

# **2018 Stormwater Program Annual Review**

## **CITY OF CAÑON CITY**



PREPARED BY CITY OF CAÑON CITY  
STORMWATER PROGRAM





# City of Cañon City

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## 2018 Annual Program Review

### Introduction

In 2003, the City of Cañon City was issued a permit for “Stormwater Discharges Associated with Municipal Separate Storm Sewer Systems (MS4s)” from the Colorado Department of Public Health and Environment (CDPHE). This permit was renewed in 2008, with little to no change. The 2003 permit required Cañon City to develop, implement and enforce a Colorado Discharge Permit System (CDPS) Stormwater Management Plan. The program had to be designed to reduce the discharge of pollutants from our storm sewer system to the maximum extent practicable to protect the water quality of the Arkansas River and Four Mile Creek and to satisfy the appropriate water quality requirements of the Colorado Water Quality Control Act and Colorado Discharge Permit Regulations. The permit also required that the City of Cañon City do a written annual review of the program and to submit an annual report to the State.

The MS4 discharge permit contained six areas the City must address in its stormwater management plan. These areas were:

- MCM1. Public Education and Outreach on Stormwater Impacts
- MCM2. Public Involvement/Participation
- MCM3. Illicit Discharge Detection and Elimination
- MCM4. Construction Sites Runoff Control
- MCM5. Post-construction Stormwater Management
- MCM6. Pollution Prevention/Good Housekeeping for Municipal Operations.

Each of the six areas has several program elements which have been used to meet the goals of the stormwater management plan.

On April 15, 2016, CDPHE issued a revised “Stormwater Discharges Associated with Municipal Separate Storm Sewer Systems (MS4s)” permit. The new permit became effective on July 1, 2016. The new permit is structured slightly different than the previous permits and has several new requirements with compliance deadlines to meet. Although the permit structure varies from the previous permits the same six areas are included in the permit requirements. An additional requirement of a Program Description Document is also included in the new permit.

This annual review looks at each of these elements to assess the City of Cañon City’s compliance status and the effectiveness of our programs. This report will include a breakdown of activities completed to meet the requirements of the previous permit which was in effect through June 30, 2016 and activities completed under the new permit which became effective July 1, 2016. For areas that have new requirements and a compliance deadline, the report will summarize what was completed under the previous permit requirements, which is still in effect until the compliance date for the new requirements. The report will also summarize the steps which will be taken to meet the new requirements.

### Section 1. Program Description Document (PDD)

The PDD is a new requirement in the permit. To meet this requirement the City of Cañon City’s Stormwater Program must develop and maintain records in the form of a program description document. The PDD must contain a list of citations for documents and electronic records used to comply with the requirements of the

permit. It must contain a current organizational chart and citations for the most recent version of documents, the date of the document and the location where the documents are kept. The PDD will be a fluid document, kept up-to-date as program elements are modified to meet permit requirements and compliance dates.

The PDD for the City of Cañon City's Stormwater Program was completed on December 11, 2018. A statement was posted to the Stormwater webpages on the City of Cañon City's website stating:

"PUBLIC NOTICE:

The City of Cañon City administers a general permit for stormwater discharges associated with Municipal Separate Storm Systems (MS4) in accordance with Colorado's Discharge Permit System (CDPS). The City of Cañon City maintains a Program Description Document that is available upon request to the public for review and comment."

## **Section 2. Public Involvement/ Participation**

The goal of the Public Participation/Involvement area of our stormwater permit is to provide a method for the public to be involved with the City's stormwater management program by providing feedback through a variety of methods. Assessment of effectiveness in this category is a subjective evaluation as it is difficult to directly track the effect each of these has on public awareness and participation.

The new permit clarifies the public notice, feedback and recordkeeping requirements. All public notices concerning stormwater are documented in a yearly program documentation spreadsheet maintained by the Stormwater Technician. The public can provide feedback through email, in person, via social media and by phone, all of which is documented.

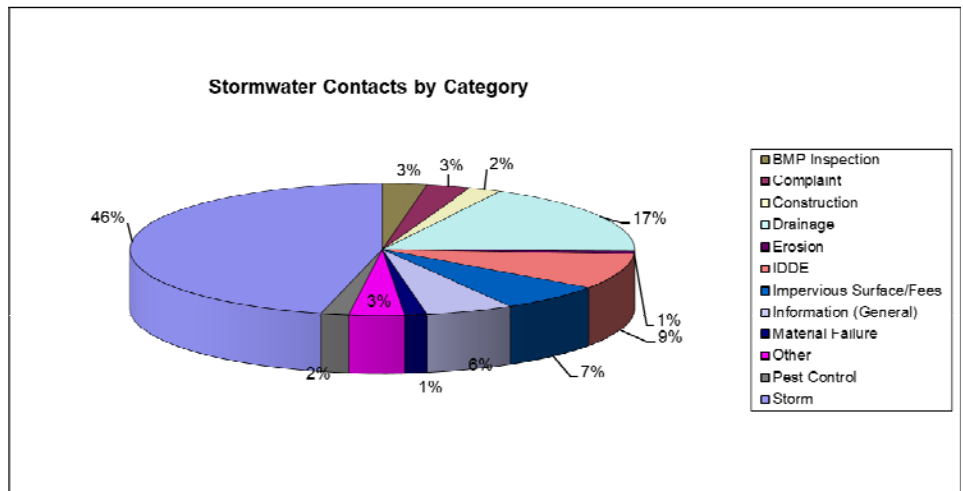
**Discussion of Elements:** All programs listed were ongoing and will continue to be utilized during 2019. These elements are addressed in the PDD.

**1. Public Notices:** The City of Cañon City complies with the Colorado Sunshine Act for public notice as set forth in Colorado Revised Statutes. All public meetings are posted on a public bulletin board inside City Hall at least 24 hours in advance on any public hearing. A notice is also printed in the local newspaper and in social media. Meeting schedules, agendas and minutes are posted on the City of Cañon City's website.

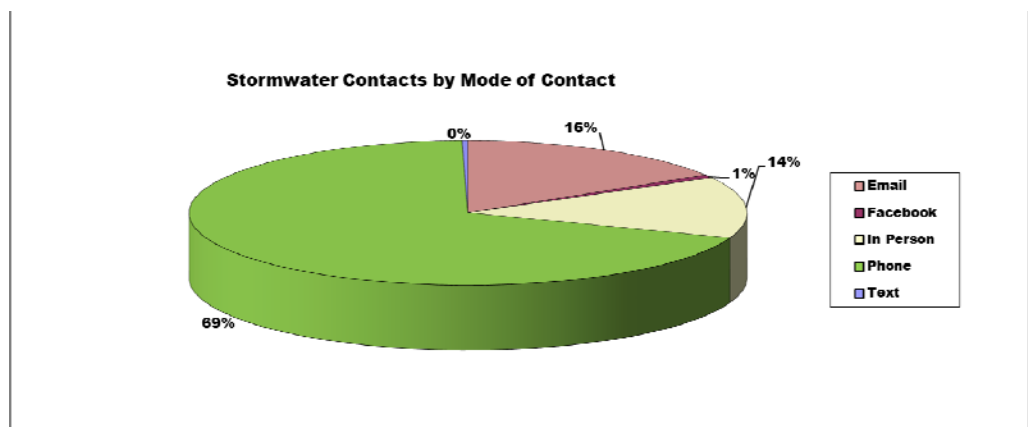
**2. Contact Information Availability:** Contact information is available through the quarterly newsletters and on the web page. It is also included in any newspaper articles and public service announcements. All City of Cañon City field staff have the Stormwater Technician's direct line in order to report any suspected illicit discharges.

**3. Feedback:** The quarterly newsletters encourage everyone to get involved by calling, emailing or writing in with their questions, complaints or ideas. A database is kept of contacts (phone, email, letters, "in person", social media and website report form) concerning stormwater issues with the intent to better track the effectiveness of the public education and outreach programs, as well as to assist in identifying areas and concerns which may need more public outreach. The database also assists in capital project planning. Contacts are broken into categories of issues to facilitate these decisions. The log represents those contacts handled directly by the Stormwater Technician and those handled by other departments or staff that the technician is made aware of. During 2018, 284 contacts were taken by staff. Of those calls, 25 were concerning illicit discharges. The number of contacts and mode of contact are broken into the following categories:

Category	# of Calls	% of Calls
Accident	0	0
BMP Inspection	8	3
Complaint	8	3
Construction	6	2
Drainage	50	17
Erosion	2	1
Illicit Discharge	25	9
Impervious Surface/Fees	19	7
Information (General)	16	6
Material Failure	4	1
Other	10	3
Pest Control	5	2
Storm	131	46



Mode of Contact	Number	%
Email	46	16
Facebook	2	1
In Person	39	14
Mail	0	0
Phone	196	69
Text	1	0



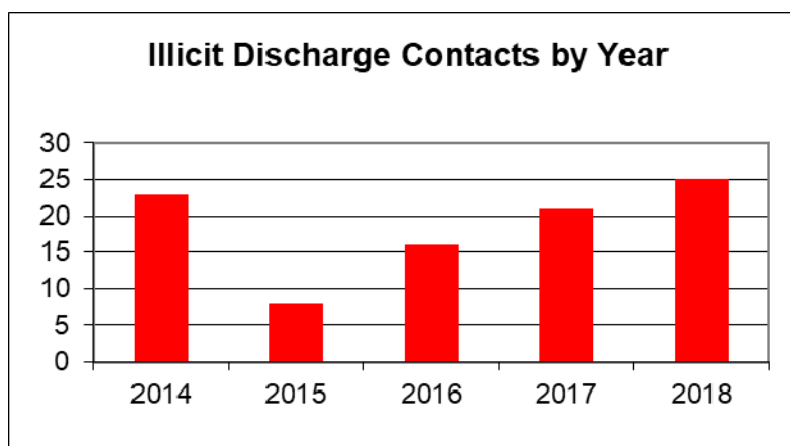
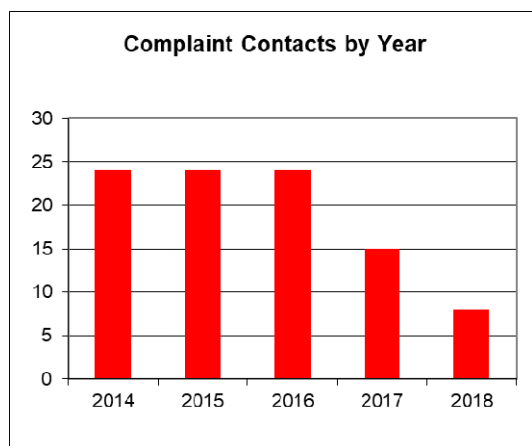
	2014	2015	2016	2017	2018
Accident		1	0	0	0
BMP Inspection	9	7	9	5	8
Complaint	24	24	24	15	8
Construction	5	8	12	12	6
Drainage	14	36	27	37	50
Erosion	2	5	10	5	2
Illicit Discharge	23	8	16	21	25
Impervious Surface/Fees	6	7	17	7	19
Information (General)	13	6	16	9	16
Material Failure				3	4
Other	3	6	5	7	10
Pest Control		2	2	1	5
Storm	44	34	1	23	131
Totals	143	144	139	145	284

The adjacent table show the number of contacts received in each category for 2014 through 2018. The number of contacts handled in 2018 was considerably more than in 2017 (284 vs 145). This is primarily due to the severe storms which occurred in July, 2018. Contacts resulted in 40 non-illicit discharge field investigations during 2018, which is up from the 33 in 2017. The following graphs show the contacts for some of the categories for the last five years. Variability in categories may be attributed to better tracking of the contacts, revisions made since the implementation of the database, training of municipal employees, public education and outreach and general variability of issues throughout the year. The Drainage,

Erosion, Illicit Discharge, Material Failure and Storm categories are separated from the Complaint category for better tracking of issues, even though some calls in these categories could be considered complaints. Categories for “Accident” and “Pest Control” were added in 2015 and a “Material Failure” category was added in 2017.

