



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8

1595 Wynkoop Street
DENVER, CO 80202-1129
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<http://www.epa.gov/region08>

DEC 04 2012

Ref: 8ENF-W-NP

CERTIFIED MAIL: 7009 3410 0000 2595 5990
RETURN RECEIPT REQUESTED

Ms. Jill Piatt-Kemper
Senior Environmental Engineer
City of Aurora
13645 East Ellsworth Avenue
Aurora, CO 80012

Re: Municipal Storm Water Inspection Report,
CDPES Permit Number – COS000003

Dear Ms. Piatt-Kemper:

Enclosed is a copy of the inspection report for the Environmental Protection Agency's (EPA's) inspection performed of the City of Aurora's Municipal Separate Storm Sewer System on August 8-10, 2012. Deficiencies were noted during the inspection and are summarized in the enclosed report.

Within **thirty (30) days** of receipt of this report, provide the EPA and Colorado Department of Health and Environment (CDPHE) a summary of the corrective actions taken to address the deficiencies identified in the report. Address each deficiency individually referencing the finding number in the order provided in the EPA's report summary of findings. While addressing each deficiency provide details on the City's plan for corrective action to address the deficiency, as well as the timeline and resources required to do so. Your response should be sent to:

U.S. EPA Region 8
NPDES Enforcement Unit
1595 Wynkoop Street
Denver, CO 80202-1129
Attn: David Gwisdalla (8ENF-W-NP)

Water Quality Control Division
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South B2
Denver, CO 80246-1530
Attn: Michelle DeLaria

Please contact me at 303-312-6193, or gwisdalla.david@epa.gov if you have any questions.

Sincerely,

David A. Gwisdalla, P.E.
NPDES Enforcement Unit
Office of Enforcement, Compliance
and Environmental Justice

cc: Michele DeLaria, CDPHE

Federal NPDES Stormwater Inspection – MS4

**City of Aurora Phase I MS4 Inspection Report
Colorado Discharge Permit System, Permit #: COS000003**

Inspection Dates: August 8, 2012 – August 10, 2012

Prepared by PG Environmental, LLC for the
U.S. Environmental Protection Agency Region 8 NPDES Enforcement Unit

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National Database Information	
Inspection Date(s): August 8, 2012 to August 10, 2012	Inspection Type: MS4 Stormwater, Phase I
Entry Time: 8:30 AM	Exit Time: 2:40 PM (Note: the inspection close-out meeting was held on August 10, 2012 from 2:00 PM to 2:30 PM).
NPDES ID Number: COS000003	EPA Lead Inspection

Facility Location Information:(Name/Location/Mailing Address)	
Site/Facility Location: City of Aurora Aurora, CO	Mail Report to: Jill Piatt-Kemper, Senior Environmental Engineer City of Aurora 13645 East Ellsworth Avenue Aurora, CO 80012

Contact Information		
	Name(s)/Title	Telephone
Facility Contacts: <i>(indicate primary MS4 lead and management present during inspection)</i>	Jill Piatt-Kemper/ Senior Environmental Engineer	303.739.7390
	Mark Donelson / Manager of Wastewater and Stormwater Operations	303.326.8060
	Geoff Rabinowitz / Environmental Inspection Coordinator	303.326.8141
	Mike Earnest / Stormwater Maintenance Supervisor	303.326.8050
	Lisa Klutz / Program Specialist	720.859.4416
Authorized Official(s) (per Statement of Basis)	Mark Pifher / Director	303.739.7370
Co-Permittees Contact Information:	None.	
Regulatory Inspectors: (indicate primary lead and present during inspection)	David Gwisdalla, U.S. EPA Region 8 – Lead Inspector	303.312.6193
	Seth Draper, U.S. EPA Region 8 – Inspector	303.312.6763
	Stephanie Gieck, U.S. EPA Region 8 – Inspector	303.312.6362
	Alysia Tien, U.S. EPA Region 8 – Inspector	303.312.7021
	Monia Ben-Khaled, U.S. EPA Region 8 – Inspector	303.312.6209
	Emilio Llamozas, U.S. EPA Region 8 - Inspector	303.312.6407
	Michelle DeLaria, CDPHE – CDPS Permitting	303.692.3615
	Wesley Ganter, PG Environmental, LLC	303.279.1778
	Sarah Koziolkowsky, PG Environmental, LLC	303.279.1778

Permit Information			
Is the permit on site and available? Yes			
Effective Date: March 1, 2009		Expiration Date: February 28, 2014	
Area served by MS4: 155 square miles	Population served by MS4: 325,000 persons	Latitude: 39°42'00"N	Longitude: 104°47'00"W
Any co-permittees (if so, list contact information above): None.			
Permit area:	City of Aurora, Colorado		
Receiving Water(s): Aurora MS4 to the South Platte River Watershed			
Regulatory Inspector's source of information: Permit, 2010 Annual Report, Permit Fact Sheet, 2010 City of Aurora Census Bureau Statistics			

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MS4 Program Areas Inspected During the Inspection			
Public Education & Outreach	No	Public Involvement/Participation	No
Illicit Discharge Detection and Elimination	Yes	Post-Construction Stormwater Management in New Development and Redevelopment	Yes
Industrial Facilities and High Risk Runoff	Yes	Construction Sites Stormwater Runoff Control	Yes
Pollution Prevention and Good Housekeeping for Municipal Operations	Yes	Stormwater Monitoring	Yes
Program Management	Yes	Compliance Schedule	No

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Municipal Information

Municipal Description: The City of Aurora is a suburb of Denver, which encompasses 155 square miles and contains 325,000 persons. The City’s stormwater features consist of 1,041 miles of storm sewer drainage structures including 204 overflow tracts, and 8,224 inlets with approximately 2,032 outfalls. The City’s annual MS4 budget for 2012 is approximately \$1.8 million. The municipal activities within the City consist of maintenance and operation of the following: facilities, utilities, roads and grounds, golf course, parks and recreation, and fleet maintenance. The City operates a stormwater utility fee to provide revenue for stormwater infrastructure construction and maintenance. The employees working for the Aurora Water program are also included in the number of MS4 employees.

Inspection Details

The inspection was prompted as part of the EPA Municipal Infrastructure National Enforcement Initiative, which includes MS4s as well as sanitary sewer overflows. The purpose of the inspection was to verify compliance with the City’s MS4 permit.

The EPA inspectors, State Inspector (Colorado Department of Public Health and the Environment, CDPHE), and EPA Contract Inspectors (PG Environmental, LLC) arrived on site, provided their credentials and outlined the process of the inspection to the site representative. The inspection consisted of an opening conference outlining the inspection process; a records review; interviews with personnel; and a tour/field visit of municipal areas, industrial facilities, industrial outfalls, new development sites and construction sites; as well as an official close-out meeting. The inspection schedule was from Monday, August 8 through Wednesday, August 10, 2012. The final inspection close-out meeting was held at 2:00 PM on August 10, 2012 at the City’s Facilities Management Building.

The records reviewed onsite and the field visits conducted during the inspection are outlined further below. The issues discussed during the closeout meeting are outlined in this report. The photo log is attached. Inspection relevant findings are also provided in the attached summary of findings and corrective actions document. This document outlines requirements for the permittee to take in order to address the inspection findings, including recommendations by the EPA for program improvement.

All program elements of the Permittee’s stormwater management program were inspected. However, all required permittee actions and associated documentation were not reviewed during the inspection. The inspection process included review of general program documentation, but did not review all documents that would prove compliance with all permit requirements. The permittee remains responsible for complying with all Permit requirements and performing on-going evaluations of its programs. The Division reserves the right to review comprehensive documentation in the future.

Description of the weather conditions (e.g., temp., precip. amount, etc.) the last 10 days preceding the inspection; include the dates of the rain events: The average daytime air temperature was in the 90s (°F) prior to the inspection. Three of the 10 days preceding the inspection experienced rainfall; 0.07 inches on July 29; 0.1 inches on July 31; and 0.03 inches on August 1.

Weather conditions during the inspection:

Day 1:

Max Temp 93° F
0.0” of precipitation
Mostly sunny
Light wind

Day 2:

Max Temp 93° F
0.0” of precipitation
Mostly sunny
Light wind

Day 3:

Max Temp 95° F
0.0” of precipitation
Mostly sunny
Light wind

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Program Area Details

Program Management: The City's Stormwater MS4 Program is permitted by the State of Colorado under permit number COS000003. The program is primarily managed by Jill Piatt-Kemper, the Senior Environmental Engineer. Ms. Piatt-Kemper is supported by Ms. Lisa Klutz, Program Specialist, specifically in respect to the compilation of data and preparation of annual reports. Duties managed within the program are performed by both City employees and include administration, planning, permitting, engineering/construction, inspection, and enforcement activities. The City also collaborates with outside groups including the U.S. Geological Survey (USGS) and the Urban Drainage and Flood Control District (UDFCD) for program implementation. The program does not have a specific Stormwater Management Plan (SWMP) document; instead, storm water management is implemented through the use of multiple permit-specific program area plans and operating procedures. Legal authorities for the program are obtained through the use of City codes, ordinances, and standard operating procedures. Annual reports summarizing the previous calendar year's MS4 program information are signed off on by the approved signatory authority and submitted to the state per the permit's annual report submission schedule.

The City uses the Hanson Computerized Maintenance Management System to track assets, inspection reports, and work orders. Using Hanson, the City staff have the ability to access a variety of datasets for a single asset including inspection reports, work histories, and recurring maintenance schedules. The City inspectors use a combination of data from Hanson and hardcopy map books of the City to conduct inspections. The City staff stated that they are in the process of enabling the Hanson program to be accessed offsite by City inspectors. The City has a dedicated team in the Application Support Group whose primary goal is to update asset information in the Hanson program. As a component of the inspection, the EPA Inspection Team observed a member of the Application Support Group navigate the Hanson program to access several types of information about the City's assets.

