



# City of Cañon City

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## 2014 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. 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 requires 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 contains six areas the City must address in its stormwater management plan. These areas are:

1. Public Education and Outreach on Stormwater Impacts
2. Public Involvement/Participation
3. Illicit Discharge Detection and Elimination
4. Construction Sites Runoff Control
5. Post-construction Stormwater Management
6. Pollution Prevention/Good Housekeeping for Municipal Operations.

Each of the six areas has several program elements which are used to meet the goals of the stormwater management plan. This annual review looks at each of these elements to assess its compliance status and effectiveness.

### 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.

### Discussion of Elements:

**1. Forming Partnerships:** The City of Cañon City is a member of, or involved in, several councils and associations. The following meetings were attended during 2014:

**A. Colorado Stormwater Council (CSC):**

- i. Cañon City’s representative to the CSC was elected to serve as the Secretary for the Council during 2013 and 2014. Ten Administrative Committee meetings were attended; six of which were conference calls. Eleven general membership meetings were attended; one of which was by phone.
- ii. Seven Legislative Committee meetings were attended by conference call and one was attended in person.

iii. One meeting was attended by conference call concerning Regulation 85 – Nutrients.

iv. One meeting of the Education and Outreach Committee was attended by conference call.

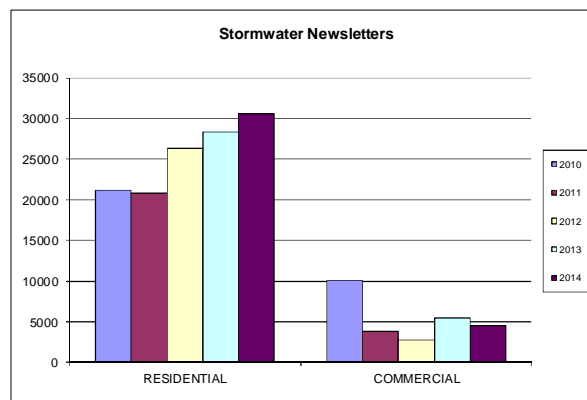
B. The Stormwater Discharges Associated with Municipal Separate Storm Sewer Systems (MS4s) permit was due for renewal in March 2013. In November 2012, the CDPHE notified permit holders the permit would be significantly revised. The CDPHE initiated a series of stakeholder meetings to present possible revisions to the permit during 2013. The draft permit was released for stakeholder comment at the end of 2013. The City of Cañon City drafted a comment letter which was submitted to the Division in January of 2014. Due to the many comments CDPHE received, the decision was made to revise the draft permit and re-release it for public comment. The Division anticipates releasing the draft in April 2015.

C. The City of Cañon City participated in the drafting of the proposed Fremont County Pre-Disaster Mitigation Plan.

D. The City of Cañon City is partnered with the Upper Arkansas Recycling Program and Cañon Proud Program.

**2. Using Educational Materials and Strategies:** All programs listed were ongoing and will continue to be utilized during 2015. Materials and strategies will be revised, if needed, to maintain compliance when the new permit is issued.

A. 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). There were 30,559 residential newsletters sent during 2014; 4,587 newsletters were sent to commercial establishments. The adjacent graph compares the amount of newsletters sent out each year from 2010 through 2014.



B. The website is updated regularly with the most current newsletter and annual report. The draft renewal stormwater permit and fact sheet were also posted on the website for public information.

C. Demonstrations/presentations are given as requested to local schools, groups and civic organizations. Programs are continually evaluated and updated. The following presentations were given in 2014:

i. A presentation and EnviroScape demonstration were given to the 4<sup>th</sup> and 5<sup>th</sup> grades at Harrison School.

ii. Presentations and EnviroScape demonstrations were given to the students at the Washington Elementary School in conjunction with National Public Works Week.

iii. A stormwater information booth was set up at one of the craft fairs during the Blossom Festival on May 3<sup>rd</sup> and 4<sup>th</sup>. The booth had a total of 322 visitors. Numerous flyers, pamphlets, magnets,

litter bags, pet waste baggie dispensers and children's activity booklets were distributed. The EnviroScape was used to give 55 demonstrations about stormwater runoff.

iv. A presentation and EnviroScape demonstration were given to participants in the Cañon City Library Summer Reading Program.

v. The Stormwater Program was a guest on KRLN's Morning Line to talk about the permit renewal process, our regional seminar and stormwater in general.

D. Dissemination of industry appropriate stormwater BMP information is done through the quarterly newsletters. (See Section 2.A. above).

E. Eight public service announcements concerning stormwater were aired on local radio stations during 2014 for a total air time of 219 minutes (3.65 hours). This is significantly less than previous years. No ads were run from March to September as new ads were being developed by the local radio station and the Cañon City Stormwater Program. The new ads have decreased in time from 60 seconds to 30 seconds each in response to a request from the radio station to shorten the ads to better fit their programming schedule. In addition to the eight ads, an additional ad was run during November and December about the Leaf Pickup Schedule. This ad includes information about stormwater. The additional ad ran a total of seventeen times (8.5 min). Four stormwater-related programs were run on CCTV-Channel 19 with a total air time of 10 hours and 35 minutes. Newspaper notices were also run in conjunction with the leaf pick-up program. Public service announcements are rotated and new ones added throughout the year.

F. The Upper Arkansas Recycling Program received \$13,067 in financial support and advertising during 2014. Cañon Proud received \$2,362.50 in support for its annual city-wide clean-up program.

### **3. Signage and Stenciling:**

A. The storm drain inlets scheduled to have the stenciling refreshed during 2014 were in a construction zone during the time frame stenciling is typically done. The stencils on these inlets will be refreshed in 2015. Approval was given to purchase metal storm drain markers to be installed in two subdivisions. The markers were received in late December and will be installed in early 2015.

**4. Reaching Diverse Audiences:** Direct mail, public service announcements and programs and personal contact are all utilized to reach a broad spectrum of our citizens and businesses. Programs are evaluated and updated continually in order to reach as many people as possible and promote interest and participation in the programs. New programs are developed and implemented to maintain freshness in disseminating stormwater information.

