

**City of Colorado Springs
Water Resources Engineering Division**

**Stormwater Control Program
Inter-Governmental Agreement (IGA)
Annual Report of Estimated Expenditures
Calendar Year 2016**

Prepared for:
Pueblo County

Submitted by:
**City of Colorado Springs
Colorado Springs Utilities**



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Definitions and Acronyms

BMPs	Best Management Practices
Capital Project	A project for the construction of facilities and infrastructure undertaken primarily to provide stormwater control (e.g., stormwater detention ponds, or channel preservation, restoration, or stabilization), with a monetary value of at least \$50,000 and long life (at least five years), and which results in the creation of a fixed asset or a significant revitalization that upgrades and extends the useful life of a fixed asset.
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
City	City of Colorado Springs
CIP	Capital Improvements Program
CIP List	Capital Improvements Project List
CMP	Corrugated Metal Pipe
Construction	Activities including studying, land acquisition, planning, engineering, bidding, permitting, construction, construction management, project management, testing and commissioning.
DBPS	Drainage Basin Planning Study
DCM	City of Colorado Springs Drainage Criteria Manual
Drainage Operations Program	City of Colorado Springs Public Works Operations and Maintenance Division, Drainage Operations Program
Encumbered Funds	Monies which are appropriated and placed into a fund or account restricted (1) for payment of an authorized Stormwater Control Program activity and cannot be obligated or used for any other purpose, and (2) for payment of capital construction projects for which appropriate steps are being undertaken in a timely manner to advance towards physical construction.
Expenditures	Both actual expenditures and encumbered funds.
FCWFCGD	Fountain Creek Watershed Flood Control and Greenway District
IGA	Intergovernmental Agreement between Pueblo County and the City of Colorado Springs and its Utility Enterprise (entered as of April 27th, 2016)
MDBPS	Master Drainage Basin Planning Study
MS4	Municipal Separate Storm Sewer System

MS4 Permit	Authorization under the Colorado Discharge Permit System to discharge stormwater and from emergency firefighting activities from the municipal separate storm sewer system (MS4) owned and operated by the City of Colorado Springs
NOAA	National Oceanic and Atmospheric Administration
O&M	Operations and Maintenance
Parties	Parties to the IGA to include Pueblo County and the City of Colorado Springs and its utility enterprise, Colorado Springs Utilities.
PPRTA	Pikes Peak Rural Transportation Authority
SIMP	Stormwater Infrastructure Master Plan
Stormwater Capital Improvements Program (CIP)	An annually updated plan of expenditures for Capital Projects for stormwater control with estimated costs, sources of funding, and schedule of work over a five-year period, including those Capital Projects required by the IGA.
Stormwater Control Program	City and Utilities' program to control and mitigate the rate, volume, and quality of stormwater flows and associated erosion and sedimentation in or near the City, and includes a CIP, provisions for operation and maintenance of the City's stormwater facilities, compliance with the City's MS4 Permit, and protection of Utilities infrastructure from stormwater.
SSCC	Colorado Springs Utilities Sanitary Sewer Creek Crossing Program
TAC	Fountain Creek Watershed Flood Control and Greenway District, Technical Advisory Committee
TMDL	Total Maximum Daily Load
Utilities	Colorado Springs Utilities
WWE	Wright Water Engineers

Executive Summary

The City of Colorado Springs (City), Colorado Springs Utilities (Utilities), and Pueblo County (together referred to as the Parties) entered into an Inter-Governmental Agreement (IGA) on April 27, 2016. Pursuant to the terms of the IGA, the City and Utilities agreed to invest \$460 million dollars on the City's Stormwater Control Program over the next two decades. The IGA describes the responsibilities of the City and Utilities associated with these stormwater management and control efforts.

The purpose of this annual report is to provide appropriate details concerning the timing, amount, and nature of expenditures made by the City and Utilities during the prior year (2016) for Capital Projects included as part of the IGA, stormwater-related operations and maintenance activities, MS4 Permit compliance, and protection of waterways adjacent to Utilities infrastructure.

Reporting Requirements

Each year the City has committed to file with Pueblo County a report containing an estimate of expenditures on or before January 31 of the year following the expenditures, followed by the filing of a preliminary report on or before March 31, and with a final report to be filed on or before June 30 of that year based on audited financial information.

The following contains a summary of Stormwater Control Program activities and a report of estimated expenditures for the 2016 calendar year. Per the IGA, for the purpose of this report, "...expenditures mean both actual expenditures and encumbered funds. 'Encumbered funds' shall mean monies which are appropriated and placed into a fund or account restricted (1) for payment of an authorized Stormwater Control Program activity and cannot be obligated or used for any other purpose, and (2) for payment of capital construction projects for which appropriate steps are being undertaken in a timely manner to advance towards physical construction."

Summary of Estimated Expenditures for the 2016 Calendar Year

The City and Utilities are required collectively to invest a minimum of \$16.5 million per year on the City's Stormwater Control Program. The minimum expenditure requirement (actual and encumbered) has been met for the 2016 Calendar Year reporting period as outlined below. As of December 31, 2016 the City and Utilities have invested (through either expenditures or encumbrances) a total of \$25.8 million dollars on the City's Stormwater Control Program. This includes actual expenditures and/or annual encumbrances of:

- \$ 5.88 million associated with the City's Drainage O&M and MS4 program (Annual Encumbrance)
- \$ 14.98 million associated with the City's Stormwater Capital Projects program (Annual Encumbrance)
- \$ 4.44 million by Utilities Sanitary Sewer Creek Crossing Program (Actual Expenditure)
- \$ 0.48 million associated with outside consulting services (Actual Expenditure)

Expenditures for the 2016 Calendar Year

IGA Requirement	Minimum Total Expenditures	Average Annual Expenditures	Minimum Annual Expenditures
First Five Years (2016-2020)	\$100 Million	\$20 M	\$16.5 M/yr.

Claimed Expenditures (Actual Expenditures and Encumbered Funds)	2016
Drainage O&M/MS4 Program	\$ 5,883,812
Stormwater Capital Projects	14,982,145
Colorado Springs Utilities (SSCC Program)	4,439,239
Outside Consultant Services	484,272
Total	\$ 25,789,468

Summary of Stormwater Control Program Activities Undertaken

Program Dollars Spent

Stormwater Capital Projects	\$ 8,168,382
Colorado Springs Utilities (SSCC Program)	4,439,239
Drainage O&M	2,127,935
Stormwater MS4 Program	2,233,452
Outside Consultant Services	484,272
Total	\$ 17,453,280

Capital Projects Undertaken During the Reporting Period

- IGA Projects – A total of nine (9) IGA projects were scheduled to commence in 2016. This includes Emergency Projects and Grant Projects as outlined below. At the completion of the reporting period, the scheduled 2016 IGA projects have either been completed, are under construction, or are in the engineering phase of the project. A total of \$7,497,892 was spent on the nine identified IGA projects during the reporting period, with an additional \$670,490 invested on other Stormwater related projects during the period, for a total of \$8,168,382. The table below details project expenditures related to the IGA projects.

IGA CAPITAL PROJECTS		
IGA Project No.	Project Name	Actual Spent (\$)
2	Sand Creek Detention Pond #3	2,546,867
5	Downtown Drainage Improvements (Pikes Peak Avenue)*	0
1	Emergency Stormwater Projects (34 emergency/community projects)	1,174,863
7	Fairfax Tributary Detention Pond	23,524
0	FEMA Grant Projects (City Matching Funds)	3,442,679
26	Platte Stabilization Grant Match	241,679
8	King Street Detention Pond	16,190
6	USAFA Drainages (Monument Branch)	38,482
13	Water Quality Project (America the Beautiful Park)	13,608
Total IGA Projects		\$7,497,892

* Engineering completed by City Engineering; Construction to be completed in 2017

- Engineering Studies - The Water Resource Engineering Division began work on several significant and important engineering studies during the course of 2016, including the Cottonwood Creek Drainage Basin Planning Study (DBPS), the Falcon Estates Drainage Study, the Rustic Hills Master DBPS (MDBPS), and the City's Stormwater Infrastructure Master Plan (SIMP). The studies will be used to further develop capital lists, plan future maintenance and capital projects, and manage stormwater related infrastructure.

Utilities Sanitary Sewer Creek Crossing Program Activities

The Utilities Sanitary Sewer Creek Crossing (SSCC) Program activities consist of the systematic inspection, evaluation, repair and/or replacement of sanitary sewer pipes, and the erosion protection of various creek crossings structures in order to reduce the risk of spills, stoppages, and sanitary sewer overflows (SSO's) associated with pipelines that cross minor and major drainages.

The primary objective of the SSCC is the protection of utility infrastructure while at the same time providing the secondary benefits of stream stability, reduced erosion and sedimentation, and floodplain reconnection, resulting in improved water quality and storm flow attenuation.

There are approximately 370 Utilities sanitary sewer creek crossings in the major and minor drainages that have been evaluated and are on a re-inspection schedule. Since 2005 Utilities has stabilized, replaced or eliminated 136 sanitary sewer creek crossings and/or longitudinal pipelines.

In 2016, the SSCC Program included repair or rehabilitation of 15 creek crossings, at a preliminary cost of \$4,439,239.

Drainage Operations and Maintenance Activities Undertaken During the Reporting Period

During the 2016 calendar year, the Drainage Operations and Maintenance (O&M) Program completed the following activities:

- Completed inspections of all 90 publicly maintained regional and subregional detention ponds/facilities.
- Performed identified maintenance activities within 53 publicly maintained regional and subregional detention facilities (including debris removal, mowing, tree trimming, sedimentation removal and minor structure maintenance).
- Inspected 27 miles of concrete-lined and natural channels.
- Conducted maintenance activities through six (6) miles of concrete-lined and natural channels along the Templeton Gap floodway, Village Green Park, Hancock Expressway and Sand Creek (including concrete repairs, vegetation and debris removal, and minor sedimentation removal).
- Completed 2,573 separate storm sewer maintenance/vacuum-truck operations (including water quality vault cleaning, storm sewer pipe cleaning and storm sewer blockage removal).
- Repaired or replaced 2,700 linear feet of stormwater conveyance pipe.
- Dedicated eight (8) members of the Public Works Operations and Maintenance Division street sweeping group (including 6 existing operators and 2 new hires) to the Water Resources Engineering Divisions Drainage Operations and Maintenance Program and leased eight (8) new street sweepers to be operated by the street sweeping team. The

program reduces the amount of trash, sediment, debris and pollutants entering City waterways.

2016 MS4 Permit Compliance Activities

The City's MS4 Permit requires the implementation and operation of several specific programs and program components, including public outreach activities, commercial/residential management, illicit discharge management, construction site management, yearly reporting and compliance tracking, wet and dry weather monitoring, and the municipal facilities runoff control program. Several highlights of program compliance are described below, with additional information located in Section 4 of this report:

- Illicit Discharge Detection – Response to 64 Illicit Discharge calls.
- Public education activities to promote proper management and disposal of potential pollutants conducted during the reporting period included:
 - Presentations provided (i.e., schools, community events): 102
 - Number of students and citizens reached (i.e., schools, community events): 3,429
 - Regional Stormwater Advertising Campaign reaching multiple counties and jurisdictions.
 - Educational materials distributed: 5,875 brochures and 11,625 school related items.
- Industrial facilities program education and outreach activities during the reporting period included:
 - Distribution of over 4,000 brochures promoting proper management of industrial sites regarding stormwater quality and industrial best management practices to local auto body and repair facilities, oil recycling facilities, carwash locations, carpet cleaning operations, and concrete contractors.
- Construction Site Inspections:
 - Total of inspections: 5,319 with 322 active construction sites inspected.
- Development and Erosion Control/Development Review:
 - Completed reviews of over 3,000 drainage related development submittals
 - Completed internal training on the following topics:
 - Overall Drainage Criteria Manual (DCM) & MS4 requirements
 - DCM Four-Step Process to minimize adverse impacts of urbanization
 - Permanent Best Management Practices (BMP) engineering review
 - Definitions and criteria of development and redevelopment
 - City of Colorado Springs document management system
 - Development and erosion control/development review philosophy
 - Development and erosion control/development review techniques
 - Construction BMP review
 - Rudimentary channel hydraulics

Other Relevant Activities Undertaken During the Reporting Period

- DCM Updates - The Water Resources Engineering Division joined with the Fountain Creek Watershed Flood Control and Greenway District (FCWFCGD) in an effort to develop updated hydrologic criteria including recommendations for the adoption of the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 Precipitation

Frequency and updated rainfall distribution curves. The result of the effort will provide data specific to the Colorado Springs and the FCWFCGD area.

- Grant Applications - The Water Resources Engineering Division applied for two significant grant opportunities utilizing the Colorado Department of Transportation's (CDOT) Permanent Water Quality Mitigation Pool grant program:
 - US-24/Colorado Ave Basins: \$2,750,000: Grant approval received August 15, 2016.
 - Fairfax Tributary Basin: \$1,992,302: Anticipated award January 2017.
- City and Utilities participation in the FCWFCGD District Board, Technical Advisory Committee, Monetary Mitigation Fund Committee, and Citizens Advisory Group.
- City and Utilities participation in the FCWFCGD sponsored *Monument Creek Watershed Restoration Master Plan, October 3, 2016.*

1.0 Introduction

The City of Colorado Springs (City), Colorado Springs Utilities (Utilities), and Pueblo County (together referred to as the Parties) entered into an Inter-Governmental Agreement (IGA) on April 27, 2016 committing the City and Utilities to invest \$460 million dollars over the next two decades on stormwater management and control activities. The IGA describes the City's responsibilities relative to the provision of stormwater services, including a commitment to construct certain identified capital projects.