Stormwater Monitoring: The City's monitoring program consists of annual stormwater quality monitoring for selected parameters at locations along the South Platte River and selected tributaries within the Denver Metropolitan Area. The monitoring occurs only during wet weather events at the following locations:

- 1) South Platte River below Union Avenue at Englewood, CO
- 2) South Platte River at Denver, CO
- 3) Tollgate Creek above 6th Avenue at Aurora, CO
- 4) Sand Creek at mouth near Commerce City, CO
- 5) South Platte River at Henderson, CO

The City's monitoring program is a collaborative effort that includes the USGS and the UDFCD. The locations and technical approach developed for the monitoring program are based on the 1997 UDFCD "Stormwater Quality Monitoring Plan for the Denver Metropolitan Area" report. Tollgate Creek above 6th Avenue at Aurora, CO is the only monitoring location within the City's jurisdiction. However, the Sand Creek monitoring location is directly downstream and north of the City boundary. As a component of the stormwater monitoring program, a trend analysis is to be conducted every fourth year with annual reports in the other permit years. A copy of the 2011 Annual Report was obtained during the inspection and is provided as Exhibit 1 and Exhibit 2 in the Exhibit Log located in Appendix B of the report.

The City has been conducting recurring and structured inspections of each outfall and has been recording observations about outfall condition, maintenance needs, and select information about visual indicators of potential illicit discharges. These inspections are conducted by the Operations Compliance Division.

Efforts to specifically assess outfalls for dry weather flows and potential illicit discharges were last performed for a subset of the City's outfalls in 2000. These inspection efforts were focused exclusively within a portion of the Sand Creek watershed and were intended to evaluate the presence and sources of *e-coli* bacteria. Additional outfall screening activities specifically designed to detect illicit discharges had not occurred since that time.

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Commercial/Residential Management Program: The new development/redevelopment program (i.e., post-construction program) is enacted by the City's ordinances and implemented using the Rules and Regulations Regarding Stormwater Discharges Associated with Construction Activities and the Urban Storm Drainage Criteria Manual Volume 3 – Best Management Practices. Plans for projects proposed by private and municipal owners are sent through the same process for review and approval. The City's Public Works department reviews the plans for compliance with stormwater, drainage, and technological standards. Plans awaiting approval are tracked using a Microsoft Excel spreadsheet and applicable departments are notified to approve or comment on specific components of the plans.

In 2008, the City enacted Section 138-442.5 in the City's stormwater ordinance that requires a project proponent to develop, submit, and implement a long-term post-construction best management practice (BMP) inspection and maintenance (I&M) plan. An example I&M plan is provided as Exhibit 3 and Exhibit 4 in Attachment B of the report. Property owners subject to the I&M plan are required to provide ongoing maintenance and provide the results of a self-inspection to the City on an annual basis. The City Operations Compliance Division maintains a tracking list of all post-construction BMPs installed in the City. The tracking list was obtained during the inspection and includes 150 facilities installed between 2008 and 2012. The tracking list also contains information about the description and type of each BMP at the site, whether or not the owner had submitted an annual BMP inspection, and if the City has received the long-term post-construction BMP I&M plan for the site.

To assess the effectiveness of the City's program for the operation and maintenance of post-construction BMPs, the Inspection Team conducted several site visits of post-construction BMPs installed before and after the creation of the ordinance requiring a long-term I&M plan. Specifically, the Inspection Team visited the following sites:

- Southlands Self Storage at 5900 South Gun Club Road
- Laredo Church of Jesus Christ of Latter-day Saints at 950 Laredo Street
- Pride's Crossing Retention Pond upstream of Quincy Reservoir across from 4729 South Danube Circle
- Upland Pond Water Quality Improvement Project
- Constructed Wetlands at Vista Peak 9-12 Preparatory School / 24500 East 6th Avenue

Illicit Discharge Detection and Elimination (IDDE) Program: The City derives its authority to eliminate illicit discharges within its MS4 through its Ordinance 138-439 "Prohibited Discharges." The City has several program components to detect and eliminate illicit discharges including education, asset tracking, annual channel and pond inspections, and spill response procedures.

The public can notify the City of illicit discharges or spills using a hotline which can be accessed 24 hours per day, seven days per week. The hotline operators are trained to ask relevant secondary and tertiary questions to determine the importance of the call and which City staff are the best responders. Each call is documented in an "individual response form" and tracked using a Microsoft Excel spreadsheet. Calls that need follow-up actions are given a Hanson work number. The City staff stated that in 2011 there were 160 total calls to the City's hotline; 93 of the 160 were identified as illicit discharges.

The City has a series of compliance assistance and enforcement tools at its disposal to address illicit discharges. The City prefers to use education as its primary tool to eliminate illicit discharges but can issue notice of violation (NOV) letters through Neighborhood Services. The City does not have the authority to issue enforcement beyond NOV letters but can elect to terminate water service or can request support from the Neighborhood Services and their code enforcement group to escalate enforcement.

Construction Sites Program: The City has authority to implement a construction program through its ordinances. The Construction Sites Program has several components including procedures for site planning;

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structural and non-structural BMP specifications and design manuals; procedures for site inspection and enforcement; and training and education for construction site operators. The Construction Sites Program also ensures that the City and site operators comply with Cherry Creek Basin rules and regulations.

Plans for projects proposed by private and municipal owners are sent through a review and approval process. The City's "Standard Operating Procedures for the Construction Sites Program" is the governing plan-approval process for construction projects. The project manager submits the construction plans at 90% complete to the City. The City Engineer Group reviews and approves plans prior to issuing stormwater quality permits. An erosion and sediment control kickoff meeting is held with the owner and engineer to discuss the expectations of the stormwater program. Before a stormwater quality permit is issued, a stormwater pollution prevention plan (SWPPP) must be developed and submitted for the site. After the SWPPP is developed, the City conducts a site inspection and completes a questionnaire using the City's site risk criteria to determine the inspection frequency. Sites with the highest inspection frequency (those adjacent to water bodies) are inspected monthly.

The City inspectors use the "Urban Storm Drainage Criteria Manual Volume 3 – Best Management Practices" to evaluate the compliance of BMPs used at the site. Site operators have two days to address BMP maintenance deficiencies noted during site inspections. For significant deficiencies, site operators are required to submit a photo log within two days to show that the deficiencies have been addressed. The City uses NOV letters as its highest form of enforcement for noncompliant construction sites but generally achieves compliance with verbal warnings and through issuance of inspection reports.

The Inspection Team observed that the City's construction program was resulting in effective deployment and maintenance of BMPs at the subset of three active construction sites reviewed during the inspection (refer to Photographs 1 through 4). Additionally, the construction program coordinator provided technical leadership to City inspection and engineering staff as well as the private development community.

Industrial Facilities: The City staff stated that there are 120 industrial facilities in the City's jurisdiction. The City classifies its industrial industries into major and minor facilities. Major facilities are high risk facilities that have a greater potential to impact the sanitary sewer; an example of a major facility is an auto repair shop. The City's minor facilities have a lower potential to impact the sanitary sewer; an example of a minor facility is a car wash.

In total there were approximately 800 food service establishments (FSEs) and 120 industrial facilities included in the City's oversight program. The City distributes educational brochures to restaurants with grease intercepting devices and to industrial facilities with sand and grease intercepting devices. The brochure, titled "Industrial Activities and Stormwater Pollution", educates the facilities about stormwater pollution by outlining the importance of stormwater management plans and establishing BMPs. The City staff will distribute the "Industrial Activities and Stormwater Pollution" brochure if a deficiency is observed at an industrial facility or during an FSE inspection. The City's site visit reports for these facilities have a component that notes if the brochure has or has not been distributed to the facility.

Pollution Prevention (P2) / Good Housekeeping for Municipal Operations: The requirements of the municipal operations program are developed as part of the standard operating procedures (SOPs) for municipal activities (e.g., road maintenance) as well as Municipal Facility Runoff Control Plans (MFRCPs), both of which are required by the permit terms. A series of SOPs were developed in 2010 to communicate stormwater responsibilities to other City departments.

The City has an aggressive maintenance schedule for its municipal operations. For example, the City staff stated that 4,000 inlets are inspected annually, 10% of which are cleaned. The City utilizes Hanson to track and manage the assets that need to be inspected and/or cleaned. The professional judgment of the City's municipal staff is the basis of prioritizing an asset for cleaning. Those assets which are given a high priority in Hanson are

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identified by the supervisor who will ensure that the issue is addressed. Two municipal facilities inspected during the inspection were evaluated for compliance with their MFRCPs. During the inspection, records were reviewed, sites inspected, and personnel interviewed.

