MS4 Permit Renewal Meeting

CDPHE: 4300 Cherry Creek Drive S., Denver CO

Rooms C1C and D, Building C

March18, 2013

1-3:30 pm

Topics

- Monitoring
- Regulation 85 Nutrients—concept language

Agenda

1 – 1:10 pm	Sign in / Introductions
1:10 – 3:00 pm	Monitoring
3:00 – 3:30 pm	Regulation 85 Nutrients—concept language

Meeting attendees are encouraged to familiarize themselves with the Supplemental Information as well the targeted permit questionnaire developed by the Division to understand the specific challenges with the current permit language; and to help brainstorm ideas and solutions during permit renewal meetings.

The goal for all permit elements is to have clear expectations, which establish a basic standard of performance for all permittees that are auditable by the Division.

Dial-in access will be provided to all permittees before the meeting. Please contact Michelle DeLaria at 303.692.3615 or Michelle.DeLaria@state.co.us with any questions.

Supplemental Information*

*Supplemental Information is intended to provide general concepts and commonly encountered challenges with current permit language. It is not intended to be an exhaustive accumulation and description of all specific elements to be addressed in the permit renewal.

1. **Monitoring:** The following is a framework of the discussion and more detail will be provided during the meeting.

    a. Goal: The Division seeks to have scientific data driven decisions to address water quality impairment. The Division would like to provide transparency to the MS4 group and convey recent Division discussion regarding monitoring. The Division currently is proposing monitoring for Phase II permittees. The monitoring outfalls and frequency being considered would be modeled after the requirements in the Colorado Springs MS4 permit (e.g., 4 samples per outfall and generally only applicable to specific outfalls based on size and dry weather flow rate.)

    b. Supplemental Information Summary: The Division has created a draft list of impairment by combining impaired stream segments from the 303(d) list with urbanized areas and urban clusters. This list is a separate attachment and should be considered a starting point for permittees to know the potential scope of impairment in areas covered by the MS4 permit. This list will undergo further review and refinement during the MS4 permittee renewal process. Also, please review the following additional information.
        - Regulation 93: Colorado's Section 303(d) List of Impaired Waters and Monitoring and Evaluation List (amended 02/13/12, effective 03/30/12) http://www.colorado.gov/cs/Satellite/CDPHE-Main/CBON/1251595703337
        - Monitoring–related sections from the Colorado Springs MS4 permit, inserted below.

    c. Division Authority to Require Monitoring: Regulation 61.8(4): “Any discharge authorized by a discharge permit may be subject to such monitoring, record-keeping, and reporting requirements as may be reasonably required in writing by the Division…”

    d. Division Monitoring Discussion Elements: In general, the Division believes that monitoring data should be gathered prior to TMDL development. Additionally, the Division believes that it is beneficial for all potential sources of a pollutant to be identified prior to TMDL development so that permittee are involved in the process, which may include a waste load allocation or water quality standard variances.
        i. Wet Weather Monitoring: The Division believes that wet weather flows are a significant contributor of pollutants to state waters. However, the Division has determined that requirements for practice-based controls in the six program areas of the permit are currently the most effective approach to address the potential for impairment at this time.
        ii. Dry weather Monitoring: The following specific parameters of impairment have been identified by the Division for further discussion:
            1. E Coli: The Division has identified that the presence of E coli in dry weather flows above the water quality standard can result from sanitary sewer seepage or cross connection into an MS4. E coli is potentially present in MS4 dry weather discharges, and may contribute to exceedances of stream standards. The Division has

determined it is reasonable to require monitoring for E coli in MS4 permits (Denver and Colorado Springs, as well as monitoring required outside the permit for MS4s discharging to Segment 14 of the South Platte) to identify potential sources of impairment, and to identify specific portions of the MS4 for which infrastructure repairs/improvements may be needed. Please refer to the Colorado Springs permit language regarding E coli monitoring.

2. Arsenic: The Division has identified through monitoring data (e.g., construction dewatering and groundwater discharge permits) that Arsenic is often elevated in groundwater in impaired watersheds. Please see the list of segments that are impaired for Arsenic. Because groundwater often seeps into MS4s, arsenic is potentially present in MS4 discharges. However, current rulemaking is underway to evaluate and potentially revise Arsenic standards in Colorado, and may result in revisions to the 303(d) list. Therefore, the Division is currently considering not requiring monitoring for this parameter during this permit term.
3. Selenium: Elevated levels of selenium in state waters are associated with land use and development activities in areas with surficial selenium deposits. Groundwater, runoff, and other inflows to MS4s may result in the potential presence of elevated selenium concentrations in discharges from MS4s. Some sources of selenium have been managed by local land use controls or mitigation techniques such as lining a previously unlined golf course water feature. The Division has determined it is appropriate to require dry weather discharge monitoring for selenium to impaired stream segments in MS4 permits, and has done so for Colorado Springs. Please refer to the Colorado Springs permit language regarding Selenium monitoring.

e. TMDL framework: Phil Hegeman, work group leader in the Watershed Section, will provide information regarding TMDL development and monitoring recommendations.