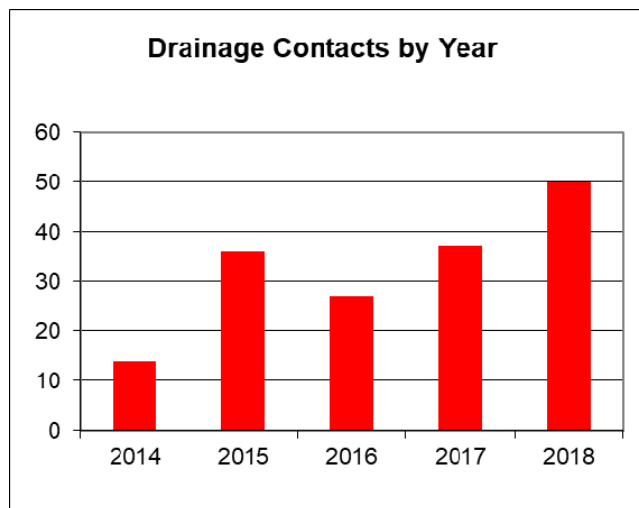
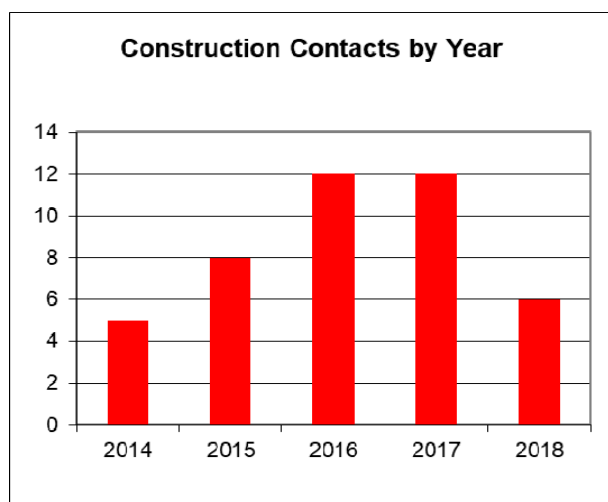
The complaint category covers a variety of issues from flooded property (non-storm related), debris, clogged culverts and inlets, and sediment accumulation to complaints about streets and vegetation. Complaints declined

during 2014, remained fairly level for three years and declined again in 2017 and 2018. All complaints are addressed as promptly as possible.



The amount of illicit discharge contacts has varied in the last five years (see above chart). Variability is influenced by the number of actual illicit discharges which occurred, community awareness and municipal employee training. (See Section 4 *Illicit Discharge Detection and Elimination*.)

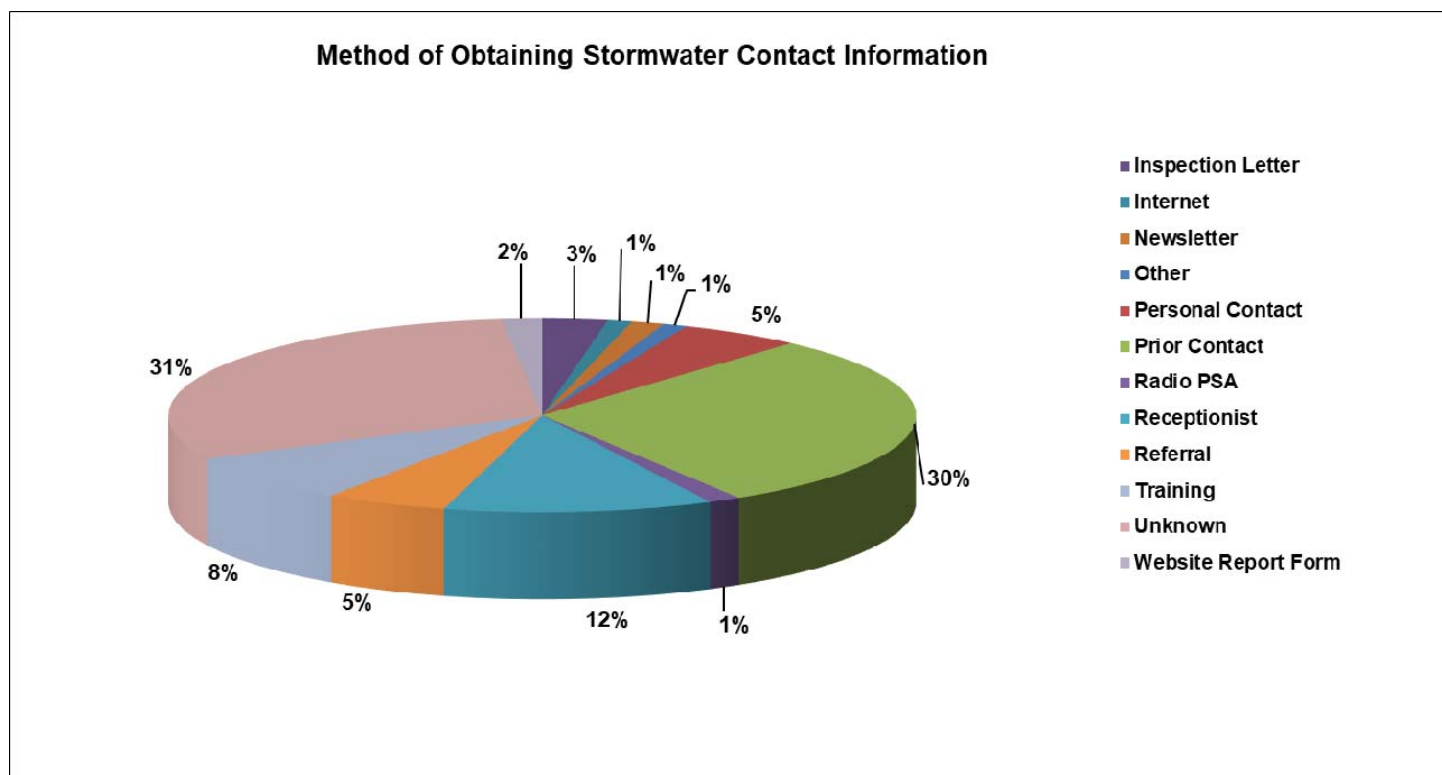
Construction calls increased over the last four years, then dropped by half during 2018. These types of calls include both complaints about construction and requests for construction information.



Drainage calls rose dramatically during 2015, dropped in 2016 and rose again in 2017 and 2018. This could be explained by the amount of precipitation received during the year, for example: the spring of 2015 was exceptionally wet, while 2016 was a drier year.

Statistical analysis of the data is not done, but the graphs generated from tracking contacts show general trends. Overall, it appears that the Public Outreach efforts of the Stormwater Program have been successful in increasing awareness of stormwater issues and in providing an avenue for the citizens and employees of Cañon City to participate in the program.

The database also facilitates tracking of other aspects, such as how the contact information for the Stormwater Program was obtained, in order to determine how effective our outreach efforts are. During 2018 the primary methods of obtaining stormwater contact information were through prior contact, the receptionist at City Hall and training. The chart below shows the breakdown. The method of contact is not consistently tracked (i.e. people are not consistently asked how they obtained the information). This is an area that needs strengthened.



The database is also linked with ArcMap. Reports from the various categories are plotted on the map to show areas which may need extra outreach and to assist in prioritizing infrastructure maintenance and capital projects.

#### **Action Items for new permit requirements:**

1. Documentation of the City of Cañon City's Public Notice process and a database will be created to maintain copies of any public notices concerning the Stormwater Program and comments received as part of the public notice process. The database will be completed by the January 1, 2019, deadline. [The City Clerk posts public notices in advance of meetings per the documented procedures.](#) In addition, all meeting agendas and minutes are posted on the City of Cañon City's website, including those pertaining to stormwater issues. Meetings are also posted on the City's social media accounts such as Facebook. Posts which incorporate stormwater issues are copied and kept in a stormwater file on the Stormwater Technician's computer as well as being entered into the yearly Annual Report Documentation spreadsheet. The spreadsheet and file were updated or created January 1, 2018.
2. The PDD requirements for Public Involvement/Participation will be completed prior to the January 1, 2019 deadline. Once completed, the PDD will be posted on the City's website for public's review and comment. [The PDD was completed on December 11, 2018 and a public notice announcement was added to the City's website on the same day.](#)
3. A mechanism will be developed for the public to comment on the PDD and for the City to respond; all comments will be tracked. [If any comments are received, the comments will be forwarded to the City Engineer or Stormwater Technician for formal response.](#) Comments and responses are kept in a folder on the Stormwater Technician's computer.

4. Requirement I.D.1.c (the ability to accept and respond to information submitted by the public) and I.D.2.c. (maintaining records of information submitted by the public and any actions taken to address the information) have already been met.

### **Section 3. Public Education and Outreach**

The Public Education and Outreach program strives to increase the public's awareness of potential local water quality problems associated with stormwater runoff. Its goal is to give people the information and tools they need to lessen their impact on stormwater runoff, which in turn can improve our local water quality. Assessment of effectiveness in this category is a subjective evaluation as it is difficult to directly track the effect each of these has on public awareness, participation and behavioral changes.

The revised permit lists the following requirements:

1) The permittee must implement a public education program to promote behavior change by the public to reduce pollutants in discharges from the MS4. Education and outreach activities, individually or as a whole, must address the impacts of stormwater discharges on water bodies, the steps the target audience can take to reduce pollutants in stormwater runoff, and water quality impacts associated with illicit discharges and improper disposal of waste.

