

2021 Stormwater Program Annual Review

CITY OF CAÑON CITY



PREPARED BY CITY OF CAÑON CITY
STORMWATER PROGRAM



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CITY OF CAÑON CITY

Stormwater

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2021 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 submit an annual report to the State.

On April 15, 2016, CDPHE issued a revised “Stormwater Discharges Associated with Municipal Separate Storm Sewer Systems (MS4s)” permit. This permit became effective on July 1, 2016 and is currently under administrative extension. The revised permit has a slightly different structure from the previous permits and contains several new requirements with compliance deadlines to meet. Although the permit structure varies from the previous permit the areas which must be addressed to minimize potential pollutants remain. An additional requirement of a Program Description Document is also included in the revised permit.

The MS4 discharge permit contains six areas the City must address in its Stormwater Management Plan. These areas are:

- Public Involvement/Participation
- Public Education and Outreach
- Illicit Discharge Detection and Elimination
- Construction Sites
- Post-construction Stormwater Management in New Development and Redevelopment
- Pollution Prevention/Good Housekeeping for Municipal Operations.

Each of the areas has several program elements which have been used to meet the goals of the Stormwater Management Plan.

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 contains a breakdown of activities completed to meet the requirements of the current permit, including any requirements with compliance deadlines during 2021.

Supplemental Information

Recordkeeping

In late 2018, the City of Cañon City upgraded its asset management database from Cartegraph Navigator to Cartegraph OMS. The upgrade allows the City to not only track information and inspections on assets as was previously done, but also allows for a more accurate accounting of tasks and costs associated with those assets. It

also assists with documenting citizen contacts and any tasks associated with those contacts. The database was also expanded to include City assets other than just Stormwater. Recordkeeping with the OMS database began in 2019 with adjustments to the methods and information tracked continuing in order to provide the best information possible.

Appendix A contains a table of the time and expenses associated with the Stormwater Program which are tracked in the Cartograph OMS database.

Covid-19 Pandemic Impacts

Beginning in March, 2020, State, Local and Nationwide restrictions were introduced to slow the spread of the virus. Although these restrictions have eased, many in-person gatherings and events the Stormwater Program normally participates in as a venue for public education and outreach and training for municipal personnel were cancelled. The restrictions also impacted, to some extent, routine work. Impacts and solutions, as applicable, are included in the discussions of each section below.

Stormwater Management Plan

Section 1. Program Description Document (PDD)

The PDD is a requirement in the 2016 revised 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 is 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 (MS4s) 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.”

The PDD is updated as needed to reflect changes to information and documents concerning the Stormwater Program. To date there have not been any requests from citizens to review the PDD.

Section 2. Public Involvement/ Participation

The goal of the Public Involvement/ Participation 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 the elements used to meet this requirement has on public awareness and participation.

The 2016 revised permit clarified the public notice, feedback and recordkeeping requirements. All public notices concerning stormwater are documented in a yearly program documentation spreadsheet maintained by the Stormwater Coordinator. The public can provide feedback through email, in person, via social media and applications, or by phone. Contacts are documented in the Cartograph OMS Requests database.

Discussion of Elements: All programs listed below were ongoing in 2021, and will continue to be utilized during 2022. 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 of any public hearing. A notice is also printed in the local newspaper and posted on social media. Meeting schedules, agendas and minutes are posted on the City of Cañon City's website. Digital copies of any public notices concerning stormwater issues are kept in a folder on the Stormwater drive and documented in the yearly annual report spreadsheet.

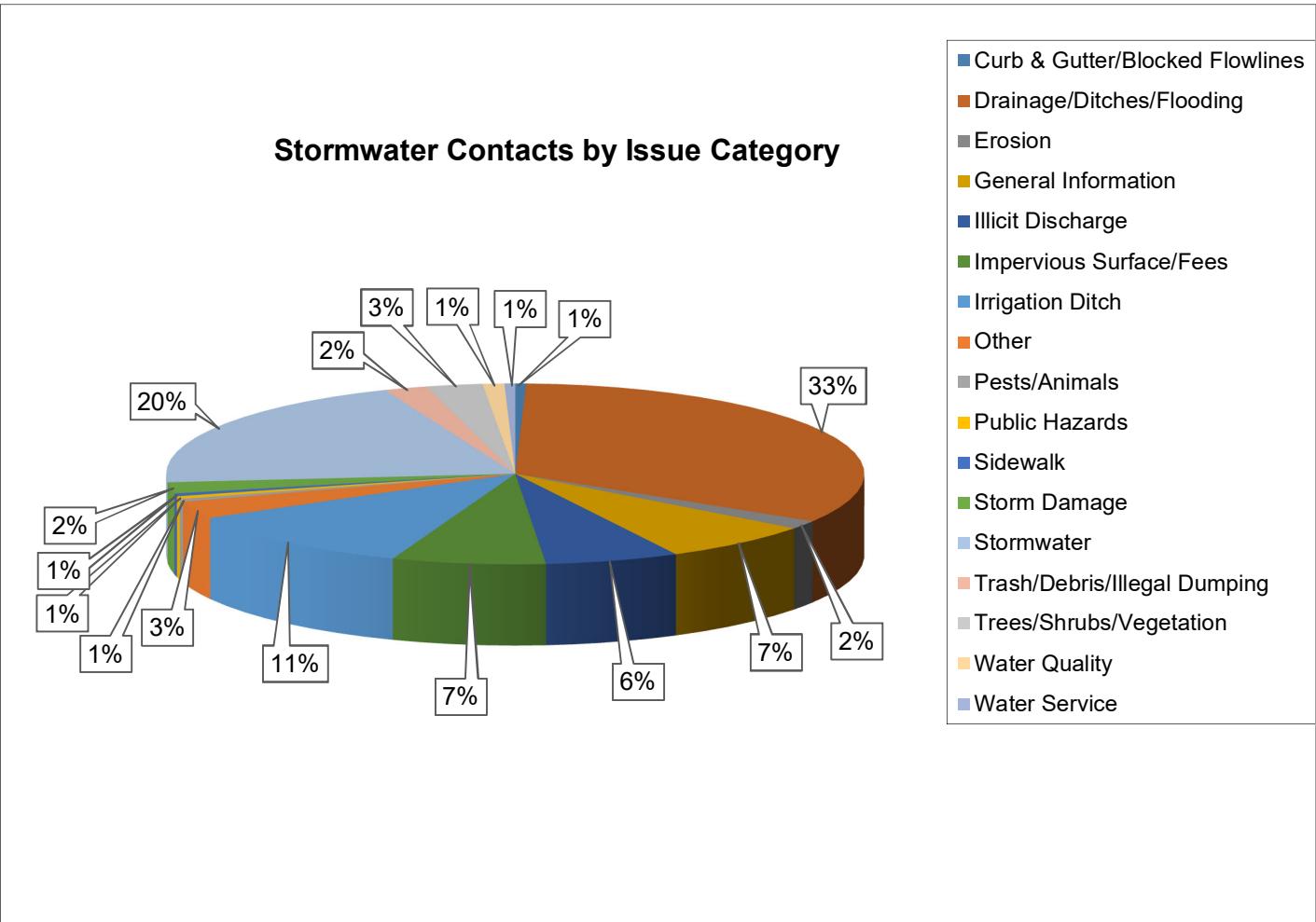
2. Contact Information Availability: Contact information for the City of Cañon City's Stormwater Program is available through the quarterly Stormwater Newsletters and on the web page. It is also included in any newspaper articles and public service announcements. All City of Cañon City field staff have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