**5. Illicit Discharge Education to Businesses and the Public:** The quarterly newsletter often addresses the issue of illicit discharges. It also provides tips for preventing contamination of stormwater runoff.

**6. Regulation #85: Nutrients Management Control Regulation (5 CCR 1002-85):** Regulation #85 became effective September 30, 2012. Section 85.5(4)(a) states:

MS4 Permit Requirements for Nutrient Source Reductions

The following requirements, at a minimum, shall be incorporated into a CDPS Permit for discharges from a Municipal Separate Storm Sewer System (MS4) required to obtain a CDPS Permit pursuant to Regulation #61.

(a) Public education and outreach on stormwater impacts associated with nutrients. The MS4 permittee must develop, document, and implement a public education program to reduce water quality impacts associated with nitrogen and phosphorus in stormwater runoff and illicit discharges and distribute educational materials or equivalent outreach to targeted sources (e.g., residential, industrial, agricultural, or commercial) that are contributing to, or have the potential to contribute, nutrients to the waters receiving the discharge authorized under the MS4 permit.

This requirement will be included in the updated MS4 permit when issued. Information about nutrient impacts is already included in most of the Stormwater Program's brochures and presentations.

## Public Participation/Involvement

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.

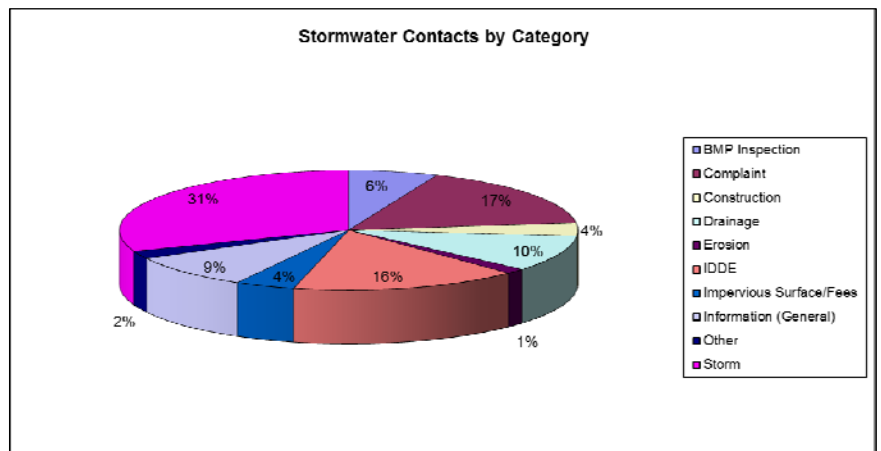
**Discussion of Elements:** All programs listed were ongoing and will continue to be utilized during 2015.

**1. Public Notices:** The City of Cañon City complies with the Open Meeting act 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. Meeting schedules, agendas and minutes are posted on the City of Cañon City's website.

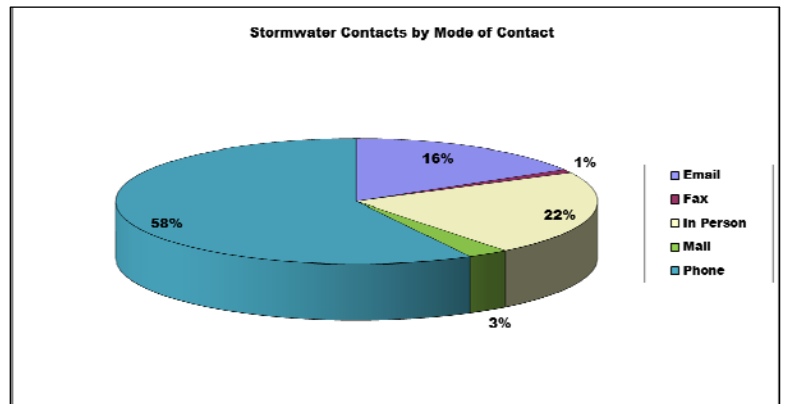
**2. Contact Information Availability:** Contact information is available through the quarterly newsletters and on the web page. It is also included in any newspaper articles and public service announcements. All City of Cañon City field staff have the Stormwater Technician's direct line in order to 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 and "in person") concerning stormwater issues with the intent to better track the effectiveness of the public education and participation programs. The log represents those contacts handled directly by the Stormwater Technicians and those handled by other departments that the technicians are made aware of. During 2014, 143 contacts were handled by the Stormwater Technicians. Of those calls, 21 resulted in illicit discharge investigations. The number and mode of contact are broken into the following categories:

Category	# of Calls	% of Calls
BMP Inspection	9	6
Complaint	24	17
Construction	5	4
Drainage	14	10
Erosion	2	1
Illicit Discharge	23	16
Impervious Surface/Fees	6	4
Information (General)	13	9
Other	3	2
Storm	44	31

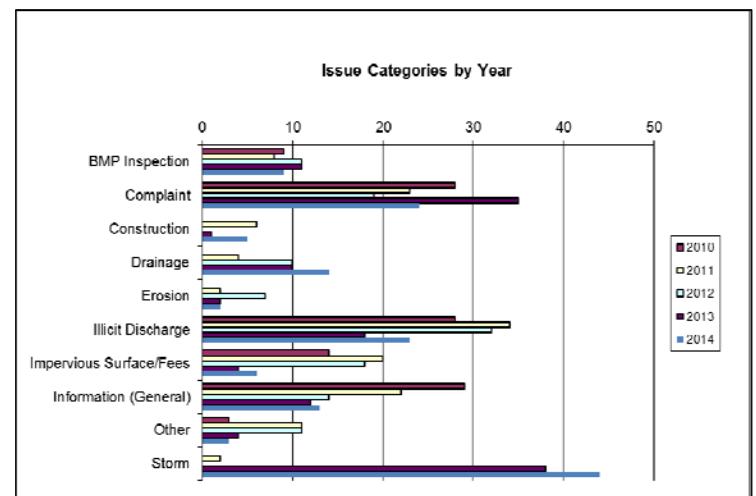


Mode of Contact	Number	%
Email	18	13
Fax	1	1
In Person	24	17
Mail	3	2
Phone	63	44



