



**CITY OF
LONE TREE**

**MUNICIPAL SEPARATE STORM SEWER SYSTEM
(MS4)
MANAGEMENT PROGRAM**

GENERAL PERMIT NUMBER COR-080016

Prepared by:
City of Lone Tree
Public Works Department
9222 Teddy Lane
Lone Tree, CO 80124

Permit Term: March 2008 – March 2013

CDPS MS4 Phase II
STORMWATER MANAGEMENT
PROGRAM DESCRIPTIONS
FOR THE



**CITY OF
LONE TREE**

March 2008–March 2013
Due to WQCD by June 10, 2008

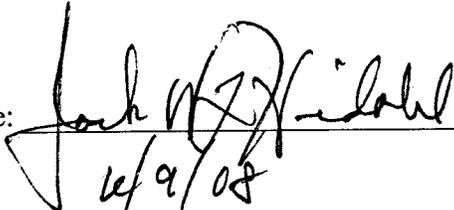
Agency Name	City of Lone Tree
Permit Certification Numbers	COR-080016
MS4 Location Description <i>(most permit certifications will cover a single city or county)</i>	City(s) Permitted: Lone Tree County Permitted: n/a Non-Standard MS4(s) Permitted (including location descriptions): n/a
Map	Appendix A
CDPS Program Descriptions	Attached
Program Implementation Area (Counties only)	<input type="checkbox"/> Permitted Area <input checked="" type="checkbox"/> Entire Jurisdiction
Joint Submittal	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes

Certification: The following certification must be signed by the Legally Responsible Person. The signer must be either a principal executive officer, ranking elected official or other duly authorized employee.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Name (printed): Jack Hidahl

Title: City of Lone Tree City Manager

Signature:  _____

Date: 12/9/08

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CDPS Stormwater Management Program Descriptions Instructions

A. Applicability

This template is applicable for all permittees covered under the MS4 general permits COR-080000 and COR-090000. This template is **not** applicable to non-standard MS4s permitted under the COR-070000 general permit.

B. Filling out the Template

This template is intended to be filled out electronically, with additional lines added to the sections as descriptions are entered.

C. Submitting the Program Description

A complete program description, including the original signed certification on page 2, must be submitted to the Water Quality Control Division by **June 10, 2008**.

The submittal must include an original signature. E-mailed or faxed copies will **not** be accepted.

D. Completeness

The form must be completed accurately and in its entirety, or it will be deemed incomplete. This template is intended to be a summary of all of the content for the CDPS Stormwater Management Program Submittal required by Part I.A.6 of the MS4 general permits, COR-080000 and COR-090000. The descriptions provided must be detailed enough for the Water Quality Control Division to determine the permittee's general strategy for complying with the required items in each of the six CDPS Stormwater Management Program Minimum Control Measures (Parts I.B.1-6 of the general permits).

E. Cited Permit Requirements

Subsection B of this template for each of the six Minimum Control Measures includes citations of the specific permit requirements. Where permit requirements have been significantly modified from the previous versions of the general permits, the new language is identified in the template as either a "Clarified" or "New" permit requirement. Refer to Part II.H of the permit rationales for additional information on these changes.

ALL NEW PROGRAM ACTIVITIES ARE IDENTIFIED IN BOLD.

ALL DISCONTINUED ITEMS ARE IN APPENDIX B

CITY OF LONE TREE	Overall CDPS Stormwater Management Program Perspective	STORMWATER DISCHARGES ASSOCIATED WITH MS4s Program Descriptions 2008–2013
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Summary description of the overall water quality concerns, priorities, and goals specific to the permittee that were considered in the development of the CDPS Stormwater Management Program:

Provide information on conditions that were considered in developing your overall program. (Examples: water quality impairments or concerns, other watershed concerns, community specific pollutant concerns)

<i>City of Lone Tree Stormwater Program Considerations</i>
<p>The City of Lone Tree’s stormwater management program has the ultimate goal of reducing the amount of pollutants introduced to receiving waters from the City’s Municipal Separate Storm Sewer System (MS4). The City has prioritized components of the stormwater management program with the goal of expending more of the City’s limited resources to address City-specific concerns, while still implementing all programs required by the State for coverage under the CDPS General Permit for Stormwater Discharges Associated with the Cherry Creek Reservoir Drainage Basin MS4s [State Permit Number COR-080000].</p> <p>The City of Lone Tree is currently experiencing a significant amount of growth through new construction. As such, the City’s stormwater management program has components that place a significant emphasis on the Construction Site Runoff Control (CSRC) and Post-Construction Stormwater Management (PCSM) programs. The City does not have any significant industry. As a result, the main focus of the Illicit Discharge Detection and Elimination (IDDE) program is on educating the City’s residents regarding the definition of permissible discharges to the MS4 and maintaining standardized response procedures for responding to potentially illicit discharges.</p> <p>The City does not have significant City facilities. Currently, the City contracts most of its maintenance and construction activities to private contractors. The City, however, envisions future facilities and includes a Pollution Prevention and Good Housekeeping for Municipal Operations (PP/GH) plan that focuses on training City staff and contractors used for City projects.</p> <p>The City believes that cooperative efforts amongst other designated Phase II entities (both standard and non-standard) both within, and outside of, Douglas County has and will continue to provide efficiencies with respect to overall implementation effort, cost, and organization.</p> <p>As part of the City’s continuing goal of providing its citizens with the highest quality services at the best value, the Stormwater Program will:</p> <ul style="list-style-type: none"> • Safeguard the public welfare through the proper collection, conveyance, and storage of stormwater runoff in a non-damaging and non-life threatening manner. • Ensure compliance with all applicable water quality regulations related to stormwater runoff to the maximum extent practicable. • Ensure that all City municipal separate storm sewer system (MS4) facilities are functioning and

maintained to the maximum extent practicable.

- Protect the overall water quality of the City's water resources.
- Provide healthy and diverse natural habitats for flora and fauna in applicable drainageways and open spaces.
- Continue to implement programs to control sediment from construction activities, nutrient loading from urban areas, and phosphorus in the Cherry Creek Reservoir basin.

CITY OF LONE TREE	PUBLIC EDUCATION & OUTREACH	STORMWATER DISCHARGES ASSOCIATED WITH MS4s Program Descriptions 2008–2013
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A. Program Perspective: The goal of the Public Education and Outreach Program is to increase public knowledge of local water quality problems caused by urban runoff in order to maintain public support for local stormwater quality programs. This support ranges from individuals changing their daily actions to community backing for all stormwater program elements. The program should take into account pollutants commonly associated with the urban environment.