3. Feedback: The City of Cañon City introduced a web-based application known as SeeClickFix late in 2019. This application allows citizens and City employees to submit concerns they have to City departments on a wide range of City assets and allows City employees to track and address these concerns. SeeClickFix integrates with Cartograph OMS for those departments, such as Stormwater, that use both databases.

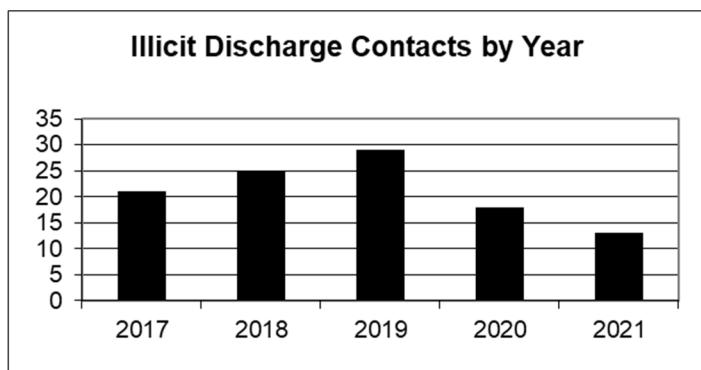
The quarterly Stormwater Newsletters encourage everyone to get involved by calling, emailing or writing in with their questions, complaints or ideas. A database is kept of contacts concerning stormwater issues with the intent to better track the effectiveness of the public education and outreach programs, 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 broader categories of issues then further assigned to narrower classifications of issues such as clogged culverts or blocked storm drains to facilitate these decisions. The log represents those contacts handled directly by the Stormwater Coordinator, submitted through SeeClickFix or handled by other departments or staff that the Coordinator is made aware of. During 2021, 207 contacts were taken by the Stormwater Coordinator, other Engineering staff or submitted through SeeClickFix concerning 196 issues (i.e. multiple calls were taken on some issues). Illicit discharges comprised 12 of the contacts. The adjacent table and the following chart show the breakdown of the broader issue categories.

Eleven of the contacts the Stormwater Coordinator handled or that were assigned to the Stormwater Program by SeeClickFix were directed to other departments such as Code Enforcement, Parks or Streets as they did not pertain to stormwater issues. Overall calls to the Stormwater Program were up from 143 during 2020 to the 207 taken in 2021.

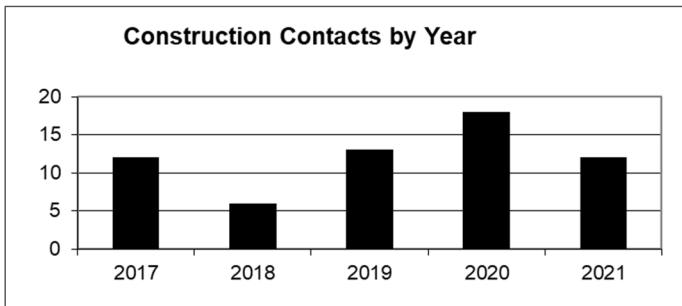
Issue Category	# of Contacts	% of Contacts
Curb & Gutter/Blocked Flowlines	1	0.5
Drainage/Ditches/Flooding	65	33.3
Erosion	3	1.5
General Information	14	7.1
Illicit Discharge	12	6.2
Impervious Surface/Fees	14	7.1
Irrigation Ditch	22	11.2
Other	6	3.1
Pests/Animals	1	0.5
Public Hazards	1	0.5
Sidewalk	1	0.5
Storm Damage	4	2
Stormwater	40	20.4
Trash/Debris/Illegal Dumping	4	2
Trees/Shrubs/Vegetation	5	2.6
Water Quality	2	1
Water Service	1	0.5



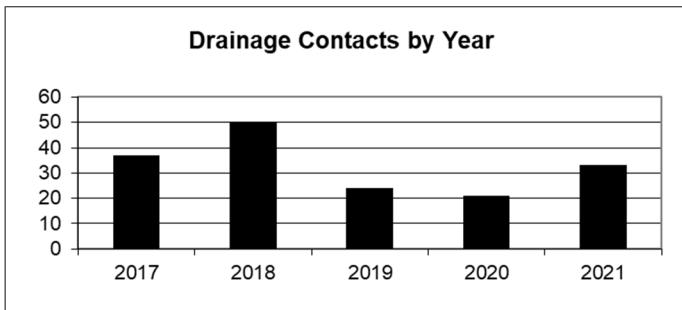
Some of the narrower stormwater categories were carried over in the OMS database which allows for tracking trends in the amount of calls received each year for each category. The following graphs show the contacts for some of the categories for the last five years. Variability in categories may be attributed to better tracking of the contacts, training of municipal employees, public education and outreach efforts and general variability of issues throughout the year.