The City of Colorado Springs Stormwater Program has begun an extensive and significant reorganization, as described below. As part of the reorganization efforts, the Stormwater Program Division has been renamed as the Water Resources Engineering Division (herein referred to as the City's Water Resources Program or Water Resources Division).

The purpose of this annual report is to provide appropriate details concerning the timing, amount, and nature of expenditures made by the City and Utilities during the prior year (2016) for Capital Projects included as part of the IGA, stormwater-related operations and maintenance activities, MS4 Permit compliance, and protection of waterways adjacent to Utilities infrastructure.

1.1 Reporting Requirements

The IGA requires the City to file with Pueblo County, on or before January 31 of the year following the expenditures, a report containing an estimate of the expenditures on the City's and Utilities' Stormwater Control Programs. The IGA also specifies the minimum annual, average annual, and minimum total expenditures, which must be met or exceeded each year. This Estimated Expenditures report is to be followed by the filing of a Preliminary Expenditures report on or before March 31, with a Final Expenditure report to be filed on or before June 30 of that year. The Final Expenditures report will be based on audited financial information.

The following contains a summary of Stormwater Control Program activities and report of estimated expenditures for the 2016 calendar year. Per the IGA, for the purpose of this report, "...expenditures mean both actual expenditures and encumbered funds. 'Encumbered funds' shall mean monies which are appropriated and placed into a fund or account restricted (1) for payment of an authorized Stormwater Control Program activity and cannot be obligated or used for any other purpose, and (2) for payment of capital construction projects for which appropriate steps are being undertaken in a timely manner to advance towards physical construction."

1.2 Background

The City of Colorado Springs is located in El Paso County and the Fountain Creek watershed. The boundaries of the City covers 195 square miles, making Colorado Springs the largest municipality in Colorado by area. With this extensive area, and the significant elevation changes found therein, comes a significant stormwater challenge as the City oversees runoff from 32 different subwatersheds within the city limits.

City Water Resources Program Reorganization

In 2016, the City created a separate dedicated Water Resources Division within the City's Public Works Department. As part of this effort, City staff dedicated to stormwater work, as expressed in full time equivalents (FTEs), increased from 28 FTEs present at the end of 2015 to 52.25 FTEs at the end of 2016, and are planned to increase further to a total of 66.25 FTEs by the end of 2017. Most significantly, included in the additional staff is the new Water Resources Division Manager, three senior program leaders, and increased numbers of inspectors, maintenance and operations personnel, and engineers. Some positions have been filled by re-purposing current staff, while most continue to be new hires. The organizational chart below describes the location of the new Water Resources Engineering Division within the Public Works Department.

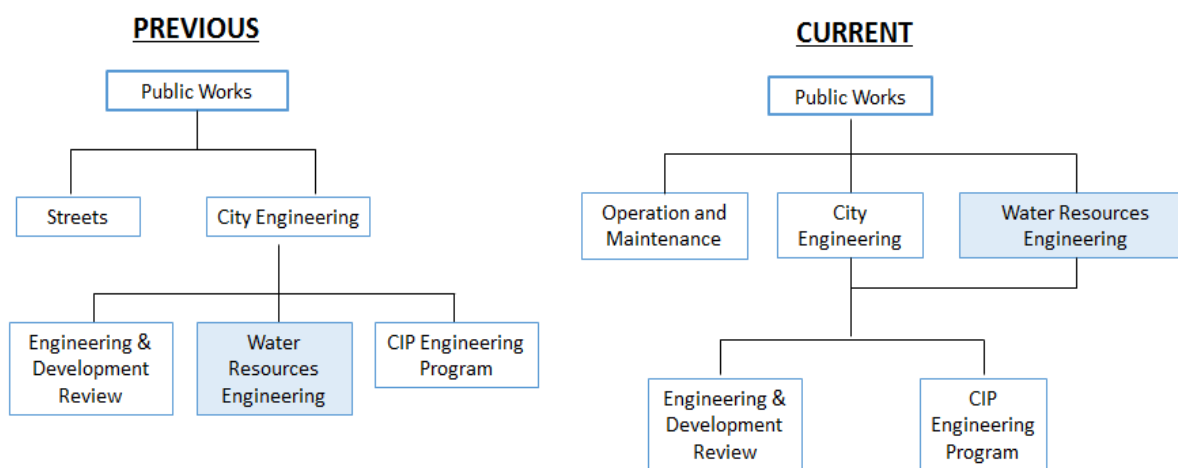


Figure 1: Location of new Water Resources Engineering Division in the reorganized Public Works Department

The overall Water Resources Division Program consists of three primary functions:

- Operation and Maintenance (O&M) of current drainage and water quality infrastructure;
- Engineering and construction of new stormwater capital projects to address flooding; erosion, and water quality concerns;
- Management of activities required by the MS4 permit.

Until late in 2015 these three functions were performed by three separate groups within the City Public Works Department. O&M was performed by the Streets Division; capital projects were delivered by the Engineering Division's Capital Improvement Program; and MS4 activities were managed by several individuals in City Engineering.

The City's new Water Resources Division consolidates most of the core functions for MS4 permit compliance. The previous City Streets Division has been renamed the Operation and Maintenance Division to more accurately reflect the division's function and a drainage infrastructure maintenance group has been created within that division. Delivery of large stormwater capital projects will continue to be the responsibility of the City Engineering Division's Capital Improvement Program (CIP), although a stormwater capital projects team has been created for capital projects delivery within the CIP Program and all stormwater projects are coordinated through the Water Resources Divisions Stormwater Projects Delivery group.

MS4 permit compliance activities have been reorganized under three groups:

- Water Quality
- Development and Erosion Control/Development Review
- Stormwater Projects Delivery

The Water Quality group is responsible for implementing the municipal, residential, commercial/industrial, illicit discharge, monitoring, construction site inspection, and public education Best Management Practices (BMP) activities. The Development and Erosion Control/Development Review group is responsible for implementing the development and construction review program, including development submittal review, drainage basin planning, and erosion control-related construction site inspections. The Stormwater Projects Delivery group is responsible for coordinating O&M, community and local project, and capital project delivery being performed within the Water Resources Division and other divisions, and for stormwater management planning.

The organizational chart below illustrates the Water Resources Division and coordination with other divisions within Public Works.

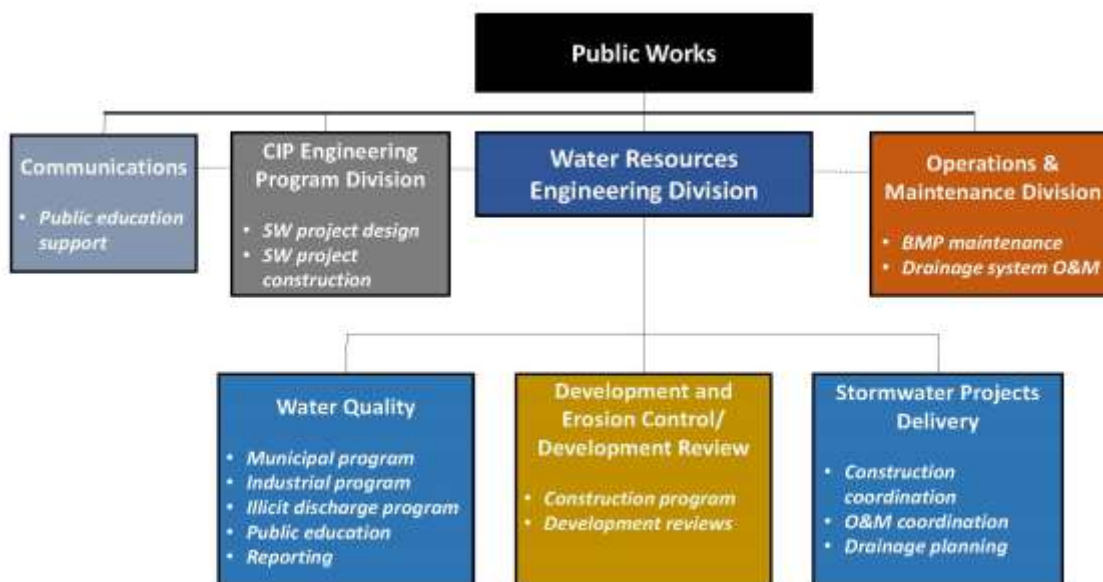


Figure 2: Water Resources Engineering Division Organizational Chart

City Stormwater Capital Improvement Projects Program

The City's Capital Improvement Program (CIP) consists of the staff, budget, and project control systems to plan, engineer, and construct stormwater infrastructure projects. As stated above, the City's Stormwater Projects Delivery Program consists of large capital projects (delivered through the CIP Program), smaller community and local projects (delivered through the MS4 Compliance Program Stormwater Projects Delivery Group), grant projects, and others.

The IGA calls out specific projects to be completed over the next 20 years (2016-2035). This list is referred to as the Capital Improvements Project List (CIP List). The projects in the CIP List are delivered through the CIP Program, as well as the MS4 Compliance Program Stormwater

Projects Delivery Group. The City worked closely with Wright Water Engineers (WWE), representing Pueblo County, in prioritizing a significant portion of the CIP List. Over 70 projects were considered in detail by City representatives in collaboration with WWE, with 9 projects included in the 2016 Capital Improvements Project List (see Attachment A), 25 projects included in the 5-year CIP List (2016-2020), 37 projects included in the 10-year CIP List (2016-2025), and a total of 71 projects included in the overall 20-year CIP List (2016-2035). The 37 projects included in the first 10-year CIP List include similar numbers of channel improvement, detention basin, and channel grade control projects, but channel improvement projects involve the largest capital investment as represented in the graphic below.

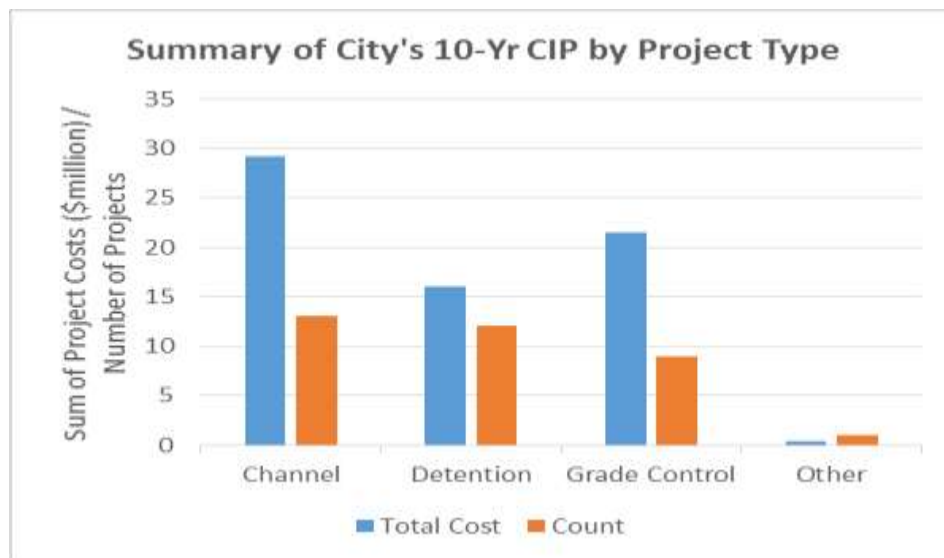


Figure 3: Summary of City's 10 -Year CIP by Project Type

In parallel with the City's stormwater capital program efforts, Utilities has an ongoing effort to construct stormwater projects to protect stream channels and floodplains adjacent to infrastructure crossings. Utilities' Sanitary Sewer Creek Crossing (SSCC) Program implements capital projects with a total average expenditure of approximately \$3 million annually. These are projects that are specifically targeted to protect waterways near facilities that are in danger of failing due to stormwater related events or other impacts (e.g., buried sanitary sewers that cross creeks that have eroded, exposing the sanitary sewers to potential failure). Utilities' stream crossing projects often have significant stormwater protection features.

Utilities SSCC Program was established to systematically inspect, evaluate, prioritize, repair and/or replace Utilities infrastructure that cross or extend adjacent to minor and major drainages, and to provide long-term creek stabilization for crossings and adjacent longitudinal sewer systems. The objective of the SSCC Program is to provide the benefits of stream stability, reduced erosion and sedimentation, and floodplain reconnection, resulting in improved water quality and storm flow attenuation while simultaneously providing protection of utility infrastructure. Utilities and City staff closely coordinate their efforts to provide maximum benefits to meet the overall Water Resources Program objectives.