B. Permit Requirements

*The permittee must implement a public education program in an effort to promote behavior change by the public to reduce water quality impacts associated with pollutants in stormwater runoff and illicit discharges that includes: **(Clarified permit requirement)***

- 1) *targeting specific pollutants and pollutant sources determined by the permittee to be impacting, or to have the potential to impact, the beneficial uses of receiving waters;*
- 2) *conducting outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff; and **(Clarified permit requirement)***
- 3) *informing businesses and the general public of the municipality’s prohibitions against, and/or the water quality impacts associated with, illegal discharges and improper disposal of waste.*

C. Program Elements: By using existing, ongoing program elements to meet the permit requirements, the MS4 is committed to continuing each of these program elements. Any changes would require use of the program modification process as outlined in Part I.E.2. of the permit.

Address the existing program elements, including those developed during the first permit term. If elements developed during the first term will be discontinued in the second term, include a brief summary of the discontinued element(s). For “Implementation Year,” provide the year the element will be implemented, or list as “Ongoing.”

1. Forming Partnerships

	Public Education Program Element - Partnerships <i>List each program element, briefly describe. Provide the year(s) for implementation or state “ongoing” for currently implemented programs.</i>	Implementation Year or “Ongoing”
1.a	Colorado Stormwater Council (CSC). The CSC acts as a forum for MS4 permit holders to aid in the development of stormwater programs at local levels.	Ongoing
1.b	Douglas County Stormwater Cooperative. The group acts as a forum for MS4 permit holders in Douglas County to work together to develop tools to help implement successful programs.	Ongoing
1.c	Cherry Creek Stewardship Partners. The partners promote active stewardship in the	Ongoing

	Cherry Creek watershed.	
1.d	Cherry Creek Basin Water Quality Authority (CCBWQA). The CCBWQA preserves water quality in the Cherry Creek Reservoir watershed by sponsoring BMPs in the watershed and offering tools and resources to members.	Ongoing
1.e	Urban Drainage and Flood Control District (UDFCD) Phase II Group. The UDFCD group provides assistance with master plans, capital improvement programs, and maintenance programs.	Ongoing

2. Using Educational Materials and Strategies

	Public Education Program Element—Educational Materials and Strategies <i>List each program element, briefly describe. Provide the year(s) for implementation or state “ongoing” for currently implemented programs.</i>	Implementation Year or “Ongoing”
2.a	Continue to work with local and regional partnerships	Ongoing
2.b	Continue to educate each target audience with a variety of materials including the following: <ul style="list-style-type: none"> Residential community—web site, a minimum of 25 total awareness advertisements in local newspapers during the 5-year permit term (Note: the same advertisement placed in 5 different newspapers counts as 5 of the 25 advertisements required for the residential community), and tributary signage (not committing to new signage) Commercial/business sector—web site, carpet cleaning and paint disposal videos on DC8, a minimum of 25 total awareness advertisements in local newspapers during the 5-year permit term (Note: the same advertisement placed in 5 different newspapers counts as 5 of the 25 advertisements required for the commercial/business sector) Development community and construction sector—web site, Grading, Erosion and Sediment Control (GESC) manual, predevelopment meetings, and site inspections 	Ongoing
2.c	Continue outreach through the mass media. The City partnered with Douglas County to develop videos for carpet cleaning and paint disposal, which will continue to run monthly on DC8. The City will consider developing additional videos as necessary. The City will continue to develop (in partnership with the Douglas County Stormwater Cooperative) and place awareness advertisements in applicable newspapers.	Ongoing
2.d	Continue to maintain tributary signage (not committing to new signage)	Ongoing
2.e	Work with the Douglas County Stormwater Cooperative partners to develop and distribute additional outreach materials, as applicable and as resources allow.	Ongoing

3. Signage and Stenciling

	Public Education Program Element—Signage and Stenciling <i>List each program element, briefly describe. Provide the year(s) for implementation or state “ongoing” for currently implemented programs.</i>	Implementation Year or “Ongoing”
3.a	As a change for this permit term, the City will not continue to stencil or mark their existing storm drains. The City will continue to work with the development community to install pre-stenciled grates where possible. The City does, however, have tributary signage that is maintained (not committing to new signage)	Ongoing

4. Reaching Diverse Audiences

Program Description

The City's public education and outreach program reaches a variety of target audiences through different outreach methods.

- Residential community—web site, awareness advertisements in local newspapers, and tributary signage (not contributing to new signage)
- Commercial/business sector—web site, carpet cleaning and paint disposal videos on DC8, awareness advertisements in local newspapers
- Development community and construction sector—web site, Grading, Erosion and Sediment Control (GESC) Manual, predevelopment meetings, and site inspections

The City offers most of their materials free of charge and materials are readily available on the web site. The City also offers a curbside pick-up household hazardous waste collection program for all City residents.

5. Illicit Discharge Education to Businesses and the Public

Program Description

The City informs business and citizens of the impacts of illegal discharges and improper disposal of waste through the following elements:

- Videos that air on DC8—carpet cleaning and paint disposal
- Awareness advertisements, developed with the Douglas County Stormwater Cooperative, published in local newspapers
- Household hazardous materials and waste collection program
- Illicit discharge investigations and follow up

6. Additional Requirements-Cherry Creek Reservoir Basin discharges (COR-080000 only)

Program Description

The City informs a variety of target audiences that have the potential to contribute phosphorus and nitrogen loads to state water in the Cherry Creek reservoir basin. Examples include the following:

- Residential community—web site, brochure, awareness advertisements in local newspapers, household hazardous materials and waste collection program, illicit discharge investigations and follow up
- Commercial/business sector—web site, illicit discharge investigations and follow up, and newspaper awareness advertisements
- Development community and construction sector—web site, GESC manual, site inspections, illicit discharge investigations and follow up, and awareness advertisements in local newspapers

The Cherry Creek Stewardship Partners distributes educational materials and organizes events that educate participants on pollutant sources, such as nitrogen and phosphorus. The City is unable to commit to a certain number of outreach materials developed or events conducted because Cherry Creek Stewardship Partners organizes those activities and their budget varies. The City will, however, continue to support the partners.

The City does not have many industrial facilities, so the City has determined that they are not a significant source of chlorophyll a. Also, it has not been definitively proven that limited amounts of agricultural activity are large contributors of pollutants, including phosphorus and nitrogen, in the Cherry Creek Basin and the Cherry Creek Reservoir.