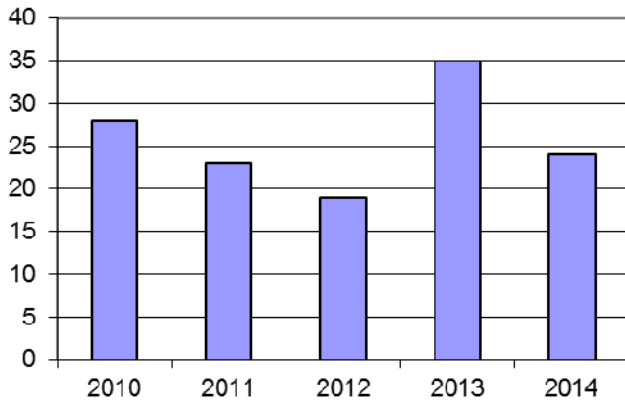
The number of contacts handled increased from last year's 135 contacts. Due to the heavy localized storm received in August, the number of storm-related contacts increased from 2013. It is important to note that the contact received via fax contained 35 different storm-related issues which were logged separately to facilitate tracking of the issues by area; one of the objectives of the Stormwater Contact database. For this analysis, though, it was counted as one contact. The following table and graphs show the number of contacts received in each category for 2010 through 2014. Variability in categories may be attributed to better tracking of the contacts and revisions made since the inception of the database, as well as training for municipal employees and public education and outreach. The Drainage, Erosion, Illicit Discharge 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.

	2010	2011	2012	2013	2014
BMP Inspection	9	8	11	11	9
Complaint	28	23	19	35	24
Construction		6		1	5
Drainage		4	10	10	14
Erosion		2	7	2	2
Illicit Discharge	28	34	32	18	23
Impervious Surface/Fees	14	20	18	4	6
Information (General)	29	22	14	12	13
Other	3	11	11	4	3
Storm		2		38	44
Totals	111	132	122	135	143

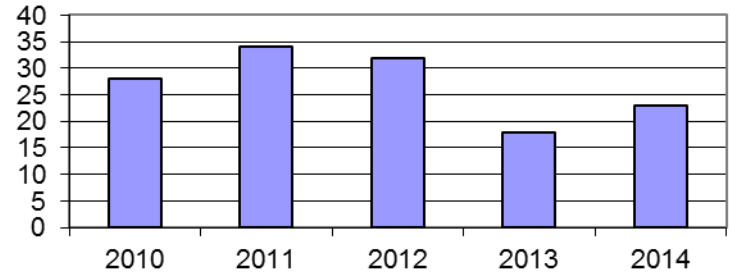


Contacts concerning permanent BMP inspections have remained relatively constant over the last 5 years. Complaints cover a variety of issues from blocked flowlines, BMP failure, debris, clogged culverts and inlets, pest control and sediment accumulation to complaints about streets and vegetation. Complaint contacts decreased from 2010 to 2012, but rose again during 2013 and 2014. All complaints are addressed as promptly as possible. Complaint contacts resulted in 16 non-illicit discharge field investigations during 2014. Illicit discharge contacts showed an upward trend between 2010 and 2011 then decreased during 2012 and 2013; 2014 showed a slight increase in this type of contact. Inquiries concerning impervious surface/stormwater utility fees remained about the same from 2010 to 2012, but dropped dramatically in 2013 and 2014. Contacts for general information have declined since 2010, with the last three years showing about the same number of contacts for this category. The following graphs show the variation in these categories from 2010 to 2014.

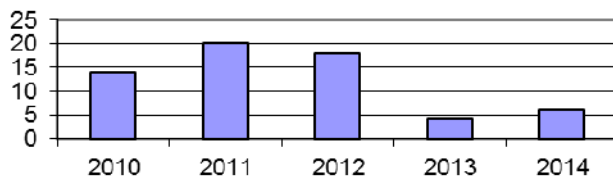
**Complaint Contacts by Year**



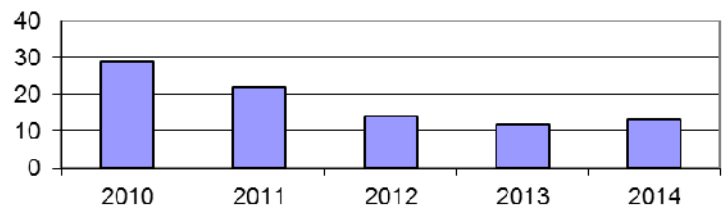
**Illicit Discharge Contacts by Year**



**Impervious Surface/Fee Contacts by Year**

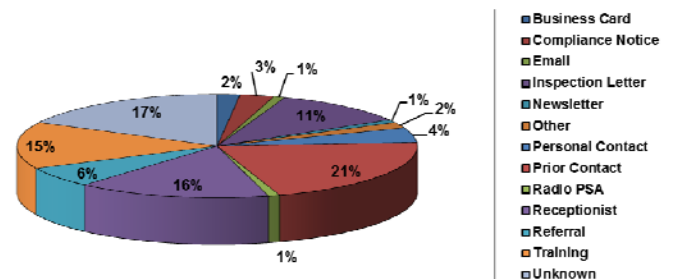


**General Information Contacts by Year**



The database in CarteGraph also facilitates tracking of other aspects of contacts such as how the contact information for the Stormwater Program was obtained in order to determine how effective our outreach efforts are. During 2014 most of the information was obtained either through prior contact, training or via the receptionist. The referral category contains the one contact with 35 different locations, each of which was entered separately to facilitate tracking of the issues by area; one of the objectives of the Stormwater Contact database. For this analysis, though, it was counted as one contact.. The following chart shows the breakdown.

**Method of Obtaining Stormwater Contact Information**



The CarteGraph database is also linked with ArcMap. Complaints and illicit discharge reports are plotted on the map to show areas which may need extra outreach and to assist in prioritizing infrastructure maintenance and capital projects.