Findings and Corrective Actions Summary Table

Program Findings Legend:

ID – Illicit Discharge Detection and Elimination WW – Wet Weather Monitoring
 PP – Pollution Prevention CR – Commercial/Residential Management Program

Finding Number – Title	Required Corrective Action(s)	Recommendations
1CR – Long-Term BMP Program	X	
2CR – LEED/LID Education		X
1ID – Dry Weather Flow Identification	X	X
2ID – Illicit Discharge Training of Staff	X	
3ID – Illicit Discharge Training of Staff	X	
1PP – Inadequate Spill Response	X	
2PP – Inadequate MFRCP Contents: Activity-Related BMP Schedule	X	X
1WW – Wet Weather Monitoring Implementation	X	X

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Commercial/Residential Management (CR) Review Findings

Finding: 1CR – Long-Term Operation and Maintenance of Post-Construction BMPs

Based on the site observations and the condition of the post-construction BMPs and the submittal rate of annual inspection reports and I&M plans by the site operators, it was determined the City is not adequately implementing procedures to ensure long-term operation and maintenance BMPs. In addition, it was observed that the City has not developed a well-established or clear process to review, approve, and implement the I&M plans. The Inspection Team could not verify that ongoing BMP maintenance in accordance with the I&M plan was occurring. It was unclear to the Inspection Team if the City had ensured (or was ensuring) that the submitted I&M plans adequately described the required maintenance obligations for the BMP. The City's post-construction BMP tracking list shows that only 5 of the 150 sites (3%) in the program have submitted the annual inspection report required in Section 138-442.5 of the City's stormwater ordinance. In addition, the post-construction tracking list shows that only 87 of the 150 sites (58%) in the program have submitted I&M plans to the City. In an effort to improve the annual inspection report response rate, the City recently filled a vacant management position in the Operations Compliance Division; this employee is tasked with implementing modifications to improve the program.

As a component of the inspection, Southlands Self Storage at 5900 South Gun Club Road, one of the sites which had submitted an I&M manual, was evaluated. At the site, the Inspection Team observed construction debris and sediment at the inlet structure south of the pond (refer to Photograph 5). Excessive vegetation and trash were observed within the pond and at the outlet structure (refer to Photographs 6 through 8). The Detention and Water Quality Pond at Southlands Self Storage's Operations and Maintenance Manual's "Debris and Litter Removal" section describes the owner's maintenance obligations and states that "debris closing the outlet structure orifices or inlet grates shall be removed immediately." It was clear to the Inspection Team that the inlet to the pond had not been maintained to the standard set forth in the I&M manual.

Based on the above observations, the Inspection Team concluded that the City needs to improve oversight and enforcement of its long-term, post-construction operation and maintenance BMPs to equally address those sites developed before and after the issuance of the ordinance.

Permit Requirements:

Part B.1.a of the Permit requires the City to implement the Commercial/Residential Management Program. In addition, Part B.1.a.2.d of the Permit requires the City to "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."

Required Corrective Actions:

The City needs to more fully develop and implement a program to ensure commercial and residential compliance with long-term operation and maintenance of all post-construction BMPs. While tracking lists and procedures existed, and the City had recently filled a vacant position tasked with maintenance responsibilities, it was evident that additional measures are required to ensure effective maintenance of all privately owned post-construction BMPs. For sites developed after the ordinance, the City must use the I&M manual as a basis for enforcement for the lack of maintenance or other negligence. Provide the EPA and CDPHE, the City's plan to address this finding (including the resources and timeframe). Ensure any plans or other documents that are required to be updated/submitted to CDPHE, per the permit, as part of any programmatic updates are submitted to CDPHE.

Recommendations:

None.

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Commercial/Residential Management (CR) Review Findings

Finding: 2CR – Low Impact Design (LID) Education

As noted in the above section, the Inspection Team observed that while the City staff indicated that it had been promoting the use of LID BMPs to the private development community, very few project proponents had included LID BMPs in their design proposals. Specifically, while new development and redevelopment projects can select from numerous post-construction BMP options listed in the Urban Storm Drainage Criteria Manual Volume 3 – Best Management Practices, which includes and promotes LID BMPs, the majority of the private development projects choose BMPs consisting of extended detention ponds or basins according to City officials. Additionally, it was stated that LID BMPs had not been applied to public development projects sponsored by the City. Therefore, the Inspection Team observed that the City's efforts to promote the use of LID BMPs within private or public projects were largely ineffective.

Permit Requirements:

Part B.1.a.2.a of the Permit requires the City to “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, or that follow principles of low-impact development to mimic natural (i.e. pre-development) hydrologic conditions at sites to minimize the discharge of pollutants and prevent or minimize adverse channel impacts associated with increased imperviousness.”

Required Corrective Actions:

None.

Recommendations:

The City should evaluate the effectiveness of its outreach to the private development community and identify ways to more effectively promote the inclusion of LID BMPs in private development design proposals. Consideration should be given to (1) providing additional education to both City staff and the private development community, (2) more vigorous encouragement for LID during plan review and approval, (3) the identification and promotion of local LID and Leadership in Energy and Environmental Design (LEED) projects, and (4) increased partnership with local and national entities that promote the use of LID and LEED to effectively demonstrate both environmental and economic benefits.

Additionally, the City should ensure that future public projects incorporate LID principles and also strive to meet LEED standards. The City should lead by example by integrating LEED and LID concepts on a City-sponsored project.

Illicit Discharge Detection and Elimination (ID) Program Review Findings

Finding: 1ID – Dry Weather Discharge Identification

During the inspection, the Inspection Team and City representatives conducted site visits at several of the City's MS4 outfalls. The outfall adjacent to Fitzsimmons Parkway leading into Toll Gate Creek exhibited dry weather discharge (refer to Photographs 9 and 10). The flow rate was significant and City representatives stated that they believed the discharge to be continuous. Furthermore, the City representatives were unsure of the source of the dry weather discharge, but stated that it was “nuisance flows,” implying that the flows were derived of allowable non-stormwater discharges. It was stated that numerous additional outfalls within the City's MS4 exhibited persistent dry weather discharges.

As noted above, the City has been conducting recurring inspections of each outfall and recording observations about outfall condition, maintenance needs, and select information about visual indicators of potential illicit discharges. However, efforts to specifically assess outfalls for dry weather flows and potential illicit discharges were last performed in 2000. These prior efforts were focused exclusively within a portion of the Sand Creek

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watershed and were intended to evaluate the presence and sources of *e-coli* bacteria. Additional outfall screening specifically oriented at the identification and investigation of persistent dry weather discharges has not occurred since 2000. In regards to the outfall adjacent to Fitzsimmons Parkway leading into Toll Gate Creek, the City did not produce field screening, sampling, or other data substantiating its claim that the discharge was comprised of allowable non-stormwater discharges.

For these reasons, the Inspection Team observed that the City could not effectively demonstrate through past investigations or records that the ongoing and persistent dry weather discharges observed at the Fitzsimmons Parkway outfall did not include illicit discharges.

Permit Requirements:

Part B.1.b.2.b of the Permit requires the City to “continue to implement and document a plan to detect and address non-stormwater discharges, including illicit discharges and illegal dumping, to the system.”

Part 1.J of the Permit requires the City to “retain all records of all monitoring information, copies of all reports required by this permit, and records of all other data required by or used to demonstrate compliance with this permit, until at least three years after coverage under this permit terminates.”

Required Corrective Actions:

The City needs to more effectively document and implement a plan to detect and address persistent non-stormwater discharges. Specifically, the City needs to identify those outfalls exhibiting persistent dry weather discharges, investigate and document sources, and eliminate all identified illicit discharges. Documentation must be retained describing the City’s investigation efforts and results. Documentation should describe, to the extent possible, the composition and source of discharge. Provide a copy of completed documentation to the EPA and CDPHE illustrating the City’s findings for the outfall adjacent to Fitzsimmons Parkway mentioned above.

Provide the EPA and CDPHE, the City’s plan to address this finding (including the resources and timeframe). Ensure any plans or other documents that are required to be updated/submitted to CDPHE, per the permit, as part of any programmatic updates are submitted to CDPHE.

Recommendations:

The current outfall inspection form used by Operations Compliance Division staff could be improved to more accurately denote (1) the presence of dry weather discharges (2) the results of field investigations, screening or sampling, and (3) rationale for determining the composition and source of discharge.

Illicit Discharge Detection and Elimination (ID) Program Review Findings

Finding: 2ID – Illicit Discharge Training of Staff (KFC)

As a component of the inspection, the Inspection Team and City representatives conducted a site visit at a Kentucky Fried Chicken (KFC) restaurant that has a city-permitted grease intercepting device. The Inspection Team observed an employee of the fast food restaurant discharging ice from its walk-in freezer onto the impervious surface outside the restaurant (refer to Photographs 11 through 13). The melting ice appeared to contain food particulates from a floor mat. The pavement in the area exhibited staining indicating the observed discharge, or other discharges, were recurring events. The City Operations Compliance Division inspector observed the discharge but did not immediately address the illicit discharge or question and stop the employee. The City inspector addressed the discharge only when prompted by the Inspection Team.

Permit Requirements:

Part B.1.b.2.c of the Permit requires the City to “continue to implement a program to train municipal staff to recognize and appropriately respond to illicit discharges observed during typical duties.”

Required Corrective Actions:

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City inspectors need to recognize and appropriately respond to illicit discharges. Provide the EPA and CDPHE, the City's plan to address this finding (including the resources and timeframe). Ensure any plans or other documents that are required to be updated/submitted to CDPHE, per the permit, as part of any programmatic updates are submitted to CDPHE.

Recommendations:

None.

Illicit Discharge Detection and Elimination (ID) Program Review Findings

Finding: 3ID - Illicit Discharge Training of Staff (Equipment and Vehicle Wash)

A site visit of the Aurora Hills Golf Course maintenance facility was conducted as a component of the inspection. There was an equipment washing area that consisted of a concrete pad in the northern portion of the maintenance area (refer to Photograph 14). It was observed that the wash and rinse waters from the equipment washing area drained off the concrete pad, through a vegetated area, and ultimately discharged offsite to the Highline Canal (refer to Photograph 15). Equipment wash water is a prohibited discharge and should be classified as an illicit discharge. Prior inspections conducted by the Operations Compliance Division had noted the discharge as a problem and the City inspector had requested that the maintenance facility limit mowing in the drainage area (refer to Exhibit 5 and Exhibit 6 in Appendix B). During the inspection, City representatives stated that they believed the vegetation provided adequate treatment for the wastewaters.