The amount of illicit discharge contacts has varied in the last five years. 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* for a more complete discussion.)



Construction calls also show variability over the years, mostly due to the amount and type of construction occurring during the year. These types of calls include both complaints about construction and requests for construction-related stormwater information.



Drainage calls vary yearly. This could be due to the amount of precipitation received during the year. For example: significant storms occurred in July, 2018 with subsequent years much drier.

A new broad category of “Irrigation Ditch” was added in 2019. Calls concerning irrigation ditches and laterals were rolled into the Drainage category prior to then. Although the City and various ditch companies assign the responsibility of maintaining the irrigation laterals between the center of the road and the property line to the private property owner or resident, the Stormwater Program receives a number of calls each year concerning plugged laterals causing overflows onto City streets or irrigation water users not receiving their shares. Stormwater or Streets personnel often try to assist in resolving the issues. During 2019, 8 calls were received concerning irrigation ditch or lateral issues; 13 calls were received in 2020 and 26 were received in 2021.

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 was made and how the contact information for the Stormwater Program was obtained, in order to determine how effective our outreach efforts are. During 2021 the primary method of contact continued to be by phone, followed by the SeeClickFix app, emails and “in-person” visits. The method of obtaining stormwater contact information primarily was through prior contacts, followed by referrals, via the receptionist and through the SeeClickFix app. The charts below show the breakdown of each. 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 has strengthened, but still needs to be pursued more diligently.

Mode of Contact	Number	%
Email	20	10.2
In Person	16	8.2
Mail	1	0.5
Phone	128	65.3
SeeClickFix	30	15.3
Text	1	0.5

How Contact information was Obtained	Number	%
Compliance Notice	4	2
Inspection Letter	5	2.6
Internet	22	11.2
Newsletter	1	0.5
Personal Contact	6	3.1
Prior Contact	56	28.6
Receptionist	28	14.3
Referral	29	14.8
Social Media	6	3.1
Training	15	7.7
Unknown	24	12.1

The OMS database maps the locations of received requests, which then can be exported to analyze which areas may need extra outreach and to assist in prioritizing infrastructure maintenance and capital projects.

With the upgrade to the OMS database, tasks can now be assigned to specific requests which allows various City departments to track labor and material costs associated with those requests. The data can also be analyzed to see how long tasks associated with the requests took to complete and the amount of time for the request to be closed. In 2021, 108 tasks were entered into the OMS database associated with requests (excluding those associated with illicit discharges). Of those, 84 tasks were investigations or inspections; the rest were a combination of debris removal, grading, enforcement actions and other miscellaneous tasks. Illicit discharge tasks will be discussed in Section 4.

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 measures 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.

The following elements were used to meet our permit requirements during 2021. As mentioned earlier in the review, many activities such as festivals and classes were cancelled due to the pandemic.

Discussion of Elements:

1. Illicit Discharge Education to Businesses and the Public:

- A) 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.
- B) The quarterly Stormwater Newsletters and radio PSAs often address the issue of illicit discharges. Both are disseminated or directed to businesses as well as the general public. The newsletters and PSAs also provide tips for preventing contamination of stormwater runoff. The Stormwater Program webpages on the Cañon City website contain a section on what businesses can do to minimize and/or prevent contamination of stormwater runoff. During 2021, outreach was targeted to local restaurants or food providers as the primary type of business which may cause an illicit discharge. Outreach consisted of 78 newsletters mailed to Cañon City businesses which provide food. The newsletter highlighted what could be done to minimize and prevent stormwater pollution, particularly with the increase of outdoor seating.

2. Educational Materials and Activities (from the provided table in the permit): The 2016 revised permit contains a table of the Education and Outreach Activities which must 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 are in accord with the activities contained in this 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. The following programs were utilized during 2021.

i. Passive Outreach:

A. **Radio/television/movie theater advertisement:** Seven different 30-second public service announcements concerning stormwater were aired on local radio stations during 2021 for a total air time of 366 minutes (6.1 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 and radio PSAs which include stormwater information were also run in conjunction with the leaf pick-up program.

B. Distribute educational material by utility bill insert: The quarterly Stormwater newsletters are sent out as a utility bill insert and contain educational material. See the section on Newsletters below.

C. Publish an article (hard copy or electronic): Although the Stormwater Program did not author any articles for publication an article was published in the Cañon City Shopper about the new Stormwater Maintenance Program.

D. Storm drain marking by permittee staff that maintains 25% of permittee maintained inlets: All new and replacement storm drains contain permanent stenciling which include the message of “Dump No Waste Drains to River/Waterway”. During 2021, 19 inlets were installed which contained permanent stencils.

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 until all are mapped and entered into the OMS database.

F. Website: The City of Cañon City’s Stormwater webpages contain information for the public ranging from informational brochures about water quality, illicit discharges and construction stormwater runoff control to children’s activity booklets. The website was revised somewhat in format and content when the City’s website was revised in late 2019. Current editions of the newsletters, the annual program review, updated manuals and other content were added during 2021. Additionally, various announcements or articles were posted under the City News section. Visits to the stormwater webpages are tracked, via monthly reports. From January through December, 2021, 372 entrances into the webpages 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 Stormwater Newsletters, on the public service announcements aired by radio and on the City’s website. With the implementation of the SeeClickFix application, the public can now report issues via their phone or computer. Reports entered into the application are automatically assigned to a City department and an email notification is sent to the contact person for that department.

B. Ongoing advertisement/promotion on how to get more information about the stormwater program: Contact information is provided in each of the quarterly Stormwater 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. Twenty-four stormwater-related posts were included on the City’s Facebook page during 2021. The posts covered a wide range of topics including pollution prevention information.