D. Measurable Goals

Inclusion of measurable goals should not be necessary, as the elements described in Part C, above, should constitute full program implementation and a commitment to continue these elements.

See above tables for new activities in bold text and the associated measurable goals.

CITY OF LONE TREE	PUBLIC PARTICIPATION/ INVOLVMENT	STORMWATER DISCHARGES ASSOCIATED WITH MS4s Program Descriptions 2008–2013
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II. PUBLIC PARTICIPATION/INVOLVMENT

A. Program Perspective

Public participation/involvement is often discussed in the context of the public education measure because they share a common goal—reaching out to citizens to improve awareness and achieve program compliance. The distinction between the two programs is that public participation/involvement provides a conduit for citizens to participate in the development and implementation of the publicly funded stormwater program.

B. Permit Requirements

Public involvement/participation. The permittee must implement a public involvement program as follows:

- 1) *The permittee must comply with the State and local public notice requirements when implementing the CDPS Stormwater Management Programs required under this permit. Notice of all public hearings should be published in a community publication or newspaper of general circulation, to provide opportunities for public involvement that reach a majority of citizens through the notification process.*
- 2) *The permittee must provide a mechanism and process to allow the public to review and provide input on the CDPS Stormwater Management Program.*

C. Program Elements: By using existing, ongoing program elements to meet the permit requirements, the MS4 is committed to continuing each of these program elements. Any changes would require the use of the program modification process as outlined in Part I.E.2 of the permit.

Address the existing program elements, including those developed during the first permit term. If elements developed during the first term will be discontinued in the second term, include a brief summary of the discontinued element(s). For “Implementation Year,” provide the year the element will be implemented, or list as “Ongoing.”

1. Public Notices

<i>Program Description</i>
The City complies with all legally required public notice procedures for activities that involve or impact the public. Regarding land use, Section 16 of the Lone Tree Municipal Code outlines public notice procedures.

2. Mechanism and Processes for Public Involvement/Feedback

	Public Involvement/Participation Program Element—Public Feedback <i>List each program element, briefly describe. Provide the year(s) for implementation or state “ongoing” for currently implemented programs.</i>	Implementation Year or “Ongoing”
2.a	Continue public notice procedures for applicable activities	Ongoing
2.b	Continue an annual “Stream Clean-up Day”	Ongoing
2.c	Continue local and regional partnerships. The partnerships will be with those listed in the public education and outreach section.	Ongoing
2.e	Continue to offer a household hazardous materials and waste collection program	Ongoing
2.f	Continue to work with Douglas County Parks and Trails, South Suburban Recreation District, City Open Space, and the Cherry Creek Stewardship Partners for applicable clean-up and planting events	Ongoing
2.g	Continue to maintain the web site	Ongoing
2.h	Post the new Stormwater Management Program Description Document on the web site and solicit comments	2008

D. Measurable Goals

Inclusion of measurable goals should not be necessary, as the elements described in Part C, above, should constitute full program implementation and a commitment to continue these elements.

See above tables for new activities in bold text and the associated measurable goals.

CITY OF LONE TREE	ILLICIT DISCHARGE DETECTION AND ELIMINATION	STORMWATER DISCHARGES ASSOCIATED WITH MS4s Program Descriptions 2008–2013
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A. Program Perspective

The goal of the Illicit Discharge Detection and Elimination Program is, to the maximum extent practicable, to reduce the frequency and environmental impact of illicit discharges in which pollutants are intentionally or accidentally discharged into the storm sewer system.

B. Permit Requirements

The permittee must develop, implement and enforce a program to detect and eliminate illicit discharges (as defined at 61.2) into the permittee’s MS4. Illicit discharges do not include discharges or flows from fire fighting activities, or other activities specifically authorized by a separate CDPS permit.

The permittee must:

- 1) *Develop and maintain a current storm sewer system map, showing the location of all municipal storm sewer outfalls and the names and locations of all state waters that receive discharges from those outfalls.*
- 2) *To the extent allowable under State or local law, effectively prohibit, through ordinance or other regulatory mechanism, illicit discharges (except those identified in subparagraph 5 and 6 of this section) into the storm sewer system, and implement appropriate enforcement procedures and actions. (Clarified permit requirement)*
- 3) *Develop, implement, and document a plan to detect and address non-stormwater discharges, including illicit discharges and illegal dumping, to the system. The plan must include the following three components: procedures for locating priority areas likely to have illicit discharges, including areas with higher likelihood of illicit connections; procedures for tracing the source of an illicit discharge; and procedures for removing the source of the discharge.*
- 4) *Develop and implement a program to train municipal staff to recognize and appropriately respond to illicit discharges observed during typical duties. The program must address who will be likely to make such observations and therefore receive training, and how staff will report observed suspected illicit discharges. (New permit requirement)*
 - i) ***Specific Deadline for Renewal Permittees:*** *Renewal Permittees must comply with the requirement of subparagraph (4) by no later than December 31, 2009.*
- 5) *Address the following categories of non-stormwater discharges or flows (i.e., illicit discharges) only if the permittee identifies them as significant contributors of pollutants to the permittee’s MS4: landscape irrigation, lawn watering, diverted stream flows, irrigation return flow, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)),*

uncontaminated pumped ground water, springs, flows from riparian habitats and wetlands, water line flushing, discharges from potable water sources, foundation drains, air conditioning condensation, water from crawl space pumps, footing drains, individual residential car washing, dechlorinated swimming pool discharges, and water incidental to street sweeping (including associated side walks and medians) and that is not associated with construction.
(Clarified permit requirement)

The permittee may also develop a list of occasional incidental non-stormwater discharges similar to those in the above paragraph, (e.g., non-commercial or charity car washes, etc.) that will not be addressed as illicit discharges. These non-stormwater discharges must not be reasonably expected (based on information available to the permittee) to be significant sources of pollutants to the MS4, because of either the nature of the discharges or conditions the permittee has established for allowing these discharges to the MS4 (e.g., a charity car wash with appropriate controls on frequency, proximity to sensitive water bodies, BMPs, etc.). The permittee must document in their program any local controls or conditions placed on the discharges. The permittee must include a provision prohibiting any individual non-stormwater discharge that is determined to be contributing significant amounts of pollutants to the MS4.