Public Outreach and Communication

The City has reviewed its public education, outreach strategies, and programs related to the requirements of the MS4 permit, the need to reach out to the local regulated community, and

the City's desire to promote the benefits of improved water resources management to its citizens. Strategies and tactics were identified for an overall communication strategy, public education, public outreach (e.g., school programs, festivals, media outreach, brochures, social media), and public involvement related to implementation of capital projects. A more comprehensive summary of the City's public education and outreach strategy can be found in Appendix C of the City's Stormwater Program Implementation Plan available on the City's website (<https://www.coloradosprings.gov/stormwater/page/stormwater-program-implementation-plan>).

City Stormwater Program Budget

As outlined in the IGA, the City and Utilities have committed to invest an average of \$20 million per year on the stormwater program (core MS4 requirements, Drainage O&M, and stormwater capital projects) for the first 5 years beginning in 2016. City and Utilities budgets will be escalated according to the IGA with a total commitment of \$460 million to be spent between 2016 and 2035.

As detailed below, a significant portion of the operations budget (approximately \$7 million) is dedicated to labor and the ongoing maintenance of stormwater infrastructure.

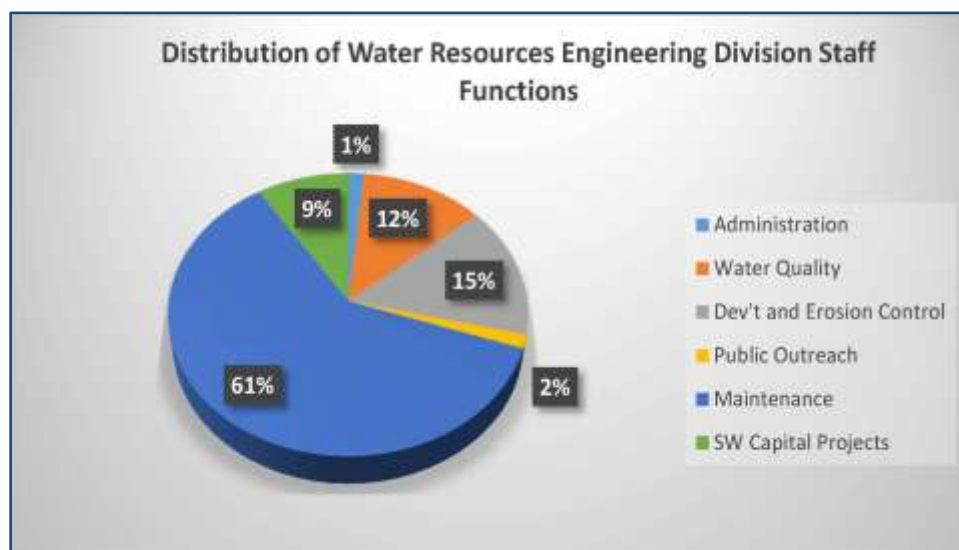


Figure 4: Distribution of Water Resources Engineering Division Staff Functions

City Stormwater Program Implementation Plan

The City has developed a Stormwater Program Implementation Plan (SPIP) as the City's roadmap for revitalizing its stormwater infrastructure and operations. The intent of the SPIP and the plan's three Appendices is to describe how the City intends to create and structure its new stormwater program. It sets goals and objectives and lays out a foundation for transforming the City stormwater program. It does not, however, describe the details of each component of the City's improved stormwater program; these details are being formulated by the new Water Resources Division staff with the help of outside experts. These details have been and will continue to be formalized in a variety of internal documents. A copy of the City's Stormwater Program Implementation Plan can be found on the City's website (<https://www.coloradosprings.gov/stormwater/page/stormwater-program-implementation-plan>).

2.0 IGA Compliance Activities Undertaken During the Reporting Period

Section III of the IGA outlines special provisions agreed to by the IGA Parties. The following provides a summary of compliance activities taken by the City and Utilities during this reporting period related to Section III of the IGA.

Paragraph III.A - Stormwater Expenditures

Paragraph III.A(1) - Expenditures by the City and Utilities

For the 2016 calendar year, the City and Utilities were required to expend a minimum of \$16.5 million dollars on its Stormwater Control Program.

- As of December 31, 2016, the City and Utilities have invested (through either expenditures or encumbrances) a total of \$23.8 million dollars on the City's Stormwater Control Program. This includes expenditures and encumbrances of:
 - \$ 5.88 million associated with the City's Drainage O&M and MS4 program (Annual Encumbrance)
 - \$ 14.98 million associated with the City's Stormwater Capital Projects program (Annual Encumbrance)
 - \$ 4.44 million by Utilities Sanitary Sewer Creek Crossing Program (Actual Expenditure)
 - \$ 0.48 million associated with outside consulting services (Actual Expenditure)
- A more detailed summary of estimated expenditures for the 2016 calendar year is provided in Section 3.0 of this report.

Paragraph III.A(2) - Annual Report of Expenditures

The IGA requires that in order to verify whether the City's and Utilities' expenditures on the Stormwater Control Program meet or exceed the requirements of paragraph III.A(1), each year the City and Utilities shall file with Pueblo County a report containing an estimate of expenditures on or before January 31 of the year following the expenditures, followed by the filing of a preliminary report on or before March 31, and with a final report to be filed on or before June 30 of that year based on audited financials. These reports are to provide appropriate details concerning the timing, amount and nature of all such expenditures made by the City and Utilities during the prior year for Capital Projects, O&M, MS4 Permit compliance, protection of Utilities infrastructure from stormwater, and any other relevant categories.

- This report serves to document the estimated expenditures for the 2016 calendar year and provide a summary of the associated Stormwater Control Program activities.
- A subsequent preliminary report will be filed on or before March 31, 2016, with a final report to be filed on or before June 30, 2016 based on audited financials.

Paragraph III.A(5)d - City and Utilities Funding Sources

Paragraph III.A(5)d. states in part that the City may include up to \$3.2 million dollars in actual third-party grants as contemplated in the actual 2016 budget in fulfillment of its financial obligations provided that the City shall expend an additional amount equivalent to such grant funding within the first ten years.

- As detailed further in Section 3.0 of this report, the City was able to meet the minimum and average annual expenditure for the 2016 reporting year required in the IGA without the inclusion of the \$3.2 million dollars provided by third-party grants as originally contemplated in the City's 2016 budget.
- Based on this, the City will not be required to expend an additional amount in future years related to the contemplated 2016 grant funding for fulfillment of its financial obligations.

Paragraph III.B - Stormwater Capital Improvement ProgramParagraph III.B(1) - Capital Project Lists

Paragraph III.B(1) states in part that Utilities shall reimburse Pueblo County \$50,000 within 15 days of the effective date of the IGA Agreement toward the County's cost of retaining its outside Engineering Representatives for assisting the Parties in developing the list of Capital Projects identified in Exhibits A, B, and C of the IGA.

- A check dated May 12, 2016 in the amount of \$50,000 payable to Pueblo County was delivered by Utilities to the Pueblo County Planning and Development Department on May 12, 2016.

Paragraph III.B(2) - Identification of Capital Projects

Paragraph III.B(2)a. states that beginning with the 2016 calendar year and extending through the Term of the IGA Agreement, the Engineering Representatives of the Parties shall meet on or before March 31 of each year in order to prepare, review, discuss and update, as necessary, a five-year CIP for the City and a three-year CIP for Utilities, which shall include a list of Capital Projects, the construction of which will commence in the upcoming years.

- Staff from the City, Utilities, the City's consultant team, and WWE met on four occasions prior to March 31, 2016 (including November 19, 2015, December 2, 2015, December 16, 2015, and March 30, 2016) to (a) settle upon a master list of capital stormwater projects, and (b) evaluate prioritization of projects on the resulting lists. These activities included completion of the five-year CIP for the City and a three-year CIP for Utilities provided in the April 2016 IGA.

Paragraph III.B(2)c. states that Utilities shall reimburse Pueblo County up to \$10,000 each year (commencing in 2016) to defray the actual cost incurred by Pueblo County of using any outside engineering consultants to conduct these yearly reviews and any associated inspections, payable within 30 days of Utilities' receipt of a statement from Pueblo County evidencing such costs.

- For 2016, a statement from Pueblo County evidencing such costs for reimbursement was not received by Utilities.

Paragraph III.B(4) – Contingency for Stormwater Emergencies

Paragraph III.B(4) states that should an unanticipated emergency stormwater event occur, such as a flood, which event causes or threatens to cause property damage or create a threat to human health or safety which must be addressed in an immediate manner utilizing funds previously allocated for the listed Capital Projects, the City and Utilities shall promptly notify Pueblo County of such situation, and the Engineering Representatives of the Parties shall confer and reach agreement promptly on any required postponement and modification to the stormwater construction priorities in the CIP.

- No unanticipated emergency stormwater events as outlined in the above paragraph occurred during the reporting period.

Paragraph III.C – Regional Cooperation on Fountain Creek

Paragraph III.C states in part that the Parties are to coordinate and cooperate in regional initiatives designed to address such concerns, including:

(1) By coordinated support of the initiatives undertaken by the Fountain Creek Watershed, Flood Control and Greenway District ("FCWFCGD") to obtain federal and state assistance for stormwater, flood control and water quality projects within the Fountain Creek basin, including federal and state grants;

- The City and Utilities have worked with, and gained the support of, the FCWFCGD for the following grant opportunities:

- US-24/Colorado Ave. Basins – Colorado Department of Transportation (CDOT) Water Quality Mitigation Pool Grant Application: \$2,750,000

The project involves the installation of a proposed extended detention basin to be located adjacent to the south bank of Fountain Creek on the current Timber Lodge cabins property, just north of Ridge Road. The basin will provide water quality treatment and detention for significant areas of CDOT right-of-way and previously developed property within the City of Manitou Springs, City of Colorado Springs, and El Paso County. The project is consistent with the *Upper Fountain Creek and Cheyenne Creek Flood Restoration Master Plan, June 26, 2015* and the *US24 West Environmental Assessment and Section 4(f) Evaluation, May 2012*. The grant application was approved and awarded on August 15, 2016.

- Natural Resource Conservation Service (NRCS) Regional Conservation Partnership Program – Grant opportunity pursued by Utilities on behalf of FCWFCGD with NRCS through the Watershed and Flood Prevention Program. This and other grant opportunities were pursued and supported by Utilities through in-kind contributions to build successful partnerships and leverage resources.
- Colorado Water Conservation Board, Water Supply Reserve Account funding – Utilities provided support to the FCWFCGD in the development of grant applications for two studies on Fountain Creek, both of which were approved to receive state and regional funding through the Water Supply Reserve Account program. These studies include the Watershed Assessment of River Stability and Sediment Supply for the mainstem of Fountain Creek, and the Evaluation of Fountain Creek Flood Control Alternatives. Additionally, Utilities provided in-

kind contributions in the implementation of both studies through staff technical support.

- (2) *By regional land use planning efforts where feasible and practicable;*
- The City and Utilities continued to participate with the FCWFCGD in the development of the *Monument Creek Watershed Restoration Master Plan, October 3, 2016*.
 - The City and Utilities are active participants in the FCWFCGD Board of Directors, and the FCWFCGD Technical Advisory Committee (TAC) and Monetary Mitigation Fund Advisory Committee (MMFAC). Respectively, the TAC and MMFAC provide input to the Board of Directors regarding technical matters including land use policies, land use project applications, and funding priorities for project work on Fountain Creek.
 - City and Utilities representatives are currently participating in the review and comment of the upcoming *FCWFCGD Drainage Criteria Manual and Flood Plain Development Policy* through participation in the TAC, with partial funding support provided by the City.
- (3) *By regional water quality improvement and water quality regulatory initiatives, as determined appropriate and subject to each Party's reservation of its regulatory authority.*
- The City has supported the FCWFCGD in the development of an area specific 24-hour storm distribution to be used in hydrologic design criteria and replace the current NRCS 24-Hour Type II Design Storm Distribution outlined in the current City of Colorado Springs Drainage Criteria Manual (DCM).
 - The City and Utilities is participating through the Arkansas Fountain Coalition for Urban River Evaluation (AF CURE) to develop an EPA Watershed Based Plan (WBP) to address E. coli concentrations in stream segments listed as “impaired” in the CDPHE Regulation #93 (303 d list). Participation has included cash match and in-kind technical support in the form of data collection, analysis, stakeholder coordination, and plan development. This effort will result in a Fountain Creek WBP that presents solutions for reducing nonpoint source pollutant loadings that contribute to E. coli water quality impairments and outline how these solutions can be implemented.
 - The City began engineering and construction of the Monument Creek Channel Stabilization project. The project is located on Monument Branch, a tributary of Monument Creek, between North Gate Boulevard and Interquest Parkway. This project will restore and stabilize the creek by constructing drop structures and installing flood mitigation measures. The project was identified as a high priority project within the *Monument Creek Watershed Restoration Master Plan, October 3, 2016* and is a joint effort between the City, Utilities, the United States Air Force Academy, CDOT, and the FCWFCGD.
- (4) *By coordinated support of acquisition of land or conservation easements by the FCWFCGD or other entities to preserve or enhance the Fountain Creek corridor below the City and through the City of Pueblo.*
- No known activities were conducted by the FCWFCGD or other entities during the reporting year.