Permit Requirements:

Part B.1.b.2.c of the Permit requires the City to “continue to implement a program to train municipal staff to recognize and appropriately respond to illicit discharges observed during typical duties.”

Required Corrective Actions:

The City needs to appropriately respond to the existing and ongoing illicit discharge by implementing a permanent remedy. Provide the EPA and CDPHE, the City's plan to address this finding (including the resources and timeframe). Ensure any plans or other documents that are required to be updated/submitted to CDPHE, per the permit, as part of any programmatic updates are submitted to CDPHE.

Recommendations:

None.

Pollution Prevention (PP) / Good Housekeeping for Municipal Operations Program Review Findings

Finding: 1PP – Inadequate Spill Response and Prevention

During the inspection, the Inspection Team observed several large petroleum product stains on the impervious surfaces at the motor pool of the City's Central Facility (refer to Photographs 16 through 18). The City representatives stated that vehicles and machinery in need of maintenance are stored outside in this area prior to receiving required maintenance. In addition, the Inspection Team observed a stain of unknown substance on the impervious surface, adjacent to the Parks and Open Space building at the Central Facility (refer to Photograph 19). At both locations spill prevention and response procedures did not appear to have been implemented. For example, BMPs such as, but not limited to, drip pans and absorbent material were not observed in the damaged vehicle/equipment staging area.

Practices in areas of the yard occupied by the Parks and Recreation Division do not exhibit consistently good housekeeping practices. These housekeeping deficiencies had been previously noted by the Operations Compliance Division inspector during the 2011 inspection of the yard (refer to Exhibit 7, Exhibit 8, and Exhibit 9 in Appendix B), yet the deficiencies had yet to be corrected.

Permit Requirements:

Federal NPDES Stormwater Inspection – MS4

Part B.1.e.2.a of the Permit requires the City to “implement Municipal Facility Runoff Control Plans (MFRCPs) for city-owned and/or operated facilities that do not have independent CDPS Stormwater permits.” The “Spill Prevention and Spill Response” in Section 5 of the MFRCP for the Central Facility states that “Any spill of materials is contained and containerized promptly.”

Required Corrective Actions:

The City needs to appropriately address existing spills and provide additional BMPs and guidance at the motor pool. The Parks and Recreation portion of the yard needs to improve housekeeping procedures to minimize pollutant exposure and address the deficiencies previously identified in Operations Compliance Division inspection reports. Provide the EPA and CDPHE, the City’s plan to address this finding (including the resources and timeframe). Ensure any plans or other documents that are required to be updated/submitted to CDPHE, per the permit, as part of any programmatic updates are submitted to CDPHE.

Recommendations: None.

Pollution Prevention (PP) / Good Housekeeping for Municipal Operations Program Review Findings

Finding: 2PP – Inadequate MFRCP Contents: Activity-Related BMP Schedule

The “Activity-Related BMPs” in Section 5 of the MFRCP for the Central Facility states that “the following BMPs are recommended for the facility based upon the operations and activities conducted at the facility” and lists the following:

- Fueling practices
- Vehicle and equipment maintenance practices
- Vehicles and equipment washing practices
- Loading and unloading materials practices
- Liquid storage in above-ground tanks practices

The “Activity-Related BMPs” in Section 5 of the MFRCP for the Central Facility does not include a schedule for implementing stormwater management controls. Additionally, the MFRCP lacked site-specific details that would aid City staff in the implementation of appropriate BMPs for the above listed categories. For example, site-specific BMPs were lacking from the motor pool and Parks and Recreation areas noted as deficient in finding 1PP above. In addition, the following potential pollutant sources, and appropriate BMPs for addressing them, were not discussed in the MFRCP: stockpiles of landscaping material stored outside (refer to Photograph 20), containers of trash stored outside (refer to Photograph 21), and exposed and unstabilized sediment (refer to Photographs 22 and 23). The MFRCP also failed to discuss proper stormwater drainage pathways through the Central Facility. The Central Facility is a large site with numerous tenants and therefore warrants the inclusion of site-specific BMPs.

Permit Requirements:

Part B.1.e.2.a of the Permit requires the City to “implement Municipal Facility Runoff Control Plans (MFRCPs) for city-owned and/or operated facilities that do not have independent CDPS Stormwater permits.”

Requirements of the MFRCPs are listed in Part B.1.e.2.c of the Permit. Part B.1.e.2.c.iii states that MFRCPs shall include “the description of stormwater management controls... including a schedule for implementing such controls.”

Required Corrective Actions:

The City needs to revise the Central Facility MFRCP to include a schedule for implementing stormwater controls and additional BMPs for the individual tenants and for identified pollutant generating sources. Provide the EPA and CDPHE, the City’s updated MFRCP. Ensure any plans or other documents that are required to be updated/submitted to CDPHE, per the permit, as part of any programmatic updates are submitted to CDPHE.

Federal NPDES Stormwater Inspection – MS4

Recommendations:

The City should use the existing inspection checklists and past findings of the Operations Compliance Division as the basis for developing a site specific and comprehensive MFRCP for the Central Facility.

Wet Weather Monitoring (WW) Review Findings

Finding: 1WW – Wet Weather Monitoring Implementation

City representatives stated that they had yet to modify any portion of their program in response to the wet weather monitoring results. As required in the Permit, the City was to submit an assessment of the effects of wet weather discharges on the Denver metropolitan area's state waters, an assessment of the changes over time, and a proposal for a monitoring program for the next permit term in Year 4 of the Permit cycle. Based on the Inspection Team's interpretation of the Permit, these reports should have been included with the 2012 Annual Report by April 1, 2012. The reports were not obtained during the inspection.

Permit Requirements:

Part D of the Permit requires the City to "implement a wet weather monitoring program to assess wet weather conditions." Part D.2.b of the Permit states that "the annual report submitted in year four of the permit (submitted by April 1, 2012, covering January through December 2011), shall include:... 2) an assessment of the effects of wet weather discharges on the Denver metropolitan area's state waters and an assessment of the changes over time; 3) a proposal for a monitoring program for the next permit term."

Required Corrective Actions:

The City must provide a proposal for a monitoring program for the next permit term for sampling locations within its jurisdiction. Provide the EPA and CDPHE, the City's plan to address this finding (including the resources and timeframe). Ensure any plans or other documents that are required to be updated/submitted to CDPHE, per the permit, as part of any programmatic updates are submitted to the state.

Recommendations:

The City should evaluate the wet weather assessment data and develop a strategy to minimize the upwards trending of pollutants in Toll Gate Creek.

Federal NPDES Stormwater Inspection – MS4

Staff Interviewed During the Inspection	
Name	Title
Sean Lieske	Permitting Manager
Bill McCormick	Associate City Engineer
Joe McCleary	Stormwater Superintendent
Pieter Van Ry	Manager of Water Engineering
Deborah Kula	Erosion Control Inspection Supervisor
Tom Ries	Interim Deputy Director, Operations and Engineering
Jon Fiscus	Environmental Inspector
Cliff Stephens	Senior Engineer
Bill Lee	Street Superintendent
Debra Anderson-Selby	Inspector

Documents Reviewed During the Inspection	
Document Title / Author	Date:
MS4 Phase I Permit for the City of Aurora / CDPHE	Effective November 22, 2011
2011 Annual Report / Aurora	March 29, 2012
City of Aurora – Organizational Charts; Water Services, Wastewater/Stormwater, Treatment, Transmission and Distribution, and Operations	No date
City Ordinance – Sec. 138-442.5 – Permanent Stormwater Best Management Practices	January 7, 2008
Article VIII – Stormwater Ordinance City of Aurora	July 24, 2012
CDPHE Water Quality Control Commission – Cherry Creek Reservoir Control Regulation 5 Code of Colorado Regulations (CCR) 1002-72	No date
Standard Operating Procedures for the Construction Sites Program Erosion Control Staff	December 17, 2010
Rules and Regulations Regarding Stormwater Discharges Associated with Construction Activities	November 26, 2010
Urban Storm Drainage Criteria Manual Volume 3 – Best Management Practices	November, 2010
New Development Program Submittal	August 10, 1998
Revised Industrial Facilities Program	August 7, 1997
Stormwater Quality Monitoring Plan for the Denver Metropolitan Area	February 26, 1997
Stormwater-Quality Monitoring of the South Platte River and Selected Tributaries, Denver Metropolitan Area, Colorado	April 2012
Summary and Evaluation of the Quality of Stormwater in Denver, Colorado, October 2001 to October 2005	2008
Municipal Facility Runoff Control Program	July 29, 1997
Major Municipal Facility Runoff Control Plan for the Central Facility	August 2008
Major Municipal Facility Runoff Control Plan for the North Satellite Facility	November 2011