2) The permittee must provide information to businesses and the general public regarding the permittee's prohibitions of and the water quality impacts associated with illicit discharges as part of the public education program. The information must include the following:

A) The permittee must determine the targeted businesses that are likely to cause an illicit discharge or improperly dispose of waste. At a minimum, the permittee must identify at least one type of business and a list of those businesses that fit the identified type of business.

B) The permittee must develop and implement at least one education and outreach activity to those businesses identified. Educational materials and activities, individually or as a whole, must describe water quality impacts associated with illicit discharges and the improper disposal of waste, the behaviors of concern, and actions that the business can take to reduce the likelihood of illicit discharges and the improper disposal of waste.

3) The permit provides a table of education and outreach activities that the permittee must choose from to implement during the year. At least four from the table must be implemented each year with at least two of those from the Active and Interactive choices. Activities can vary from year to year as long as at least four are done.

4) As part of their public education program, the permittee must specifically address the reduction of water quality impacts associated with nitrogen and phosphorus (nutrients) in discharges from the MS4.

A) The permittee must determine the targeted sources that are contributing to, or have the potential to contribute, nutrients to the MS4's receiving waters.

B) The permittee must prioritize which targeted sources are likely to obtain a reduction in nutrient discharges through education and must distribute educational materials or equivalent outreach to these. The educational materials or outreach must describe stormwater quality impacts associated with nitrogen and phosphorus in stormwater runoff and illicit discharges, the behaviors of concern, and actions that the target source can take to reduce nutrients.

The permit also details the types of written procedures, documentation and recordkeeping required to meet these requirements. Some of the requirements have an associated compliance date, which are discussed under the "Action Items for new permit requirements" section.

The following elements were used to meet our permit requirements during 2018.

## **Discussion of Elements:**

**1. Educational Materials and Activities from the provided table in the permit:** The new permit contains a table of the Education and Outreach Activities which may be used to meet the permit requirement. The table contains both Passive Outreach and Active/Interactive Outreach. The permittee must implement *at least* four activities each year and at least two have to be from the Active/Interactive column. The activities can vary each year as long as they meet the requirements. The City of Cañon City's past and current activities fall into the new activities table. As a whole, the activities address the impacts of stormwater discharges on our receiving waters and steps the general public and businesses can take to reduce their impact on stormwater runoff and thereby our local waterways. All the following programs were utilized during 2018.

### **i. Passive Outreach:**

A. Radio/television/movie theater advertisement: Ten different 30-second public service announcements concerning stormwater were aired on local radio stations during 2018 for a total air time of 294 minutes (4.9 hours). Five stormwater/water-related programs were run on CCTV-Channel 19 with a total air time of 168.8 hours. Radio public service announcements are rotated and new ones added throughout the year. Newspaper notices were also run in conjunction with the leaf pick-up program which includes stormwater information.

B. Distribute educational materials by brochure: Several different types of brochures are handed out during festivals at which the Stormwater Program has a booth. A complete list of brochures, activity books and giveaways is maintained by the Stormwater Technician. Titles and/or descriptions of each are listed as well as the amount given out at each event.

C. Distribute educational materials by fact sheet: Fact sheets are also often available at the Stormwater Program's booth during festivals. A rain barrel fact sheet is available in the information kiosk in the main lobby of City Hall. Additionally, several of the Code Enforcement and Planning and Zoning Fact Sheets available in the kiosk address trash and waste.

D. Publish article (hard copy or electronic): The Cañon City Daily Record published an article on the Stormwater Utility Fee which included information on the City's Stormwater Program.

E. Stormwater related signage: The City of Cañon City does have stormwater related signage as well as pet waste stations. Mapping of these signs and stations was begun in 2018 and will continue in 2019. All signs and stations will be entered into the CarteGraph OMS database during 2019.

F. The City of Cañon City's website was completely updated in 2015. The Stormwater Program's webpages were expanded during the update. The webpages now contain much more information for the public from informational brochures about water quality, illicit discharges and construction stormwater runoff control to children's activity booklets. A fillable form was also added to report a problem or an illicit discharge. Current editions of the newsletters, the annual program review, "Frequently Asked Questions" and the updated Illicit Discharge manual were added in 2017. Additionally, articles on litter, keeping ditches clean and the City of Cañon City's policy on leaf pickup and disposal were posted under the City News section. Visits to the stormwater webpages are now tracked, beginning in January, 2018, via monthly reports. For 2018, 2,434 webpage visits were recorded.

### **ii. Active and Interactive Outreach**

A. **Ongoing advertisement/promotion of a stormwater hotline number or other method to report an illicit discharge:** Contact information is provided in each of the quarterly newsletters, on the public service announcements aired by radio and on the City's website.



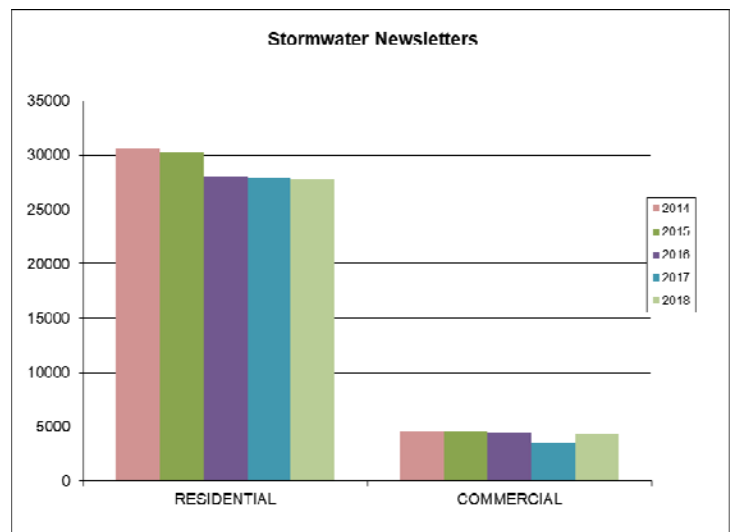
**B. Ongoing advertisement/promotion on how to get more information about the stormwater program:** Contact information is provided in each of the quarterly newsletters, on the public service announcements aired by radio and on the City’s website.

**C. Ongoing social media program:** The City of Cañon City has a Facebook page and Twitter account. The Stormwater Program posted thirteen times on a wide range of topics including ditch clean up, Cañon Proud clean up, river foam, the stormwater utility, litter, leaf clean up and various events. Code Enforcement posted several times about Earth Day and clean up events.

**D. Web site that is interactive or contains stormwater information that includes actions that can be taken to reduce stormwater pollution:** The City of Cañon City’s Stormwater webpages contain much more information for the public from informational brochures about water quality, illicit discharges and construction stormwater runoff control to children’s activity booklets. Information about what citizens and businesses can do to lessen their impact on stormwater runoff is found under the “What Can I Do To Help?” link. In 2018, an additional page titled “What’s in the Water?” was added, describing various types of foam and other substances that may be observed in our local waterways.

**E. Newsletter (hard copy or electronic):**

Quarterly stormwater newsletters are sent out with City water bills and are available on the City of Cañon City’s website. Each issue addresses stormwater concerns and provides information about the Stormwater Program and the prevention of illicit discharges. The public is encouraged to contact us with their concerns and questions or if they have suggestions for future topics or programs (newsletters include the contact information). During 2018, 27,717 newsletters were sent to residents and 4,318 newsletters were sent to commercial establishments. The adjacent graph compares the amount of newsletters sent out each year from 2014 through 2018. Beginning in 2018, the residents and businesses that receive their water bill via email also received the stormwater newsletter by email. A total of 2,239 newsletters were emailed throughout the year.



**F. Promotion of existing local stormwater/environmental events or program that help protect water quality:** The City of Cañon City promoted its Stormwater Program through a presentation on, and discussion of, the program to the Downtown Merchants’ Association and through a stormwater facilities tour for three City Council Members. The Stormwater Technician also appeared on the local radio station’s (KRLN) Morning Line to promote a presentation at the City of Cañon City’s Museum and History Center. The City also promoted a local Plogging (picking up litter while jogging) event as well as several Code Enforcement clean up events.

**G. Distribute promotional items or giveaways:** Brochures, activity books, fact sheets and other items are all given out during presentations, events and festivals the Stormwater Program has a booth at. An inventory is maintained of all items used as giveaways, as well as a spreadsheet listing how many of each item was given out during each event. During 2018, 1,159 activity books, fact sheets and brochures

were given out. A special coloring book was created for the Safety Town USA event; 600 of these were donated for the event. Other giveaways include magnets with contact information for the Cañon City Stormwater Program, pet waste baggie dispensers and litter bags. During 2018, 238 magnets, 168 litter bags and 565 pet waste baggie dispensers were given out.



Litter Bag



Magnet



Pet Waste Baggie Dispenser

**H. Participate in or sponsor a service project:** The Cañon City Stormwater Program is partnering with Mountain View Core Knowledge School to sponsor a Public Arts Mural program designed to involve local K-12 students in the creation of murals near waterways to replace several existing murals which are fading, peeling or have had graffiti sprayed over them. The City approved funds for a 3-year project in which students will research environmental themes for murals, submit artwork and paint the actual murals. The first murals are scheduled to be completed in May, 2019.

**I. Participate in or sponsor a stormwater or environmental presentation:** Three presentations were given during 2018 by the Stormwater Program. Topics included information about the program, impacts of urban stormwater runoff, including flooding, and specific information regarding power washing.

**J. Participate in or sponsor a stormwater or environmental event:**

i. The City of Cañon City's Code Enforcement Department held three clean-up events during 2018. Two were trash related events (Operation Clean Sweep) in which Code Enforcement provided large dumpsters in strategic areas of the city for residents to deposit items from property clean-up efforts. A total of 237 cubic yards of items were collected during the two events.

ii. Code Enforcement also sponsored a tire and electronics clean up event. The program ran from November 1 through December 1, 2018. A total of 57 TV vouchers and 84 tire vouchers were issued. The number of vouchers actually redeemed were 42 TV and 52 tire for a collective cost of \$2,242.80. The 52 tire vouchers resulted in 182 tires being recycled.

iii. The City of Cañon City also participates in the Cañon Proud clean up event every year. Funds were set aside for 150 trash vouchers, of which 97 were redeemed for a cost of \$1,309.50.

iv. The City of Cañon City financially assists the Upper Arkansas Area Council of Governments' recycling program. During 2018, the City gave the program \$13,067.00.

v. The Stormwater Program had a booth at the Salida Watershed Festival on August 25, 2018 in Salida. Approximately 110 visitors stopped at the table to observe demonstrations and pick up

information about the impacts of pollutants on stormwater runoff. The EnviroScape was used to give 20 demonstrations, during which visitors were asked to participate by “making it rain” on the model.