- (5) *By exploring opportunities for such coordination and cooperation on these Fountain Creek initiatives beyond the term of the IGA Agreement.*
- City and Utilities representatives are currently participating in the review of a Watershed Assessment of River Stability and Sediment Supply (WARSSS) assessment of lower Fountain Creek through participation in the FCWFCGD TAC. Completion of the WARSSS assessment will lead to specific project improvements to the Fountain Creek Restoration Master Plan.
 - The City is in the process of developing a Stormwater Infrastructure Master Plan (SIMP) which will incorporate information from the *Upper Fountain Creek and Cheyenne Creek Flood Restoration Master Plans* and the *Monument Creek Watershed Restoration Master Plan*, which were prepared in a joint effort with the FCWFCGD.

Paragraph III.D - Payments to FCWFCGD

Paragraph III.D(1) – 2016 Contribution to FCWFCGD

Paragraph III.D(1) states that within 30 days of the execution of the IGA Agreement, Utilities shall contribute to the FCWFCGD or its Fountain Creek Watershed Water Activity Enterprise ("Enterprise") the sum of \$125,000 to be used for expenses of FCWFCGD for the 2016 year as approved by the Board of Directors of the FCWFCGD, including but not limited to the contribution of match funds to complete the CWCB approved study entitled "Evaluation of Flood Control Alternatives for the Fountain Creek Corridor," which study encompasses an evaluation of both a dam and side detention facilities on Fountain Creek.

- A check dated May 12, 2016 in the amount of \$125,000 payable to the FCWFCGD was delivered by Utilities to the FCWFCGD Executive Director on May 19, 2016.

Paragraph III.D(2) – Commencement of Payments under Condition 6 of the SDS 1041 Permit

Paragraph III.D(2) states that within 30 days of the execution of the IGA Agreement, Utilities shall, on behalf of the SDS Participants, make the first annual payment (together with the additional annual indexing amounts) due under Condition 6 of the SDS 1041 Permit for the purposes stated therein to the FCWFCGD or its Enterprise in the amount of \$9,578,817.00. The remaining annual payments shall be made on or before January 15 of the years 2017, 2018, 2019 and 2020 respectively.

- A check dated May 19, 2016 in the amount of \$9,578,817.00 payable to the Fountain Creek Watershed Water Activity Enterprise was delivered by Utilities to the FCWFCGD Executive Director on May 19, 2016.

Paragraph III.D(3) – Cooperation on Future Funding

Paragraph III.D(3) states that to ensure long-term funding of FCWFCGD's annual operating budget, the City, Utilities and Pueblo County will work cooperatively and in good faith to establish a proportional formula by which each of the Parties and the other participating stakeholders in the FCWFCGD, will agree to contribute funds to ensure the long-term funding of FCWFCGD's operating budget.

- On August 15, 2016, a resolution was passed by the FCWFCGD Board of Directors (FCWFCGD Resolution #2016-04-General) which established a proportional formula by which each of the Parties and the other participating stakeholders in the FCWFCGD agreed to contribute funds for the FCWFCGD's 2017 operating budget. Representatives

of the City, Utilities and Pueblo County took part in the resolution through participation on the FCWFCD Board of Directors and TAC.

Paragraph III.E - Contributions to Protection of Pueblo Levees

Paragraph III.E(1)

Paragraph III.E(1) states in part that Utilities shall contribute to the City of Pueblo or its Stormwater Enterprise funds not to exceed \$1 million a year for 3 years (\$3 million total). The first payment shall be made within 30 days of the execution of the IGA Agreement. Subject to paragraph III.E.2, the second payment shall be made on January 1, 2017; and the third payment on January 1, 2018.

- A check dated May 19, 2016 in the amount of \$1,000,000 payable to the City of Pueblo was delivered by Utilities to the City of Pueblo Attorney's Office on May 26, 2016.

Paragraph III.E(2)

Paragraph III.E(2) states in part that the provision of the second and third payments (January 1, 2017 and January 1, 2018) shall be contingent upon the production by the City of Pueblo of documentation evidencing that a substantial portion of the combined prior year's funding has been expended for the allowed purposes.

- Utilities has received documentation from the City of Pueblo evidencing that a substantial portion of the combined 2016 funding has been expended for the allowed purposes.

Paragraph III.F - Grant of DCM Variances

Paragraph III.F states in part that to the extent the granting of DCM variances is not precluded by the EPA or CDPHE, the City shall provide Pueblo County with notice of, and an opportunity to comment upon, any DCM variance request before a decision is made on the variance request.

- Two minor DCM variance requests were received by the City following the execution of the IGA agreement. The requests (the first related to the requested use of an underground water quality vault, and the second related to slight increases of maximum allowable headwater to depth ratio and flow velocities in a culvert replacement project) were submitted to the Pueblo County Engineering Department on October 10, 2016 and December 15, 2016 to allow the County the opportunity to review and comment on the requests. The first request was submitted as an alternative additive means of achieving water quality requirements on a project site. The second request was related to slight increases in headwater to depth ratios (increase from criteria of 1.5 to 1.9 and 2.0) for two culverts being replaced, and an increase in flow velocity from criteria of 15 feet/second to 23.7 and 24.3 feet/second due to existing site constraints. Larger rock riprap outlet protection was designed at the outfalls to accommodate the higher design velocities.

Neither variance request resulted in an adverse impact to water quality or an increase of peak flows into Fountain Creek. A response from the Pueblo County Public Works Director was received on October 18, 2016 related to the first request. The City took the Pueblo County response under advisement and requested that the applicant revise the request based on Pueblo County's comments. The County did not provide comments on the second variance request.

3.0 Estimated Expenditures for the 2016 Calendar Year

The following contains a report of estimated expenditures for the 2016 calendar year. Per the IGA, for the purpose of this report, "...expenditures mean both actual expenditures and encumbered funds. 'Encumbered funds' shall mean monies which are appropriated and placed into a fund or account restricted (1) for payment of an authorized Stormwater Control Program activity and cannot be obligated or used for any other purpose, and (2) for payment of capital construction projects for which appropriate steps are being undertaken in a timely manner to advance towards physical construction." Further, the IGA states: The City and Utilities combined expenditures shall comply with the minimum total expenditures and minimum average annual expenditure during each five-year period. For the first-five year period (2016-2020), the minimum annual expenditure requirement is \$16.5 million, and the average annual expenditure requirement is \$20 million for an overall expenditure of \$100 million for the period between 2016 and 2020. In addition, the city has committed to complete at least the projects included in the Capital Projects list identified per the agreement by December, 31, 2035.

The minimum expenditure requirement (actual and encumbered) has been met for the 2016 calendar year reporting period. As of December 31, 2016, the City and Utilities have invested (through either expenditures or encumbrances) a total of \$25.8 million dollars on the City's Stormwater Control Program.

Expenditures for the 2016 Calendar Year

IGA Requirement	Minimum Total Expenditures	Average Annual Expenditures	Minimum Annual Expenditures
First Five Years (2016-2020)	\$100 Million	\$20 M	\$16.5 M/yr.
Claimed Expenditures (Actual Expenditures and Encumbered Funds)			2016
Drainage O&M/MS4 Program (Encumbered Funds)		\$	5,883,812
Stormwater Capital Projects (Encumbered Funds)			14,982,145
Colorado Springs Utilities (SSCC) (Actual Expenditures)			4,439,239
Outside Consultant Services (Actual Expenditures)			484,272
Total		\$	25,789,468
Actual Expenditures Only			2016
Drainage O&M		\$	2,127,935
Stormwater MS4 Program			2,233,452
Stormwater Capital Projects			8,168,382
Colorado Springs Utilities (SSCC Program)			4,439,239
Outside Consultant Services			484,272
Total		\$	17,453,280

Additional Unclaimed Stormwater Expenditures

Other Capital Project Stormwater/Channel Related Work	\$3,644,233
(Excluded expenditures related to PPRTA and roadway/bridge construction or maintenance projects per IGA paragraph III.A(5)b.)	

Capital Project Summary of Expenditures

Of the actual total listed above, \$8,168,382 has been invested on Capital Projects, of which \$7,497,892 has been invested on nine IGA projects, and \$670,490 has been invested on other Stormwater related projects.

IGA CAPITAL PROJECTS		
IGA Project No.	Project Name	Actual Spent (\$)
2	Sand Creek Detention Pond #3	2,546,867
5	Downtown Drainage Improvements (Pikes Peak Avenue)*	0
1	Emergency Stormwater Projects	1,174,863
7	Fairfax Tributary Detention Pond	23,524
0	FEMA Grant Projects (City Matching Funds)	----
	2015 May Storm-Rockrimmon Channel	10,090
	2015 May Storm-Pebblewood	620,205
	2015 May Storm-Additional Projects	411,358
	FEMA DR-4229 May-July Grant Match	1,789,124
	NRCS 4229 South Douglas-Autism Grant Match	115,000
	NRCS 4145 North Douglas Design	14,440
	NRCS 4145 Chuckwagon Design	35,619
	NRCS 4229 Camp Creek- Design & GOG Grant Match	446,843
26	Platte Stabilization Grant Match	241,679
8	King Street Detention Pond	16,190
6	USAFA Drainages (Monument Branch)	38,482
13	Water Quality Project (America the Beautiful Park)	13,608
Total IGA Projects		\$7,497,892

* Engineering completed by City Engineering; Construction to be completed in 2017

Other Stormwater Capital Projects	
Project Name	Actual Spent (\$)
Camp Creek Flood Mitigation	208,663
Drainage Criteria Manual Updates	54,745
Emergency Drain Repair High Priority	159,322
High Priority CIP Projects and Grant Match	43,139
Miscellaneous Studies	34,958
Project Scoping and Definition	
Stormwater Design High Priority	93,208
Stormwater Improvements	76,455
Total Non-IGA Stormwater Capital Projects	\$670,490

Colorado Springs Utilities SSCC Program Activities		
Work Order No.	Project Name	Actual Spent (\$)
2829555	Monument Creek Stabilization near Fillmore St., Phase I	244,869
2954537	Monument Creek near Fillmore- Phase II Stream Stabilization & Infrastructure Protection	685,270
2954719	Little Fountain Creek at CSR Wellfield Road Culvert Replacement	127,618
2954700	Little Fountain Creek at CSR Zero Discharge Pipeline Scour Protection Project	83,417
2952571	South Douglas Creek at Sinton Pond Sanitary Sewer Realignment & Stream Stabilization	167,036
3000322	North Douglas Creek Stabilization Upstream of Mark Dabling Blvd.	424,894
3001115	Sand Creek at East Fork Confluence Stream Stabilization	763,775
3073340	Monument Branch Channel Restoration Phase-I	350,000
2785897	Clear Spring Ranch Sludgeline Bank Protection - Design	70,084
2973829	Monument Creek Stream Stabilization Upstream of Pikeview - Design	104,954
2972334	West Fork Sand Creek Stream Stabilization - Design	225,772
2970837	Cottonwood Creek Upstream of Duryea - Revegetation Contract	52,831
2913735	Monument Creek Stabilization Phase I - Revegetation Contract	22,657
2991979	North to North Transfer Line Stabilization Project (O&M)	63,062
2899031	Little Fountain Creek Project (Multi Service Capital)	1,053,000
Total Utilities SSCC Program 2016 Project Costs to Date:		\$4,439,239

4.0 Stormwater Control Program Activities Undertaken in 2016 Calendar Year

Capital Projects Undertaken During the Reporting Period

FEMA/ GRANT PROJECTS (IGA PROJECT #0)

Projects arising from the 2013 and 2015 flooding

CMP Failures

Location: Academy Blvd (2), Centennial Blvd, Telstar, Vehr, Union Blvd, Woodmen Rd
Description: Repair of roadway sinkholes resulting from failed Corrugated Metal Pipes (CMP's) at multiple locations due to flooding during FEMA declared disaster DR-4229.

Contractor: City O&M Division
Status: 100% Complete

Bear Creek

Location: Walmart at 8th St.
Description: Construction of a grouted sloping boulder (GSB) drop structure to replace damaged drop structure due to flooding during FEMA declared disaster DR-4229. Former drop structure was undermined and broken as a result of flood event. Replacement with an improved drop structure and channel lining in project area controls channel flows and provided revegetation to further protect channel bank slopes.

Engineer/Contractor: Matrix/Wildcat Construction
Status: 100% Complete

Concrete Channel Fail

Location: Hollow Tree Court at Abiding Point
Description: Remove and Replace approximately 100 LF of damaged fractured and undermined sections of the trapezoidal concrete channel and replace the bottom and warping headwalls at the bridge at Hollow Tree Court.

Contractor: DRX
Status: 100% Complete

31st Street Channel

Location: 31st Street at Westmoor Drive
Description: Storm damage caused undermining underneath and behind several concrete armoring panels in the channel between opposing lanes of traffic on 31st Street. Work to be accomplished: repair trapezoidal channel section including side slopes and bottom in order to reduce the possibility of undermining or erosion in a future event.

Engineer/Contractor: PRC Engineering/Tasmarr
Status: Engineering 100% Complete, Construction 75% Complete

FEMA/ GRANT PROJECTS (IGA PROJECT #0) - Continued

Projects arising from the 2013 and 2015 flooding

Cottonwood Creek Drop Structure

Location: Cottonwood Creek near Academy Blvd

Description: Storms from May 4th to June 16th 2015 damaged a Cottonwood Creek concrete grade control structure and caused the loss of riprap bank protection. Work to be accomplished includes installation of a grouted sloping boulder (GSB) grade control as required by Codes and Standards.