- 6) *The following sources are excluded from the prohibition against non-stormwater discharges and the requirements of subsections (2) and (3) above:*
 - i) *Discharges resulting from emergency fire fighting activities. Such discharges are specifically authorized under this permit (see Part I.A.2).*
 - ii) *Discharges specifically authorized by a separate CDPS permit.*

C. Program Elements: By using existing, ongoing program elements to meet the permit requirements, the MS4 is committed to continuing each of these program elements. Any changes would require use of the program modification process as outlined in Part I.E.2 of the permit.

Address the existing program elements, including those developed during the first permit term. If elements developed during the first term will be discontinued in the second term, include a brief summary of the discontinued element(s).

1. Outfall map

<i>Program Description</i>
The City has mapped all MS4 outfalls within the permit boundary. Updates are made within a reasonable timeframe when new outfalls are constructed.

2. Regulatory mechanism

<i>Program Description</i>
City Ordinance 05-07 includes the prohibition of illicit discharges. The ordinance was passed by resolution on July 5, 2005. The Ordinance states that: “It shall be unlawful for any person to discharge or cause to be discharged or spilled any substance other than naturally occurring Stormwater runoff into the City's MS4, with the following exceptions: return flows from irrigation, water from building foundation drainage, runoff from noncommercial car washing, dechlorinated water from swimming pools, water from fire hydrants including water used for firefighting, emergency discharges of contaminated water from

ditches and canals as necessary to protect public drinking water supplies, and other waters determined by the City to be noncontaminated and acceptable for return to the City's MS4 and State waters. Nothing contained herein shall be construed to relieve any person discharging water into the City's MS4 from any liability for damage caused by the volume or quality of water thus discharged.”

3. Illicit Discharge Detection and Elimination Plan

Program Description

The City has an Illicit Discharge Detection and Elimination Manual (December 2004 and as amended). The manual lists the priority areas and procedures for tracing and tracking an illicit discharge source and removing an illicit discharge.

Locating Priority areas

The City uses the following guidelines when identifying priority areas:

- Commercial/industrial areas;
- Older areas of the City;
- Areas where there have been repeated complaints; and
- Locations identified from ambient water quality sampling data.

Tracing the source of illicit discharges

The City has developed and maintains a map of the storm drain system and past illicit discharges utilizing the City's Global Information System (GIS). The City uses GPS units with applicable software so information can be collected in the field and downloaded into the database. Other tracing options include manhole observations, video inspection, smoke testing, dye testing, and aerial infrared and thermal photography.

Removing the source of illicit discharges

The City has three types of actions that it takes to remove illicit discharges—compliance assistance and enforcement for illegal connections to homes and businesses, proper construction and maintenance of MS4s, and responding to and preventing illegal dumping.

4. Staff Education

Program Description

The City trains appropriate field employees on the IDDE manual and the applicable procedures for observing, reporting and responding to illicit discharges. Detailed training presentations specific to illicit discharge response will typically occur once a permit term because there is little employee turnover, but will be held more often if necessary. In addition, illicit discharges are covered in a less detailed manner in the annual employee training listed under the pollution prevention/good housekeeping program.

D. Measurable Goals

Measurable Goals are required for Staff Education as per Part I.B.3(a)(4) of the permit (Permit Requirement (4), in Part B, above), unless this new permit condition is already being met. Additional measurable goals should not be necessary if the elements described in Part C, above, constitute full program implementation and a commitment to continue these elements for all additional permit requirements.

Check Box 1 or 2, below. The Table in Part 3 must be filled out if you check Box 2.

1. Staff training program(s) listed in Part C.4, above, have been fully implemented and are ongoing.

(It is not necessary to complete Part 3 below if you check this box.)

2. One or more staff training program(s) have **NOT** been fully implemented and measurable goals have been provided in Part 3 below for each of the pending programs.

(You must complete Part 3 below if you check this box.)

3. Illicit Discharge Detection and Elimination Measurable Goals: Include those staff training program(s) that have **NOT** already been fully implemented, and provide the year by which implementation will occur. **Measurable Goals must be completed by 2009.**

	Illicit Discharge Detection and Elimination Measurable Goals-Training <i>List each program element, briefly describe. Provide the year(s) for implementation</i>	Implementation Year
3.a	Keep Database record of employee training	December 2009

CITY OF LONE TREE	CONSTRUCTION SITES RUNOFF CONTROL	STORMWATER DISCHARGES ASSOCIATED WITH MS4s Program Descriptions 2008–2013
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A. Program Perspective

The goal of the Construction Sites Runoff Control Program is to reduce, to the maximum extent practicable, sediment and other construction-related pollutants from entering the municipal separate storm sewer system.

B. Permit Requirements

The permittee must:

- 1) *Develop, implement, and enforce a program to reduce pollutants in any stormwater runoff, and to reduce pollutants in, or prevent when required in accordance with I.B.3, non-stormwater discharges that have the potential to result in water quality impacts (e.g., construction dewatering, wash water, etc.), to the MS4 from construction activities that result in a land disturbance of one or more acres. Reduction of pollutants in discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one or more acres. If the Division waives requirements for stormwater discharges associated with a small construction activity in accordance with 61.3(2)(f)(ii)(B) (the “R-Factor” waiver), the permittee is not required to develop, implement, and or enforce its program to reduce pollutant discharges from such a site. **(Clarified permit requirement)***
- 2) *Develop and implement the program to assure adequate design, implementation, and maintenance of BMPs at construction sites within the MS4 to reduce pollutant discharges and protect water quality. The program must include, at a minimum, the development, implementation, and documentation of:*
 - i) *Program Requirements, including:*
 - A) *An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions and procedures adequate to ensure compliance, to the extent allowable under State or local law.*
 - B) *Requirements for construction site operators to implement appropriate erosion and sediment control BMPs.*
 - C) *Requirements for construction site operators to implement BMPs to control waste such as discarded building materials, concrete truck washout, chemicals, litter, sanitary waste, and other non-stormwater discharges including construction dewatering and wash water, at the construction site that may cause adverse impacts to water quality. **(Clarified permit requirement)***
 - ii) *Compliance Assessment, including:*

- A) *Procedures for site plan review which incorporate consideration of potential water quality impacts.*
- B) *Procedures for construction site compliance assessment, including:*
 - 1) *Site inspections; and*
 - 2) *Receipt and consideration of information submitted by the public.*

iii) *Compliance Assurance, including:*

- A) *Procedures for enforcement of control measures that includes documented procedures for response to violations of the permittee's program requirements. Procedures must include specific processes and sanctions adequate to minimize the occurrence of, and obtain compliance from, chronic and recalcitrant violators of control measures. **(New permit requirement)***
 - 1) *Specific Deadline for Renewal Permittees: Renewal Permittees must comply with the requirement of subparagraph (A) to develop, document and implement response procedures that specifically address chronic and recalcitrant violators by no later than December 31, 2009.*
- B) *An education and training program for municipalities, their representatives and/or construction contractors. At a minimum, the program must include an information program for construction site operators unfamiliar with the reviewing authority's regulatory requirements.*

C. Program Elements: By using existing, ongoing program elements to meet the permit requirements, the MS4 is committed to continuing each of these program elements. Any changes would require use of the program modification process as outlined in Part I.E.2 of the permit.