**Goals for Public Education and Outreach/Public Participation:** The following were listed as goals in the 2013 program review. The comments following each show whether the goal was met during 2014 or will be carried over as a goal for 2015.

1. Increase the number of presentations to groups and schools. This is a continuing goal. Presentations are given when requested by outside parties. Outreach to local schools, festivals and civic/homeowner groups is conducted throughout the year to offer presentations.
2. Have a booth at an additional festival (Blossom and at least one other). The Blossom Festival was the only festival a booth was present at. This will be a continuing goal for 2015.
3. Investigate the feasibility of starting an "Adopt-a-Drainageway" program. The feasibility of the program will continue to be investigated during 2015.
4. Have a river &/or drainageway clean-up day, possibly in conjunction with Cañon Proud. The feasibility of the program will continue to be investigated during 2015.
5. Update and increase the content of the Stormwater web page. The website is updated regularly with the most current newsletters and reports. The anticipated update of the City website is currently on hold. A more robust and interactive stormwater page will be included when the update occurs.
6. Develop a paint disposal brochure to be distributed to local paint supply stores. This was not done, but may be developed in 2015.
7. Develop a BMP/grease disposal flyer for distribution to local restaurants. This was not done, but may be developed in 2015.
8. Develop a wall mural program for local students to replace the river rafting bus murals. The feasibility of this program will be further investigated in 2015.
9. Creation of new radio Public Service Announcements. Three new PSAs were developed during 2014 and more are scheduled to be developed in 2015.

### **New Goals for 2015**

1. Work with the Colorado Stormwater Council to develop outreach materials concerning nutrients as required by Regulation 85.
2. Continue to provide input and assistance to the Colorado Stormwater Council concerning the draft renewal stormwater permit and any other regulations undergoing review. Comments from Cañon City on the second draft stormwater renewal permit will be developed when the permit is released for Public Notice.
3. The original draft renewal stormwater permit contained some new and revised requirements for Public Education and Outreach. CDPHE is working on a second draft after receiving comments during the Public Notice of the draft permit. Once the final permit is issued there may be some revisions needed to this portion of our Stormwater Management Program. If this is needed, a goal for 2015 and 2016 will be to revise and update our program elements as quickly and efficiently as possible to meet compliance. However, in the area concerning recordkeeping, we already have the database in place and are tracking the items the Division has proposed.

### **Illicit Discharge Detection and Elimination**

The 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. Monitoring 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 also integral parts of the program.

**Discussion of Elements:** All programs listed were ongoing and will continue during 2015.

**1. Outfall Map:** Outfall inspections and mapping of new outfalls continued during 2014. 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 are Footing/Foundation Drain, Groundwater Drain, Industrial Discharge, Irrigation Return, Major Outfall, Outfall, Outlet and Roof Drain. Prior to 2013 Footing/Foundation Drains and Roof Drains were consolidated into one category. In 2013 these were separated into two categories for more accurate records. 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. Footing/Foundation and Roof Drains are only mapped if they discharge directly to a drainage or waterbody. There are a total of 525 outfalls, outlets and other drainage pipes 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 238 of them; State Agencies have jurisdiction for 13 and 274 are under private jurisdiction. The breakdown for each category as well as the number mapped during 2014 (new 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.

Category	Total Number	Number Mapped in 2014
Footing/Foundation Drain	59	0
Groundwater Drain	33	0
Industrial Discharge	3	0
Irrigation Return	129	2
Major Outfall	25	0
Outfall	187	11
Outlet	57	0
Roof Drain	31	1

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. Outfalls and major outfalls are inspected annually (at a minimum). The outfall database in CarteGraph and the mapping assist in prioritizing inspections and monitoring the outfalls. During 2014, 243 inspections were conducted on outfalls, drains and outlets. The following table shows the breakdown of inspections.

Category	Annual Inspections	Illicit Discharge	Initial	Maintenance	Post-Storm	Re-inspections
Footing/Foundation Drains	2					
Groundwater Drain	16					
Industrial Discharge	2					
Irrigation Return	42		2	1	1	2
Major Outfall	14				1	1
Outfall	103	1	11	1	1	5
Outlet	26				2	1
Roof Drains	7		1			

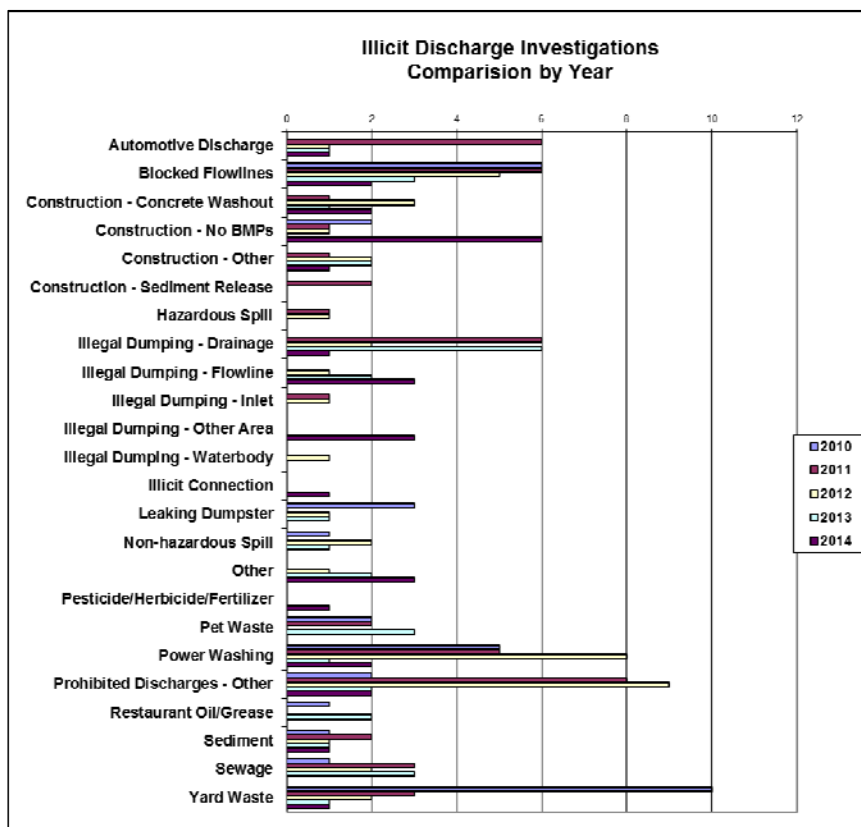
**2. Regulatory Mechanism:** The City of Cañon City adopted Ordinance No. 20, Series of 2005 to establish codes concerning illicit discharges. Some minor changes were made to the Ordinance, effective September 9, 2012 through Ordinance No. 14, Series of 2012 AN ORDINANCE MAKING CERTAIN MINOR AMENDMENTS 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. Illicit Discharge Detection and Elimination Plan:

Thirty incidents of potential illicit discharges were investigated in 2014, which is down slightly from thirty-two in 2013. 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 accompanying chart compares investigations for each category for the past five years.

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



Investigations resulted in the following illicit discharge enforcement measures:

Enforcement Action	Number
Verbal Warning	27
Notice of Non-Compliance	6
Cease & Desist	0
Notice of Violation & Enforcement Action w/ fine	0
Letters detailing violation/corrective action	0
Emails detailing violation/corrective action	2

- A. The database in CarteGraph facilitates tracking of other aspects of illicit discharge reports and investigations such as repeat violators. There were no repeat violators during the year in 2014; however six of those cited had been cited for illicit discharges from 2007 to 2013. 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.
- B. Two water quality samples were taken during 2014. Samples were taken due to the high level of algae growth in a ground water channel which flows through the Orchard detention basin. The absence of ammonia and *E. coli* eliminated septic contamination. The algae growth could be due to the slow flow of the water. Benthic macroinvertebrate sampling of the Arkansas River and Four Mile Creek was not conducted in 2014 due to time constraints and budgetary concerns.

**4. Staff Education:** An Illicit Discharge training was held for fourteen seasonal and new Public Works, Parks, Code Enforcement and contract employees.

**Goals for Illicit Discharge Detection/Water Quality:** The following were listed as goals in the 2013 program review. The comments following each show whether the goal was met during 2014 or will be carried over as a goal for 2015.

1. Begin additional testing of ground water discharges to drainage channels and ditches to establish more complete background data. This goal will be carried over to 2015. The Data Survey required by Regulation #85, which was issued by CDPHE in 2012, did not identify any data gaps in water quality data for nutrients. This report was submitted to CDPHE prior to the October 2014 deadline via the Colorado Stormwater Council. Therefore, at this time, no additional water quality monitoring for nutrients will be required of Cañon City. A comprehensive monitoring plan needs to be developed which takes into consideration potential future requirements resulting from the stormwater renewal permit.
2. Outfall mapping is finished and will be updated when these structures are removed or moved during construction or new ones added.
3. Develop land use maps for each drainage basin and associated outfalls. Now that mapping has been completed these will be developed.
4. Update the IDDE manual. An update was done in 2012 but is currently on hold pending potential permit requirement revisions in the revised stormwater permit which is due to be issued in 2015.

#### **New Goals for 2015**

1. Once the new permit is issued, any adjustments or changes required in the Illicit Discharge Detection and Elimination control measure will be addressed as quickly and efficiently as possible.

#### **Construction Site Runoff Control**

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.

**Discussion of Elements:** All programs listed were ongoing and will continue to be utilized during 2015.

**1 -3. Regulatory and Compliance Mechanisms:** Ordinance No. 20, Series of 2005 and the City of Cañon City Grading, Erosion & Sediment Control (GESD) 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 3. under “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 sites and post-construction sites with appropriate enforcement actions being taken when needed. During 2014, thirty-eight inspections were performed. There were twenty full inspections and eighteen reconnaissance inspections. During 2014 there were six active Grading, Erosion and Sediment Control (GESC) permits at six sites. Two of the GESC permits were issued during 2014. There were eleven active Drainage, Erosion and Sediment Control (DESC) permits; nine of which were issued in 2014. 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	1

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 repeat violator during 2014 which resulted in increased enforcement.

**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.

**A. Additional Training:**

Cañon City again joined forces with the City of Pueblo and the Pueblo County Engineering and Public Works Department to host a Regional Stormwater Seminar on February 5, 2014. The seminar was geared toward contractors, developers and engineers who work throughout the region, as well as municipal employees. Featured topics and speakers were Richard Romano, NRCS, on revegetation of construction sites; Tom Gore, Altitude Training Associates, on best management practices training; and Chris Olson, Colorado Stormwater Center, on low impact development principles. The seminar was held in Cañon City and attended by fifty-three people. The full report is kept with the MS4 permit documentation for 2014.

**Goals for Construction Site Runoff Control:** The following were listed as goals in the 2013 program review. The comments following each show whether the goal was met during 2014 or will be carried over as a goal for 2015.

1. Cross-training between the stormwater technicians on construction inspection techniques. This goal will be carried over to 2015 as inspection opportunities and schedules allow.
2. Update of the GESC Manual to reflect changes in the updated UDFCD Volume 3 and any changes made to the revised MS4 Permit. This will be done in 2015-2016 once the revised stormwater permit is issued.
3. Continue to co-host regional stormwater seminars for contractors, developers, engineers and municipal employees. A third annual seminar has already been scheduled for February 5, 2015 at the Colorado State Fairgrounds in Pueblo.

## **New Goals for 2015**

1. Once the new permit is issued, any adjustments or changes required in the Construction Site Runoff control measure will be addressed as quickly and efficiently as possible.

## **Post-construction Stormwater Management**

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.