Engineer/Contractor: Wilson and Company/Tezak

Status: 100% Complete

1522 Custer - Property Acquisition and demolition

Location: 1522 Custer Avenue

Description: Shooks Run Channel was threatening adjacent property. City purchased property to demolish buildings through the Hazards Mitigation Grants Program.

Contractor: Earthwise

Status: 100% Complete

Garden of the Gods Detention Pond - Camp Creek 2013 Flood Mitigation

Location: Garden of the Gods, just west of 30th Street and south of Glen Eyrie

Description: Flash floods following the Waldo Canyon Fire caused increased flood flows, massive erosion and sediment deposition onto Garden of the Gods. The Hazard Mitigation Grants Program funds the construction of this large detention basin to contain sediment and slow flows into Garden of the Gods.

Engineer/Contractor: Wilson and Company/TBD

Status: Engineering 90% Complete

Flying W Ranch/ Chuckwagon

Location: Chuckwagon Road

Description: Flash floods following the Waldo Canyon fire caused massive erosion and damage to private property on the Wolfe Ranch/Chuckwagon. The NRCS grant program funds the stabilization of 3,600 feet of drainage channels throughout the property.

Engineer/Contractor: Terra Nova/TBD

Status: Engineering 30% Complete

North Douglas Channel Stabilization

Location: North Douglas Creek upstream of Wolfe Ranch Road

Description: Flash floods following the Waldo Canyon fire caused massive erosion and damage to private property on the Wolfe Ranch/North Douglas Creek which caused thousands of tons of material to choke City drainage systems. The NRCS grant program funds the stabilization of this drainage channel throughout the property.

Engineer/Contractor: Matrix Engineering/TBD

Status: Engineering 30% Complete

FEMA/ GRANT PROJECTS (IGA PROJECT #0) - Continued

Projects arising from the 2013 and 2015 flooding

Camp Creek Channel Stabilization (2015)**Location:** Garden of the gods and Rock Ledge Ranch**Description:** The Camp Creek natural channel through this area was heavily eroded due to post wildfire flooding from the Waldo Canyon Fire. This project provides natural channel stabilization through the Garden of the Gods and Rock Ledge Ranch.**Engineer/Contractor:** Wilson and Company/Beers and Brock
Status: 100% Complete**Autism Center Channel Stabilization (2015)****Location:** Upstream of 2760 Fieldstone Road**Description:** The South Douglas Creek natural channel through this area was heavily eroded due to post wildfire flooding from the Waldo Canyon fire, bringing heavy debris that clogged a detention pond and subsequently caused severe downstream neighborhood flooding, especially in August 2015. This project provides an improved grate system for the detention pond outlet structure to prevent future clogging of the drainage system.**Engineer/Contractor:** HDR Engineering/BMH Development
Status: Construction 95% Complete**Heatherdale CMP****Location:** Rock Island Trail from about 2150 to 2230 Heatherdale Drive**Description:** An 84" CMP failed adjacent to the trail causing a large sinkhole and flooding of residences. The damaged sections of the CMP were replaced and the invert of the remainder of the CMP was lined with concrete. Sections of failed concrete trapezoidal channel were also repair just downstream of the pipeline outfall.**Contractor:** DRX
Status: 100% Complete**Consulting Fees For FEMA 4229 Projects****Location:** Various throughout City**Description:** Engineering was performed on several FEMA grant project ahead of receiving the funding so that the projects could be completed sooner.**Contractor:** Peak Resources Consultants
Status: 100% Complete**Spurwood Storm Sewer Repair****Location:** Spurwood Drive and Canyon Springs Place**Description:** A large CMP failed causing a sinkhole in public open space. Replacement of 80 linear feet with Duramax pipe and lining bottom of remaining pipe with grout.**Contractor:** Wildcat Construction
Status: 100% Complete

FEMA/ GRANT PROJECTS (IGA PROJECT #0) - Continued

Projects arising from the 2013 and 2015 flooding

Cheyenne Meadows Park

Location: Cheyenne Meadows Park along the Clover Ditch

Description: Channel crossing was washed out in flood event. Placed concrete box culverts in the channel and covered with a gravel path to create a safe pedestrian passage.

Contractor: Wildcat Construction
Status: 100% Complete

EMERGENCY STORMWATER PROJECTS (IGA PROJECT #1)

Projects arising from 2016 prioritized needs

Westfork at Maizeland Repair

Location: West Fork of Sand Creek immediately south of Maizeland Road.

Description: During the months of May and June, 2016, severe storms damaged the trapezoidal concrete drainage channel. Extensive erosion and undermining caused collapse of the concrete toe wall, apron, inclined sides and channel floor. This project involved removal of damaged concrete, bank stabilization with grouted boulders, and installation of a grouted boulder drop structure.

Contractor: City's O&M Division
Status: 100% Complete

30th Street and Water aka Valley Swim Club

Location: Northwest Corner of 30th Street and Water Street

Description: A groundwater seep and drainage off 30th Street were identified flowing west onto the Valley Swim Club property. The City procured a contractor to install new curb and gutter along the west side of 30th at this location to direct flows south and west into the Water Street storm sewer system.

Contractor: Jerry Johnson
Status: 100% Complete

Cheyenne Rd and Fenmoor

Location: North Side of Cheyenne Road at Fenmoor Place

Description: Stormwater pools at northwest corner of Cheyenne and Fenmoor. A crossspan was installed along the north side of Cheyenne to pass flows to the east curb line of Fenmoor.

Contractor: Jerry Johnson
Status: 100% Complete

North Cheyenne Canyon

Location: Cheyenne Road from Evans Avenue west to the Gold Camp Road Parking Lot

Description: Removed and replaced 35 culverts under Cheyenne Road and performed drainage improvements to better direct flows to the culverts.

Contractor: DRX
Status: 100% Complete

EMERGENCY STORMWATER PROJECTS (IGA PROJECT #1) - Continued

Projects arising from 2016 prioritized needs

North Glen at Parks Building

Location: Northern end of Glen Avenue

Description: Installed inlet and pipe on east side of Glen Avenue to capture stormwater and convey underground to storm system on west side of road. Also removed and replaced driveway aprons to adjust grades for better drainage.

Contractor: Jerry Johnson
Status: 100% Complete

4712 Overture Court

Location: 4712 Overture Court

Description: Inlet of storm pipe blocked with debris causing overflow to flood property at 4712 Overture Court. Installed emergency overflow swale from inlet of existing 48" RCP, overland to storm system in Overture Court. Landscaping was removed and sod lined swale was installed.

Contractor: TJP Enterprises
Status: 100% Complete

Ranch Circle

Location: 4423 to 4427 Ranch Circle

Description: Bubbler that directs flow under cul-de-sac failed. Bubbler was removed and a concrete swale was installed to direct flows above ground into storm system to the west. Curb and gutter and drive pans in cul-de-sac were removed and replaced to improve drainage and direct flows into new swale.

Contractor: DRX
Status: 100% Complete

Shadowglen Drive

Location: 4765 to 4769 Shadowglen Drive

Description: Bubbler that directs flow under cul-de-sac failed. Bubbler was removed and a concrete swale was installed to direct flows above ground into storm system to the west. Curb and gutter and drive pans in cul-de-sac were removed and replaced to improve drainage and direct flows into new swale.

Contractor: DRX
Status: 100% Complete

LaSalle and Howard

Location: Between Constitution Ave and La Salle Street at Howard Ave

Description: Poor drainage from Constitution into the adjacent concrete channel was causing erosion. Additionally, debris was washing into 66" pipe on the southern end of the channel. An angled grate was constructed over the entrance to the pipe and the drainage area above the channel was removed and replaced with a concrete apron to improve the drainage.

Contractor: DRX
Status: 100% Complete

EMERGENCY STORMWATER PROJECTS (IGA PROJECT #1) - Continued

Projects arising from 2016 prioritized needs

McClosky Motors

Location: 6710 North Academy Blvd.

Description: Removed and replaced failed 60" CMP that is aligned under property. Also placed grout in bottom of additional 200 feet of CMP to mitigate against future failures.

Contractor: DRX
 Status: 100% Complete

East Fork Sand Creek at Wildflower Park

Location: East Fork Sand Creek behind residence at 825 Aspenglow Lane.

Description: The west bank of East Fork Sand Creek eroded during the 2015 and 2016 rain events. Erosion was threatening the back of properties along Aspenglow Lane. The erosion was backfilled and stabilized with riprap and a flood terrace constructed to dissipate future flood events.

Contractor: Wildcat Construction
 Status: 100% Complete

Lelaray Upstream

Location: South side of Constitution Ave just north of Afton Way

Description: During a 2016 storm event, the existing asphalt drainage chase failed. The asphalt was removed and replaced with a concrete chase.

Contractor: DRX
 Status: 100% Complete

Woodburn Street

Location: 1915 to 1927 Woodburn Street

Description: Drainage from the street into Cheyenne Creek caused erosion at the street crossing. New curb and gutter along the east side of Woodburn was installed to direct flows into a new concrete chase. New driveway pans were also installed to prevent flows from washing down private driveways.

Contractor: Jerry Johnson
 Status: 100% Complete

El Pomar Road

Location: El Pomar Road just north of Penrose Boulevard

Description: The east shoulder of El Pomar Road was eroding and damaging asphalt pavement and adjacent properties. New concrete curb and gutter were installed along this stretch along with a driveway apron to contain the storm flows and direct them downstream into a nearby storm system.

Contractor: Jerry Johnson
 Status: 100% Complete

EMERGENCY STORMWATER PROJECTS (IGA PROJECT #1) - Continued

Projects arising from 2016 prioritized needs

Flying W Ranch / Stoneridge

Location: East side of Flying W Ranch Road at Stoneridge Drive

Description: Post Waldo Canyon Fire stormwater flows ran down Stoneridge and overwhelmed the storm system in Flying W Ranch spilling over the curb into the residential area to the east.

An earthen berm was built along Flying W Ranch to capture the flows and direct them into the concrete channel to the south via a new inlet structure.

Contractor: DRX
 Status: 100% Complete

Cheyenne Road at Manor

Location: South side of West Cheyenne Road at Manor Lane

Description: Stormwater flows along the south side of Cheyenne Road were eroding the asphalt entrance of Manor Lane. A new concrete crosspan was installed to direct flows to the east along Cheyenne Road.

Contractor: Jerry Johnson
 Status: 100% Complete

336 Cheyenne Road

Location: 336 Cheyenne Road

Description: Debris was washing onto Fenmoor Place from private residence on the east side.

New curb and gutter and driveway apron were installed to match along property.

Contractor: Jerry Johnson
 Status: 100% Complete

1345 Monteagle Street

Location: 1345 Monteagle Street

Description: Stormwater flows sheeted across the street onto private property. A new curb and gutter and Driveway apron were installed to contain flows within stormwater system.

Contractor: Jerry Johnson
 Status: 100% Complete

Fire Station #8

Location: 3737 Airport Road

Description: Stormwater flows pooled along curb line depositing sediment. Constructed a swale connecting the flows to an adjacent detention pond at southwest corner of fire station.

Contractor: Jerry Johnson
 Status: 100% Complete

EMERGENCY STORMWATER PROJECTS (IGA PROJECT #1) - Continued

Projects arising from 2016 prioritized needs

Yampa and Custer

Location: Yampa Street on the east side of Custer

Description: Stormwater running across Custer was flooding the private property along Yampa. Removed and replaced curb and gutter, and driveway apron to contain flows within the storm system.

Contractor: Jerry Johnson
Status: 100% Complete**Fine Arts Museum/ Monument Valley Park**

Location: 30 W Dale Street, west side of building

Description: An existing storm sewer pipe collapsed. Removed and replaced 375 linear feet of failed clay pipe.

Contractor: Wildcat Construction
Status: 100% Complete**Rainbow Street Drainage Repairs**

Location: 151 Rainbow Place

Description: Stormwater flows were not contained by asphalt curb adjacent to property. Added new concrete driveway apron sidewalk, and curb and gutter to divert runoff from entering private property to an existing storm system downstream.

Contractor: Jerry Johnson
Status: 100% Complete**Autism Center Trap Bags**

Location: 2765 Fieldstone Road

Description: Post Waldo Canyon Floods were flooding the building. Placed and filled erosion/flood control trap bags along west side of building to redirect flows into nearby storm system.

Contractor: Jerry Johnson/Mallet Construction
Status: 100% Complete**4964-4970 Bluestem Drive**

Location: Cul-de-sac at 4964-4970 Bluestem Drive

Description: Stormwater sheet flows into cul-de-sac and entered lower driveways flooding residences. Removed and replaced curbs, sidewalks and driveway pans around cul-de-sac to direct water to concrete channel at low point and prevent water from entering driveways.

Contractor: Jerry Johnson
Status: 100% Complete

EMERGENCY STORMWATER PROJECTS (IGA PROJECT #1) - Continued

Projects arising from 2016 prioritized needs

Paseo and Lees

Location: North side of Paseo Road at Lees Lane

Description: Stormwater flows down Paseo from the east were not being captured by storm system along north side of Paseo. A new inlet with overflow chase directing flows into adjacent concrete channel was installed as well as new concrete swales and another concrete chase upstream.