Address the existing program elements, including those developed during the first permit term. If elements developed during the first term will be discontinued in the second term, include a brief summary of the discontinued element(s).

1. Regulatory Mechanism to require BMPs and sanctions to ensure compliance

<i>Program Description</i>
Section 18, Article X of the Lone Tree Municipal Code requires a grading, erosion, and sediment control (GESC) permit for most construction-related disturbance within the City. The City requires permittees to follow the <i>Douglas County Storm Drainage Design and Technical Criteria Manual (adopted in Section 11, Article II of the Municipal Code)</i> and the <i>Grading, Erosion, and Sediment Control (GESC) Manual (adopted in Section 18, Article VIII)</i> . There are certain exceptions as outlined in Section 1.4.1 of the GESC Manual. All plans for development within the City, as well as specifically within the Cherry Creek Basin, must adhere to the GESC Manual requirements for erosion and sediment control.

2. Requirements for construction site operators to implement appropriate erosion and sediment control BMPs and materials handling BMPs

Program Description

The City has the following reference for erosion and sediment control—*Douglas County Grading, Erosion, and Sediment Control (GESC) Manual* (March 2004 and as amended).

3. Requirements for construction site operators to control waste including discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste

Program Description

The *Douglas County Grading, Erosion, and Sediment Control (GESC) Manual* (March 2004 and as amended) has BMP requirements (if applicable to the construction site) for solid wastes, concrete truck washout areas, chemical control, sanitary facilities, and other construction site pollutants.

4. Procedures for site plan review which incorporate consideration of potential water quality impacts

Program Description

All active permit applications are tracked in a database.

The City's review process includes the use of a checklist and the use of required BMPs for plan approval. A written plan (including drawings) must be submitted for approval prior to any disturbance activity at a site. Sites are inspected regularly (usually monthly) during construction. Inspections continue regularly (usually monthly) until the site has been stabilized (vegetation established).

The City's GESC Permit process consists of the following steps:

- An owner determines the level of permit, plans, and approvals, as defined in the GESC Criteria Manual.
- A GESC Plan, together with related development plans, is prepared and submitted to the City for review and acceptance. The GESC Plan depicts site grading and related improvements and shows the BMPs used to control erosion and sedimentation.
- After the GESC Plan is approved, a GESC Permit application form, fees, and fiscal surety are provided to the City.
- The site contractor installs the initial BMPs.
- A preconstruction meeting is held on the site with a City GESC Inspector to review the initial BMPs and discuss the GESC inspection and enforcement process.
- An initial inspection of the Initial BMPs is performed and if those BMPs are installed per the City-approved GESC Plan and the specifications of the GESC Manual, site construction is allowed to commence. Construction is subject to required and routine inspections by City staff, input regarding modifications or maintenance needed to more effectively control erosion and sedimentation, and enforcement action for non-compliance.
- Removal of indicated BMPs, final seeding and mulching (if called for), and final inspection occurs prior to the contractor leaving the site.
- After final acceptance of vegetative cover and removal of all temporary GESC controls, fiscal surety is released and the project is closed out.

The inspector has the ability to approve minor adjustments to the plans in the field. Significant changes to approved plans require that a written request be submitted (Notice of Change) which is reviewed by the Engineering Division at the City. The City then issues a written approval for plan changes.

5. Procedures for receipt and consideration of information submitted by the public.

Program Description

All calls and website communications that are received through the City Public Works, along with all reports of illicit discharges, are tracked. Such complaints might warrant a field inspection, notification to a construction site operator, or other follow up as appropriate to the situation.

6. Procedures for site inspection and enforcement of control measures

Program Description

GESC Program Inspection and Enforcement

Inspection and enforcement of the GESC Program is a high priority at the City of Lone Tree. The inspection process for the City's GESC Program includes inspections by Lone Tree Engineering staff and Inspectors to include, but not be limited to, the following:

- All GESC projects are inspected routinely (usually monthly) during the entire life of the project. After construction is complete, inspections continue on a regular (usually monthly) basis until the revegetation effort is complete.
- Selected inspections will be provided by Engineering staff, including inspections of the initial traffic control and temporary access plan, and any permanent drainage or water quality facilities.
- For all GESC Permits, a mandatory preconstruction meeting (prior to start of BMP installation) is held with a City Inspector.
- An initial inspection of the temporary construction access point and initial-stage BMPs by a City Inspector prior to commencement of earthwork activity.
- For most GESC Permits, inspection by a GESC Inspector can occur any time during construction, including when a new on-site GESC manager is chosen.
- For most GESC Permits, some steps during the construction process require the contractor to call in for mandatory inspections by City staff, including:
 - Inspection by a GESC Inspector after interim- and final-stage BMPs are installed.
 - Inspection by a GESC Inspector prior to issuance of a Right-of-Way Use and Construction Permit.
 - Inspection by a GESC Inspector at final project completion prior to the contractor leaving the site (prior to certificate of occupancy being issued).
 - Inspection by a GESC Inspector one year after final project completion for check of revegetation success.
 - Inspection by a GESC Inspector two years after final project completion, or when vegetation coverage is established.
- GESC projects that disturb more than 40 acres (70 acres for soil mitigation) must have multiple grading phases, and an inspection by a GESC Inspector before the start of each phase.