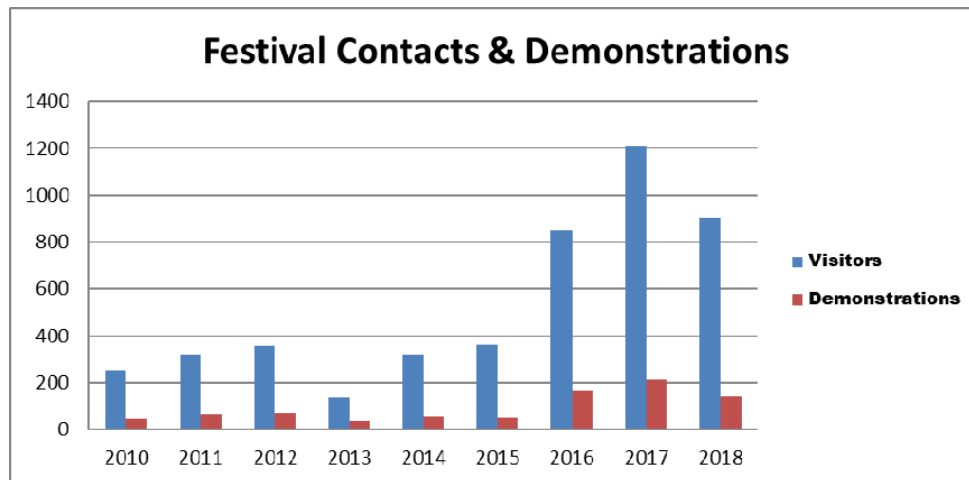
**K. Participate in or sponsor community project based programs that investigate watershed health and meet applicable school Science, Technology, Engineering and Math (STEM) standards:** The Stormwater Program participated in the planning for the 2019 Teaching Environment Naturally (TEN) course for Fremont County teachers, to be held from June 4 - 7, 2019.

**L. Stormwater booth at a community event:** A Stormwater Program booth is set up at one or more local festivals. EnviroScape demonstrations, short presentations and giveaways are all available at the booth. The giveaways include items such as information brochures, children’s activity books, litter bags, magnets and pet waste baggie dispensers. The number of visitors to the booth and demonstrations are recorded, as are how many items are given out. Programs are evaluated and updated continually in order to reach as many people as possible and to promote interest and participation in the programs. The following table lists the festivals that the Stormwater Program had a booth at 2018, along with the approximate number of visitors and the demonstrations done with the EnviroScape:

<b>Festival/Event &amp; Dates</b>	<b># of Visitors</b>	<b># of Demonstrations</b>
Blossom Festival Craft Fair 5/5-5/6/2018	285	49
Safety Jam 6/2/2018	304	38
National Night Out 8/7/2018	203	34



The Stormwater Program began having a booth at the Blossom Festival in 2010. Since then more festivals have been added. The following graph shows the approximate number of visitors and demonstrations given each year. In 2013 the booth was only set up during one day of the Blossom Festival, hence the much lower numbers. For 2015, the booth was not set up at the Blossom Festival, but rather at the parade. No demonstrations were given and the number of visitors was not tracked. Contacts during festivals and other presentations are not recorded in our contact database (*see Section 2. Public Participation/Involvement*) unless a specific complaint is taken.



**M. Conduct a stormwater survey:** The 2018 Citizen's Survey contained a question concerning citizens' satisfaction with stormwater drainage.

**N. Pet waste stations:** The Cañon City Parks Department provides pet waste stations with bags, trash cans and signage at all City parks, along the Riverwalk and along the Hogback Trail. Pet waste stations have also been added to the trail network in the Dawson Ranch Subdivision.



**O. Participate in, plan or present stormwater materials to schools:** The Stormwater Program offers presentations to all local schools. During 2018, presentations with EnviroScape and Stormwater Soup demonstrations were given to the following schools:

- Washington Elementary School – approximately 60 5<sup>th</sup> grade students
- Cañon City Middle School – 120 8<sup>th</sup> grade and approximately 136 6<sup>th</sup> grade students (several presentations)
- Harrison School – 55 Kindergarten students; 55 coloring books were also given to the students
- Mountain View Core Knowledge School – approximately 72 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> grade students (several presentations)
- Four Mile Adventist Christian School – 26 K-8 students; 44 coloring books and activity books were given to the teachers for distribution

**2. Illicit Discharge Education to Businesses and the Public:** The quarterly newsletters and radio PSAs often address the issue of illicit discharges. Both are disseminated or directed to businesses as well as the general public. They also provide tips for preventing contamination of stormwater runoff. The Stormwater Program webpages on the Cañon City website also contain a section on what businesses can do to minimize and/or prevent contamination of stormwater runoff. In 2018, the Stormwater Program determined that construction contractors, restaurants and window washers should be targeted as likely sources of illicit discharges or improper disposal of waste. Outreach was targeted to construction contractors as the primary type of business which may cause an illicit discharge. Outreach consisted of 187 newsletters mailed to Cañon City licensed contractors addressing construction site BMPs, illicit discharges, City regulations, and permitting. Additionally, a special business edition of the stormwater newsletter was mailed to 865 businesses in May. The newsletter contained information on the Nyloplast Snout/EnviroHood, power washing and window washing.



### **3. Nutrients.**

The new permit has the additional requirements of determining targeted sources that are contributing to, or have the potential to contribute nutrients to our receiving waters and to distribute educational materials or equivalent outreach to prioritized target audiences. Targeted sources of nutrients have been determined to be fertilizers, pet/animal waste and yard waste. Information about nutrient impacts is already included in most of the Stormwater Program's brochures and presentations; however, the 3<sup>rd</sup> Quarter Stormwater Management Program Newsletter focused exclusively on nutrients and how to minimize and/or prevent impacts from them. The newsletter was distributed as an insert with the water bills and via email to all Cañon City residents and businesses.

#### **Action Items for new permit requirements:**

1. Create a list of the targeted business types that are likely to cause an illicit discharge or improperly dispose of waste and list the local businesses under each type. Document the procedures used to create list. This will be completed prior to the July 1, 2018 deadline. [The list of targeted businesses was completed on 5/14/2018. Procedures to determine the targeted businesses are detailed in the Stormwater Technician's Reference Manual.](#)
2. Conduct consistent outreach to the targeted businesses and document. This will begin prior to the compliance date of July 1, 2018. [Education and outreach to targeted business types has been ongoing periodically since 2010. Beginning with the contractor newsletter in 2018, outreach and education will be done more consistently \(at least once a year\).](#)
3. Documentation of any signs and all pet waste stations. Permanent stenciling/markers of storm drains are already tracked in CarteGraph. [GPS mapping of stormwater signage and pet waste stations began in 2018, and will continue in 2019. All will be entered into the CarteGraph sign database during 2019.](#)
4. Determine targeted sources of nutrients and conduct outreach to prioritized targets. Document procedures and outreach. [Targeted source determination procedures and a list of targeted sources were completed by the deadline of January 1, 2018 and are contained in the Stormwater Technician's Reference Manual. Outreach will begin as per the permit's July 1, 2018 beginning compliance date. Nutrients are addressed in many of our brochures and fact sheets and will continue to be addressed through these avenues and during presentations. Specific outreach concerning nutrients began with the 3<sup>rd</sup> Quarter Stormwater Management Program Newsletter distributed to all Cañon City residents and businesses on July 26, 2018.](#)

### **Section 4. Illicit Discharge Detection and Elimination**

The revised MS4 permit clarifies the requirements for illicit discharge detection and elimination including more detailed requirements on regulatory mechanisms, tracing and removing a discharge, enforcement responses, priority areas and training. Recordkeeping is also clarified.

The City of Cañon City's Illicit Discharge Detection and Elimination (IDDE) program identifies sources of potential illegal discharges and actual discharges to the City's storm sewer system in order to reduce the frequency of these discharges and to protect the water quality of the Arkansas River and Four Mile Creek. Public education and municipal employee training are important elements in this program. Inspections of the storm sewer discharge pipes (outfalls) on the Arkansas River and Four Mile Creek as well as water quality testing if discharges are found are integral parts of the program.

**Discussion of Elements:** All programs listed were ongoing and will continue during 2019.

**1. Storm Sewer System Map:** The revised permit requires the permittee to maintain a current map of the location of all MS4 outfalls with the permit boundary. The City of Cañon City maintains a map of all storm sewer infrastructure including storm drains, pipes, culverts, manholes and outfalls in ArcMap. Outfall inspections and mapping of new outfalls continued during 2018. Outfalls are assigned to a category in the CarteGraph database based upon the primary type of flow. Many outfalls, though, will carry several types of flow (i.e. ground water, irrigation return and storm runoff). The categories and numbers of outfalls are listed in

the table below. An outfall is the point where a municipal storm sewer discharges to waters of the United States. A major outfall is a pipe with an inside diameter of 36 inches or more or where stormwater enters waters of the United States from a drainage area of more than 50 acres. An outfall pipe with an inside diameter of 12 inches which drains land zoned for industrial activities is also considered a major outfall; these have been separated into the Industrial Discharge category. Outlets are the structural point where BMPs such as detention basins empty to areas other than a waterbody. Facility outlets are the point at which a municipal facility discharges to the storm sewer system (including a street). This category was added in 2016 in preparation for the new permit requirements. Footing/Foundation and Roof Drains are only mapped if they discharge directly to a drainage or waterbody.

The Cañon City Stormwater Program has mapped a total of 570 outfalls, outlets and other drainage end points located along the Arkansas River, Four Mile Creek and the various drainages and irrigation canals throughout the City. The City of Cañon City has jurisdiction over 249 of them; County or State Agencies have jurisdiction for 28 and 293 are under private jurisdiction. The breakdown for each category as well as the number mapped during 2018 (new, rebuilt and previously identified but unmapped) is detailed in the following table. There is one unclassified outfall on which a drainage investigation needs to be conducted in order to determine which (if any) category it belongs in. Two outfalls in an industrial zone were disconnected from their source in 2017. The pipes remain in place and are periodically checked for discharges to ensure they remain disconnected.

<b>Category</b>	<b>Total Number</b>	<b>Number Mapped in 2018</b>
Disconnected	2	0
Facility Outlet	14	0
Footing/Foundation Drain	58	0
Groundwater Drain	34	2
Industrial Discharge	4	0
Irrigation Return	151	5
Major Outfall	25	2
Outfall	191	8
Outlet	42	0
Roof Drain	48	11
Unclassified	1	0

The footing/foundation and roof drains, groundwater drains and irrigation returns do not require yearly inspections or monitoring but are often noted during annual inspections of drainage channels. The City of Cañon City is currently not required to monitor industrial discharge outfalls as these are covered under separate discharge permits; again, these are often noted during other inspections. Outlets are inspected annually with the various BMPs and facilities. Outfalls and major outfalls are inspected annually (at a minimum). The outfall database in CarteGraph and the mapping assist in prioritizing inspections of the outfalls. During 2018, 197 inspections were conducted on outfalls, drains and outlets. The following table shows the breakdown of inspections.