Colorado Springs permit language:

1. <u>Monitoring Plan</u>

a. The plan must continue to meet the following minimum requirements:
   1) address wet weather conditions, particularly urban stormwater effects on receiving waters associated with discharges from the permittee's MS4;
   2) include a clear statement of goals and have components that address the goals of the monitoring program;
   3) be able to be expanded over time as inter-related municipal stormwater discharges are included as MS4 permittees;
   4) commitment of a level of resource expenditure that is commensurate with the monitoring plan; and
   5) include Selenium and E. coli monitoring.

b. Contents of Monitoring Plan
   1) Site selection, including criteria and procedures used.

   2) Final methodology and protocols for each component, including, but not limited to, such factors as:

a) Constituents and analytical methods;
b) Frequency for monitoring and sampling;
c) Description of potential revision to activities currently performed by the USGS in the event of that agency's decreased involvement; and
d) Quality control and quality assurance protocols.

c. MS4 Dry Weather Outfall Selenium and E coli Monitoring Plan

For those parts of the permittee's MS4 that directly discharge to the impaired portions of segments COARFO01a, COARFO02a, and COARFO06 of Fountain Creek, the permittee shall develop, document and implement a dry weather monitoring plan targeted at identifying the source (e.g., geographic areas or land use) and scope (e.g., geographical extent of contamination, seasonality, and contaminant levels) of the impairment. The monitoring is required for only those portions of impaired segments and only for those parameters (e.g., Escherichia coli ("E. coli") and/or selenium) causing the impairment. Segments that are removed from the list of impaired waterbodies shall not be subject to outfall monitoring requirements.

The plan shall be submitted to the Division by **August 31, 2012**, and implemented by **August 31, 2013**. The plan shall include the following components:

1) Definitions: For the purpose of this subsection (I.D.1(c)), the following definitions apply:
   a) Dry Weather Discharge: A discharge not resulting from surface runoff from rain or snowmelt events.
   b) Outfall: the point where a municipal separate storm sewer discharges to State Waters.
2) Selenium monitoring is not required for MS4 outfalls that are not reasonably expected to receive groundwater or alluvial water infiltration that has the potential for selenium contributions from contact with strata identified as having elevated selenium concentrations. The permittee shall document Outfalls of Concern meeting this exclusion for which selenium monitoring will not occur.
3) Identification of Dry Weather Flows: The plan shall include processes to identify and document all outfalls with dry weather discharges that persist during periods with little to no irrigation contributions. It is not necessary to include submerged outfalls. Initial identification of outfalls with dry weather flows shall be completed by **March 31, 2014**. Identification of additional outfalls may occur during the permit term, in accordance with the Selenium and E. coli Monitoring Plan.
   Dry weather flows that are less than five gpm as determined through estimation methods are considered negligible and do not need to be identified.

4) Identification of Outfalls of Concern: The plan shall include processes to identify and track Outfalls of Concern. Initial identification of Outfalls of Concern shall be completed by **March 31, 2014**. Identification of additional outfalls may occur during the permit term, in accordance with the Selenium and E. coli Monitoring Plan.

   Outfalls of Concern shall include the following outfalls, at a minimum, unless removed in accordance with subparagraph (5), below:

   a) All outfalls with greater than a 36" or equivalent having dry weather flows identified in accordance with subparagraph (3), above.

   b) All outfalls with smaller than a 36" diameter or equivalent having dry weather

flows identified in accordance with subparagraph (3), above that are determined to have significant dry weather discharge conditions. Significant dry weather discharge conditions may include flow rates that are substantially elevated relative to the outfall size and the flow rate of any nearby outfalls, and discharges likely to be resulting from a cross connection based on qualitative observations.