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 information for the public ranging 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.

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 newsletter 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 Stormwater Program's contact information). During 2021, 27,293 newsletters were sent to residents and 3,401 newsletters were sent to commercial establishments. Beginning in 2018, the residents and businesses that receive their water bill via email also received the stormwater newsletter by email. A total of 3,866 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 and various events through social media and the City's website. The City also promoted municipal, private and non-profit clean up events, as well as the City Streets Department's annual fall leaf pick-up program.

G. Distribute promotional items or giveaways: Reusable litter bags, pet waste dispensers, crayon boxes and Cañon City Stormwater Program magnets were given out during the limited number of in-person events which occurred in 2021 due to the pandemic.



Litter Bag



Pet Waste Baggie Dispenser



Magnet

H. Participate in or sponsor a waterway clean-up and trash removal event:

1. The City of Cañon City became a co-sponsor of the Cañon City Metro Recreational District's annual Clean Up/Green Up Arkansas River and Riverwalk trash removal event in 2021. City personnel assisted in the planning and clean-up. The City also provided masks and hand sanitizer for the 42 participants. The event was expanded to include some area hiking/biking trails and regional parks. A total of 3.35 tons of trash were removed.



2. The City of Cañon City also co-sponsored a river clean-up organized by the Royal Gorge RIO and provided PPE for the event. Over 1,580 pounds of trash and debris were removed from the river and its banks during the event.

I. Participate in or sponsor a stormwater or environmental presentation: A presentation was given by the Stormwater Program to the employees of the Colorado Credit Union prior to their annual trash clean-up along a section of US Highway 50. The Stormwater Coordinator also participated in the trash removal event which produced about 20 large bags of removed trash.

J. Participate in or sponsor a stormwater or environmental event: The City held a Dumpster and Electronics Recycling event in April which resulted in five full roll-off dumpsters and a large amount of electronics dropped off for recycling.

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 participates in the bi-annual Teaching Environment Naturally (TEN) course for Fremont County teachers. Planning sessions occurred in 2021 with a shortened course offered. The course was cancelled due to lack of registrations. Planning resumed in late 2021 for a full course offering in 2022.

L. Stormwater booth at a community event: The Stormwater Program had a booth at the National Night Out event in August. Stormwater demonstrations were conducted with the EnviroScape and the Stormwater Coordinator was available to answer questions and discuss stormwater issues with the general public. The booth received about 115 visitors and 20 demonstrations were conducted. In addition, the following items were given out: 35 informational brochures, activity booklets and coloring books; 16 Stormwater Program magnets; 10 reusable litter bags; 49 pet waste baggie dispensers; and 12 crayon packets.

M. 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 and Tunnel Drive Trails. Pet waste stations have also been added to the trail network in the Dawson Ranch Subdivision.



3. Nutrients: The revised 2016 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.

- A) Targeted sources of nutrients have been determined to be fertilizers, pet/animal waste and yard waste.
- B) Information about nutrient impacts is already included in most of the Stormwater Program's brochures and presentations; however, the 3rd Quarter Stormwater Management Program Newsletter specifically contained information on nutrients and how to minimize and/or prevent impacts from them. The newsletters were distributed as an insert with the water bills and via email to all Cañon City residents and businesses.

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 in 2021 and will continue during 2022.

1. Storm Sewer System Map: The revised permit requires the permittee to maintain a current map of the location of all MS4 outfalls within 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 and through the Cartograph OMS database. Outfall inspections and mapping of new outfalls continued during 2021. Outfalls are assigned to a category in the Cartograph 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 permanent stormwater control measures 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 564 active outfalls, outlets and other drainage end points located along the Arkansas River, Four Mile Creek and the various drainages and irrigation ditches throughout the City. The City of Cañon City has jurisdiction over 260 of them; County or State Agencies have jurisdiction for 26 and 278 are under private jurisdiction. The breakdown for each category is detailed in the following table. Eight outfalls (either new or existing but un-mapped) were added during 2021.

Category	Total Number
Facility Outlet	16
Footing/Foundation Drain	58
Groundwater Drain	34
Industrial Discharge	4
Irrigation Return	152
Major Outfall	25
Outfall	196
Outlet	31
Roof Drain	48

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 permanent stormwater control measures and facilities. Outfalls and major outfalls are inspected annually (time permitting). The outfall database in Cartograph and the mapping assist in prioritizing inspections of the outfalls. During 2021, 181 inspections were conducted; 174 were routine inspections and 7 were initial inspections.

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. In 2019, the Stormwater Regulations were moved to a new section of municipal code: Title 20 Stormwater Illicit Discharges and Permits (Ordinance No. 12, Series of 2019). Some minor corrections and/or additions were made to the new section. The Ordinance can be viewed on the City of Cañon City's website at www.canoncity.org.

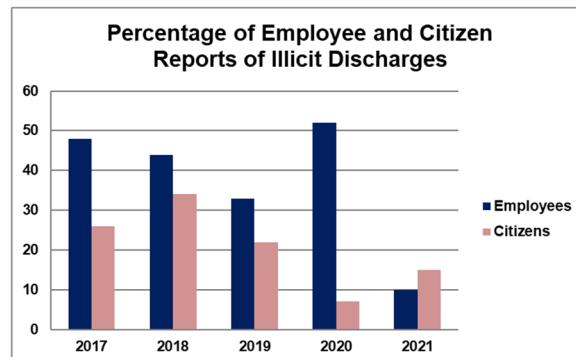
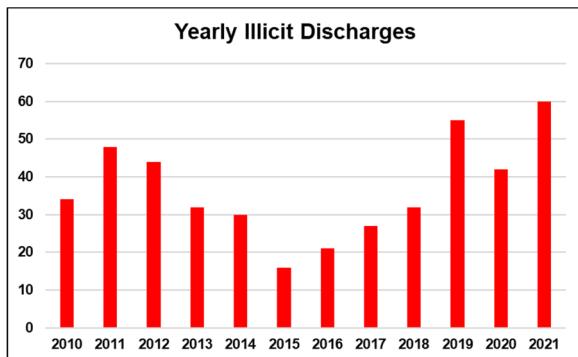
3. Tracing an Illicit Discharge: The revised permit requires the permittee to implement procedures to respond to reports or identifications of illicit discharges. The procedures and tools needed to trace the illicit discharge must be documented. The City of Cañon City had previously implemented an Illicit 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 and again in 2019 in keeping with the municipal code Title changes. The full manual may be viewed at:

<https://www.canoncity.org/DocumentCenter/View/356/Illicit-Discharge-Detection-and-Elimination-Manual-PDF>

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

i. Discussion of the Illicit Discharge Program

Sixty incidents of potential illicit discharges were investigated during 2021, resulting in 158 initial and follow-up inspections. Of the 60 reported or discovered discharges 10 were potential discharges and the rest were prohibited discharges. Reported discharges had declined between 2011 and 2015 then rose again. The increase in illicit discharges since 2015 may be due to better awareness and reporting of potential illicit discharges. The significant increase in illicit discharges from 2019 through 2021 is mainly due to increased oversight and enforcement on single family residential construction sites. The following graph on the left portrays the trend. The Request database in Cartograph 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 citizens and employees as a percentage of the total number of reported illicit discharges each year for the last 5 years.



Illicit discharges are assigned a category in the Cartograph database to assist in identifying types of pollutants which may need targeting through our Public Education program. The following table shows how many discharges were reported or discovered for each category during 2021. The database in

Cartegraph allows for comparisons between categories each year which enables staff to see trends and adjust outreach accordingly.

Category	Reports	Category	Reports
Accident	2	Illicit Connection	0
Automotive Discharge	4	Leaking Dumpster	0
Blocked Flowlines	1	Non-hazardous Spill	0
Construction – Concrete Washout	1	Other	2
Construction – No BMPs	3	Pesticide/Herbicide/Fertilizer	0
Construction – Other	3	Pet Waste	0
Construction – Sediment Release	35	Power Washing	1
Hazardous Spill	0	Prohibited Discharges – Other	1
Illegal Dumping – Drainage	2	Restaurant Oil/Grease	1
Illegal Dumping – Flowline	0	Sediment	3
Illegal Dumping – Inlet	0	Sewage	1
Illegal Dumping – Other Area	0	Yard Waste	0
Illegal Dumping – Waterbody	0		

Water quality sampling is done when needed to assist in determining the source of the discharge. One sampling event occurred during 2021 in response to a citizen's request to assist in determining the source of water flowing into an irrigation lateral. Based on testing the source was determined to most likely be groundwater. Benthic macroinvertebrate sampling of the Arkansas River and Four Mile Creek was not conducted in 2021 due to time and budgetary constraints.

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 or 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 following table. All illicit discharges were corrected and cleaned up. The majority of enforcement actions were due to sediment tracking from single-family residential construction sites. Single-family residential construction lots typically fall under the one-acre or more size requirement of the CDPHE's Construction Stormwater Permit and the City of Cañon City's GESC permit, and as such, discharges are handled through the City's Illicit Discharge program. One Notice of Violation was issued which resulted in \$500.00 fine. A second Notice of Violation was rescinded as the site had been cleaned up the day the Notice was to be served. Two Stop Work Orders were issued resulting in the resolution of noted issues. Several enforcement actions escalated from verbal warnings to the issuance of either Notices of Non-Compliance or Notices of Violation with fines.

Enforcement Action	Number
Verbal Warning	42
Notice of Non-Compliance	9
Notice of Violation & Enforcement Action w/ fine	2
Stop Work Order	2
Letters detailing violation/corrective action	3

The database in Cartegraph facilitates tracking of other aspects of illicit discharge reports and investigations such as repeat violators. Seven parties had multiple violations during the year, all residential construction companies. The Cartegraph OMS database also maps the locations of illicit discharges 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 assist 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 have been deemed priority areas for the City of Cañon City:

- NW Cañon from 2nd Street to 9th Street; Main Street to Pine Ave
- Businesses along the Water Street Channel from Rainbow Drive to 12th 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. In-person trainings were not held in 2021 due to the pandemic restrictions on gatherings. A video training was created in December, 2020, which all applicable employees hired after July 2019, are required to complete. Twenty-one employees completed the on-line training and passed the exam in 2021.

Section 5. Construction Sites

The Construction Sites 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 were implemented prior to the July 1, 2019 compliance date.

Discussion of Elements: All programs listed were ongoing during 2021.

1. Regulatory, Compliance and Exemption 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. 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. In 2019, the Stormwater Regulations were moved to a new section of municipal code: Title 20 Stormwater Illicit Discharges and Permits (Ordinance No. 12, Series of 2019). Some minor corrections and/or additions were made to the new section. The Ordinance can be viewed on the City of Cañon City's website at www.canoncity.org. The City of Cañon City's GESC manual was reviewed and revised to ensure compliance with the new and updated requirements in the revised 2016 MS4 Stormwater Discharge Permit. City Council approved the revisions on June 17, 2019 (Resolution No. 18, Series 2019).

2. Control Measure Requirements: The City Municipal Code requires the implementation of stormwater control measures on all construction sites. The City's GESC manual provides guidance for construction site operators on that implementation.

3. Site Plan Review: The 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. The Director of Public Works reviews all site plans prior to approval and issuance of any permits for construction within our permit boundaries.

4. Procedures for Receipt and Consideration of Information Submitted by the Public: A database is kept of all contacts 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 or construction investigations resulting from a complaint or concern

submitted by a citizen is logged into the database in Cartegraph and can be cross-referenced through the Request database.