Category	Annual/Routine Inspections	Complaint	Courtesy	Illicit Discharge	Initial
Disconnected	0				
Facility Outlet	7		4		
Footing/Foundation Drains	2				
Groundwater Drain	11				
Industrial Discharge	0				
Irrigation Return	35	1			4
Major Outfall	11			2	1
Outfall	93	3			7
Outlet	14				
Roof Drains	1				1

**2. Regulatory Mechanism:** The City of Cañon City adopted Ordinance No. 20, Series of 2005 to establish codes concerning illicit discharges. Some minor changes were made to the Ordinance, effective September 9, 2012 through Ordinance No. 14, Series of 2012 AN ORDINANCE MAKING CERTAIN MINOR AMENDMENTS TO THE CITY'S STORMWATER REGULATIONS. The Ordinance can be viewed on the City of Cañon City's website at [www.canoncity.org](http://www.canoncity.org).

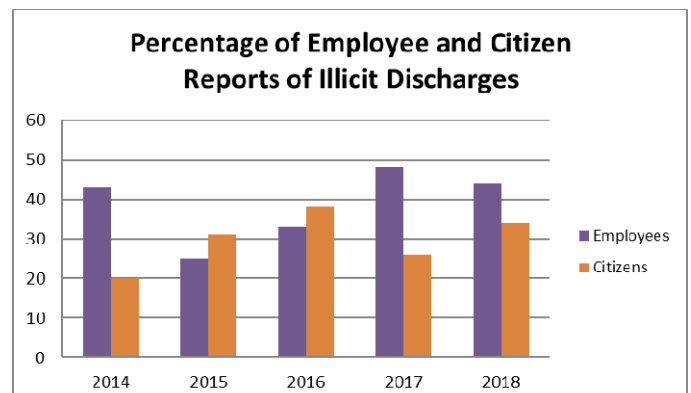
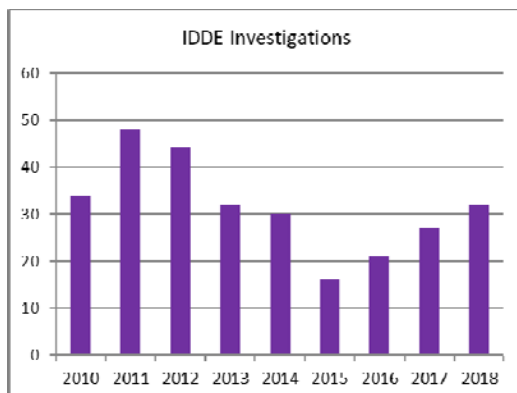
**3. Tracing an Illicit Discharge:** The revised permit requires the permittee to implement procedures to respond to reports or identifications of illicit discharges. The procedures and tools needed to trace the illicit discharge must be documented. The City of Cañon City had previously implemented an Illicit Discharge Detection and Elimination Manual (IDDE Manual) which documented the required procedures and tools. The manual was reviewed and revised in 2017 to ensure consistency with the permit requirements. The full manual may be viewed at

[http://www.canoncity.org/departments/departments/streets\\_stormwater\\_and\\_engineering/illicit\\_stormwater\\_discharge.php](http://www.canoncity.org/departments/departments/streets_stormwater_and_engineering/illicit_stormwater_discharge.php)

**4. Removing an Illicit Discharge:** The permit requires that the permittee must have written procedures requiring the cessation and removal of illicit discharge, including removal of any surface residue and pollutant sources. The IDDE Manual contains these procedures.

#### **i. Discussion of the Illicit Discharge Program**

Thirty-two incidents of potential illicit discharges were investigated during 2018. Although illicit discharge investigations have increased since 2015, overall they have declined since 2011. Not all investigations are due to actual illicit discharges. For example, in 2017, only 24 of the 27 investigations resulted in valid illicit discharges or potential illicit discharges; for 2018, 31 of the 32 investigations were valid or potential illicit discharges. The increase in investigations since 2015 may be contributed to better awareness and reporting of potential illicit discharges. The following graph on the left portrays the trend. The Contact database in CarteGraph assists in tracking how many reports of illicit discharges the Stormwater Program receives from citizens and employees (*See Section 3. Public Participation/Involvement*). The following graph on the right shows the reports received from each category as a percentage of the total number of illicit discharge investigations each year.



Illicit discharges are assigned a category in the CarteGraph database to assist in identifying types of pollutants which may need targeting through our Public Education program. The following table shows how many investigations for each category were conducted during the year. The database in CarteGraph allows for comparisons between categories each year which enables staff to see trends and adjust outreach accordingly.

Category	Investigations	Category	Investigations
Accident	0	Illicit Connection	1
Automotive Discharge	3	Leaking Dumpster	0
Blocked Flowlines	0	Non-hazardous Spill	0
Construction – Concrete Washout	3	Other	2
Construction – No BMPs	4	Pesticide/Herbicide/Fertilizer	1
Construction – Other	0	Pet Waste	0
Construction – Sediment Release	3	Power Washing	6
Hazardous Spill	1	Prohibited Discharges – Other	1
Illegal Dumping – Drainage	0	Restaurant Oil/Grease	1
Illegal Dumping – Flowline	1	Sediment	1
Illegal Dumping – Inlet	0	Sewage	0
Illegal Dumping – Other Area	2	Yard Waste	2
Illegal Dumping – Waterbody	0		

Water quality sampling is done when needed to assist in determining the source of the discharge. No sampling events were conducted in 2018. Benthic macroinvertebrate sampling of the Arkansas River and Four Mile Creek was not conducted in 2018 due to time constraints and budgetary concerns.

**5. Enforcement Response:** The revised permit requires that the permittee must implement written enforcement procedures and actions to eliminate the source of the illicit discharge when identified/reported, discourage responsible parties from willfully or negligently repeating or continuing illicit discharges and discourage future illicit discharges from occurring. The IDDE Manual contains these procedures which the Municipal Code allows for.

Investigations resulted in the illicit discharge enforcement measures shown in the adjacent table. All illicit discharges were corrected and cleaned up.

Enforcement Action	Number
Verbal Warning	16
Notice of Non-Compliance	4
Cease & Desist	1
Notice of Violation & Enforcement Action w/o fine	1
Letters detailing violation/corrective action	0
Emails detailing violation/corrective action	1

The database in CarteGraph facilitates tracking of other aspects of illicit discharge reports and investigations such as repeat violators. Two parties were repeat violators during the year in 2018; one of those parties received escalating enforcement, beginning with an email and verbal notices and escalating to a written Notice of Non-Compliance. Six of those cited had been previously cited for illicit discharges between 2007 and 2018. The CarteGraph database is also linked with ArcMap. Illicit discharge reports are plotted on the map to show areas which may need extra outreach or monitoring.

**6. Priority Areas:** The permit requires that the permittee must locate priority areas with a higher likelihood of having illicit discharges. The database and mapping of illicit discharges assists in determining areas of past illicit discharges and areas where illicit discharges are concentrated. Land use is also taken into account when determining priority areas. Using these criteria, which are documented in the IDDE Manual, the following areas were deemed priority areas for the City of Cañon City:



- NW Cañon from 2<sup>nd</sup> Street to 9<sup>th</sup> Street; Main Street to Pine Ave
- Businesses along the Water Street Channel from Rainbow Drive to 12<sup>th</sup> Street
- Businesses along Fremont Drive and East Main Street

**7. Training:** Training must be held for applicable municipal staff so they may recognize and appropriately respond to illicit discharges observed during typical duties. Illicit Discharge training was held for new hires and temporary employees on July 24, 2018. The nine trained included 1 Water Distribution, 1 Facilities, 1 Equipment Repair, 1 Engineering and 4 Parks employees and 1 City contractor. Attendees learned what to look for, how to respond and where the priority areas are. Training materials included a PowerPoint presentation and the MS4 RAINcheck video. In addition the employees each received a copy of the City of Cañon City's Pollution Prevention O & M Manual.

**Action Items for new permit requirements:**

1. Develop written procedures for updating the Storm Sewer Map. [Written procedures for updating and maintaining the storm sewer map are contained in the Stormwater Technician Reference Manual which was created in 2017.](#)
2. Review ordinances/municipal code and revise as necessary. [The review has been started and any needed updates will be completed prior to the July 1, 2019 deadline.](#)
3. Update the IDDE manual. [The updates were completed in 2017.](#)
4. Document written procedures for enforcement to ensure consistency. [The written procedures are included in the revised IDDE Manual. This was completed before the January 1, 2018 deadline.](#)
5. Develop written list of priority areas. [Written procedures were created for determining priority areas. The procedures are contained in the IDDE Manual. This was completed by the January 1, 2018 deadline.](#)
6. Revise training to include the priority areas. Update documentation of training to include recordkeeping requirements. [This was completed before January 1, 2018.](#)
7. Review CarteGraph database forms to ensure all requirements are included for recordkeeping. [This was completed before January 1, 2018.](#)

**Section 5. Construction Sites**

The Construction Sites Runoff Control area of our Stormwater Management Program is designed to reduce, as much as possible, sediment and other construction-related pollutants from entering our storm sewer system or from being discharged into the Arkansas River, Four Mile Creek and other drainages throughout the city. The revised permit contains new and clarified requirements which need to be implemented prior to July 1, 2019. Until all are implemented the City of Cañon City continues to adhere to the previous permit requirements as is stated in the new permit.

**Discussion of Elements:** All programs listed were ongoing during 2018.

**1 - 3. Regulatory and Compliance Mechanisms:** Ordinance No. 20, Series of 2005 and the City of Cañon City Grading, Erosion & Sediment Control (GESC) Manual were enacted in 2006. They have proved effective in obtaining compliance for construction site stormwater management.

**4. Site Plan Review:** The current procedures for site plan review are addressed through the City of Cañon City's Grading, Erosion and Sediment Control Manual and the Subdivision and Development Regulations.

**5. Procedures for receipt and consideration of information submitted by the public:** A database is kept of all contacts (phone, email, letters and "in person") concerning stormwater issues with the intent to better track the effectiveness of the public education and participation programs. (*See Section 2. Public Participation/Involvement*). All complaints and concerns are addressed promptly. Any illicit discharge

investigations resulting from a complaint or concern submitted by a citizen is logged into the Illicit Discharge database in CarteGraph and can be cross-referenced through the Contact database.