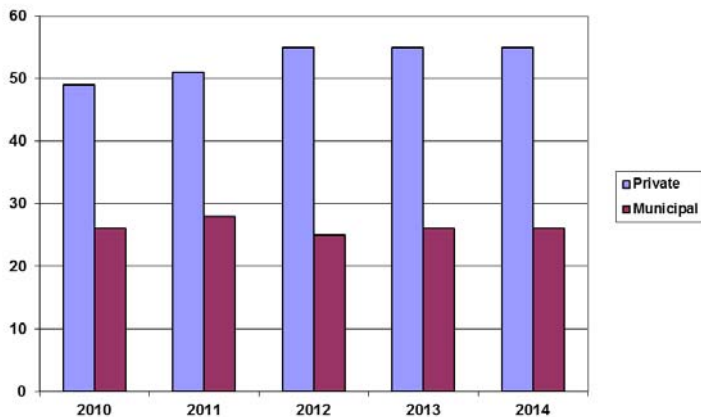
**Discussion of Elements:** All programs listed were ongoing and will continue to be utilized during 2015.

**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.

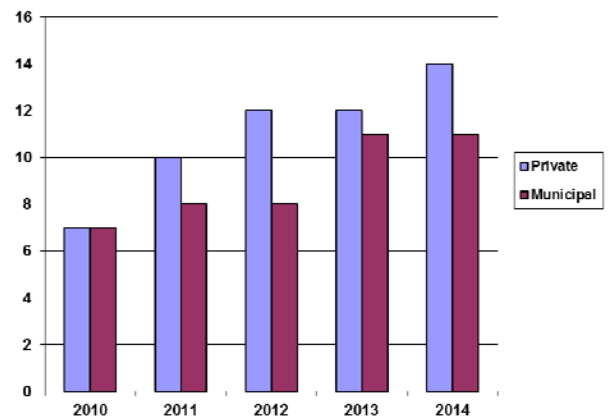
**2. & 3. Design Criteria & Standards and Review & Approval Procedures:** The site plan review process assures that post-construction structural BMPs meet design standards. Inspections during the construction process and final inspections assure that the BMP has been properly constructed.

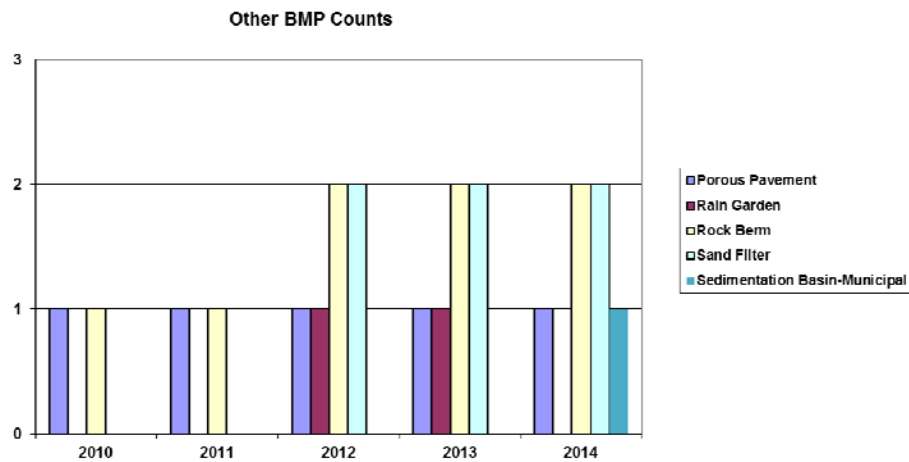
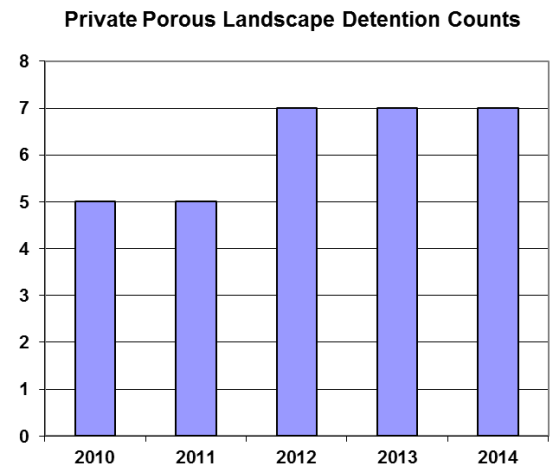
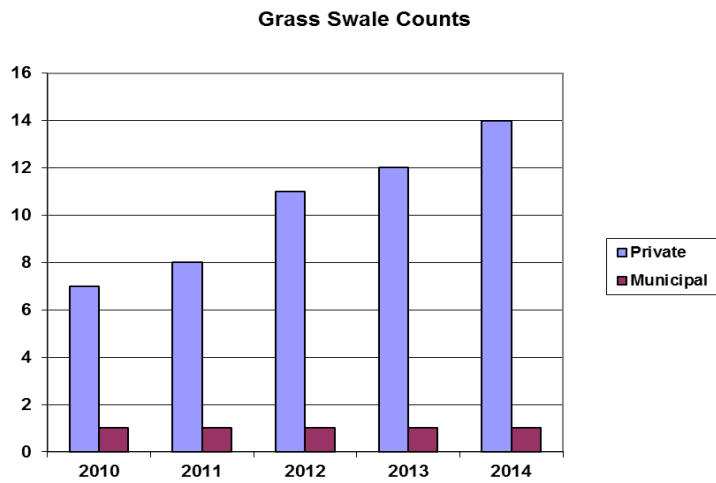
**4. Tracking:** Permanent BMPs are recorded at final inspection and entered into the CarteGraph database. Four new permanent BMPs were implemented during 2014. These included two underground BMPs, a grass swale and a sedimentation basin. Two grass swales at one location, which had been inspected together, were separated into separate records during 2014. The following graphs show the number of private and municipal BMPs inspected each year from 2010 to 2014. Yearly variation in numbers reflects new BMPs added, transfer of jurisdiction from the County to the City, and BMPs removed from service.