5. Site Inspections and Enforcement of Control Measures: Inspections are performed at all applicable construction and post-construction sites as per the schedule provided in the 2016 revised MS4 permit. Appropriate enforcement actions are taken when needed. During 2021, there were 12 open Grading, Erosion and Sediment Control (GESC) permits and 6 open Drainage, Erosion and Sediment Control (DESC) permits. Seven of the GESC permits were completed and closed during the year. Two of the GESC permits were City construction sites which also had State Construction Stormwater Discharge Permits and two were City fill sites which also had a State Construction Stormwater Discharge Permit. All City sites were completed and the 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 control measures and drainage are addressed for the site. The 6 DESC permits were issued during 2020 for single family residences being constructed in a subdivision that has not yet been stabilized. Those single family residential sites which do not require a DESC permit are addressed through the City's Illicit Discharge programs should there be an issue at the site.

The revised 2016 MS4 permit contains more robust inspection requirements, including a time line for conducting routine, reduced and compliance inspections. Recordkeeping requirements are also detailed in the permit. With the upgrade of our database to Cartegraph OMS, City GESC and DESC permits are tracked in the database along with all inspections, associated tasks and enforcement actions. The following tables show the number and type of inspections conducted at permitted construction sites during 2021 and enforcement actions taken. It should be noted that the State Construction Stormwater Discharge permit has a slightly different inspection schedule than the MS4 Stormwater Discharge permit. The four City sites which also had a State construction permit were inspected per the State permit's schedule which also served to meet our required MS4 permit inspections.

Inspection Type	Number
Complaint	1
Compliance	30
Initial	5
Other	6
Post-Storm	26
Reduced Frequency-Indicator Inspection	9
Reduced Frequency-Inactive Site	2
Reduced Frequency-Winter Conditions Exclusion	5
Routine	85
Storm	2

Enforcement Action	Number
Verbal Warning	4
Notice of Non-Compliance	0
Stop Work Order	0
Notice of Violation & Enforcement Action w/ fine	0
Letter detailing violation/corrective action	0

6. Training and Education for Construction Site Operators: This is primarily achieved using the GESC manual and through the plan review process. New information and resources are passed to local contractors and developers when available. The annual Regional Stormwater Seminar for contractors hosted by the Southern Colorado Stormwater Education Committee, of which the City of Cañon City is a member, was cancelled in 2021 due to the pandemic.

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 were implemented prior to July 1, 2019 compliance date.

Discussion of Elements: All programs listed were ongoing during 2021.

1. Regulatory Mechanisms and Exemptions: Ordinance No. 20, Series of 2005 and the City of Cañon City Grading, Erosion & Sediment Control (GESC) Manual were enacted in 2006. 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. In 2019, the Stormwater Regulations were moved to a new section of municipal code: Title 20 Stormwater Illicit Discharges and Permits (Ordinance No. 12, Series of 2019). Some minor corrections and/or additions were made to the new section. The Ordinance can be viewed on the City of Cañon City's website at www.canoncity.org.

2. Design Criteria & Standards and Review & Approval Procedures: The City of Cañon City's revised Grading, Erosion and Sediment Control (GESC) manual now contains a section on post-construction permanent stormwater control measures design criteria. Additionally, the site plan review process assures that post-construction structural control measures meet design standards. Inspections during the construction process and final inspections assure that the control measure(s) has been properly constructed. The Director of Public Works documents all site plan reviews and approvals. Final as-built drawings are kept with the file for the post-construction permanent control measure. All construction inspections of the control measure are entered into the Cartegraph OMS database for that asset.

3. Recordkeeping/Tracking: Permanent stormwater control measures are recorded, mapped and entered into the Cartegraph OMS database. Three new permanent stormwater control measures on two development sites (a Nyloplast Envirohood, a detention basin and a grass swale) were implemented in 2021. Procedures for documenting and mapping new permanent control measures are contained in the Stormwater Coordinator's manual. The following table lists the number of active control measures and custodianship for maintenance.

BMP Type	Private/Federal/County/State	Municipal
Detention/Water Quality Basins	60	26
Grass Buffer	2	0
Grass Swale	20	1
Porous Landscape Detention	7	2
Porous Pavement – Gravel	2	0
Rock Berm	2	0
Sand Filter	5	0
Sedimentation Basin	0	2
Underground Water Quality Structures	20	12

The revised 2016 MS4 permit contained an additional recordkeeping requirement of documenting which applicable development sites were subject to an exclusion and the type of exclusion (allowed by the permit) which was granted. Exclusions are documented in the Stormwater Construction Permits database in Cartegraph OMS. Two exclusions were granted in 2021; both were City street projects. Both were granted an exclusion under "Excluded Roadway Redevelopment".

4. Monitor Long-term Compliance with Enforcement Actions: The revised 2016 permit requires that permanent post-construction stormwater control measures be inspected at least once a permit term (5 years) to

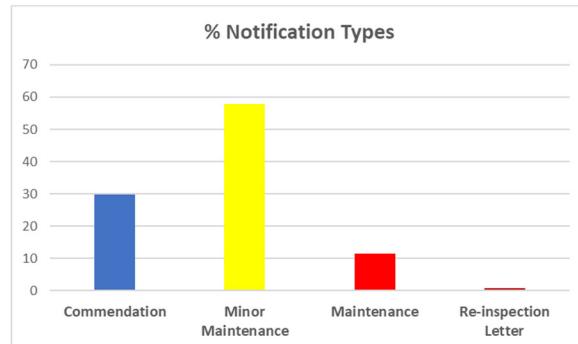
ensure conformity with the site plan and to identify any inadequate control measures or needed maintenance. Every effort is made to inspect each control measure at least once a year, however, occasionally time constraints prevent a yearly inspection on every one. When time constraints occur, those control measures which have shown a history of needing routine maintenance are prioritized for inspection. The results of inspections are entered into the Cartegraph OMS database.

An inspection report and letter are sent to the custodian of the private control measures. The letters fall into the categories of commendation, maintenance or minor maintenance. Minor maintenance letters are sent for those 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. Maintenance letters are sent for those control measures which need more extensive maintenance. The control measure 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 stormwater control measures, the appropriate department receives the inspection report. Tasks are assigned in Cartegraph OMS to address any issues noted.