Federal NPDES Stormwater Inspection – MS4

Municipal Facility Runoff Control Inspection Report – Nome Satellite Maintenance Facility	September 16, 2011
Nome Satellite Maintenance Facility Inspection Report Site Map	September 16, 2011
Municipal Facility Runoff Control Inspection Report – North Satellite Maintenance Facility	August 30, 2011
North Facility Inspection Report Site Map	August 30, 2011
Municipal Facility Runoff Control Inspection Report – Aurora Hills Golf Course	September 30, 2011
Municipal Facility Runoff Control Inspection Report – Central Facility	September 14, 2011
Central Facility Inspection Report Site Map	September 14, 2011
North Satellite Facility Annual Inspection	November 2, 2006
Aurora Region 1 Maintenance Facility – Periodic Inspection Checklist	September 14, 2007
Report Spills, Intentional Dumping, and Possible Illicit Discharges – Operations Service Center Phone Number brochure	No date
Operations and Maintenance Procedures for Municipal Facilities PowerPoint Presentation	No date
Stormwater Awareness Training PowerPoint Presentation	2012
HAZWOPER – 8-hr Awareness/Refresher Training PowerPoint Presentation	2011
Managing Your Construction Site – Brochure	No date
Construction Site Washouts – Brochure	No date
Stormwater Operations Procedures – Calls about Sewage Leak	November 22, 2005
Stormwater Operations Procedures – Possible, Stoppage and/or Overflow Process No. WWG-03	No date
Stormwater Operations Procedures – Street Sweeping	October 27, 2011
Stormwater Operations Procedures – Street, Curb Gutter Maintenance	October 27, 2011
Stormwater Operations Procedures – Snow and Ice Control	September 27, 2011
Industrial Activities and Stormwater Pollution (Brochure for Industrial Facilities)	No date
One-Time Operating Procedures Report to CDPHE	March 29, 2012
SW/WW Operations Spill Response Information Resource Folder	January 10, 2011
Illicit Discharge Contracts Phone Number Directory/ List of Likely Sources or Causes of Illicit Discharges	No date
Aurora Water – Private Ponds, Inspection and Maintenance Guide to Owner Responsibilities Brochure	No date
Private Permanent BMP Tracking Spreadsheet	August 7, 2012

Federal NPDES Stormwater Inspection – MS4

Operations and Maintenance Manual – Detention and Water Quality Pond – Southlands Self Storage Filing No. 1	April 4, 2008
Stormwater Management and Environmental Control Inspection Report – West Tollgate Channel Improvement	July 18, 2012
Stormwater Management and Environmental Control Inspection Report – Assembly Hall of Jehovah Witness	August 8, 2012
Stormwater Maintenance Agreement Between the City of Aurora and the Corporation of the Presiding Bishop of the Church of Jesus Christ of Latter-day Saints	May 11, 2010
Water Quality / Detention Pond Operations and Maintenance for Laredo Church of Jesus Christ of Latter-day Saints	January 28, 2008
Stormwater Pond Inspection Form for the Laredo Church of Jesus Christ of Latter-day Saints	No date
Notice of Violation – Saddle Rock Gold Course Filing 16 Richmond	July 30, 2012
Environmental Hold – Tallyns Reach North Filing 9 – Century Communities	March 2, 2011
Notice of Violation – 18501 East Hampden Avenue, Aurora CO	July 24, 2012
City of Aurora SWMP Design Drawings Checklist	July 3, 2012
City of Aurora Civil Plan Review Pre-Submittal Checklist	No date
2011 Illicit Discharges and Miscellaneous Spills Tracking Spreadsheet	August 7, 2012
Stormwater/Wastewater Operations Incident Report	January 19, 2010
Access Aurora Tracking System – Customer Request (Illegal Dumping info)	January 19, 2010
Neighborhood Services Department Summons and Complaint	January 30, 2010
Construction Active Site Summary Table	No date
2011 Production Goals for WW, SW, OC Memorandum	December 10, 2010
Dry Weather Screening Tracking Spreadsheet	No date
SWMP Appendix F – Vertical and General Construction Matrix (Completed)	June 27, 2012
SWMP Appendix F – Vertical and General Construction Matrix (Blank)	No date

Facilities / Sites Inspected During the Inspection	
Description / Location / Owner	Inspection Area
Central Facility / 13636 East Ellsworth Avenue, Aurora / City of Aurora	P2 – Municipal Operations
North Satellite Facility / 15740 East 32 nd Avenue, Aurora / City of Aurora	P2 – Municipal Operations
Nome Satellite Facility / 3151 Nome Street, Aurora / City of Aurora	P2 – Municipal Operations

Federal NPDES Stormwater Inspection – MS4

Aurora Hills Golf Course / 50 South Peoria Street, Aurora / City of Aurora	P2 – Municipal Operations
Vortechs® Stormwater Treatment Structure / Southwest of intersection of Fitzsimmons Parkway and Victor Street / City of Aurora	P2 – Municipal Operations
Outfall to Tollgate Creek / Northeast of Victor Street and Fitzsimmons Parkway / City of Aurora	P2 – Municipal Operations
Pond C at 225 Interchange / City of Aurora	P2 – Municipal Operations
Ursula Pond / West of North Ursula Street and Fitzsimmons Parkway / City of Aurora	P2 – Municipal Operations
KFC Restaurant / 2351 South Buckley Road, Aurora	Industrial
Stormwater Drainage Channel / adjacent to 16708 East Illiff, Aurora / City of Aurora	Industrial
Good Year Tire and Service Network / 1691 South Buckley Road, Aurora	Industrial
Vista Peak 9-12 Preparatory Constructed Wetland / 24500 East 6 th Avenue, Aurora	Construction
Lennar Homes / vicinity of East 6 th Avenue, Aurora	Construction
DR Horton at Traditions / vicinity of East 6 th Avenue, Aurora	Construction
Laredo Church of Jesus Christ of Latter-day Saints / 950 Laredo Street, Aurora / Corporation of the Presiding Bishop of the Church of Jesus Christ of Latter-day Saints	Post-Construction
Detention and Water Quality Pond Southlands Self Storage / 5900 South Gun Club Road, Aurora / John McShane Co., LLC	Post-Construction
Piney Creek Lift Station / vicinity of East Ottawa Drive, Aurora / City of Aurora	Post-Construction
Pride's Crossing Retention Pond upstream of Quincy Reservoir / across from 4729 South Danube Circle, Aurora / City of Aurora	Post-Construction
Upland Pond / City of Aurora	Post-Construction
Constructed Wetlands at Vista Peak 9-12 Preparatory School / 24500 E 6th Avenue	Post-Construction

MS4 Inspection Photo Log

Photographs were taken by inspectors throughout the City's inspection to document observations in the field. The photo log for the inspection is provided in Appendix A.

MS4 Inspection Exhibit Log

Documentation regarding various City programs, operations, and activities was compiled to support requirements and discussions made in the report. The exhibit log for the inspection is provided in Appendix B.

Federal NPDES Stormwater Inspection – MS4

Appendix A: MS4 Inspection Photo Log

City of Aurora Phase I MS4 Inspection Report
Colorado Discharge Permit System, Permit #: COS000003

Inspection Dates: August 8, 2012 – August 10, 2012



Photograph 1. View facing north at staging area for construction-related activities at the DR Horton at Traditions new development. Note the effective use of ground cover to protect the impervious surface from exposure to construction materials.



Photograph 2. View facing north at an active construction site for the DR Horton at Traditions new development. Note the effective use of plastic to protect the pervious surface from construction vehicles and prevent sediment drag-out from entering the roadway.



Photograph 3. View facing north at the active construction site for the DR Horton at Traditions new development. Note the use of straw bales along the curb to protect sediment drag-out from entering the roadway. In addition, the perimeter of the materials stockpile has been compressed to prevent the mobilization of sediment.



Photograph 4. View facing northwest at the active construction site for the Lennar Homes development. Note the use of an effective and innovative BMP to prevent concrete washout from discharging from the site.



Photograph 5. View facing east at the stormwater drain leading to the detention and water quality pond at the Southlands Self Storage. Note the accumulation of sediment and construction debris that has not been removed.



Photograph 6. View facing north at the the detention and water quality pond at the Southlands Self Storage.



Photograph 7. Close-up view facing north at the the detention and water quality pond outfall at the Southlands Self Storage.



Photograph 8. Close-up view facing northwest at the the detention and water quality pond outfall at the Southlands Self Storage.



Photograph 9. View of outfall to Tollgate Creek located to the northeast of Victor Street and Fitzsimmons Parkway. Note the dry weather discharge actively flowing from the outfall during the inspection.



Photograph 10. View facing east from outfall to Tollgate Creek located to the northeast of Victor Street and Fitzsimmons Parkway. Note the dry weather discharge actively flowing from the outfall to Toll Gate Creek (receiving water in background).



Photograph 11. Close-up view of an illicit discharge from a fast food restaurant at the time of the inspection. A restaurant employee was scraping off ice and other debris from a floor mat onto the impervious surface of the parking lot.



Photograph 12. View facing west at the illicit discharge on the impervious surface to the left of the white vehicle.



Photograph 13. Sign of the fast food restaurant which experienced an illicit discharge at the time of the inspection.



Photograph 14. View facing west at the maintenance building at the Aurora Hills Gold Course. Note that washwaters from the concrete pad in the center of the picture drain to the right (north) of the picture.



Photograph 15. View facing northwest at the High Line Canal located to the north of the Aurora Hills Golf Course. The washwaters from the concrete pad in Photograph 11 discharges to this waterbody.



Photograph 16. View facing northwest at outdoor storage area for vehicles in need of repair. Note the petroleum product staining on the impervious surface underneath the generator.



Photograph 17. View facing southwest at petroleum product staining on the impervious surface underneath a stored vehicle. Note the lack of spill response BMP implementation.



Photograph 18. View facing northwest at outdoor storage area for vehicles in need of repair. Note the petroleum product staining on the impervious surface and lack of spill response BMP implementation.