Detention Basins



Water Quality Vault & Sand Trap Counts

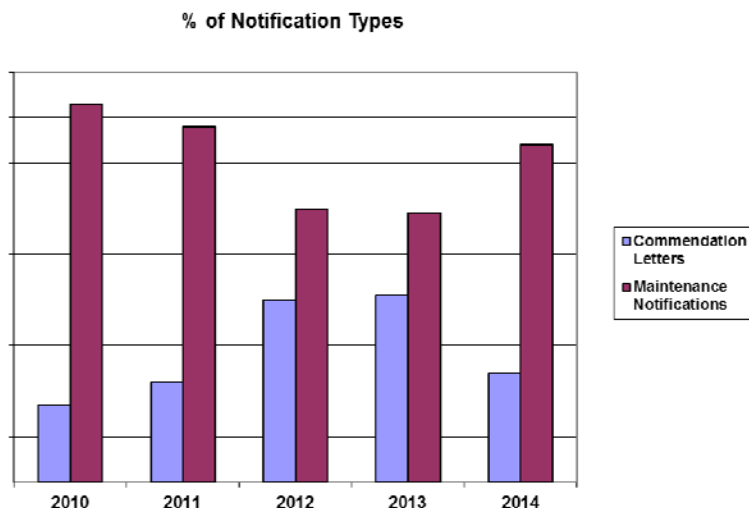




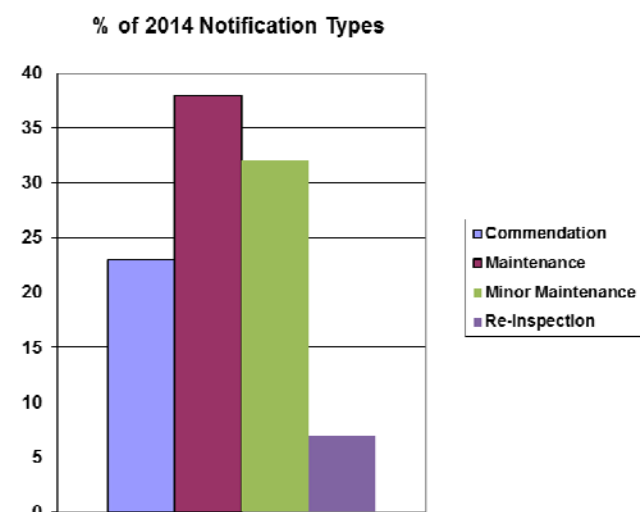
**6. Monitor long-term compliance:** One hundred thirty-five permanent BMPs, of which ninety-five are under private custodianship, are inspected at least annually with the results of those inspections entered into the CarteGraph database. An inspection report and letter are sent to the custodian of the BMP. If deficiencies are noted the BMP is 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. During 2014, a total of one hundred seventy-six inspections were performed on permanent BMPs. The following table shows the breakdown of the inspections.

	Private/Federal/County			Municipal		
	Basins	Storm Vaults	Other BMPs	Basins	Storm Vaults	Other BMPs
<b>Annual</b>	48	12	23	22	10	2
<b>Complaint</b>	0	0	0	0	0	0
<b>Illicit Discharge</b>	0	0	0	0	0	0
<b>Initial</b>	0	2	1	0	0	1
<b>Maintenance</b>	0	0	0	1	0	0
<b>Monitoring</b>	0	0	0	0	0	0
<b>Other</b>	0	0	0	1	0	0
<b>Post-Storm</b>	7	1	3	5	0	0
<b>Re-inspection</b>	15	1	11	10	0	0
<b>Storm</b>	0	0	0	0	0	0

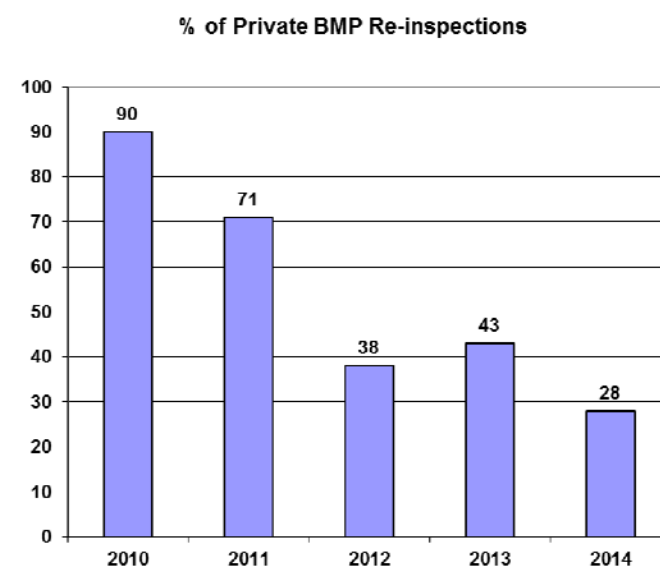
Seventy letters were sent to non-municipal custodians indicating some level of non-compliance (i.e. needing maintenance). Seven letters were sent after a re-inspection revealed the requested maintenance had not been done. Twenty-three of the inspections resulted in letters of commendation being sent to non-municipal custodians. The results from inspections of municipal stormwater facilities were sent to the appropriate department heads. The adjacent graph shows the trends in commendation letters and maintenance notifications sent to non-municipal custodians from 2010 to 2014. Maintenance notifications are shown as percentages of total non-municipal BMPs and include those sent by mail, email, or done by phone and re-inspection notifications of incomplete work. Commendation letters had increased yearly from 2010 to 2013 but declined in 2014.



Beginning in 2014, maintenance notifications were revised to include letters indicating that only minor maintenance was needed (e.g. a small amount of trash was present which needed removed). Custodians of the BMPs which received minor maintenance letters had shown a history of good maintenance and a willingness to respond favorably to past maintenance letters. These BMPs were not subjected to formal re-inspections. The adjacent graph shows the percentages of types of notifications given during 2014.



The adjacent graph shows the trends in re-inspections from 2010 to 2014 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.



This does not match the graph for percentage of maintenance notifications by year due to the fact that re-inspection maintenance letters are not always sent out after each re-inspection if the work has been completed or there are only minor items left to be completed.

## **2015 Goals for Post-construction Stormwater Management**

1. Update procedures and program elements as needed to comply with the stormwater renewal permit once it is issued.

## **Pollution Prevention/Good Housekeeping For Municipal Operations**

The focus of this area of the Stormwater Management 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 City of Cañon City's Stormwater Management Program Descriptions for the 2008 – 2013 Stormwater Permit contained the Measurable Goal of "Written procedures and lists for the implementation of an operation and maintenance program to prevent or reduce pollutants in runoff from the permittee's municipal operations." This goal was met in 2009.