Contractor: DRX
Status: 100% Complete

Russ Wolfe Residence

Location: 2310 Wolfe Ranch Rd.

Description: Erosion caused by post Waldo Canyon Fire flows in N. Douglas Creek adjacent to Russ Wolfe Residence was threatening ranch structures. The creek banks were stabilized with riprap and the creek graded to handle larger flows and mitigate erosion.

Contractor: Wildcat Construction
Status: 100% Complete

29th and West Uintah

Location: 29th Street and West Uintah

Description: The existing stormwater system was undersized for capturing large stormwater flows causing flooding of adjacent properties. New larger inlets were installed and pipes realigned to capture street runoff.

Contractor: DRX
Status: 100% Complete

1615 Manitou Boulevard

Location: 1615 to 1629 Manitou Boulevard

Description: Stormwater flows running down the west side of Manitou were overtopping curb and flooding adjacent properties. Installed a curb head behind the sidewalk along this stretch of road to redirect flows back into storm system.

Contractor: Jerry Johnson
Status: 100% Complete

200 Block of El Paso Alley

Location: South half of alley east of El Paso between Cucharas St. and Vermijo Ave.

Description: Stormwater flowing down the alley to the east that tees into this alley was overflowing into the private property at the bottom of the hill. A new concrete swale was installed in the alley and new grading provided to capture the flows and direct them to the storm system to the south.

Contractor: Jerry Johnson
Status: 100% Complete

EMERGENCY STORMWATER PROJECTS (IGA PROJECT #1) - Continued

Projects arising from 2016 prioritized needs

2703 North Hancock

Location: Entrance to alley between 2701 and 2703 North Hancock

Description: Half of the stormwater sheet flowed to an inlet at the entrance to the alley and the other half down the alley, there were sections of sidewalk missing and failed curb and gutter. New concrete curb and gutter, sidewalk and an alley transition slab were constructed to improve drainage.

Contractor: Jerry Johnson
 Status: 100% Complete

La Salle Channel Grate

Location: Between Constitution Ave and La Salle Street at Howard Ave

Description: The size and velocity of debris in the Concrete channel overwhelmed the newly installed grate. A newly engineered grate engineered to handle the larger debris was installed as a replacement for the failed grate.

Contractor: Peak Custom Fabricators
 Status: 100% Complete

1313 E. Monroe Street

Location: 1313 E. Monroe Street

Description: Stormwater overwhelmed the driveway pan flooding the residence. The driveway pan and adjacent sidewalk was removed, regraded and replaced to contain the flows in the street storm system.

Contractor: Jerry Johnson
 Status: 100% Complete

1307 E. Monroe Street

Location: 1313 E. Monroe Street

Description: Stormwater overwhelmed the driveway pan flooding the residence. The driveway pan and adjacent sidewalk was removed, regraded and replaced to contain the flows in the street storm system.

Contractor: Jerry Johnson
 Status: 100% Complete

Chapel Hills Drainage

Location: Northwest corner of Chapel Hills Drive and Mulligan Drive

Description: Groundwater seeping from the hillside west of Chapel Hills was flowing over the sidewalk causing hazardous conditions. An underdrain was placed behind the sidewalk and tied into the adjacent inlet to capture flows before daylighting.

Contractor: DRX
 Status: Construction 50% Complete

SAND CREEK DETENTION POND 3 (IGA PROJECT #2)

Location: Pond located along Sand Creek on the north side of Woodmen Rd and west of Marksheffel Road

Description: This project involved the engineering and construction of new full spectrum water quality and detention pond that was substantially completed this summer. The remaining work includes plantings scheduled for the spring of 2017.

Engineer/Contractor: Kiowa/Tezak
Status: Construction 95% Complete

DOWNTOWN DRAINAGE IMPROVEMENTS (IGA PROJECT #5)

Location: Pikes Peak Avenue - Nevada to Shooks Run

Description: This project combines the reconstruction and upgrade of an existing stormwater pipeline and a potable water main that run along Pikes Peak Avenue from Nevada Avenue to Shooks Run. The project was engineered in-house and is currently out for construction bids. Construction is expected to begin in the first quarter of 2017 with a completion date of spring 2017.

Engineer/Contractor: City Engineering/TBD
Status: Engineering 100% Complete

USAFA DRAINAGE-MONUMENT BRANCH (IGA PROJECT #6)

Location: The project is located on Monument Branch a tributary of Monument Creek, between North Gate Blvd and Interquest Parkway and starts at Voyager Parkway (just north of The Classical Academy school) and continues west past I-25 to the confluence with Monument Creek on the United States Air Force Academy (USAFA).

Description: The Monument Branch tributary of Monument Creek has become highly eroded. This project will restore and stabilize the creek by constructing drop structures and installing flood mitigation measures. The project has been broken up into 3 phases. Phase 1 is a small section of highly eroded channel between Voyager Parkway and I-25. Phase 2 is the remaining section outside of phase 1 between Voyager parkway and I-25. Phase 3 will be the section of Monument Branch from the confluence with Monument Creek to the Santa Fe Regional Trail on the west side of I-25. The project is identified as a high priority project within the Monument Creek Watershed Restoration Master Plan, October 3, 2016 and is a joint effort between the City, Utilities, the United States Air Force Academy, CDOT, and the FCWFCD.

Engineer/Contractor: Matrix/SEMA Construction (Phase 1)
Status: Engineering Phase 1 - 100% Complete
Construction Phase 1 - 40% Complete

FAIRFAX TRIBUTARY DETENTION POND (IGA PROJECT #7)

Location: Proposed pond to be located on the northwest corner of Powers Boulevard and Research Parkway.

Description: This project will construct a new full spectrum detention facility. The initial budget identified was not enough to cover the anticipated project costs. Therefore, a \$1,992,302 grant application through the CDOT Water Quality Mitigation Fund has been applied for with an expected response by early February 2017. If the grant is approved, design will begin by a TBD engineering company after CDOT has finished selecting a design alternative for the proposed interchange at Research Parkway and Powers Boulevard. Initial design alternatives are complete and have been submitted through the grant application process. The configuration of the interchange will impact the property in which the basin will be located. In addition, a contract has been awarded to Matrix Design Group for the completion of a 10% design for the installation of a stand-alone facility, independent of the CDOT grant, as part of the Cottonwood DBPS Project. Matrix has begun the work toward 10% design. In the event the grant approval is not received in a timely manner, the Matrix 10% design will be completed to 100% design and taken to construction.

Engineer/Contractor: FHU - Grant Application/TBD
Status: Grant Application 100% Complete

KING STREET DETENTION POND (IGA PROJECT #8)

Location: King Street Detention pond is located on the south side of King Street at 25th Street.

Description: This project includes providing water quality for the area and flood control by retrofitting the existing detention basin into a full spectrum basin meeting current engineering standards.

Engineer/Contractor: Kiowa/TBD
Status: Engineering 50% Complete

WATER QUALITY PROJECTS-ATB PARK BASIN (IGA PROJECT #13)

Location: America the Beautiful (ATB) park is located southwest of downtown between Colorado Ave. to the north, Cimarron Ave. to the south, and Monument Creek to the west.

Description: This project will provide water quality and flood control to the southwest downtown redevelopment area. The current area does not have any regional water quality before discharging into Monument Creek. The project will address existing pipe size capacity and water quality before entering Monument Creek just upstream of Fountain Creek by the retrofitting of an existing basin and the installation of a new basin, along with storm conveyance infrastructure improvements.

Engineer/Contractor: CP&Y/TBD
Status: Engineering 10% Complete

SAND CREEK STABILIZATION SOUTH OF PLATTE (IGA PROJECT #26)

Location: The project is located in Sand Creek immediately downstream of Platte Avenue Bridge and ends half a mile downstream at the confluence with the West Fork Drainage channel.

Description: The project will stabilize this section of Sand Creek utilizing funding from a grant through the FEMA Hazard Mitigation Grant Program (HMGP). This section of channel has been eroding at a very high rate and is now threatening a very large drop structure below Platte Avenue that was constructed in 2008 after a large storm compromised the bridge pier supports. The proposed channel improvements will include several channel stabilization structures, bank stabilization measures, and restoration of riparian habitat.

Engineer/Contractor: RESPEC/TBD
 Status: Engineering 15% Complete

DAM IMPROVEMENTS/ MAINTENANCE PROJECTS

Projects arising from 2015 dam inspections

Quail Lake Dam

Location: East Cheyenne Mountain Blvd. and Quail Lake Road

Description: Seepage was identified along the southern toe of the dam near the outlet structure. A new weighted filter buttress will be designed and constructed to slow down flows from the seepage and provide a better monitoring point.

Engineer/Contractor: JDS-Hydro/TBD
 Status: 10% Complete

ENGINEERING STUDIES

10% Conceptual Design

Location: Various locations around the City.

Description: This project is looking at several of the planned IGA projects over the next 3 years (2017-2019). The planned projects will be designed to a 10% level and a cost estimate developed to better scope and budget the projects.

Engineer: CH2M
 Status: Engineering 60% Complete

Cottonwood Creek DBPS

Location: Cottonwood Creek Drainage Basin (northeast section of the City)

Description: The Cottonwood Creek DBPS has started to be revised several times over the past few years. The revision in the past was never completed and finalized. This project will reassess the previous revision and update as needed. The DBPS will now be finished and finalized in 2017. Many of the 17/18 IGA projects are in this basin and will need this updated information before being engineered.

Engineer: Matrix
 Status: Engineering 10% Complete

ENGINEERING STUDIES - Continued

Falcon Estates Drainage

Location: The lower Falcon Estates Neighborhood is located between I-25 and Academy Blvd and north of Woodmen Road.

Description: The neighborhood was developed as a county development and was later annexed into the City. The neighborhood is more rural with paved roads with roadside ditches and no underground storm sewer system. Areas of the neighborhood are prone to flooding during rainstorms. The assessment project will identify the problem and provide suggestions for solutions. The assessment will not produce a shovel ready project, but rather identify the needs for future improvements and possible maintenance needs.

Engineer: CH2M
Status: Engineering 50% Complete

Rustic Hills MDBPS

Location: Rustic Hills Subdivisions #1 and #2

Description: The purpose of the study is to perform a comprehensive analysis and assessment of the area with respect to hydrology and channel hydraulics in order to provide recommendations for improvements to roadway cross sections, overall area drainage design and multi-use trails in accordance with current Low Impact Development (LID) practices and the City of Colorado Springs Drainage Criteria Manual.

Engineer: Wilson & Company
Status: Scoping

Stormwater Infrastructure Master Plan (SIMP)

Location: City Wide

Description: The purpose of the SIMP is to collect, standardize, and integrate information on stormwater capital and operations and maintenance (O&M) projects needed to address current and future stormwater conditions in the City. The City has numerous sources of information on existing and proposed stormwater capital projects to address stormwater, flood control, channel stability, and water quality conditions in the City's drainage ways and urban area.

Engineer: TBD
Status: Contracting

Utilities Sanitary Sewer Creek Crossing Program Activities

In 2016, Utilities SSCC Program included repair or rehabilitation of 15 creek crossings, at a preliminary cost of \$4,439,239.

The following is a summary of Utilities SSCC Program projects undertaken during the reporting period.

Monument Creek Stabilization near Fillmore St., Phase I

The purpose of the project was to establish and maintain grade control for the 36" Sanitary Sewer interceptor that crosses and parallels Monument Creek near Fillmore St. The project consisted of constructing three (3) grouted boulder drop structures (Drops 1, 2, 3), bank restoration, and grading for wetland creation. Final pay application and invoices related to this project were received and paid in the first quarter of 2016.

Contractor:	Tezak Heavy Equipment
Notice to Proceed:	November 24, 2015
Completion date:	December 21, 2015
Status:	100% Complete

Monument Creek near Fillmore- Phase II Stream Stabilization & Infrastructure Protection

Phase 2 of the Monument Creek near Fillmore also established and maintained grade control for the 36" Sanitary Sewer interceptor. The project consisted of constructing three (3) additional grouted boulder drop structures (Drops 4, 5, 6), clean up of abandoned sanitary sewer at N. Douglas Creek, grading, and restoration.

Contractor:	Wildcat Construction
Notice to Proceed:	February 18, 2016
Completion date:	June 13, 2016
Status:	100% Complete

Little Fountain Creek at CSR Wellfield Road Culvert Replacement

The purpose of this project was to protect critical Utilities infrastructure from damage caused by erosion in Little Fountain Creek on the Clear Spring Ranch property at the Wellfield road crossing. The Wellfield road crossing is located east of Interstate 25 and consisted of multiple corrugated metal pipe (CMP) culverts susceptible to damage and washout. The project consisted of a culvert crossing constructed of reinforced concrete pipe, headwalls, with boulders and riprap used to minimize erosion. The culvert crossing surface is Articulated Concrete Block (ACB) Mat to provide a scour resistant and drivable surface. This project was reimbursed by a State Natural Disaster Grant, making CSU's contribution approximately 50% of the total project.