5) Outfall Monitoring: The plan shall identify processes to monitor dry weather flows at Outfalls of Concern to determine, at a minimum, estimated flow rates, potential dissolved selenium concentration and E. coli densities (cfu/100ml). All Outfalls of Concern shall be monitored a minimum of four times between the period **April 1, 2014** through **March 31, 2016**, with a minimum of one sample collected that represents each calendar quarter. Outfalls with smaller than a 36" diameter or equivalent that do not have concentrations exceeding stream standards in the first two sampling events do not require additional sampling . These outfalls of concern could be removed from the monitoring program. The Selenium and E. coli Monitoring Plan shall include procedures for scheduling monitoring events to obtain samples that are reasonably representative of the dry-weather discharges at the outfall.
6) Analysis: The permittee shall perform an analysis of available data on selenium and E. coli densities in the MS4 and the 303(d) listed segments of Fountain Creek as referenced in Part I.D.1.c, and review the implementation of the requirements of this section (I.D.1.c). The analysis/review will assess the permittee's progress towards identifying the source and scope of selenium and E. coli densities in dry weather discharges from the MS4. The permittee shall document the process and results for this analysis by **April 1, 2017.**

2. <u>Monitoring Reporting and Evaluation</u>

a. <u>Annual Reporting</u>

The permittee shall submit a Monitoring Annual Report to the Division by June 1 of each year, covering the previous January 1 through December 31. The report shall include:

1) Summary of monitoring program.
2) Tabulated data generated from the stormwater monitoring program described above. In the report for year four, a trend analysis of the data collected to date for the Wet Weather Monitoring Program shall be included.
3) Summary of the monitoring program work to date, any problems with the protocol or selected sampling locations, and recommendations for any changes to the monitoring program.
4) Identification of water quality improvements or degradation

For required constituents (E. coli and selenium), monitoring results shall be reported in a format approved by the Division, which may include discharge monitoring report (DMR) forms (EPA form 3320-1) or by using the Division's Net-DMR service (when available).

b. <u>Reporting for Year Four</u>

The report submitted in year four of the permit, submitted by **June 1, 2015**, covering **January 1, 2014** through **December 31, 2014**, shall include:

1) information required by subsection a., above;
2) an assessment of the impact of wet-weather discharges on CCS area's State waters, and an assessment of the changes over time. This assessment shall be based on all currently available information collected by the permittee in accordance with the MS4 permit and during current and past permit terms; and
3) a proposal for a monitoring program for the next permit term.

3. General Monitoring and Sampling Requirements

The permittee shall comply with the following requirements for all monitoring required by Part I.D.1.c (E. coli and selenium monitoring).

a. Analytical and Sampling Methods for Monitoring

The permittee shall install, calibrate, use and maintain monitoring methods and equipment, including biological and indicated pollutant monitoring methods. All sampling shall be performed by the permittee according to specified methods in 40 C.F.R. Part 136; methods approved by EPA pursuant to 40 C.F.R. Part 136; or methods approved by the Division, in the absence of a method specified in or approved pursuant to 40 C.F.R. Part 136. When requested in writing, the Division may approve an alternative analytical procedure or any significant modification to an approved procedure.

The analytical method and PQL chosen for monitoring required by this permit shall be one that can measure at or below the applicable receiving water standard. If all analytical methods and corresponding PQLs are greater than the applicable receiving water standard, then the analytical method with the lowest PQL shall be used.

The present lowest PQLs for selenium, as determined by the State Laboratory (November 2008) is 1 µg/l. If the analytical method cannot achieve a PQL that is less than or equal to the stream standard, then the method, or a more precise method, must achieve a PQL that is less than or equal to the PQL.

These limits apply to the total recoverable or the potentially dissolved fraction of metals.

b. The permittee shall establish and maintain records for all monitoring required by Part I.D.1(c) of this permit. Those records shall include the following:
   1) The date, type, exact location, and time of sampling or measurements;
   2) The individual(s) who performed the sampling or measurements;
   3) The date(s) the analyses were performed;
   4) The individual(s) who performed the analyses;
   5) The analytical techniques or methods used;
   6) The results of such analyses; and
   7) Any other observations which may result in an impact on the quality or quantity of the discharge as indicated in 40 CFR 122.44 (i)(1)(iii).

   The permittee shall retain for a minimum of three (3) years records of all monitoring information, including all original strip chart recordings for continuous monitoring instrumentation, all calibration and maintenance records, copies of all reports required by this permit and records of all data used to complete the application for this permit. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or when requested by the Division or EPA.

c. If the permittee monitors discharges addressed in Part I.D.1.c for E. Coli or selenium more frequently than required by the permit, using approved test procedures or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of data to the Division.