During 2021, a total of 153 inspections were performed on permanent stormwater control measures. The following table shows the breakdown of the inspections. It should be noted that, even though new permanent stormwater control measures were added during the year, two were added during school reconstruction which is on State land and therefore not subject to construction oversight by the City Stormwater Program. They are, however, added to our permanent database and initial inspections were conducted after construction. The contractor which installed the third new stormwater control measure provided details and photographs of the construction to ensure it was properly installed as per plan details. Courtesy inspections are conducted on City-owned permanent stormwater control measures which are outside of the MS4 Permit Boundary (City Limits).

	Private/Federal/County			Municipal		
	Basins	Storm Vaults	Other BMPs	Basins	Storm Vaults	Other BMPs
Annual	47	17	33	25	8	5
Complaint	0	0	0	0	0	0
Construction	0	0	0	0	0	0
Courtesy	0	0	0	1	4	0
Initial	2	2	3	0	0	0
Maintenance	0	0	0	0	0	0
Other	0	0	0	0	0	0
Re-inspection	5	0	1	0	0	0

Eighty notifications were sent to non-municipal custodians indicating some level of non-compliance (e.g. needing maintenance). Of those, thirteen were maintenance letters, sixty-six were minor maintenance letters and one was a re-inspection letter requiring that the maintenance work be completed. Thirty-four 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 2021.



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 2021.

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 the 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 from a 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. The manual was reviewed and revised again in 2020; copies were distributed to all applicable City employees.

A database of all municipal facilities is kept in Cartograph. Currently there are 63 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 Cartograph have been 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.

Department	Total # of Facilities	# outside of Permit Area
Facilities	2	1
Parks	39	4
Stormwater	6	2
Streets	1	1
Water Distribution	13	4
Water Treatment	2	0

Every effort is made to inspect all municipally owned facilities (including parks) annually. In the event of time constraints, priority is given those facilities which rate higher on the pollution source and pollution potential evaluations. 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 2021, 56 inspections were conducted – 45 Annual, 10 Courtesy and 1 Initial inspection. A Tourist Kiosk with parking area on East US Highway 50 was added to the inspections during the year. The trails in the Dawson Ranch Subdivision were not inspected.

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 include:

- 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 had 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 Cartograph 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. The manual was created and implemented on January 1, 2010. The manual was reviewed and revised in 2017 and again in 2020. No new control measures needed to be implemented to address nitrogen and phosphorus in stormwater runoff from municipal facilities or operations.

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 had a compliance deadline of July 1, 2021. Secondary containment was installed around the Magnesium Chloride container at the Public Works facility on October 3, 2018, which 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. In-person municipal trainings were not held in 2021 due to the pandemic restrictions on gatherings. A video training was created in December, 2020, which all applicable employees hired after July 2019, are required to complete. Twenty-one employees completed the on-line training and passed the exam in 2021. Each received a copy of the Pollution Prevention Operations and Maintenance Manual upon completion of the training.

6. Additional Inspection Information: 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 type of asset has its own database in Cartegraph in which base data, inspections and tasks are recorded for each individual asset.

The City of Cañon City has custodianship over 58 drainage channels; 31 are under private custodianship. During 2021, 27 inspections were conducted on channels. The adjacent chart shows the breakdown for inspection types.

Channels	Private	Municipal
Annual	2	23
Complaint	0	1
Initial	1	0

Storm drains are mapped and categorized as part of our Stormwater Program. A percentage of those are inspected yearly. A total of 1,172 storm drains have been identified and mapped to date. Of these, 729 are under municipal jurisdiction, 101 are under county/state/federal jurisdiction and 342 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 2021 (new, previously identified but unmapped and rebuilt or moved inlets) is detailed in the following table.

Category	Total Number	Number Mapped in 2021
Irrigation	4	0
Irrigation Box	22	0
Irrigation Clean-out	204	2
Overflow	17	1
Storm Clean-out	44	3
Storm Inlet	881	53

One hundred sixty-five inlet inspections were conducted during 2021. The following table shows the inspections done per category of inlet.

Category	Initial	Routine	Storm
Irrigation	1	0	0
Irrigation Box	4	0	0
Irrigation Clean-out	3	7	1
Overflow	0	3	0
Storm Clean-out	3	5	0
Storm Inlet	56	81	1

Storm manholes are also mapped and categorized as part of our Stormwater Program. A percentage of those are inspected yearly. A total of 228 storm manholes have been identified and mapped to date, but data still needs to be collected for many of them. Of these, 183 are under municipal jurisdiction, 14 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 Cartograph database. The breakdown for each category is detailed in the following table. One recently located combination manhole was mapped in 2021.

Category	Total Number
Combination Irrigation/Storm	13
Dry Well/Clean-out	3
Irrigation Clean-out	18
Storm Manhole	189
Storm Sump Manhole	1
Vault Access	1
Vault Clean-out	3

Six manhole inspections were conducted during 2021. Of these inspections 4 were routine inspections, 1 was an initial inspection, and 1 was a re-inspection.

The culverts database currently contains 591 culverts. The City of Cañon City has jurisdiction of 449; 50 are under county/state/federal jurisdiction and 92 are under private jurisdiction. Culverts are divided into two categories based upon the primary type of flow they carry: drainage or irrigation flow. Of the culverts in the database, 418 are classified as drainage and 173 are irrigation. There were 156 inspections conducted on culverts during 2021. All but two of the inspections were routine; the two non-routine inspections were due to complaints.

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 2,024 pipes. The City of Cañon City has jurisdiction over 957 of the pipes; 175 are under county/state/federal jurisdiction and 892 are under private jurisdiction.