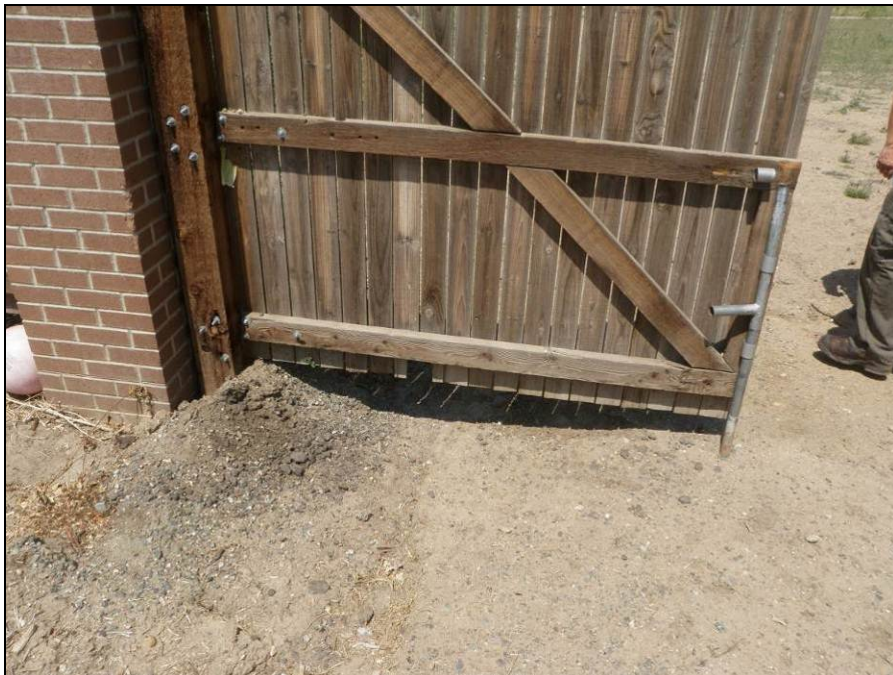
Photograph 19. View facing northeast at stain of unknown substance on the impervious surface to the west of the Parks and Recreation Storage building at the Central Facility. Note the lack of spill response BMPs implemented.



Photograph 20. View facing south at pile of stored landscaping material at the Central Facility. Note the lack of erosion and sediment control BMP implementation.



Photograph 21. View facing northwest at a storage area to the east of the Parks and Recreation Storage building at the Central Facility. Note the lack of good housekeeping BMPs implemented to manage the disorganized collection of equipment and the overflowing trash container.



Photograph 22. View facing gate leading from a sediment covered storage area to the Central Facility's stormwater retention pond.



Photograph 23. View facing north at an unstabilized portion of the Central Facility's stormwater retention pond.

Federal NPDES Stormwater Inspection – MS4

Appendix B: MS4 Inspection Exhibit Log

City of Aurora Phase I MS4 Inspection Report
Colorado Discharge Permit System, Permit #: COS000003

Inspection Dates: August 8, 2012 – August 10, 2012

City of Aurora MS4 Audit (NPDES No. COS-000003) Exhibit Log

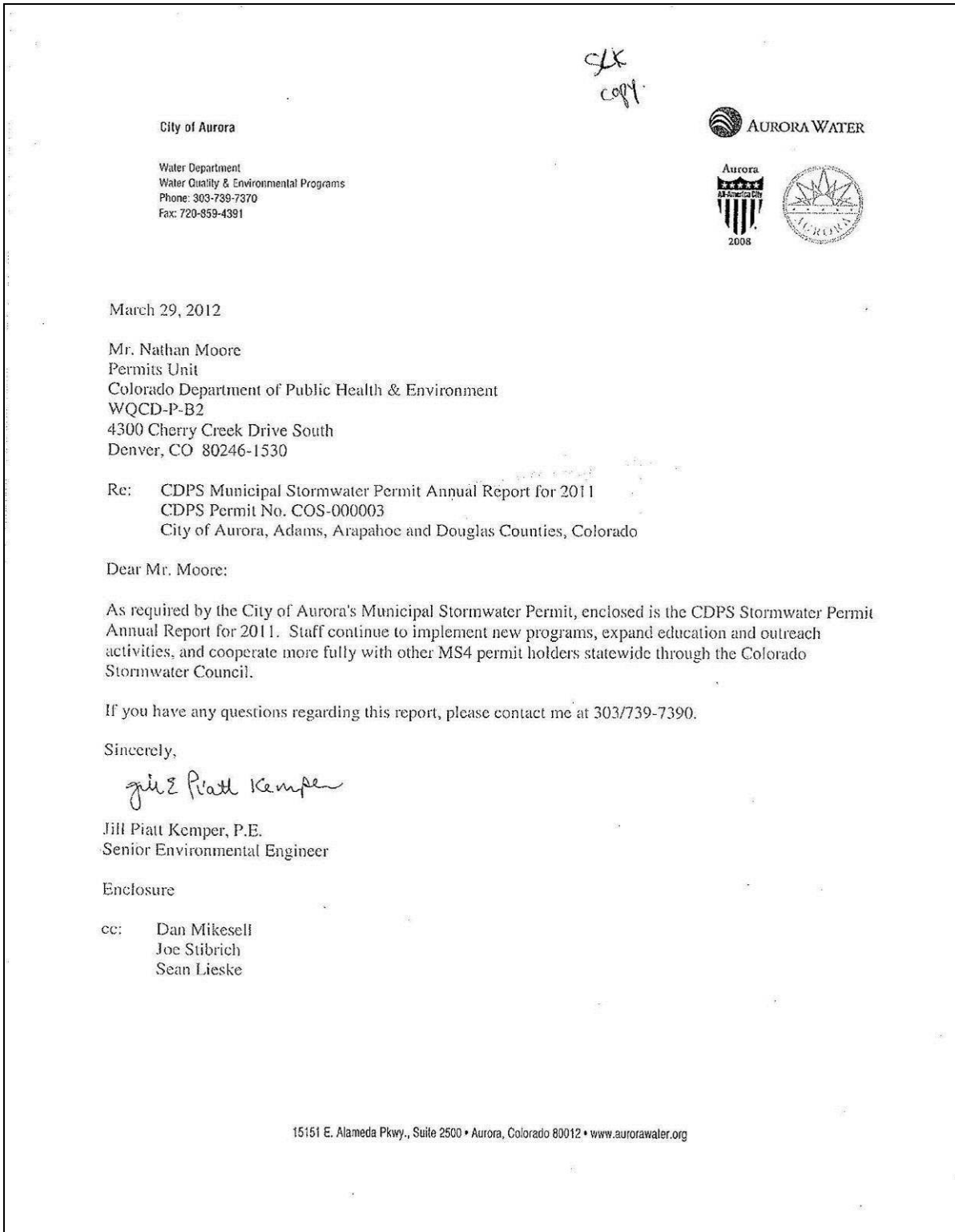


Exhibit 1: Cover of the City of Aurora 2011 Annual Report, submitted on March 29, 2012.

City of Aurora MS4 Audit (NPDES No. COS-000003) Exhibit Log

2011 Annual Report for the City of Aurora

SECTION 9

Report on Wet Weather Monitoring Program (Part I.F.9)

Part I.F.9 states, "The wet-weather reporting requirements as listed in Part I.D."

Part I.D.2 defines reporting and evaluation requirements of the wet-weather monitoring program, and includes: (1) a summary of the cooperative efforts of the monitoring subgroup of the South Platte Urban TMDL/ Watershed Project; (2) tabulated data generated from the monitoring program; and, (3) a summary of the monitoring program work to date, any problems with the protocol or selected sampling locations, and recommendations for any changes in the monitoring program.

➔ A report is being supplied under separate cover from the Urban Drainage and Flood Control District regarding the wet weather monitoring program activities for 2011.

9-1

Exhibit 2: Excerpt page from the City of Aurora's 2011 Annual Report submitted on March 29, 2012.