2. Regulation 85 Nutrients—concept language for Public education and Outreach and Municipal operations

a. Public education and outreach. Permittees are authorized to meet the requirements of this section through contribution to a collaborative program to evaluate, identify, target and provide outreach that addresses sources state-wide or within the specific region or watershed that includes the receiving waters impacted by the MS4 permittee's discharge
    i. The Permittee must
        1. Determine the targeted sources (e.g., residential, industrial, agricultural, or commercial) that are determined to contribute to, or have the potential to contribute, nutrients to the waters receiving the discharge authorized under the MS4 permit.
        2. Document how and why the sources were targeted
    ii. The Permittee must develop public education and outreach materials that address stormwater quality impacts associated with nitrogen and phosphorus in stormwater runoff and illicit discharges, including the targeted sources. The program must address behaviors of concern and target behavior change.
    iii. Include minimum areas for implementation, e.g., at a minimum the education materials must target the following sources:
        1. Commercial entities that sell, distribute and apply fertilizers in the permittee's coverage area
        2. Commercial properties that apply or contract with applicators of fertilizers
        3. Golf courses in the permittee's permit coverage areas
        4. Multi-family residential properties that apply or contract with applicators of fertilizers
    iv. The Permittee must distribute the materials described above to the required target sources.

b. Municipal Operations: Permittees are authorized to meet the requirements of this section through contribution to a collaborative program to evaluate, identify, and target sources state-wide or within the specific region or watershed that includes the receiving waters impacted by the MS4 permittees discharge(s).
    i. The Permittee must evaluate, identify and document the municipal operations activities and facilities that are and/or have the potential to contribute nitrogen and phosphorus to the waters receiving the discharge authorized under the MS4 permit.
    ii. Include minimum areas for implementation e.g., at a minimum the program must include the following sources:
        1. Municipal (or contract) fertilizer application activities
        2. Municipal facilities where fertilizer is delivered, stored and/or transferred.
    iii. The Permittee must develop a municipal operations program that prevents or reduces the nitrogen and phosphorus in stormwater runoff associated with the MS4 permittee's operations that have been identified above.
    iv. The Permittee must implement a municipal operations program developed above.

Regulation 85.5 language:

(4) MS4 Permit Requirements for Nutrient Source Reductions

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

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

    CDPS Permits shall authorize MS4 permittees to meet the requirements of this section through contribution to a collaborative program to evaluate, identify, target and provide outreach that addresses sources state-wide or within the specific region or watershed that includes the receiving waters impacted by the MS4 permittee's discharge(s).

(b) Pollution Prevention/Good Housekeeping for Municipal Operations associated with nutrients. The permittee must develop and implement a municipal operations program that has the ultimate goal of preventing or reducing nitrogen and phosphorus in stormwater runoff associated with the MS4 permittee's operations.

    Written procedures for an operation and maintenance program to prevent or reduce nitrogen and phosphorus in stormwater runoff associated with the MS4 permittee's operations shall be developed. The program must specifically list the municipal operations (i.e., activities and facilities) that are impacted by this operation and maintenance program.

    CDPS Permits shall authorize MS4 permittees to meet the requirements of this section through contribution to a collaborative program to evaluate, identify, and target sources state-wide or within the specific region or watershed that includes the receiving waters impacted by the MS4 permittees discharge(s).

85.15 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: MARCH 12, 2012 RULEMAKING, FINAL ACTION JUNE 11, 2012; EFFECTIVE DATE OF SEPTEMBER 30, 2012

BASIS AND PURPOSE

X. Nutrient Source Reductions at MS4s

The Commission finds that it is an appropriate initial step for MS4 permittees to be required to address nutrients through public education and outreach and municipal operations programs. In accordance with the regulation, these requirements shall be incorporated into the CDPS Permit for discharges from MS4s that are required to obtain a CDPS Permit pursuant to Regulation #61. The Commission does not currently have adequate information to determine the relative contribution of nutrients from MS4 to state waters that would support an assessment of the need for controls beyond those identified above.

Public education and outreach regarding nutrients must include identification and targeting of nitrogen and phosphorus sources that are contributing, or have the potential to contribute, nutrients to discharges from the permitted MS4. Identification should include types of sources for which a reduction in nutrient discharges are likely to be obtained through education, and prioritization of sources for implementation of the education program.

The MS4 permittees' municipal operations programs should include reducing nitrogen and phosphorus sources, if any, in runoff from municipal operations. To meet this requirement, an MS4 permittee must evaluate its operations and facilities to identify sources of nitrogen and phosphorus discharges from the MS4 that can be controlled through implementation of structural and nonstructural pollutant control practices.