Beginning in January, 2021, the City acquired a new vac truck and created two new full-time positions for the express purpose of cleaning and maintaining our storm sewer system. Tasks associated with the maintenance of the storm sewer system are assigned in the Cartograph database which allows for tracking of costs and associated information. Vegetation management and other tasks conducted by City contractors are also recorded in the

database as well as costs associated with the City's contract with Fremont County Weed Management for weed control on City properties. These costs are shown in the table in Appendix A.

In their first year, the Stormwater Maintenance Crew cleaned and maintained the following which resulted in the removal of 207.8 cubic yards of debris and sediment:

- 347 storm drains and irrigation boxes/clean-outs
- 76 storm manholes
- 57 storm culverts
- 436 storm pipes
- Performed cleaning of storm drain grates only City-wide, primarily after storm events
- Performed debris removal from other City stormwater assets City-wide

During 2021 the Streets Department performed maintenance, repair, replacement and installation of stormwater infrastructure throughout the City. The Streets Department also performs clean-up after significant storms. The Street Sweeping Program through the City Streets Department is also partially funded through the Stormwater Program as it removes sediment and trash from the streets which otherwise would enter our storm sewer system and eventually our waterways. In 2021, the street sweeper removed 1,103.25 tons of sediment and debris from the City streets. The Streets Department's annual leaf pick-up program also benefits stormwater quality by removing yard waste that has the potential of entering our storm sewer system; the 2021 event collected 34.91 tons of leaves.

Stormwater infrastructure projects completed during 2021:

- Replacement of storm water infrastructure in conjunction with the 2A Streets Projects on N. Orchard Avenue.
- Replacement of storm water infrastructure in conjunction with the 2A Streets Projects on S. 11th Street.
- Continuation of the design of the Abbey-Rhodes Avenue drainage stormwater capital improvements funded through the Certificates of Participation issued in 2019.

Other Duties, Trainings and Meetings

In addition to duties conducted to meet the City of Cañon City's Stormwater Discharge Permit requirements, Stormwater and Engineering personnel also perform additional duties, attend trainings, conferences and association meetings in which the City has a membership. Cost information is not tracked in the OMS database for all of these activities; for those that are, the cost information is included in Appendix A. Information on these items follows:

Other Duties:

1. Stormwater and GIS personnel maintain and update the impervious areas for all parcels within the City limits in regards to the Stormwater Utility Fee.
2. Assistance with projects as assigned by the Director of Public Works.

Trainings and Conferences:

1. An EPA webinar on Cyanobacteria
2. In-person class through the Colorado Stormwater Center on Stormwater Design and Design Review
3. Quarterly trainings on the Cartegraph OMS asset management database

Memberships/Partnerships: The City of Cañon City is a member of, or involved in, several councils and associations. The following meetings were attended during 2021:

- A. Colorado Stormwater Council (CSC): Cañon City's representative to the CSC attended 11 virtual general membership meetings and 9 Post-construction committee meetings.
- B. MS4 Permit Workgroup Quarterly Meetings, hosted by Mile High Flood District: Four meetings were attended during the year.
- C. The Stormwater Program is also a member of the Southern Colorado Stormwater Education Committee, along with the City of Pueblo, Pueblo County, Pueblo West Metro District and CSU-Pueblo. The committee hosts a seminar each year for construction stormwater education and training of contractors, developers, engineers and municipal employees. During 2021, 5 meetings were attended in preparation for the 2022 regional seminar.

APPENDIX A
CARTEGRAPH OMS TRACKED COSTS

Tracked Time and Costs from Cartegraph OMS Database (Stormwater and Public Works)*						
	Labor (Hrs)	Labor (Cost)	Equipment (Cost)	Material (Cost)	Other (Cost)	Total Cost
Public Involvement/Participation						
Requests – (Non-IDDE)	112.52	\$4,960.31	\$2,344.66	\$4.84	\$1,707.27	\$9,017.08
Public Education and Outreach	98	\$4,746.95	\$401.83	\$0.00	\$3,584.32	\$8,733.10
Illicit Discharge and Detection						
Non-Enforcement Tasks	40.65	\$2,038.89	\$862.73	\$0.00	\$0.00	\$2,901.62
Enforcement Tasks	18.65	\$928.45	\$117.59	\$0.00	\$28.58	\$1,074.62
Construction Sites						
Non-Enforcement Tasks	66.61	\$3,208.65	\$1,056.72	\$0.00	\$0.00	\$4,265.37
Enforcement Tasks	0.5	\$24.28	\$12.00	\$0.00	\$0.00	\$36.28
Post-Construction						
Inspections & Enforcement	159.91	\$7,844.90	\$635.99	\$0.00	\$147.18	\$8,628.07
Municipal Pollution Prevention/Good Housekeeping						
Facilities Inspections	7.38	\$363.00	\$173.28	\$0.00	\$0.00	\$536.28
Infrastructure Inspections	68.27	\$3,336.01	\$1,614.07	\$0.00	\$0.00	\$4,950.08
Stormwater Maintenance Crew	1,832.85	\$65,337.18	\$64,381.55	\$585.87	\$0.00	\$130,304.60
Other Permit Compliance Duties	67.5	\$3,285.72	\$0.00	\$0.00	\$37.20	\$3,322.92
Annual Program Review and State Report	61.75	\$2838.71	\$0.00	\$0.00	\$3.55	\$2,842.26
Misc. Projects/Committees/Trainings	54.75	\$2,622.62	\$53.98	\$0.00	\$0.00	\$2,716.60
Street Department Tasks						
Stormwater tasks	1073	\$37,990.19	\$32,604.42	\$8,715.42	\$1,349.18	\$80,659.19
Street Sweeping (Stormwater contribution)		\$22,565.17	\$65,090.75	\$345.55	\$0.00	\$88,001.47
City Contractor						
Vegetation Management/Special Projects						\$110,821.32
Fremont County Weed Control	3.5	\$171.05	\$0.00	\$0.00	\$1,830.00	\$2,001.05
Stormwater Utility Impervious Area Updates	99.5	\$4,862.33	\$1,355.47	\$0.00	\$0.00	\$6,217.80

\$467,029.71 **Total**