The enforcement of the GESC Program includes three levels of violations. Additional fees are assessed for all levels of violations. Level I violations are given for minor violations of GESC criteria, generally with seven (7) days given to correct the violation(s). A Level II violation is given for more serious violations. Level II violations are to be corrected within two (2) days following the issuance of the violation. A Stop Work Order violation is given for priority violations and failure to correct Level II violations within the given timeframe. The GESC Permit is revoked and ALL work on site is stopped until the site is brought back into compliance with the GESC criteria. Stop Work Order violations are violations viewed by Lone Tree as posing an immediate serious risk to the health, safety, and/or welfare of people and/or the environment. Level II violations (e.g., failure to maintain BMPs, washing concrete trucks in unapproved locations) are viewed as posing a moderate immediate risk to people and/or the environment. Failure to correct any noncompliant item(s) by the deadline will result in the issuance of a Stop Work Order violation. Examples of violations that will result in a Stop Work

Order include, but are not limited to:

- Clearing, grubbing or grading without a GESC permit.
- Failure to schedule a preconstruction conference.
- Failure to be able to contact the GESC Manager or GESC Managers alternate during a Level II violation.
- Failure to restrict operations to approved limits of construction.
- Failure to clean up tracking of material onto roadways and adjacent paved areas.
- Exporting material to or importing material from a non-permitted site.
- Failure to follow an approved phasing plan.
- Failure to correct Level II violations per the directives of the GESC Inspector.

GESC projects that fail to achieve compliance through the Stop Work Order process may be criminally prosecuted in accordance with City Ordinance 05-07.

7. Training and Education for Construction Site Operators

Program Description

The City uses the following to educate construction site operators:

- GESC manuals
- Web site
- Pre-construction meetings
- Inspections
- A copy of the City-approved GESC Plan and Report is required to be on the job site at all times.

All new City GESC inspectors are trained internally to gain an understanding of the City inspection process.

D. Measurable Goals

Measurable Goals are required for the requirement in Part I.B.4(a)(2)(iii) of the permit (Permit Requirement (2)(iii) in Part B, above) unless this new permit requirement is already being met. Additional measurable goals should not be necessary if the elements described in Part C, above, constitute full program implementation and a commitment to continue these elements for all additional permit requirements.

Check Box 1 or 2, below. The Table in Part 3 must be filled out if you check Box 2.

1. Procedures, as listed in Part C.5.b, above, have already been fully implemented to minimize the occurrence of, and obtain compliance from, chronic and recalcitrant violators of control measures.

(It is not necessary to complete Part 3 below if you check this box.)

2. Procedures have **NOT** already been fully implemented to minimize the occurrence of, and obtain compliance from, chronic and recalcitrant violators of control measures.

(You must complete Part 3 below if you check this box.)

3. Construction Sites Program Measurable Goals: The Measurable Goal has been provided. Include the year by which full implementation of procedures will be achieved to minimize the

occurrence of, and obtain compliance from, chronic and recalcitrant violators of control measures will be implemented. **Measurable Goals must be completed by 2009.**

	Construction Sites Program Measurable Goals—Chronic and Recalcitrant Violators <i>Provide the year for implementation</i>	Implementation Year
3.a	N/A	

CITY OF LONE TREE	POST-CONSTRUCTION STORMWATER MANAGEMENT	STORMWATER DISCHARGES ASSOCIATED WITH MS4s Program Descriptions 2008–2013
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A. Program Perspective

The goal of the Post-Construction Stormwater Management program is to implement planning procedures and enforcement mechanisms to reduce, to the maximum extent practicable, stormwater impacts resulting from areas of new development and significant redevelopment.

B. Permit Requirements

Post-construction stormwater management in new development and redevelopment.

The permittee must develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the MS4. The program must ensure that controls are in place that would prevent or minimize water quality impacts. The permittee must:

- 1) *Develop, implement, and document strategies which include the use of structural and/or non-structural BMPs appropriate for the community that address the discharge of pollutants from new development and redevelopment projects, and/or that maintain or restore hydrologic conditions at sites to minimize the discharge of pollutants and prevent in-channel impacts associated with increased imperviousness; **(Clarified permit requirement)***
- 2) *Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State or local law;*
- 3) *Develop, implement, and document procedures to determine if the BMPs required under Item (1), above, are being installed according to specifications. (This may be developed in conjunction with the Construction program area, as described in Part I.B.4);*
- 4) *Develop, Implement, and document procedures to ensure adequate long-term operation and maintenance of BMPs, including procedures to enforce the requirements for other parties to maintain BMPs when necessary; **(Clarified permit requirement)***
- 5) *Develop, implement, and document an enforcement program, which addresses appropriate responses to common noncompliance issues, including those associated with both installation (subparagraph (3), above) and long term operation and maintenance (subparagraph (4), above) of the required control measures; **(Clarified permit requirement)***
- 6) *Develop and implement procedures and mechanisms to track the location of and adequacy of operation of long-term BMPs implemented in accordance with the program. **(Clarified permit requirement)***

C. Program Elements: By using existing, ongoing program elements to meet the permit requirements, the MS4 is committed to continuing each of these program elements. Any changes would require use of the program modification process as outlined in Part I.E.2. of the permit.

Address the existing program elements, including those developed during the first permit term. If elements developed during the first term will be discontinued in the second term, include a brief summary of the discontinued element(s).

1. Regulatory mechanism

<i>Program Description</i>
Section 11, Article II of the Lone Tree Municipal Code requires the adherence to the <i>Douglas County Storm Drainage Design and Technical Criteria Manual</i> , as amended. The current manual was adopted in 1986, but Douglas County has revised the manual, and the updated version will be adopted by December 31, 2008. Information presented herein reflects the procedures and requirements included in the new (2008) version of the manual.

2. Design Criteria and Standards

<i>Program Description</i>
The <i>Douglas County Storm Drainage Design and Technical Criteria Manual</i> , as amended, references the Urban Drainage and Flood Control District's (UDFCD'S) <i>Urban Storm Drainage Criteria Manual: Volume 3</i> , as amended. The <i>Douglas County Storm Drainage Design and Technical Criteria Manual</i> also lists the design criteria for a variety of permanent BMPs. In addition, the UDFCD, in conjunction with Lone Tree and Douglas County, has completed Master Drainage Plans, Outfall System Plans, and Flood Hazard Area Delineation studies for several drainageways in Douglas County. These plans and studies, though not typically directly related to post construction BMPs (they do not provide design criteria and/or standards), are used by the City and the developers as a baseline for stream channel improvements and hydrologic impact analyses that are required during development.

3. Review and Approval Procedures

<i>Program Description</i>
The <i>Douglas County Storm Drainage Design and Technical Criteria Manual</i> (2008 and as amended) describes the drainage report review process, which includes a pre-application consultation (recommended, but not required), submittal of a drainage report and construction drawings (whose submittal requirements are detailed in Douglas County's <i>Roadway Design and Construction Standards Manual</i> (1994, as amended)) that includes design (by a Colorado P.E.) and location for applicable water quality BMPs by the applicant, and review and acceptance of the report and drawings by the Lone Tree Engineering Division.
Field verification of the permanent BMPs is accomplished through two levels of acceptance. Inspections are completed by both GESC and or Engineering inspectors. There are two levels of acceptance: preliminary acceptance (following construction of the permanent BMP) and final acceptance (following warranty period).