**6. Site inspections and enforcement of control measures:** Inspections are performed at all applicable construction and post-construction sites with appropriate enforcement actions being taken when needed. During 2018, there were eleven open Grading, Erosion and Sediment Control (GESC) permits. Two sites were inactive (no construction activity occurred). Forty-five inspections were performed of which thirty-three were routine, six were reduced inspections and seven were compliance re-inspections. Three of those permits were closed out during the year. Due to a clarification in the new permit, after July 1, 2016, Drainage, Erosion and Sediment Control (DESC) permits were no longer required for single family residences being built in subdivisions which have been stabilized, however contractors are encouraged to still apply for the permit to ensure proper BMPs and drainage are addressed for the site. Three DESC permits were issued and closed out during 2018. The inspections resulted in the following actions:

Enforcement Action	Number
Verbal Warning	0
Notice of Non-Compliance	2
Cease & Desist	0
Stop Work Order	0
Notice of Violation & Enforcement Action w/ fine	0

A detailed tracking system is in place to assess the number and nature of inspections and actions and to identify repeat violators. There was one violator which had been cited on previous occasions (prior to 2018). With the upgrade of our database to CarteGraph OMS, City construction permits will tracked in the database along with all inspections and enforcement actions.

**7. Training and education for construction site operators:** This is achieved using the GESC manual and through the plan review process. New information and resources are passed to local contractors and developers when available. Additional training opportunities and outreach offered in 2018 are listed below:

**A. Regional Stormwater Seminar**

Cañon City again joined forces with the City of Pueblo, the Pueblo City-County Health Department, the Pueblo County Engineering and Public Works Department and the Pueblo West Metro District (Southern Colorado Stormwater Education Committee) to host a Regional Stormwater Seminar on February 8, 2018. The seminar was geared toward contractors, developers and engineers who work throughout the region, as well as municipal employees. Featured topics and speakers were:

- Todd Griffeth with a Colorado 811 update
- Greg Osendorf, Hanes Geo Components: Cost Effective Alternatives to Riprap and Concrete
- Jennifer Keyes, Wright Water Engineers: Stormwater Construction Compliance for Linear Projects
- Laura Campbell, Triton Environmental: Prep It and It Will Grow

The seminar was held at CSU-Pueblo and was attended by 91 people, excluding organizers, speakers and vendors. The full report is kept with the MS4 permit documentation for 2018.

**B. CIP Training**

The Southern Colorado Stormwater Education Committee also held a CIP training at CSU-Pueblo on May 15, 2018. The training was conducted by Jennifer Keyes, Wright Water Engineers and was attended by 22 people.

### C. Special Edition Contractor Newsletter

In August, 2018, 187 newsletters were mailed to Cañon City licensed contractors addressing construction site BMPs, illicit discharges, City regulations, and permitting.

#### **Action Items for new permit requirements:**

1. Review the municipal code and ordinances for compliance with new permit requirements. The review has been started and any needed updates will be completed prior to the July 1, 2019 deadline.
2. Create a database to track any permitted exclusions. With the upgrade and implementation of CarteGraph OMS database, the City of Cañon City will be able to track exclusions allowed by the permit.
3. Update of the GESC Manual to reflect changes in the revised MS4 Permit. This will be completed prior to the July, 1, 2019 deadline.
3. Review and update, if needed, design standards/criteria. This will be completed prior to the July, 1, 2019 deadline.
4. Review procedures and documentation in regards to site plan requirements, review and recordkeeping. This will be completed prior to the July, 1, 2019 deadline.
5. Review inspection procedures and frequencies. Revise as needed to comply with new permit requirements and document. Review and revise inspection forms, if needed. This will be completed prior to the July, 1, 2019 deadline.
6. Document written procedures for enforcement to ensure consistency. The written procedures must include informal, formal and judicial responses. Revise ordinances if necessary. This will be completed by July 1, 2019.
7. Document training procedures for operators of applicable construction activities and document training. Documentation of training procedures will be completed prior to the January 1, 2019 deadline. Trainings are already documented in the Annual Report Program Documentation spreadsheet maintained by the Stormwater Technician.
8. Document procedures for IGAs, MOUs, etc. Written procedures will be created.

## **Section 6. Post-construction Stormwater Management in New Development and Redevelopment**

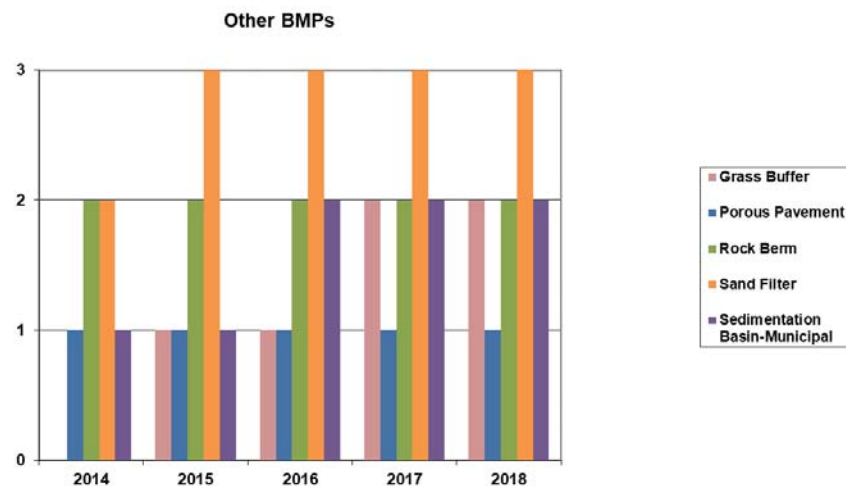
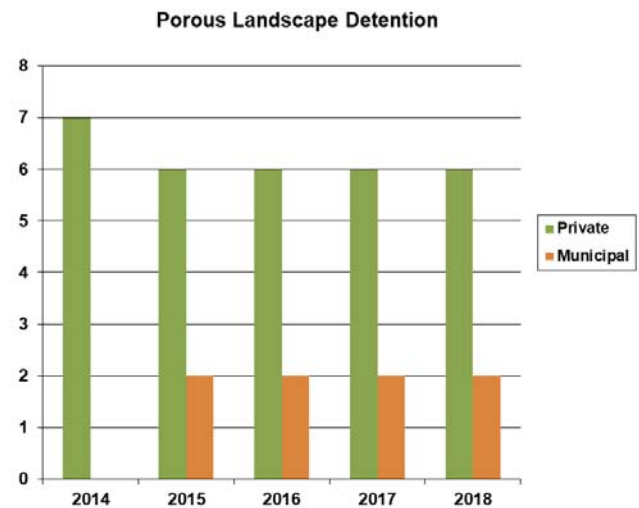
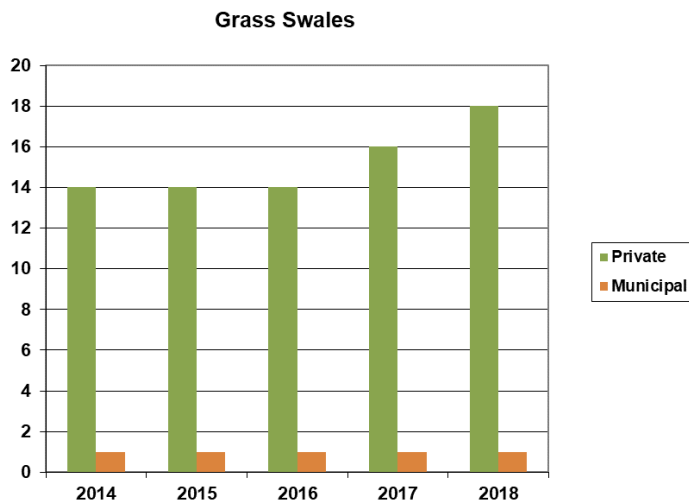
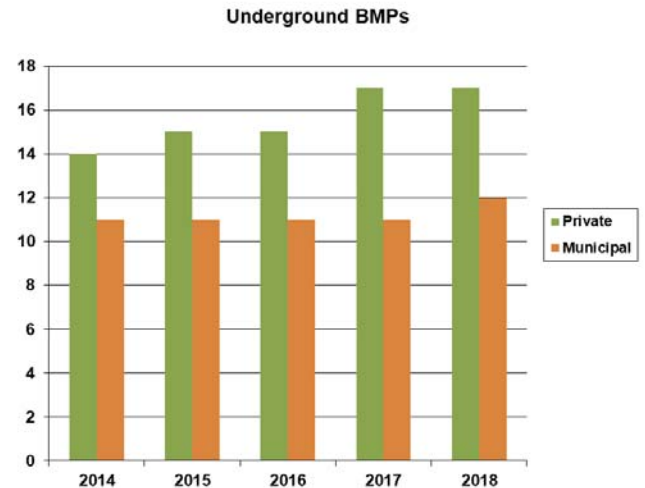
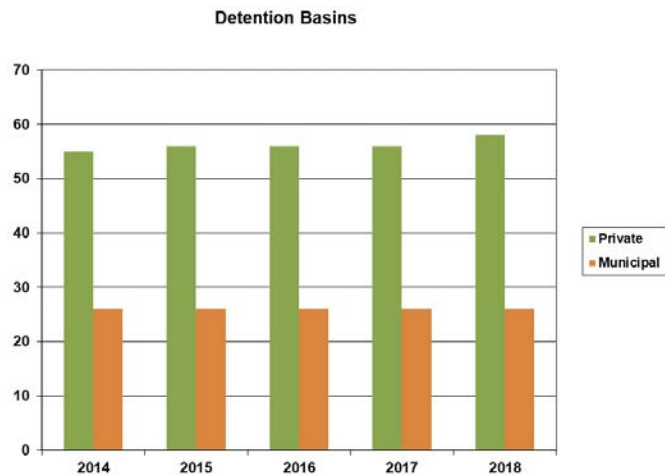
Per the City of Cañon City's MS4 permit, the Post-construction Stormwater Management program must reduce the stormwater impacts from areas of new development and significant redevelopment as much as possible through planning procedures and enforcement mechanisms. The revised permit contains new and clarified requirements which need to be implemented prior to July 1, 2019. Until all are implemented the City of Cañon City continues to adhere to the previous permit requirements as is stated in the new permit.

**Discussion of Elements:** All programs listed were ongoing during 2018.

**1 & 5. Regulatory Mechanisms:** Ordinance 20, Series of 2005 addresses the requirements for post-construction permanent BMPs including technical standards and specifications, review and approval procedures and the long-term operation and maintenance of the BMPs.

**2. & 3. Design Criteria & Standards and Review & Approval Procedures:** The site plan review process assures that post-construction structural BMPs meet design standards. Inspections during the construction process and final inspections assure that the BMP has been properly constructed.