The Commission encourages MS4 permittees to participate in collaborative efforts to evaluate, identify, target and provide outreach that addresses types of sources state-wide or within the specific region or watershed that includes the receiving waters impacted by the MS4 permittee's discharge(s).

This Control Regulation establishes requirements to characterize nitrogen and phosphorus contributions to state waters in discharges from MS4s. Based on review of the information that is provided, as well as information from potential future monitoring requirements, the Commission intends to revisit the substantive requirements for MS4s in future triennial reviews.

Summary

The summary was compiled after the meeting on 3/18/13. The summary is not a verbatim transcript of the meeting and points of potential agreement have not been included because the meeting goal was to share information to facilitate permit drafting, and not to make decisions or to obtain stakeholder commitments. Bulleted points may not follow the order of actual discussion.

Announcements

- The Division anticipates eliminating the COR080000 permit by adding the language specific to Cherry Creek Basin into the COR090000 permit and requiring the communities in the Cherry Creek basin to comply with the Cherry Creek Basin sections of the COR090000 permit.
- The Division will add a listening session meeting mid April based on agenda topics that permittees provide to Michelle.
- SEMSWA will schedule a separate meeting about regional BMPs with the Division.

1. Monitoring

- The Division summarized the monitoring goals, which included the Division's goals to have dry weather monitoring for E coli and Selenium, similar to the current language in the Colorado Springs permit. The Division explained that monitoring would pertain to outfalls in accordance with the following conditions and questions:

For storm sewer outfalls <u>in the permit coverage area</u>, ask the following questions to identify the outfalls for monitoring:

Does the storm sewer outfall discharge to a segment that is listed for impairment of E coli or Selenium?
No—this outfall does not meet the requirements for monitoring

Yes— Is there a dry weather flow from the outfall that was answered 'yes," above?
No — this outfall does not meet the requirements for monitoring

Yes—Is the flow greater than 5 gpm from the outfall that was answered 'yes," above?
No — this outfall does not meet the requirements for monitoring

Yes—This outfall, which is in the permit coverage area and discharges to a stream segment that is listed for E coli or Selenium and has a dry weather flow greater than 5 gpm, is an outfall that must be monitored in accordance with the permit.

- The Division provided a draft list of impairment developed from combining the Urbanized Area maps with impairment listings. It was noted that the list will need further review to confirm accuracy and completeness.
- The Division explained that a dry weather flow of 5 gpm was selected as a threshold to identify large non-stormwater discharges that should be investigated. The Division goal is to not include irrigation return flows.
- Some permittees expressed concern for irrigation ditches that flow into the storm sewer and may be greater than 5 gpm. Permittees asked for more clarification on how to determine if an outfall has a dry weather discharge (e.g., based on one-time observation or multiple observations of outfall).
- The Division will coordinate with permittees to provide shape files of data so permittees can make their own monitoring/outfall maps.
- The Division provided additional information about selenium impairment, specifically in areas of selenium-bearing strata in combination with landscape irrigation, and unlined ponds. The Division will not include selenium mitigation mandates in the permit. Permittees may also seek to change the water quality standard through the Water Quality Control Commission based on additional data.
- The Division provided a broader monitoring perspective that is focused on impairment and gathering information on stormwater-related contributions to impairment for data driven decision-making. This monitoring has a narrow framework for this permit renewal and is not to establish reasonable potential, validate or invalidate certain levels of WQ protection for a specific BMP. Dry

weather monitoring is the focus because the Division's assessment of water quality impairment happens mostly in dry weather, and the Division believes the focus should be on known water quality impairment.

- The Division also provided a summary on the monitoring, impairment and TMDL activities of the Division and explained that the State is required to look at all ambient stream data every 2 years and make the determination if the segment is meeting water quality standards.

2. Regulation 85 Nutrients

- Permittees provided comments and asked questions about the concept language
    i. Some permittees think the language should be narrowed, as the current concept language would include addressing residences and stores selling fertilizer. Concern was expressed that the language could be interpreted to read that ALL residences and stores had to be reached with outreach.
    ii. The concept language for required minimum targets only focused on fertilizers, which is not the only source of nutrients.
    iii. Permittees preferred the language "Develop or support existing programs" to be clear that permittees don't have to develop materials that already exist.
    iv. Permittees expressed concern about meeting Reg 85 requirements if agriculture is identified as a source and asked if agriculture could be addressed more clearly in the permit. The concept of excluding agricultural activities already targeted by conservation outreach was discussed.