Contractor:	Tezak Heavy Equipment
Notice to Proceed:	March 31, 2016
Completion date:	July 1, 2016
Status:	100% Complete

Utilities SSCC Program Activities (Continued)

Little Fountain Creek at CSR Zero Discharge Pipeline Scour Protection Project

The Zero Discharge (ZD) pipeline crossing is located west of Interstate 25 (Gate 18A, Ray Nixon Road). This pipeline transfer's process water from the ZD plant to the solar evaporation ponds located south of Little Fountain Creek. Degradation and bank erosion in Little Fountain Creek has exposed this pipeline. This crossing was armored with Articulated Concrete Block (ACB) mat in 2014 and rip rap in 2015. This project repaired and reset existing ACB mat and placed additional ACB mat to further protect the pipeline crossing.

Contractor:	Tezak Heavy Equipment
Notice to Proceed:	March 31, 2016
Completion date:	July 1, 2016
Status:	100% Complete

South Douglas Creek at Sinton Pond Sanitary Sewer Realignment & Stream Stabilization

The purpose of this project was to remove an existing sewer pipeline longitudinal to and crossing South Douglas Creek downstream from Sinton Road. The project is located on the Sinton Pond Open Space and is generally along the Sinton Trail. The project consisted of realigning the existing crossing with a new pipeline, removal of the existing sanitary sewer creek crossing, installation of a rock cross vane on South Douglas Creek, and bank stabilization.

Contractor:	Beers & Brock Construction
Notice to Proceed:	March 10, 2016
Completion date:	April 22, 2016
Status:	100% Complete

North Douglas Creek Stabilization Upstream of Mark Dabling Blvd.

The purpose of the project was to stabilize a degrading reach of North Douglas Creek near Mark Dabling Boulevard to protect wastewater and water mains crossing North Douglas Creek. The project consisted of constructing two (2) grouted boulder drop structures, construction of bank protection, placement of riprap, and other miscellaneous and appurtenant items. Stabilization was accomplished through the installation of grouted boulder drop structures, bank protection, and riprap. The project began at the downstream end of an existing grouted riprap channel and extends approximately 250 feet downstream.

Contractor:	Beers & Brock Construction
Notice to Proceed:	September 8, 2016
Completion date:	December 28, 2016
Status:	100% Complete

Utilities SSCC Program Activities (Continued)

Sand Creek at East Fork Confluence Stream Stabilization

The purpose of the project was to stabilize a degrading reach of Sand Creek near the confluence with the East Fork of Sand Creek and to protect wastewater pipeline adjacent to, and crossing the East Fork of Sand Creek. The project consisted of constructing three (3) grouted boulder drop structures, placement of riprap, and appurtenant items. Stabilization was accomplished through the conversion of vertical sheet pile drops into grouted boulder drop structures and the placement of riprap. The project began at a vertical drop downstream at the confluence and extends approximately 750 feet upstream.

Contractor:	Wildcat Construction
Notice to Proceed:	September 28, 2016
Completion date:	December 19, 2016
Status:	100% Complete

Monument Branch Channel Restoration Phase-I

This project is located on Monument Branch downstream from Voyager Parkway. The work will protect sanitary sewer stream crossings of Monument Branch that is currently at risk from stream erosion. Stabilization of Monument Branch is identified as a listed project for Colorado Springs Utilities in Exhibit D of the Stormwater Intergovernmental Agreement (IGA).

The first phase of this stabilization project began construction in fall 2016 with support of a Natural Resources Conservation Service Emergency Watershed Protection (NRCS EWP) grant. Phase I is currently estimated at a total construction cost of \$1.4M with a 25% local match (\$350k) required. Utilities is committed to providing the \$350,000 for this local match to support this mutually beneficial stabilization project. Funding will be provided through the Sanitary Sewer Creek Crossing Program.

Contractor:	SEMA Construction
Notice to Proceed:	November 11, 2016
Completion date:	February 2017
Status:	Engineering Phase I - 100% Complete Construction Phase I - 40% Complete

Clear Spring Ranch Sludgeline Bank Protection - Design

The work includes designing bank stabilization to protect the infrastructure within the project site. The Clear Spring Ranch Sludge Line Bank Protection Project protects the sanitary sewer sludge line that runs longitudinally to the creek. The project site is located approximately 1,000 feet upstream of the Owen Hall Diversion on the north end of Clear Spring Ranch property. Fountain Creek has meandered towards the outside of the bend and has eroded the large vertical bank. The erosion of the bank has put Utilities infrastructure at risk. The work includes, but is not limited to, evaluation, alternative analysis, design, and construction management of the bank stabilization that shall protect Utilities infrastructure and further bank erosion. Design has been delayed because of easement acquisition issues.

Design Contractor:	Matrix Engineering
Notice to Proceed:	January 2, 2015
Completion date:	May 1, 2017
Status:	98% Complete

Utilities SSCC Program Activities (Continued)

Monument Creek Stream Stabilization Upstream of Pikeview - Design

This project consists of engineering Design services for the Monument Creek Stream Stabilization Upstream of Pikeview 2016. The intent is to reduce risk to infrastructure by stabilizing a reach of Monument Creek where a 54" sewer interceptor, primarily in the Mark Dabling ROW, and a 36" main beginning at the pedestrian bridge crossing extending south along the easterly side of Monument Creek.

Design Contractor:	Matrix Engineering
Notice to Proceed:	May 10, 2016
Completion date:	April 1, 2017
Status:	50% Complete

West Fork Sand Creek Stream Stabilization - Design

This project is for Engineering Design services for the West Fork Sand Creek Stream Stabilization project. A portion of the West Fork Sand Creek has been identified as an opportunity to reduce risks to the sanitary sewer and enhance stream stability. In 2005, Utilities installed a drop structure to address an 18" main crossing the West Fork of Sand Creek. Since that time, the drop structure has performed well, but material loss at the toe of the 2005 drop structure continues to be persistent.

Contractor:	Parsons Brinkerhoff Engineering
Notice to Proceed:	May 4, 2016
Completion date:	December 1, 2016
Status:	90% Complete

Cottonwood Creek Upstream of Duryea - Revegetation Contract

This vegetation project is associated with a construction project completed by Utilities that addressed the stream degradation causing the sewer mains to be at risk of exposure. Services included: upland seeding to restore staging and access areas, willow staking along banks and drop structures, wetland seeding, and plantings to replace vegetation permanently disturbed by the stabilization project. Also included in the scope of services are all vegetation services including but not limited to site preparation, procurement of materials, storage, seeding, planting, weed control, watering, and irrigation as needed during the establishment period.

Contractor:	Total Terrain Inc.
Notice to Proceed:	May 13, 2016
Completion date:	November 18, 2018 (up to 3 year maintenance period)
Status:	100% Complete

Utilities SSCC Program Activities (Continued)

Monument Creek Stabilization Phase I - Revegetation Contract

This vegetation project is associated with a construction project completed by Utilities to protect sanitary sewer main crossings. Services included: upland seeding to restore staging and access areas, willow staking along banks and drop structures, wetland seeding and plantings to replace vegetation permanently disturbed by the stabilization project. Approximately 0.19 acres of wetland was permanently disturbed. To comply with USACE 404 permits, a qualified contractor performed revegetation and wetland mitigation management. Services also included a monitoring and stewardship plan to illustrate strategies to guarantee success of permanent vegetation from the date of initial seeding to the end of the third year or third growing season, whichever is greater.

Contractor:	TP Enterprises
Notice to Proceed:	November 30, 2015
Completion date:	November 29, 2018 (up to 3 year maintenance period)
Status:	100% Complete

North to North Transfer Line Stabilization Project (O&M)

The North to North raw water transfer line is in Wellington Gulch, located in the Fountain Creek Drainage Basin. Post Waldo Canyon Fire precipitation events continued to cause severe erosion in first order drainages that cross the water transfer line. Stabilization of the drainages and adjacent hill slopes was imperative to secure the future use of the pipeline.

Watershed restoration services were procured to reduce sedimentation and erosion along the North to North pipeline. Contractors provided heavy equipment and hand crews to stabilize drainages utilizing natural channel design methods to prevent the advancement of head cuts and gullies. This stabilization included constructing features such as rock drop structures, rock checks and other run-off control methods using native materials. This project is being reimbursed 75% by an Emergency Watershed Protection (EWP) Grant and 12.5% from CWCB, making CSU's contribution 12.5% of the total project. The project is currently under budget and it is not expected to spend the full committed amount.

Contractor:	Habitat Management
Notice to Proceed:	July 20, 2016
Completion date:	October 6, 2016
Status:	100% Complete

Contractor:	CUSP
Notice to Proceed:	June 15, 2016
Completion date:	November 4, 2016
Status:	100% Complete

Utilities SSCC Program Activities (Continued)

Little Fountain Creek Project (Multi Service Capital)

Little Fountain Creek (LFC) is located west of Interstate 25 on CSU's Clear Spring Ranch (CSR) facilities site. LFC meanders through CSR from west to east crosses under Interstate 25 and end at the confluence with Fountain Creek. The project site is located completely on CSR.

Since 2013 rain events have caused LFC to degrade and become unstable, therefore placing Utilities facilities (Nixon and Front Range Power Plants, Zero Discharge Water Treatment Plant and Solids Facilities Handling and Disposal) at risk. LFC has overtopped culvert crossings and caused significant bank erosion and an unstable channel. CSU awarded a Design/Build contract to provide near-term repairs to protect further loss of property and long-term stabilization channel restoration of the entire reach of LFC. This project is being reimbursed 75% by EWP Grant administered by the Natural Resources Conservation Service (NRCS) making CSU's contribution 25% of the total project.

Currently NRCS Grant funded work is on scheduled to meet the completion date of April 26, 2017.

Work accomplished to date:

- Over 30,000 cubic yards of soil has been moved.
- Over 10,000 cubic yards of geotextile fabric installed.
- Over 4,000 cubic yards of rip rap installed.
- Over 3,000 cubic yards of soil rip rap installed.
- Additional 24,000 square yards of rip rap is on site.
- The southern side of the creek along the north side of the solar ponds has been protected and stabilized to 70% of completion for this project.
- The northern bank system along the north side of the solar ponds is at 80% completion for mass excavation for the upper banks. The lower bank system excavation top grade is at 50% of completion. Stabilization and protection of the northern bank system is at 20%
- Excavation for the eastern most drop structure is in progress.
- Mass excavation for the northern bank of the creek at Front Range power plant is in progress.

Contractor:	Tezak Heavy Equipment
Notice to Proceed:	July 14, 2016
Completion date:	April 26, 2017
Status:	75% Complete

Drainage Operations and Maintenance Activities Undertaken During the Reporting Period

The essential functions of the Public Works Operations and Maintenance Division, Drainage Operations and Maintenance Program are critical to maintaining the City's drainage infrastructure. These functions primarily include:

- Permanent Public BMP Inspections
- Permanent Public BMP Maintenance
- Open Channel Inspections
- Open Channel Maintenance
- Storm Sewer Maintenance/Vacuum-Truck Operations
- Stormwater Pipe Repair/Replacement
- Street Sweeping Operations
- Illicit Discharge Responses

To assist with consistent performance of these activities, Standard Operating Procedures (SOPs) for each of the above functions have been developed. The SOPs define, among other things, the purpose of the activity, scope, number and type of equipment required, minimum number of personnel required, training requirements, responsibilities and the standard procedures to be followed.

During the 2016 calendar year, the Drainage Operations Program completed the following activities:

- Completed inspections of all 90 publicly maintained regional and subregional detention ponds/facilities
- Performed identified maintenance activities within 53 publicly maintained regional and subregional detention facilities (including debris removal, mowing, tree trimming, minor sedimentation removal and minor structure maintenance)
- Inspected 27 miles of concrete-lined and natural channels
- Conducted maintenance activities through six (6) miles of concrete-lined and natural channels along the Templeton Gap floodway, Village Green park, Hancock Expressway and Sand Creek (including concrete repairs, vegetation and debris removal and minor sedimentation removal)
- Completed 2,573 separate storm sewer maintenance/vacuum-truck operations (including water quality vault cleaning, storm sewer pipe cleaning and storm sewer blockage removal)
- Repaired or replaced 2,700 linear feet of stormwater conveyance pipe
- Dedicated eight (8) members of the Public Works Operations and Maintenance Division street sweeping group (including 6 existing operators and 2 new hires) to the Water Resources Division and leased eight (8) new street sweepers to be operated by the Water Resources street sweeping team. The program reduces the amount of trash, sediment, debris and pollutants entering City waterways.

2016 MS4 Permit Compliance Summary

Public Outreach Activities

The City's MS4 Permit requires public education and outreach activities related to the following:

Educational activities to promote public reporting of illicit discharges and improper disposal activities conducted during the reporting period included:

- Illicit Discharge Detection
 - 64 City represented Illicit Discharge calls
 - Materials distributed: 107 various brochures, depending on the spill type
 - Training: Approximately 260 City employees went through the Illicit Discharge Detection and Elimination (IDDE) training

Public education activities to promote proper management and disposal of potential pollutants conducted during the reporting period included:

- Presentations provided (i.e., schools, community events): 102
 - Number of students and citizens reached (i.e., schools, community events): 3,429
 - Regional Stormwater Advertising Campaign reaching multiple counties and jurisdictions (i.e., pet waste, used oil, and illicit discharge related advertising on billboards and other signs)
- Educational materials distributed:
 - Brochures: 5,875 (i.e., schools, auto body and repair shops, oil recycling facilities, carwash locations, carpet cleaners, concrete contractors, landscaping companies, veterinarians, pet grooming facilities)
 - School Items: 11,625 (i.e., droplet figurines, pencils, magnets, activity guides and crayons, tattoos, post cards, bracelets)

Household chemical waste collection program education and outreach activities during the reporting period included:

- The City continued to participate in the El Paso County Household Hazardous Waste Collection Program in a continued commitment to make reasonably available to residents the means to recycle or properly dispose of the more common household chemical wastes.
- Distributed over 750 brochures related to the participation in the El Paso County Household Hazardous Waste Collection Program to local oil recycling facilities.