**Discussion of Elements:** All programs listed were ongoing and will continue to be utilized during 2015.

### **1. Implementation of an Operation & Maintenance program:**

All municipally owned facilities (including parks) are inspected annually. The results of the inspections are sent to the appropriate department heads for compliance. Follow-up inspections are done to insure required maintenance is completed. In 2014, forty-three facilities were inspected. One new facility was added to City jurisdiction. One post-storm inspection was done and three were re-inspected. The adjacent table shows the breakdown of facilities by department.

Department	# of Facilities
Stormwater	1
Equipment Repair	1
Parks	28
Streets	1
Water Distribution	1
Water Treatment	11

In addition to the facilities, drainage channels (including those under private custodianship) are inspected. One hundred one inspections were conducted on the sixty-six channels under the custodianship of the City of Cañon City and the twenty-seven under private custodianship during 2014. The following chart shows the breakdown for inspection types.

Channels	Private	Municipal
Annual	26	65
Complaint	0	1
Initial	0	0
Maintenance	0	0
Post-storm	1	3
Re-inspection	0	5
Storm	0	0

Of the twenty-seven channels under private custodianship, twelve letters of commendation for keeping the channels clean were sent out and thirteen letters indicating some level of maintenance was needed were sent. Maintenance (i.e. mowing, trash clean-up, and post-storm debris removal) was performed on twenty-three of the municipal channels during 2014.

Inlets are mapped and categorized as part of our Stormwater Program. A percentage of those are inspected yearly. A total of 1,036 inlets have been identified and mapped to date. Of these, 635 are under municipal jurisdiction, 93 are under county/state/federal jurisdiction and 308 are under private jurisdiction. Like outfalls, inlets are assigned to a primary category in the CarteGraph database. The categories are Irrigation Clean-out, Overflow, Storm Clean-out and Storm Inlet. Irrigation 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 2014 (new, previously identified but unmapped and rebuilt/moved inlets) is detailed in the following table.

Category	Total Number	Number Mapped in 2014
Irrigation Clean-out	189	3
Overflow	14	0
Storm Clean-out	31	0
Storm Inlet	802	45



There were 335 inlet inspections done during 2014. The following table shows the inspections done per category of inlet.

Category	Annual	Complaint	Construction	Illicit Discharge	Initial	Maintenance	Post-Storm	Re-inspection
Irrigation Clean-out	26	2	1	0	3	2	0	0
Overflow	1	0	0	0	0	0	0	0
Storm Clean-out	9	0	0	0	0	0	0	0
Storm Inlet	155	3	0	22	45	51	1	14

The CarteGraph databases for storm manholes, storm pipes and culverts were created in 2013. One hundred seventy-five manholes have been added into the database. One hundred thirty-six manholes are under Cañon City's jurisdiction; fifteen are under county/state/federal jurisdiction and twenty-four are under private jurisdiction. Twenty inspections were done in 2014. Data still needs to be collected for the majority of manholes. Pipe and culvert data still need to be added to the respective databases.

Stormwater infrastructure projects completed during 2015:

- Inlets on 4<sup>th</sup> Street at Main Street were rebuilt and moved; an additional inlet and manhole were added
- Storm sewer upgrades were performed on S 10<sup>th</sup> Street, S 11<sup>th</sup> Street, S 13<sup>th</sup> Street, Greydene Ave and South Street
- Storm sewer installation in conjunction with the Riverwalk extension to Pueblo Community College.
- Culverts for storm drainage were installed in conjunction with the Riverwalk extension to the Tunnel Drive trailhead
- Storm sewer extension on East Main Street from Reynolds Ave to Rhodes Ave
- A flood study was completed for Sand Creek and the Arkansas River with a LOMR submitted to FEMA
- Storm inlet replacement during the Highway 50 overlay project by CDOT
- Culverts were replaced at S 10<sup>th</sup> Street, S 11<sup>th</sup> Street, S 12<sup>th</sup> Street and S 14<sup>th</sup> Street in conjunction with the Highway 50 overlay project by CDOT

**2. Employee training:** A Municipal Pollution Prevention training was held for fourteen seasonal and new Public Works, Parks, Code Enforcement and contract employees.

**Goals for Pollution Prevention/Good Housekeeping For Municipal Operations:** The following was listed as a goal in the 2013 program review. The comments following each show whether the goal was met during 2014 or will be carried over as a goal for 2015.

1. Complete the databases for manholes, culverts and storm pipes. More data needs to be gathered and entered into each database.
2. Finish mapping of inlets, storm pipes, storm culverts and manholes. Inlet and manhole mapping is finished and will be updated when these structures are removed or moved during construction or new ones added. The CarteGraph database for manholes will continue to be updated during 2015. CarteGraph databases for pipes and culverts have been created but not yet populated. These databases will be completed in 2015.

#### **2015 Goals for Municipal Pollution Prevention and Good Housekeeping**

1. A new goal for 2015 will be to revise and add program elements as needed to meet new or revised requirements in the revised stormwater permit once it is issued.

#### **Other Trainings, Conferences and Projects:**

1. EPA Green Infrastructure Maintenance Webinar
2. A 2-day Stormwater Chemistry Workshop

3. EPA webinar: SW Management Incentives & Public Private Partnerships in Philadelphia: Driving Affordable, Green SW Infrastructure Retrofits on Private Properties
4. EPA webinar: Improve Water Quality by Using Cover Crops and Other Conservation Systems
5. Stormwater Virtual Expo and seminars
6. Chesapeake Stormwater Network webcast: Advanced Stormwater Design: Permeable Pavement
7. EPA webcast: Water of the US Proposed Rule
8. Permanent Water Quality BMP Maintenance & Inspection Training through the Colorado Stormwater Center
9. FEMA DPAT Training
10. CASFM Annual Conference
11. Monthly safety meetings and trainings.