4. Tracking

<i>Program Description</i>
The City continues to develop and update a database to track Permanent BMP locations within the City.

5. Requiring long-term operation and maintenance of BMPs

<p><i>Program Description</i></p> <p>The City uses one or more of the following to require long-term operation and maintenance of the BMPs: drainage easements; language on recorded plats requiring the legal title holder to be responsible for BMP maintenance; and/or the City’s legal authority to inspect, require or perform maintenance, and recoup costs to ensure the permanent BMPs are installed and constructed in accordance with the specifications.</p>
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6. Monitor long-term compliance

<p><i>Program Description</i></p> <p><i>Inspection</i></p> <p>Applicable City Engineering permits are required for construction of all permanent BMPs. The City will perform necessary inspections to ensure that maintenance is being performed. The City will inspect all permanent BMPs (that are completed and operational during the permit term) at least once a permit term and in response to complaints.</p> <p><i>Enforcement</i></p> <p>In the instances where the lack of maintenance or the unauthorized/unapproved alteration of a permanent BMP occurs, the City can access the site through a drainage easement or plat note, perform the required maintenance or repair/replace the unauthorized alteration, and charge the BMP owner for that activity.</p>
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D. Measurable Goals

Inclusion of measurable goals should not be necessary, as the elements described in Part C, above, should constitute full program implementation and a commitment to continue these elements.

CITY OF LONE TREE	POLLUTION PREVENTION/ GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	STORMWATER DISCHARGES ASSOCIATED WITH MS4s Program Descriptions 2008–2013
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A. Program Perspective

The goal of the Pollution Prevention/Good Housekeeping for Municipal Operations program is to reduce, to the maximum extent practicable, the amount and type of pollution that is generated by municipal operations or from municipally-owned property.

B. Permit Requirements

The permittee must develop and implement an operation and maintenance program that includes an employee training component and has the ultimate goal of preventing or reducing pollutants in runoff from municipal operations. The program must also inform public employees of impacts associated with illegal discharges and improper disposal of waste from municipal operations. The program must prevent and/or reduce stormwater pollution from facilities such as streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations and snow disposal areas operated by the permittee, and waste transfer stations, and from activities such as park and open space maintenance, fleet and building maintenance, street maintenance, new construction of municipal facilities, and stormwater system maintenance, as applicable. The permittee must:

- 1) *Develop and maintain written procedures for the implementation of an operation and maintenance program to prevent or reduce pollutants in runoff from the permittee's municipal operations. The program must specifically list the municipal operations (i.e., activities and facilities) that are impacted by this operation and maintenance program. The program must also include a list of industrial facilities the permittee owns or operates that are subject to separate coverage under the State's general stormwater permits for discharges of stormwater associated with industrial activity; **(New permit requirement)***
 - i) *Specific Deadline for Renewal Permittees: Renewal Permittees must comply with the requirements of subparagraph (1) by no later than December 31, 2009.*
- 2) *Develop and implement procedures to provide training to municipal employees as necessary to implement the program under Item 1, above. **(Clarified permit requirement)***

C. Program Elements: By using existing, ongoing program elements to meet the permit requirements, the MS4 is committed to continuing each of these program elements. Any changes would require use of the program modification process as outlined in Part I.E.2 of the permit.

Address the existing program elements, including those developed during the first permit term. If elements developed during the first term will be discontinued in the second term, include a brief summary of the discontinued element(s).

1. Implementation of an operation and maintenance program

<i>Program Description</i>
The City has or will develop facility runoff control plans for all applicable City facilities. Runoff control plans are completed for applicable new facilities as soon as possible. The applicable facilities are inspected once a year and the plans updated as necessary. The City also has a street sweeping program and written Standard Operating Procedures (SOPs) for municipal operations. A list of municipal operations requiring the implementation of the SOPs has been developed by the City.

2. Employee Training program

<i>Program Description</i>
Applicable City employees will be trained once a year on the general City stormwater program, including how to generally identify and respond to illicit discharges, and other applicable subjects relative to good housekeeping and pollution prevention.

D. Measurable Goals

Measurable Goals are required as per Part I.B.6(a)(1) of the permit (Permit Requirement (a)(1) in Part B, above), unless this new permit requirement is already being met. Additional measurable goals should not be necessary if the elements described in Part C, above, constitute full program implementation and a commitment to continue these elements for all additional permit requirements.

Check Box 1 or 2, below. The Table in Part 3 must be filled out if you check Box 2.

1. Written procedures and lists, as listed in Part C.3, above, for the implementation of an operation and maintenance program to prevent or reduce pollutants in runoff from the permittee's municipal operations, have already been developed.
 (It is not necessary to complete Part 3 below if you check this box.)
2. 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 have **NOT** already been fully developed.
 (You must complete Part 3 below if you check this box.)
3. Pollution Prevention/ Good Housekeeping Measurable Goals: The Measurable Goal has been provided. Include the year when written procedures for the implementation of an operation and maintenance program to prevent or reduce pollutants in runoff from the permittee's municipal operations will be fully developed. **Measurable Goals must be completed by 2009.**

