-470, 470-r&c
E-470, 470-r&d
E-470, 470-rac
E-470, 470-rec
E-470, 470-rlow
E-470, 470-rmed
E-470, 470-rres

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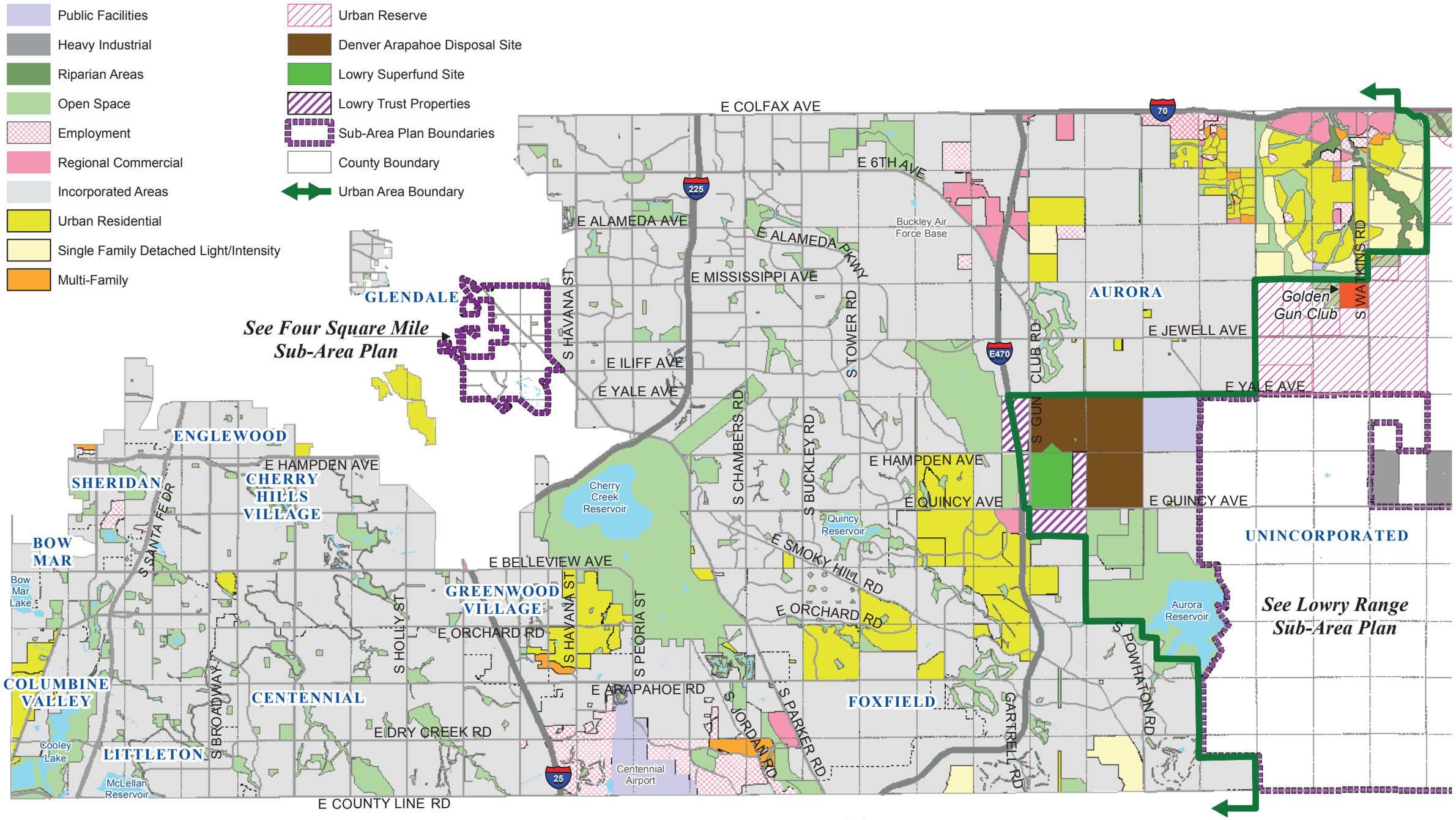

MAP 3 URBAN AREA LAND USE PLAN

ARAPAHOE COUNTY
COLORADO'S FIRST

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Last Updated:
May 2018

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