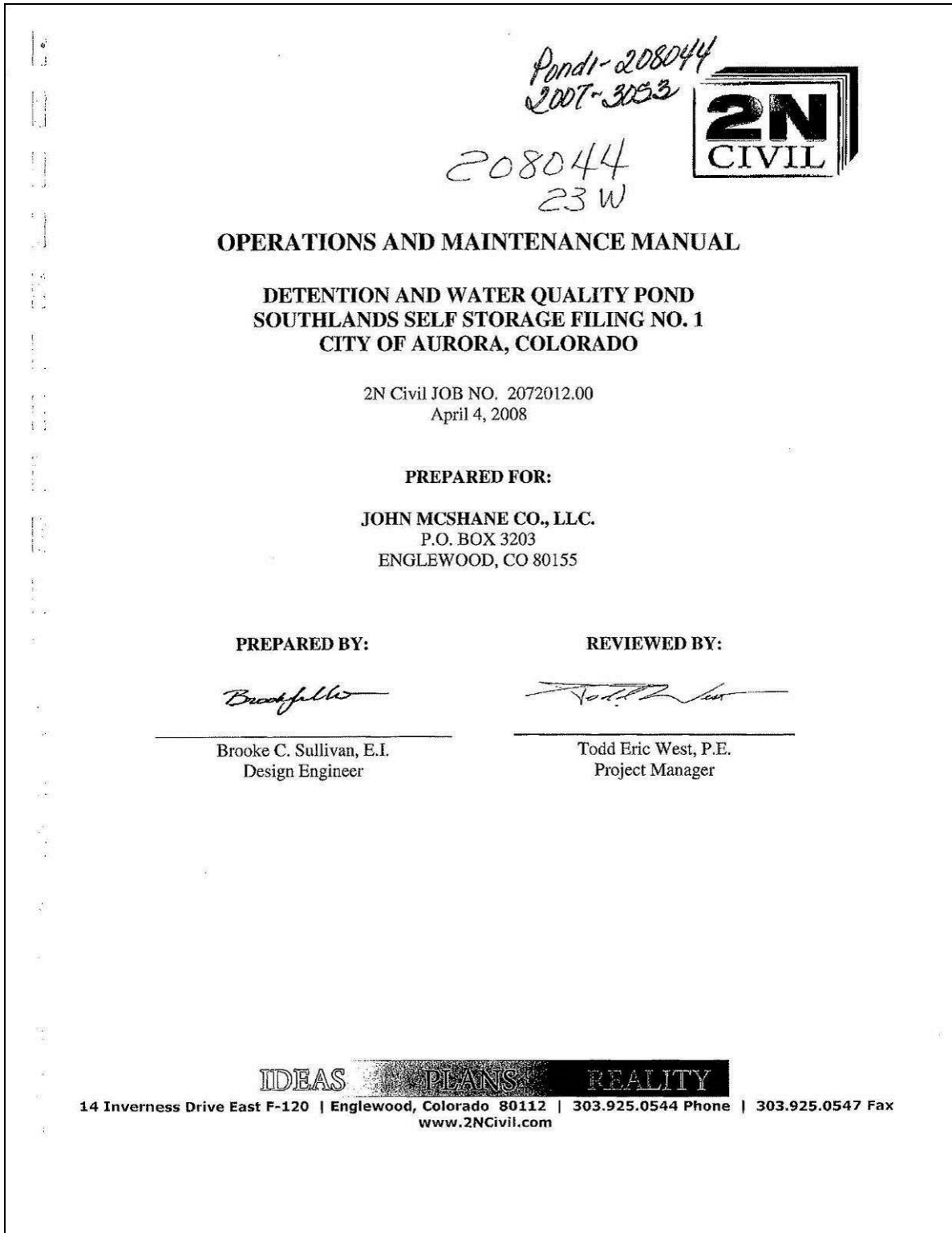


Exhibit 3: Cover page of I&M Manual for the Detention and Water Quality Pond Southlands Self Storage Filing No. 1

City of Aurora MS4 Audit (NPDES No. COS-000003) Exhibit Log



single row of 9/16" diameter orifices will be used to release the water quality volume. Two standard CDOT Type C inlet grates will be placed to discharge the 10-year and 100-year detention volumes, respectively. A 4.5 inch diameter orifice will control the 10-year flow and a 7.5 inch diameter orifice will control the 100-year flow. The emergency overflow spillway was designed for the 100-year pond inflow and is 1.0 ft. high by 6.23 ft. wide. Runoff exceeding the 100-year volume will overtop the outlet structure and be conveyed in the emergency spillway to the same improved ditch in the vacated Gun Club Road right-of-way that it outlets into, ultimately following the existing drainage pattern to East Toll Gate Creek.

OPERATIONS AND MAINTENENCE

General

Proper maintenance is necessary to ensure that the drainage facilities serve their intended function. Without adequate maintenance, sediment and other debris can quickly clog facilities and render them useless. Operations and maintenance must comply with the attached, "Extended Detention Basin Maintenance Considerations," from Chapter 6, Volume 3 of *Urban Storm Drainage Criteria Manual* in Appendix B.

Debris and Litter Removal

Debris and litter shall be removed from the pond to prevent outlet clogging. Debris clogging the outlet structure orifices or inlet grates shall be removed immediately.

Mosquito Mitigation

If the detention pond is not maintained and drained properly it can create mosquito breeding conditions. Debris clogging the outlet structure orifices or inlet grates shall be removed to ensure that the pond drains within the 40-hour design drain time.

Vegetation

Pond vegetation shall be periodically inspected and maintained. Landscaped areas provide stabilization of the soil and shall be inspected and maintained. Occasionally, replanting or reseeding to control erosion may be necessary.

Signs

Advisory signs shall be maintained to provide a readable text from a distance of 15 feet with the naked eye. Signs shall be cleaned with soap and water (either manually or with a power washer) annually.


Responsibility for Maintenance

Property owners are responsible for the maintenance, operation or repair of stormwater drainage systems and BMPs. Property owners shall maintain, operate and repair these facilities in compliance with the requirements of this document.


Exhibit 4: Excerpt from the I&M Manual for the Detention and Water Quality Pond Southlands Self Storage Filing No. 1. Note the requirement to remove debris and litter from the pond.

City of Aurora MS4 Audit (NPDES No. COS-000003) Exhibit Log

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8/8/12



-CITY OF AURORA-
Municipal Facility Runoff Control Inspection Report



Facility Name: **Aurora Hills Golf Course**
 Date of Inspection: **9/28/2011**
 Date of Report: **9/30/2011**
 Street Address: **50 South Peoria Street**
 Site Representatives: **Jeff Danaher**
 Site Telephone: **303-364-6731**

Inspector: **Jon Fiscus**
 Inspector Telephone: **303-326-8502**

Type of Inspection: Annual Follow up Other

I SITE ACTIVITIES

1) Vehicle or Equipment Maintenance

a) Are all maintenance activities performed under roof?	Yes	No X
b) Does the site have equipment wash bays or racks?	Yes	No X
• <i>Washing takes place on outdoor concrete pad.</i>		
c) If no, are BMPs in place to prevent wash water from entering storm drains?	Yes X	No
• <i>Wash water flows north to adequate vegetative buffer.</i>		
d) Are liquid wastes disposed of properly?	Yes X	No

2) Fueling Areas

a) Properly maintained?	Yes X	No
b) Spill response materials available?	Yes X	No

3) Material Storage

a) Are materials covered and/or stored in closed containers?	Yes X	No
b) If no, are BMPs (berms and/or tarps) used to prevent material from entering storm drains?	n/a	Yes No

4) Housekeeping

a) Are exterior trash containers covered?	Yes X	No
b) Are trash containers emptied when full?	Yes X	No
c) Are trash containers leaking?	Yes	No X
d) Were other housekeeping deficiencies noted?	Yes	No X

5) Are there any new potential pollution sources since last inspection?

	Yes	No X
a) If yes, please describe operations and materials	n/a	Yes No
b) If yes, are BMPs in place to address the new source(s)?	n/a	Yes No

Exhibit 5: Cover page of the Aurora Hills Golf Course municipal facility inspection report for the inspection conducted on September 28, 2011.

City of Aurora MS4 Audit (NPDES No. COS-000003) Exhibit Log

MFRCP Inspection Report
Aurora Hills Golf Course
Inspection Date – Sept. 28, 2011

IV INSPECTION SUMMARY

1) 2011 Deficiencies

One deficiency was identified during the 2011 MFRCP inspection of the *Aurora Hills Golf Maintenance Facility*. This deficiency has the potential to adversely impact site runoff and stormwater quality. The following is recommended for correction of the deficiency:

- a) *Remove broken concrete rip rap at catch basin outfall to allow for improved stormwater detention time and allow vegetation in the basin to grow taller to function as a sediment filter.*

2) Improvements Year Over Year

The results of the 2011 inspection and the current conditions of the *Aurora Hills Golf Maintenance Facility* reflect improvements over year 2010. The following are examples of some of those improvements:

- a) *Vehicle and equipment services are performed under roof when possible.*
- b) *All uncovered stockpiles are protected by jersey barriers on the low side.*
- c) *All trash containers are covered.*
- d) *Chemical containers are labeled according to the requirements of law (29 CFR 1910.1200)*
- e) *Spills are cleaned up as they occur.*
- f) *Site employees continue to demonstrate conscious awareness of stormwater issues.*

END

Exhibit 6: Excerpt page of the Aurora Hills Golf Course municipal facility inspection report for the inspection conducted on September 30, 2011. Note the City's comments on allowing the vegetation to grow taller to function as a sediment filter.

City of Aurora MS4 Audit (NPDES No. COS-000003) Exhibit Log



-CITY OF AURORA-
Municipal Facility Runoff Control Inspection Report



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8/8/12
**AURORA
WATER**

Facility Name: **Central Facility**
 Date of Inspection: **September 8th, 2011**
 Date of Report: **September 14th, 2011**
 Street Address: **13645 E Ellsworth Ave**
 Site Representatives: **Steve Knox, Dan Adams, Mark Hinterreiter, Mark Donelson, Tom Ries, Steve Sciba**
 Site Telephone: **303-326-8158**
 Inspectors: **Jon Fiscus, John Swenson**
 Insp. Telephone: **303-326-8050**

Type of Inspection: Annual Follow up Other

Central Satellite Facility is occupied by multiple City departments. The findings of this report are separated into zones according to the following number and color key. Zone boundaries are delineated on the map in Section III.

- ~~Zone 1 – Facilities Management~~
- **Zone 2 – Parks, Recreation and Open Space**
- ~~Zone 3 – Police~~
- ~~Zone 4 – Fleet Maintenance~~
- ~~Zone 5 – Aurora Water Stormwater/Wastewater Operations~~
- ~~Zone 6 – Aurora Water Transmission and Distribution~~
- ~~Zone 7 – Aurora Water Warehouse~~

I SITE ACTIVITIES

1) Vehicle or Equipment Maintenance

- | | | |
|---|--------------|----|
| a) Are all maintenance activities performed under roof? | Yes X | No |
| b) Does the site have equipment wash bays or racks? | Yes X | No |
| c) If no, are BMPs in place to prevent wash water from entering storm drains? | Yes | No |
| d) Are liquid wastes disposed of properly? | Yes X | No |

2) Fueling Areas

- | | | |
|--|--------------|----|
| a) Properly maintained? | Yes X | No |
| b) Spill response materials available? | Yes X | No |

Fueling station pumps were observed with excessive spill residues.

Zone 4 Photo #68, 69

3) Material Storage

- | | | |
|--|-----|-------------|
| a) Are materials covered and/or stored in closed containers? | Yes | No X |
|--|-----|-------------|

Bulk stockpiles were observed not covered or contained.

Zone 2 Photos #23

- | | | |
|--|-----|-------------|
| b) If no, are BMPs (berms and/or tarps) used to prevent material from entering storm drains? | Yes | No X |
|--|-----|-------------|

In 2010 straw wattle was installed at the west end of the northern property line for sediment control and stockpile protection. That protection has been removed.