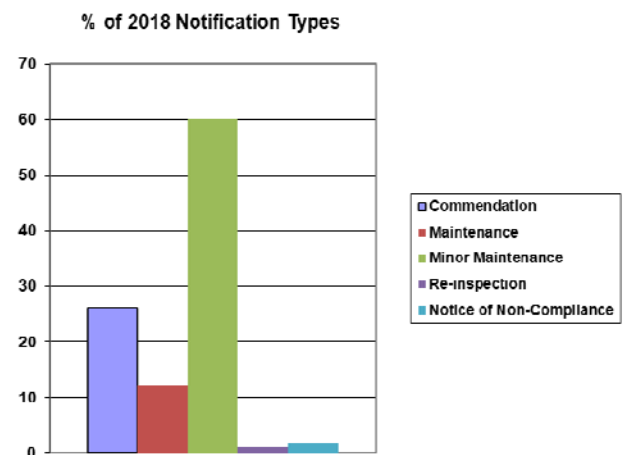
**4. Tracking:** Permanent BMPs are recorded at final inspection, mapped and entered into the CarteGraph database. Six new BMPs were implemented in 2018. The BMPs consisted of one Nyloplast Snout, two grass swales, one detention basin and two sand filters. Inspections resumed for one detention basin that had been removed from inspections per the owner's request prior to 2018. The following graphs show the number of private and municipal BMPs inspected each year from 2014 to 2018. Yearly variation in numbers reflects new BMPs added and BMPs removed from service.



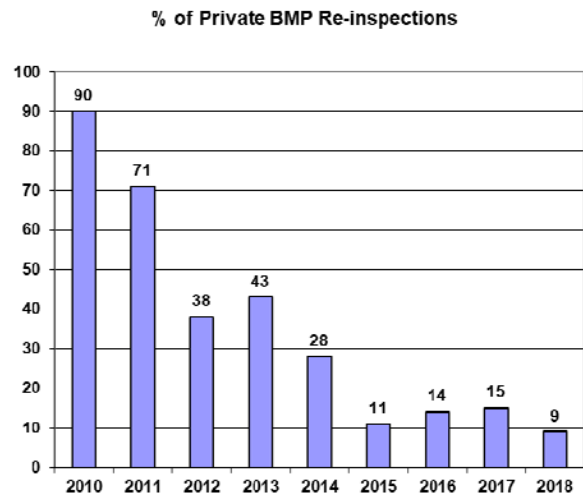
**6. Monitor long-term compliance:** One hundred fifty-two permanent BMPs, of which one hundred nine are under private custodianship, are inspected at least annually with the results of those inspections entered into the CarteGraph database. An inspection report and letter are sent to the custodian of the private BMPs. The letters fall into the categories of commendation, maintenance or minor maintenance. Minor maintenance letters are sent for those BMPs that need minor, routine maintenance such as trash removal. Recipients of the minor maintenance letters have shown a history of good maintenance and a willingness to respond favorably to past maintenance letters. A follow-up inspection is not done on the BMP. Maintenance letters are sent for those BMPs which need more extensive maintenance. The BMP is then re-inspected approximately 30 days later (depending upon the severity of the problem noted) and enforcement procedures are instituted if the corrective maintenance has not been done. For municipal BMPs, the appropriate department receives the inspection report which also serves as a work order. During 2018, a total of 179 inspections were performed on permanent BMPs. The following table shows the breakdown of the inspections. The “Courtesy” category of inspection has been added in response to clarified permit requirements which state that only those BMPs within the permit boundary (City Limit) need to be inspected. Prior to the 2016 revised MS4 permit all municipal BMPs were inspected whether they were inside the permit boundary or not. To remain consistent, those BMPs outside of the permit boundary are still inspected as a courtesy to the department which maintains them.

	Private/Federal/County			Municipal		
	Basins	Storm Vaults	Other BMPs	Basins	Storm Vaults	Other BMPs
<b>Annual</b>	57	17	30	24	8	5
<b>Complaint</b>	2	0	0	1	0	0
<b>Construction</b>	1	0	0	1	0	0
<b>Courtesy</b>	0	0	0	1	3	0
<b>Illicit Discharge</b>	0	0	0	0	0	0
<b>Initial</b>	1	0	4	0	1	0
<b>Maintenance</b>	0	0	0	0	0	0
<b>Monitoring</b>	0	0	0	4	0	0
<b>Other</b>	0	1	0	1	0	0
<b>Post-Storm</b>	0	0	0	4	0	0
<b>Re-inspection</b>	7	2	1	2	0	0
<b>Storm</b>	0	0	0	1	0	0

Eighty-three notifications were sent to non-municipal custodians indicating some level of non-compliance (i.e. needing maintenance). Of those, thirteen were maintenance letters and sixty-seven were minor maintenance letters. One letter was sent after a re-inspection revealed the requested maintenance had not been done and one custodian received two Notices of Non-Compliance for removal of an existing BMP without notifying the City Engineer or submitting plans for a replacement. Twenty-nine of the inspections resulted in letters of commendation being sent to non-municipal custodians. The adjacent graph shows the percentages of types of notifications sent out during 2018.



The adjacent graph shows the trends in re-inspections from 2010 to 2018 for BMPs under private custodianship. Numbers are shown as a percentage of BMPs which needed to be re-inspected after maintenance notices were sent out. Some BMPs were re-inspected more than once depending upon compliance or the time frame needed for completion of requested maintenance. As the graph indicates, re-inspections have declined significantly from 2010. This may be interpreted as more consistent routine maintenance of the privately owned BMPs, resulting in fewer maintenance letters involving re-inspections.



#### **Action Items for new permit requirements:**

1. Create Standard Operating Procedures or other documentation for exclusions. Create database to track required information. [This will be completed prior to the July 1, 2019 deadline.](#)
2. Review applicable ordinances and revise if needed. [The review has been started and any needed updates will be completed prior to the July 1, 2019 deadline.](#)
3. Review ordinances & current procedures concerning control measure design, revise if necessary. Review any manuals/design specifications & revise to meet new requirements. Create SOPs if needed. [This will be completed prior to the July 1, 2019 deadline.](#)
4. Review current procedures for site plans. Revise if necessary. Create SOPs if needed. Revise the CarteGraph database if needed or create a new recordkeeping method. [This will be completed prior to the July 1, 2019 deadline.](#)
5. Review, revise and document procedures for construction inspection and acceptance. Revise recordkeeping. [This will be completed prior to the July 1, 2019 deadline.](#)
6. Review, revise and document procedures for long-term operation, maintenance and post-acceptance oversight. Revise CarteGraph database forms as needed. [This was completed prior to the July 1, 2019 deadline. Inspection procedures and procedures for tracking are contained in the Stormwater Technician Reference Manual. CarteGraph forms have also been revised.](#)
7. Review, revise and document procedures for enforcement response. Revise CarteGraph database forms as needed. [This will be completed prior to the July 1, 2019 deadline.](#)
8. Document procedures for tracking permanent BMPs. Revise CarteGraph database forms if needed. [This has been completed. Procedures are documented in the Stormwater Technician Reference Manual.](#)
9. Document training procedures and revise recordkeeping. [This will be completed prior to the July 1, 2019 deadline.](#)
10. Document procedures for IGAs, MOUs, etc. [This will be completed prior to the January 1, 2019 deadline.](#)

### **Section 7. Pollution Prevention/Good Housekeeping For Municipal Operations**

The focus of this area of the Stormwater Program is to reduce the amount and type of pollution that is generated by municipal operations or from municipally-owned properties to the maximum extent practicable. The revised MS4 permit requires the permittee to implement a program to prevent or reduce water quality impacts from pollutants from facilities and operations that they own, operate or perform *within the permit area*. The permit conditions have a range of compliance dates from July 1, 2017 to July 1, 2021.

**Discussion of Elements:** All programs listed were ongoing during 2018.

**1. Municipal Facility Runoff Control Measures:**

A. The permittee shall implement control measures to prevent or reduce potential discharges of pollutants to the MS4 from following municipal facilities: vehicle maintenance facilities, asphalt and concrete batch plants which do not have a separate permit, solid-waste transfer stations and outdoor storage yards with exposed stockpiles of materials.

B. The permittee shall implement the following categories as necessary to prevent or reduce the pollutant sources present: preventative maintenance, good housekeeping, spill prevention and response procedures, structural control measures, evaluation of non-stormwater discharges and employee training.

C. The permittee shall implement written municipal facility inspection procedures which, at a minimum, must include:

- An annual visual inspection of each applicable municipal facility
- Verification that written facility procedures and documentation reflect current conditions
- Observation of locations and areas where stormwater is discharged off of facility
- Observation of facility conditions, including pollutant sources and control measures.

The recordkeeping requirements for the above permit requirements include the following for each facility:

- Facility identification
- Description of all pollutant sources
- Control measures implemented
- Staff responsible for implemented control measures
- Description of control measures implemented for bulk storage structures
- Inspection records which contain the following: Inspection date, Inspector, Facility ID, Inspection findings including any evidence of polluted discharges leaving the facility and a list of follow-up actions if needed.

Most of these requirements were already being met through the previous permit's requirements. A Pollution Prevention Operations and Maintenance Manual had been created and implemented on January 1, 2010. The manual was reviewed and revised prior to the July 1, 2017 deadline.

A database of all municipal facilities is kept in CarteGraph. Currently there are 59 municipal facilities of which 13 are outside of the permit area. All of the required information is tracked in the database, including inspections. The forms in CarteGraph were reviewed and revised to ensure that all required data is recorded. Two new forms were created to address pollutant sources and pollution potential for each facility in 2017. The following table shows the number of facilities under each City department.

<b>Department</b>	<b>Total # of Facilities</b>	<b># outside of Permit Area</b>
<b>Stormwater</b>	4	2
<b>Facilities</b>	2	1
<b>Parks</b>	37	5
<b>Streets</b>	1	1
<b>Water Distribution</b>	1	1
<b>Water Treatment</b>	14	3

All municipally owned facilities (including parks) are inspected annually. Courtesy inspections are conducted on those facilities outside of the permit area. The results of the inspections are sent to the appropriate department heads. In 2018, sixty inspections were conducted – 46 annual inspections, 1 construction inspection, 10 courtesy inspections, 2 initial inspections and 1 monitoring inspection.

**2. Municipal Operations and Maintenance Procedures:** The permit requires the implementation of control measures that prevent or reduce discharges from applicable municipal operations (activities). The minimum municipal operations that must be addressed includes:

- Operation and maintenance of streets, roads, highways
- Operation and maintenance of municipal parking lots
- Operations at maintenance storage yards
- Operations at maintenance shops with outdoor storage areas
- Operation and maintenance of snow dumps/snow disposal areas
- Operation and maintenance of sites used for temporary storage of sweeper tailings or other waste piles
- Park and open space maintenance
- Building maintenance
- New construction of municipal facilities
- Application of pesticides, herbicides and fertilizers
- Large outdoor festivals and events
- Municipal construction activities
- Maintenance, replacement and construction of utilities and the storm system

The Pollution Prevention Operations and Maintenance Manual covers each of these areas in detail, providing standard operating procedures for each department in order to reduce or eliminate any pollutants which may be discharged during municipal activities.