Industrial facilities program education and outreach activities during the reporting period included:

- Distribution of over 4,000 brochures promoting proper management of industrial sites regarding stormwater quality and industrial best management practices to local auto body and repair facilities, oil recycling facilities, carwash locations, carpet cleaning operations, and concrete contractors.

Training and education for construction site operators during the reporting period included:

- The City hosted classes for the construction program and construction-related community in the spring, summer, and fall of 2016. The classes included: Stormwater Management and Erosion Control During Construction (GEC), Developing and Implementing Stormwater Management Plans (SWMP), and Conducting Stormwater Compliance Inspections Training.
- The City conducted in-house staff training including a Grading and Erosion Control Program Workshop and a Construction BMP Workshop Meeting.
- The City participated in “Wet Wednesdays” stakeholder meetings held at the area Home Builder’s Association (HBA) offices. The City prepared a number of stormwater related presentations at these meetings detailed for the construction industry in the City of Colorado Springs and El Paso County.

Private BMP Inspection and Tracking

City inspectors conduct inspections at various points of construction projects for conformance with construction specifications and compliance with MS4 related stormwater regulations. Additionally, the City completes required annual inspections of existing private permanent BMPs in accordance with issued private maintenance agreements. The constructed permanent private BMPs (i.e., extended detention basins, porous landscape detention basins) are tracked in a database maintained by the City to ensure private BMPs are inspected and maintained appropriately.

Construction Site Inspections

In 2016, five full-time MS4 inspectors were dedicated to the MS4 Program, including two existing construction project inspectors and three new hires. During the 2016 reporting year, the City MS4 Program construction inspection team completed the following:

- Total of inspections: 5,319
- Active construction sites through the year: 322
- Initial Inspections: 67
- Final Inspections: 79
- Routine Inspections: 3,878
- Complaint Inspections: 3
- Follow-up Inspections, reconnaissance/indicator, storm event inspections: 970

Construction Site Enforcement:

- Notice and order: 0
- Letter of Non-compliance: 11
- Stop Work Orders: 2

Development and Erosion Control/Development Review:

In 2016, the Development Erosion Control / Development Review team completed reviews of over 3,000 drainage related development submittals (e.g., drainage reports, grading and erosion control plans, drainage related design plans) and completed internal training on the following topics:

- Overall DCM & MS4 requirements
- DCM Four-Step Process to Minimize Adverse Impacts of Urbanization
- Permanent Best Management Practices (BMP) Design Review
- Definitions and Criteria of Development and Redevelopment

- City of Colorado Springs Document Management System
- Development and Erosion Control/Development Review Philosophy
- Development and Erosion Control/Development Review Techniques
- Construction BMP Review
- Rudimentary Channel Hydraulics

Yearly Reporting and Compliance Tracking

Annual reporting related to the City's MS4 Permit is required to be submitted in April of each year. The report is created from data and tracking of that data throughout the year. A copy of the 2016 annual report was submitted to the Colorado Department of Health and Environment (CDPHE) on April 1, 2016.

Wet Weather Monitoring

The Wet Weather Monitoring report is an additional requirement of the City's MS4 Permit that is required to be submitted in June of each year. The majority of this data comes from monitoring and testing conducted throughout the City by the United States Geological Survey (USGS) under a joint funding agreement with USGS and Utilities.

Municipal Facilities Runoff Control Program (MFRCP)

The MFRCP program is administered by the City's Stormwater Quality Coordinator along with various representatives from the City vehicle maintenance group (SERCO), City Public Works Operations and Maintenance Division, City Parks and Recreation Department, City Fire Department and the City Police Department. There are currently 42 MFRCP sites within the City's MS4 jurisdiction. Each year site plans for each MFRCP site are updated, inspections of the facilities are conducted and MFRCP related training is administered.

E. Coli TMDL

In 2016, the City joined other area governmental agencies to create a Regional Watershed Plan to address E. coli in preparation of the anticipated implementation of a Total Maximum Daily Load (TMDL) standard for E. coli in 2019 by the CDPHE. As part of EPA's new national vision for the Clean Water Act (CWA) 303(d) program (Impaired Water Listing and TMDL Program), States are required to identify priority areas for TMDL development through 2022. The purpose of the regional watershed planning group efforts are to preemptively prepare a plan in preparation for this anticipated 2019 requirement. To date, the City has dedicated \$25,000 to the Arkansas and Fountain Coalition for Urban River Evaluation (AF CURE) for these efforts.

Other Relevant Activities Undertaken During the Reporting Period

Drainage Criteria Manual Updates: Hydrology

The Water Resources Division joined with the FCWFCD in an effort to develop updated hydrologic criteria including recommendations for the adoption of the NOAA Atlas 14 Precipitation Frequency and update rainfall distribution curves.

Contractor:	FCWFCD
Total Project Cost:	\$41,500
Status:	90% Complete

CDOT Grant Applications and Projects

The Water Resources Division applied for two significant grant opportunities utilizing the Colorado Department of Transportation's (CDOT) Permanent Water Quality Mitigation Pool grant program.

US-24/Colorado Ave Basins: \$2,750,000

The project involves the installation of a proposed extended detention basin to be located on the south bank of Fountain Creek on the current Timber Lodge property, just north of Ridge Rd. The basin will provide water quality treatment and detention for significant areas of CDOT right-of-way and previously developed property within the City of Manitou Springs, City of Colorado Springs, and El Paso County. The project is consistent with the *Upper Fountain Creek and Cheyenne Creek Flood Restoration Master Plan, June 26, 2015* and the *US24 West Environmental Assessment and Section 4(f) Evaluation, May 2012*. Awarded August 15, 2016.

Fairfax Tributary Basin: \$1,992,302

The project involves the joint design and installation of a full-spectrum detention facility on the northwest corner of Research Parkway and Powers Boulevard. The facility will be incorporated into the design of a grade separated intersection and provide detention and water quality treatment for developed areas upstream, as well as tributary area from CDOT right-of-way. See Fairfax Tributary Detention Pond (IGA Project #7) description above.

5.0 Planned 2017 IGA Related Activities

Section III of the IGA outlines special provisions agreed to in the agreement by the IGA Parties. The following provides a summary of planned compliance activities by the City and Utilities for the upcoming reporting period related to Section III of the IGA.

Paragraph III.A - Stormwater Expenditures

Paragraph III.A(1) - Expenditures by the City and Utilities

For the 2017 calendar year, the City and Utilities are required to invest a minimum of \$16.5 million dollars on the City's Stormwater Control Program.

- The approved 2017 City of Colorado Springs budget titled *Annual Budget, 2017*, describes the 2017 Stormwater Program Division budget beginning on page 24-21. The document can be downloaded at:

<https://www.coloradosprings.gov/budget/page/city-budget-office>
- The 2017 City budget allocates \$7,160,556 of general fund monies towards stormwater operations and \$7,100,000 towards stormwater CIP, for a total budget of \$14,260,556.
- The 2017 Utilities budget allocates \$3,000,000 as part of Utilities' SSCC Program.
- Planned activities include, but are not limited to:
 - 10% conceptual engineering for IGA capital projects (2018-2020);
 - Coordination and delivery of 2017 IGA capital projects;
 - Completion of 2016 engineering studies, including Cottonwood Creek DBPS, Rustic Hills MDBPS, and Falcon Estates drainage study;
 - Further development of a Program Management Plan for the purposes of capital project delivery;
 - Addition of 10 new Water Resource Division staff members, in accordance with the *Stormwater Program Implementation Plan, November 2016*;
 - Completion of the development and implementation of the City Water Resources Division, in accordance with the *Stormwater Program Implementation Plan, November 2016*;
 - Development of a City of Colorado Springs Stormwater Runoff Management Compliance Guide;
 - Further development of the Stormwater Infrastructure Master Plan;
 - Development of City of Colorado Springs permanent BMP design spreadsheets and related design and review checklists.

- Anticipated MS4 Compliance Activities for 2017 Include:

Construction Program

- Continue hosting Stormwater Management and Erosion Control During Construction (GEC) classes (twice annually);
- Continue hosting Developing and Implementing Stormwater Management Plans (SWMP) classes (twice annually);
- Continue hosting Conducting Stormwater Compliance Inspections classes (once annually);
- Continue hosting Permanent BMP Construction, Maintenance, and Inspections classes (once annually);
- Continue in-house Grading and Erosion Control and Permanent BMP workshops;
- Continue Wet Wednesdays with the area Home Builders Association for continued education in the development industry;
- Host field Inspection and Maintenance training workshop.

Industrial Program

- Continued training of industries in the Permit area.
 - Conduct trainings for specific industries.
- Continue education and outreach with brochures and website

Municipal Facilities Runoff Control Program and Operations and Maintenance Program (MFRCP)

- Continue annual training for all City personnel involved in the program;
- Continue site inspections and on-site trainings;
- Institute online videos and training series.

Public Education

- Continue public education and outreach initiatives including, but not limited to, presentations, community events, water festivals, website updates, and dissemination of brochures;
- Continue to promote awareness of the City's Pesticides, Herbicides, and Fertilizers program, Illicit Discharges Program, Industrial Program, Household Hazardous Waste Collection Program, and Flash Flood Safety Program.

Compliance Tracking

- Continued tracking of MS4 compliance measures and activities.

Paragraph III.A(2) - Annual Report of Expenditures

The IGA requires that in order to verify whether the City's and Utilities' expenditures on the Stormwater Control Program meet or exceed the requirements of paragraph III.A(1), each year the City and Utilities shall file with Pueblo County a report containing an estimate of expenditures on or before January 31 of the year following the expenditures, followed by the filing of a preliminary report on or before March 31, and with a final report to be filed on or before June 30 of that year based on audited financials. These reports are to provide appropriate details concerning the timing, amount and nature of all such expenditures made by the City and Utilities during the prior year for Capital Projects, O&M, MS4 Permit compliance, protection of Utilities infrastructure from stormwater, and any other relevant categories.

- The City and Utilities will prepare and file a report to document the expenditures for the 2017 calendar year and provide a summary of the associated Stormwater Control Program activities accordingly.

Paragraph III.A(5)d - City and Utilities Funding Sources

Paragraph III.A(5)d. states in part that the City may include up to \$1.75 million dollars in actual third-party grants as proposed in the 2017 budget in fulfillment of its financial obligation provided that the City shall expend an additional amount equivalent to such grant funding within the first ten years.

- The approved 2017 City of Colorado Springs budget titled *Annual Budget, 2017*, describes the 2017 Stormwater Program Division budget beginning on page 24-21. The document can be downloaded at <https://www.coloradosprings.gov/budget/page/city-budget-office>
- The 2017 budget identifies \$1,700,000 of potential grant expenditures.

Paragraph III.B - Stormwater Capital Improvement Program

Paragraph III.B(2) - Identification of Capital Projects

Paragraph III.B(2)a. states that beginning with the 2016 calendar year and extending through the Term of the IGA Agreement, the Engineering Representatives of the Parties shall meet on or before March 31 of each year in order to prepare, review, discuss and update, as necessary, a five-year CIP for the City and a three-year CIP for Utilities, which shall include a list of Capital Projects, the construction of which will commence in the upcoming years.

- Staff members from the City, Utilities, the City's consultant team, and WWE plan to meet prior to March 31, 2017.

Paragraph III.B(2)c. states that Utilities shall reimburse Pueblo County up to \$10,000 each year (commencing in 2016) to defray the actual cost incurred by Pueblo County of using any outside engineering consultants to conduct these yearly reviews and any associated inspections, payable within 30 days of Utilities' receipt of a statement from Pueblo County evidencing such costs.

- Utilities plans to meet the obligation accordingly.

Paragraph III.D - Payments to FCWFCGD

Paragraph III.D(3) - Cooperation on Future Funding

Paragraph III.D(3) states that to ensure long-term funding of FCWFCGD's annual operating budget, the City, Utilities and Pueblo County will work cooperatively and in good faith to establish a proportional formula by which each of the Parties and the other participating stakeholders in the FCWFCGD, will agree to contribute funds to ensure the long-term funding of FCWFCGD's operating budget.

- On August 15, 2016, a resolution was passed by the FCWFCGD Board of Directors (FCWFCGD Resolution #2016-04-General) which established a proportional formula by which each of the Parties and the other participating stakeholders in the FCWFCGD agreed to contribute funds for the FCWFCGD's 2017 operating budget. Representatives of the City, Utilities and Pueblo County took part in the resolution through participation on the FCWFCGD Board of Directors and TAC. As such, the City will process payment to the FCWFCGD for a sum of \$100,904 within the month of January 2017.

Attachment 1

IGA Exhibit B - City Capital Project Prioritization (2016)