Zone 2 Photos #19, 22

Exhibit 7: Cover page of the Central Facility municipal facility inspection report for the inspection conducted on September 8, 2011. Note: Parks and Recreation and Open Space comments are referenced as "Zone 2".

City of Aurora MS4 Audit (NPDES No. COS-000003) Exhibit Log

MFRCP Inspection Report
Central Facility
Inspection Date - Sept 8, 2011

IV PHOTOS



Zone 4 Fueling station pumps observed with excessive spill residues Photo #68, 69



Zone 2 Bulk stockpiles observed not covered or contained Photos #23



Zone 4 In 2010 straw wattle was installed at the west end of the northern property line for sediment control and stockpile protection. That protection has been removed. Photos #19, 22

Exhibit 8: Excerpt from the photo log in the Central Facility municipal facility inspection report for the inspection conducted on September 8, 2011. Note: Zone 2 photos are referencing Parks, Recreation and Open Space stormwater deficiencies.

City of Aurora MS4 Audit (NPDES No. COS-000003) Exhibit Log

MFRCP Inspection Report
Central Facility
Inspection Date - Sept 8, 2011

V INSPECTION SUMMARY

1) 2011 Deficiencies

Deficiencies were noted during 2011 MFRCP inspection of the **Central Facility**. These deficiencies have the potential to adversely impact site runoff and stormwater quality. The following are recommendations for correction of those deficiencies:

1. Fueling station pumps observed with excessive spill residues. Residues from spills should be cleaned up as they occur. **Zone 4**
2. Bulk stockpiles observed not covered or contained. Provide protection on the low side of uncontained stockpiles, such as jersey barriers, silt fence, or other BMPs. **Zone 2**
3. In 2010 straw wattle was installed at the west end of the northern property line for sediment control and stockpile protection. That protection has been removed. Install sediment control BMPs on the north boundary allowing for gate operation. Monitor this installation through weather and season changes for maintenance and possible BMP failure or flooding. **Zone 2**
4. Uncovered trash containers were observed. All outdoor trash containers should be covered. **Zone 1, Zone 2, Zone 5, Zone 6**
5. Roll-off dumpsters observed leaking liquids. Spills should be cleaned up as they occur. Consider purchasing plastic liners for roll-off dumpsters. **Zone 2**
6. Sediment migration as a result of site run-on observed sourced from Army National Guard property. Operations Compliance has had, and will continue to have, conversations with Army National Guard personnel regarding deficiencies in their stormwater BMPs. **Zone 5**
7. Moderate erosion damage observed in stormwater swale. Erosion damage should be maintained to limit sediment migration. **Zone 6**
8. Chemical container not stored inside or under roof. When possible, store closed chemical containers inside and/or under roof, away from vehicle traffic. **Zone 5**
9. Unlabeled container was observed. Chemical containers should be labeled according to the requirements of law (29 CFR 1910.1200). **Zone 2**
10. Miscellaneous spills observed. Spills should be cleaned up as they occur. **Zone 2, Zone 4, Zone 5, Zone 6**
11. The written emergency spill response plan should be updated to include a discussion of the new chemical secondary containment. Specifically describe a method to dispose of contaminated stormwater that is collected in secondary containment. **Zone 2**

2) Improvements Year Over Year

The results of the 2011 inspection and the current conditions of the **Central Facility** reflect significant improvements over year 2010. The following are examples of those improvements:

1. One notable site improvement is the inlet protection installed by Water T&D. While the sediment / erosion control feature as installed will require monitoring, this single BMP will reduce sediment travel from facility bulk storage and stockpile areas to the detention pond off site to the north. This BMP should improve water quality of the pond and reduce pond maintenance requirements. **Zone 6**
2. Central Facility site responsible people and staff continue to show conscious efforts to control and limit pollutants in site runoff. **Zone 1, Zone 3, Zone 4, Zone 6, Zone 7**

END

Exhibit 9: Summary page of the Central Facility municipal facility inspection report for the inspection conducted on September 8, 2011. Note: Zone 2 comments are referencing Parks, Recreation and Open Space stormwater deficiencies

INSTRUCTIONS

Section A: National Data System Coding (i.e., PCS)

Column 1: Transaction Code: Use N, C, or D for New, Change, or Delete. All inspections will be *new* unless there is an error in the data entered.

Columns 3-11: NPDES Permit No. Enter the facility's NPDES permit number - third character in permit number indicates permit type for U=unpermitted, G=general permit, etc.. (Use the Remarks columns to record the State permit number, if necessary.)

Columns 12-17: Inspection Date. Insert the date entry was made into the facility. Use the year/month/day format (e.g., 04/10/01 = October 01, 2004).

Column 18: Inspection Type*. Use one of the codes listed below to describe the type of inspection:

A Performance Audit	U IU Inspection with Pretreatment Audit	! Pretreatment Compliance (Oversight)
B Compliance Biomonitoring	X Toxics Inspection	@ Follow-up (enforcement)
C Compliance Evaluation (non-sampling)	Z Sludge - Biosolids	{ Storm Water-Construction-Sampling
D Diagnostic	# Combined Sewer Overflow-Sampling	} Storm Water-Construction-Non-Sampling
F Pretreatment (Follow-up)	\$ Combined Sewer Overflow-Non-Sampling	: Storm Water-Non-Construction-Sampling
G Pretreatment (Audit)	+ Sanitary Sewer Overflow-Sampling	~ Storm Water-Non-Construction-Non-Sampling
I Industrial User (IU) Inspection	& Sanitary Sewer Overflow-Non-Sampling	< Storm Water-MS4-Sampling
J Complaints	\ CAFO-Sampling	- Storm Water-MS4-Non-Sampling
M Multimedia	= CAFO-Non-Sampling	> Storm Water-MS4-Audit
N Spill	2 IU Sampling Inspection	
O Compliance Evaluation (Oversight)	3 IU Non-Sampling Inspection	
P Pretreatment Compliance Inspection	4 IU Toxics Inspection	
R Reconnaissance	5 IU Sampling Inspection with Pretreatment	
S Compliance Sampling	6 IU Non-Sampling Inspection with Pretreatment	
	7 IU Toxics with Pretreatment	

Column 19: Inspector Code. Use one of the codes listed below to describe the *lead agency* in the inspection.

A — State (Contractor)	O — Other Inspectors, Federal/EPA (Specify in Remarks columns)
B — EPA (Contractor)	P — Other Inspectors, State (Specify in Remarks columns)
E — Corps of Engineers	RR — EPA Regional Inspector
J — Joint EPA/State Inspectors—EPA Lead	S — State Inspector
L — Local Health Department (State)	T — Joint State/EPA Inspectors—State lead
N — NEIC Inspectors	

Column 20: Facility Type. Use one of the codes below to describe the facility.

- 1 — Municipal. Publicly Owned Treatment Works (POTWs) with 1987 Standard Industrial Code (SIC) 4952.
- 2 — Industrial. Other than municipal, agricultural, and Federal facilities.
- 3 — Agricultural. Facilities classified with 1987 SIC 0111 to 0971.
- 4 — Federal. Facilities identified as Federal by the EPA Regional Office.
- 5 — Oil & Gas. Facilities classified with 1987 SIC 1311 to 1389.

Columns 21-66: Remarks. These columns are reserved for remarks at the discretion of the Region.

Columns 67-69: Inspection Work Days. Estimate the total work effort (to the nearest 0.1 work day), up to 99.9 days, that were used to complete the inspection and submit a QA reviewed report of findings. This estimate includes the accumulative effort of all participating inspectors; any effort for laboratory analyses, testing, and remote sensing; and the billed payroll time for travel and pre and post inspection preparation. This estimate does not require detailed documentation.

Column 70: Facility Evaluation Rating. Use information gathered during the inspection (regardless of inspection type) to evaluate the quality of the facility self-monitoring program. Grade the program using a scale of 1 to 5 with a score of 5 being used for very reliable self-monitoring programs, 3 being satisfactory, and 1 being used for very unreliable programs.

Column 71: Biomonitoring Information. Enter D for static testing. Enter F for flow through testing. Enter N for no biomonitoring.

Column 72: Quality Assurance Data Inspection. Enter Q if the inspection was conducted as followup on quality assurance sample results. Enter N otherwise.

Columns 73-80: These columns are reserved for regionally defined information.

Section B: Facility Data

This section is self-explanatory except for "Other Facility Data," which may include new information not in the permit or PCS (e.g., new outfalls, names of receiving waters, new ownership, other updates to the record, SIC/NAICS Codes, Latitude/Longitude).

Section C: Areas Evaluated During Inspection

Check only those areas evaluated by marking the appropriate box. Use Section D and additional sheets as necessary. Support the findings, as necessary, in a brief narrative report. Use the headings given on the report form (e.g., Permit, Records/Reports) when discussing the areas evaluated during the inspection.

Section D: Summary of Findings/Comments

Briefly summarize the inspection findings. This summary should abstract the pertinent inspection findings, not replace the narrative report. Reference a list of attachments, such as completed checklists taken from the NPDES Compliance Inspection Manuals and pretreatment guidance documents, including effluent data when sampling has been done. Use extra sheets as necessary.

*Footnote: In addition to the inspection types listed above under column 18, a state may continue to use the following wet weather and CAFO inspection types until the state is brought into ICIS-NPDES: K: CAFO, V: SSO, Y: CSO, W: Storm Water 9: MS4. States may also use the new wet weather, CAFO and MS4 inspections types shown in column 18 of this form. The EPA regions are required to use the new wet weather, CAFO, and MS4 inspection types for inspections with an inspection date (DTIN) on or after July 1, 2005.