**3. Nutrient Source Reductions:** The permittee must implement a program to prevent or reduce nitrogen and phosphorus in stormwater runoff associated with municipal facilities and operations. The City of Cañon City must evaluate, identify and document municipal operations and facilities that have the potential to contribute nitrogen and phosphorus to stormwater runoff and ultimately to the Arkansas River and Four Mile Creek. The City must then implement control measures to prevent or reduce this from happening. These requirements have a compliance deadline of July 1, 2020.

The Pollution Prevention Operations and Maintenance Manual addresses operations and procedures to reduce or prevent nitrogen and phosphorus in stormwater runoff from municipal facilities and operations. The CarteGraph database forms provide for the evaluation, identification and documentation of the facilities with the potential to contribute nutrients to runoff, as well as the types of control measures implemented to prevent or reduce pollutants from leaving the facility.

**4. Outdoor bulk storage structures of more than 55 gallons for petroleum products and other liquid chemicals:** The permit requires secondary containment or equivalent protection for any bulk storage structures. Currently municipal facilities within the permit area do not have any bulk storage structures which meet the permit requirements. If at any time such structures are installed within the permit area, secondary containment or equivalent protection will be provided. This requirement has a compliance deadline of July 1, 2021. Secondary containment was installed around the Mag Chloride container at the Public Works facility in 2018. This facility is outside of the permit limits.



**5. Training:** The permit requires that applicable municipal staff be trained to implement good housekeeping and pollution prevention during their regular duties. The training must also include information on trash and its effects on water quality. Municipal Pollution Prevention training was held for new hires and temporary employees on July 24, 2018. The nine trained included 1 Water Distribution, 1 Facilities, 1 Equipment Repair, 1 Engineering and 4 Parks employees and 1 City contractor. Training materials included a PowerPoint presentation and the MS4 RAINcheck video which addressed good housekeeping, spills, vehicle maintenance, materials management, municipal facilities maintenance and landscape management. In addition the employees each received a copy of the City of Cañon City's Pollution Prevention O & M Manual.

In addition to the permit requirements The City of Cañon City also conducts inspections on other drainage and stormwater infrastructure such as drainage channels, storm drains, manholes and culverts. Each has its own database in CarteGraph in which is recorded data on each asset and inspection reports.

<b>Channels</b>	<b>Private</b>	<b>Municipal</b>
<b>Annual</b>	27	54
<b>Complaint</b>	0	6
<b>Construction</b>	1	1
<b>Initial</b>	1	2
<b>Post-storm</b>	0	1
<b>Re-inspection</b>	0	2
<b>Storm</b>	0	1

Approximately 17 miles of drainage channels (including some under private custodianship) are inspected. Ninety-six inspections were conducted on the fifty-seven channels under the custodianship of the City of Cañon City and the thirty under private custodianship during 2018. The adjacent chart shows the breakdown for inspection types.

Of the channels under private custodianship which were inspected, fifteen received letters of commendation for keeping the channels clean.

Twelve minor maintenance notices and one maintenance notice were sent. Maintenance (i.e. mowing, trash clean-up, and post-storm debris and sediment removal) was performed on eighteen of the municipal channels during 2018.

Storm drains are mapped and categorized as part of our Stormwater Program. A percentage of those are inspected yearly. A total of 1,108 storm drains have been identified and mapped to date. Of these, 699 are under municipal jurisdiction, 99 are under county/state/federal jurisdiction and 310 are under private jurisdiction. Like outfalls, inlets are assigned to a primary category in the CarteGraph database. The categories are Irrigation, Irrigation Box, Irrigation Clean-out, Overflow, Storm Clean-out and Storm Inlet. Irrigation boxes/clean-outs and overflows are only mapped when they have the potential to also receive stormwater runoff or are connected to pipes under City streets. The breakdown for each category as well as the number mapped during 2018 (new, previously identified but unmapped and rebuilt/moved inlets) is detailed in the following table.

<b>Category</b>	<b>Total Number</b>	<b>Number Mapped in 2018</b>
Irrigation	1	0
Irrigation Box	2	0
Irrigation Clean-out	228	6
Overflow	16	1
Storm Clean-out	37	1
Storm Inlet	824	11

There were 144 inlet inspections done during 2018. The following table shows the inspections done per category of inlet.

Category	Complaint	Courtesy	Illicit Discharge	Initial	Re-inspection	Routine
Irrigation	0	0	0	0	0	0
Irrigation Box	0	0	0	0	0	0
Irrigation Clean-out	3	0	0	4	0	15
Overflow	1	0	0	0	0	1
Storm Clean-out	0	0	0	1	0	5
Storm Inlet	8	1	13	10	1	81

Storm manholes are also mapped and categorized as part of our Stormwater Program. A percentage of those are inspected yearly. A total of 214 storm manholes have been identified and mapped to date, but data still needs to be collected for many of them. Of these, 168 are under municipal jurisdiction, 15 are under county/state/federal jurisdiction and 31 are under private jurisdiction. Like outfalls and inlets, manholes are assigned to a primary category in the CarteGraph database. The breakdown for each category as well as the number mapped during 2018 (new, previously identified but unmapped and rebuilt/moved manholes) is detailed in the following table.

Category	Total Number	Number Mapped in 2018
Combination Irrigation/Storm	12	0
Dry Well/Clean-out	4	0
Irrigation Clean-out	20	4
Storm Manhole	173	4
Storm Sump Manhole	1	0
Vault Access	1	0
Vault Clean-out	3	0

There were 16 manhole inspections done during 2018. The following table shows the inspections done per category of manhole.

Category	Complaint	Illicit Discharge	Initial	Maintenance	Re-inspection	Routine
Combination Irrigation/Storm	0	0	0	0	0	0
Drywell Clean-out	0	0	0	0	0	0
Irrigation Clean-out	1	0	4	0	0	1
Storm Manhole	0	2	3	2	1	1
Storm Sump Manhole	0	1	0	0	0	0
Vault Access	0	0	0	0	0	0
Vault Clean-out	0	0	0	0	0	0

The culverts database currently contains 572 culverts. The City of Cañon City has jurisdiction of 431; 50 are under county/state/federal jurisdiction and 91 are under private jurisdiction. Culverts are divided into two categories based upon the primary type of flow they receive: drainage or irrigation flow. Of the culverts in the database, 401 are classified as drainage and 171 are irrigation. There were 225 inspections conducted on culverts during 2018. The following table shows the number of inspections done in each category.

Category	Complaint	Courtesy	Initial	Maintenance	Re-inspection	Routine
Drainage	2	8	10	2	2	189
Irrigation	0	0	7	2	0	3

Data entry into the storm pipe database began in 2016. Pipes are assigned to a category based on the primary type of flow they carry. The categories are Groundwater, Irrigation, Non-Potable, Potable, Stormwater, Stormwater Siphon and Waste. Currently the database contains 1,892 pipes totaling approximately 40 miles. The City of Cañon City has jurisdiction over 920 of the pipes (approximately 22.9 miles); 154 are under county/state/federal jurisdiction (approximately 3.6 miles) and 818 are under private jurisdiction (approximately 13.4 miles).

Stormwater infrastructure projects completed during 2018:

- Completed the Hydraulic Ditch Study.
- Began the Dawson Ranch Culvert Study.
- Maintenance, repair and replacement of storm water infrastructure on Park Ave, Field Ave and Four Mile Lane.
- Installation of additional check dams in the drainage west of Storm Ridge.
- Rebuilding of two Main Street alleys to improve drainage.
- Storm clean-ups and repairs City-wide

#### **Action Items for new permit requirements:**

1. Document SOPs for selection, installation, implementation and maintenance of control measures. Prepare Municipal Facility Runoff Control Plans. [This was completed by the July 1, 2017 deadline.](#)
2. Review current SOPs for municipal facilities, revise as necessary. Revise CarteGraph forms as necessary. [This was completed by the July 1, 2017 deadline.](#)
3. Document inspection procedures and revise CarteGraph inspection forms if necessary. [This was completed in 2017, prior to the July 1, 2019 deadline.](#)
4. Review current SOPs for municipal operations, revise as necessary. [This was completed by the July 1, 2017 deadline.](#)
5. Identify, evaluate and document operations and facilities which have the potential to contribute nutrients to the MS4. Create new or revise existing SOPs. [This was completed in 2017, prior to the July 1, 2020 compliance deadline.](#) Implement control measures as necessary. [This will be completed by the July 1, 2020 deadline.](#)
6. Identify sources needing secondary containment, install the containment and document. Currently no municipal facilities within the permit area require secondary containment. [This was done prior to the July 1, 2021 deadline.](#)
7. Review training procedures and documentation. Revise as necessary. [This was completed.](#)

#### **Trainings and Conferences:**

1. Trainings on the CarteGraph OMS database
2. US Army Corps of Engineers Section 408 webinar
3. Illicit Discharge Sampling webinar
4. Crafting Social Messages that Really Work webinar
5. StormCon annual conference in Denver
6. Designing Beautiful & Functional Urban Drainage Infrastructure webinar
7. Success with Stormwater Fees, EPA webinar
8. Colorado Association of Stormwater and Floodplain Managers annual conference

**Memberships/Partnerships:** The City of Cañon City is a member of, or involved in, several councils and associations. The following meetings were attended during 2018:

- A. Colorado Stormwater Council (CSC): Cañon City's representative to the CSC attended 9 membership meetings; 3 of which were via conference calls.

- B. Urban Drainage and Flood Control District (UDFCD): UDFCD began hosting quarterly meetings with the CDPHE staff again in 2016. Three meetings were attended during the year.
- C. The City of Cañon City is a member of the Colorado Association of Stormwater and Floodplain Managers. The annual conference was attended by the City Engineer.
- D. The Stormwater Program is a member of the Regional Stormwater Education/Outreach Committee, partnering with Colorado Springs, Pueblo and surrounding small MS4 permittees to pool resources and share ideas for regional stormwater outreach. One meeting was attended in 2018. The committee has since disbanded.
- E. The Stormwater Program is also a member of the Southern Colorado Stormwater Education Committee, along with the City of Pueblo, Pueblo County, Pueblo West and the Pueblo City/County Health Department. The committee hosts a seminar each year for construction stormwater education and training of contractors, developers, engineers and municipal employees.
- F. A Stormwater Task Force committee was formed in 2017 in partnership with members of the Cañon City Council, Fremont County Commissioners and the Hydraulic Ditch Company. Meetings are mediated by a representative from the Upper Arkansas Area Council of Governments. The mission of the task force is to create a road map to address stormwater issues, in particular funding stormwater infrastructure improvements. The task force has facilitated the funding of a study of the Abbey Detention Basin and stormwater flows intercepted by the Hydraulic Ditch. The latter study will also identify potential primary projects to alleviate some of the flooding of the ditch and surrounding areas. The task force is also working on the concept of an expanded Stormwater Authority which would encompass the populated areas around the Cañon City limits which lie in the county and are not currently under a MS4 permit.