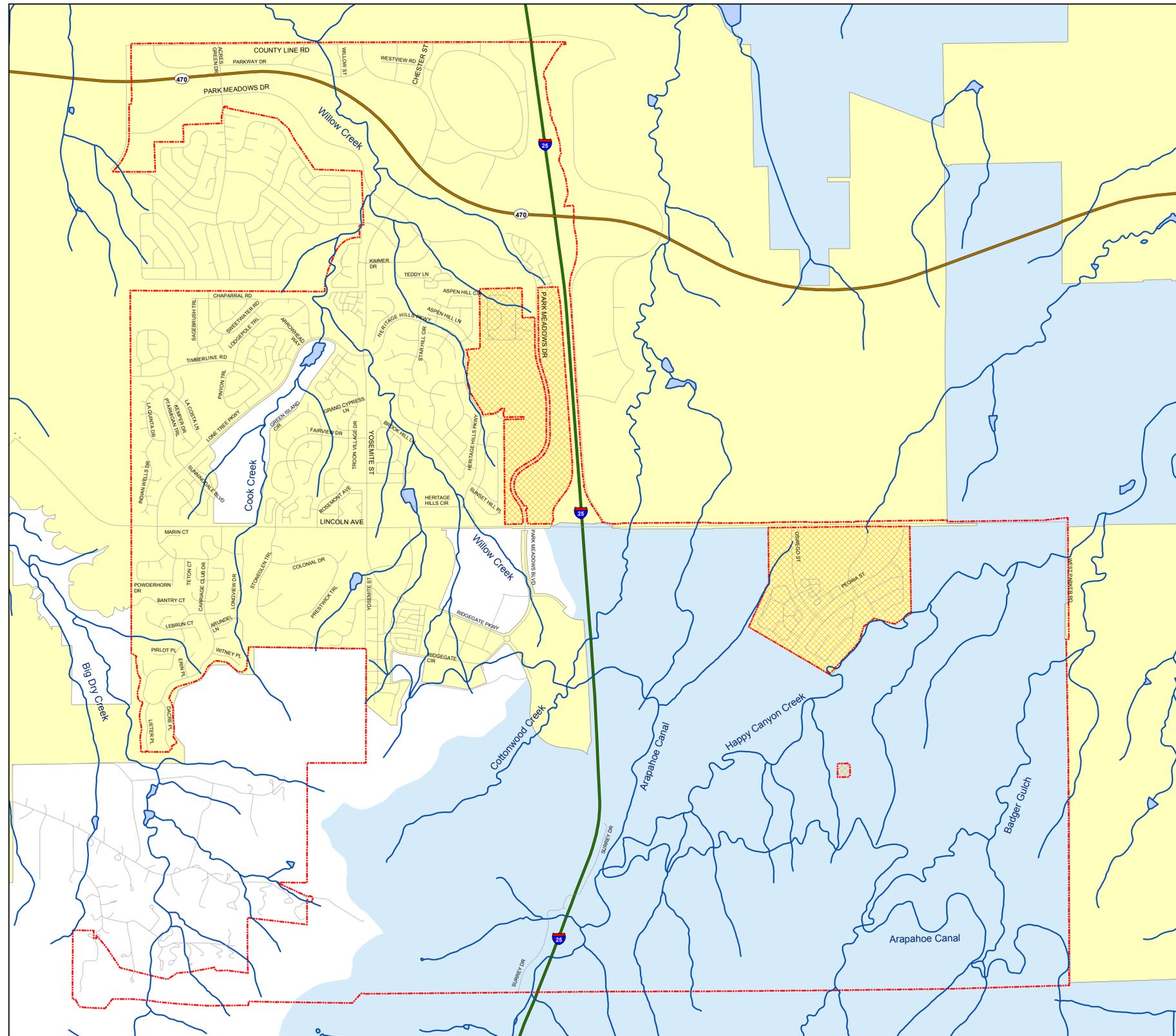
	Pollution Prevention/ Good Housekeeping Measurable Goals <i>Provide the year(s) for implementation</i>	Implementation Year
3.a	Written training program and database record of training	2009

Appendix A

Map of the City of Lone Tree

City of Lone Tree

Douglas County, Colorado



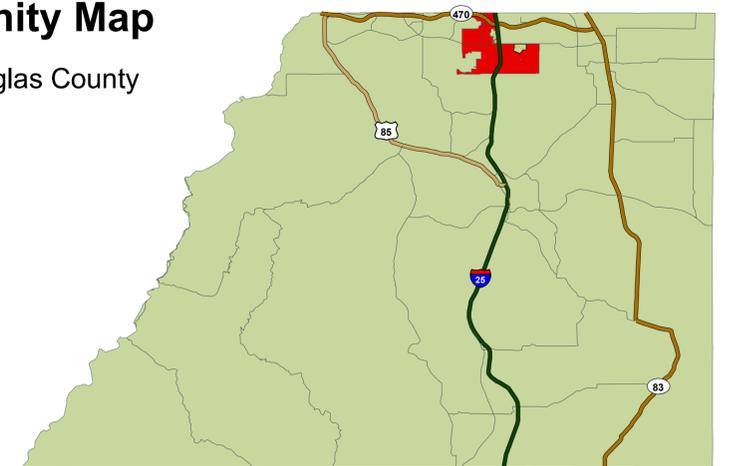
Vicinity Map

State of Colorado



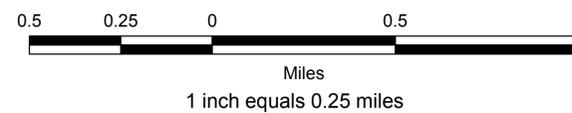
Vicinity Map

Douglas County



Legend

- Not Incorporated into City Limits of Lone Tree
- State Waters
- Urbanized Area (DRCOG 2006)
- Cherry Creek Basin
- City of Lone Tree Boundary
- Road Classification:
 - Interstate
 - State Hwy
 - Local



CDPS Phase II Permit Program Location Map

Appendix B

Discontinued Elements

Discontinued Element	Rationale
Public Education and Outreach	
Stencil or mark existing storm drains.	The City has experienced similar issues to other members of the Douglas County Stormwater Co-op. Vandalism makes this approach ineffective..
School programs and public education task force	This element has been difficult to implement due to a lack of participation by the Douglas County School District. However, the City will continue to support Project WET (Water Education for Teachers - through the Cherry Creek Stewardship Partners) and the Douglas County School District when possible.
Radio public service announcements	The City has found that videos on DC8 and articles in local newspapers are more effective outreach methods than public service announcements aired on the radio.
Stormwater library	The City will no longer maintain a library because it is too resource intensive to maintain and has not been helpful to employees or the public. However, the City will provide web-site links to appropriate articles and resources.
Stormwater survey	This has not been an effective outreach tool because only a few City citizens and employees completed the survey.
Public Participation and Involvement	
Traveling Road Show	The City will continue to support the "Traveling Road Show" to those in the DC Stormwater CO-OP Group that want to give presentations, but has found that the Road Show is generally ineffective for most non-school activities.
Post-Construction Stormwater Management in New Development and Redevelopment	
Annual inspections of permanent BMPs	The City does not have the resources to conduct annual inspections. The City will, however, inspect each permanent BMP once within the permit term and in response to complaints.
Development of SOPs for plan review, inspection, enforcement, and tracking	Procedures for plan review are outlined in the Douglas County Storm Drainage Design and Technical Criteria Manual, as amended and the BMPs are tracked in a database. The City will inspect each permanent BMP once within the permit term and in response to complaints.